TOWN OF CASTLE ROCK,
COLORADO REQUEST FOR QUOTES

The Town of Castle Rock, Colorado is requesting Quotes for providing a replacement Pool Dehumidification Unit (PDU) for the Towns Recreation Center Leisure Pool. Please include delivery and unloading at the job site. All bids will be accepted **until 2:30 p.m., Friday, May 17th, 2019.**
Please email written quotes to Scott J. Smith at ssmith@crgov.com with RFQ-RC-PDU in the subject line. If any additional information/material is to accompany the Quote, please attach it to the RFQ Bid Form when submitted.

Quotes must be received prior to the above stated time and date. Any Quotes received after this time and date will be rejected.

Direct written questions to Scott J. Smith, Facilities Administrator, Town of Castle Rock at ssmith@crgov.com.

The Town of Castle Rock is a municipality therefore the Town is exempt from state and federal taxes. The Town will provide proper exemption certificates to the awarded bidder.

All potential bidders shall provide cost for a replacement PDU per the specifications noted in the attached engineered drawings included in ***Attachment 2***, and include delivery and unloading of the PDU to the job site identified for installation by Town of Castle Rock personnel.

The Supplier shall be responsible for providing all material, equipment and personnel necessary for final delivery of the PDU to the job site. Delivery of the PDU shall be by scheduled arrangement only, with a minimum 48-hour notice, and will be limited to the hours of 7:00 a.m. to 5:00 p.m., Monday thru Friday.

The **Town of Castle Rock** reserves the right to cancel this Request for Quotes; reject any Quote, in whole or in part; to adjust the order as mandated by budgetary requirements; and to waive informalities or irregularities in the Quotes received; when it is in the Town's best interest to do so.

ATTACHMENTS:

Attachment 1 – Bid Form
Attachment 2 – Engineered drawings

PLUMBING LEGEND

ABBV.	SYMBOL	DESCRIPTION
G	G	NATURAL GAS
D	D	DRAIN PIPING

SPECIFICATION (PLUMBING):

PIPING:

A. CONDENSATE PIPING SHALL BE CPVC WITH SOLVENT WELDED JOINTS RATED FOR PLENUM USE.

B. GAS PIPING SHALL BE SCHEDULE 40 BLACK STEEL, 2" AND BELOW SHALL BE THREADED FITTINGS, WHILE 2-1/2" AND ABOVE SHALL BE WELDED.

EQUIPMENT:

C. GAS SUPPORTS ON ROOF: MIRO INDUSTRIES #RAH-12 MODEL, POLYCARBONATE ROLLER PIPE SUPPORT, 12" ABV. ROOF OR APPROVED EQUAL.

PLUMBING DEMOLITION GENERAL NOTES:

1. COORDINATE DEMOLITION REQUIREMENTS WITH THE GENERAL CONTRACTOR.
2. COORDINATE EXTENT OF DEMOLITION WITH THE NEW CONSTRUCTION AS SHOWN IN THESE DOCUMENTS.
3. EXISTING PLUMBING PIPING, EQUIPMENT ETC IS SHOWN LIGHT.
4. ALL PLUMBING ITEMS INDICATED TO BE DEMOLISHED SHALL BE INSPECTED FOR SALVAGE BY THE OWNER. ALL NON-SALVAGEABLE ITEMS SHALL THEN BE IMMEDIATELY REMOVED FROM THE SITE BY THE PLUMBING CONTRACTOR.
5. ALL UNUSED HANGERS AND SUPPORTS SHALL BE REMOVED.
6. THE REMOVAL OR INSTALLATION OF FIXTURES, PIPES AND EQUIPMENT MAY REQUIRE THE REMOVAL OF EXISTING WALLS AND CEILINGS. THE PLUMBING CONTRACTOR AND GENERAL CONTRACTOR SHALL BE COORDINATE AND RESPONSIBLE FOR REPAIRING AND PAINTING THESE WALLS AND/OR CEILINGS SO THEY MATCH THE EXISTING WHERE NOT REPLACED UNDER THE ARCHITECTURAL DOCUMENTS. THE CONTRACTOR SHALL REVIEW THE PLUMBING DRAWINGS TO IDENTIFY THESE LOCATIONS PRIOR TO BID PRICING.
7. THE GENERAL CONTRACTOR SHALL PATCH AND SEAL UNUSED ROOF PENETRATIONS AT DEMOLISHED PLUMBING TO MATCH EXISTING CONDITIONS.
8. THE GENERAL CONTRACTOR SHALL MAKE REPAIRS TO ALL EXISTING BUILDING COMPONENTS THAT HAVE BEEN AFFECTED BY THE DEMOLITION OF PLUMBING SYSTEMS.

PLUMBING GENERAL NOTES:

1. FIELD VERIFY EXACT LOCATION OF ALL CONNECTION POINTS PRIOR TO CONSTRUCTION.
2. ROUGH-IN AND FINAL CONNECT ALL FIXTURES, EQUIPMENT, ETC.
3. CONTRACTOR SHALL INSPECT SITE TO THOROUGHLY FAMILIARIZE HIMSELF WITH THE AREA OF WORK. ANY DISCREPANCIES BETWEEN THESE DOCUMENTS AND ACTUAL CONDITIONS SHALL BE REPORTED TO THE ARCHITECT/ENGINEER FOR RESOLUTION PRIOR TO BID PRICING. NO EXTRAS WILL BE ALLOWED DUE TO LACK OF KNOWLEDGE OF EXISTING CONDITIONS.
4. ALL WORK SHALL BE PER LOCAL BUILDING AND HEALTH DEPARTMENT REQUIREMENTS.
5. REFERENCE HVAC DRAWINGS FOR EXACT LOCATION OF ALL HVAC EQUIPMENT REQUIRING PLUMBING CONNECTIONS. COORDINATE WITH HVAC CONTRACTOR EXACT PLUMBING CONNECTION REQUIREMENTS PRIOR TO COMMENCING WORK.
6. OFFSET ALL PIPING AS REQUIRED TO AVOID STRUCTURAL MEMBERS, CANTS, FLASHING, MECHANICAL OR ELECTRICAL EQUIPMENT.
7. PROTECT ALL EXISTING EQUIPMENT INDICATED AS REMAINING IN PLACE OR BEING RELOCATED. REPLACE DAMAGED EQUIPMENT IMMEDIATELY WITH EXACT DUPLICATE AT NO ADDITIONAL COST TO THE OWNER.
8. PLUMBING CONTRACTOR SHALL BE RESPONSIBLE FOR PROPERLY LOCATING AND PROTECTING ALL EXISTING PIPING AND UTILITIES FOR THE DURATION OF THE WORK. ANY DAMAGE CAUSED TO EXISTING PIPING OR UTILITIES SHALL BE REPAIRED IMMEDIATELY AT NO ADDITIONAL COST TO THE OWNER.
9. ALL GAS PIPING, VALVES, PRV ETC, SHALL MEET THE REQUIREMENTS OF THE INTERNATIONAL FUEL GAS CODE.
10. GAS PIPING SHALL BE SCHEDULE 40 BLACK STEEL WITH THREADED FITTINGS 2" AND BELOW, AND WELDED FITTINGS 2-1/2" AND ABOVE.

GENERAL LEGEND

ABBV.	SYMBOL	DESCRIPTION
G.C.		GENERAL CONTRACTOR
M.C.		MECHANICAL CONTRACTOR
E.C.		ELECTRICAL CONTRACTOR
T.C.C.		TEMPERATURE CONTROL CONTRACTOR
A.F.F.		ABOVE FINISHED FLOOR
A.F.G.		ABOVE FINISHED GRADE
B.F.F.		BELOW FINISHED FLOOR
B.F.G.		BELOW FINISHED GRADE
N.C.		NORMALLY CLOSED
N.O.		NORMALLY OPEN
(N)		NEW
(E)		EXISTING
		EXISTING (DEMOLITION OR REMOVED)
		CONTROL WIRING
		POINT OF CONNECTION – NEW TO EXISTING
		DIRECTION OF FLOW IN PIPE
		PITCH PIPE DOWN IN DIRECTION OF ARROW
		PIPE CAP
		PIPE ELBOW DOWN
		PIPE ELBOW UP
		TEE OFF BOTTOM OF PIPE
		TEE OFF TOP OF PIPE
	X / XXX	THERMOMETER X = SECTION/DETAIL NUMBER XXX = SHEET NUMBER WHERE SECTION/DETAIL IS DRAWN

HVAC LEGEND

ABBV.	SYMBOL	DESCRIPTION
PDU		POOL DEHUMIDIFICATION UNIT
SF		SUPPLY FAN
EF		EXHAUST FAN
SG		SUPPLY GRILLE
RG		RETURN GRILLE
SA		SUPPLY AIR
RA		RETURN AIR
EA		EXHAUST AIR
OA		OUTSIDE AIR

HVAC LEGEND

ABBV.	SYMBOL	DESCRIPTION
MCD	M	MOTORIZED CONTROL DAMPER
	B	BACKDRAFT DAMPER
MVD		MANUAL VOLUME DAMPER
	T	THERMOSTAT
	T	TEMPERATURE SENSOR
	H	HUMIDISTAT
	H	HUMIDITY SENSOR
	P	PRESSURE SENSOR
	MS	MOTOR STARTER
	V	VELOCITY SENSOR
	FMD	ANALOG FLOW MEASURING DEVICE
	VFD	VARIABLE FREQUENCY DRIVE
	AO	ANALOG OUTPUT
	AI	ANALOG INPUT
	DO	DIGITAL OUTPUT
	DI	DIGITAL INPUT
	DPT	DIFFERENTIAL PRESSURE TRANSMITTER
		SUPPLY DUCT UP/SUPPLY DUCT DOWN
		RETURN/EXHAUST DUCT UP/RETURN/EXHAUST DUCT DOWN
		ROUND DUCT UP / DOWN
		DUCT ELBOW WITH TURNING VANES
		SQUARE TO ROUND TRANSITION
		OFFSET DUCT UP / DOWN IN DIRECTION OF ARROW
		CONICAL SPIN-IN FITTING WITH MANUAL VOLUME DAMPER
		CONICAL SPIN-IN FITTING WITHOUT MANUAL VOLUME DAMPER
		45° TAKEOFF
		STANDARD RADIUS ELBOW
	10x8	NEW DUCT – WIDTH x DEPTH
		EXISTING DUCT TO REMAIN
		EXISTING DUCT TO BE REMOVED
RG/EG		RETURN OR EXHAUST REGISTER OR GRILLE
		AIRFLOW – RETURN/EXHAUST
		AIRFLOW – SUPPLY

DRAWING INDEX

DRAWING NUMBER	MECHANICAL DRAWING DESCRIPTION	DRAWING SCALE
MP000	MECHANICAL COVER SHEET, LEGEND, GENERAL NOTES AND SHEET INDEX	NONE
MD101	PARTIAL FIRST FLOOR HVAC DEMOLITION PLAN	1/8"
MD102	PARTIAL SECOND FLOOR HVAC DEMOLITION PLAN	1/8"
MD103	PARTIAL HVAC ROOF DEMOLITION PLAN	1/8"
M101	PARTIAL FIRST FLOOR HVAC PLAN	1/8"
M102	PARTIAL SECOND FLOOR HVAC PLAN	1/8"
M103	PARTIAL HVAC ROOF PLAN	1/8"
M200	HVAC SCHEDULES AND TEMPERATURE CONTROLS DIAGRAM	NONE
M201	HVAC DETAILS	NONE
DRAWING NUMBER	PLUMBING DRAWING DESCRIPTION	DRAWING SCALE
PD102	PARTIAL SECOND FLOOR PLUMBING DEMOLITION PLAN	1/8"
PD103	PARTIAL ROOF PLUMBING DEMOLITION PLAN	1/8"
P102	PARTIAL SECOND FLOOR PLUMBING PLAN	1/8"
P103	PARTIAL ROOF PLUMBING PLAN	1/8"
DRAWING NUMBER	ELECTRICAL DRAWING DESCRIPTION	DRAWING SCALE
E000	ELECTRICAL COVER SHEET	NONE
E103	PARTIAL ELECTRICAL ROOF PLAN	1/16"

MECHANICAL DEMOLITION GENERAL NOTES:

1. COORDINATE DEMOLITION REQUIREMENTS WITH THE OWNER.
2. COORDINATE EXTENT OF DEMOLITION WITH THE NEW CONSTRUCTION AS SHOWN IN THESE DOCUMENTS.
3. EXISTING MECHANICAL WORK IS SHOWN LIGHT.
4. ALL UNUSED TEMPERATURE CONTROL WIRING, WIRE MOLD, PNEUMATIC TUBING AND CONTROL COMPONENTS SHALL BE REMOVED.
5. ALL UNUSED HANGERS AND SUPPORTS SHALL BE REMOVED.
6. THE REMOVAL OR INSTALLATION OF CONTROLS, PIPES, DUCTS AND EQUIPMENT MAY REQUIRE THE REMOVAL OF EXISTING WALLS AND CEILINGS. THE CONTRACTOR SHALL BE RESPONSIBLE FOR REPAIRING AND PAINTING THESE WALLS AND/OR CEILINGS SO THEY MATCH THE EXISTING. THE CONTRACTOR SHALL REVIEW THE MECHANICAL DRAWINGS TO IDENTIFY THESE LOCATIONS PRIOR TO BID PRICING.
7. THE CONTRACTOR SHALL PATCH AND PAINT WALLS TO MATCH EXISTING AT THE DEMOLISHED CONTROLS.
8. THE CONTRACTOR SHALL PATCH THE CEILING, ROOF AND WALLS TO MATCH EXISTING AT DEMOLISHED HANGERS AND SUPPORTS.
9. THE CONTRACTOR SHALL MAKE REPAIRS TO ALL EXISTING BUILDING COMPONENTS THAT HAVE BEEN AFFECTED BY THE DEMOLITION OF MECHANICAL SYSTEMS.

