WORK SHEET:	AREA H - HEADWOR	AREA H - HEADWORKS - MUA SPECIFICATIONS	
DES	IGNED BY: DD/JC	CHECKED BY: AG, REV1: JC/DD	
DES	IGN DATE: 2010-06-10	CHECK DATE: 11/30/2010, REV1: 01/24/2011	
CUSTOMER:	CITY OF WINNIPEG, WATER	R AND WASTE DEPARTMENT	
JOB NAME:	WEWPCC HVAC REPLACEN	MENT	
JOB NO.:	CW-10-M660-1		

TAG: H600 - REV1

**GENERAL & CABINET** 

UNIT TYPE:

AIR UNIT EQUAL IN ACCORDANCE WITH B6

MOUNTING: INDOOR BASE MOUNTED (Heated SERVICE ACCESS DOORS: LEFT HAND, SERVICE DOORS PIANO
Space) HINGED c/w 1/4 TURN POSITIVE

LOCK CLOSING HARDWARE BOTH
SIDES, FULLY INSULATED AND LINED

ENG AIR HE, ICE BMA OR APPROVED

NEOPRENE GASKETTING

APPROX. SHIPPING WEIGHT: NO. OF PIECES: 1

MAXIMUM DIMENSIONS: 3725 L x 2350 W x 1900 H , WIDTH INCLUDES AN ALLOWANCE FOR THE CONTROL PANEL

DIRECT FIRED, PACKAGED, MAKE-UP UNIT MODEL NO.:

INSULATION: 25 mm, 24 kg/m³, PLUS UNDERSIDE CASING: 16 GAUGE SATIN COAT GALVANIZED

INSULATION C/W SOLID 304 SS STEEL, FORMED CONSTRUCTION, LINER THROUGHOUT STEEL, BRACED TO MANUF'S

STD C/W LIFTING LUGS,
ELECTROSTATICALLY APPLIED
ENAMEL PAINT COATING ON ALL

**EXPOSED SURFACES** 

APPROVALS: CSA 3.7, CETL, ETL AND REQUIREMENTS OF LOCAL AHJ (DOL MECHANICAL & ENGINEERING BRANCH)

**SUPPLY AIR DATA** 

 AIR FLOW (NORMAL):
 9,152 L/s
 ESP:
 74.7 Pa (0.3 inch W.C.)

 AIR FLOW (HIGH RATE):
 7,000 L/s
 ESP:
 161.9 Pa (0.65 inch W.C.)

FAN RATING TO AMCA 210: CLASS 2 (minimum)

FAN SIZE: QTY: 1

FAN TYPE: BI OR AIRFOIL RPM:

MOUNTING: FREE STANDING WITH RIS VIB TSP: Pa

ISOLATION
MAX. SOUND POWER LEVEL: dba

HOUSING CONST.: STEEL SATIN COAT WHEEL CONST.: STEEL

BEARING TYPE: PILLOW BLOCK WITH EXTENDED SS SHAFT TYPE: CARBON STEEL MINIMUN C1045
TUBING TO GREASING NIPPLES WITH RUST INHIBITOR COATING

TUBING TO GREASING NIPPLES
ACCESSED FROM MANIFOLD ON
EXTERIOR OF UNIT CABINET

MOTOR SIZE: 14.92 kW TYPE: HIGH EFFICIENCY, TEFC, 1800 rpm

BHP: kW DRIVE: BELT DRIVE, FAN & MOTOR ON

PAINTED STEEL, FABRICATED BASE C/W ADJUSTABLE JACKING BOLTS FOR TENSION ADJUSTMENT, SF OF

DRIVE 1.5

WORK SHEET: **AREA H - HEADWORKS - MUA SPECIFICATIONS** 

> DESIGNED BY: DD/JC CHECKED BY: AG, REV1: JC/DD

DESIGN DATE: 2010-06-10 CHECK DATE: 11/30/2010, REV1: 01/24/2011

CUSTOMER: CITY OF WINNIPEG, WATER AND WASTE DEPARTMENT

H600 - REV1

JOB NAME: WEWPCC HVAC REPLACEMENT

JOB NO.: CW-10-M660-1

TAG:

AIR OPENINGS LOCATION DAMPER TYPE **OPERATION** SUPPLY AIR TOP SUPPLY AIR DISCHARGE: OPEN/CLOSED

> CONSTRUCTION, LOW-LEAKAGE, AIR FOIL BLADES, C/W DIRECT MOUNT ELECTRIC ACTUATOR, POSITION OPEN & **CLOSED LIMIT SWITCHES; STD** OF ACCEPTANCE; RUSKIN CD80 DAMPER, GREENHECK HCD DAMPER, HONEYWELL MS

PARALLEL BLADE, SS-

**ACTUATOR** 

N/A

RETURN AIR N/A

OUTSIDE AIR REAR HORIZONTAL N/A EXHAUST AIR N/A N/A

FILTER DATA (FILTERS MOUNTED IN METAL FRAMES)

QTY/SIZE/TYPE: 50-mm, THROWAWAY, MERV 8, AAF PerfectPleat HC M8

FACE VELOCITY (MAX/ACTUAL): 2.23 m/s (MAX)/ TOTAL GROSS AREA: m<sup>2</sup> m/s (ACT)

FRAME: STAINLESS STEEL METAL FRAME ORIENTATION: **ANGLE** 

SPARES: COMPLETE FILTER SET

**HEATING SECTION DATA** 

TYPE: DIRECT-FIRED BURNER TURNDOWN: 15:1 MINIMUM

GAS SUPPLY: NATURAL GAS

INLET PRESSURE: **HEAT INPUT:** 249 Pa 740 Kw (2,524,876 Btuh)

FIELD CONNECTION SIZE: mm **TEMPERATURE RISE:** 62 °C

MODULATING BYPASS YES

DAMPER:

**ELECTICAL DATA** 

UNIT POWER SUPPLY: 575 VOLTS 3 PHASE 60 HZ CONTROL CIRCUIT: **AMPS** SUPPLY MOTOR F.L.A.: **AMPS** MAX. FUSE (D.E.): **AMPS** MAIN FEEDER AMPACITY: **AMPS** MAX. BREAKER: **AMPS** 

NON FUSED - BY OTHERS DISCONNECT SWITCH:

**CONTROL DATA** 

Applicable Documents: Specification 23 74 00

Drawing E600

Appendix: Headworks Controls

WORK SHEET:	AREA H - HEADWORKS -	AREA H - HEADWORKS - MUA SPECIFICATIONS	
DESIG	GNED BY: DD/JC	CHECKED BY: AG, REV1: JC/DD	
DESIG	6N DATE: 2010-06-10	CHECK DATE: 11/30/2010, REV1: 01/24/2011	
CUSTOMER:	CITY OF WINNIPEG, WATER AND	) WASTE DEPARTMENT	
JOB NAME:	WEWPCC HVAC REPLACEMENT		
JOB NO.:	CW-10-M660-1		

TAG: H650 - REV1

**GENERAL & CABINET** 

UNIT TYPE: DIRECT FIRED, PACKAGED, MAKE-UP UNIT MODEL NO.: ENG AIR HE, ICE BMA OR APPROVED **EQUAL IN ACCORDANCE WITH B6** AIR UNIT MOUNTING: INDOOR BASE MOUNTED (Heated SERVICE ACCESS DOORS: RIGHT HAND, SERVICE DOORS PIANO HINGED c/w 1/4 TURN Space) POSITIVE LOCK CLOSING HARDWARE BOTH SIDES, FULLY INSULATED AND LINED NEOPRENE GASKETTING APPROX. SHIPPING WEIGHT: NO. OF PIECES: 3725 L x 2350 W x 1900 H , WIDTH INCLUDES AN ALLOWANCE FOR THE CONTROL PANEL MAXIMUM DIMENSIONS: INSULATION: 16 GAUGE SATIN COAT GALVANIZED 25 mm, 24 kg/m<sup>3</sup>, PLUS UNDERSIDE CASING: INSULATION C/W SOLID 304 SS STEEL, FORMED CONSTRUCTION, REINFORCED, BRACED TO MANUF'S LINER THROUGHOUT STD C/W LIFTING LUGS, **ELECTROSTATICALLY APPLIED ENAMEL PAINT COATING ON ALL** 

APPROVALS: CSA 3.7, CETL, ETL AND REQUIREMENTS OF LOCAL AHJ (DOL MECHANICAL & ENGINEERING BRANCH)

**SUPPLY AIR DATA** 

74.7 Pa (0.3 inch W.C.) AIR FLOW (NORMAL): 9,152 L/s ESP: AIR FLOW (HIGH RATE): 161.9 Pa (0.65 inch W.C.) 7,000 L/s ESP: FAN RATING TO AMCA 210: CLASS 2 (minimum) FAN SIZE: QTY: FAN TYPE: BI OR AIRFOIL RPM: MOUNTING: FREE STANDING WITH RIS VIB TSP: Pa

ISOLATION
MAX. SOUND POWER LEVEL: dba

HOUSING CONST.: STEEL SATIN COAT WHEEL CONST.: STEE

BEARING TYPE: PILLOW BLOCK WITH EXTENDED SS SHAFT TYPE: CARBON STEEL MINIMUN C1045
TUBING TO GREASING NIPPLES WITH RUST INHIBITOR COATING

