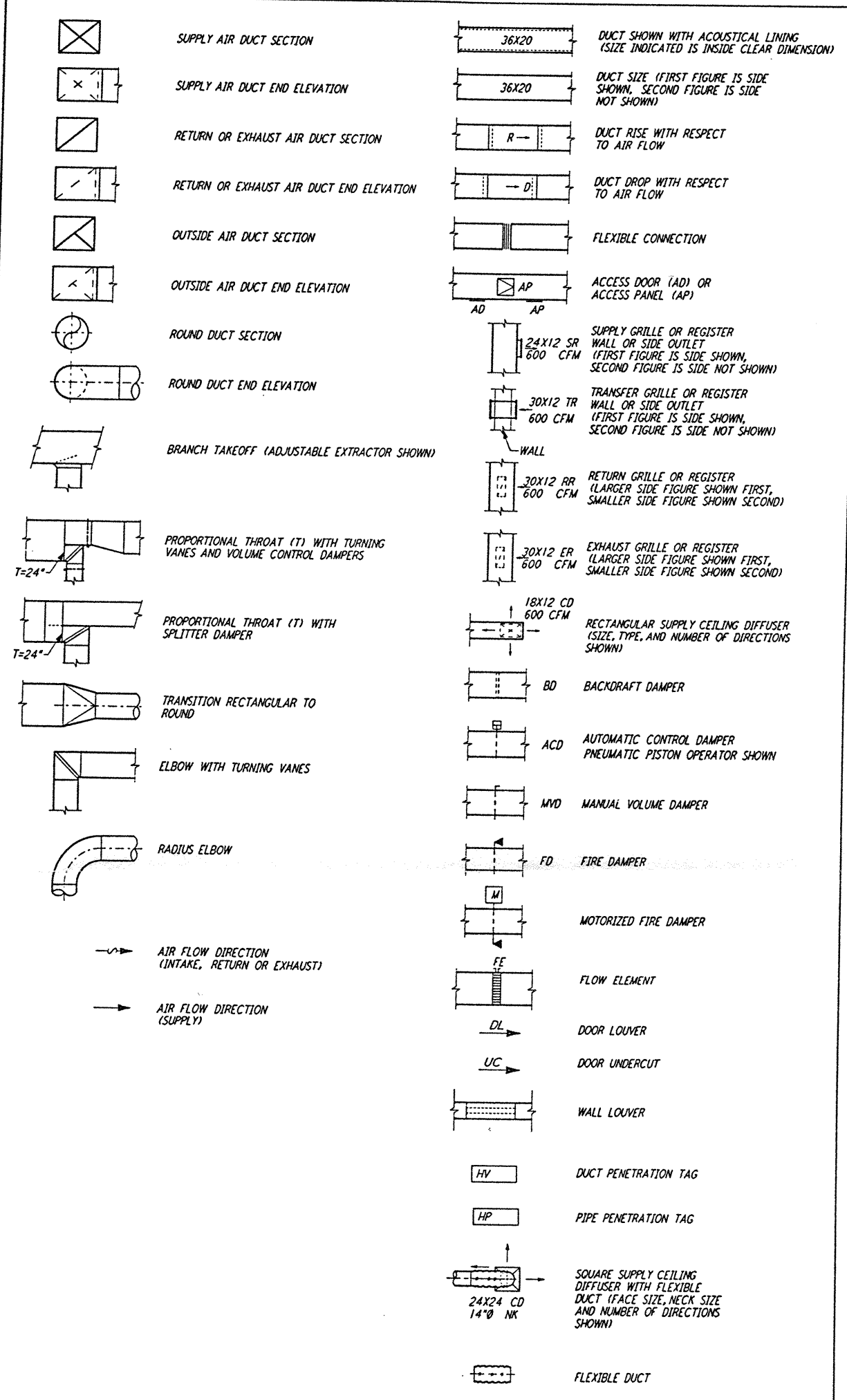
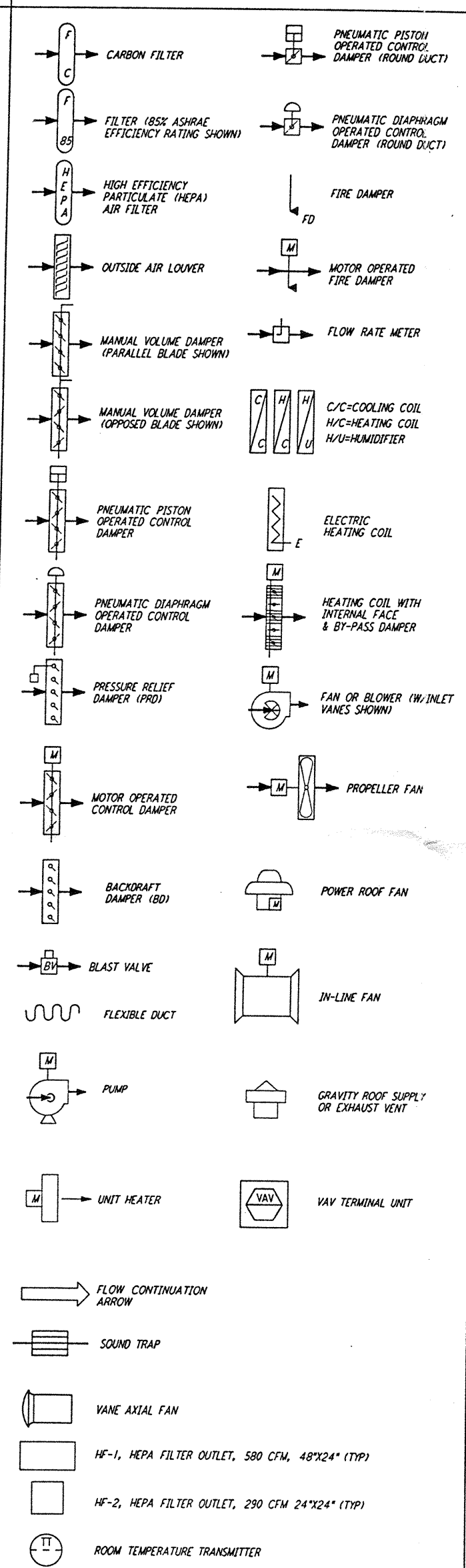


