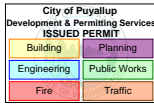
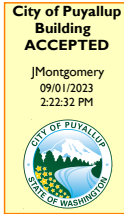


PRMH20231198

FULL SIZED LEDGIBLE PLANS ARE
REQUIRED TO BE PROVIDED BY THE
PERMITTEE ON SITE FOR ALL
INSPECTIONS

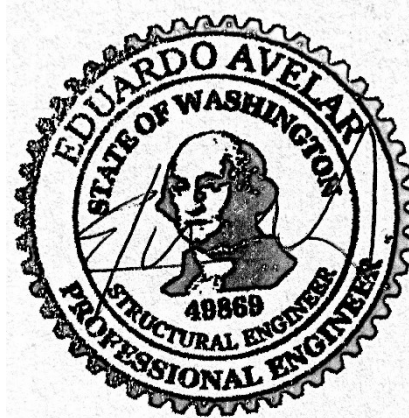


Meridian Shopping Center 4417 S. Meridian Ave Puyallup, WA

Roof Top Mechanical Equipment Anchorage

Prepared For:
Attn: Kevin Hayes
Auburn Mechanical
2623 W. Valley Hwy N
Auburn, WA 98001

ACD Engineering Job # 2023-23022





GENERAL STRUCTURAL NOTES
CRITERIA

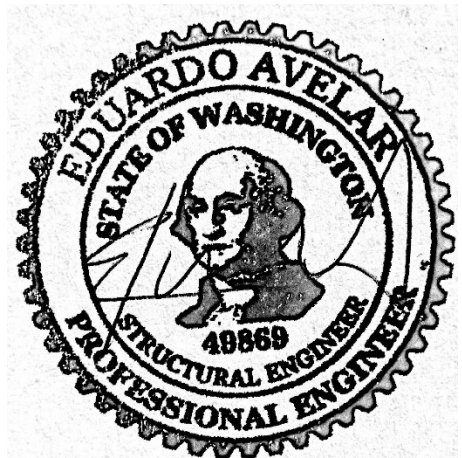
1. ALL MATERIALS, WORKMANSHIP, DESIGN, AND CONSTRUCTION SHALL CONFORM TO THE DRAWINGS, SPECIFICATIONS, AND THE 2018 INTERNATIONAL BUILDING CODE.
2. DESIGN LOADING CRITERIA

MECHANICAL UNITS WEIGHTS FURNISHED BY MANUFACTURER
 SNOW Ce=1.0, Is=1.0, Ct=1.1, Pg=25 PSF, Pf=20 PSF
 WIND Iw=1.0, GCpi=0.18, 110 MPH, EXPOSURE "B"
 EARTHQUAKE . . . ANALYSIS PROCEDURE: SEISMIC DEMANDS ON NONSTRUCTURAL COMPONENTS
 LATERAL SYSTEM: MECHANICAL EQUIPMENT, Fp = 0.51wp (ULT)
 SITE CLASS=D, Ss=1.296, Sds=1.037, S1=0.446, SD1=Nu1,
 SDC D, Ip=1.0, Rp=2.5

SEE PLANS FOR ADDITIONAL LOADING CRITERIA

3. STRUCTURAL DRAWINGS SHALL BE USED IN CONJUNCTION WITH MECHANICAL DRAWINGS FOR BIDDING AND CONSTRUCTION. CONTRACTOR SHALL VERIFY DIMENSIONS AND CONDITIONS FOR COMPATIBILITY AND SHALL NOTIFY ARCHITECT OF ANY DISCREPANCIES PRIOR TO CONSTRUCTION.
4. CONTRACTOR SHALL VERIFY ALL EXISTING DIMENSIONS, MEMBER SIZES, AND CONDITIONS PRIOR TO COMMENCING ANY WORK. ALL DIMENSIONS OF EXISTING CONSTRUCTION SHOWN ON THE DRAWINGS ARE INTENDED AS GUIDELINES ONLY AND MUST BE VERIFIED.
5. CONTRACTOR SHALL BE RESPONSIBLE FOR ALL SAFETY PRECAUTIONS AND THE METHODS, TECHNIQUES, SEQUENCES OR PROCEDURES REQUIRED TO PERFORM THE CONTRACTORS WORK. THE STRUCTURAL ENGINEER HAS NO OVERALL SUPERVISORY AUTHORITY OR ACTUAL AND/OR DIRECT RESPONSIBILITY FOR THE SPECIFIC WORKING CONDITIONS AT THE SITE AND/OR FOR ANY HAZARDS RESULTING FROM THE ACTIONS OF ANY TRADE CONTRACTOR. THE STRUCTURAL ENGINEER HAS NO DUTY TO INSPECT, SUPERVISE, NOTE, CORRECT, OR REPORT ANY HEALTH OR SAFETY DEFICIENCIES TO THE OWNER, CONTRACTORS, OR OTHER ENTITIES OR PERSONS AT THE PROJECT SITE.
6. CONTRACTOR-INITIATED CHANGES SHALL BE SUBMITTED IN WRITING TO THE MECHANICAL AND STRUCTURAL ENGINEER FOR APPROVAL PRIOR TO FABRICATION OR CONSTRUCTION. CHANGES SHOWN ON SHOP DRAWINGS ONLY WILL NOT SATISFY THIS REQUIREMENT.
7. DRAWINGS INDICATE GENERAL AND TYPICAL DETAILS OF CONSTRUCTION. WHERE CONDITIONS ARE NOT SPECIFICALLY INDICATED BUT ARE OF SIMILAR CHARACTER TO DETAILS SHOWN, SIMILAR DETAILS OF CONSTRUCTION SHALL BE USED, SUBJECT TO REVIEW AND APPROVAL BY THE ARCHITECT AND THE STRUCTURAL ENGINEER.