MECHANICAL GENERAL NOTES:

1. THE MECHANICAL CONTRACTOR SHALL INSPECT SITE TO BECOME FAMILIAR WITH THE SCOPE OF THE WORK. THESE DOCUMENTS DO NOT REFLECT AS-BUILT CONDITIONS. ANY DISCREPANCIES BETWEEN THESE DOCUMENTS AND THE ACTUAL CONDITIONS SHALL BE REPORTED TO THE ENGINEER FOR RESOLUTION PRIOR TO BID PRICING. NO EXTRAS WILL BE ALLOWED DUE TO LACK OF KNOWLEDGE OF THE EXISTING CONDITIONS.
2. THE MECHANICAL CONTRACTOR SHALL COORDINATE THE LOCATION OF ALL ABOVE CEILING EQUIPMENT, DUCTWORK AND CEILING MOUNTED AIR DEVICES WITH EXISTING ARCHITECTURAL, STRUCTURAL, ELECTRICAL AND MECHANICAL CONDITIONS. APPROXIMATE LOCATIONS OF NEW WORK ARE SHOWN AND SHOULD BE FOLLOWED AS CLOSELY AS EXISTING CONDITIONS WILL ALLOW.
3. MECHANICAL WORK SHALL COMPLY WITH ALL APPLICABLE CODES. VERIFY ALL REQUIREMENTS PRIOR TO SUBMITTING BID OR COMMENCING WORK.
4. THE MECHANICAL SYSTEMS SHOWN SHALL BE RUN AS HIGH AS POSSIBLE. THE MECHANICAL CONTRACTOR SHALL BE RESPONSIBLE FOR COORDINATING REQUIREMENTS WITH ALL TRADES PRIOR TO CONSTRUCTION.
5. WHERE CEILING SPACE IS USED AS A PLENUM, COMPLY WITH ALL APPLICABLE CODES. ALL MATERIALS WITHIN THE CEILING PLENUM WILL HAVE A FLAME SPREAD INDEX OF NOT MORE THAN 25 AND A SMOKE DEVELOPED INDEX OF NOT MORE THAN 50.
6. BALANCE AIR SYSTEMS TO THE QUANTITIES SHOWN AND SUBMIT BALANCE REPORT(S) TO THE ENGINEER FOR REVIEW.
7. PORTIONS OF THIS BUILDING WILL BE OCCUPIED DURING THIS CONSTRUCTION PROJECT. THE MECHANICAL CONTRACTOR SHALL COORDINATE THE SCHEDULING OF THEIR WORK WITH THE OWNER. CLEAN UP AT THE END OF EACH DAY.
8. DUCTWORK DIMENSIONS LISTED ON THE DRAWINGS ARE CLEAR, INSIDE DIMENSIONS.
9. PROVIDE DUCT TRANSITIONS FROM EQUIPMENT CONNECTIONS TO DUCT SIZES AS SHOWN.
10. PROVIDE A FLEXIBLE CONNECTION TO THE INTAKE AND DISCHARGE OF ALL MECHANICAL EQUIPMENT HAVING ROTATING PARTS. FLEXIBLE CONNECTION SHALL COMPLY WITH ALL APPLICABLE CODES.
11. ALL SUPPLY, RETURN AND EXHAUST DUCTWORK SHALL BE SEALED AIRTIGHT WITH DUCT SEALANT (SMACNA SEAL CLASS "A") ALONG ALL SEAMS AND JOINTS.
12. ALL DUCTWORK SHALL BE ALUMINUM SHEETMETAL.
13. ALL JOB SITE DUCTWORK PRIOR TO INSTALLATION SHALL BE COVERED AND PROTECTED FROM DIRT, DUST AND DAMAGE PER SMACNA STANDARDS.
14. THE DUCTWORK CONNECTED TO THE POOL DEHUMIDIFICATION UNIT SHALL BE CONSTRUCTED OF ALUMINUM WITHOUT DUCT LINER. PROVIDE ALUMINUM DUCT HANGERS AND SUPPORTS IN ACCORDANCE WITH SMACNA STANDARDS.

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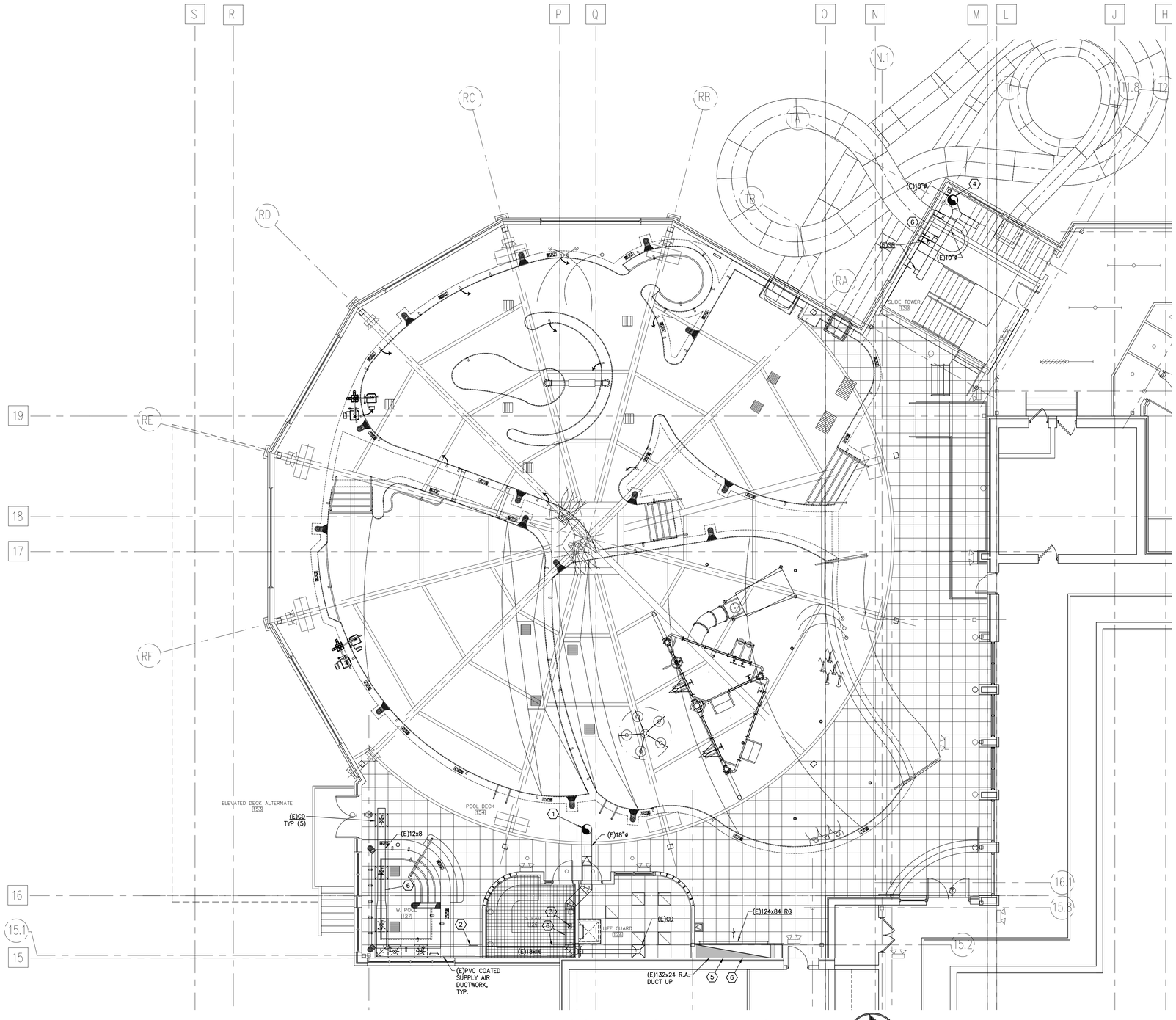
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Checked PWF

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MECHANICAL COVER SHEET, LEGEND, GENERAL NOTES AND SHEET INDEX

MP000



PARTIAL FIRST FLOOR HVAC DEMOLITION PLAN

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

HVAC DEMOLITION KEYNOTES:

1. (E)18"ø SUPPLY AIR DUCT UP. REFER TO DRAWING MD102 FOR CONTINUATION.
2. (E)SR IN SIDE OF DUCT, DISCHARGING ABOVE CEILING.
3. (E)SR IN BOTTOM OF DUCT DISCHARGING ABOVE CEILING.
4. (E)12"ø SUPPLY AIR DUCT UP. REFER TO DRAWING MD102 FOR CONTINUATION.
5. (E)132x24 RA DUCT UP. REFER TO DRAWING MD102 FOR CONTINUATION.
6. EXISTING DUCTWORK TO REMAIN, TYPICAL.

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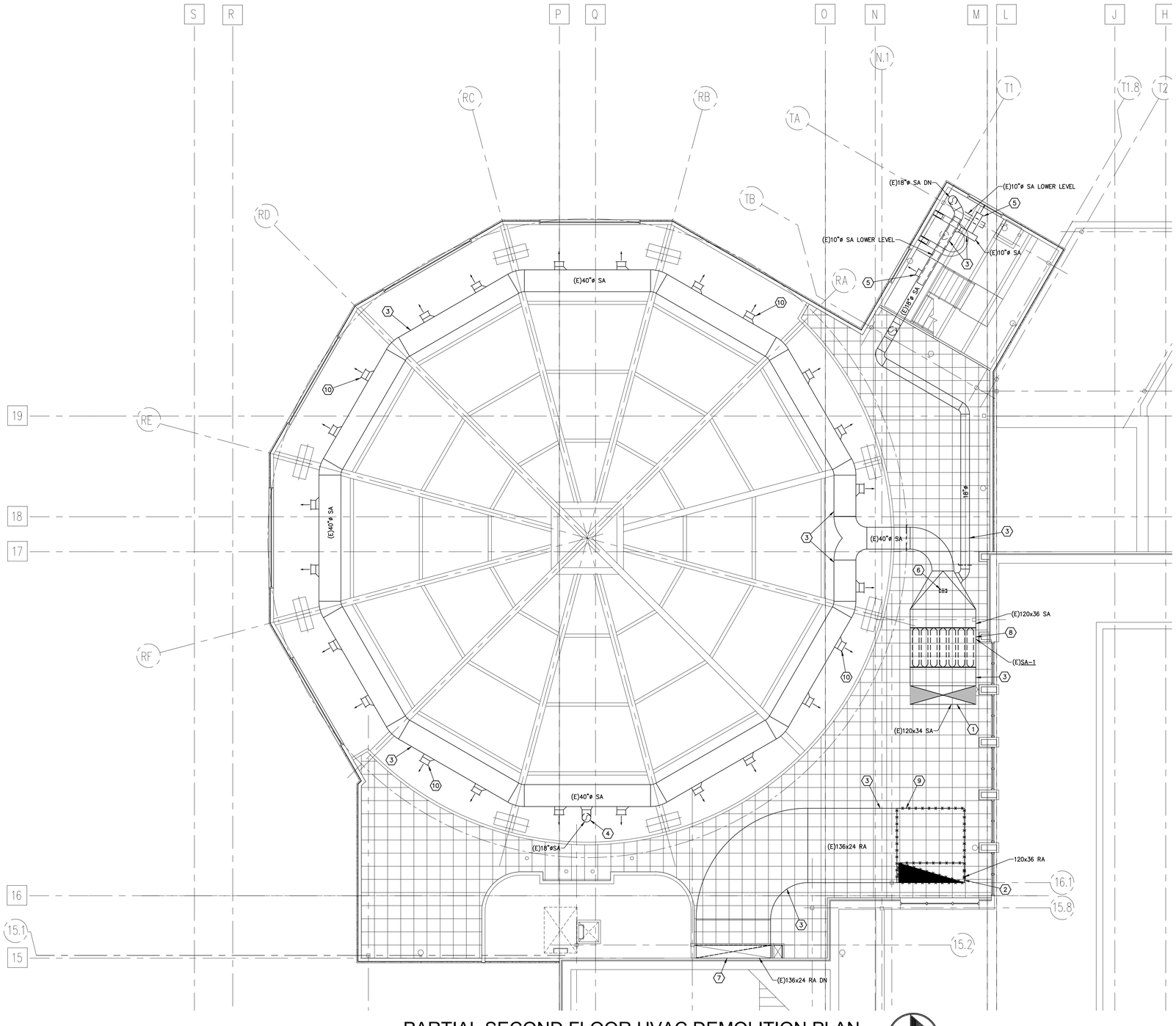
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PARTIAL FIRST FLOOR
HVAC DEMOLITION PLAN

