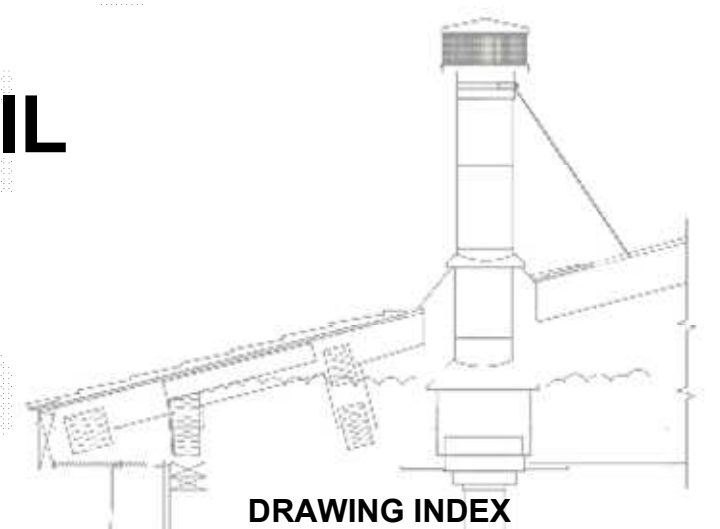


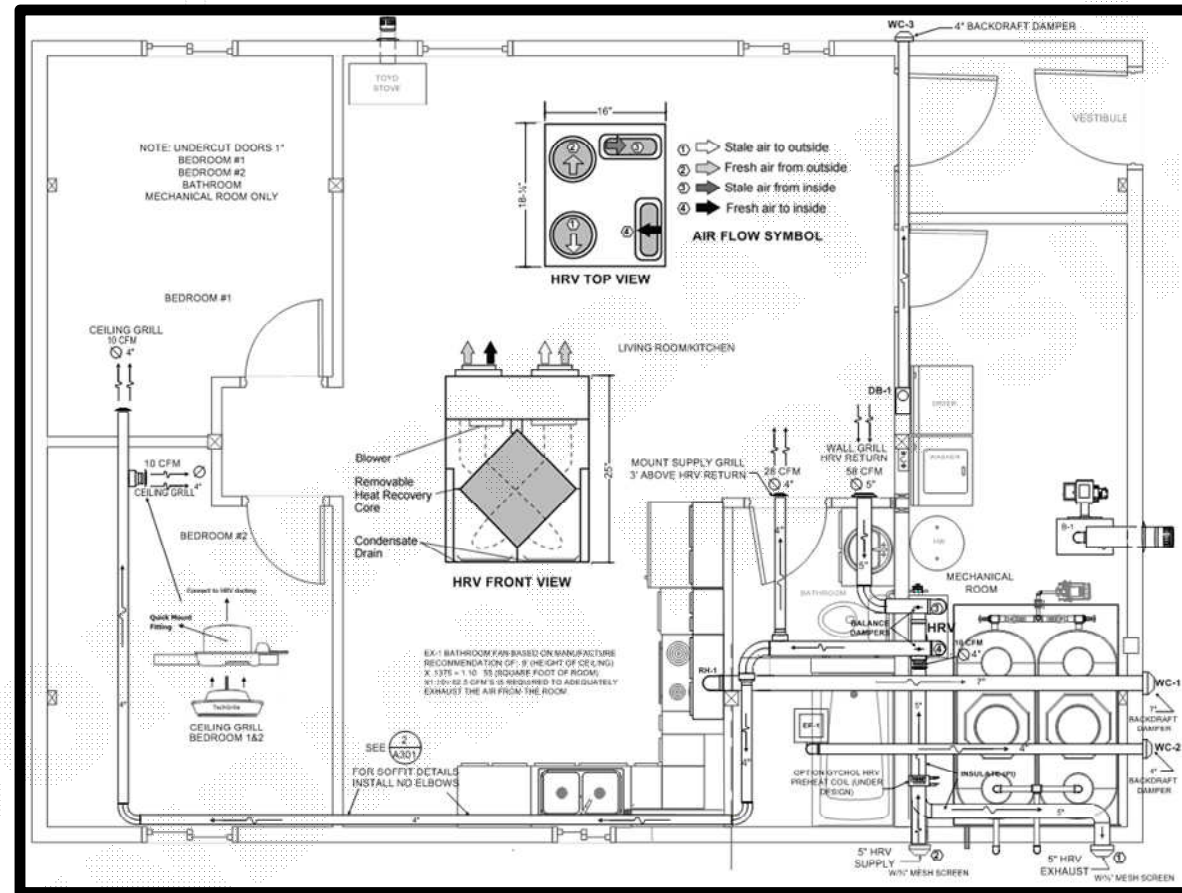
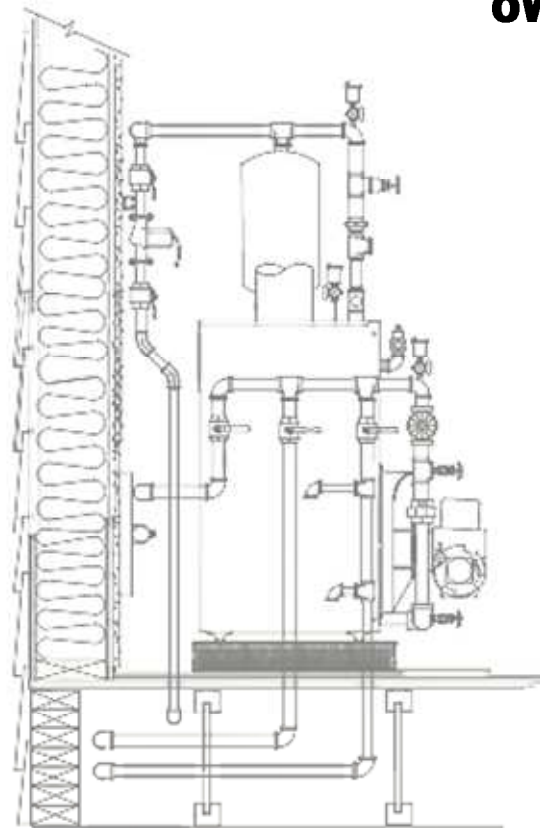
MECHANICAL RECOMMENDATION

