

## EXHAUST FAN SCHEDULE

ITEM	SERVICE	GREENHECK MODEL NO.	CFM	ESP	RPM	HP	V-PH	REMARKS
EF 1	RESTROOMS OFFICE BUILDING	GB-080-4	500	0.5"	1401	1/4	115-1	(90 LBS.)
EF 2	RESTROOMS OFFICE BUILDING	GB-141-5	1500	0.75"	1265	1/2	115-1	(150 LBS.)
EF 3	MACHINE SHOP FIELD MAINTENANCE BUILDING	GB-161-4	1500	0.375"	777	1/4	115-1	(90 LBS.)
EF 4	HERB STORAGE FIELD MAINTENANCE BUILDING							
EF 5	FERTILIZER STORAGE FIELD MAINTENANCE BUILDING							
EF 6	TOOL STORAGE FIELD MAINTENANCE BUILDING							
EF 7	TOOL STORAGE FIELD MAINTENANCE BUILDING							
EF 8	STORAGE M110 FIELD MAINTENANCE BUILDING							
EF 9	STORAGE M109 FIELD MAINTENANCE BUILDING							
EF 10	STORAGE 108 FIELD MAINTENANCE BUILDING							
EF 11	WELDING SHOP FIELD MAINTENANCE BUILDING		2700		1100	1/2		
EF 12	CARPENTRY SHOP FIELD MAINTENANCE BUILDING		2700		1100	1/2		
EF 13	STORAGE ROOM FIELD MAINTENANCE BUILDING		1500	0.375"	777	1/4		
EF 14	MATERIAL HANDLING BUILDING	SB-3H72-30 BELT DRIVE	39122	0.25"	324	3	208-3	(2)
EF 15	MATERIAL HANDLING BUILDING	SB-3H72-30 BELT DRIVE	39122	0.25"	324	3	208-3	(2)
EF 16	MATERIAL HANDLING BUILDING	SB-3H72-30 BELT DRIVE	39122	0.25"	324	3	208-3	(2)

### EXHAUST FAN NOTES:

- (1) FURN. W/ ROOF CURB, BACKDRAFT DAMPER, BIRDSCREEN, DISC. SWITCH.
- (2) FURN. W/ 45° TURN DOWN HOOD, BACKDRAFT DAMPER, WALL COLLAR, INLET SCREEN, TEFC MOTOR, CAST ALUMINUM PROPELLER.

## DIFFUSER & REGISTER SCHEDULE

SUPPLY AIR				RETURN or EXHAUST AIR			
ITEM	NECK SIZE	CFM RANGE	TYPE	ITEM	NECK SIZE	CFM RANGE	TYPE
(1)	6/8 - 6"φ	0 - 125	A	(1)	6/8 - 6"φ	0 - 100	C
(2)	8/8 - 8"φ	126 - 225		(2)	8/8 - 8"φ	101 - 190	
(3)	10/10 - 10"φ	226 - 350		(3)	10/10 - 10"φ	191 - 250	
(4)	12/12 - 12"φ	351 - 500		(4)	12/12 - 12"φ	251 - 350	
(5)	14/14 - 14"φ	501 - 700		(5)	14/14 - 14"φ	351 - 450	
(6)	16/16 - 16"φ	701 - 900		(6)	16/16 - 16"φ	451 - 500	
(7)	18/18 - 18"φ	901 - 1100		(7)	18/18 - 18"φ	501 - 700	
(8)	20/20 - 20"φ	1101 - 1300		(8)	20/20 - 20"φ	701 - 1000	
(9)	8/8	0 - 190	B	(9)	20/20	0 - 1200	D
(10)	24/10	0 - 800					
(11)	24/16	0 - 1500					
(12)	10"φ	226 - 350	E				
(13)	12"φ	351 - 500	E				

## DIFFUSER & REGISTER SCHEDULE

### SUPPLY AIR:

- TYPE A:** TITUS MODEL MCD MODULAR CORE CEILING DIFFUSER, BORDER TYPE 1 FOR GYP. BOARD CEILING & TYPE 3 FOR LAY-IN CEILING, WHITE FINISH.
- TYPE B:** TITUS MODEL 300RS SIDEWALL DOUBLE DEFLECTION SIDEWALL REGISTER W/ WHITE FINISH.
- TYPE E:** TITUS MODEL TMS SQUARE CEILING DIFFUSER, BORDER TYPE 1 FOR GYP. BOARD CEILING & TYPE 2 FOR LAY-IN CEILING, WHITE FINISH.

