



LITTLE VALLEY COUNTY CENTER

303 COURT STREET
LITTLE VALLEY, NEW YORK 14755

DPW BID #56 - LITTLE VALLEY CIVIL DEFENSE
AHU IMPROVEMENTS

BID DOCUMENTS
SEPTEMBER 19, 2018

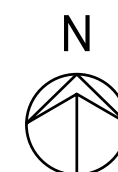


Centerpointe Corporate Park
375 Essjay Road, Suite 200
Williamsville, NY 14221
www.wendelcompanies.com
p:716.688.0766 f:716.625.6825

Wendel Project No. 307659



PROJECT
LOCATION



DRAWING INDEX

COVERSHEET

MECHANICAL/ ELECTRICAL

ME001	MECHANICAL SYMBOLS, NOTES, AND ABBREVIATIONS
ME101	PARTIAL GROUND FLOOR DUCTWORK AND PIPING PLANS
ME201	MECHANICAL DETAILS AND SCHEDULES

CATTARAUGUS COUNTY

LITTLE VALLEY COUNTY
CENTER - CIVIL DEFENSE
AIR HANDLING UNIT
IMPROVEMENTS

BID DOCUMENTS



HVAC ABBREVIATIONS

AAV	AUTOMATIC AIR VENT	H	HUMIDIFIER
AC	AIR COMPRESSOR	HC	HEATING COIL
ACCU	AIR COOLED CONDENSING UNIT	HEX	HEAT EXCHANGER
ACS DR	ACCESS DOOR	HP	HORSEPOWER
ACS PNL	ACCESS PANEL	HRU	HEAT RECOVERY UNIT
ACV	AUTOMATIC CONTROL VALVE	HSTAT	HUMIDISTAT
AFB	ABOVE FINISHED FLOOR	HV	HEATING AND VENTILATING UNIT
AFG	ABOVE FINISHED GRADE	HVB	HOT WATER BOILER
AHU	AIR HANDLING UNIT	HWCP	HOT WATER CIRCULATING PUMP
ALUM	ALUMINUM		
AS	AIR SEPARATOR	LAT	LEAVING AIR TEMPERATURE
ASC	ABOVE SUSPENDED CEILING	LRI	LOUVERED ROOF INTAKE
AVG	AVERAGE	LRV	LOUVERED ROOF VENT
		LWT	LEAVING WATER TEMPERATURE
BAV	BALANCING VALVE	MAU	MAKE-UP AIR UNIT
BB-E	BASEBOARD - ELECTRIC	MAV	MANUAL AIR VENT
BFP	BACKFLOW PREVENTER	MC	MECHANICAL CONTRACTOR
BFV	BUTTERFLY VALVE		
BFWP	BOILER FEED WATER PUMP	NC	NORMALLY CLOSED
BHP	BRAKE HORSEPOWER	NIC	NOT IN CONTRACT
BV	BALL VALVE	NO	NORMALLY OPEN
		NTS	NOT TO SCALE
CA	COMPRESSED AIR	O	OPEN
CA	COMBUSTION AIR	OA	OUTSIDE AIR
CEB	CONCRETE EQUIPMENT BASE	OC	ON CENTER
CFM	CUBIC FEET PER MINUTE	OED	OPEN ENDED DUCT
CHKV	CHECK VALVE		
CHWP	CHILLED WATER CIRCULATING PUMP	PC	PLUMBING CONTRACTOR
CIR	CAST IRON RADIATOR	PLV	PLUG VALVE
COM	COMMON	PRV	PRESSURE REDUCING VALVE
CRP	CONDENSATE RETURN PUMP	PTAC	PACKAGE TERMINAL AIR CONDITIONER
CT	COOLING TOWER		
CUH	CABINET UNIT HEATER	RA	RETURN AIR
CUV	CLASSROOM UNIT VENTILATOR	RAF	RETURN AIR FAN
CV	CONTROL VALVE	RH	RELATIVE HUMIDITY
		RHC	REHEAT COIL
DB	DRY BULB	RLL	REFRIGERANT LIQUID LINE
DCI	DUCT COVERING INSULATION	RSL	REFRIGERANT SUCTION LINE
DLI	DUCT LINING INSULATION	RTU	ROOF TOP UNIT
DSS	DUCTLESS SPLIT SYSTEM AIR CONDITIONER	RV	ROOF VENT
DX	DIRECT EXPANSION	SA	SUPPLY AIR
		SD	SMOKE DAMPER
EA	EXHAUST AIR	SF	SUPPLY FAN
EAT	ENTERING AIR TEMPERATURE	SP	STATIC PRESSURE
EC	ELECTRICAL CONTRACTOR	STN	STRAINER
EDR	EQUIVALENT DIRECT RADIATION	SUH	SUSPENDED UNIT HEATER
ET	EXPANSION TANK		
EWT	ENTERING WATER TEMPERATURE		
		TFA	TO FLOOR ABOVE
F	DEGREES FAHRENHEIT	TFB	TO FLOOR BELOW
FBO	FURNISHED BY OTHERS		
FCU	FAN COIL UNIT	UH	UNIT HEATER
FFA	FROM FLOOR ABOVE	UV	UNIT VENTILATOR
FFB	FROM FLOOR BELOW		
FID	FIRE DAMPER	VAV	VARIABLE AIR VOLUME
FSD	FIRE/SMOKE DAMPER	VD	VOLUME DAMPER
FTR	FINNED TUBE RADIATOR	VIB ISO	VIBRATION ISOLATOR
FURN	FURNACE		
		WB	WET BULB
GC	GENERAL CONTRACTOR	WC	WATER COLUMN
GLV	GLOBE VALVE	WCHRU	WATER CHILLER
GPM	GALLONS PER MINUTE	WV	WATER INLET VALVE
GTV	GATE VALVE	WPD	WATER PRESSURE DROP
GVTR	GAS VENT THROUGH ROOF		

