

WORK NOTES

- ROUTE 8th EXHAUST DUCT THROUGH ROOF AND TERMINATE W/ HOODED ROOF CAP. ROOF CAP TO BE GREENHECK MODEL RSC-4, OR APPROVED EQUAL. PROVIDE W/ BIRD SCREEN & BACKDRAFT DAMPER. COORDINATE FINISH AND ROOF PITCH W/ ARCHITECT. FIELD COORDINATE EXACT LOCATION. MAINTAIN 10'-0" MIN. AWAY FROM O.A. INTAKES. MAINTAIN 3'-0" MIN. AWAY FROM BUILDING OPENINGS.
- ROUTE 9th EXHAUST DUCT THROUGH ROOF AND TERMINATE W/ HOODED ROOF CAP. ROOF CAP TO BE GREENHECK MODEL RSC-4, OR APPROVED EQUAL. PROVIDE W/ BIRD SCREEN & BACKDRAFT DAMPER. COORDINATE FINISH AND ROOF PITCH W/ ARCHITECT. FIELD COORDINATE EXACT LOCATION. MAINTAIN 10'-0" MIN. AWAY FROM O.A. INTAKES. MAINTAIN 3'-0" MIN. AWAY FROM BUILDING OPENINGS.
- ROUTE 18th OPEN ENDED EXHAUST AIR DUCT BELOW ROOF AND TERMINATE FLUSH W/ BOTTOM OF STRUCTURE. COVER OPENING WITH 1/2" x 1/2" GALVANIZED SCREEN.
- ROUTE 40x40 EXHAUST AIR DUCT DOWN FROM EF-6 AND ROUTE AS SHOWN ON PLANS.
- ROUTE 42x50 SUPPLY AIR DUCT DOWN FROM DOAS-1 AND ROUTE AS SHOWN ON PLANS.
- COVER OPENING WITH 1/2" x 1/2" GALVANIZED SCREEN.
- ROUTE 10th EXHAUST DUCT UP THROUGH ROOF TO EF-5. MAINTAIN 3'-0" FROM BUILDING INTAKES. FIELD COORDINATE EXACT LOCATION.
- ROUTE 4th DRYER EXHAUST DUCT THROUGH ROOF AND TERMINATE W/ ROOF CAP. NO SCREEN. PROVIDE W/ BACKDRAFT DAMPER. COORDINATE FINISH W/ ARCHITECT. FIELD COORDINATE EXACT LOCATION. MAINTAIN 10'-0" MIN. AWAY FROM O.A. INTAKES. MAINTAIN 3'-0" MIN. AWAY FROM BUILDING OPENINGS.
- ROUTE 8th DRYER DUCT DOWN WITHIN WALL TO DRYER BOX @ 12" A.F.F. PROVIDE EXHIBIT DRYER CONNECTOR FROM ELBOW TO DRYER OUTLET.
- PROVIDE 18" X 18" FLEXIBLE FLEX VENT AND COMBUSTION AIR DUCT. ROUTE EACH THROUGH ROOF AND TERMINATE W/ APPROVED CAP PER MANUFACTURERS INSTALLATION INSTRUCTIONS AND LOCAL CODES. FIELD COORDINATE EXACT ROUTES AND TERMINATION LOCATION W/ ARCHITECT AND OTHER TRADES. MAINTAIN 3'-0" MIN. BETWEEN FLEX VENT TERMINATION & COMBUSTION AIR DUCT. FLEX VENT TERMINATION MUST BE MIN. 1'-0" HIGHER THAN COMBUSTION AIR INLET CAP.
- ROUTE VEHICLE EXHAUST TO OWNER-SUPPLIED FAN ED-15 AND UP TO ROOF. VEHICLE EXHAUST CAPTURE SYSTEM TO BE FURNISHED AND SIZED BY OWNER.
- 30"x48" WALL LOUVER. WALL LOUVER TO BE KUSIN MODEL ELFR800 OR APPROVED EQUAL. PROVIDE W/ BIRD SCREEN & BACKDRAFT DAMPER. COORDINATE FINISH W/ ARCHITECT. FIELD COORDINATE EXACT LOCATION.
- ROUTE DUCTWORK WITHIN BAR JOISTS. COORDINATE EXACT ROUTING W/ STRUCTURAL.
- M.C. SHALL FIELD COORDINATE THE EXACT ROUTING OF THE FABRIC DUCT. PROVIDE ADJUSTABLE FLOW DEVICE (AFD) FROM MANUFACTURER TO PROVIDE NO-POP OPERATION. DIRECT AIRFLOW INTO BRANCH DUCTS AND BALANCE STATIC RESAIR. ROUTE ALL DUCTWORK IN PARTS WITHIN BAR JOISTS. COORDINATE WITH STRUCTURAL. TYPICAL FOR ALL.
- AIR DUCT TO BE SPIRAL DUCT.
- ROUTE 8th RIGID DUCT DOWN TIGHT TO WALL, THROUGH THE SHELVES, AND THROUGH THE MEZZANINE FLOOR INTO THE PARTS MANAGER ROOM CEILING. S.C. TO PROVIDE DUCT OPENING THROUGH THE SHELVES AND MEZZANINE FLOOR. OPENING TO BE 10"x10" INSIDE CLEAR DIMENSIONS. FIELD COORDINATE EXACT LOCATION.
- MOUNT IDU MIN. 2" ABOVE DOOR FRAME. ROUTE 3/4" CONDENSATE TO DATALIGHT AND TERMINATE W/ SPLASH BLOCK. PROVIDE W/ CONDENSATE PUMP IF UNABLE TO DRAIN.
- PROVIDE THERMOSTAT WITH CLEAR, LOCKING BOX.
- THERMOSTAT FOR RADIANT HEATER TO BE NEMA-3R. LOCATE AT DRY END OF WASH AREA. PROVIDE ENCLOSURE FOR WET LOCATIONS.
- TWO 7x4 TRANSFER GRILLES (TAG E TYPE GRILLES) ONE ON EACH SIDE OF WALL, INSTALLED AT A MIN. 2" ABOVE DOOR FRAME. COORDINATE W/ STRUCTURAL.
- TWO 12x4 TRANSFER GRILLES (TAG E TYPE GRILLES) ONE ON EACH SIDE OF WALL, INSTALLED AT A MIN. 8" A.F.F. COORDINATE W/ STRUCTURAL.
- ROUTE OPEN ENDED EXHAUST DUCT DOWN TO 12" A.F.F. AND TERMINATE W/ 1/2" ALUMINUM MESH.