HEATING, VENTILATING AND AIR CONDITIONING LEGEND, SYMBOLS AND ABBREVIATIONS

DOUBLE LINE



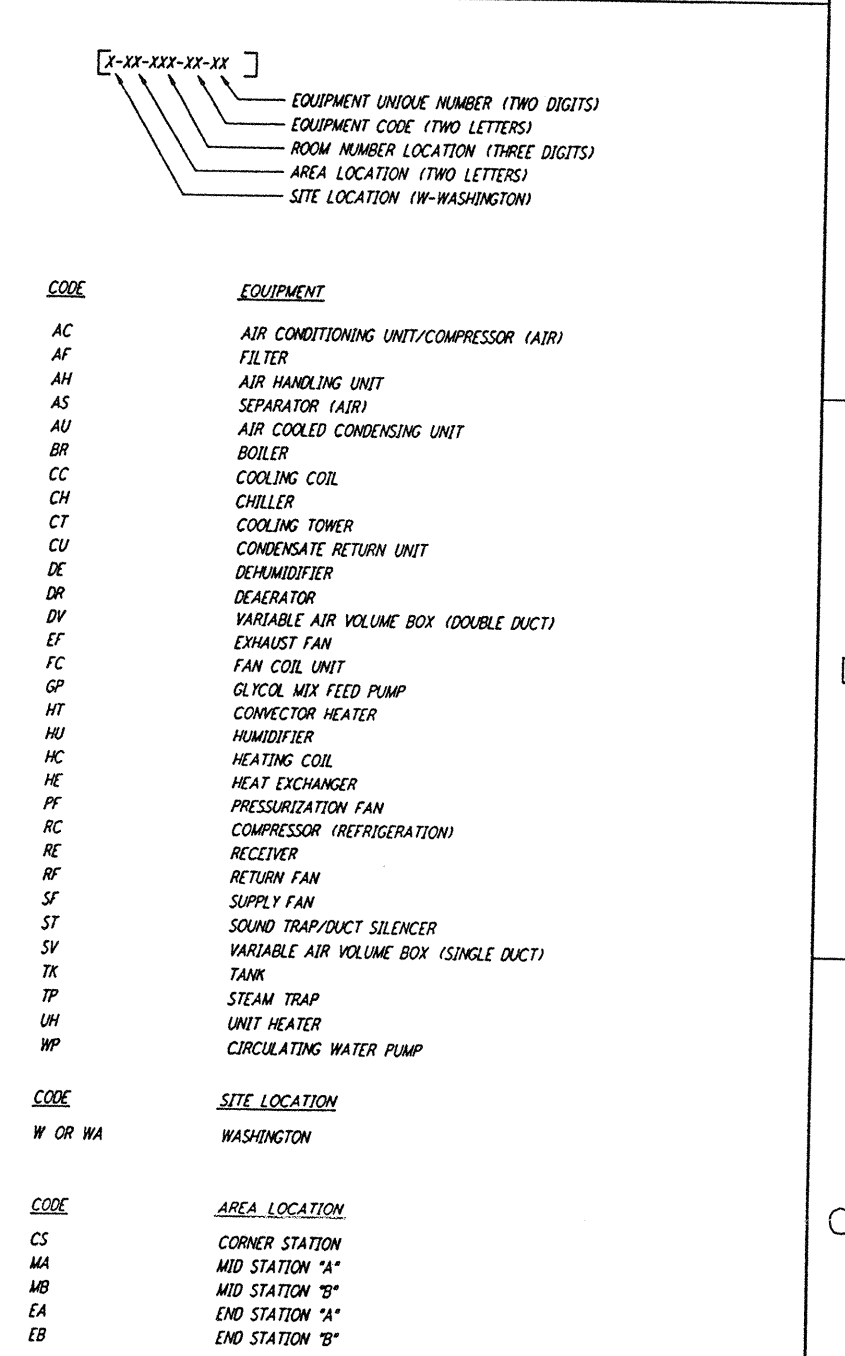
SINGLE LINE



ABBREVIATIONS

ABBREV	WORD OR TERM	ABBREV	WORD OR TERM
ABV	ABOVE	INFL	INFILTRATION
AC	AIR CONDITIONING	INSTR	INSTRUMENT
ACFM	ACTUAL CUBIC FEET PER MINUTE	INSUL	INSULATION
ACH	AIR CHANGES/HR	IN WC	INCHES WATER COLUMN
AF	ABOVE FINISHED FLOOR	IN WG	INCHES WATER GAUGE
AFS	AIR FLOW MEASURING STATION	IN WG	INCHES WATER GAUGE
AFHS	ANALOG IN	KW	KILOWATT
AI	ANALOG OUT	L	LONG
AO	APPROXIMATE	LG	LEVEL GAUGE
APPROX	APPROXIMATE	LGTH	LENGTH
ARCH	ARCHITECTURAL	LRA	LOCKED ROTOR AMPERES
ATM	ATMOSPHERE	LVG	LEAVING
AUTO	AUTOMATIC	MAIN	MAINTENANCE
BD	BACKDRAFT DAMPER	MAX	MAXIMUM
BEL	BELOW	MBSH	THOUSAND BRITISH THERMAL UNITS PER HOUR
BFP	BOTTOM FLAT	MCC	MOTOR CONTROL CENTER
BHP	BRAKE HORSEPOWER	MECH	MECHANICAL
BLDG	BUILDING	MFR	MANUFACTURER
BOG	BOTTOM OF DUCT	MIN	MINIMUM
BOL	BOTTOM OF LOUVER	MTD	MOUNTED
BOP	BOTTOM OF PIPE	MTG	MOUNTING
BOR	BOTTOM OF REGISTER	MTR	MOTOR
BOT	BOTTOM	NC	NORMALLY CLOSED
BOU	BOTTOM OF UNIT	NEG	NEGATIVE
BTUH	BRITISH THERMAL UNITS PER HOUR	NTS	NOT TO SCALE
CL	CENTER LINE	OA	OUTSIDE AIR
C	DEGREES CENTIGRADE	OBD	OPPOSED BLADE DAMPER
CAP	CAPACITY	OC	ON CENTER
CCMS	CENTRAL CONTROL MONITORING SYSTEM	OD	OUTSIDE DIAMETER
CCW	COUNTERCLOCKWISE	OOP	OPEN DRIP PROOF
CFH	CUBIC FEET PER HOUR	OPER	OPERATING / OPERATOR