GENERAL NOTES

- THIS LEGEND SHEET IS FOR THE HVAC CONTRACTOR REFERENCE ONLY. NOT ALL SYMBOLS AND/OR ABBREVIATIONS MAY APPLY TO THIS PARTICULAR PROJECT. ANY ADDITIONS OR OMISSIONS FROM THIS LEGEND SHEET DOES NOT IMPLY INCLUSION AND/OR EXCLUSION OF ANY PARTICULAR ITEM FROM THE PROJECT.
- THE PLANS ARE DIAGRAMMATIC AND INDICATE ONLY THE SIZE AND GENERAL ARRANGEMENT OF PIPING AND EQUIPMENT. EXACT LOCATION OF ALL ELEMENTS SHALL BE DETERMINED AS WORK PROGRESSES, IN COOPERATION AND COORDINATION WITH THE WORK OF ALL OTHER TRADES. IT IS NOT INTENDED TO SHOW EVERY ITEM OF WORK OR MINOR PIECE OF EQUIPMENT, BUT THE CONTRACTOR SHALL FURNISH AND INSTALL WITHOUT ADDITIONAL REMUNERATION ANY COMPONENT NECESSARY TO COMPLETE THE SYSTEM IN ACCORDANCE WITH THE BEST PRACTICE OF THE TRADE.
- ITEMS OF WORK OR EQUIPMENT SHOWN ON THE DRAWINGS ONLY, OR CALLED FOR IN THE SPECIFICATIONS ONLY, SHALL BE FURNISHED AND INSTALLED IN THE SAME MANNER AS IF THEY APPEARED ON BOTH THE DRAWINGS AND SPECIFICATIONS.
- DRAWINGS DO NOT INDICATE ALL OFFSETS, CHANGES IN ELEVATIONS, ETC. WHICH MAY BE REQUIRED. THE CONTRACTOR SHALL MAKE SUCH CHANGES IN PIPING AND LOCATION OF EQUIPMENT, ETC. TO ACCOMMODATE WORK WITH THAT OF OTHER CONTRACTORS.
- INSTALL EQUIPMENT, DUCTWORK, AND PIPING TO AVOID INTERFERENCE WITH THE OPERATION OR SERVICING AND MAINTENANCE OF EQUIPMENT.
- HVAC CONTRACTOR IS RESPONSIBLE TO PROVIDE ACCESS PANELS AND DOORS WHERE THEY ARE NEEDED TO GAIN ACCESS TO CONCEALED EQUIPMENT.
- ALL COSTS FOR CUTTING, PATCHING AND PAINTING OF EXISTING WALLS, CEILINGS AND FLOORS TO ACCOMMODATE THE INSTALLATION OF HVAC WORK SHALL BE THE RESPONSIBILITY OF THE HVAC CONTRACTOR UNLESS INDICATED OTHERWISE. MATERIALS FOR RESTORATION OF EXISTING SURFACES SHALL MATCH THE EXISTING MATERIALS.
- PIPES AND/OR DUCTS PENETRATING FIRE WALLS AND FLOORS SHALL BE FIRESTOPPED AS SPECIFIED. REFER TO THE ARCHITECTURAL DRAWINGS FOR FIRE WALL AND FLOOR LOCATIONS.