MD101



HVAC DEMOLITION KEYNOTES:

1. (E)120x34 SUPPLY AIR DUCT UP TO PDU-1. DUCT SHALL BE REMOVED ONLY TO THE EXTENT REQUIRED FOR NEW DUCT TRANSITION TO NEW PDU.
2. REMOVE EXISTING 120x36 RETURN AIR DUCT UP TO PDU-1. REFER TO MD103 FOR CONTINUATION.
3. EXISTING DUCTWORK TO REMAIN, TYPICAL.
4. (E)18"ø SUPPLY AIR DUCT DOWN TO REMAIN. REFER TO DRAWING MD101 FOR CONTINUATION.
5. EXISTING SUPPLY REGISTERS (2-LOWER LEVEL, 1-UPPER LEVEL) TO REMAIN, TYPICAL.
6. EXISTING SUPPLY REGISTER IN BOTTOM OF DUCT, DISCHARGING ABOVE CEILING, TO REMAIN.
7. (E)136x24 RETURN AIR DUCT DOWN TO REMAIN. REFER TO DRAWING MD101 FOR CONTINUATION.
8. EXISTING SOUND ATTENUATOR, (E)SA-1 TO REMAIN.
9. REMOVE THE EXISTING RETURN AIR DUCT TO THE EXTENT INDICATED. PREPARE EXISTING TO REMAIN DUCT FOR RECONNECTION. REFER TO NEW WORK PLAN FOR RECONNECTION.
10. EXISTING SUPPLY REGISTERS TO REMAIN, TYPICAL.

PARTIAL SECOND FLOOR HVAC DEMOLITION PLAN

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

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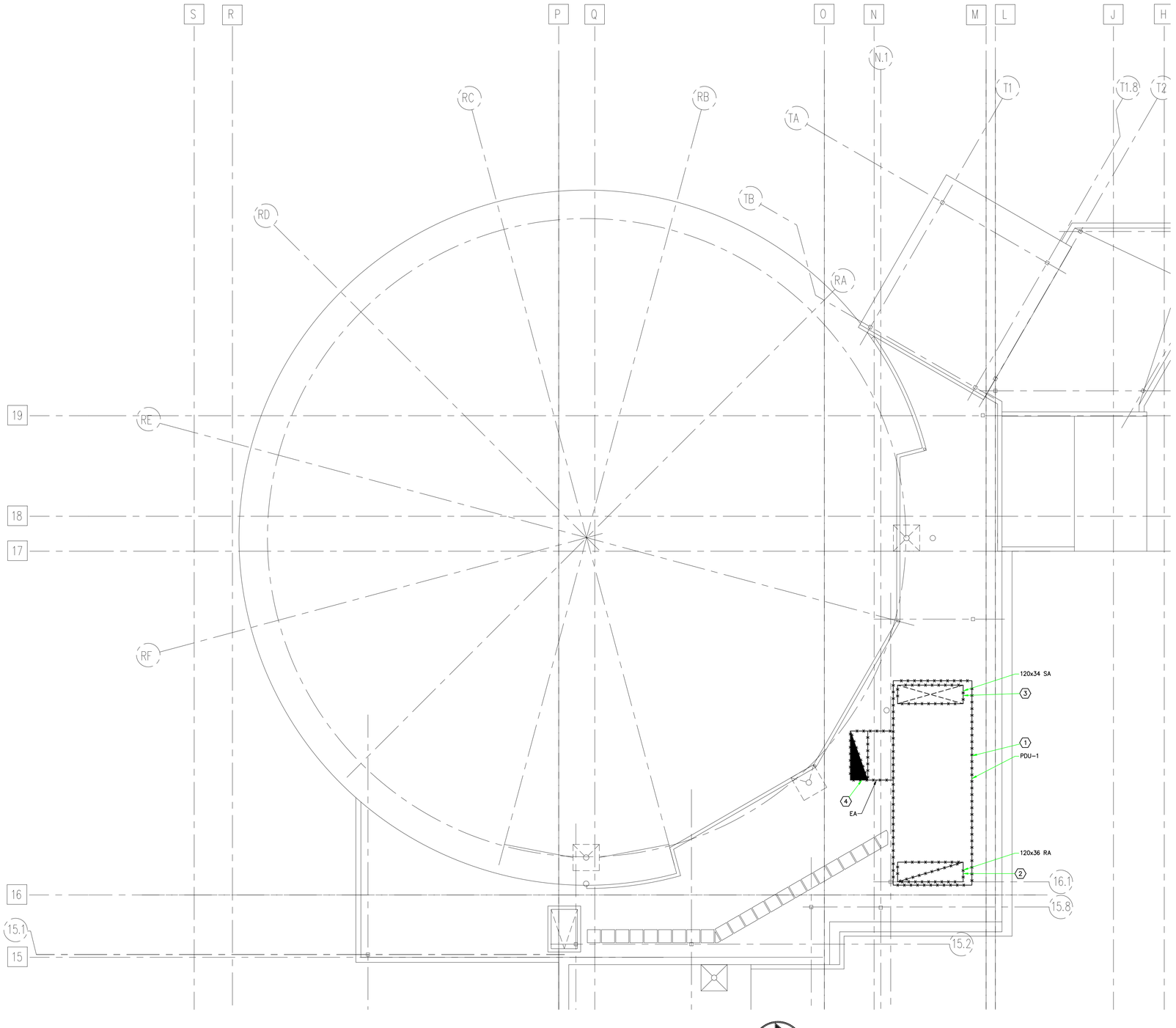
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PARTIAL SECOND FLOOR HVAC DEMOLITION PLAN

MD102



HVAC DEMOLITION KEYNOTES:

1. REMOVE THE EXISTING POOL DEHUMIDIFICATION UNIT AND ALL DUCT CONNECTIONS, CONTROLS AND APPURTENANCES. THE EXISTING ROOF CURB SHALL REMAIN FOR REUSE. EXISTING UNIT WEIGHT IS 22,700 LBS PER THE ORIGINAL INNOVENT SUBMITTAL DRAWINGS DATED 6/10/05.
2. EXISTING RETURN AIR DUCT SHALL BE REMOVED FROM THE UNIT CONNECT DOWN THROUGH THE CURB AND ROOF DECK. REPAIR ROOF DECK OPENING WITH SIMILAR DECKING MATERIAL. SEAL AIR TIGHT. REFER TO MD102 FOR CONTINUATION.
3. EXISTING SUPPLY AIR DUCT SHALL BE REMOVED FROM THE UNIT CONNECT DOWN THROUGH THE CURB AND ROOF DECK AS FAR AS REQUIRED FOR NEW UNIT CONNECTIONS AND TRANSITIONS.
4. REMOVE EXISTING EXHAUST AIR DUCT AND ALL ASSOCIATED ROOF SUPPORTS.

PARTIAL HVAC ROOF DEMOLITION PLAN

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

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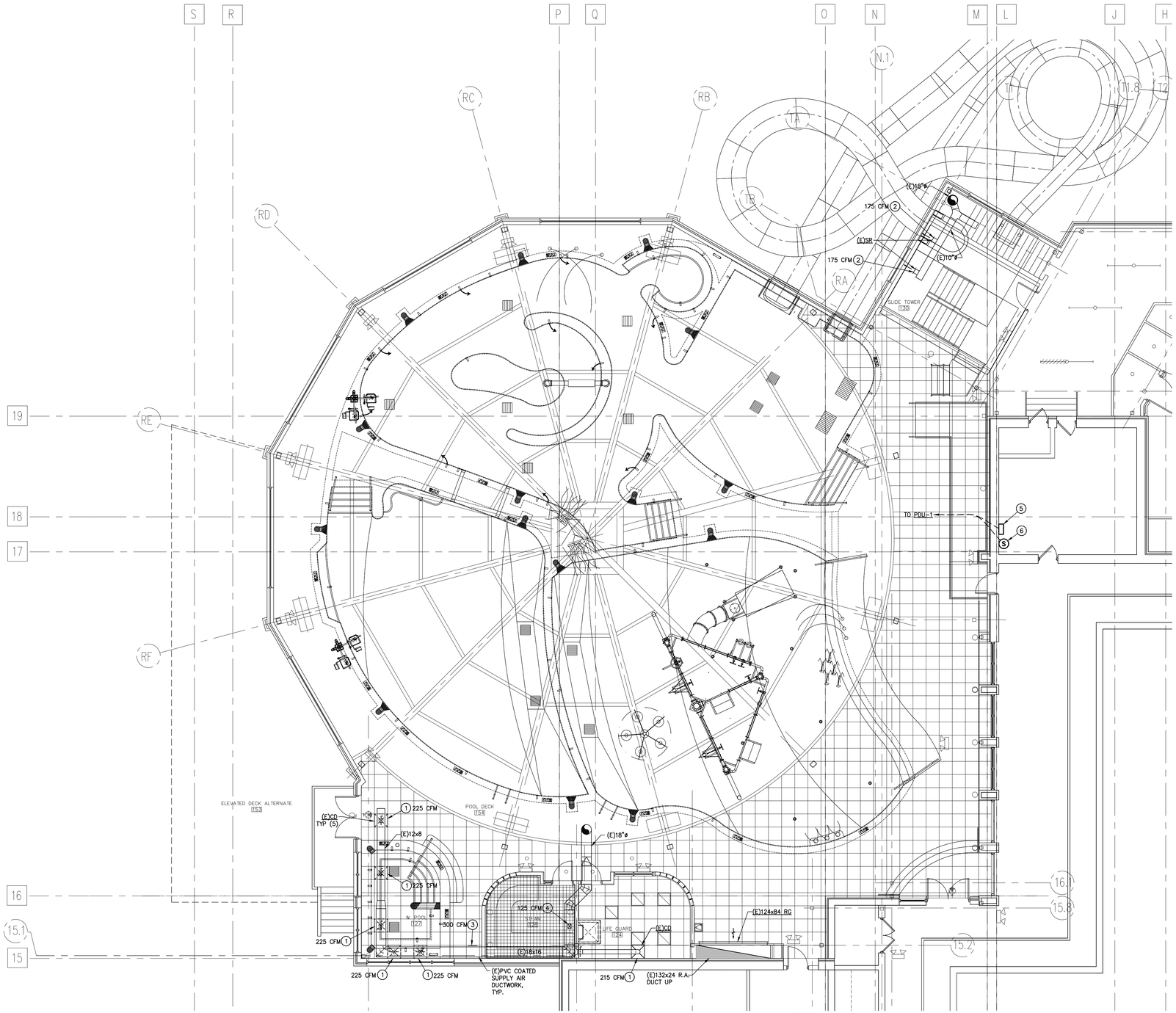
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PARTIAL HVAC ROOF DEMOLITION PLAN

MD103



PARTIAL FIRST FLOOR HVAC PLAN

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

HVAC KEYNOTES:

1. BALANCE EXISTING CEILING DIFFUSER TO AIRFLOW INDICATED.
2. EXISTING HIGH/LOW SUPPLY REGISTERS. BALANCE EACH TO AIRFLOW INDICATED.
3. EXISTING SUPPLY REGISTER IN SIDE OF DUCT, ABOVE CEILING. BALANCE TO AIRFLOW INDICATED.
4. EXISTING SUPPLY REGISTER IN BOTTOM OF DUCT, ABOVE CEILING. BALANCE TO AIRFLOW INDICATED.
5. REMOTE USER TERMINAL SET IN MECHANICAL ROOM. COORDINATE FINAL LOCATION WITH OWNER PRIOR TO SETTING IN PLACE. PROVIDE ENGRAVED SIGN INDICATING "LEISURE POOL (PDU-1) REMOTE USER TERMINAL"
6. PURGE MODE BUTTON. COORDINATE FINAL LOCATION WITH OWNER PRIOR TO SETTING IN PLACE. PROVIDE ENGRAVED SIGN INDICATING "LEISURE POOL (PDU-1) PURGE MODE ACTIVATION BUTTON. ONLY DEPRESS WHEN POOL IS UNOCCUPIED."