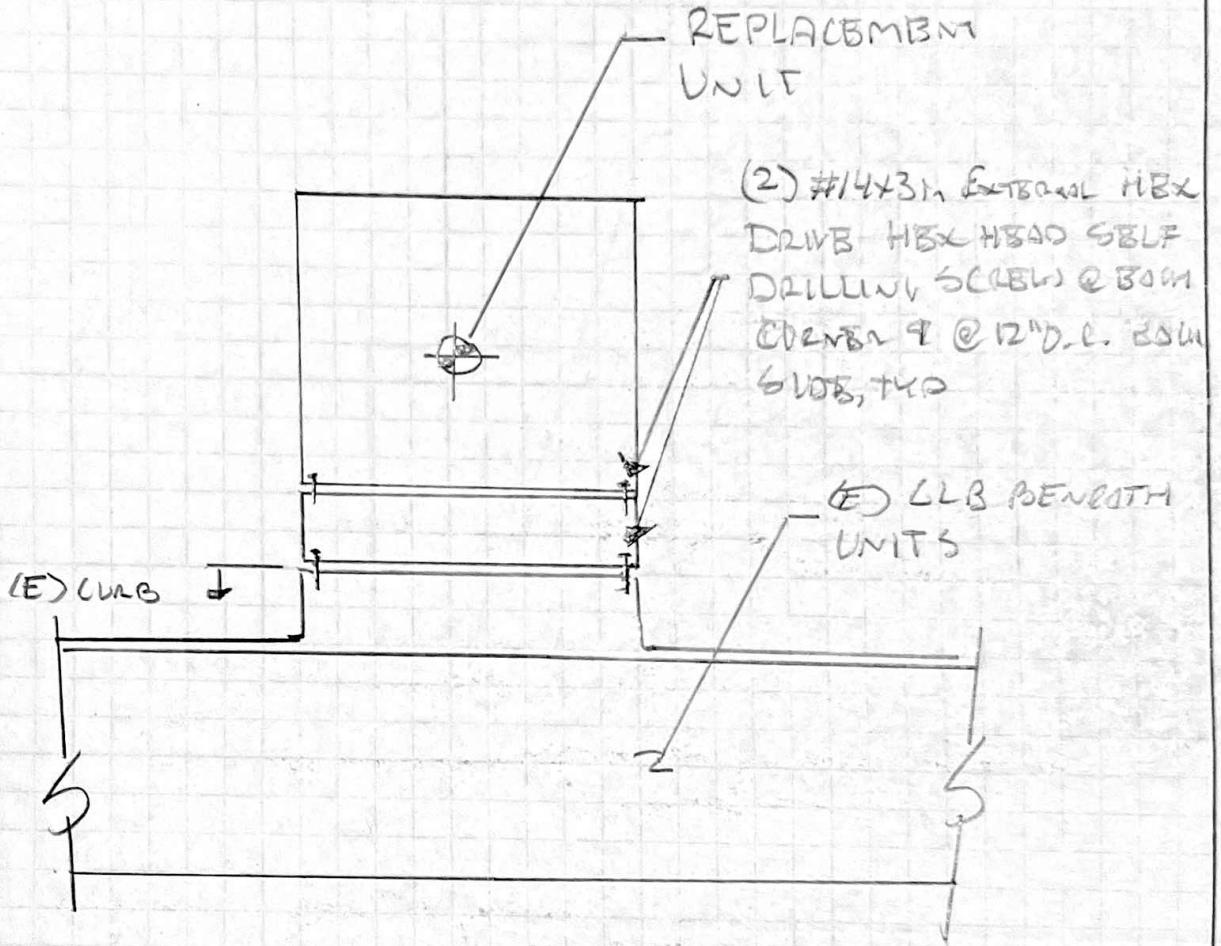
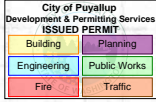
SSK-1 Structural Notes



NOTES:

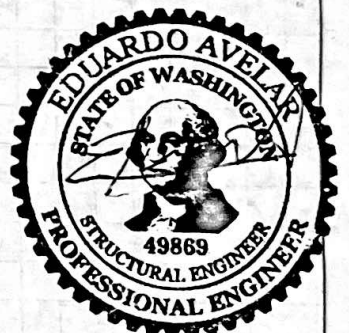
WATERPROOFING BY DIHECI

PRMH20231198



Signed: 8-7-23

SOL-2 UNIT # 1,3,4,5
N.T.S.