CFM	CUBIC FEET PER MINUTE	OPNG	OPENING
CG	CEILING GRILLE	ORD	ORDER
CHR	CHILLED WATER RETURN	PD	PRESSURE DROP
CHS	CHILLED WATER SUPPLY	PF	PENETRATION
CLG	CEILING	PH	PHASE
CNTQL	CENTRIFUGAL	PNEU	PNEUMATIC
COL	COLUMN	PNL	PANEL
CONC	CONCRETE	POC	POINT OF CONNECTION
COND	CONDENSATE	POS	POSITIVE
CONN	CONNECTION	PRESS	PRESSURE
CONT	CONTINUATION OR CONTROL	PSIG	POUNDS PER SQUARE INCH GAUGE
CR	CEILING REGISTER/CONDENSATE RETURN	Δ P	PRESSURE DIFFERENTIAL
CS	CARBON STEEL (GALVANIZED)	QTY	QUANTITY
CW	CLOCKWISE	R	ROWS
CWR	CONDENSER WATER RETURN	RA	RETURN AIR
CWS	CONDENSER WATER SUPPLY	RD	REFRIGERANT DISCHARGE
D	DRAIN	REF	REFERENCE
DA	DIRECT ACTING	REG	REGISTER
DOC	DIRECT DIGITAL CONTROL	RECD	REQUIRED
DOCP	DIRECT DIGITAL CONTROL PANEL	RET	RETURN
DET	DETAIL	RFGT	REFRIGERANT
DI	DIGITAL IN	RG	RETURN GRILLE
DISCH	DISCHARGE	RH	RELATIVE HUMIDITY
DN	DOWN	RHC	RECAT COIL
DO	DIGITAL OUT	RL	REFRIGERANT LIQUID
DP	DRIP PROOF	RLA	RATED LOAD AMPERES
DWG	DRAWING	RM	ROOM
Ø/DIA	DIAMETER	RPM	REVOLUTIONS PER MINUTE
EA	EACH	RR	RETURN REGISTER
EFF	EFFICIENCY	RS	REFRIGERANT SUCTION
EG	EXHAUST GRILLE	RV	REFRIGERANT VENT
ELB	ELBOW	SA	SUPPLY AIR
ELECT	ELECTRICAL	SCFM	STANDARD CUBIC FEET PER MINUTE
ENT	ENTERING	SCHED	SCHEDULE
EP	EXPLSION PROOF	SD	SMOKE DETECTOR
EQUIP	EQUIPMENT	SEC	SECONDARY
ER	EXHAUST REGISTER	SF	SUPPLY FAN
ESP	EXTERNAL STATIC PRESSURE	SG	SUPPLY GRILLE
EXFIL	EXFILTRATION	SHT	SHEET
EXH	EXHAUST	SL	SOUND LINING