- ALL DUCT SIZES SHOWN ON DRAWINGS INDICATE CLEAR INSIDE DIMENSIONS.
- ALL PHYSICAL ATTRIBUTES OF EQUIPMENT AND DEVICES ARE BASED ON THOSE MANUFACTURERS LISTED IN THE SPECIFICATIONS AND/OR THE EQUIPMENT SCHEDULES. THE RESPECTIVE CONTRACTORS ARE RESPONSIBLE FOR ALL CHANGES BROUGHT ABOUT BY USE OF ITEMS BY OTHER MANUFACTURERS. THE ARCHITECT/ENGINEER HAS RESERVED THE RIGHT TO REJECT ITEMS BY OTHER MANUFACTURERS IF THOSE ITEMS DO NOT MATCH THE PHYSICAL ATTRIBUTES OF THE MANUFACTURERS LISTED.
- COMPLY WITH THE NEW YORK STATE BUILDING CODES, ASHRAE 90.1-2013, AND OTHER APPLICABLE CODES.

HVAC SYMBOLS - DUCTWORK

	AIRFLOW - SUPPLY/OUTDOOR AIR		RECTANGULAR/ROUND SUPPLY AIR DUCTWORK UP
	AIRFLOW - RETURN/EXHAUST AIR		RECTANGULAR/ROUND RETURN OR EXHAUST AIR DUCTWORK UP
	RECTANGULAR DUCTWORK (FIRST NUMBER INDICATES VISIBLE DIMENSION)		RECTANGULAR/ROUND SUPPLY AIR DUCTWORK DOWN
	ROUND DUCTWORK		RECTANGULAR/ROUND RETURN OR EXHAUST AIR DUCTWORK DOWN
	FLAT OVAL DUCTWORK		RECTANGULAR ELBOW WITH TURNING VANES
	"L" INDICATES LINED DUCTWORK		VOLUME DAMPER
	FLEXIBLE DUCTWORK		FIRE DAMPER
	RECTANGULAR CEILING DIFFUSER (ARROWS INDICATE DIRECTION OF THROW)		SMOKE DAMPER
	CIRCULAR CEILING DIFFUSER		MOTOR OPERATED DAMPER
	RETURN/EXHAUST REGISTER OR GRILLE		VAV BOX (X INDICATES BOX DESIGNATION)
	LINEAR DIFFUSER		DUCT MOUNTED COIL
	SIDEWALL DIFFUSER, REGISTER OR GRILLE		FLEXIBLE DUCT CONNECTION
	DIFFUSER, REGISTER OR GRILLE DESIGNATION TYPE X INDICATES: CD - CEILING DIFFUSER LD - LINEAR DIFFUSER RCD - RECTANGULAR CEILING DIFFUSER EG - EXHAUST GRILLE ER - EXHAUST REGISTER RG - RETURN GRILLE RR - RETURN REGISTER TG - TRANSFER GRILLE		SMOKE DETECTOR
	WALL MOUNTED THERMOSTAT		DUCT MOUNTED SENSOR X INDICATES: SP - STATIC PRESSURE T - TEMPERATURE H - HUMIDITY V - VELOCITY
	WALL MOUNTED REMOTE SENSOR THERMOSTAT		
	WALL MOUNTED TEMPERATURE SENSOR		
	WALL MOUNTED HUMIDISTAT		