- NOTES**
- MAINTAIN A MINIMUM 10'-0" BETWEEN OUTDOOR AIR INTAKES AND EXHAUST FAN DISCHARGE AND FLUING VENTS, ETC. FIELD COORDINATE.
 - MAINTAIN MFGS RECOMMENDED CLEARANCES. TYPICAL.
 - COORDINATE ALL TERMINATION POINTS WITH THE ARCHITECT PRIOR TO PRICING AND INSTALLATION.

FABRIC DUCT SPEC. & NOTES

- FABRIC DUCT TO BE BY DUCTBOX. PROVIDE "OURATED" STYLE, CYLINDRICAL SERIES W/ HIGH THROW DESIGN AND 30x42 SUSPENSION METHOD. PROVIDE 4 & 6 O'CLOCK THROW ORIENTATION. PROVIDE 5 YEAR WARRANTY. SPECIFY WITH "SKELCON" RING SUPPORTS.
- FOR ADDITIONAL INFORMATION AND PRICING, PLEASE CONTACT KEN MORRIS OF HOFFMAN & HOFFMAN @ 704-364-4700.
- ALL COMPETITORS QUOTES FOR AN ALTERNATE MANUFACTURER SHALL BE FOR AN EQUIVALENT PRODUCT AND BE OF THE SAME QUALITY AND PERFORMANCE.