PROJECT: ONC HOUSING PROJECT PHASE II - 2018.05.7

OWNER: **ORUTSARARMUT NATIVE COUNCIL**
BETHEL, ALASKA



DRAWING INDEX	
M-0	SCHEDULE - LEGEND
M-1	DIFFERENCE BETWEEN 10" & 5" DWV FLOOR
M-2	SCALED DETAILS DWV 5" FLOOR ISOMETRIC
M-3	UPC DRAINAGE FITTINGS DO'S & DON'T
M-4	OPTION #1 HEATING HYDRONIC HEATING
M-5	OPTION #1 HEATING HYDRONIC HEATING
M-6	PROPEX BRASS FITTINGS FOR COLD WEATHER
M-7	OPTION #2 HEATING TOYO & TRANSFER FANS
M-8	HRV VENTILATION CALCULATIONS
M-9	HEAT RECOVERY VENTILATOR (HRV)



MECHANICAL RECOMMENDATION CONSULTANT:

NUSHAGAK CONSULTANTS

225 East Fireweed Lane
 Anchorage, Alaska 99503
 Fax 907 277 1835
 907 277 1864

jerrynicholson@alaska.net



www.nakco.com

MAY 2020

SUBMITTAL ITEM .. MECHANICAL DRAWINGS

CONFORMS TO DESIGN CONCEPT

THIS SUBMITTAL HAS BEEN REVIEWED FOR GENERAL CONFORMANCE TO THE DESIGN CONCEPT ONLY. COMPLIANCE WITH SPECIFICATION IS STILL REQUIRED.

DATE..... BY.....

NUSHAGAK CONSULTANTS

EQUIPMENT SCHEDULE

PAGE	ITEM	EQUIPMENT	MANUFACT.	P/N #	SIZE	CAPACITY	ELECTRICAL	REMARKS
1	B-1	BOILER	PEERLESS	WV-DV-03	22WX28D	80 MBH NET	1/8HP 120V 6 AMPS	BECKETT AFG OIL BURNER 50/50 GLYCOL DOW FROST
2	TL	TIGERLOOP	ULTRA-B					
3	EX-1	EXPANSION TANK	AMTROL	#30				BLADDER
4	T1	TOYOTOMI	LASER 530			22,000 BTU		
5	Z-1	Zone Valve	Honeywell	V8043e-1079	¾ SWT			Baseboard Radiation
6	WF1	TRANSFER FAN	TJERNLUND	AS1		75CFM		BEDROOMS
7	WF2	TRANSFER FAN	BROAN	512M		70		BATHROOM SUPPLY HEAT
8	D2	GRILL	LIFEBREATH	99-EAG6	6" ROUND			BATHROOM FOR WF2
9	HRV	HEAT RECOV VENT	LIFEBREATH	95 MAX	18X25	60 CFM	120V .9 AMPS	
10	T	THERMOSTAT	HONEYWELL	T87F1859				
11	PHC	HRV PREHEAT	HEINEN			UNDER DESIGN	HOT WATER OR ELECT	UNDER DESIGN CONSIDERATIONS
12	LT	THERMOSTAT	HONEYWELL	T4398A1021	LINE VOLTAGE			For room to room fans
13	WC1,2	WALL CAPS	BROAN		WC1- 7" 647	WC2-4" 885BL		FOR RH-1 & EF-1
14	WC3	DRYER WALL CAP	DEFLECTO	GVH4	4"			
15	DB1	DRYER BOX	THEDRYERBOX	4D	FOR 6" STUD			
16	PI	PIPE INSULATION	CERTAINTED	OR EQUAL	5"			HRV OUTSIDE & EHAUST AIR
17	BB-1	BASEBOARD FIN TUBE	SLANFIN	MULTI/ 80	83-A H-3	730BTU @180F LF	HIGH CAPACITY	Light Commercial Baseboard 18 GAUGE
18	RH-1	RANGE HOOD	BROAN	BCSQ130SS	30X20X6	300CFM HIGH	115/1/60	ELITE 661 has been discontinued OWNER SUPPLIED
19	EF-1	BATHROOM FAN	PANASONIC	FV0511VKS2	10X10	50-80-110 CFM	115/1/60	FV-05-11VKS1 OWNER SUPPLIED
20	WT-1	WATER TANK	DEN HARTOG	SP0500-UT	31X59X74	500 GALLON		RECOMMENDED BECAUSE OF INSTALLATION EASE
21	CP1	DOMESTIC WATER PUMP	GRUNDFOS	CMBE 1-44		10.6 GPM		RECOMMENDED CHANGE FROM 3-51 SEE SUBMITTAL FOR CALC BY OWNER
22	HW-1	HOT WATER HEATER	Rheem	PROE50T2 RH95	20X58	50 GALLON	240V SINGLE PHASE	
23	ET-1	EXPANSION TANK	AMTROL	ST-5				BY OWNER
24	OT-1	FUEL OIL TANK	UNDER DESIGN					CONCEPT SUBMITTAL UNDER DESIGN

LEGEND

- BASE BOARD/LINEAL FEET
- BALL VALVE
- 24 VOLT ZONE VALVE
- MONOFLO TEE FLOW
- MANUAL COIN VENT
- MECHANICAL THERMOSTAT
- FROSTLESS HOSE BIB
- 24 VOLT THERMOSTAT
- LINE VOLT THERMOSTAT
- HUMIDISTAT
- HOSE BIB
- GATE VALVE
- DIE-ELECTRIC UNION
- HORIZONTAL SWING CHECK
- BALL VALVE