### RETURN AND EXHAUST AIR:

- TYPE C:** TITUS MODEL 350FL ALUMINUM EXHAUST/RETURN REGISTER BORDER TYPE 1 FOR GYP. BOARD CEILING. TYPE 3 FOR LAY-IN CEILING. 3/4" SPACING, 35° DEFLECTION.
- TYPE D:** TITUS MODEL 50FF EGGRATE RETURN FILTER GRILLE, 24"x24" PANEL FOR GYP. BOARD OR LAY-IN CEILING, WHITE FINISH. 20"x20" FILTERS.

## EQUIPMENT SCHEDULE

ITEM	DESCRIPTION
AC 1	CARRIER 48HJ0004 SINGLE PACKAGE HIGH EFFICIENCY ROOFTOP UNITS FOR 32.4 MBH TOTAL, 31.3 MBH SENSIBLE COOLING CAPACITY W/ 80°F DB/62°F WB ENT. AIR, 110°F AMBIENT NAT. GAS HEATING SECTION FOR 72 MBH INPUT, 59 MBH OUTPUT. INDOOR FAN FOR (200 CFM @ 0.8" E.S.P., 1090 RPM, W/ 0.64 BHP MOTOR. FURNISH W/ HIGH STATIC MOTOR (0-300) MANUAL O.A. DAMPER, ROOF CURB, PROGRAMMABLE THERMOSTAT. 700 LBS. OPER. WEIGHT. 13.0 SEER, 11.2 MIN EER. ELECTRICAL SERVICE FOR 208V/3φ 18.5A MCA, 25A MOCP.
AC 2	CARRIER 48HJ0005 SINGLE PACKAGE HIGH EFFICIENCY ROOFTOP UNITS FOR 40.3 MBH TOTAL, 39.3 MBH SENSIBLE COOLING CAPACITY W/ 80°F DB/62°F WB ENT. AIR, 110°F AMBIENT NAT. GAS HEATING SECTION FOR 72 MBH INPUT, 59 MBH OUTPUT. INDOOR FAN FOR (600 CFM @ 0.8" E.S.P., 1072 RPM, W/ 0.93 BHP MOTOR. FURNISH SAME AS AC-1. 750 LBS. OPER. WEIGHT. 13.0 SEER, 11.1 MIN EER. ELECTRICAL SERVICE FOR 208V/3φ 22.5A MCA, 30A MOCP.
AC 3	CARRIER 48HJ0007 SINGLE PACKAGE HIGH EFFICIENCY ROOFTOP UNITS FOR 68.0 MBH TOTAL, 67.8 MBH SENSIBLE COOLING CAPACITY W/ 80°F DB/62°F WB ENT. AIR, 110°F AMBIENT NAT. GAS HEATING SECTION FOR 72 MBH INPUT, 59 MBH OUTPUT. INDOOR FAN FOR (2400 CFM @ 0.8" E.S.P., 1460 RPM, W/ 1.9 BHP MOTOR. FURNISH SAME AS AC-1. 800 LBS. OPER. WEIGHT. 11.0 EER. ELECTRICAL SERVICE FOR 208V/3φ 32.8A MCA, 40A MOCP.
AC 12A,B	CARRIER 38TKB024/FA4A 024 SPLIT SYSTEM AIR CONDITIONING UNIT FOR 18.3 MBH TOTAL, 18.2 MBH SENSIBLE COOLING CAPACITY W/ 80°F DB/62°F WB ENT. AIR, 110°F AMBIENT. ELECTRICAL SERVICE FOR 208V/1φ 14.5A MCA, 20A MOCP, 140 LB. OPER. WEIGHT. INDOOR UNIT FOR 800 CFM @ 0.3" E.S.P. W/ 1/4HP 208V/1φ MOTOR, 100 LB. OPER. WEIGHT. FURNISH W/ 24V TRANSFORMER, ELECTRONIC PROGRAMMABLE THERMOSTAT.
EC 1	CHAMPION 4500 SD SIDE DISCHARGE EVAP. COOLER FOR 3000 CFM @ 0.2" E.S.P., W/ 1/2 HP 115V 1φ MOTOR. FURN. W/ FILL & BLEED KIT, 115V PUMP MOTOR. 275 LB. OPER. WT.
EC 2	NEDERMAN 5000 16 1/2 FT. FUME EXTRACTOR ARM W/ 1/2 HP 115V 1φ N24 FUME EXHAUST FAN, WALL BRACKET, CAPTURE HOOD, SILENCER, 650 CFM EXHAUST CAPACITY.
EH 1	CHROMALOX HCH-25IM 2.5 KW. 208V 1φ WALL MOUNTED CONVECTION HEATER W/ BUILT IN THERMOSTAT.
SDC 1	MURPHY RODGERS MRT-7A DUST COLLECTOR W/ 1200 CFM FAN, 7" φ INLET, 1 BAG, 3 HP 208 3φ DIRECT DRIVE MOTOR FOR EXTERIOR INSTALLATION. FURNISH W/ WALL BRACKET, HORIZONTAL DISCHARGE.
HP 1A,B	A. CARRIER 38BYC030 OUTDOOR SPLIT SYSTEM HEAT PUMP FOR 24.6 MBH TOTAL/24.5 MBH SENSIBLE COOLING CAPACITY W/ 80°F DB/62°F WB ENT. AIR, 110°F AMBIENT, 2100 FT. ALTITUDE. REVERSE CYCLE HEATING CAPACITY FOR 21.7 MBH W/ 70° F RETURN AIR TEMP. 27° F AMBIENT. OUTDOOR UNIT FOR 208V/1φ 19.0 A MCA, 30 A MFS. 188 LB. OPER. WT. FURN. W/ PROGRAMMABLE T-STAT. B. CARRIER FA4AN030 SPLIT SYSTEM INDOOR UNIT FOR 1000 CFM @ 0.5" E.S.P. W/ 1/3 HP, 208V/1φ MOTOR (5 KW ELEC. STRIP HEAT).
HP 2A,B	A. CARRIER 38BYC060 OUTDOOR SPLIT SYSTEM HEAT PUMP FOR 51.8 MBH TOTAL/51.8 MBH SENSIBLE COOLING CAPACITY W/ 80°F DB/62°F WB ENT. AIR, 110°F AMBIENT, 2100 FT. ALTITUDE. REVERSE CYCLE HEATING CAPACITY FOR 45.3 MBH W/ 70° F RETURN AIR TEMP. 27° F AMBIENT. OUTDOOR UNIT FOR 208V/1φ 41.5 A MCA, 0 A MFS. 278 LB. OPER. WT. FURN. W/ PROGRAMMABLE T-STAT. B. CARRIER FA4AN030 SPLIT SYSTEM INDOOR UNIT FOR 2000 CFM @ 0.5" E.S.P. W/ 1/2 HP, 208V/1φ MOTOR 167 LB. OPER. WT. 83.4 A MCA 90 A MFS.