TABLE 403.3.1.1 OA REQUIREMENTS (RTU-11)

ZONE	AREA (sq. ft.)	PEOPLE O.A. RATE (sq. ft./person)	OCCUPANT DENSITY (sq. ft./person)	ZONE POP. (No. of people)	AREA O.A. RATE (sq. ft./min)	O.A. FLOWRATE (cfm)	ZONE AIR DIST. EFFECTIVENESS (ft.)	ZONE O.A. FLOWRATE (cfm)
BREAK 217	288	7.5	30	8.8	0.08	81.2	0.8	101.8
CORRIDOR 212	292	-	-	-	0.06	18.1	0.8	18.9
TOTAL O.A. REQUIRED (RTU-11)								120.4
TOTAL O.A. PROVIDED (RTU-11)								120

VENTILATION RATE PROCEDURE NOTES

- ZONE POPULATION BASED ON THE ZONE FLOOR AREA AND THE DEFAULT OCCUPANT DENSITY TABLE 6-4.
- ZONE POPULATION: $Pop = A_s \times Occupant\ Density\ (IP/1000sqft)$
- OUTDOOR AIRFLOW: $Flow = Pop \times Pd \times Ra \times Ad$
- ZONE OUTDOOR AIRFLOW: $Zone = Flow / Ea$

DRYER VENT LENGTH ALLOWANCES

NO. OF 90 DEG. ELBOWS	NO. OF 45 DEG. ELBOWS	MIN. SECTION 304.8 (ALLOWABLE LENGTH)	NOTES
0	0	350 FT.	1. TERMINATE IN A MANNER TO PREVENT BACK DRAFTS OR ENTRY OF BIRDS OR OTHER WILDLIFE.
0	1	325 FT.	2. TERMINATION SHOULD PRESENT MINIMAL RESISTANCE TO THE EXHAUST AIRFLOW AND SHOULD REQUIRE LITTLE OR NO MAINTENANCE TO PREVENT CLOGGING.
0	2	300 FT.	3. NEVER INSTALL SCREEN OVER EXHAUST DUCT.
1	0	300 FT.	4. WALL CAPS ASSUMED TO HAVE A 4" OPENING AND MUST BE INSTALLED AT LEAST 12" ABOVE GROUND LEVEL OR ANY OTHER OBSTRUCTION WITH THE OPENING POINTED DOWN.
1	1	275 FT.	5. RIGID METAL DUCT ONLY.
1	2	250 FT.	6. PROVIDE PERMANENT PLACARD STATING TOTAL INSTALLED DRYER DUCT LENGTH, ALLOWABLE DUCT LENGTH AND NUMBER OF ELBOWS (45 & 90) FOR UNITS W/ OWNER PROVIDED DRYERS. ALSO STATE MANUF. & MODEL OF PROVIDED DRYER.
2	0	250 FT.	
2	1	-	
2	2	-	
3	0	-	

DETAIL 218 DRYER
TOTAL LENGTH: 210 FT.
45 DEG. ELBOW: 0
90 DEG. ELBOW: 1
ALLOW. LENGTH: 30.0 FT.

TABLE 403.3.1.1 OA REQUIREMENTS (RTU-10)

ZONE	AREA (sq. ft.)	PEOPLE O.A. RATE (sq. ft./person)	OCCUPANT DENSITY (sq. ft./person)	ZONE POP. (No. of people)	AREA O.A. RATE (sq. ft./min)	O.A. FLOWRATE (cfm)	ZONE AIR DIST. EFFECTIVENESS (ft.)	ZONE O.A. FLOWRATE (cfm)
PARTS MGR 204	142	5	5	0.7	0.06	12.1	0.8	16.1
PARTS REC. 206	284	-	-	-	0.03	36.3	0.8	44.1
PARTS STOR 205	1727	-	-	-	0.02	207.3	0.8	259.1
PARTS TECH 203	338	5	5	1.8	0.08	27.7	0.8	34.6
SP TOOLS 202	136	-	-	-	0.02	16.2	0.8	20.3
TOTAL O.A. REQUIRED (RTU-10)								379.1
TOTAL O.A. PROVIDED (RTU-10)								375

VENTILATION RATE PROCEDURE NOTES

- ZONE POPULATION BASED ON THE ZONE FLOOR AREA AND THE DEFAULT OCCUPANT DENSITY TABLE 6-4.
- ZONE POPULATION: $Pop = A_s \times Occupant\ Density\ (IP/1000sqft)$
- OUTDOOR AIRFLOW: $Flow = Pop \times Pd \times Ra \times Ad$
- ZONE OUTDOOR AIRFLOW: $Zone = Flow / Ea$