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FIXTURE SCHEDULE

25	P-1	WASHER BOX	OATEY	38540	11X12		WITH WATER HAMMER ARRESTOR
26	P2	VANITY TOP	DESIGNHOUSE	586180	25X19		BY OWNER
27	P-3	TOILET	KOHLER	K3554	ELONGATED		BACK FLUSH
28	P-4	BATH TUB/SHOWER	STERLING	71171112	30X60	ABOVE THE FLOOR	STERLING ACCLAIM HAS BEEN DISCONTINUED
29	VTR	VENT THRU ROOF	DEKTITE	525-MPU	4" CENTERSET		MANUFACTURED RUBBER WEATHER ROOF FLASHING
30		BRASS PLG FITTINGS	PROPEX		ASSORTED	FOR FREEZING CONDITIONS	RECOMMEND THE USE OF BRASS FITTINGS & TYPE L PIPE

DRAWING INDEX

M0	SCHEDULE - LEGEND
M1	DIFFERENCE BETWEEN 10" & 5" DWV FLOOR
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M3	UPC DRAINAGE FITTINGS DO'S & DON'T
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M6	PROPEX BRASS FITTINGS FOR COLD WEATHER
M7	OPTION #2 HEATING TOYO & TRANSFER FANS
M8	HRV VENTILATION CALCULATIONS
M9	HEAT RECOVERY VENTILATOR (HRV)

MECHANICAL TWO BEDROOM SCHEDULE

ORUTSARMIUT NATIVE COUNCIL
ONC HOUSING PROJECT PHASE II - 2018.05.7

MECHANICAL CONSULTANT
100% INDIAN OWNED COMPANY

EQUIPMENT **APPLIANCE & FIXTURE SCHEDULE**

Revision: None

PROJECT


OWNER

SCOPE

REVISION

Revision: None

None



NUSHAGAK CONSULTANTS
225 EAST FIREWEED
ANCHORAGE, ALASKA
907 277 1864
jerrynicholson@alaska.net

Scale: N/A

Drawn by: jn

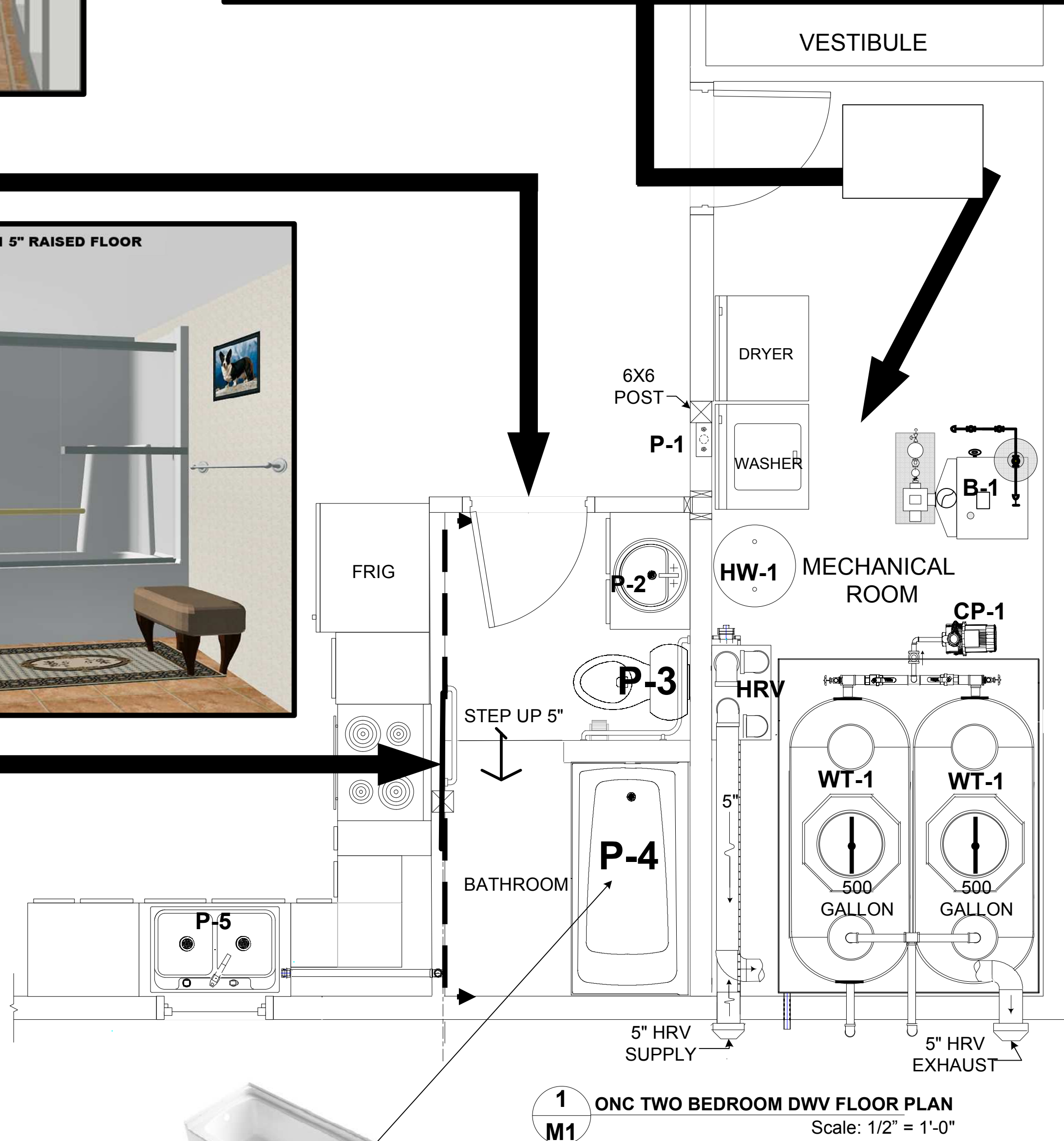
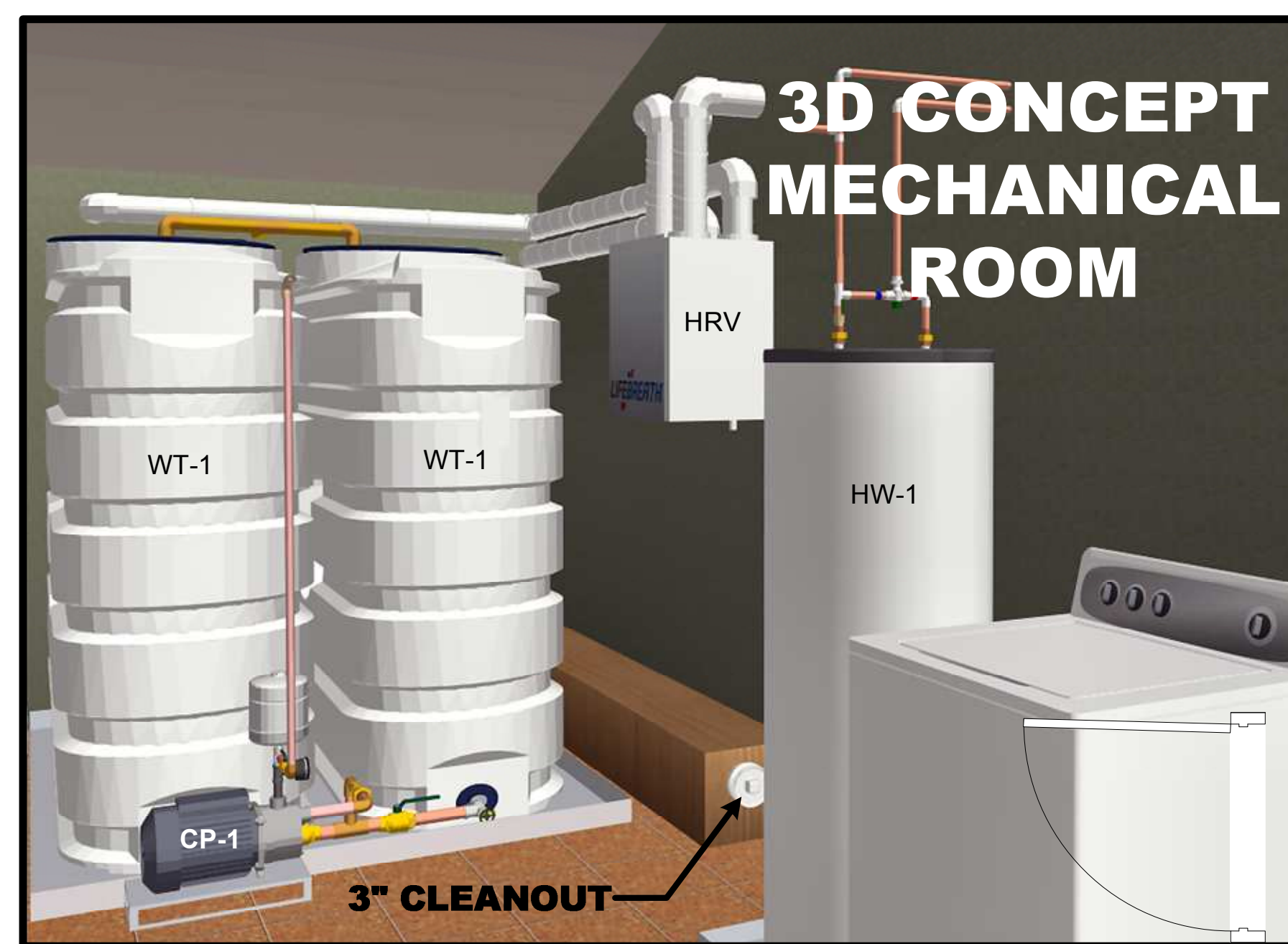
Date: 5/6/20