ACCESSED FROM MANIFOLD ON EXTERIOR OF UNIT CABINET

MOTOR SIZE: 14.92 kW TYPE: HIGH EFFICIENCY, TEFC, 1800 rpm

BHP: kW DRIVE: BELT DRIVE, FAN & MOTOR ON

PAINTED STEEL, FABRICATED BASE C/W ADJUSTABLE JACKING BOLTS FOR TENSION ADJUSTMENT, SF OF

DRIVE 1.5

**EXPOSED SURFACES** 

WORK SHEET: **AREA H - HEADWORKS - MUA SPECIFICATIONS** 

> DESIGNED BY: DD/JC CHECKED BY: AG, REV1: JC/DD

DESIGN DATE: 2010-06-10 CHECK DATE: 11/30/2010, REV1: 01/24/2011

CUSTOMER: CITY OF WINNIPEG, WATER AND WASTE DEPARTMENT

JOB NAME: WEWPCC HVAC REPLACEMENT

JOB NO.: CW-10-M660-1

TAG: H650 - REV1

AIR OPENINGS LOCATION DAMPER TYPE **OPERATION** SUPPLY AIR TOP SUPPLY AIR DISCHARGE: OPEN/CLOSED

> CONSTRUCTION, LOW-LEAKAGE, AIR FOIL BLADES, C/W DIRECT MOUNT ELECTRIC ACTUATOR, POSITION OPEN & **CLOSED LIMIT SWITCHES; STD** OF ACCEPTANCE; RUSKIN CD80 DAMPER, GREENHECK HCD DAMPER, HONEYWELL MS

PARALLEL BLADE, SS-

**ACTUATOR** 

RETURN AIR N/A N/A OUTSIDE AIR REAR HORIZONTAL N/A EXHAUST AIR N/A N/A

FILTER DATA (FILTERS MOUNTED IN METAL FRAMES)

QTY/SIZE/TYPE: 50-mm, THROWAWAY, MERV 8, AAF PerfectPleat HC M8

FACE VELOCITY (MAX/ACTUAL): 2.23 m/s (MAX)/ TOTAL GROSS AREA: m<sup>2</sup> m/s (ACT)

FRAME: STAINLESS STEEL METAL FRAME ORIENTATION: **ANGLE** 

SPARES: COMPLETE FILTER SET

**HEATING SECTION DATA** 

TYPE: DIRECT-FIRED BURNER TURNDOWN: 15:1 MINIMUM

GAS SUPPLY: NATURAL GAS

INLET PRESSURE: **HEAT INPUT:** 249 Pa 740 Kw (2,524,876 Btuh)

FIELD CONNECTION SIZE: mm **TEMPERATURE RISE:** 62 °C

MODULATING BYPASS YES

DAMPER:

**ELECTICAL DATA** 

UNIT POWER SUPPLY: 575 VOLTS 3 PHASE 60 HZ CONTROL CIRCUIT: **AMPS** SUPPLY MOTOR F.L.A.: **AMPS** MAX. FUSE (D.E.): **AMPS** MAIN FEEDER AMPACITY: **AMPS** MAX. BREAKER: **AMPS** 

NON FUSED - BY OTHERS DISCONNECT SWITCH:

**CONTROL DATA** 

Applicable Documents: Specification 23 74 00

Drawing E600

Appendix: Headworks Controls

WORK SHEET:	AREA H - HEADWOR	AREA H - HEADWORKS - MUA SPECIFICATIONS	
DES	IGNED BY: DD/JC	CHECKED BY: AG, REV1: JC/DD	
DES	IGN DATE: 2010-06-10	CHECK DATE: 11/30/2010, REV1: 01/24/2011	
CUSTOMER:	CITY OF WINNIPEG, WATER	R AND WASTE DEPARTMENT	
JOB NAME:	WEWPCC HVAC REPLACEN	MENT	
JOB NO.:	CW-10-M660-1		

TAG: H700 - REV1

**GENERAL & CABINET** 

UNIT TYPE:

DIRECT FIRED, PACKAGED, MAKE-UP UNIT MODEL NO.: **EQUAL IN ACCORDANCE WITH B6** AIR UNIT MOUNTING: INDOOR BASE MOUNTED (Heated SERVICE ACCESS DOORS: RIGHT HAND, SERVICE DOORS PIANO HINGED c/w 1/4 TURN Space) POSITIVE LOCK CLOSING HARDWARE BOTH SIDES, FULLY INSULATED AND LINED NEOPRENE GASKETTING APPROX. SHIPPING WEIGHT: NO. OF PIECES: 3200 L x 1700 W x 1350 H, WIDTH INCLUDES AN ALLOWANCE FOR THE CONTROL PANEL

MAXIMUM DIMENSIONS:

INSULATION: 16 GAUGE SATIN COAT GALVANIZED 25 mm, 24 kg/m<sup>3</sup>, PLUS UNDERSIDE CASING: INSULATION C/W SOLID 304 SS STEEL, FORMED CONSTRUCTION,

REINFORCED, BRACED TO MANUF'S LINER THROUGHOUT STD C/W LIFTING LUGS,

**ELECTROSTATICALLY APPLIED ENAMEL PAINT COATING ON ALL** 

ENG AIR HE, ICE BMA OR APPROVED

**EXPOSED SURFACES** 

APPROVALS: CSA 3.7, CETL, ETL AND REQUIREMENTS OF LOCAL AHJ (DOL MECHANICAL & ENGINEERING BRANCH)

**SUPPLY AIR DATA** 

154.6 Pa (0.62 inch W.C.) AIR FLOW (NORMAL): 2,980 L/s ESP: AIR FLOW (HIGH RATE): N/A ESP: N/A FAN RATING TO AMCA 210: CLASS 2 (minimum) FAN SIZE: QTY: 1 FAN TYPE: BI OR AIRFOIL RPM: MOUNTING: FREE STANDING WITH RIS VIB TSP: Pa

ISOLATION MAX. SOUND POWER LEVEL: dba

HOUSING CONST.: STEEL SATIN COAT WHEEL CONST.:

BEARING TYPE: PILLOW BLOCK WITH EXTENDED SS SHAFT TYPE: **CARBON STEEL MINIMUN C1045** WITH RUST INHIBITOR COATING TUBING TO GREASING NIPPLES

ACCESSED FROM MANIFOLD ON EXTERIOR OF UNIT CABINET

MOTOR SIZE: 3.73 kW TYPE: HIGH EFFICIENCY, TEFC, 1800 rpm

BHP: kW DRIVE: BELT DRIVE, FAN & MOTOR ON

> PAINTED STEEL, FABRICATED BASE C/W ADJUSTABLE JACKING BOLTS FOR TENSION ADJUSTMENT, SF OF

DRIVE 1.5

WORK SHEET: **AREA H - HEADWORKS - MUA SPECIFICATIONS** 

> DESIGNED BY: DD/JC CHECKED BY: AG, REV1: JC/DD

DESIGN DATE: 2010-06-10 CHECK DATE: 11/30/2010, REV1: 01/24/2011

CUSTOMER: CITY OF WINNIPEG, WATER AND WASTE DEPARTMENT

JOB NAME: WEWPCC HVAC REPLACEMENT

JOB NO.: CW-10-M660-1

TAG: H700 - REV1

AIR OPENINGS LOCATION DAMPER TYPE **OPERATION** SUPPLY AIR FRONT SUPPLY AIR DISCHARGE: OPEN/CLOSED

> CONSTRUCTION, LOW-LEAKAGE, AIR FOIL BLADES, C/W DIRECT MOUNT ELECTRIC ACTUATOR, POSITION OPEN & **CLOSED LIMIT SWITCHES; STD** OF ACCEPTANCE; RUSKIN CD80 DAMPER, GREENHECK HCD DAMPER, HONEYWELL MS

PARALLEL BLADE, SS-

**ACTUATOR** 

RETURN AIR N/A N/A OUTSIDE AIR REAR HORIZONTAL N/A EXHAUST AIR N/A N/A

FILTER DATA (FILTERS MOUNTED IN METAL FRAMES)

QTY/SIZE/TYPE: 50-mm, THROWAWAY, MERV 8, AAF PerfectPleat HC M8

FACE VELOCITY (MAX/ACTUAL): 2.23 m/s (MAX)/ TOTAL GROSS AREA: m<sup>2</sup> m/s (ACT)

FRAME: STAINLESS STEEL METAL FRAME ORIENTATION: **ANGLE** 

SPARES: COMPLETE FILER SET

**HEATING SECTION DATA** 

TYPE: DIRECT-FIRED BURNER TURNDOWN: 15:1 MINIMUM

GAS SUPPLY: NATURAL GAS INLET PRESSURE: 249 Pa

**HEAT INPUT:** 223.5 Kw (763,253 Btuh) FIELD CONNECTION SIZE: mm **TEMPERATURE RISE:** 57 °C

MODULATING BYPASS

N/A DAMPER:

**ELECTICAL DATA** 

UNIT POWER SUPPLY: 575 VOLTS 3 PHASE 60 HZ CONTROL CIRCUIT: **AMPS** SUPPLY MOTOR F.L.A.: **AMPS** MAX. FUSE (D.E.): **AMPS** MAIN FEEDER AMPACITY: **AMPS** MAX. BREAKER: **AMPS** 

NON FUSED - BY OTHERS DISCONNECT SWITCH:

**CONTROL DATA** 

Applicable Documents: Specification 23 74 00

Drawing E600

Appendix: Headworks Controls

WORK SHEET:	AREA H - HEADWOR	AREA H - HEADWORKS - MUA SPECIFICATIONS	
DES	IGNED BY: DD/JC	CHECKED BY: AG, REV1: JC/DD	
DES	IGN DATE: 2010-06-10	CHECK DATE: 11/30/2010, REV1: 01/24/2011	
CUSTOMER:	CITY OF WINNIPEG, WATER	R AND WASTE DEPARTMENT	
JOB NAME:	WEWPCC HVAC REPLACEN	MENT	
JOB NO.:	CW-10-M660-1		