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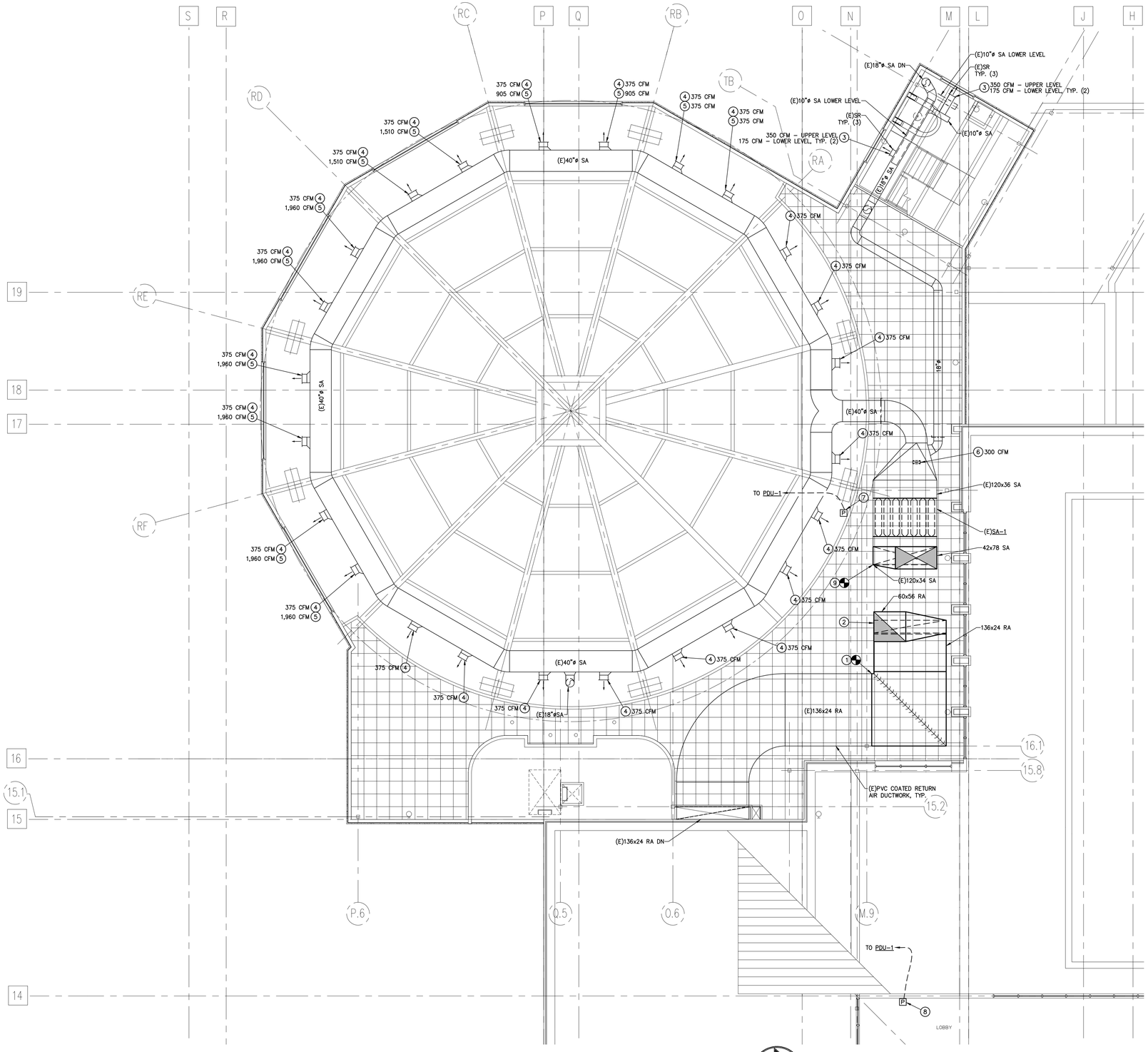
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PARTIAL FIRST FLOOR HVAC PLAN

M101



PARTIAL SECOND FLOOR HVAC PLAN

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

HVAC KEYNOTES:

1. CONNECT NEW 136x24 ALUMINUM RETURN DUCT TO THE EXISTING RETURN DUCT.
2. TRANSITION 136x24 RETURN DUCT UP. TRANSITION THROUGH ROOF TO UNIT CONNECTION SIZE. PROVIDE FLEXIBLE CONNECTION TO PDU-1.
3. THREE (3) EXISTING SUPPLY REGISTERS, TWO (2) ON THE MIDDLE LEVEL AND ONE (1) ON THE UPPER SLIDE LEVEL, SHALL BE BALANCED TO THE AIRFLOW INDICATED.
4. EXISTING SUPPLY REGISTER DIRECTED UPWARD TO BE BALANCED TO THE AIRFLOW INDICATED.
5. EXISTING SUPPLY REGISTER DIRECTED DOWNWARD TO BE BALANCED TO THE AIRFLOW INDICATED.
6. EXISTING SUPPLY REGISTER OFF OF THE BOTTOM OF THE DUCT, DISCHARGING ABOVE CEILING, SHALL BE BALANCED TO THE AIRFLOW INDICATED.
7. PROVIDE A NEW PRESSURE SENSOR HIGH IN SPACE, WITHIN 24" OF ROOF. PRESSURE SENSOR AND TUBING SHALL BE FURNISHED AND INSTALLED BY THE TEMPERATURE CONTROLS CONTRACTOR.
8. PROVIDE A NEW ADJACENT SPACE PRESSURE SENSOR OPEN TO THE LOBBY. SET IN CEILING OR HIGH ON WALL. PRESSURE SENSOR AND TUBING SHALL BE FURNISHED AND INSTALLED BY THE TEMPERATURE CONTROLS CONTRACTOR.
9. PROVIDE A NEW TRANSITION FROM THE EXISTING 120x34 SUPPLY DUCT ELBOW UP THROUGH ROOF, TO UNIT CONNECTION SIZE. PROVIDE FLEXIBLE CONNECTION TO PDU-1. INFILL ROOF DECK AS REQUIRED TO ENSURE A MAXIMUM OF 2" GAP BETWEEN DUCT AND ROOF DECK.

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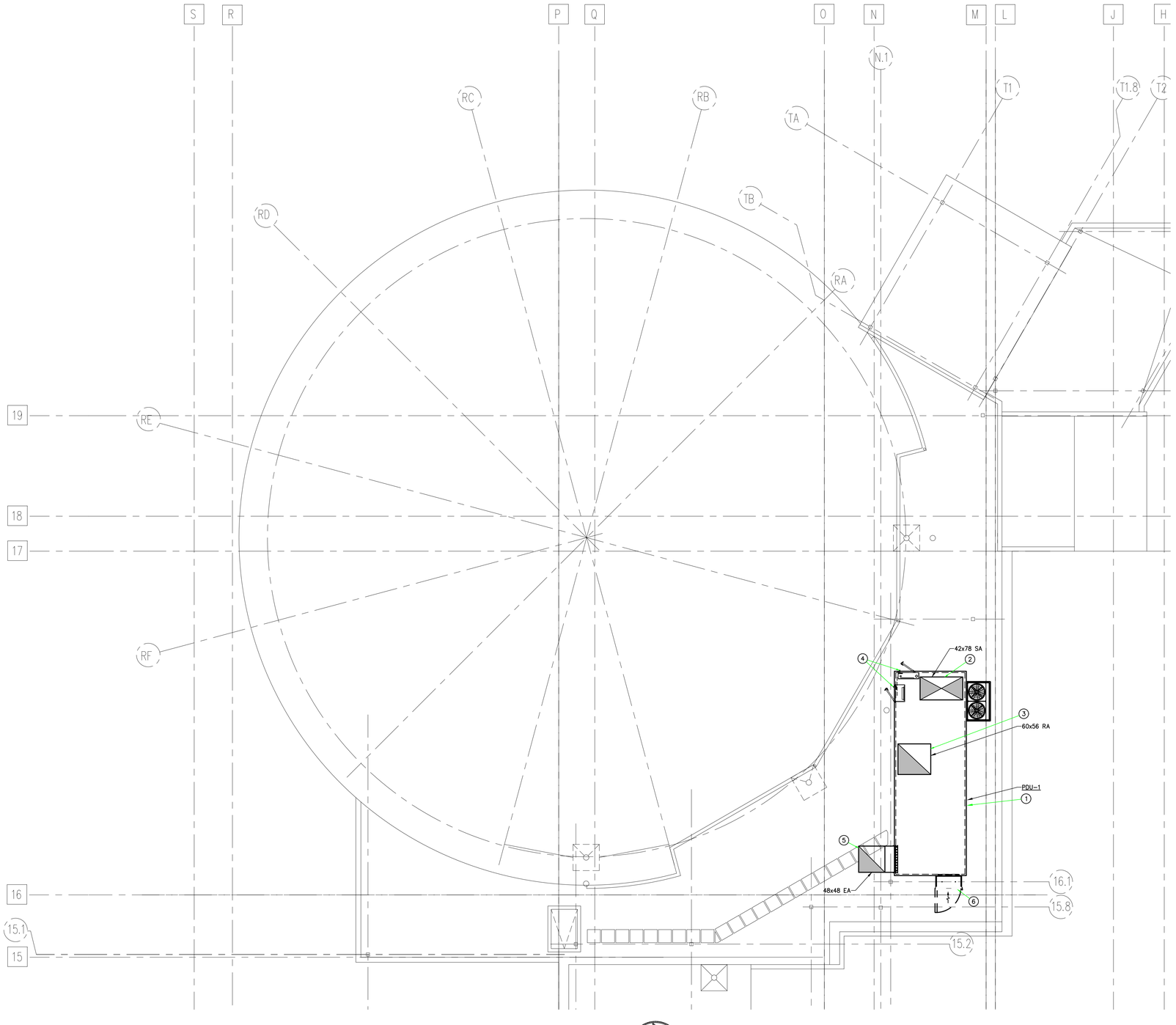
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PARTIAL SECOND FLOOR HVAC PLAN

M102



HVAC KEYNOTES:

1. NEW POOL DEHUMIDIFICATION UNIT, PDU-1, UNIT SHALL SIT ON A 12" ADAPTER CURB. CURB SHALL SUPPORT ALL UNIT SPLITS AND DUCT CONNECTIONS.
2. NEW ALUMINUM SUPPLY AIR CONNECTION TO UNIT WITH FLEXIBLE DUCT CONNECTOR. TRANSITION DOWN THROUGH CURB AND ROOF TO THE EXISTING SUPPLY AIR DUCT SIZE. INFILL ROOF DECK TO ENSURE A MAXIMUM 2" GAP BETWEEN DUCT AND ROOF DECK.
3. NEW ALUMINUM RETURN AIR CONNECTION TO UNIT WITH FLEXIBLE DUCT CONNECTOR. TRANSITION DOWN THROUGH CURB AND ROOF TO NEW EXHAUST AIR DUCT SIZE. PROVIDE NEW PENETRATION THROUGH EXISTING ROOF DECK. ENSURE A MAXIMUM 2" GAP BETWEEN DUCT AND ROOF DECK.
4. ELECTRICAL PANELS AND DISCONNECTS.
5. 48x48 ALUMINUM EXHAUST AIR DUCT. ELBOW UP 90 DEGREES AND OPEN END. PROVIDE A 3" DRAIN IN BOTTOM OF DUCT. ROUTE 3" PVC PIPE ACROSS ROOF AND TERMINATE AT NEAREST ROOF DRAIN. PROVIDE ROOF SUPPORTS AS REQUIRED FOR DRAIN LINE AND DUCT.
6. OUTSIDE AIR INTAKE.