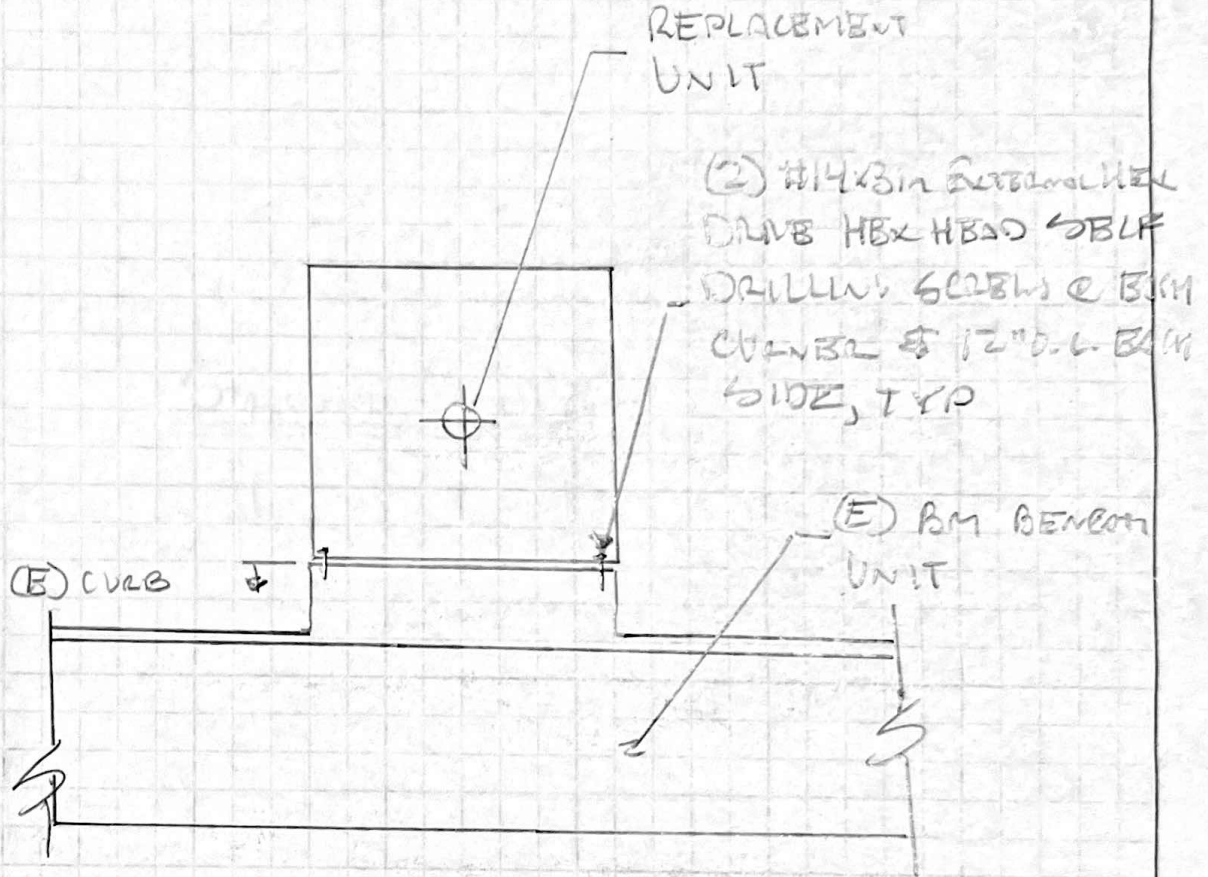


NOTES:

WATER PROOFING BY OTHERS

PRMH20231198

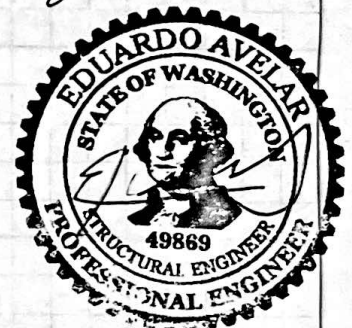
City of Puyallup Development & Permitting Services ISSUED PERMIT	
Building	Planning
Engineering	Public Works
Fire	Traffic



Signed 8-7-23

5502-3 RTU #2

 N.T.S.



MERIDIAN SHOPPING Center

PRMH20231198

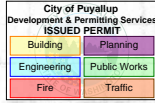
City of Puyallup
Development & Permitting Services

ISSUED PERMIT

Building	Planning
Engineering	Public Works
Fire	Traffic

STRUCTURAL CALCULATIONS

SCOPE:



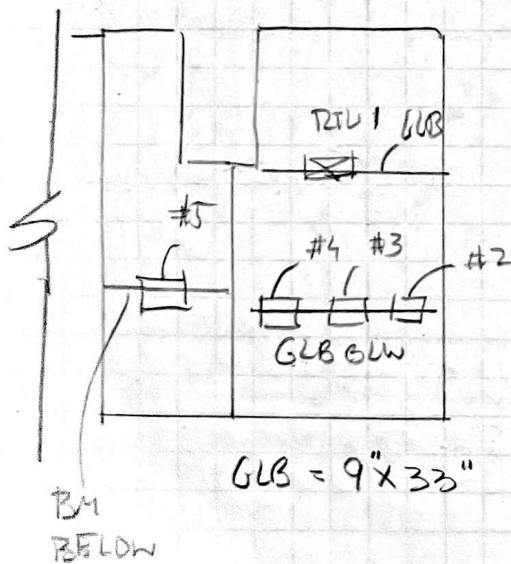
REPLACE (5) ROOF TOP UNITS

Unit #	Wt.
RTU 1 510w	495 # + 140 #
RTU 2 270w	365 #
RTU 3, 4, 5 370w	372 # + 140 # curb

SIZES

Unit #	SIZE "LxWxH"
1	61 x 47 x 51
2	52 x 45 x 48
3, 4, 5	48 x 45 x 47

ROOF KEY PLAN



Address:

4417 S. MERIDIAN AVE
Puyallup, WA

CHECK LATERAL

Wind

$$Q = 0.000256 (0.81) (1.0) (0.9) (110)^2 = 22 \text{ PSF}$$

$$A_T = 21.6 \text{ ft}^2 \text{ (RTU \#1)}, 17.33 \text{ ft}^2 \text{ (RTU \#2)}, 15.66 \text{ ft}^2 \text{ (\#3, 4, 5)}$$

$$F_1 = 22 \text{ PSF } A_1 (1.9)$$

$$F_1 = 902 \text{ \#}$$

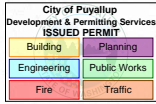
$$F_2 = 724 \text{ \#}$$

$$F_{3,4,5} = 654 \text{ \#}$$

WIND GOVERNS AS WIND FORCES EXCEED THE WEIGHTS OF THE UNITS

WIND FORCES PER SPREADSHEET UNIT #1 =

USE (2) #14x3in EXTERNAL HEX DRIVE HEX HEAD SELF DRILLING SCREWS FROM UNIT TO CURB ADAPTER (WHERE APPLICABLE) AND FROM CURB ADAPTER TO EXISTING CURB



Sheet:	
Job No.:	
Calc. By.: EA	Date:
Chck'd By.:	Date:

ANCHORAGE LOADS

EQUIPMENT GEOMETRY Unit #1



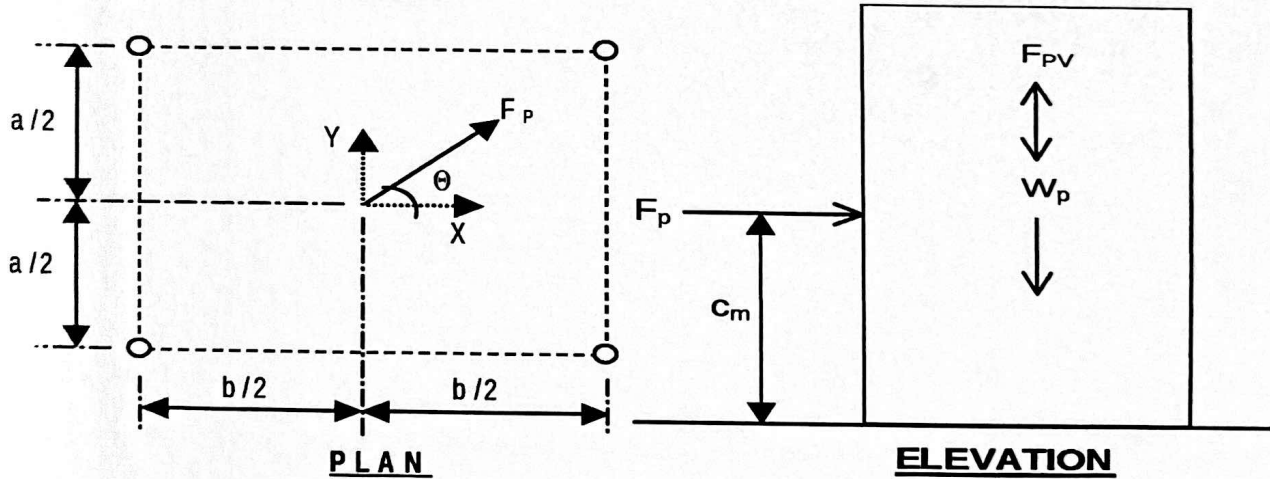
HEIGHT OF CENTER OF MASS, C_m (IN.) = 25.50 (IN.)
 DISTANCE BETWEEN ANCHORS, a (IN.) = 47.00 (IN.)
 DISTANCE BETWEEN ANCHORS, b (IN.) = 61.00 (IN.)

TOTAL LATERAL FORCE (ASD METHOD)



HORIZONTAL FORCE, F_p (KIPS) = 0.63 (KIPS)

NOTE: THE SHORTEST PLAN DIMENSION OF THE EQUIPMENT CORRESPONDS TO "a"



$\theta_{MAX} = \text{TAN}^{-1} (b/a) =$ 52.4 (DEGRESS)

$T_{MAX} = [(-0.9 \times W_p + F_{pv})/4] + \{[(F_p \times C_m)/2] \times [(\cos\theta_{MAX} / b) + (\sin\theta_{MAX} / a)]\} =$ 216 (LBS) <----UPLIFT

$P_{MAX} = [(W_p + F_{pv})/4] + \{[(F_p \times C_m)/2] \times [(\cos\theta_{MAX} / b) + (\sin\theta_{MAX} / a)]\} =$ 216 (LBS)

$V_{MAX} = F_p / (4 \text{ anchors}) =$ 158 (LBS)



Sheet:	
Job No.:	
Calc. By.: EA	Date:
Chck'd By.:	Date:

ANCHORAGE LOADS

EQUIPMENT GEOMETRY Unit #2



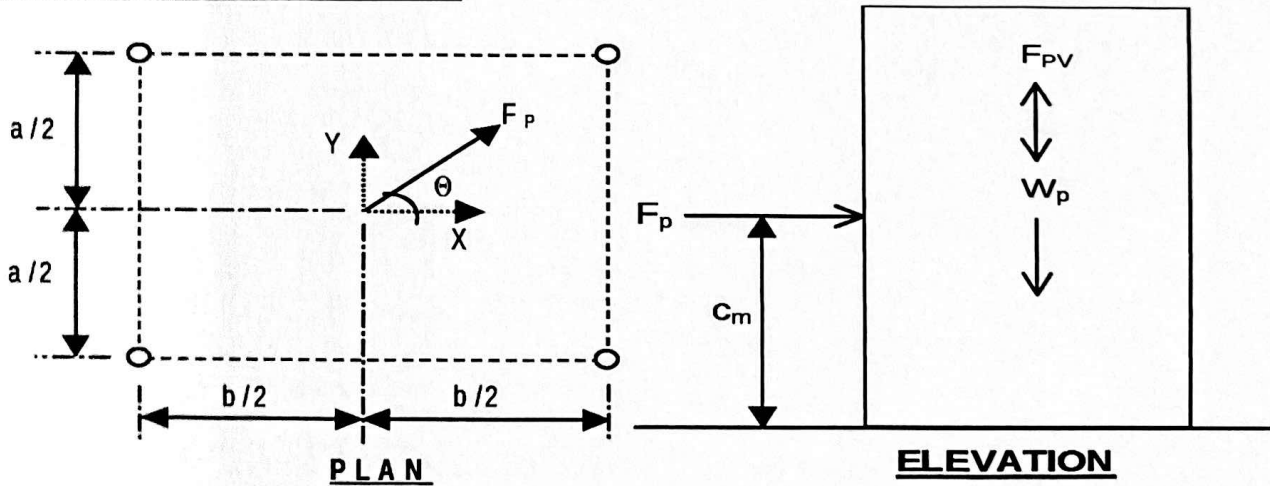
HEIGHT OF CENTER OF MASS, C_m (IN.) = 24.00 (IN.)
 DISTANCE BETWEEN ANCHORS, a (IN.) = 45.00 (IN.)
 DISTANCE BETWEEN ANCHORS, b (IN.) = 52.00 (IN.)