TAG: H725 - REV1

**GENERAL & CABINET** 

UNIT TYPE: DIRECT FIRED, PACKAGED, MAKE-UP UNIT MODEL NO.: ENG AIR HE, ICE BMA OR APPROVED **EQUAL IN ACCORDANCE WITH B6** AIR UNIT MOUNTING: INDOOR BASE MOUNTED (Heated SERVICE ACCESS DOORS: LEFT HAND, SERVICE DOORS PIANO HINGED c/w 1/4 TURN POSITIVE Space) LOCK CLOSING HARDWARE BOTH SIDES, FULLY INSULATED AND LINED NEOPRENE GASKETTING APPROX. SHIPPING WEIGHT: NO. OF PIECES: 3200 L x 1700 W x 1350 H, WIDTH INCLUDES AN ALLOWANCE FOR THE CONTROL PANEL MAXIMUM DIMENSIONS: INSULATION: 16 GAUGE SATIN COAT GALVANIZED 25 mm, 24 kg/m<sup>3</sup>, PLUS UNDERSIDE CASING: INSULATION C/W SOLID 304 SS STEEL, FORMED CONSTRUCTION, REINFORCED, BRACED TO MANUF'S LINER THROUGHOUT STD C/W LIFTING LUGS, **ELECTROSTATICALLY APPLIED ENAMEL PAINT COATING ON ALL** 

APPROVALS: CSA 3.7, CETL, ETL AND REQUIREMENTS OF LOCAL AHJ (DOL MECHANICAL & ENGINEERING BRANCH)

**EXPOSED SURFACES** 

**SUPPLY AIR DATA** 

MOTOR SERVICE FACTOR:

1.15

81.3 Pa (0.33 inch W.C.) AIR FLOW (NORMAL): 2,540 L/s ESP: AIR FLOW (HIGH RATE): N/A ESP: N/A FAN RATING TO AMCA 210: CLASS 2 (minimum) FAN SIZE: QTY: 1 FAN TYPE: BI OR AIRFOIL RPM: MOUNTING: FREE STANDING WITH RIS VIB TSP: Pa ISOLATION MAX. SOUND POWER LEVEL: dba HOUSING CONST.: STEEL SATIN COAT WHEEL CONST.: BEARING TYPE: PILLOW BLOCK WITH EXTENDED SS SHAFT TYPE: CARBON STEEL MINIMUN C1045 WITH RUST INHIBITOR COATING TUBING TO GREASING NIPPLES ACCESSED FROM MANIFOLD ON EXTERIOR OF UNIT CABINET MOTOR SIZE: 2.24 kW TYPE: HIGH EFFICIENCY, TEFC, 1800 rpm BHP: kW DRIVE: BELT DRIVE, FAN & MOTOR ON PAINTED STEEL, FABRICATED BASE C/W ADJUSTABLE JACKING BOLTS FOR TENSION ADJUSTMENT, SF OF DRIVE 1.5

WORK SHEET: **AREA H - HEADWORKS - MUA SPECIFICATIONS** 

> DESIGNED BY: DD/JC CHECKED BY: AG, REV1: JC/DD

DESIGN DATE: 2010-06-10 CHECK DATE: 11/30/2010, REV1: 01/24/2011

CUSTOMER: CITY OF WINNIPEG, WATER AND WASTE DEPARTMENT

JOB NAME: WEWPCC HVAC REPLACEMENT

JOB NO.: CW-10-M660-1

TAG: H725 - REV1

AIR OPENINGS LOCATION DAMPER TYPE **OPERATION** 

SUPPLY AIR FRONT SUPPLY AIR DISCHARGE: OPEN/CLOSED PARALLEL BLADE, SS-

> CONSTRUCTION, LOW-LEAKAGE, AIR FOIL BLADES, C/W DIRECT MOUNT ELECTRIC ACTUATOR, POSITION OPEN & **CLOSED LIMIT SWITCHES; STD** OF ACCEPTANCE; RUSKIN CD80 DAMPER, GREENHECK HCD DAMPER, HONEYWELL MS

**ACTUATOR** 

RETURN AIR N/A N/A OUTSIDE AIR REAR HORIZONTAL N/A EXHAUST AIR N/A N/A

FILTER DATA (FILTERS MOUNTED IN METAL FRAMES)

QTY/SIZE/TYPE: 50-mm, THROWAWAY, MERV 8, AAF PerfectPleat HC M8

FACE VELOCITY (MAX/ACTUAL): 2.23 m/s (MAX)/ TOTAL GROSS AREA: m<sup>2</sup> m/s (ACT)

FRAME: STAINLESS STEEL METAL FRAME ORIENTATION: **ANGLE** 

SPARES: COMPLETE FILTER SET

**HEATING SECTION DATA** 

TYPE: DIRECT-FIRED BURNER TURNDOWN: 15:1 MINIMUM

GAS SUPPLY: NATURAL GAS

INLET PRESSURE: **HEAT INPUT:** 249 Pa 200 Kw (682,294 Btuh)

FIELD CONNECTION SIZE: mm **TEMPERATURE RISE:** 60 °C

MODULATING BYPASS

N/A DAMPER:

**ELECTICAL DATA** 

UNIT POWER SUPPLY: 575 VOLTS 3 PHASE 60 HZ CONTROL CIRCUIT: **AMPS** SUPPLY MOTOR F.L.A.: **AMPS** MAX. FUSE (D.E.): **AMPS** MAIN FEEDER AMPACITY: **AMPS** MAX. BREAKER: **AMPS** 

NON FUSED - BY OTHERS DISCONNECT SWITCH:

**CONTROL DATA** 

Applicable Documents: Specification 23 74 00

Drawing E600

Appendix: Headworks Controls

WORK SHEET:	AREA U - TUNNELS - MUA	AREA U - TUNNELS - MUA SPECIFICATIONS	
DESI	GNED BY: DD/JC	CHECKED BY: AG, REV1: JC/DD	
DESI	GN DATE: 2010-06-10	CHECK DATE: 11/30/2010, REV1: 01/24/2011	
CUSTOMER:	CITY OF WINNIPEG, WATER AND	WASTE DEPARTMENT	
JOB NAME:	WEWPCC HVAC REPLACEMENT		
JOB NO.:	CW-10-M660-1		

TAG: U600 - REV1

DIRECT FIRED, PACKAGED, MAKE-UP UNIT MODEL NO.:

**GENERAL & CABINET** 

UNIT TYPE:

**EQUAL IN ACCORDANCE WITH B6** AIR UNIT MOUNTING: INDOOR BASE MOUNTED (Heated SERVICE ACCESS DOORS: RIGHT HAND, SERVICE DOORS PIANO HINGED c/w 1/4 TURN Space) POSITIVE LOCK CLOSING HARDWARE BOTH SIDES, FULLY INSULATED AND LINED NEOPRENE GASKETTING 4. MAX DIMENSIONS: 1675 x 2425 APPROX. SHIPPING WEIGHT: NO. OF PIECES: MAXIMUM DIMENSIONS: 4425 L x 2425 W x 1875 H , WIDTH INCLUDES AN ALLOWANCE FOR THE CONTROL PANEL INSULATION: 25 mm, 24 kg/m<sup>3</sup>, PLUS UNDERSIDE CASING: 16 GAUGE SATIN COAT GALVANIZED STEEL, FORMED CONSTRUCTION, INSULATION C/W SOLID 304 SS

INSULATION C/W SOLID 304 SS

LINER THROUGHOUT

REINFORCED, BRACED TO MANUF'S

STD C/W LIFTING LUGS,

ELECTROSTATICALLY APPLIED

ENAMEL PAINT COATING ON ALL EXPOSED SURFACES

ENG AIR HE, ICE BMA OR APPROVED

EXPUSED SURFACI

APPROVALS: CSA 3.7, CETL, ETL AND REQUIREMENTS OF LOCAL AHJ (DOL MECHANICAL & ENGINEERING BRANCH)

**SUPPLY AIR DATA** 

AIR FLOW (NORMAL): 16,990 L/s ESP: 348.7 Pa (1.4 inch W.C.) AIR FLOW (HIGH RATE): ESP: N/A N/A FAN RATING TO AMCA 210: CLASS 2 (minimum) FAN SIZE: QTY: FAN TYPE: BI OR AIRFOIL RPM: MOUNTING: FREE STANDING WITH RIS VIB TSP: Pa ISOLATION MAX. SOUND POWER LEVEL: dba STEEL SATIN COAT HOUSING CONST.: WHEEL CONST.: STEEL BEARING TYPE: PILLOW BLOCK WITH EXTENDED SS SHAFT TYPE: CARBON STEEL MINIMUN C1045 WITH RUST INHIBITOR COATING **TUBING TO GREASING NIPPLES** ACCESSED FROM MANIFOLD ON **EXTERIOR OF UNIT CABINET** MOTOR SIZE: TYPE: HIGH EFFICIENCY, TEFC, 1800 rpm 29.84 kW DRIVE: BHP: BELT DRIVE, FAN & MOTOR ON kW PAINTED STEEL, FABRICATED BASE

C/W ADJUSTABLE JACKING BOLTS
FOR TENSION ADJUSTMENT, SF OF

DRIVE 1.5

WORK SHEET: **AREA U - TUNNELS - MUA SPECIFICATIONS** 

> DESIGNED BY: DD/JC CHECKED BY: AG, REV1: JC/DD

DESIGN DATE: 2010-06-10 CHECK DATE: 11/30/2010, REV1: 01/24/2011

CUSTOMER: CITY OF WINNIPEG, WATER AND WASTE DEPARTMENT

JOB NAME: WEWPCC HVAC REPLACEMENT

FRONT

JOB NO.: CW-10-M660-1

SUPPLY AIR

TAG: U600 - REV1

AIR OPENINGS LOCATION DAMPER TYPE **OPERATION** 

> CONSTRUCTION, LOW-LEAKAGE, AIR FOIL BLADES, C/W DIRECT MOUNT ELECTRIC ACTUATOR, POSITION OPEN & **CLOSED LIMIT SWITCHES; STD** OF ACCEPTANCE; RUSKIN CD80 DAMPER, GREENHECK HCD DAMPER, HONEYWELL MS