PARTIAL HVAC ROOF PLAN

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

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PARTIAL HVAC ROOF PLAN

M103

NATATORIUM DEHUMIDIFICATION/HEAT RECOVERY UNIT SCHEDULE

PLAN CODE	MANUFACTURER & MODEL NO.	SERVICE	SENSIBLE ENERGY RECOVERY WHEEL										DIRECT DRIVE FANS							
			MOTOR HP	MODE	CFM	EAT DB/WB (°F)	LAT DB/WB (°F)	APD (IN WC)	MODE	CFM	EAT DB (°F)/%RH	LAT DB (°F)	APD (IN WC)	SERVICE	TOTAL CFM	SIZE/ NUMBER	TYPE	ESP (IN WC)	RPM	BHP	MHP
PDU-1	ANNEX AIR ERP-E-30-HE SW20-C-HG-AZ24	LEISURE POOL	1.0	WINTER OA (NOTE 9)	11,000	14.0	58.3	0.20"	WINTER EA	12,650	85.0/50%	58.1	0.27"	SUPPLY	30,000	32.5" / 2	AF-PLN	3.0"	1,200	16.9	25.0
				PURGE OA (NOTE 10)	15,000	11.0	50.0	0.26"	PURGE EA	17,250	85.0/38%	48.0	0.37"								
				SUMMER OA	11,000	95.0/61.0	86.1	0.23"	SUMMER EA	12,650	85.0/60%	92.5	0.28"	EXHAUST	23,000	32.5" / 2	AF-PLN	0.5"	1,200	8.6	15.0
				DEW POINT OA	20,000	67.6/63.5	77.2	0.40"	DEW POINT EA	23,000	85.0/60%	77.0	0.50"								

COOLING							ELEC. PRE-HEATING			GAS HEATING				ELECTRICAL			DIMENSIONS (IN)			WT.	REMARKS
EER	CAP. TONS	MBH T/S	AMBIENT DB (°F)	EAT DB/ WB (°F)	LAT DB/ WB (°F)	APD (IN WC)	INPUT (KW)	EAT DB (°F)	LAT DB (°F)	INPUT (MBH)	OUTPUT MBH@ALT	EAT DB (°F)	LAT DB (°F)	V/PHASE/Hz	MOP (A)	MCA (A)	L	W	H	(LB)	
11.0	22.3	279/279	95.0	85.6/66.3	75.0/63.3	0.30"	67.0	-10.0	14.0	1,500.0	877.0	70.0	100.0	460/3/60	250	228	380"	137"	163"	26,300	NOTE: 1,2,3,4,5,6,7,8,11,12

NOTES:
1. HEIGHT INCLUDES THE EXISTING 14" ROOF CURB AND THE 12" ADAPTER CURB..
2. CAPACITY CONTROL ON COOLING SYSTEM BY DIGITAL SCROLL OR VARIABLE SPEED COMPRESSOR.
3. PROVIDE WITH 2" MERV 8 OUTSIDE AIR FILTERS AND 2" WASHABLE ALUMINUM RETURN AIR FILTERS.
4. VFD ON SUPPLY AND EXHAUST FAN ARRAYS.
5. INTEGRAL CONTROLS WITH BACNET INTERFACE.
6. PROVIDE UNIT WITH A FUSED DICONNECT.
7. PROVIDE UNIT WITH TWO (2) USER TERMINAL LCD DISPLAYS. (1) SET IN UNIT MOUNTED CABINET WHICH DOESN'T HAVE A DISCONNECT AND (1) FOR REMOTE LOCATION (REFER TO PLANS).
8. WEIGHT DOES NOT INCLUDE THE EXISTING ROOF CURB.
9. WINTER OA CONDITION IS WITH ELECTRIC PRE-HEATER OPERATING.
10. PURGE OA CONDITION IS IN WINTER WITH ELECTRIC PRE-HEATER OPERATING.
11. GAS FIRED HEATING SHALL OPERATE AT AN INLET PRESSURE OF 6.7" W.C.
12. PROVIDE AN ADAPTER CURB TO SUPPORT ALL UNIT SPLITS AND DUCT CONNECTIONS. CURB SHALL HAVE A MAXIMUM HEIGHT OF 12".

REFER TO SPECIFICATION SECTION 23 73 01 FOR SEQUENCE OF OPERATION

THE FOLLOWING CONTROL POINTS SHALL BE SENT FROM THE FACTORY CONTROLLER TO THE DDC SYSTEM VIA THE INTERFACE CARD AT A MINIMUM AND SHALL BE AVAILABLE AT THE DDC SYSTEM GUI.

ALARM POINTS
- GENERAL ALARM
- EXHAUST FAN ARRAY ALARM
- SUPPLY FAN ARRAY ALARM
- EXHAUST AIR FILTER ALARM
- OUTSIDE AIR FILTER ALARM

READ POINTS
- MIXED AIR TEMPERATURE
- MIXED AIR HUMIDITY
- OUTSIDE AIR TEMPERATURE
- OUTSIDE AIR HUMIDITY
- DISCHARGE AIR TEMPERATURE
- ENERGY RECOVERY WHEEL EXHAUST AIR ENTERING TEMPERATURE
- ENERGY RECOVERY WHEEL EXHAUST AIR LEAVING TEMPERATURE
- ENERGY RECOVERY WHEEL OUTSIDE AIR ENTERING TEMPERATURE
- ENERGY RECOVERY WHEEL OUTSIDE AIR LEAVING TEMPERATURE
- RETURN AIR TEMPERATURE
- RETURN AIR HUMIDITY
- OUTSIDE AIR DAMPER POSITION
- RETURN AIR DAMPER POSITION
- NATATORIUM TO ATMOSPHERE DIFFERENTIAL PRESSURE
- NATATORIUM TO ADJACENT SPACE DIFFERENTIAL PRESSURE
- OUTSIDE AIRFLOW RATE
- SUPPLY FAN #1 AIRFLOW RATE
- SUPPLY FAN #2 AIRFLOW RATE
- TOTAL SUPPLY AIRFLOW RATE
- EXHAUST FAN #1 AIRFLOW RATE
- EXHAUST FAN #2 AIRFLOW RATE
- TOTAL EXHAUST AIRFLOW RATE
- GAS FIRED HEATING PERCENTAGE
- ELECTRIC PREHEAT PERCENTAGE
- SUPPLY FAN ARRAY SPEED
- EXHAUST FAN ARRAY SPEED
- ENERGY RECOVERY WHEEL MOTOR SPEED
- DX COMPRESSOR #1 PERCENTAGE
- DX COMPRESSOR #2 PERCENTAGE

WRITE POINTS
- PDU START/STOP
- OCCUPIED/UNOCCUPIED MODE
- PURGE MODE ENABLE
- RETURN AIR TEMPERATURE SETPOINT
- RETURN AIR HUMIDITY SETPOINT
- NATATORIUM TO ATMOSPHERE DIFFERENTIAL PRESSURE SETPOINT
- NATATORIUM TO ADJACENT SPACE DIFFERENTIAL PRESSURE SETPOINT

POOL DEHUMIDIFICATION UNIT CONTROL DIAGRAM (PDU-1)

SCALE: NONE

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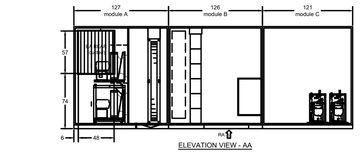
CASTLE ROCK RECREATION CENTER
POOL DEHUMIDIFICATION UNIT REPLACEMENT
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Castle Rock, CO 80104

Issue Record

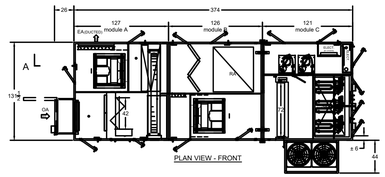
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Drawn	PWF
Checked	PWF

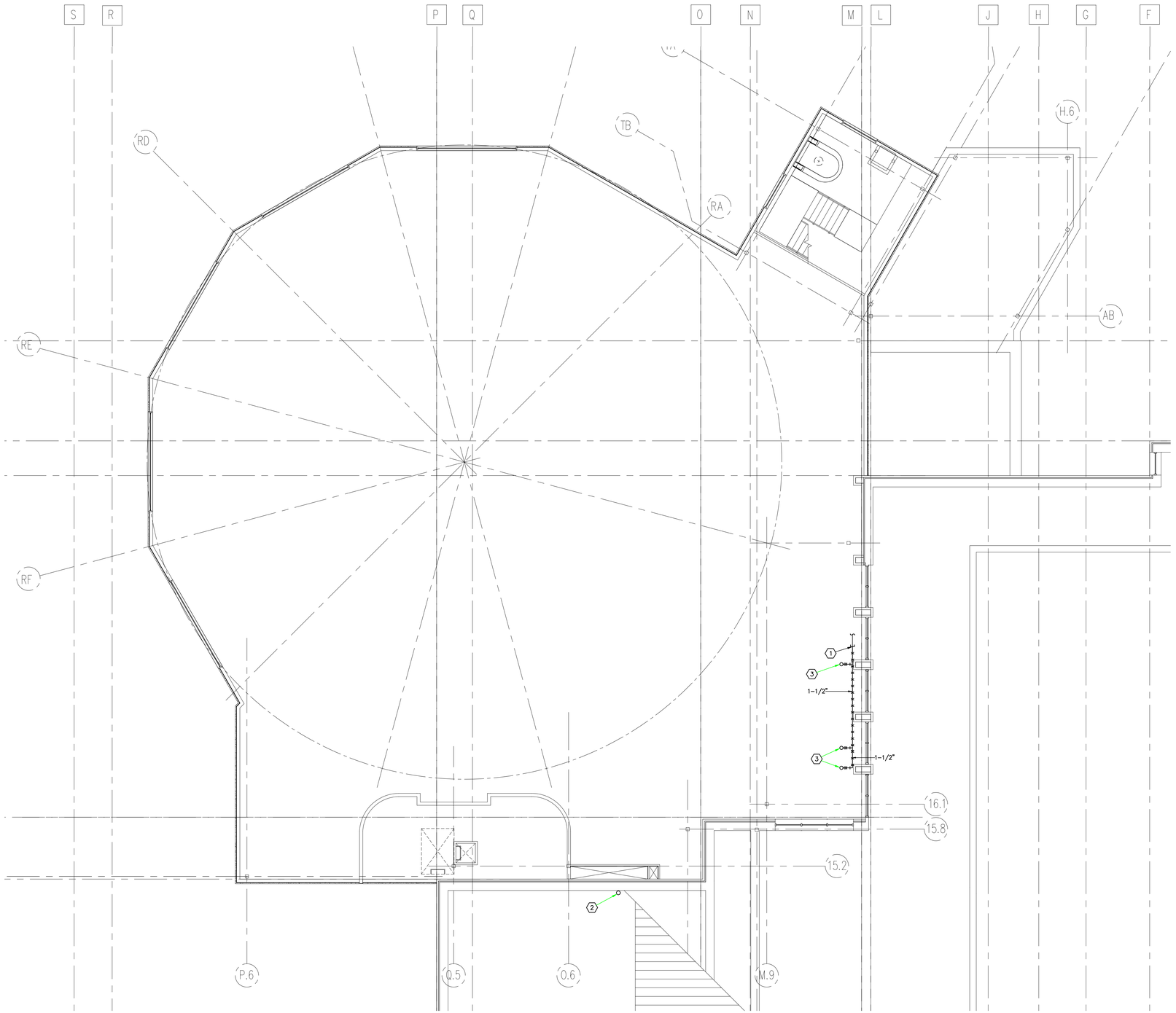
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HVAC SCHEDULES AND TEMPERATURE CONTROLS DIAGRAM

M200



ELEVATION VIEW - AA


26
374
127
module A
126
module B
121
module C
FA/duct/PA
A
L
13 1/4
5A
C2
RA
RA
RA
EF
EF
EF



PLUMBING DEMOLITION KEYNOTES:

1. CAP (E) 1-1/2" CONDENSATE DRAIN AT STRUCTURE.
2. (E) 4" G. UP THROUGH ROOF TO SERVICE ROOFTOP EQUIPMENT TO REMAIN.
3. REMOVE (E) PDU CONDENSATE PIPING.

PARTIAL SECOND FLOOR PLUMBING DEMOLITION PLAN

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

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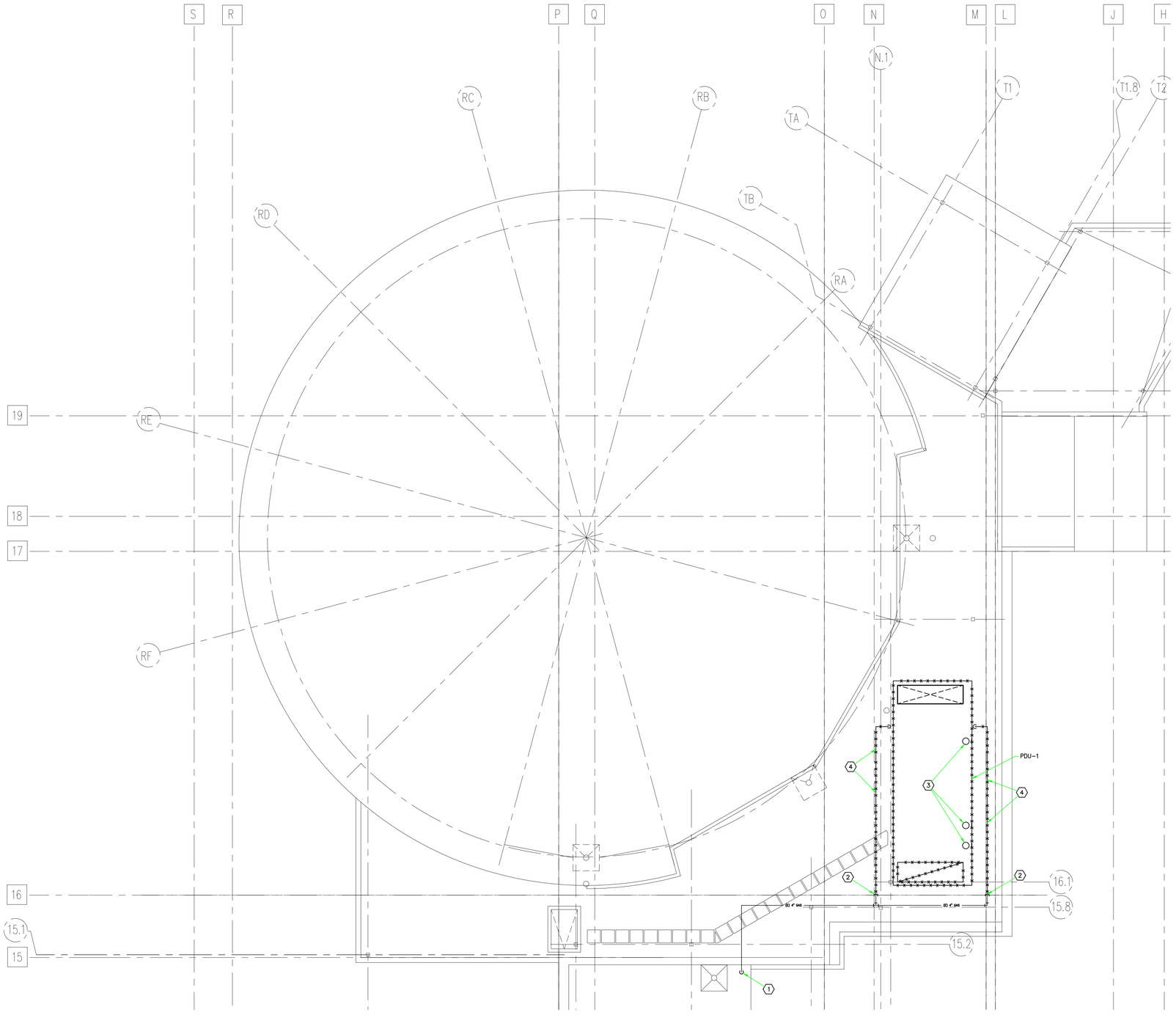
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Date	**4/10/2019**
Drawn	**MRH**
Checked	**TRH**

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PARTIAL SECOND FLOOR PLUMBING DEMOLITION PLAN

PD102



PLUMBING DEMOLITION KEYNOTES:

1. (E) 4" G. UP FROM BELOW.
2. CAP (E) 4" G. FOR RECONNECTION TO (N) PDU.
3. REMOVE (E) PDU CONDENSATE CONNECTIONS.
4. REMOVE (E) GAS PIPING & PDU CONNECTION.