HVAC SYMBOLS - CONTROLS

	DAMPER ACTUATOR		DIRECT EXPANSION REFRIGERANT COIL
	OPPOSED BLADE DAMPER		FIRE DAMPER
	AVERAGING TEMPERATURE SENSOR		ELEC/PNEU TRANSDUCER
	FREEZESTAT		SPACE THERMOSTAT
	PROBE TYPE TEMPERATURE SENSOR		SPACE TEMPERATURE SENSOR
	SMOKE DETECTOR		STATIC PRESSURE SENSOR
	HUMIDITY SENSOR		ROOM DIFFERENTIAL PRESSURE SENSOR
	MOTOR STARTER		TRANSFORMER
	HEATING COIL		CIRCULATING PUMP
	COOLING COIL		FAN

HVAC SYMBOLS - PIPING DESIGNATIONS

	EXISTING PIPING (REFER TO DESIGNATIONS BELOW FOR TYPE)
	PIPING TO BE REMOVED (REFER TO DESIGNATIONS BELOW FOR TYPE)
	BOILER BLOWDOWN
	CONDENSATE RETURN
	DRAIN
	FEEDWATER
	HOT WATER SUPPLY
	HOT WATER RETURN
	LOW PRESSURE STEAM
	REFRIGERANT - LIQUID
	REFRIGERANT - SUCTION
	CHILLED WATER SUPPLY
	CHILLED WATER RETURN
	CONDENSER WATER SUPPLY
	CONDENSER WATER RETURN
	POINT OF CONNECTION

HVAC SYMBOLS - VALVES AND SPECIALTIES

	SHUT-OFF VALVE (GATE, BALL, ETC.)
	BALANCING VALVE (X INDICATES GPM)
	TWO-WAY AUTOMATIC CONTROL VALVE
	THREE-WAY AUTOMATIC CONTROL VALVE
	CHECK VALVE
	STRAINER
	GLOBE VALVE
	PRESSURE REDUCING VALVE
	LOCKING VALVE
	TRIPLE DUTY VALVE
	FLOW CONTROL VALVE
	RELIEF VALVE (X INDICATES T - TEMPERATURE P - PRESSURE PT - COMBINATION PRESS/TEMP)
	STEAM TRAP (X INDICATES T - THERMOSTATIC FT - FLOAT AND THERMOSTATIC IB - INVERTED BUCKET)
	BRANCH CONNECTION - BOTTOM
	BRANCH CONNECTION - TOP
	ELBOW - TURNED DOWN
	ELBOW - TURNED UP
	CAP
	FLEXIBLE CONNECTOR
	DIRECTION OF FLOW
	DIRECTION OF DOWNWARD PITCH
	SENSOR/SWITCH (X INDICATES P - PRESSURE T - TEMPERATURE F - FLOW)
	GAUGE (X INDICATES T - TEMPERATURE P - PRESSURE F - FLOW)
	PRESSURE/TEMPERATURE TAP
	CIRCULATING PUMP
	UNION
	PIPE GUIDE (PG)
	PIPE ANCHOR (PA)
	REDUCER