*F	DEGREES FAHRENHEIT	SP	STATIC PRESSURE
*F DB	DEGREES FAHRENHEIT, DRY BULB (AIR)	SPEC	SPECIFICATION
*F WB	DEGREES FAHRENHEIT, WET BULB (AIR)	SR	SUPPLY REGISTER
FC	FAIL CLOSED	SS	STAINLESS STEEL
FD	FIRE DAMPER	STD	STANDARD
FIN	FINISHED	STL	STEEL
FLA	FAIL LOCKED	STM	STRUCTURAL
FLA	FULL-LOAD AMPERES	STRUCT	STRUCTURAL
FLXBL	FLEXIBLE	SW	SOLENOID VALVE
FLG	FLANGE	SW	SWITCH
FLR	FLOOR	TA	THROW AWAY
FLTR	FILTER	TEFC	TOTALLY ENCLOSED FAN COOLED
FO	FAIL OPEN	TEMP	TEMPERATURE
FP	FIRE PROTECTION	TG	TRANSFER GRILLE
FPM	FINS PER INCH	TC	TOP OF CONCRETE
FT	FEET PER MINUTE	TOD	TOP OF DUCT
FT2	FEET	TOS	TOP OF STEEL
FT3	FEET	TR	TRANSFER REGISTER
FURN	FURNISH	TRNSF	TRANSFER
FWD CRV	FORWARD CURVED	TSP	TOTAL STATIC PRESSURE
GA	GAUGE	TYP	TYPICAL
GAL	GALLON	UC	UNDERCUT DOOR
GALV	GALVANIZED	UG	UNDERGROUND
GFE	GOVERNMENT FURNISHED EQUIPMENT	UV	UNIT VENTILATOR
GPM	GALLONS PER MINUTE	V	VENT
H	HIGH	VEL	VELOCITY
HD	HEADER	VERT	VERTICAL
HOR	HORIZONTAL	VFD	VARIABLE FREQUENCY DRIVE
HEPA	HIGH EFFICIENCY PARTICULATE AIR FILTER	VIV	VARIABLE INLET VANES
HF	HEPA FILTER OUTLET	W	WIDE
HOA	HAND/OPER/AUTO	WC	WITH
HORIZ	HORIZONTAL	WG	WATER COLUMN
HP	HORSEPOWER	WK	WORK
HR	HOOR	WN	WELD NECK
HT	HEIGHT	WP	WORKING POINT
HTG	HEATING	WT	WEIGHT
HVAC	HEATING, VENTILATING AND AIR CONDITIONING	WTR	WATER
HWP	HEATING HOT WATER RETURN		
HWS	HEATING HOT WATER SUPPLY		
HZ	HERTZ		
ID	INSIDE DIAMETER		
I. E.	THAT IS		