APPROVAL IS FOR CLOUDED AREAS ONLY SEE ORIGINALS FOR OTHER REQUIREMENTS

PLANS APPROVED  
PLUMBING/MECHANICAL  
JCF  
MAR 28 2003  
City of Las Vegas  
I am not responsible for any errors or omissions on this drawing. I am responsible for the accuracy of the information provided to me by the client. I am not responsible for any errors or omissions on this drawing. I am responsible for the accuracy of the information provided to me by the client.

## LEGEND

ABBR	SYMBOL	DESCRIPTION
RL		REFRIGERANT LIQUID
RS		REFRIGERANT SUCTION
D		DRAIN
OD		OVERFLOW CONDENSATE DRAIN
T'STAT		THERMOSTAT
MVD		MANUAL VOLUME DAMPER
MVD		MANUAL VOLUME DAMPER CEILING OPERATOR
F/S		FIRE/ SMOKE DAMPER
F		FIRE DAMPER
DD		DUCT DETECTOR
DIFF		DIFFUSER
REG		REGISTER
GR		GRILLE
CD		CEILING DIFFUSER
SA		SUPPLY AIR
RA		RETURN AIR
EA		EXHAUST AIR
OA		OUTSIDE AIR
AD		ACCESS DOOR
ESP		EXTERNAL STATIC PRESSURE
SP		STATIC PRESSURE
UNO		UNLESS NOTED OTHERWISE