Job No.

Contents: Schedule

Category Sheet

M O



1 ONC TWO BEDROOM DWV FLOOR PLAN
Scale: 1/2" = 1'-0"

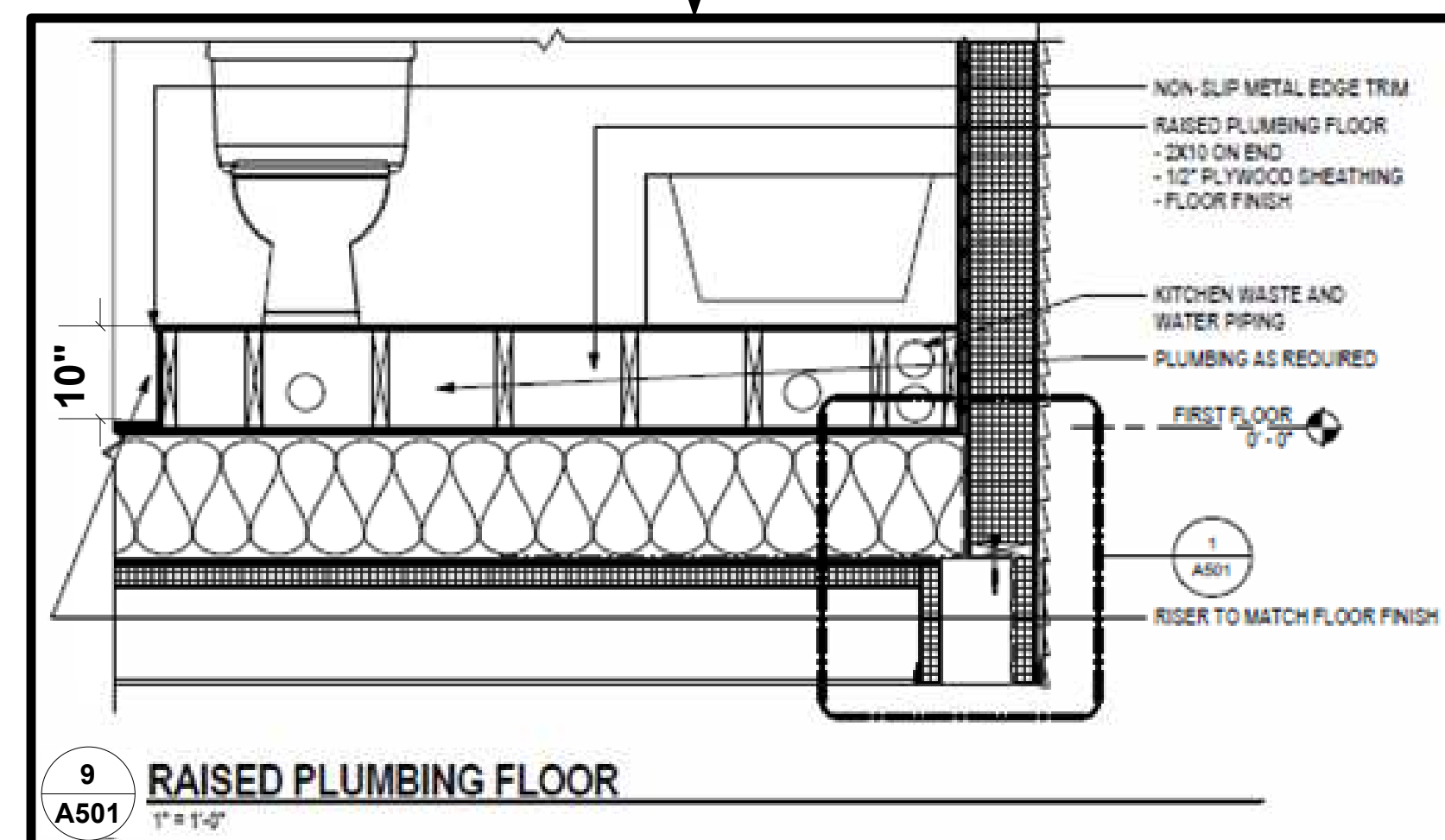
NOTE: STERLING ACCLAIM ~~DO NOT SCALE~~ 11X17 DRAWING
DISCONTINUED BY MANUFACTURER ~~DESIGN IS 24X36~~