TOTAL LATERAL FORCE (ASD METHOD)



HORIZONTAL FORCE, F_p (KIPS) = 0.51 (KIPS)

NOTE: THE SHORTEST PLAN DIMENSION OF THE EQUIPMENT CORRESPONDS TO "a"

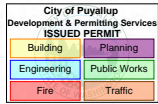


$\theta_{MAX} = \text{TAN}^{-1} (b/a) = 49.1 \text{ (DEGRESS)}$

$T_{MAX} = [(-0.9 \times W_p + F_{pv})/4] + \{[(F_p \times C_m)/2] \times [(\cos\theta_{MAX} / b) + (\sin\theta_{MAX} / a)]\} = 180 \text{ (LBS) } \leftarrow \text{UPLIFT}$

$P_{MAX} = [(W_p + F_{pv})/4] + \{[(F_p \times C_m)/2] \times [(\cos\theta_{MAX} / b) + (\sin\theta_{MAX} / a)]\} = 180 \text{ (LBS)}$

$V_{MAX} = F_p / (4 \text{ anchors}) = 128 \text{ (LBS)}$



Sheet:	
Job No.:	
Calc. By.: EA	Date:
Chck'd By.:	Date:

ANCHORAGE LOADS

EQUIPMENT GEOMETRY Unit #3, 4, 5



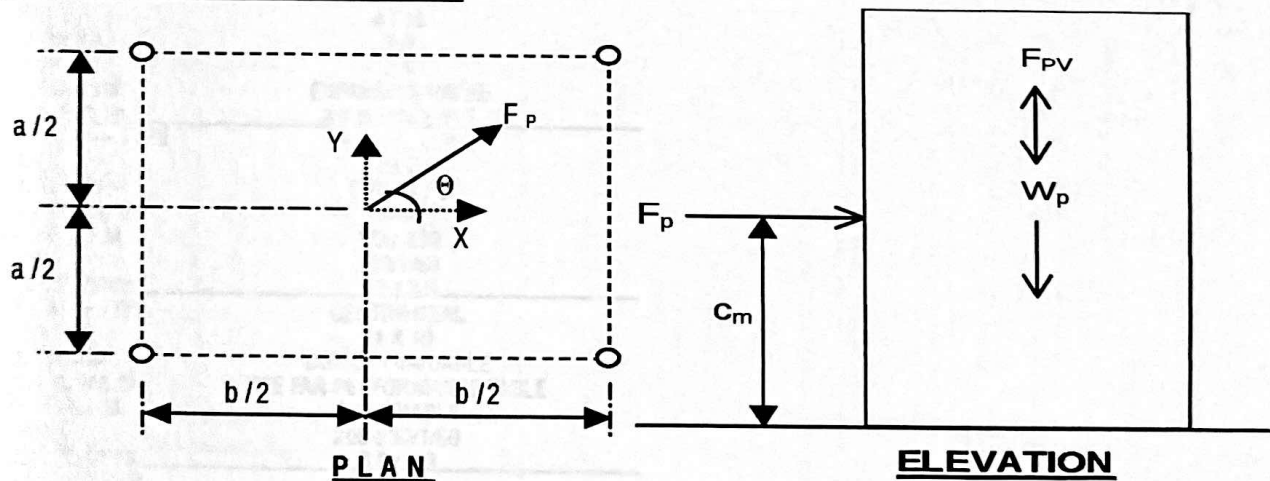
HEIGHT OF CENTER OF MASS, C_m (IN.) = 23.50 (IN.)
 DISTANCE BETWEEN ANCHORS, a (IN.) = 45.00 (IN.)
 DISTANCE BETWEEN ANCHORS, b (IN.) = 48.00 (IN.)

TOTAL LATERAL FORCE (ASD METHOD)



HORIZONTAL FORCE, F_p (KIPS) = 0.46 (KIPS)

NOTE: THE SHORTEST PLAN DIMENSION OF THE EQUIPMENT CORRESPONDS TO "a"

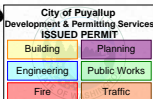


$\theta_{MAX} = \text{TAN}^{-1} (b/a) = 46.8 \text{ (DEGRESS)}$

$T_{MAX} = [(-0.9 \times W_p + F_{pv})/4] + \{[(F_p \times C_m)/2] \times [(\cos\theta_{MAX} / b) + (\sin\theta_{MAX} / a)]\} = 165 \text{ (LBS)} \leftarrow \text{UPLIFT}$

$P_{MAX} = [(W_p + F_{pv})/4] + \{[(F_p \times C_m)/2] \times [(\cos\theta_{MAX} / b) + (\sin\theta_{MAX} / a)]\} = 165 \text{ (LBS)}$