Cattaraugus County

CATTARAUGUS COUNTY

LITTLE VALLEY
CIVIL DEFENSE
AHU IMPROVEMENTS

303 COURT STREET
LITTLE VALLEY, NY 14755

DPW BID #56

BID DOCUMENTS



Centerpointe Corporate Park
375 Essay Road, Suite 200
Williamsville, NY 14221
www.wendelcompanies.com
p.716.688.0766 f.716.625.6825

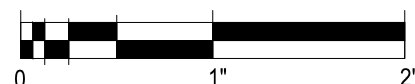
Wendel WD Architecture, Engineering, Surveying and
Landscape Architecture, P.C.

NOTE:
THIS DOCUMENT, AND THE IDEAS AND DESIGNS INCORPORATED HEREIN, ARE
AN INSTRUMENT OF PROFESSIONAL SERVICE, IS THE PROPERTY OF
WENDEL WD ARCHITECTURE, ENGINEERING, SURVEYING AND LANDSCAPE
ARCHITECTURE, P.C. AND IS NOT TO BE USED IN WHOLE OR IN PART FOR
ANY OTHER PROJECT WITHOUT THE WRITTEN AUTHORIZATION OF WENDEL.
UNAUTHORIZED ALTERATION OR ADDITION TO ANY SURVEY DRAWING, DESIGN,
SPECIFICATION, PLAN OR REPORT IS A VIOLATION OF SECTION 7209,
PROVISION 2 OF THE NEW YORK STATE EDUCATION LAW.

0	BID DOCUMENTS	09/19/2018
NO.	REVISIONS	DATE

DWG. TITLE

MECHANICAL SYMBOLS,
NOTES, AND ABBREVIATIONS



GENERIC SCALE BAR
SCALE BAR SHOWN IS TWO INCHES ON THE ORIGINAL DRAWING.
IF NOT TWO INCHES ON THIS SHEET, ADJUST ACCORDINGLY