PARTIAL ROOF PLUMBING DEMOLITION PLAN

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

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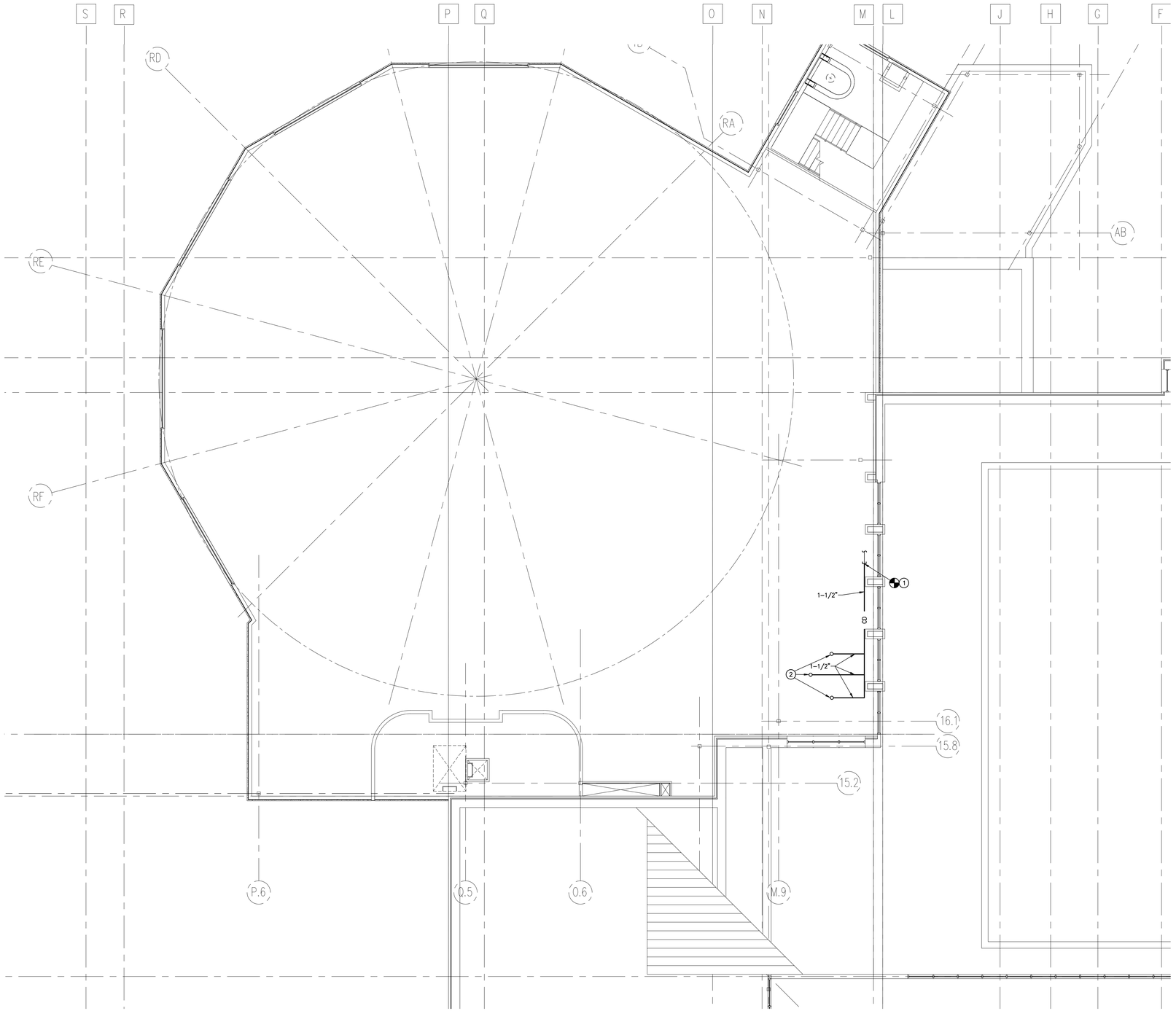
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PARTIAL ROOF PLUMBING DEMOLITION PLAN

PD103



PLUMBING KEYNOTES:

1. CONNECT (N) 1-1/2" CONDENSATE TO (E) 1-1/2" CONDENSATE AT STRUCTURE.
2. 1-1/2" DRAIN DOWN FROM (N) PDU ABOVE.

PARTIAL SECOND FLOOR PLUMBING PLAN

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

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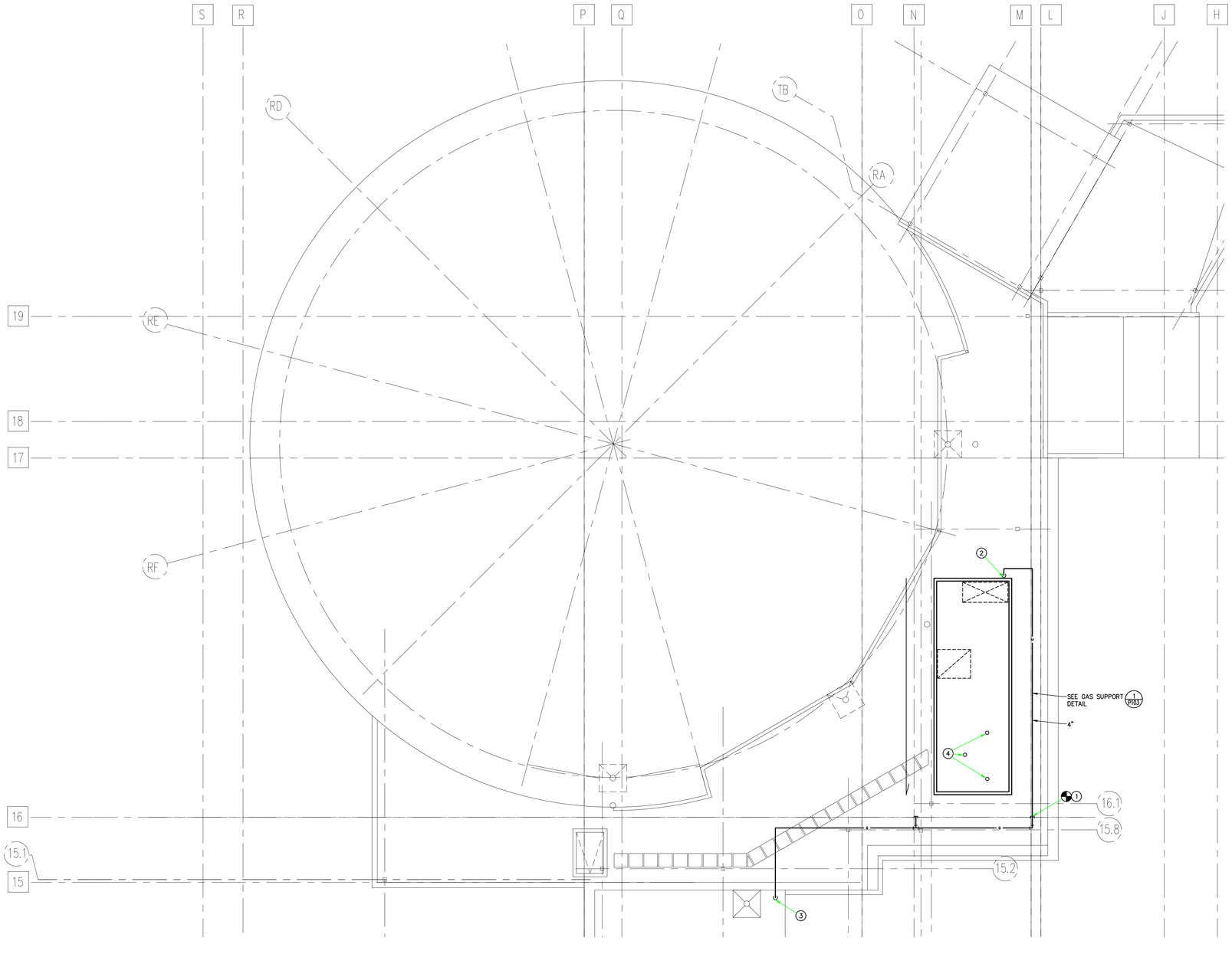
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PARTIAL SECOND FLOOR PLUMBING PLAN

P102

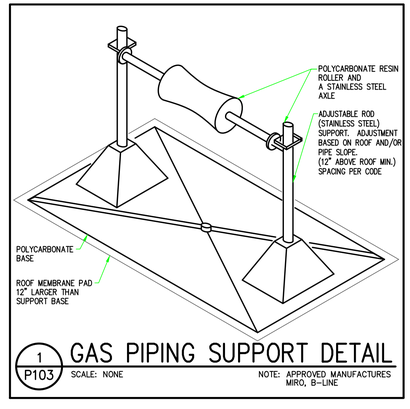


PLUMBING KEYNOTES:

1. CONNECT (N) 4" G. TO (E) 4" G.
2. CONNECT (N) 4" G. TO (N) PDU W/ 4" GAS COCK & 6 " DIRT LEG.
3. 4" (E) G. UP FROM BELOW & OFFSET ON ROOF TO REMAIN.
4. 1-1/2" DRAIN CONNECTION DOWN THRU FLOOR TO CONNECT W/ (E) DRAIN LINE..

GAS LOAD SCHEDULE

APPLIANCE	LOAD
DEMO'D PDU	-1600.0 MBH
(N) PDU	1500.0 MBH
REDUCTION	-100.0 MBH INPUT @ S.L. 7.0" WC REQUIRED



1/P103 GAS PIPING SUPPORT DETAIL
SCALE: NONE
NOTE: APPROVED MANUFACTURES MIRO, B-LINE

PARTIAL ROOF PLUMBING PLAN
SCALE: 1/8" = 1'-0"

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PARTIAL ROOF PLUMBING PLAN

P103

DISTRIBUTION AND RACEWAY

MDC	MAIN DISTRIBUTION CENTER (MDC)
	SURFACE MTD PANELBOARD
	RECESSED PANELBOARD
T	TRANSFORMER
	BRANCH CIRCUIT HOMERUN
	CONDUIT CONCEALED IN FLOOR OR UNDERGROUND
	CONDUIT EXPOSED OR CONCEALED IN WALL OR CEILING
	RACEWAY UP
	RACEWAY DOWN
	CAPPED CONDUIT
	CURRENT TRANSFORMER
	CIRCUIT BREAKER SWITCH
	FUSED SWITCH
	GROUNDING ELECTRODE CONDUCTOR
M	METER
GFP	GROUND FAULT PROTECTION