$V_{MAX} = F_p / (4 \text{ anchors}) = 115 \text{ (LBS)}$


TRANE

4WCY4060A-SUB-3D

 TAG: RTU #1
SUBMITTAL

5 Ton Convertible Heat Pump Packaged Units 4WCY4060A3000C

PRODUCT SPECIFICATIONS

MODEL	4WCY4060A3000C
RATED Volts/Ph/Hz	208-230/3/60
Performance Cooling BTUH^①	58000
Indoor Airflow (CFM)	1780
Power Input (KW)	4.95
EER/SEER (BTU/Watt-Hr.) ^②	11.5 / 14.0
Sound Power Rating [dB(A)] ^②	76
Performance Heating^③	
(High Temp.) BTUH	55000
Power Input (KW)	4.60
(Low Temp.) BTUH	37600
Power Input (KW)	4.29
HSPF (BTU / Watt-Hr.) ^④	8.0
POWER CONN.—V/Ph/Hz	208-230/3/60
Min. Brch. Cir. Ampacity ^⑤	28.6
Fuse Size — Max. (amps)	45
Fuse Size — Recmd. (amps)	45
COMPRESSOR	SCROLL
Volts/Ph/Hz	208-230/3/60
R.L. Amps — I.R. Amps	16.0 / 11.0
OUTDOOR COIL — TYPE	SPINE-FIN
Rows/F.P.I.	2 / 24
Face Area (sq.ft.)	23.57
Tube Size (in.)	3/8
Refrigerant Control	EXPANSION VALVE
INDOOR COIL — TYPE	PLATE FIN
Rows/F.P.I.	4 / 15
Face Area (sq.ft.)	5.0
Tube Size (in.)	3/8
Refrigerant Control	EXPANSION VALVE
Drain Conn. Size (in.)	3/4 FEMALE NPT
OUTDOOR FAN — TYPE	PROPELLER
Dia. (in.)	28.2
Drive/No. Speeds	DIRECT / 1
CFM @ 0.0 in. w.g. ^⑥	5700
Motor — HP/R.P.M.	1/3 / 830
Volts/Ph/Hz	230/1/60
E.L. Amps/L.R. Amps	1.7 / 3.5
INDOOR FAN — TYPE	CENTRIFUGAL
Dia x Width (in.)	11 X 10
Drive/No. Speeds	DIRECT / VARIABLE
CFM @ 0.0 in. w.g. ^⑥	SEE FAN PERFORMANCE TABLE
Motor — HP/R.P.M.	1 / VARIABLE
Volts/Ph/Hz	208-230/1/60
E.L. Amps/L.R. Amps	6.9 / 6.9
FILTER / FURNISHED	NO
Type Recommended	THROWAWAY
Recmd. Face Area (sq. ft.) ^⑦	5.3
REFRIGERANT	R410A
Charge (lbs.)	10.125
DIMENSIONS	H X W X L
Crated (in.)	51.86 / 47.4 / 61.75
WEIGHT	
Shipping (lbs.) / Net (lbs.)	623 / 495

① Certified in accordance with the Unitary Air-Conditioner Equipment certification program, which is based on AHRI Standard 210/240.

② Sound Power values are not adjusted for AHRI 270-95 tonal corrections.

③ Calculated in accordance with currently prevailing Nat'l Electrical Code.

④ Standard Air — Dry Coil — Outdoor.

⑤ Standard Air — Wet Coil — Indoor.

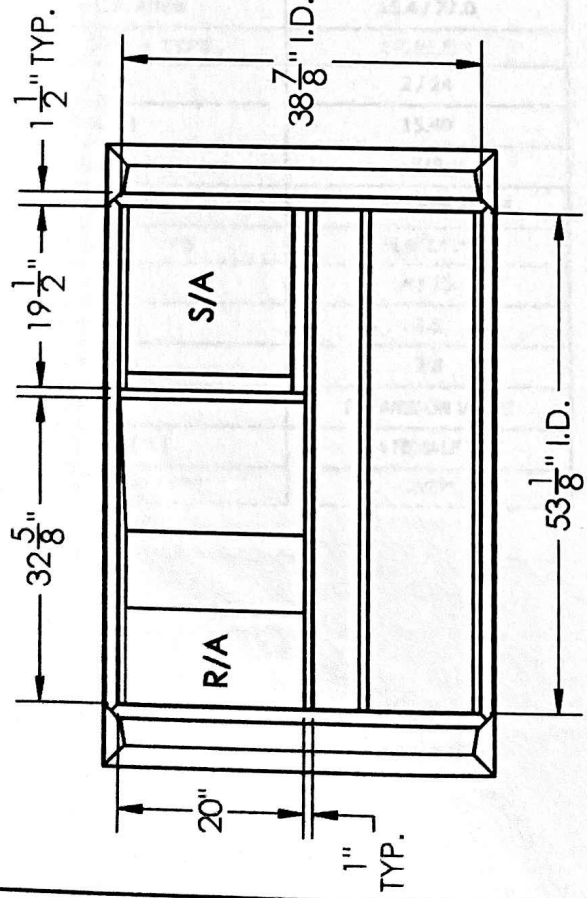
⑥ Rated in accordance with D.O.E. test procedure.

⑦ Filters must be installed in return air system. Square footages listed are based on 300 f.p.m. face velocity. If permanent filters are used size per manufacturer's recommendations with clean resistance of 0.05" W.C.