SUPPLY AIR DISCHARGE:

PARALLEL BLADE, SS-

OPEN/CLOSED

**ACTUATOR** 

RETURN AIR N/A N/A OUTSIDE AIR REAR HORIZONTAL N/A EXHAUST AIR N/A N/A

FILTER DATA (FILTERS MOUNTED IN METAL FRAMES)

QTY/SIZE/TYPE: 50-mm, THROWAWAY, MERV 8, AAF PerfectPleat HC M8

FACE VELOCITY (MAX/ACTUAL): 2.23 m/s (MAX)/ TOTAL GROSS AREA: m<sup>2</sup> m/s (ACT)

FRAME: STAINLESS STEEL METAL FRAME ORIENTATION: **ANGLE** 

SPARES: COMPLETE FILTER SET

**HEATING SECTION DATA** 

TYPE: DIRECT-FIRED BURNER TURNDOWN: 15:1 MINIMUM

GAS SUPPLY: NATURAL GAS

INLET PRESSURE: **HEAT INPUT:** 249 Pa 1,355 Kw (4,622,354 Btuh)

FIELD CONNECTION SIZE: mm **TEMPERATURE RISE:** 61 °C MODULATING BYPASS

N/A

DAMPER:

**ELECTICAL DATA** 

UNIT POWER SUPPLY: 575 VOLTS 3 PHASE 60 HZ CONTROL CIRCUIT: **AMPS** SUPPLY MOTOR F.L.A.: **AMPS** MAX. FUSE (D.E.): **AMPS** MAIN FEEDER AMPACITY: **AMPS** MAX. BREAKER: **AMPS** 

NON FUSED - BY OTHERS DISCONNECT SWITCH:

**CONTROL DATA** 

Applicable Documents: Specification 23 74 00

Drawing E400

Appendix: Tunnels Controls

WORK SHEET:	AREA S - SECONDARY CLARIFIERS - MUA SPECIFICATIONS	
DESIGNED BY:	DD/IU	CHECKED BY: AG, REV1: JC/DD
DESIGN DATE:	2010-06-10	CHECK DATE: 11/30/2010, REV1: 01/24/2011
CUSTOMER:	CITY OF WINNIPEG, WATER AND WASTI	E DEPARTMENT
JOB NAME:	WEWPCC HVAC REPLACEMENT	
JOB NO.:	CW-10-M660-1	

TAG: \$600 - REV1

**GENERAL & CABINET** 

UNIT TYPE: DIRECT FIRED, PACKAGED, MAKE-UP UNIT MODEL NO.: ENG AIR HE, ICE BMA OR APPROVED **EQUAL IN ACCORDANCE WITH B6** AIR UNIT MOUNTING: INDOOR BASE MOUNTED (Heated SERVICE ACCESS DOORS: RIGHT HAND, SERVICE DOORS PIANO HINGED c/w 1/4 TURN Space) POSITIVE LOCK CLOSING HARDWARE BOTH SIDES, FULLY INSULATED AND LINED NEOPRENE GASKETTING APPROX. SHIPPING WEIGHT: 2.000 kgNO. OF PIECES:  $3725\ L\ x\ 2350\ W\ x\ 1900\ H$  , WIDTH INCLUDES AN ALLOWANCE FOR THE CONTROL PANEL MAXIMUM DIMENSIONS: INSULATION: 16 GAUGE SATIN COAT GALVANIZED 25 mm, 24 kg/m<sup>3</sup>, PLUS UNDERSIDE CASING: INSULATION C/W SOLID 304 SS STEEL, FORMED CONSTRUCTION, REINFORCED, BRACED TO MANUF'S LINER THROUGHOUT STD C/W LIFTING LUGS, **ELECTROSTATICALLY APPLIED ENAMEL PAINT COATING ON ALL EXPOSED SURFACES** 

APPROVALS: CSA 3.7, CETL, ETL AND REQUIREMENTS OF LOCAL AHJ (DOL MECHANICAL & ENGINEERING BRANCH)

**SUPPLY AIR DATA** 

498 Pa (2.0 inch W.C.) AIR FLOW (NORMAL): 8,490 L/s (18,000 cfm) ESP: AIR FLOW (HIGH RATE): 7,547 L/s (16,000 cfm) 212 Pa (0.85 inch W.C.) ESP: FAN RATING TO AMCA 210: CLASS 2 (minimum) FAN SIZE: QTY: FAN TYPE: BI OR AIRFOIL RPM: MOUNTING: FREE STANDING WITH RIS VIB TSP: Pa ISOLATION MAX. SOUND POWER LEVEL: dba HOUSING CONST.: STEEL SATIN COAT WHEEL CONST.: BEARING TYPE: PILLOW BLOCK WITH EXTENDED SS SHAFT TYPE: CARBON STEEL MINIMUN C1045 WITH RUST INHIBITOR COATING TUBING TO GREASING NIPPLES ACCESSED FROM MANIFOLD ON EXTERIOR OF UNIT CABINET MOTOR SIZE: 14.92 kW TYPE: HIGH EFFICIENCY, TEFC, 1800 rpm BHP: kW DRIVE: BELT DRIVE, FAN & MOTOR ON PAINTED STEEL, FABRICATED BASE C/W ADJUSTABLE JACKING BOLTS FOR TENSION ADJUSTMENT, SF OF DRIVE 1.5 MOTOR SERVICE FACTOR: 1.15

WORK SHEET: **AREA S - SECONDARY CLARIFIERS - MUA SPECIFICATIONS** 

> DESIGNED BY: DD/IU CHECKED BY: AG, REV1: JC/DD

DESIGN DATE: 2010-06-10 CHECK DATE: 11/30/2010, REV1: 01/24/2011

DAMPER TYPE

PARALLEL BLADE, SS-

CUSTOMER: CITY OF WINNIPEG, WATER AND WASTE DEPARTMENT

S600 - REV1

LOCATION

JOB NAME: WEWPCC HVAC REPLACEMENT

JOB NO.: CW-10-M660-1

TAG:

AIR OPENINGS

SUPPLY AIR BOTTOM SUPPLY AIR DISCHARGE: OPEN/CLOSED

> CONSTRUCTION, LOW-LEAKAGE, AIR FOIL BLADES, C/W DIRECT MOUNT ELECTRIC ACTUATOR, POSITION OPEN & **CLOSED LIMIT SWITCHES; STD** OF ACCEPTANCE; RUSKIN CD80 DAMPER, GREENHECK HCD DAMPER, HONEYWELL MS

**OPERATION** 

**ACTUATOR** 

RETURN AIR N/A N/A OUTSIDE AIR REAR HORIZONTAL N/A EXHAUST AIR N/A N/A

FILTER DATA (FILTERS MOUNTED IN METAL FRAMES)

QTY/SIZE/TYPE: 50-mm, THROWAWAY, MERV 8, AAF PerfectPleat HC M8

FACE VELOCITY (MAX/ACTUAL): 2.23 m/s (MAX)/ TOTAL GROSS AREA: m<sup>2</sup> m/s (ACT)

FRAME: STAINLESS STEEL METAL FRAME ORIENTATION: **ANGLE** 

SPARES: COMPLETE FILTER SET

**HEATING SECTION DATA** 

TYPE: DIRECT-FIRED BURNER TURNDOWN: 15:1 MINIMUM

GAS SUPPLY: NATURAL GAS INLET PRESSURE:

**HEAT INPUT:** 249 Pa 633 Kw (2,161,695 Btuh) FIELD CONNECTION SIZE: mm **TEMPERATURE RISE:** 

57 °C MODULATING BYPASS

N/A DAMPER:

**ELECTICAL DATA** 

UNIT POWER SUPPLY: 575 VOLTS 3 PHASE 60 HZ CONTROL CIRCUIT: **AMPS** SUPPLY MOTOR F.L.A.: AMPS MAX. FUSE (D.E.): **AMPS** MAIN FEEDER AMPACITY: AMPS MAX. BREAKER: **AMPS** 

DISCONNECT SWITCH: NON FUSED - BY OTHERS

**CONTROL DATA** 

Applicable Documents: Specification 23 74 00

Drawing E200

Appendix: Secondary Clarifiers

**Controls Narrative** 

WORK SHEET:	AREA S - SECONDARY CLARIFIERS - MUA SPECIFICATIONS	
DESIGNED BY:	DD/IU	CHECKED BY: AG, REV1: JC/DD
DESIGN DATE:	2010-06-10	CHECK DATE: 11/30/2010, REV1: 01/24/2011
CUSTOMER:	CITY OF WINNIPEG, WATER AND WAST	TE DEPARTMENT
JOB NAME:	WEWPCC HVAC REPLACEMENT	
JOB NO.:	CW-10-M660-1	