ABBREVIATIONS AND SYMBOLS

A	AMPERE(S)
AC	ABOVE COUNTER
AFF	ABOVE FINISHED FLOOR
AFG	ABOVE FINISHED GRADE
AHJ	AUTHORITY HAVING JURISDICTION
AIC	AMPERES INTERRUPTING CAPACITY
ATS	AUTOMATIC TRANSFER SWITCH
BFF	BELOW FINISHED FLOOR
C	CONDUIT
CATV	CABLE TELEVISION
CB	CIRCUIT BREAKER
CT	CURRENT TRANSFORMER
DISC	DISCONNECT
DW	DISHWASHER
DWG(S)	DRAWING(S)
(E)	EXISTING TO REMAIN
EC	ELECTRICAL CONTRACTOR
EF	EXHAUST FAN
(ER)	EXISTING TO BE RELOCATED
EM	EMERGENCY
EPO	EMERGENCY POWER OFF
EWC	ELECTRIC WATER COOLER
F	FUSE
FLA	FULL LOAD AMPS
G	GROUND
GC	GENERAL CONTRACTOR
GD	GARBAGE DISPOSAL
GFI	GROUND FAULT CIRCUIT INTERRUPTER
GFP	GROUND FAULT PROTECTION
HP	HORSEPOWER
IDF	INTERMEDIATE DISTRIBUTION FACILITY
IG	ISOLATED GROUND
ISC	SHORT CIRCUIT CURRENT
KVA	KILOVOLT AMPERE(S)
KW	KILOWATT(S)
LTG	LIGHTING
MCA	MINIMUM CIRCUIT AMPERE(S)
MCB	MAIN CIRCUIT BREAKER
MDP	MAIN DISTRIBUTION CENTER
MDF	MAIN DISTRIBUTION FACILITY
MLO	MAIN LUGS ONLY
MTS	MANUAL TRANSFER SWITCH
MW	MICROWAVE
NC	NORMALLY CLOSED
NL	NIGHT LIGHT - SEE GENERAL NOTES
NO	NORMALLY OPEN
OAE	OR APPROVED EQUAL
OH	OVERHEAD
P	POLE
PART	PARTIAL CIRCUIT
PH, Φ	PHASE
PNL	PANEL
(R)	REMOVED, EXISTING TO BE REMOVED
RCPT	RECEPTACLE
REF	REFRIGERATOR
(RL)	RELOCATED
SPD	SURGE PROTECTION DEVICE
UC	UNDER COUNTER/CABINET
UG	UNDERGROUND
UON	UNLESS OTHERWISE NOTED
V	VOLT(S)
W	WATT(S) OR WIRE
WG	WIRE GUARD
WP	WEATHERPROOF
XFMR	TRANSFORMER
	POOL EQUIPMENT SCHEDULE NOTATION
	KITCHEN EQUIPMENT SCHEDULE NOTATION
	MECHANICAL EQUIPMENT SCHEDULE NOTATION
	DETAIL NOTE
	DELTA REVISION NOTE
	ELECTRICAL WIRE SIZE

WIRING DEVICES

	DUPLEX RECEPTACLE
	FOUR PLEX RECEPTACLE
	SINGLE RECEPTACLE
GFI	COMBO RECEPTACLE/SWITCH
	SWITCHED DUPLEX RECEPTACLE
	SPECIAL PURPOSE RECEPTACLE
	FLOOR MOUNTED SPECIAL PURPOSE RECEPTACLE
	FLOOR MOUNTED RECEPTACLE DUPLEX/QUAD
SR	SURFACE RACEWAY
	CLOCK RECEPTACLE
J	JUNCTION BOX
WJ	WALL MOUNTED J-BOX
FJ	FLOOR MOUNTED JUNCTION BOX
	MOLDED CASE CIRCUIT BREAKER IN ENCLOSURE
	NON-FUSED DISCONNECT SWITCH
	FUSED DISCONNECT SWITCH
	MAGNETIC CONTROLLER (STARTER)
	COMBINATION STARTER/DISCONNECT SWITCH
M	MOTOR
R	RELAY
TC	TIME CLOCK
PC	PHOTOCELL
$TO	THERMAL OVERLOAD SWITCH
$	SINGLE POLE SWITCH
$3	3-WAY SWITCH
$4	4-WAY SWITCH
$K	KEY OPERATED SWITCH
$D	DIMMER SWITCH
$DOOR	RECESSED DOOR SWITCH
X	LIGHTING CONTROL DEVICE. REFER TO DETAILS FOR CONTROL INTENT.

FIRE ALARM

	DUCT SMOKE DETECTOR, SUPPLY OR RETURN
D	120V. MOTORIZED SMOKE DAMPER

ELECTRICAL GENERAL NOTES

1. THE CONTRACTOR SHALL PROVIDE ALL LABOR AND MATERIAL NECESSARY FOR A COMPLETE AND FUNCTIONING ELECTRICAL SYSTEM.
2. MATERIALS AND INSTALLATION SHALL COMPLY WITH CODES, LAWS AND ORDINANCES OF FEDERAL, STATE AND LOCAL GOVERNING BODIES HAVING JURISDICTION.
3. MATERIALS AND EQUIPMENT SHALL BE LISTED AND/OR LABELED BY U.L., ETL, CSA OR ANOTHER RECOGNIZED TESTING LAB.
4. ALL WORK REQUIRED FOR THE INSTALLATION AS SHOWN ON DRAWINGS INCLUDING LABOR, EQUIPMENT AND MATERIALS SHALL BE IN STRICT COMPLIANCE WITH THE BUILDING STANDARDS, EXCEPT AS NOTED OTHERWISE.
5. THE CONTRACTOR SHALL SECURE AND PAY FOR ALL PERMITS, GOVERNMENTAL FEES, TAXES AND LICENSES NECESSARY FOR THE PROPER EXECUTION AND COMPLETION OF THE ELECTRICAL WORK.
6. THE CONTRACTOR SHALL PREPARE AND SUBMIT TO GOVERNMENTAL AGENCIES AND UTILITY COMPANIES SHOP DRAWINGS, WHICH ARE REQUIRED BY THESE AGENCIES, FOR THEIR APPROVAL.
7. THE CONTRACTOR SHALL NOTIFY THE ARCHITECT/ENGINEER/OWNER OF ANY MATERIALS OR APPARATUS BELIEVED TO BE INADEQUATE, UNSUITABLE, IN VIOLATION OF LAWS, ORDINANCES, RULES OR REGULATIONS OF AUTHORITIES HAVING JURISDICTION.
8. FOR ALL JOBS THAT INCLUDE DEMOLITION WORK BY THE ELECTRICAL CONTRACTOR, DURING AND AFTER DEMOLITION, EC SHALL MAINTAIN CIRCUIT CONTINUITY TO ALL EXISTING DEVICES THAT ARE TO REMAIN. EC SHALL REMOVE, RELOCATE, AND/OR REWORK ANY CONDUIT AND WIRING TO FACILITATE THE NEW CONSTRUCTION SCOPE OF WORK. FOR ALL LUMINAIRES THAT ARE EXISTING TO REMAIN OR EXISTING TO BE RELOCATED, EC SHALL CLEAN LENSES AND REPLACE ALL EXTINGUISHED LAMPS, UON.
9. THE CONTRACTOR SHALL CAREFULLY EXAMINE THE CONTRACT DOCUMENTS, VISIT THE SITE, AND THOROUGHLY BECOME FAMILIAR WITH THE BUILDING STANDARDS AND LOCAL CONDITIONS RELATING TO THE WORK. FAILURE TO DO SO WILL NOT RELIEVE THE CONTRACTOR OF THE OBLIGATIONS OF THE CONTRACT.
10. ALL MATERIALS, AND EQUIPMENT SHALL BE ERECTED, INSTALLED, CONNECTED, CLEANED, ADJUSTED, TESTED, CONDITIONED, AND PLACED IN SERVICE IN ACCORDANCE WITH THE MANUFACTURER'S DIRECTIONS AND RECOMMENDATIONS.
11. ALL CUTTING, DRILLING AND PATCHING OF MASONRY, STEEL OR IRON WORK BELONGING TO THE BUILDING MUST BE DONE BY THIS CONTRACTOR IN ORDER THAT HIS WORK MAY BE PROPERLY INSTALLED, BUT UNDER NO CONDITIONS MAY STRUCTURAL WORK BE CUT, EXCEPT AT THE DIRECTION OF THE ARCHITECT-DESIGNER OR THEIR REPRESENTATIVE.
12. E.C. SHALL MAINTAIN ALL FIRE RATINGS/FIRE RATED PENETRATIONS IF ROUTING CONDUIT THROUGH BUILDING. FIRE RATING MUST BE MAINTAINED FOR THIS TYPE OF INSTALLATION WITH DRYWALL TENTING.
13. SHOP DRAWINGS SHALL INCLUDE MANUFACTURER'S NAMES, CATALOG NUMBERS, CUTS, DIAGRAMS AND OTHER SUCH DESCRIPTIVE DATA AS MAY BE REQUIRED TO IDENTIFY AND REVIEW THE EQUIPMENT. SUBMITTALS SHALL BE IN LOGICAL GROUPS, FOR EXAMPLE, ALL LIGHTING FIXTURES, PARTIAL SUBMITTALS WILL NOT BE REVIEWED.
14. SUBMIT (3) COPIES OF THE FOLLOWING SHOP DRAWINGS FOR REVIEW.
    A. PROVIDE "AS-BUILT" DRAWINGS AND SUBMIT TO ARCHITECT/DESIGNER.
16. ALL MATERIAL, EQUIPMENT, WIRING DEVICES, ETC. SHALL BE NEW, UNLESS SPECIFICALLY INDICATED AS EXISTING TO BE REUSED.
17. SHOULD ACTUAL FIELD CONDITIONS REQUIRE INDICATED CIRCUIT DESIGNATIONS TO VARY, INDICATE THE CIRCUIT NUMBER USED ON THE "AS-BUILT" DRAWINGS.
18. PROVIDE COMPLETE METAL RACEWAY SYSTEMS AND ENCLOSURES FOR ALL WIRING THROUGHOUT THE EXTENT OF THE REQUIRED DISTRIBUTION SYSTEM.
    A. UTILIZE ELECTRICAL METALLIC TUBING (EMT), MINIMUM SIZE OF 3/4", IN THE FOLLOWING LOCATIONS:
        a. POWER CIRCUIT HOMERUN
        b. BRANCH CIRCUITS IN CONCEALED OR EXPOSED LOCATIONS
20. ALL NEW CIRCUITS SHALL HAVE A GROUND WIRE INSTALLED.
21. ALL EXPOSED CONDUIT SHALL BE CONCEALED TO THE GREATEST EXTENT POSSIBLE, AND SHALL BE INSTALLED PARALLEL AND CLOSE TO STRUCTURAL MEMBERS, GENERAL CONTRACTOR SHALL PAINT CONDUIT TO MATCH ADJACENT FINISHES.
22. ROUGH-IN FOR MECHANICAL EQUIPMENT SHALL ONLY OCCUR AFTER MECHANICAL EQUIPMENT SUBMITTALS ARE THOROUGHLY REVIEWED FOR CHANGES. NOTIFY ENGINEER OF ANY DISCREPANCIES.
23. THE POWER AND CONTROL REQUIREMENTS FOR ALL EQUIPMENT CONNECTIONS SHALL BE CONFIRMED WITH APPROVED SHOP DRAWINGS PRIOR TO ELECTRICAL ROUGH-IN. FINAL POWER REQUIREMENTS, DIMENSIONED ROUGH-IN LOCATIONS, LOW VOLTAGE SYSTEM CONNECTIONS, ETC. SHALL BE CONFIRMED AND MODIFIED AS REQUIRED.
24. ALL EXISTING ELECTRICAL SERVICES NOT SPECIFICALLY INDICATED TO BE REMOVED OR ALTERED SHALL REMAIN AS THEY PRESENTLY EXIST.
25. G.C. SHALL INCLUDE IN HIS COST THE REMOVAL OF ALL EXISTING ELECTRICAL DEVICES, CONDUITS, FIXTURES AND EQUIPMENT. TURN EQUIPMENT OVER TO OWNER AS INDICATED OR RECYCLE/DISCARD ALL EQUIPMENT AS REQUIRED. E.C. SHALL BE RESPONSIBLE FOR DISCONNECTING PRIMARY SERVICE AND TEMPORARY POWER.