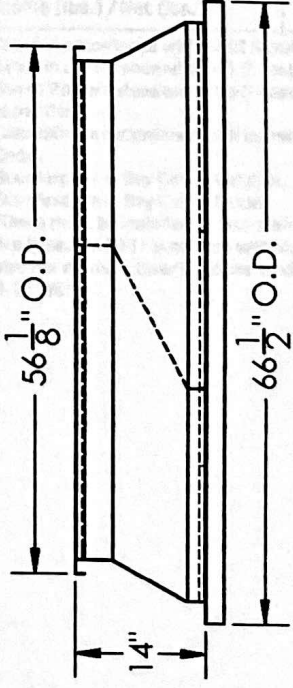
Model - TC51ACTC42S

WEIGHT: 140

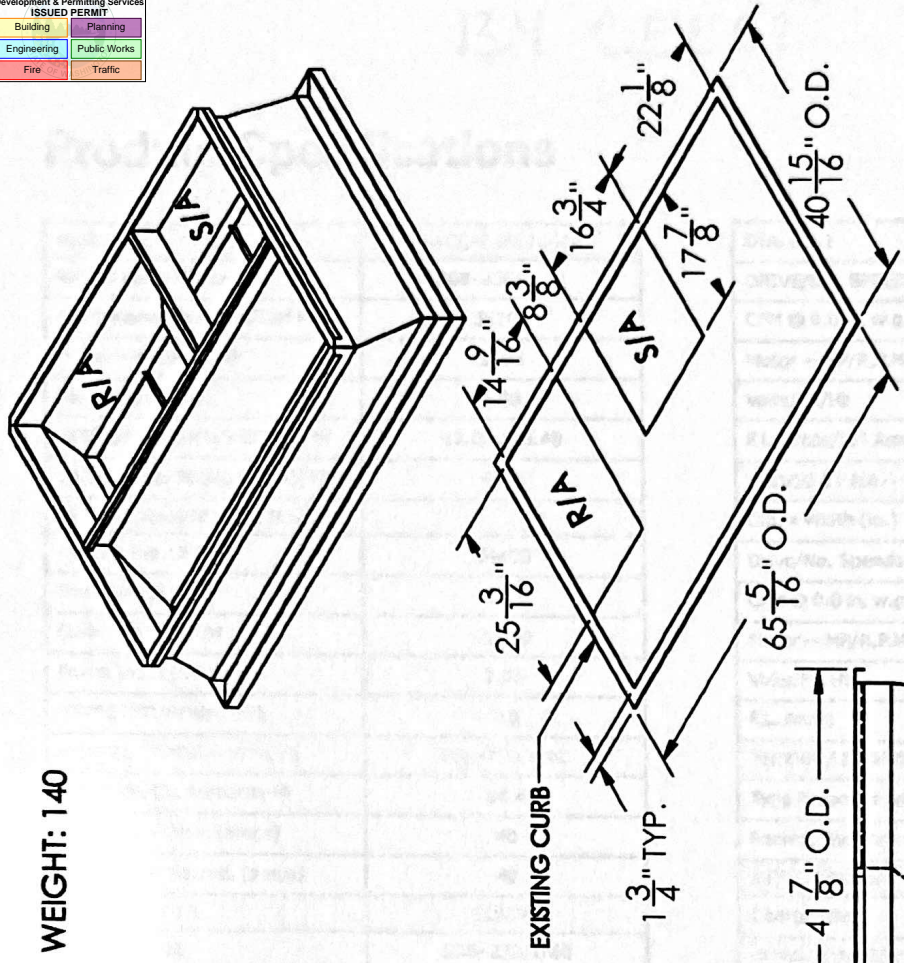
City of Puyallup Development & Permitting Services ISSUED PERMIT	
Building	Planning
Engineering	Public Works
Fire	Traffic



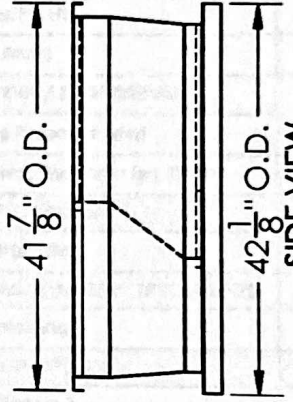
PLAN VIEW



FRONT VIEW



ISOMETRIC VIEW



SIDE VIEW

- NOTES:**
- 16 GA. GALV. STEEL CONSTRUCTION
 - INTERNALLY INSULATED WITH 1"-1.5 PCF DENSITY INSULATION
 - CONTINUOUS WELDED SEAMS AND CORNERS
 - 1/4" X 1 1/4" GASKETING SHIPPED FULLY ASSEMBLED
 - UNIT TO ADAPTER GASKET INCLUDED
 - INSTALLATION INSTRUCTIONS:
 - REMOVE OLD A/C UNIT.
 - APPLY 1/4" X 1 1/4" GASKETING ON EXISTING CURB.
 - INSTALL & SECURE ADAPTER CURB ON EXISTING CURB AS REQUIRED BY LOCAL BUILDING CODES.
 - APPLY 1/4" X 1 1/4" GASKETING ON ADAPTER CURB.
 - INSTALL & SECURE NEW A/C UNIT ON ADAPTER CURB AS REQUIRED BY LOCAL BUILDING CODE.

APPROVED	DATE	UNLESS OTHERWISE SPECIFIED ALL DIMENSIONS SHOWN ARE IN INCHES (MILLIMETERS IN MILLIMETERS ARE REFERENCE ONLY)	CHECK LIST	DATE
		UNLESS OTHERWISE SPECIFIED TOLERANCES ON LENGTH ANGLE	Drawn by: RAMIRO	02/21/20
		THIRD ANGLE		
		MATERIAL		
		Galvanized Steel		

TC51ACTC42S

DWG NO	3/24/2020	SS
SCALE	1:50	SHEET 1 OF 1



Single Package Heat Pump
13.4 SEER2

RTU2

Product Specifications

MODEL	4WCC4036E1000A
RATED Volts/PH/Hz	208-230/1/60
Performance Cooling BTUH (a)	35200
Indoor Airflow (CFM)	1105
Power Input (KW)	3.03
EER2/SEER2 (BTU/Watt-Hr.) (b)	11.00 / 13.40
Sound Power Rating [dB(A)] (c)	69.4
PERFORMANCE HEATING	
(High Temp.) BTUH	34400
Power Input (KW)	2.93
(Low Temp.) BTUH	22000
Power Input (KW)	2.76
HSPF2 (BTUH/Watt-Hr)	7.0
POWER CONN. — V/Ph/Hz	208-230/1/60
Min. Brch. Cir. Ampacity (d)	24.4
Fuse Size — Max. (amps)	40
Fuse Size — Recmd. (amps)	40
COMPRESSOR	
VOLTS/PH/HZ	208-230/1/60
R.L Amps — L.R. Amps	15.4 / 77.0
OUTDOOR COIL — TYPE	
Rows/F.P.I	2 / 24
Face Area (sq. ft.)	15.49
Tube Size (in.)	3/8
Refrigerant Control	EXPANSION VALVE
INDOOR COIL — TYPE	
Rows/F.P.I	4 / 15
Face Area (sq. ft.)	3.5
Tube Size (in.)	3/8
Refrigeration Control	EXPANSION VALVE
Drain Conn. Size (in.)	3/4 FEMALE NPT
OUTDOOR FAN — TYPE	
	SWEPT