P3 KOHLER BARRINGTON - K-3554
DRAIN THRU THE WALL BACKFLUSH TOILET

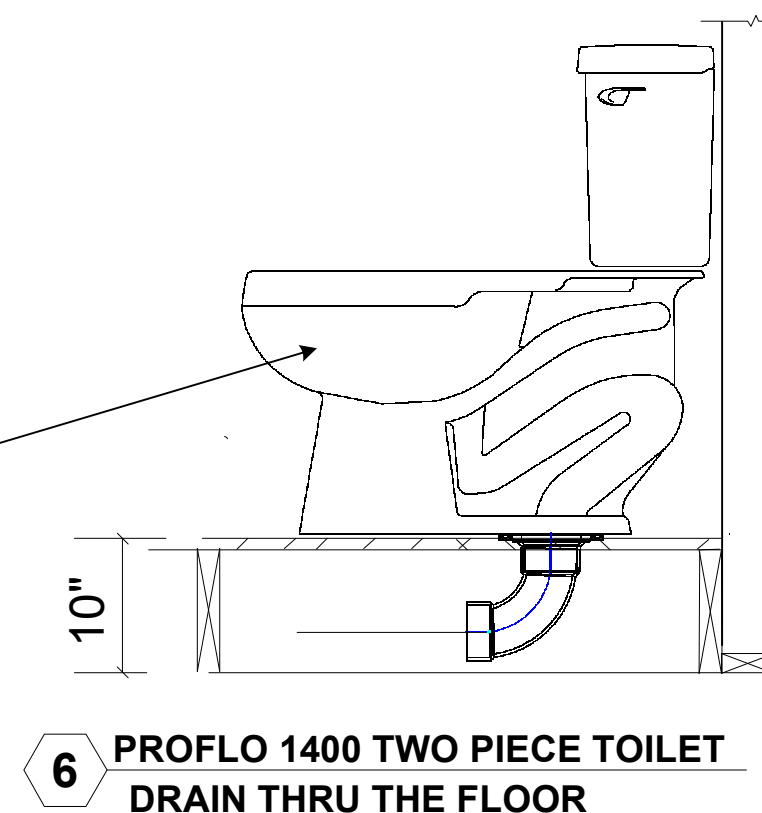
P4 STERLING ENSEMBLE 71171112
30" ABOVE - FLOOR DRAIN BATHTUB

5" RAISED FLOOR RECOMMENDATION FOR BATHTUB ONLY & TO ACCOMMODATE DRAIN FOR KITCHEN SINK

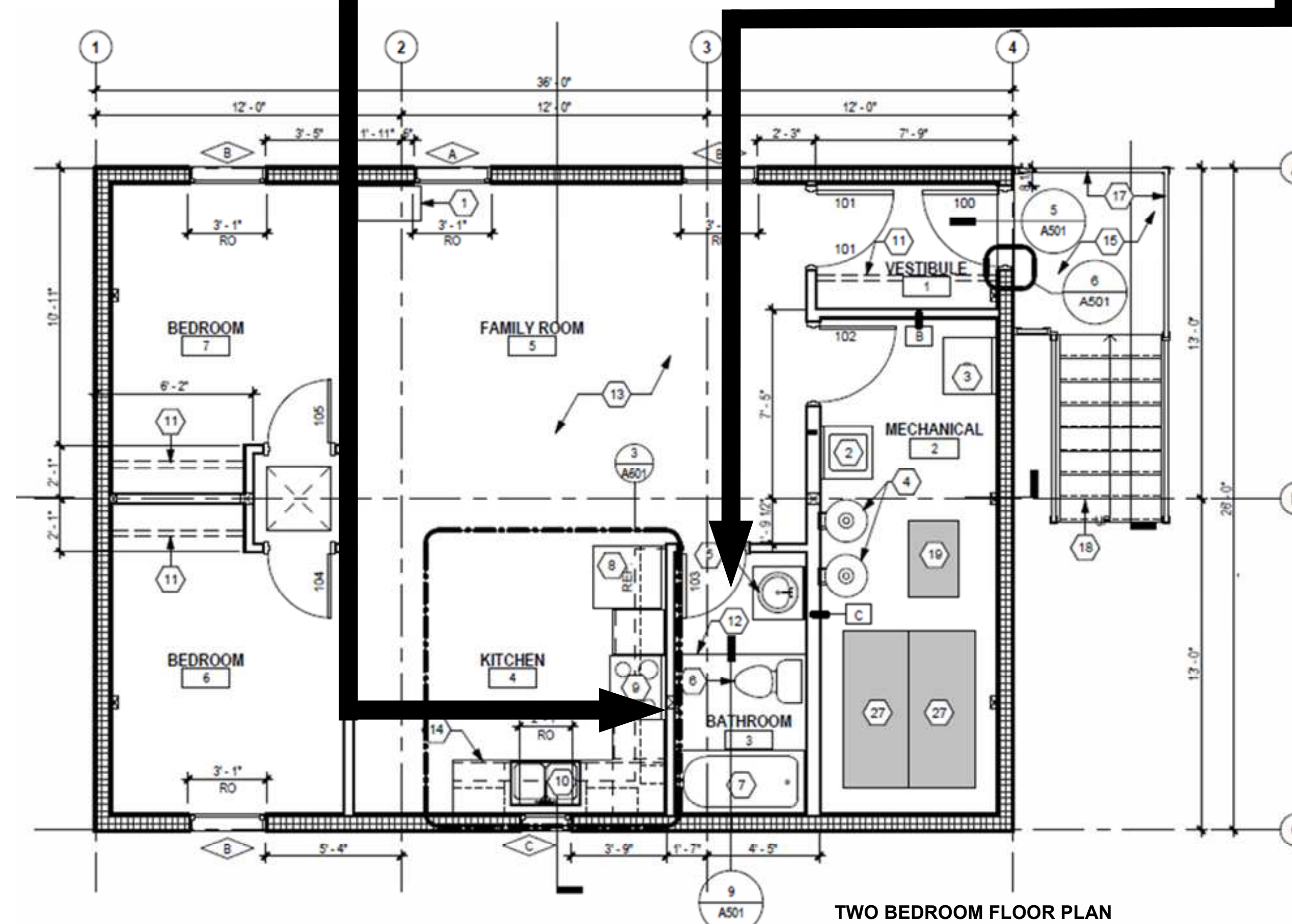
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9 RAISED PLUMBING FLOOR
1" = 1'-0"



6 PROFLO 1400 TWO PIECE TOILET
DRAIN THRU THE FLOOR



TWO BEDROOM FLOOR PLAN

CURRENT DESIGN 10" RAISED FLOOR

SEE PROCUREMENT DOCUMENT DATED 2018.05.17, - DRAWING A101
ONC HOUSING PROJECT PHASE II

DIFFERENCE BETWEEN CONTRACT DOCUMENTS & RECOMMENDATION

TWO BEDROOM BATHROOM DESIGN SHOWN

ONC HOUSING PROJECT PHASE II

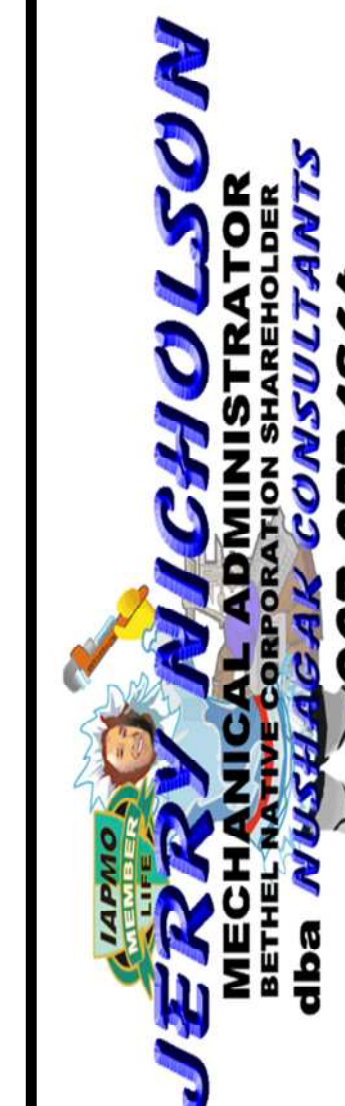
ORUTSARMIUT NATIVE COUNCIL

None

REVISION:

None

2018.05.7



Scale: N/A
Design/drawn by jn
Mechanical Administrator
Date: 1/28/2020

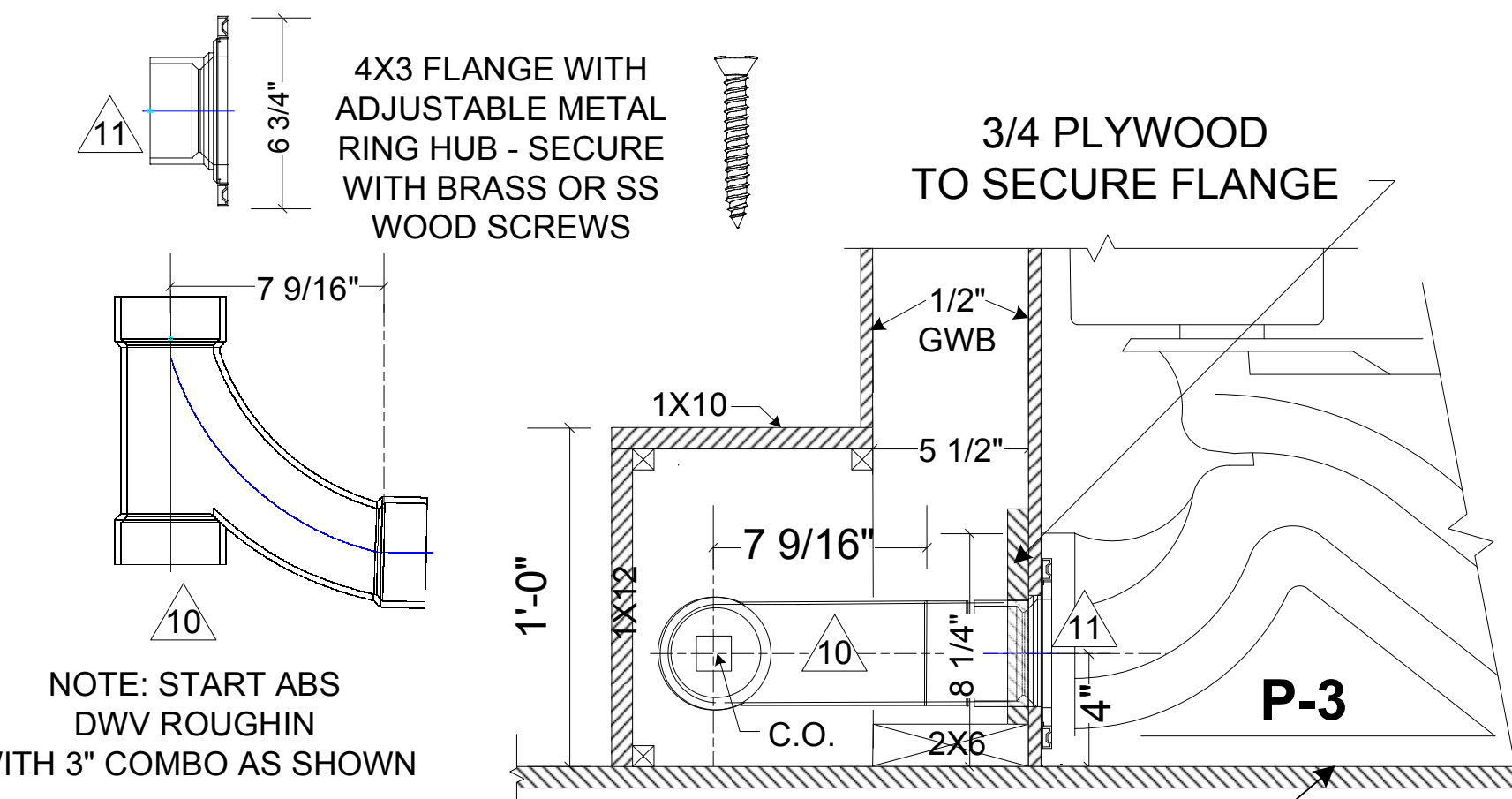
Category Sheet

M 1

THIS DETAILED SHOP DRAWING FOR CONSTRUCTION CONFORMS TO THE 2012 UNIFORM PLUMBING CODE AND ACCURATELY REFLECTS DIMENSIONAL INFORMATION FOR ABS DWV FITTINGS, FIXTURES AND WATER TANK SUPPLIED BY CHARLOTTE PIPE & FOUNDRY, KOHLER COMPANY & DEN HARTOG INDUSTRIES, RESPECTIVELY

VERIFY IN FIELD: DIMENSIONS AND LOCATION OF FEATURES SHOWN ON THIS DRAWING ARE ACCURATE. HOWEVER THE INSTALLER IS SOLELY RESPONSIBLE TO VERIFY IN THE FIELD ALL DIMENSIONS, SITE CONDITIONS, THE SIZE AND LOCATION OF WALLS - FIXTURES & ABS DWV FITTINGS AND ANY OTHER APPURTENANCES. SCALE ONLY 24" x 36" DRAWINGS

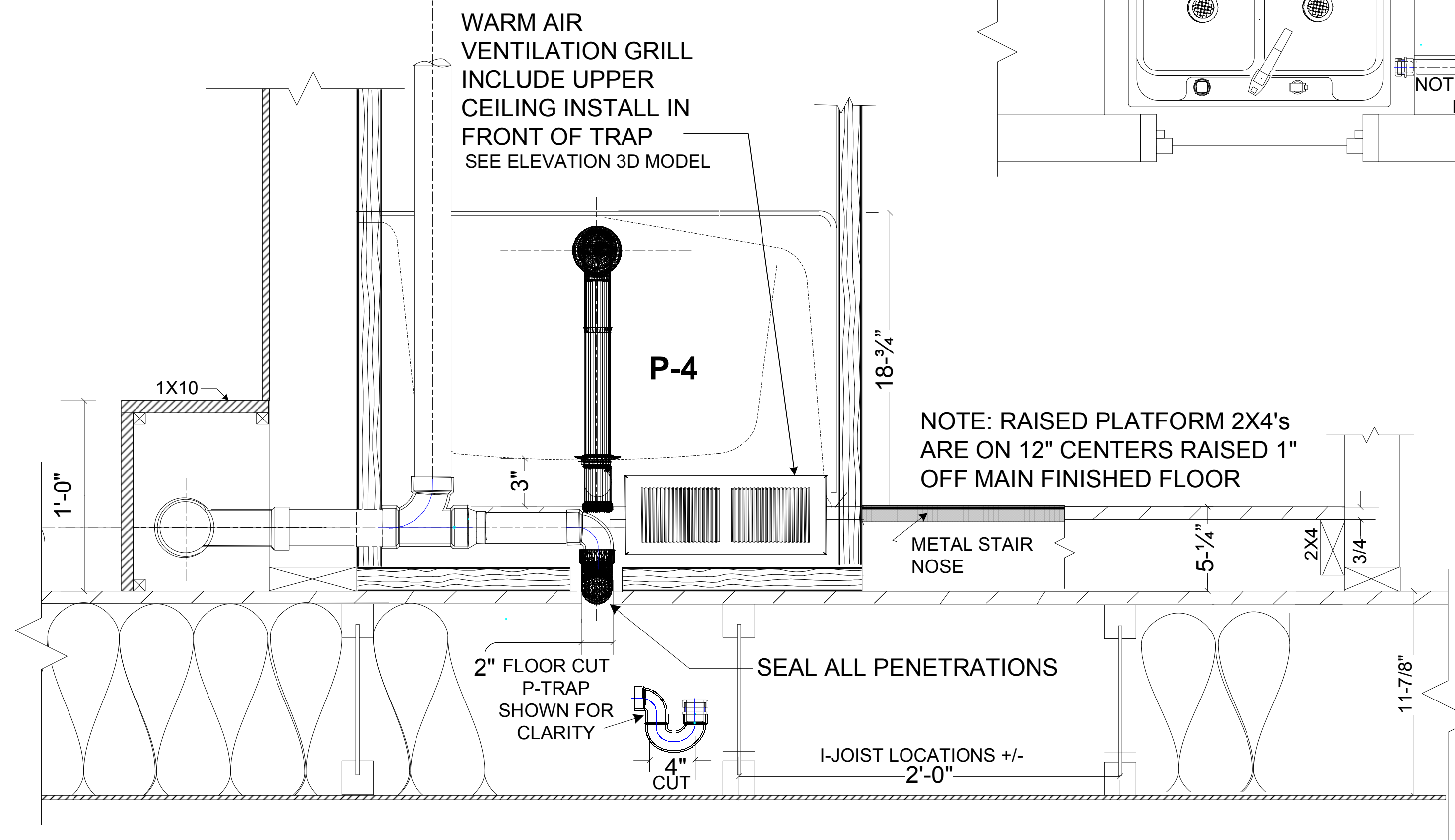
DO NOT SCALE 11X17 DRAWING DESIGN IS 24X36