TAG: \$650 - REV1

**GENERAL & CABINET** 

UNIT TYPE: DIRECT FIRED, PACKAGED, MAKE-UP UNIT MODEL NO.: ENG AIR HE, ICE BMA OR APPROVED **EQUAL IN ACCORDANCE WITH B6** AIR UNIT MOUNTING: INDOOR BASE MOUNTED (Heated SERVICE ACCESS DOORS: LEFT HAND, SERVICE DOORS PIANO HINGED c/w 1/4 TURN POSITIVE Space) LOCK CLOSING HARDWARE BOTH SIDES, FULLY INSULATED AND LINED NEOPRENE GASKETTING APPROX. SHIPPING WEIGHT: 2.000 kg NO. OF PIECES:  $3725\ L\ x\ 2350\ W\ x\ 1900\ H$  , WIDTH INCLUDES AN ALLOWANCE FOR THE CONTROL PANEL MAXIMUM DIMENSIONS: INSULATION: 16 GAUGE SATIN COAT GALVANIZED 25 mm, 24 kg/m<sup>3</sup>, PLUS UNDERSIDE CASING: INSULATION C/W SOLID 304 SS STEEL, FORMED CONSTRUCTION, REINFORCED, BRACED TO MANUF'S LINER THROUGHOUT STD C/W LIFTING LUGS, **ELECTROSTATICALLY APPLIED ENAMEL PAINT COATING ON ALL EXPOSED SURFACES** 

APPROVALS: CSA 3.7, CETL, ETL AND REQUIREMENTS OF LOCAL AHJ (DOL MECHANICAL & ENGINEERING BRANCH)

**SUPPLY AIR DATA** 

498 Pa (2.0 inch W.C.) AIR FLOW (NORMAL): 8,490 L/s (18,000 cfm) ESP: AIR FLOW (HIGH RATE): 7,547 L/s (16,000 cfm) 212 Pa (0.85 inch W.C.) ESP: FAN RATING TO AMCA 210: CLASS 2 (minimum) FAN SIZE: QTY: FAN TYPE: BI OR AIRFOIL RPM: MOUNTING: FREE STANDING WITH RIS VIB TSP: Pa ISOLATION MAX. SOUND POWER LEVEL: dba HOUSING CONST.: STEEL SATIN COAT WHEEL CONST.: BEARING TYPE: PILLOW BLOCK WITH EXTENDED SS SHAFT TYPE: CARBON STEEL MINIMUN C1045 TUBING TO GREASING NIPPLES WITH RUST INHIBITOR COATING ACCESSED FROM MANIFOLD ON **EXTERIOR OF UNIT CABINET** MOTOR SIZE: 14.92 kW TYPE: HIGH EFFICIENCY, TEFC, 1800 rpm BHP: kW DRIVE: BELT DRIVE, FAN & MOTOR ON PAINTED STEEL, FABRICATED BASE C/W ADJUSTABLE JACKING BOLTS FOR TENSION ADJUSTMENT, SF OF DRIVE 1.5 MOTOR SERVICE FACTOR: 1.15

WORK SHEET: **AREA S - SECONDARY CLARIFIERS - MUA SPECIFICATIONS** 

> DESIGNED BY: DD/IU CHECKED BY: AG, REV1: JC/DD

DESIGN DATE: 2010-06-10 CHECK DATE: 11/30/2010, REV1: 01/24/2011

CUSTOMER: CITY OF WINNIPEG, WATER AND WASTE DEPARTMENT

S650 - REV1

JOB NAME: WEWPCC HVAC REPLACEMENT

JOB NO.: CW-10-M660-1

TAG:

AIR OPENINGS LOCATION DAMPER TYPE **OPERATION** SUPPLY AIR BOTTOM SUPPLY AIR DISCHARGE: OPEN/CLOSED

> CONSTRUCTION, LOW-LEAKAGE, AIR FOIL BLADES, C/W DIRECT MOUNT ELECTRIC ACTUATOR, POSITION OPEN & **CLOSED LIMIT SWITCHES; STD** OF ACCEPTANCE; RUSKIN CD80 DAMPER, GREENHECK HCD DAMPER, HONEYWELL MS

PARALLEL BLADE, SS-

**ACTUATOR** 

RETURN AIR N/A N/A OUTSIDE AIR REAR HORIZONTAL N/A EXHAUST AIR N/A N/A

FILTER DATA (FILTERS MOUNTED IN METAL FRAMES)

QTY/SIZE/TYPE: 50-mm, THROWAWAY, MERV 8, AAF PerfectPleat HC M8

FACE VELOCITY (MAX/ACTUAL): 2.23 m/s (MAX)/ TOTAL GROSS AREA: m<sup>2</sup> m/s (ACT)

FRAME: STAINLESS STEEL METAL FRAME ORIENTATION: **ANGLE** 

SPARES: COMPLETE FILTER SET

**HEATING SECTION DATA** 

TYPE: DIRECT-FIRED BURNER TURNDOWN: 15:1 MINIMUM

GAS SUPPLY: NATURAL GAS

INLET PRESSURE: **HEAT INPUT:** 249 Pa 633 Kw (2,161,695 Btuh)

FIELD CONNECTION SIZE: mm **TEMPERATURE RISE:** 57 °C

MODULATING BYPASS N/A

DAMPER:

**ELECTICAL DATA** 

UNIT POWER SUPPLY: 575 VOLTS 3 PHASE 60 HZ CONTROL CIRCUIT: **AMPS** SUPPLY MOTOR F.L.A.: AMPS MAX. FUSE (D.E.): **AMPS** MAIN FEEDER AMPACITY: AMPS MAX. BREAKER: **AMPS** 

DISCONNECT SWITCH: NON FUSED - BY OTHERS

**CONTROL DATA** 

Applicable Documents: Specification 23 74 00

Drawing E200

Appendix: Secondary Clarifiers

**Controls Narrative** 

WORK SHEET:		AREA U - MECHANICAL BAY - MUA SPECIFICATIONS	
D	ESIGNED BY:	DD/JC	CHECKED BY: AG, REV1: JC/DD
D	ESIGN DATE:	2010-06-10	CHECK DATE: 11/30/2010, REV1: 01/24/2011
CUSTOMER:		CITY OF WINNIPEG, WATER AND WASTE D	EPARTMENT
JOB NAME:	-	WEWPCC HVAC REPLACEMENT	
JOB NO.:	-	CW-10-M660-1	

TAG: U610 - REV1

**GENERAL & CABINET** 

UNIT TYPE: DIRECT FIRED, PACKAGED, MAKE-UP UNIT MODEL NO.: ENG AIR HE, ICE BMA OR APPROVED **EQUAL IN ACCORDANCE WITH B6** AIR UNIT MOUNTING: INDOOR BASE MOUNTED (Heated SERVICE ACCESS DOORS: RIGHT HAND, SERVICE DOORS PIANO HINGED c/w 1/4 TURN Space) POSITIVE LOCK CLOSING HARDWARE BOTH SIDES, FULLY INSULATED AND LINED NEOPRENE GASKETTING APPROX. SHIPPING WEIGHT: NO. OF PIECES: 3150 L x 1575 W x 1050 H , WIDTH INCLUDES AN ALLOWANCE FOR THE CONTROL PANEL MAXIMUM DIMENSIONS: INSULATION: 16 GAUGE SATIN COAT GALVANIZED 25 mm, 24 kg/m<sup>3</sup>, PLUS UNDERSIDE CASING: INSULATION C/W SOLID 304 SS STEEL, FORMED CONSTRUCTION, REINFORCED, BRACED TO MANUF'S LINER THROUGHOUT STD C/W LIFTING LUGS, **ELECTROSTATICALLY APPLIED ENAMEL PAINT COATING ON ALL EXPOSED SURFACES** 

APPROVALS: CSA 3.7, CETL, ETL AND REQUIREMENTS OF LOCAL AHJ (DOL MECHANICAL & ENGINEERING BRANCH)

**SUPPLY AIR DATA** 

AIR FLOW (NORMAL): 62.5 Pa (0.25 inch W.C.) 2,880 L/s ESP: AIR FLOW (HIGH RATE): N/A ESP: N/A FAN RATING TO AMCA 210: CLASS 2 (minimum) FAN SIZE: QTY: 1 FAN TYPE: BI OR AIRFOIL RPM: MOUNTING: FREE STANDING WITH RIS VIB TSP: Pa ISOLATION MAX. SOUND POWER LEVEL: dba HOUSING CONST.: STEEL SATIN COAT WHEEL CONST.: BEARING TYPE: PILLOW BLOCK WITH EXTENDED SS SHAFT TYPE: CARBON STEEL MINIMUN C1045 WITH RUST INHIBITOR COATING TUBING TO GREASING NIPPLES ACCESSED FROM MANIFOLD ON EXTERIOR OF UNIT CABINET MOTOR SIZE: 3.75 kW TYPE: HIGH EFFICIENCY, TEFC, 1800 rpm BHP: kW DRIVE: BELT DRIVE, FAN & MOTOR ON PAINTED STEEL, FABRICATED BASE C/W ADJUSTABLE JACKING BOLTS FOR TENSION ADJUSTMENT, SF OF DRIVE 1.5 MOTOR SERVICE FACTOR: 1.15

WORK SHEET: **AREA U - MECHANICAL BAY - MUA SPECIFICATIONS** 

DESIGNED BY: DD/JC

DESIGN DATE: 2010-06-10 CHECK DATE: 11/30/2010, REV1: 01/24/2011

CUSTOMER: CITY OF WINNIPEG, WATER AND WASTE DEPARTMENT

JOB NAME: WEWPCC HVAC REPLACEMENT

FRONT

JOB NO.: CW-10-M660-1

SUPPLY AIR

TAG: U610 - REV1

AIR OPENINGS LOCATION DAMPER TYPE **OPERATION** 

SUPPLY AIR DISCHARGE: PARALLEL BLADE, SS-CONSTRUCTION, LOW-

LEAKAGE, AIR FOIL BLADES, C/W DIRECT MOUNT ELECTRIC ACTUATOR, POSITION OPEN & **CLOSED LIMIT SWITCHES; STD** OF ACCEPTANCE; RUSKIN CD80 DAMPER, GREENHECK HCD DAMPER, HONEYWELL MS