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Issue Record

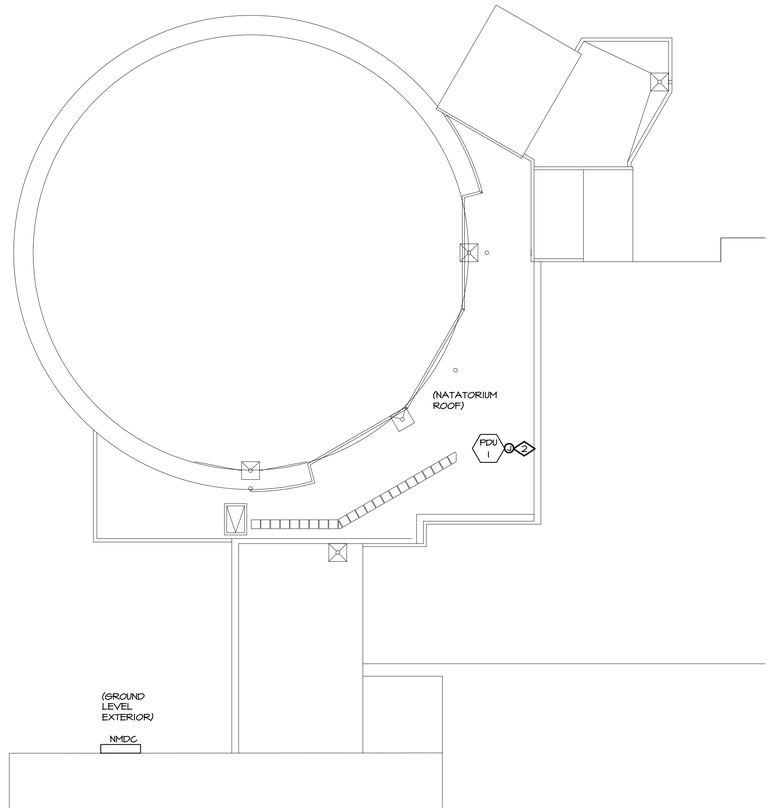
Job No.	19019
Date	4/10/2019
Drawn	BYF
Checked	KMD

Contents
ELECTRICAL COVERSHEET

E000

AE DESIGN
Integrated Lighting and Electrical Solutions
1900 Wazee Street #205 | Denver, CO 80202 | 303.296.3034
aedesign-inc.com
Project #:4360.00

PLOT DATE: April 10, 2019 @ 10:11am
FILE LOCATION: K:\4360.00 - Castle Rock Recreation Center - PDU Replacement\Revit\4360.00 - E0.0 Electrical Cover Sheet.rvt, LAYOUT NAME: 24X36



2 | PARTIAL ROOF PLAN
E103 | SCALE: 1/16" = 1'-0"

LOAD JUSTIFICATION: PANEL "NMDC"
277 480 3PH,4W

		NEC DEMAND FACTOR		
LOAD REMOVED:				
EQUIPMENT (AS DESIGNED 02/2005):				
PDU-1	155.630 KVA X	1.00	=	155.630 KVA
TOTAL LOAD REMOVED:				155.630 KVA
LOAD ADDED:				
EQUIPMENT:				
PDU-1	151.640 KVA X	1.00	=	151.640 KVA
TOTAL LOAD ADDED:				151.640 KVA
NET LOAD REMOVED:				3.990 KVA
				4.80 AMPS @ 480/3PH,
CALCULATED LOAD FROM PREVIOUS ADDITION (02/2005):				994.306 KVA
EXISTING CAPACITY:				1330.176 KVA
REMOVED LOAD:				3.990 KVA
TOTAL LOAD:				994.306 KVA
				1195.999 AMPS

TOTAL LOAD ON 'NMDC' DOES NOT EXCEED 1600 AMPS, THEREFORE THE LOAD IS JUSTIFIED.

MECHANICAL EQUIPMENT SCHEDULE

KEY	DESCRIPTION	VOLTS	PH	LOAD HP/KA	MOCP/ MFS	BRANCH CIRCUIT (WIRE AND CONDUIT)	DISCONNECT	CIRCUIT NUMBER	NOTES
PDU 1	NATATORIUM DEHUMIDIFICATION RECOVERY UNIT	480	3	22B MCA	250A	3#250, 1#4G, 2-1/2"C	SEE NOTE	NMDC	1

GENERAL NOTES:
A. ALL CONDUCTORS ARE COPPER THHN, UNLESS OTHERWISE NOTED.
B. REFER TO MECHANICAL PLANS FOR SPECIFIC EQUIPMENT LOCATIONS AND REQUIREMENTS.
C. PRIOR TO ROUGH-IN, COORDINATE ALL MECHANICAL EQUIPMENT POWER AND CONNECTION REQUIREMENTS WITH MECHANICAL CONTRACTOR'S FINAL SHOP DRAWINGS.
D. PROVIDE ALL 120V CONTROL WIRING. REFER TO MECHANICAL DRAWINGS FOR FURTHER CONTROL WIRING CLARIFICATION.
E. EXTERIOR DISCONNECT SWITCHES ARE TO BE PROVIDED AS NEMA 3R EQUIPMENT UNLESS OTHERWISE NOTED.
F. PROVIDE DUCT DETECTION ON ALL RETURN AIR SYSTEMS OF 2,000 CFM OR GREATER, AND FOR ALL SUPPLY AIR SYSTEMS 15,000 CFM OR GREATER, INCLUDING THOSE SYSTEMS SERVING MULTIPLE FLOORS. PROVIDE ADDITIONAL DUCT DETECTORS AND INSTALL REMOTE INDICATOR LIGHTS AS REQUIRED BY LOCAL AUTHORITY HAVING JURISDICTION.

SPECIFIC NOTES:
1. UNIT PROVIDED WITH WITH INTEGRAL FUSED DISCONNECT.

GENERAL NOTES

A.	REFER TO MECHANICAL DRAWINGS FOR OVERALL BUILDING ROOF LAYOUT, AND FOR ADDITIONAL MECHANICAL INFORMATION.

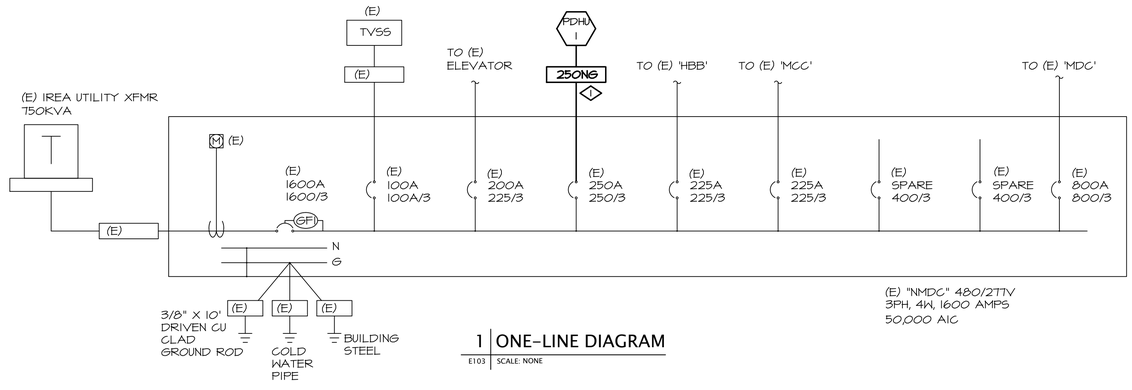
KEYNOTE LEGEND

KEY VALUE	
◇	
1.	CONTRACTOR SHALL PROVIDE NEW CONDUIT AND FEEDERS AS INDICATED. IF FIELD VERIFICATION INDICATES THE CONDUIT AND/OR FEEDER MATCHES NEW SIZE/DESIGN, THE FEEDERS AND/OR CONDUIT MAY BE REUSED.
2.	EXISTING WP/GFI 120V RECEPTACLE ATTACHED TO EXTERIOR OF EXISTING PDU SHALL BE REMOVED AND CIRCUIT MAINTAINED/PROTECTED FOR CONNECTION TO NEW PDU INTEGRAL 120V RECEPTACLE. EXTEND EXISTING CIRCUIT AS NECESSARY.

FEEDER SCHEDULE

KEY/ AMPS	FEEDER CONDUIT AND CONDUCTORS	KEY/ AMPS	FEEDER CONDUIT AND CONDUCTORS
SERVICE ENTRANCE FEEDERS		SDS XFMR FEEDERS (NOTE 1)	
400N	2[4#3/0, 2"C]	30S	4#10, 1#8G, 3/4"C
600N	2[4#350, 3"C]	50S	4#6, 1#8G, 1-1/4"C
800N	2[4#500, 3-1/2"C]	100S	4#1, 1#6G, 1-1/2"C
1000N	3[4#400, 3-1/2"C]	150S	4#1/0, 1#6G, 2"C
1200N	4[4#350, 3"C]	250S	4#250, 1#2G, 3"C
1600N	5[4#400, 3-1/2"C]	400S	2[4#3/0, 1#2G, 2"C]
2000N	6[4#400, 3-1/2"C]	500S	2[4#250, 1#1/0G, 3"C]
2500N	7[4#500, 3-1/2"C]	800S	2[4#500, 1#2/0G, 3-1/2"C]
3000N	8[4#500, 3-1/2"C]	1000S	3[4#400, 1#4/0G, 3-1/2"C]
3500N	10[4#500, 3-1/2"C]	1600S	5[4#400, 1#350G, 3-1/2"C]
4000N	11[4#500, 3-1/2"C]	2500S	7[4#500, 1#500G, 3-1/2"C]
EQUIPMENT FEEDERS			
20NG	4#12, 1#12G, 3/4"C	20G	3#12, 1#12G, 3/4"C
30NG	4#10, 1#10G, 3/4"C	30G	3#10, 1#10G, 3/4"C
40NG	4#8, 1#10G, 1"C	40G	3#8, 1#10G, 1"C
50NG	4#6, 1#10G, 1-1/4"C	50G	3#6, 1#10G, 1"C
60NG	4#4, 1#10G, 1-1/4"C	60G	3#4, 1#10G, 1"C
70NG	4#4, 1#8G, 1-1/4"C	70G	3#4, 1#8G, 1-1/4"C
80NG	4#3, 1#8G, 1-1/4"C	80G	3#3, 1#8G, 1-1/4"C
90NG	4#2, 1#8G, 1-1/2"C	90G	3#2, 1#8G, 1-1/4"C
100NG	4#1, 1#8G, 1-1/2"C	100G	3#1, 1#8G, 1-1/2"C
110NG	4#1, 1#6G, 2"C	110G	3#1, 1#6G, 1-1/2"C
125NG	4#1/0, 1#6G, 2"C	125G	3#1/0, 1#6G, 1-1/2"C
150NG	4#1/0, 1#6G, 2"C	150G	3#1/0, 1#6G, 1-1/2"C
175NG	4#2/0, 1#6G, 2"C	175G	3#2/0, 1#6G, 2"C
200NG	4#3/0, 1#6G, 2-1/2"C	200G	3#3/0, 1#6G, 2"C
225NG	4#4/0, 1#6G, 2-1/2"C	225G	3#4/0, 1#6G, 2"C
250NG	4#250, 1#4G, 3"C	250G	3#250, 1#4G, 2-1/2"C
300NG	4#350, 1#4G, 3"C	300G	3#350, 1#4G, 2-1/2"C
350NG	4#500, 1#3G, 3-1/2"C	350G	3#500, 1#3G, 3"C
400NG	2[4#3/0, 1#3G, 2"C]	400G	2[3#3/0, 1#3G, 3"C]
450NG	2[4#4/0, 1#2G, 2-1/2"C]	450G	2[3#4/0, 1#2G, 2"C]
500NG	2[4#250, 1#2G, 3"C]	500G	2[3#250, 1#2G, 2-1/2"C]
600NG	2[4#350, 1#1G, 3"C]	600G	2[3#350, 1#1G, 2-1/2"C]
700NG	2[4#500, 1#1/0G, 3-1/2"C]	700G	2[3#500, 1#1/0G, 3"C]
800NG	2[4#500, 1#1/0G, 3"C]	800G	2[3#500, 1#1/0G, 3"C]
1000NG	3[4#400, 1#2/0G, 3-1/2"C]	1000G	3[3#400, 1#2/0G, 3"C]
1200NG	4[4#350, 1#3/0G, 3"C]	1200G	4[3#350, 1#3/0G, 3"C]
1600NG	5[4#500, 1#4/0G, 3-1/2"C]	1600G	5[3#500, 1#4/0G, 3"C]
2000NG	6[4#500, 1#250G, 3-1/2"C]	2000G	6[3#500, 1#250G, 3"C]
GROUNDING CONDUCTORS		ABBREVIATIONS	
8G	1#8, 3/4" C	MECH	SEE MECH SCHEDULE
6G	1#6, 3/4" C	XFMR	SEE XFMR SCHEDULE
2G	1#2, 3/4" C		
10G	1-1/0, 3/4" C		
20G	1-2/0, 3/4" C		
30G	1-3/0, 3/4" C		

NOTES:
1. FEEDER FOR SECONDARY OF SEPARATELY DERIVED SYSTEM (SDS). GROUND SIZE PER NEC 250.66.
2. ALL CONDUCTORS ARE SINGLE CONDUCTOR COPPER THHN UNLESS NOTED OTHERWISE. AMPACITY BASED ON NEC TABLE 310.16.
3. ALL CONDUITS ARE EMT UNLESS NOTED OTHERWISE, FILL RATIOS BASED ON NEC ANNEX C TABLE C1.



1 | ONE-LINE DIAGRAM
E103 | SCALE: NONE

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CASTLE ROCK RECREATION CENTER
POLL DEHUMIDIFICATION UNIT REPLACEMENT
2301 Woodlands Blvd.
Castle Rock, CO 80104

Issue Record

Job No.	19019
Date	4/10/2019
Drawn	BYF
Checked	KMD

Contents
PARTIAL ELECTRICAL ROOF PLAN

E103

AE DESIGN
Integrated Lighting and Electrical Solutions
1900 Wazee Street #205 | Denver, CO 80202 | 303.296.3034
aedesign-inc.com
Project #:4360.00

PLOT DATE: April 10, 2019 @ 10:11am
FILE LOCATION: X:\Work\Castle Rock Recreation Center - PDU Replacement\Dwg\A360.00 - E103 Partial Electrical Roof Plan.dwg, LAYOUT NAME: 24X36