EQUIPMENT IDENTIFICATION



not be reproduced, copied, loaned, exhibited, or used in any other way, except by written consent from PARSONS to the borrower.

This document and the design it covers are the property of PARSONS. They are loaned only with the borrower's expressed written agreement that they will

NO.	DATE	BY	CHKD	ENGR	PROJ	DESCRIPTION
B	4-19-96	CLP	ME	AA	TDM	FINAL DESIGN REVIEW & BID
A	10-31-95	CLP	ME	AA	TDM	PRELIMINARY DESIGN REVIEW

NO.	DATE	BY	CHKD	ENGR	PROJ	DESCRIPTION

DRAWN	CLP
CHECKED	
ENGINEER	
PROJ	

PARSONS

100 WEST WALNUT STREET
 PASADENA, CALIFORNIA

LIGO

CALIFORNIA INSTITUTE OF TECHNOLOGY
 MASSACHUSETTS INSTITUTE OF TECHNOLOGY

LASER INTERFEROMETER
 GRAVITATIONAL-WAVE OBSERVATORY
 SITE NO. 1 - HANFORD, WASHINGTON

HVAC
 LEGEND &
 ABBREVIATIONS

SCALE: NONE
 CONTRACT NUMBER: PPI50969
 PROJECT NUMBER: 8094

SHEET NUMBER: **WA-H-001**