CHECKED BY: AG, REV1: JC/DD

OPEN/CLOSED

**ACTUATOR** 

RETURN AIR N/A N/A OUTSIDE AIR REAR HORIZONTAL N/A EXHAUST AIR N/A N/A

FILTER DATA (FILTERS MOUNTED IN METAL FRAMES)

QTY/SIZE/TYPE: 50-mm, THROWAWAY, MERV 8, AAF PerfectPleat HC M8

FACE VELOCITY (MAX/ACTUAL): 2.23 m/s (MAX)/ TOTAL GROSS AREA: m<sup>2</sup> m/s (ACT)

FRAME: STAINLESS STEEL METAL FRAME ORIENTATION: **ANGLE** 

SPARES: COMPLETE FILTER SET

**HEATING SECTION DATA** 

TYPE: DIRECT-FIRED BURNER TURNDOWN: 15:1 MINIMUM GAS SUPPLY: NATURAL GAS

INLET PRESSURE: **HEAT INPUT:** 217 Kw (740,000 Btuh) 249 Pa

FIELD CONNECTION SIZE: mm **TEMPERATURE RISE:** 57.6 °C

MODULATING BYPASS N/A

UNIT POWER SUPPLY: 575 VOLTS 3 PHASE 60 HZ CONTROL CIRCUIT: **AMPS** SUPPLY MOTOR F.L.A.: **AMPS** MAX. FUSE (D.E.): **AMPS** MAIN FEEDER AMPACITY: **AMPS** MAX. BREAKER: **AMPS** 

NON FUSED - BY OTHERS DISCONNECT SWITCH:

**CONTROL DATA** 

**ELECTICAL DATA** 

DAMPER:

Applicable Documents: Specification 23 74 00

Drawing E500

Appendix: Utilities Controls

WORK SHEET:

DESIGNED BY:
DESIGN DATE:

DESIGN DATE:

CUSTOMER:
JOB NAME:
JOB NO.:

AREA U - MECHANICAL BAY - AHU SPECIFICATIONS

CHECKED BY:
AG
CHECK DATE:
DOJIO-01-11-30

CHECK DATE:
DOJIO-11-30

TAG: U605

**GENERAL & CABINET** 

UNIT TYPE:

INDIRECT FIRED, PACKAGED, AIR UNIT MODEL NO.: ENG AIR DJE, ICE GIDMH OR

HANDLER APPROVED EQUAL IN ACCORDANCE

WITH B6

MOUNTING: INDOOR BASE MOUNTED (Heated SERVICE ACCESS DOORS: RIGHT HAND, SERVICE DOORS

PIANO HINGED c/w 1/4 TURN
POSITIVE LOCK CLOSING HARDWARE

BOTH SIDES, FULLY INSULATED AND LINED NEOPRENE GASKETTING

APPROX. SHIPPING WEIGHT: 2,676 kg NO. OF PIECES: 3

Space)

MAXIMUM DIMENSIONS: 3575 L x 2500 W x 1625 H , WIDTH INCLUDES AN ALLOWANCE FOR THE BURNER SECTION

INSULATION: 25 mm, 24 kg/m³, PLUS UNDERSIDE CASING: 16 GAUGE SATIN COAT GALVANIZED

INSULATION C/W SOLID 304 SS STEEL, FORMED CONSTRUCTION, LINER THROUGHOUT SEINFORCED, BRACED TO MANUF'S

STD C/W LIFTING LUGS, ELECTROSTATICALLY APPLIED ENAMEL PAINT COATING ON ALL

EXPOSED SURFACES

APPROVALS: CSA 3.7, CETL, ETL AND REQUIREMENTS OF LOCAL AHJ (DOL MECHANICAL & ENGINEERING BRANCH)

SUPPLY AIR DATA

AIR FLOW (NORMAL): 7,080 L/s ESP: 142 Pa (0.57 inch W.C.)

AIR FLOW (HIGH RATE): N/A ESP: N/A

FAN RATING TO AMCA 210: CLASS 2 (minimum)

FAN SIZE: QTY: 1
FAN TYPE: BI OR AIRFOIL RPM:

MOUNTING: FREE STANDING WITH RIS VIB TSP: Pa

ISOLATION MAX. SOUND POWER LEVEL: dba

HOUSING CONST.: STEEL SATIN COAT WHEEL CONST.: STEEL

BEARING TYPE: PILLOW BLOCK WITH EXTENDED SS SHAFT TYPE: CARBON STEEL MINIMUN C1045
TUBING TO GREASING NIPPLES WITH RUST INHIBITOR COATING

TUBING TO GREASING NIPPLES
ACCESSED FROM MANIFOLD ON
EXTERIOR OF UNIT CABINET

MOTOR SIZE: 11.19 kW TYPE: HIGH EFFICIENCY, TEFC, 1800 rpm

BHP: kW DRIVE: BELT DRIVE, FAN & MOTOR ON

PAINTED STEEL, FABRICATED BASE C/W ADJUSTABLE JACKING BOLTS FOR TENSION ADJUSTMENT, SF OF

DRIVE 1.5

WORK SHEET: **AREA U - MECHANICAL BAY - AHU SPECIFICATIONS** 

DESIGNED BY: DD/JC

DESIGN DATE: 2010-06-10 CHECK DATE: 2010-11-30

CUSTOMER: CITY OF WINNIPEG, WATER AND WASTE DEPARTMENT

JOB NAME: WEWPCC HVAC REPLACEMENT

JOB NO.: CW-10-M660-1

TAG: U605

**AIR OPENINGS** LOCATION DAMPER TYPE **OPERATION** 

SUPPLY AIR FRONT

RETURN AIR TOP RETURN AIR INTAKE: PARALLEL MODULATING

> BLADE, SS-CONSTRUCTION, LOW-LEAKAGE, AIR FOIL BLADES, C/W DIRECT MOUNT ELECTRIC ACTUATOR; STD OF ACCEPTANCE; RUSKIN CD80 DAMPER, GREENHECK HCD DAMPER, HONEYWELL MS

CHECKED BY: AG

**ACTUATOR** 

OUTSIDE AIR REAR HORIZONTAL OUTSIDE AIR INTAKE: PARALLEL MODULATING

> BLADE, SS-CONSTRUCTION, LOW-LEAKAGE, AIR FOIL BLADES, C/W DIRECT MOUNT **ELECTRIC ACTUATOR; STD OF** ACCEPTANCE; RUSKIN CD80 DAMPER, GREENHECK HCD DAMPER, HONEYWELL MS

**ACTUATOR** 

EXHAUST AIR N/A N/A

**COMPLETE FILTER SET** 

FILTER DATA (FILTERS MOUNTED IN METAL FRAMES)

QTY/SIZE/TYPE: 50-mm, THROWAWAY, MERV 8, AAF PerfectPleat HC M8

TOTAL GROSS AREA: FACE VELOCITY (MAX/ACTUAL): m<sup>2</sup> 2.23 m/s (MAX)/ m/s (ACT)

FRAME: STAINLESS STEEL METAL FRAME **ORIENTATION: ANGLE** 

MIXED AIR SECTION

SPARES:

BAFFLING: NO ACCESS SIDE: RIGHT RELIEF: RELIEF AIR DAMPER: NONE

OUTDOOR AIR DAMPER: MOTORIZED. MODULATING RETURN AIR DAMPER: MOTORIZED, MODULATING

OUTDOOR AIR REQUIREMENT: 29%

**HEATING SECTION DATA** 

TYPE: INDIRECT-FIRED BURNER TURNDOWN: 15:1 MINIMUM

GAS SUPPLY: **NATURAL GAS HEAT INPUT:** 263.8 kW (900,000 Btuh) INLET PRESSURE: 249 Pa **HEAT OUTPUT:** 215 kW (733,610 Btuh)

FIELD CONNECTION SIZE: **TEMPERATURE RISE:** 25 °C mm

MODULATING BYPASS DAMPER:

N/A

**FIXED PLATE HEAT EXCHANGER** 

PRIMARY MATERIAL: STAINLESS STEEL SECONDARY MATERIAL: STAINLESS STEEL

DRAIN PAN: STAINLESS STEEL

**ELECTICAL DATA** 

UNIT POWER SUPPLY: 575 VOLTS 3 PHASE 60 HZ CONTROL CIRCUIT: **AMPS** SUPPLY MOTOR F.L.A.: **AMPS** MAX. FUSE (D.E.): **AMPS** MAIN FEEDER AMPACITY: AMPS MAX. BREAKER: AMPS

DISCONNECT SWITCH: NON FUSED - BY OTHERS WORK SHEET: **AREA U - MECHANICAL BAY - AHU SPECIFICATIONS** 

DESIGNED BY: DD/JC

CHECKED BY: AG
CHECK DATE: 2010-11-30 DESIGN DATE: 2010-06-10

CUSTOMER: JOB NAME: CITY OF WINNIPEG, WATER AND WASTE DEPARTMENT WEWPCC HVAC REPLACEMENT

JOB NO.: CW-10-M660-1

TAG: U605

CONTROL DATA

Applicable Documents: Specification 23 74 00

Drawing E500

Appendix: Utilities Controls Narrative

WORK SHEET:		AREA U - MECHANICAL BAY - AHU SPECIFICATIONS		
[	DESIGNED BY:	DD/JC	CHECKED BY: AG	
[	DESIGN DATE:	2010-06-10	CHECK DATE: 2010-11-30	
CUSTOMER:		CITY OF WINNIPEG, WATER AND WASTE D	EPARTMENT	
JOB NAME:		WEWPCC HVAC REPLACEMENT		
JOB NO.:		CW-10-M660-1		