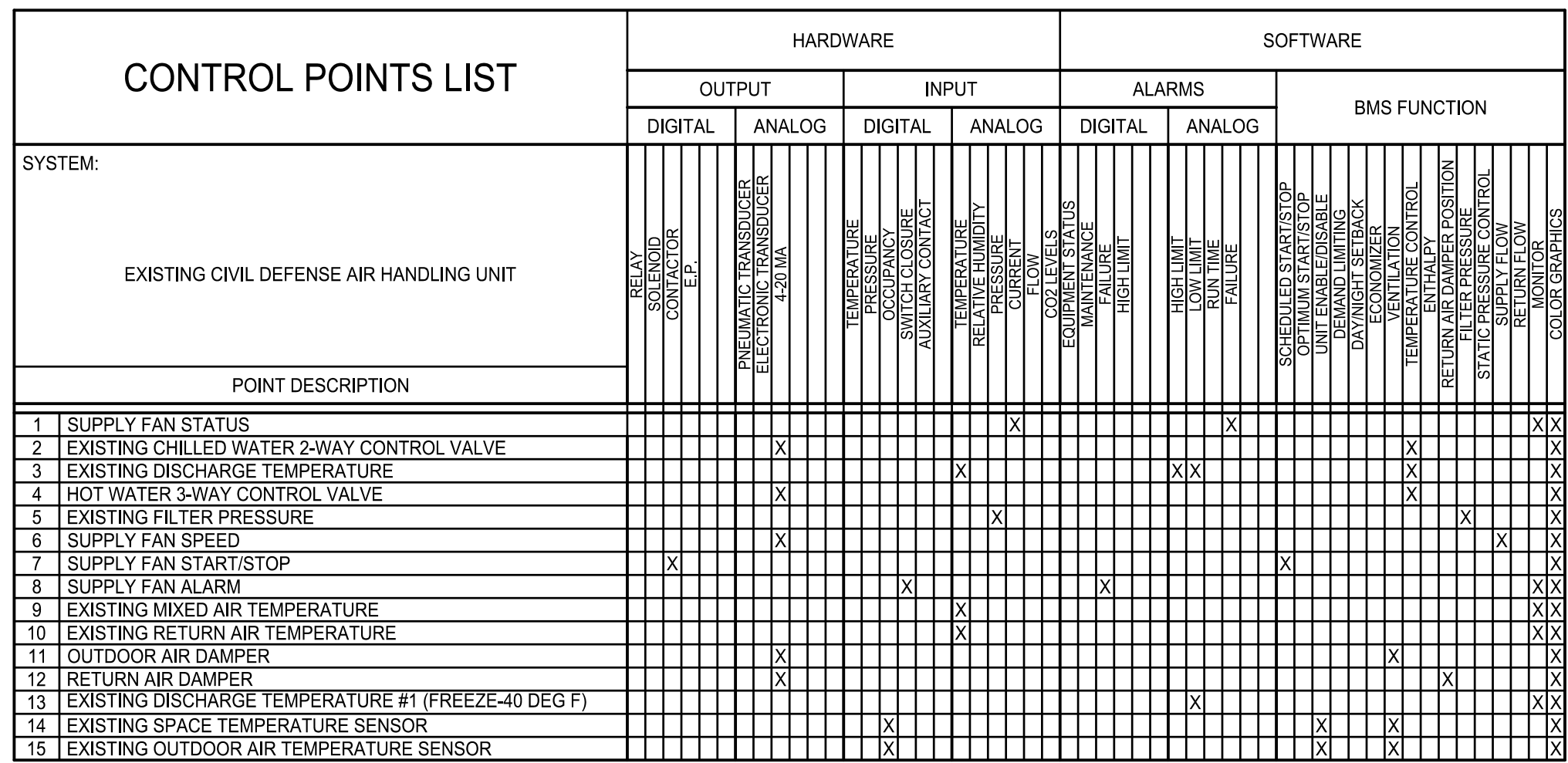
DATE	09/19/2018		
SCALE	AS NOTED		
DWN.	NBN	CHK.	GMM
PROJ. No.	307659		

DWG. No.

ME001



ME101



SCALE: NTS

NOTES:

1. PROVIDE DRAINABLE COIL WITH ALUMINUM FINS.
2. VERIFY COIL DIMENSIONS AND COIL CONNECTION SIDE PRIOR TO ORDERING COIL.

NOTES:

1. VERIFY CEILING LOCATION PRIOR TO ORDERING.
2. PROVIDE REQUIRED BRACKETS, FLANGES, SURFACE PLATES, ETC. TO MOUNT DIFFUSERS, REGISTERS, AND GRILLES IN CEILINGS.



2 TYPICAL PIR
SCALE: NOT TO SCALE



LITTLE VALLEY CIVIL DEFENSE AHU IMPROVEMENTS

303 COURT STREET
LITTLE VALLEY, NY 14755

DPW BID #56

BID DOCUMENTS



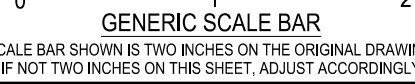
Wendel WD Architecture, Engineering, Surveying and
Landscape Architecture, P.C.

ANY OTHER PROJECT WITHOUT THE WRITTEN AUTHORIZATION OF WENDEE.
UNAUTHORIZED ALTERATION OR ADDITION TO ANY SURVEY DRAWING, DESIGN
SPECIFICATION, PLAN OR REPORT IS A VIOLATION OF SECTION 7209,
PROVISION 2 OF THE NEW YORK STATE EDUCATION LAW.

0	BID DOCUMENTS	09/19/2018
NO.	REVISIONS	DATE

DWG. TITL

MECHANICAL DETAILS AND SCHEDULES

D'WG. No

ME201