DIA. (IN.)	23.4
DRIVE/NO. SPEEDS	DIRECT / 1
CFM @ 0.0 in. w.g. (e)	3250
Motor — HP/R.P.M	1 / 5 / 855
Volts/Ph/Hz	208-230 / 1 / 60
F.L Amps/L.R Amps	1.1 / 2.0
INDOOR FAN — TYPE	
	CONSTANT TORQUE ECM
Dia. x Width (in.)	10.62 X 10.68
Drive/No. Speeds	DIRECT / 4
CFM @ 0.0 in. w.g. (f)	SEE FAN PERF TABLE
Motor — HP/R.P.M.	1/2 / 1050
Volts/Ph/Hz	208-230/1/60
F.L Amps	4.1
FILTER / FURNISHED	
	NO
Type Recommended	THROWAWAY
Recmd. Face Area (sq. ft) (g)	4.0
REFRIGERANT	
Charge (lbs.)	7.2
CHARGING SPECIFICATIONS	
Subcooling	11°
DIMENSIONS	
Crated (in.)	48 X 45 X 52
WEIGHT	
Shipping (lbs.) / Net (lbs.)	439 / 364

(a) Rated in accordance with AHRI Standard 210/240.

(b) Rated in accordance with D.O.E. test procedure.

(c) Sound Power values are not adjusted for AHRI 270-95 tonal corrections.

(d) Calculated in accordance with currently prevailing Nat'l Electrical Code.

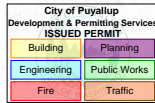
(e) Standard Air — Dry Coil — Outdoor.

(f) Standard Air — Dry Coil — Indoor

(g) Filters must be installed in return air stream. Square footages listed are based on 300 f.p.m. face velocity. If permanent filters are used size per manufacturer's recommendation with a clean resistance of 0.05" W.C.

**TRANE**

PRMH20231198

**4WCY4036B-SUB-3**TAG: RTU 3, 4, 5**SUBMITTAL****3 Ton Convertible Heat Pump Packaged Units
4WCY4036B3000A****PRODUCT SPECIFICATIONS**

MODEL	4WCY4036B3000A
RATED Volts/Ph/Hz	208-230/3/60
Performance Cooling BTUH[ⓐ]	36000
Indoor Airflow (CFM)	1200
Power Input (KW)	3.15
EER/SEER (BTU/Watt-Hr.) [ⓐ]	11.75 / 14.0
Sound Power Rating [dB(A)] [ⓑ]	69
Performance Heating[ⓐ]	
(High Temp.)BTUH	32400
Power Input (KW)	2.4
(Low Temp.) BTUH	24800
Power Input (KW)	2.6
HSPF (BTU / Watt-Hr.) [ⓐ]	8.0
POWER CONN.—V/Ph/Hz	208-230/3/60
Min. Brch. Cir. Ampacity [ⓐ]	18.4
Fuse Size — Max. (amps)	25
Fuse Size — Recmd. (amps)	25
COMPRESSOR	SCROLL
Volts/Ph/Hz	208-230/3/60
R.L. Amps — I. R. Amps	10.4 / 7.3
OUTDOOR COIL — TYPE	SPINE-FIN
Rows/F.P.I.	2 / 24
Face Area (sq.ft.)	15.49
Tube Size (in.)	3/8
Refrigerant Control	EXPANSION VALVE
INDOOR COIL — TYPE	PLATE FIN
Rows/F.P.I.	4 / 15
Face Area (sq.ft.)	3.54
Tube Size (in.)	3/8
Refrigerant Control	EXPANSION VALVE
Drain Conn. Size (in.)	3/4 FEMALE NPT
OUTDOOR FAN — TYPE	PROPELLER
Dia. (in.)	23.4
Drive/No. Speeds	DIRECT / 1
CFM @ 0.0 in. w.g. [ⓐ]	3250
Motor — HP/R.P.M.	1/5 / 830
Volts/Ph/Hz	230/1/60
F.L. Amps/L. R. Amps	1.1 / 1.9
INDOOR FAN — TYPE	CENTRIFUGAL
Dia x Width (in.)	10 X 10
Drive/No. Speeds	DIRECT / VARIABLE
CFM @ 0.0 in. w.g. [ⓐ]	SEE FAN PERFORMANCE TABLE
Motor — HP/R.P.M.	1/2 / VARIABLE
Volts/Ph/Hz	200-230/1/60
F.L. Amps/L. R. Amps	4.3 / 4.3
FILTER / FURNISHED	NO
Type Recommended	THROWAWAY
Recmd. Face Area (sq. ft.) [ⓐ]	4.0
REFRIGERANT	R410A
Charge (lbs.)	7.4
DIMENSIONS	H X W X L
Crated (in.)	47.86 / 44.5 / 52.03
WEIGHT	
Shipping (lbs.) / Net (lbs.)	468 / 372

- ⓐ Certified in accordance with the Unitary Air-Conditioner Equipment certification program, which is based on AHRI Standard 210/240.
- ⓑ Sound Power values are not adjusted for AHRI 270-95 tonal corrections.
- ⓒ Calculated in accordance with currently prevailing Nat'l Electrical Code.
- ⓓ Standard Air — Dry Coil — Outdoor.
- ⓔ Standard Air — Wet Coil — Indoor.
- ⓕ Rated in accordance with D.O.E. test procedure.
- ⓖ Filters must be installed in return air system. Square footages listed are based on 300 f.p.m. face velocity. If permanent filters are used size per manufacturer's recommendations with clean resistance of 0.05" W.C.