TAG: U640 - REV1

**GENERAL & CABINET** 

UNIT TYPE: INDIRECT FIRED, PACKAGED, AIR UNIT MODEL NO.: ENG AIR DJE, ICE GIDMH OR

HANDLER APPROVED EQUAL IN ACCORDANCE

WITH B6

MOUNTING: INDOOR BASE MOUNTED (Heated SERVICE ACCESS DOORS: LEFT HAND, SERVICE DOORS PIANO

HINGED c/w 1/4 TURN POSITIVE LOCK CLOSING HARDWARE BOTH SIDES, FULLY INSULATED AND LINED

NEOPRENE GASKETTING

APPROX. SHIPPING WEIGHT: 1,497 kg NO. OF PIECES: 1

MAXIMUM DIMENSIONS: 2625 L x 2000 W x 1200 H , WIDTH INCLUDES AN ALLOWANCE FOR THE BURNER SECTION

INSULATION: 25 mm, 24 kg/m³ , PLUS UNDERSIDE CASING: 16 GAUGE SATIN COAT GALVANIZED

INSULATION C/W SOLID 304 SS STEEL, FORMED CONSTRUCTION,
LINER THROUGHOUT REINFORCED, BRACED TO MANUF'S

STD C/W LIFTING LUGS,
ELECTROSTATICALLY APPLIED

ENAMEL PAINT COATING ON ALL

EXPOSED SURFACES

APPROVALS: CSA 3.7, CETL, ETL AND REQUIREMENTS OF LOCAL AHJ (DOL MECHANICAL & ENGINEERING BRANCH)

**SUPPLY AIR DATA** 

AIR FLOW (NORMAL): 4,267 L/s ESP: 597.8 Pa (2.4 inch W.C.)

AIR FLOW (HIGH RATE): N/A ESP: N/A

FAN RATING TO AMCA 210: CLASS 2 (minimum)

FAN SIZE: QTY: 1 FAN TYPE: BI OR AIRFOIL RPM:

MOUNTING: FREE STANDING WITH RIS VIB TSP: Pa

ISOLATION MAX. SOUND POWER LEVEL: dba

Space)

HOUSING CONST.: STEEL SATIN COAT WHEEL CONST.: STEEL

BEARING TYPE: PILLOW BLOCK WITH EXTENDED SS SHAFT TYPE: CARBON STEEL MINIMUN C1045

TUBING TO GREASING NIPPLES WITH RUST INHIBITOR COATING ACCESSED FROM MANIFOLD ON

EXTERIOR OF UNIT CABINET

MOTOR SIZE: 11.19 kW TYPE: HIGH EFFICIENCY, TEFC, 1800 rpm

BHP: kW DRIVE: BELT DRIVE, FAN & MOTOR ON

PAINTED STEEL, FABRICATED BASE C/W ADJUSTABLE JACKING BOLTS FOR TENSION ADJUSTMENT, SF OF

DRIVE 1.5

WORK SHEET: AREA U - MECHANICAL BAY - AHU SPECIFICATIONS

DESIGNED BY: DD/JC CHECKED BY: AG

DESIGN DATE: 2010-06-10 CHECK DATE: 2010-11-30

CUSTOMER: CITY OF WINNIPEG, WATER AND WASTE DEPARTMENT

JOB NAME: WEWPCC HVAC REPLACEMENT

JOB NO.: CW-10-M660-1

TAG: U640 - REV1

AIR OPENINGS LOCATION DAMPER TYPE OPERATION

SUPPLY AIR FRONT

RETURN AIR TOP RETURN AIR INTAKE: PARALLEL MODULATING

BLADE, SS-CONSTRUCTION, LOW-LEAKAGE, AIR FOIL BLADES, C/W DIRECT MOUNT ELECTRIC ACTUATOR; STD OF ACCEPTANCE; RUSKIN CD80 DAMPER, GREENHECK HCD DAMPER, HONEYWELL MS

**ACTUATOR** 

OUTSIDE AIR REAR HORIZONTAL OUTSIDE AIR INTAKE: PARALLEL MODULATING

BLADE, SS-CONSTRUCTION, LOW-LEAKAGE, AIR FOIL BLADES, C/W DIRECT MOUNT ELECTRIC ACTUATOR; STD OF ACCEPTANCE; RUSKIN CD80 DAMPER, GREENHECK HCD DAMPER, HONEYWELL MS

m/s (ACT)

**ACTUATOR** 

EXHAUST AIR N/A N/A

FILTER DATA (FILTERS MOUNTED IN METAL FRAMES)

QTY/SIZE/TYPE: 50-mm, THROWAWAY, MERV 8, AAF PerfectPleat HC M8

TOTAL GROSS AREA: m<sup>2</sup> FACE VELOCITY (MAX/ACTUAL): 2.23 m/s (MAX)/

FRAME: STAINLESS STEEL METAL FRAME ORIENTATION: ANGLE

SPARES: COMPLETE FILTER SET

MIXED AIR SECTION

BAFFLING: NO ACCESS SIDE: LEFT

RELIEF: NO RELIEF AIR DAMPER: NONE

OUTDOOR AIR DAMPER: MOTORIZED. MODULATING RETURN AIR DAMPER: MOTORIZED, MODULATING

OUTDOOR AIR REQUIREMENT: 7%

**HEATING SECTION DATA** 

 TYPE:
 INDIRECT-FIRED
 BURNER TURNDOWN:
 15:1 MINIMUM

 GAS SUPPLY:
 NATURAL GAS
 HEAT INPUT:
 106 kW (361, 688 Btuh)

 INLET PRESSURE:
 249 Pa
 HEAT OUTPUT:
 84.8 Kw (289,350 Btuh)

FIELD CONNECTION SIZE: mm TEMPERATURE RISE: 17 °C

MODULATING BYPASS

DAMPER: N/A

**FIXED PLATE HEAT EXCHANGER** 

PRIMARY MATERIAL: STAINLESS STEEL
SECONDARY MATERIAL: STAINLESS STEEL
DRAIN PAN: STAINLESS STEEL

ELECTICAL DATA

UNIT POWER SUPPLY: 575 VOLTS 3 PHASE 60 HZ CONTROL CIRCUIT: AMPS
SUPPLY MOTOR F.L.A.: AMPS MAX. FUSE (D.E.): AMPS
MAIN FEEDER AMPACITY: AMPS MAX. BREAKER: AMPS

DISCONNECT SWITCH: NON FUSED - BY OTHERS

WORK SHEET:

DESIGNED BY:
DESIGN DATE:
DESIGN DATE:

CUSTOMER:
JOB NAME:
JOB NO.:

AREA U - MECHANICAL BAY - AHU SPECIFICATIONS

CHECKED BY: AG
CHECK DATE: 2010-11-30

CHECK DATE:
DOJ.
CHECK DATE: 2010-11-30

TAG: U640 - REV1

**CONTROL DATA** 

Applicable Documents: Specification 23 74 00

Drawing E500

Appendix: Utilities Controls

WORK SHEET:

DESIGNED BY:
DESIGN DATE:

CUSTOMER:
JOB NAME:
JOB NO.:

AREA P - PRIMARY CLARIFIERS - MUA SPECIFICATIONS
CHECKED BY: AG, REV1: JC/DD
CHECK DATE: 11/30/2010, REV1: 01/24/2011

TAG: P600 - REV1

**GENERAL & CABINET** 

UNIT TYPE: DIRECT FIRED, PACKAGED, MAKE-UP UNIT MODEL NO.: ENG AIR DJE, ICE GIDMH OR

AIR UNIT APPROVED EQUAL IN ACCORDANCE

WITH B6

MOUNTING: INDOOR BASE MOUNTED (Heated SERVICE ACCESS DOORS: LEFT HAND, SERVICE DOORS PIANO

Space) HINGED c/w 1/4 TURN POSITIVE
LOCK CLOSING HARDWARE BOTH
SIDES, FULLY INSULATED AND LINED

NEOPRENE GASKETTING

APPROX. SHIPPING WEIGHT: 2,000 kg NO. OF PIECES: 1

MAXIMUM DIMENSIONS: 3725 L x 2350 W x 1900 H , WIDTH INCLUDES AN ALLOWANCE FOR THE CONTROL PANEL

INSULATION: 25 mm, 24 kg/m³, PLUS UNDERSIDE CASING: 16 GAUGE SATIN COAT GALVANIZED

INSULATION C/W SOLID 304 SS STEEL, FORMED CONSTRUCTION,
LINER THROUGHOUT REINFORCED, BRACED TO MANUF'S

STD C/W LIFTING LUGS,
ELECTROSTATICALLY APPLIED
ENAMEL PAINT COATING ON ALL

**EXPOSED SURFACES** 

APPROVALS: CSA 3.7, CETL, ETL AND REQUIREMENTS OF LOCAL AHJ (DOL MECHANICAL & ENGINEERING BRANCH)

**SUPPLY AIR DATA** 

 AIR FLOW (NORMAL):
 8,490 L/s (18,000 cfm)
 ESP: 224.2 Pa (0.9 inch W.C.)

 AIR FLOW (HIGH RATE):
 7,547 L/s (16,000 cfm)
 ESP: 485.7 Pa (1.95 inch W.C.)