## GENERAL NOTES

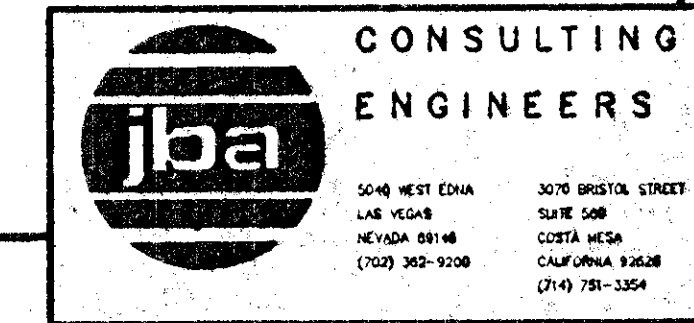
- DO NOT SCALE DRAWINGS.
- MECHANICAL EQUIP. SHALL BE SECURED & INSTALLED PER MANUFACTURER'S RECOMMENDATIONS & IN ACCORDANCE W/APPLICABLE SECTIONS UBC.
- ELECTRICAL CHARACTERISTICS OF MECHANICAL EQUIPMENT SHALL BE VERIFIED WITH ELECTRICAL DRAWINGS PRIOR TO EQUIPMENT ORDER RELEASE. ADDITIONAL ELECTRICAL WORK RESULTING FROM EQUIPMENT SUBSTITUTION IS THE RESPONSIBILITY OF THIS CONTRACTOR.
- CONDENSATE DRAIN TRAPS SHALL BE 3" DEEP, MINIMUM. (UNLESS TRAP IS NOT REQUIRED PER MFRS. INSTALLATION INSTRUCTIONS.) UNO COND. D. PIPING IS 3/4".
- DUCT SIZES INDICATED ARE NET INSIDE CLEAR DIMENSIONS.
- VERIFY "FIT" OF DUCTWORK PRIOR TO INSTALLATION. COORDINATE ROUTING THRU & BETWEEN ROOF TRUSSES PRIOR TO FABRICATION.
- ALL EXHAUST AND PLUMBING VENTS SHALL BE TERMINATED MIN. 10'-0" FROM O.A. INTAKE LOCATIONS.
- PROVIDE ACCESS DOORS IN GYP. BD. CEILINGS AND WALLS FOR MECHANICAL EQUIP. COORD. W/ ARCH. PRIOR TO INSTALLATION.
- REFER TO ARCHITECTURAL REFLECTED CEILING PLANS FOR EXACT LOCATION OF GRILLES & DIFFUSERS IN CEILING.
- U.N.O., BRANCH DUCT SIZES TO DIFFUSERS, GRILLES & REGISTERS SHALL BE THE SAME SIZE AS DIFFUSER OR GRILLE NECK.
- OUTDOOR AIR & SUPPLY AIR DUCTWORK TO BE INSULATED W/2" THICK 3/4# DENSITY FOIL FACED DUCT WRAP INSULATION.

## QSA SCHEDULE

UNIT	O.S.A. CFM
AC-1	360
AC-2	480
AC-3	720
AC-4	360
AC-5	480
AC-6	480
AC-7	480
AC-8, 9	720
AC-10, 11	720
AC-13,14	480
HP-1A,B	100
HP-2A,B	400

## LIST OF DRAWINGS

DRAWING NO.	DESCRIPTION
M1.01	LEGEND, SCHEDULES, & NOTES
M1.11	FLOOR PLAN - FIELD OPERATIONS BUILDING
M1.12	FLOOR PLAN - MATERIALS HANDLING BUILDING
M1.13	FLOOR PLAN - FIELD MAINTENANCE BUILDING
M1.14	FLOOR PLAN - I.T. ADDITION
M2.11	ROOF PLAN - FIELD OPERATIONS BUILDING
M3.01	DETAILS



REVISION #1  
AUGUST 30, 2002  
PLAN CHECK  
FEBRUARY 24, 2003

CONSULTANT  
TATE SANDER-KATSEY

CITY OF LAS VEGAS WEST SERVICE YARD  
BUFFALO DRIVE AND PEAK ROAD  
LAS VEGAS, NEVADA  
LEGEND, SCHEDULES AND NOTES

PROFESSIONAL ENGINEER-SIGNATURE  
DONALD KOCH  
No. 006671  
2/1/03

OWNER: CITY OF LAS VEGAS  
DEPARTMENT OF PUBLIC WORKS  
ARCHITECTURAL SERVICES

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DRAWN: DD  
FILE: 6431M101.DWG  
DATE: 08.26.02  
SCALE: NO SCALE  
NO: 02.15341.09  
CITY: 107-V3548

M1.01