AIR BALANCE SCHEDULE

HVAC EQUIPMENT	BREAK/BATHROOM AREA				SERVICE GARAGE			
	SUPPLY AIR	OUTSIDE AIR	RETURN AIR	EXHAUST AIR	SUPPLY AIR	OUTSIDE AIR	RETURN AIR	EXHAUST AIR
RTU-11	-700 CFM	+125 CFM	-700 CFM					
RTU-12					-3,400 CFM		-3,400 CFM	
RTU-13					-3,400 CFM		-3,400 CFM	
DOAS-1					+12,700 CFM			
EF-6								-12,700 CFM
BD-15								-12,700 CFM
TOTAL	+1,600 CFM	+375 CFM	-1,600 CFM		+6,800 CFM	+12,700 CFM	-6,800 CFM	-12,700 CFM

PARTS AREA PRESSURIZATION:
OUTSIDE AIR - EXHAUST AIR = +275 CFM

SERVICE GARAGE PRESSURIZATION:
OUTSIDE AIR - EXHAUST AIR = +1,077 CFM

NET AREA PRESSURIZATION (PARTS AREA) = -372 CFM

TABLE 403.3.1.1 OA REQUIREMENTS (RTU-9)

ZONE	AREA (sq. ft.)	PEOPLE O.A. RATE (sq. ft./person)	OCCUPANT DENSITY (sq. ft./person)	ZONE POP. (No. of people)	AREA O.A. RATE (sq. ft./min)	O.A. FLOWRATE (cfm)	ZONE AIR DIST. EFFECTIVENESS (ft.)	ZONE O.A. FLOWRATE (cfm)
CURT. LOUNGE	671	5	30	20.1	0.06	140.8	0.8	176.1
SERV AD 103	102	5	5	0.9	0.06	8.7	0.8	10.8
SERV AD 104	102	5	5	0.9	0.06	8.7	0.8	10.8
SERV AD 105	102	5	5	0.9	0.06	8.7	0.8	10.8
SERV AD 106	102	5	5	0.9	0.06	8.7	0.8	10.8
SERV AD 107	102	5	5	0.9	0.06	8.7	0.8	10.8
SERV MGR 102	136	5	5	0.7	0.06	11.7	0.8	14.7
TOTAL O.A. REQUIRED (RTU-9)								248.0
TOTAL O.A. PROVIDED (RTU-9)								240

VENTILATION RATE PROCEDURE NOTES

- ZONE POPULATION BASED ON THE ZONE FLOOR AREA AND THE DEFAULT OCCUPANT DENSITY TABLE 6-4.
- ZONE POPULATION: $Pop = A_s \times Occupant\ Density\ (IP/1000sqft)$
- OUTDOOR AIRFLOW: $Flow = Pop \times Pd \times Ra \times Ad$
- ZONE OUTDOOR AIRFLOW: $Zone = Flow / Ea$