FAN RATING TO AMCA 210: CLASS 2 (minimum)

FAIN RATING TO AIVICA 210: CLASS 2 (MINIMUM)

FAN SIZE: QTY: 1
FAN TYPE: BI OR AIRFOIL RPM:

MOUNTING: FREE STANDING WITH RIS VIB TSP: Pa

ISOLATION

MAX. SOUND POWER LEVEL: dba

HOUSING CONST.: STEEL SATIN COAT WHEEL CONST.: STEEL

BEARING TYPE: PILLOW BLOCK WITH EXTENDED SS SHAFT TYPE: CARBON STEEL MINIMUN C1045
TUBING TO GREASING NIPPLES WITH RUST INHIBITOR COATING

ACCESSED FROM MANIFOLD ON EXTERIOR OF UNIT CABINET

MOTOR SIZE: 14.92 kW TYPE: HIGH EFFICIENCY, TEFC, 1800 rpm

BHP: kW DRIVE: BELT DRIVE, FAN & MOTOR ON

PAINTED STEEL, FABRICATED BASE C/W ADJUSTABLE JACKING BOLTS FOR TENSION ALIGNMENT ADJUSTMENT, SF OF DRIVE 1.5

WORK SHEET: **AREA P - PRIMARY CLARIFIERS - MUA SPECIFICATIONS** 

> DESIGNED BY: DD/IU CHECKED BY: AG, REV1: JC/DD

DESIGN DATE: 2010-06-10 CHECK DATE: 11/30/2010, REV1: 01/24/2011

CUSTOMER: CITY OF WINNIPEG, WATER AND WASTE DEPARTMENT

JOB NAME: WEWPCC HVAC REPLACEMENT

JOB NO.: CW-10-M660-1

TAG: P600 - REV1

AIR OPENINGS LOCATION DAMPER TYPE OPERATION

SUPPLY AIR TOP SUPPLY AIR DISCHARGE OPEN/CLOSED INTEGRAL TO UNIT: PARALLEL

> BLADE, SS-CONSTRUCTION, LOW-LEAKAGE, AIR FOIL BLADES, C/W DIRECT MOUNT **ELECTRIC ACTUATOR, POSITION**

**OPEN & CLOSED LIMIT** SWITCHES; STD OF

ACCEPTANCE; RUSKIN CD80AF3 DAMPER, GREENHECK HCD230 DAMPER, HONEYWELL MS

**ACTUATOR** 

RETURN AIR N/A N/A OUTSIDE AIR REAR HORIZONTAL N/A EXHAUST AIR N/A N/A

FILTER DATA (FILTERS MOUNTED IN METAL FRAMES)

50-mm, THROWAWAY, MERV 8, AAF PerfectPleat HC M8 QTY/SIZE/TYPE:

FACE VELOCITY (MAX/ACTUAL): 2.23 m/s (MAX)/ TOTAL GROSS AREA:  $m^2$ m/s (ACT)

FRAME: STAINLESS STEEL METAL FRAME **ORIENTATION:** ANGLE

SPARES: COMPELTE FILTER SET

**HEATING SECTION DATA** 

TYPE: DIRECT-FIRED BURNER TURNDOWN: 15:1 MINIMUM

GAS SUPPLY: NATURAL GAS

INLET PRESSURE: 249 Pa **HEAT INPUT, kW:** 633 Kw (2,161,695 Btuh)

FIELD CONNECTION SIZE: mm TEMPERATURE RISE: 57 °C

MODULATING BYPASS N/A

DAMPER:

**ELECTICAL DATA** 

UNIT POWER SUPPLY: CONTROL CIRCUIT: 575 VOLTS 3 PHASE 60 HZ AMPS SUPPLY MOTOR F.L.A.: **AMPS** MAX. FUSE (D.E.): **AMPS AMPS** MAX. BREAKER: **AMPS** 

MAIN FEEDER AMPACITY: NON FUSED - BY OTHERS DISCONNECT SWITCH:

**CONTROL DATA** 

Applicable Documents: Specification 23 74 00

Drawing E100

Appendix: Primary Clarifiers

**Controls Narrative** 

WORK SHEET:	AREA P - PRIMARY CLARI	AREA P - PRIMARY CLARIFIERS - MUA SPECIFICATIONS	
DES	IGNED BY: DD/IU	CHECKED BY: AG, REV1: JC/DD	
DES	IGN DATE: 2010-06-10	CHECK DATE: 11/30/2010, REV1: 01/24/2011	
CUSTOMER:	CITY OF WINNIPEG, WATER AND	WASTE DEPARTMENT	
JOB NAME:	WEWPCC HVAC REPLACEMENT		
JOB NO.:	CW-10-M660-1		

TAG: P650 - REV1

**GENERAL & CABINET** 

UNIT TYPE: DIRECT FIRED, PACKAGED, MAKE-UP UNIT MODEL NO.: ENG AIR DJE, ICE GIDMH OR AIR UNIT APPROVED EQUAL IN ACCORDANCE WITH B6 MOUNTING: INDOOR BASE MOUNTED (Heated SERVICE ACCESS DOORS: RIGHT HAND, SERVICE DOORS PIANO HINGED c/w 1/4 TURN Space) POSITIVE LOCK CLOSING HARDWARE BOTH SIDES, FULLY INSULATED AND LINED NEOPRENE GASKETTING APPROX. SHIPPING WEIGHT: 2.000 kg NO. OF PIECES:  $3725\ L\ x\ 2350\ W\ x\ 1900\ H$  , WIDTH INCLUDES AN ALLOWANCE FOR THE CONTROL PANEL MAXIMUM DIMENSIONS: INSULATION: 16 GAUGE SATIN COAT GALVANIZED 25 mm, 24 kg/m<sup>3</sup>, PLUS UNDERSIDE CASING: INSULATION C/W SOLID 304 SS STEEL, FORMED CONSTRUCTION, REINFORCED, BRACED TO MANUF'S LINER THROUGHOUT STD C/W LIFTING LUGS, **ELECTROSTATICALLY APPLIED ENAMEL PAINT COATING ON ALL** 

**EXPOSED SURFACES** 

APPROVALS: CSA 3.7, CETL, ETL AND REQUIREMENTS OF LOCAL AHJ (DOL MECHANICAL & ENGINEERING BRANCH)

**SUPPLY AIR DATA** 

224.2 Pa (0.9 inch W.C.) AIR FLOW (NORMAL): 8,490 L/s (18,000 cfm) ESP: AIR FLOW (HIGH RATE): 7,547 L/s (16,000 cfm) ESP: 485.7 Pa (1.95 inch W.C.) FAN RATING TO AMCA 210: CLASS 2 (minimum) FAN SIZE: QTY: FAN TYPE: BI OR AIRFOIL RPM: MOUNTING: FREE STANDING WITH RIS VIB TSP: Pa ISOLATION MAX. SOUND POWER LEVEL: dba HOUSING CONST.: STEEL SATIN COAT WHEEL CONST.: BEARING TYPE: PILLOW BLOCK WITH EXTENDED SS SHAFT TYPE: **CARBON STEEL MINIMUN C1045** TUBING TO GREASING NIPPLES WITH RUST INHIBITOR COATING ACCESSED FROM MANIFOLD ON EXTERIOR OF UNIT CABINET MOTOR SIZE: 14.92 kW TYPE: HIGH EFFICIENCY, TEFC, 1800 rpm BHP: kW DRIVE: BELT DRIVE, FAN & MOTOR ON PAINTED STEEL, FABRICATED BASE C/W ADJUSTABLE JACKING BOLTS FOR TENSION ADJUSTMENT, SF OF DRIVE 1.5 MOTOR SERVICE FACTOR: 1.15

WORK SHEET: **AREA P - PRIMARY CLARIFIERS - MUA SPECIFICATIONS** 

DESIGNED BY: DD/IU

DESIGN DATE: 2010-06-10 CHECK DATE: 11/30/2010, REV1: 01/24/2011

CUSTOMER: CITY OF WINNIPEG, WATER AND WASTE DEPARTMENT

JOB NAME: WEWPCC HVAC REPLACEMENT

JOB NO.: CW-10-M660-1

TAG: P650 - REV1

AIR OPENINGS LOCATION DAMPER TYPE OPERATION

SUPPLY AIR TOP SUPPLY AIR DISCHARGE: OPEN/CLOSED PARALLEL BLADE, SS-

> CONSTRUCTION, LOW-LEAKAGE, AIR FOIL BLADES, C/W DIRECT MOUNT ELECTRIC ACTUATOR, POSITION OPEN & **CLOSED LIMIT SWITCHES; STD** OF ACCEPTANCE; RUSKIN CD80 DAMPER, GREENHECK HCD DAMPER, HONEYWELL MS

CHECKED BY: AG, REV1: JC/DD

**ACTUATOR** 

RETURN AIR N/A N/A OUTSIDE AIR REAR HORIZONTAL N/A EXHAUST AIR N/A N/A

FILTER DATA (FILTERS MOUNTED IN METAL FRAMES)

QTY/SIZE/TYPE: 50-mm, THROWAWAY, MERV 8, AAF PerfectPleat HC M8

FACE VELOCITY (MAX/ACTUAL): 2.23 m/s (MAX)/ TOTAL GROSS AREA: m<sup>2</sup> m/s (ACT)

FRAME: STAINLESS STEEL METAL FRAME ORIENTATION: **ANGLE** 

SPARES: COMPLETE FILTER SET

**HEATING SECTION DATA** 

TYPE: DIRECT-FIRED BURNER TURNDOWN: 15:1 MINIMUM GAS SUPPLY: NATURAL GAS

INLET PRESSURE: HEAT INPUT, kW: 249 Pa 633 Kw (2,161,695 Btuh)

FIELD CONNECTION SIZE: TEMPERATURE RISE: mm 57 °C

MODULATING BYPASS N/A

**ELECTICAL DATA** 

DAMPER:

UNIT POWER SUPPLY: 575 VOLTS 3 PHASE 60 HZ CONTROL CIRCUIT: **AMPS** SUPPLY MOTOR F.L.A.: AMPS MAX. FUSE (D.E.): **AMPS** MAIN FEEDER AMPACITY: AMPS MAX. BREAKER: **AMPS** 

DISCONNECT SWITCH: NON FUSED - BY OTHERS

**CONTROL DATA** 

Applicable Documents: Specification 23 74 00

Drawing E100

**Appendix: Primary Clarifiers** 

**Controls Narrative**