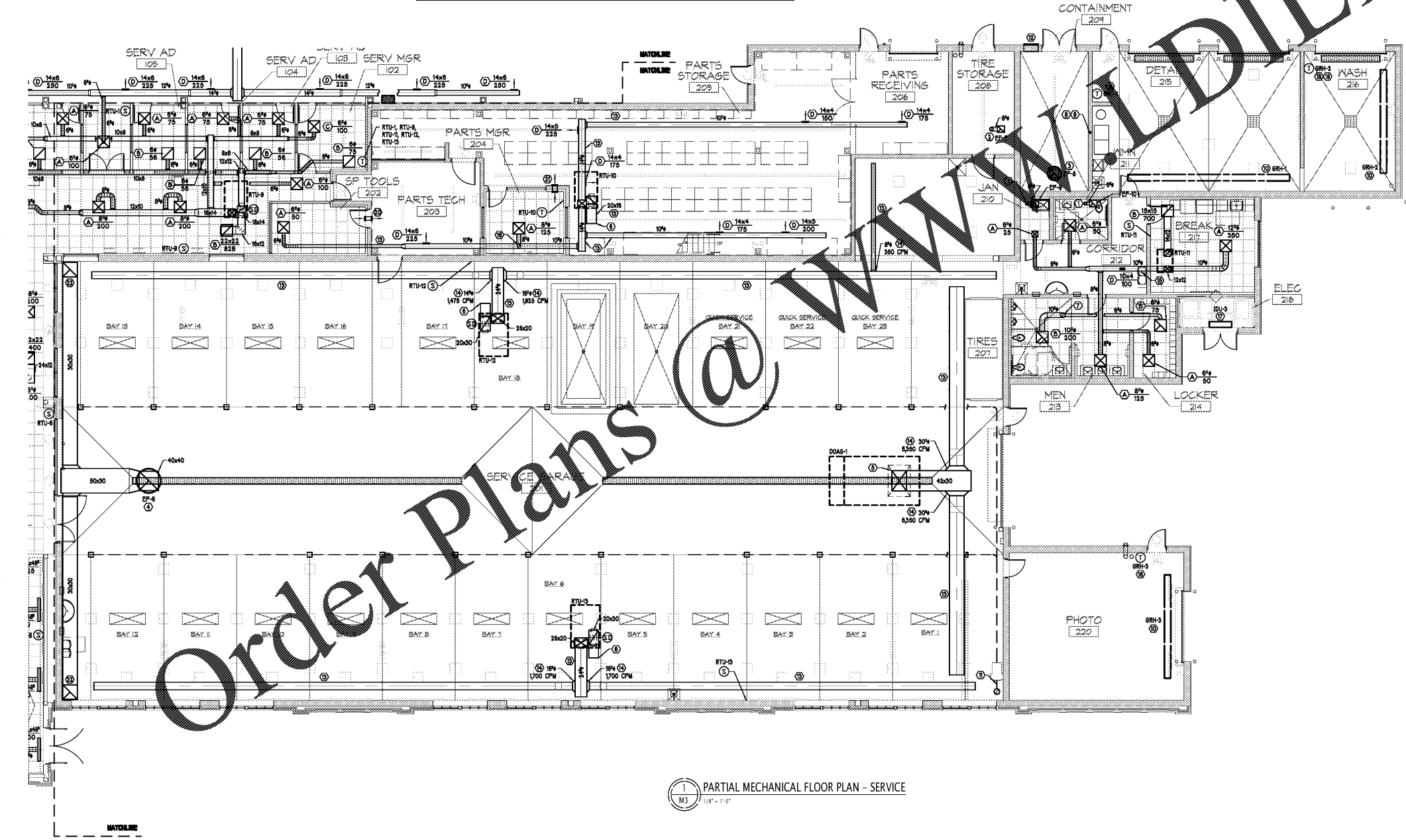
AIR BALANCE SCHEDULE

HVAC EQUIPMENT	PARTS AREA				SERVICE GARAGE			
	SUPPLY AIR	OUTSIDE AIR	RETURN AIR	EXHAUST AIR	SUPPLY AIR	OUTSIDE AIR	RETURN AIR	EXHAUST AIR
RTU-10	-1,500 CFM	+375 CFM	-1,500 CFM					
RTU-12					-3,400 CFM		-3,400 CFM	
RTU-13					-3,400 CFM		-3,400 CFM	
DOAS-1					+12,700 CFM			
EF-6								-12,700 CFM
BD-15								-12,700 CFM
TOTAL	+1,600 CFM	+375 CFM	-1,600 CFM		+6,800 CFM	+12,700 CFM	-6,800 CFM	-12,700 CFM

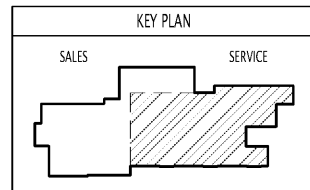
PARTS AREA PRESSURIZATION:
OUTSIDE AIR - EXHAUST AIR = +275 CFM

SERVICE GARAGE PRESSURIZATION:
OUTSIDE AIR - EXHAUST AIR = +1,077 CFM

NET AREA PRESSURIZATION (PARTS AREA) = -372 CFM



PARTIAL MECHANICAL FLOOR PLAN - SERVICE
1/8" = 1'-0"



Revisions:

Number	Date	Description

Project Title:

SOUTH CHARLOTTE HYUNDAI

Project No: **4802.00**

Drawing Title:

PARTIAL MECHANICAL FLOOR PLAN - SERVICE

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Sheet:

M3

Sheet Title: 4802 South Charlotte Hyundai Redesign | 4802.M3 PARTIAL MECHANICAL FLOOR PLAN - SERVICE; Plotfile: 3/1/2020 4:28 PM by ALEX E. LEVINE; Saved: 3/1/2020 4:28 PM by ALEX E. LEVINE