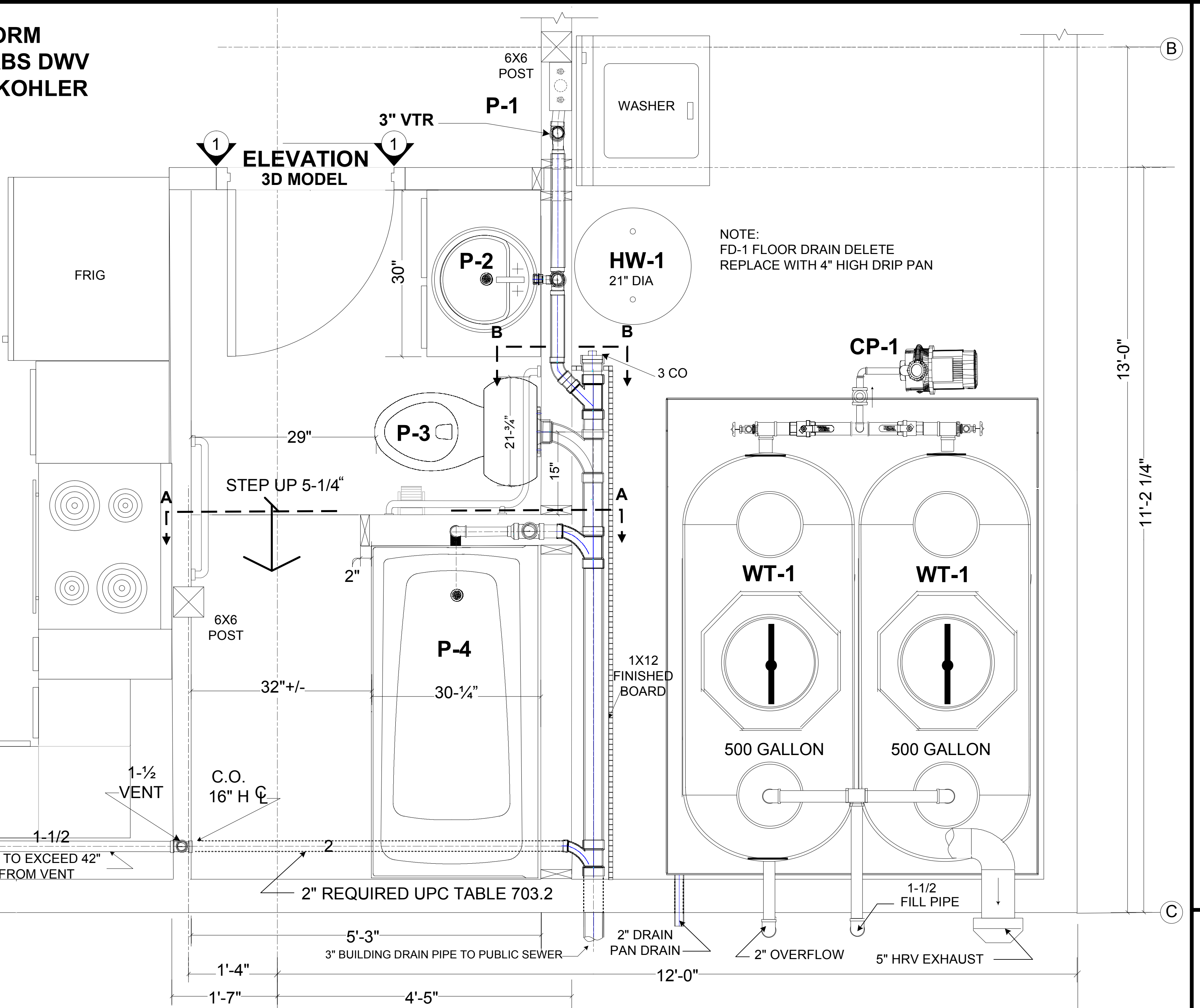
SECTION B-B; DWV START POINT ROUGHIN DETAILS
SCALE: 2" = 1'-0"



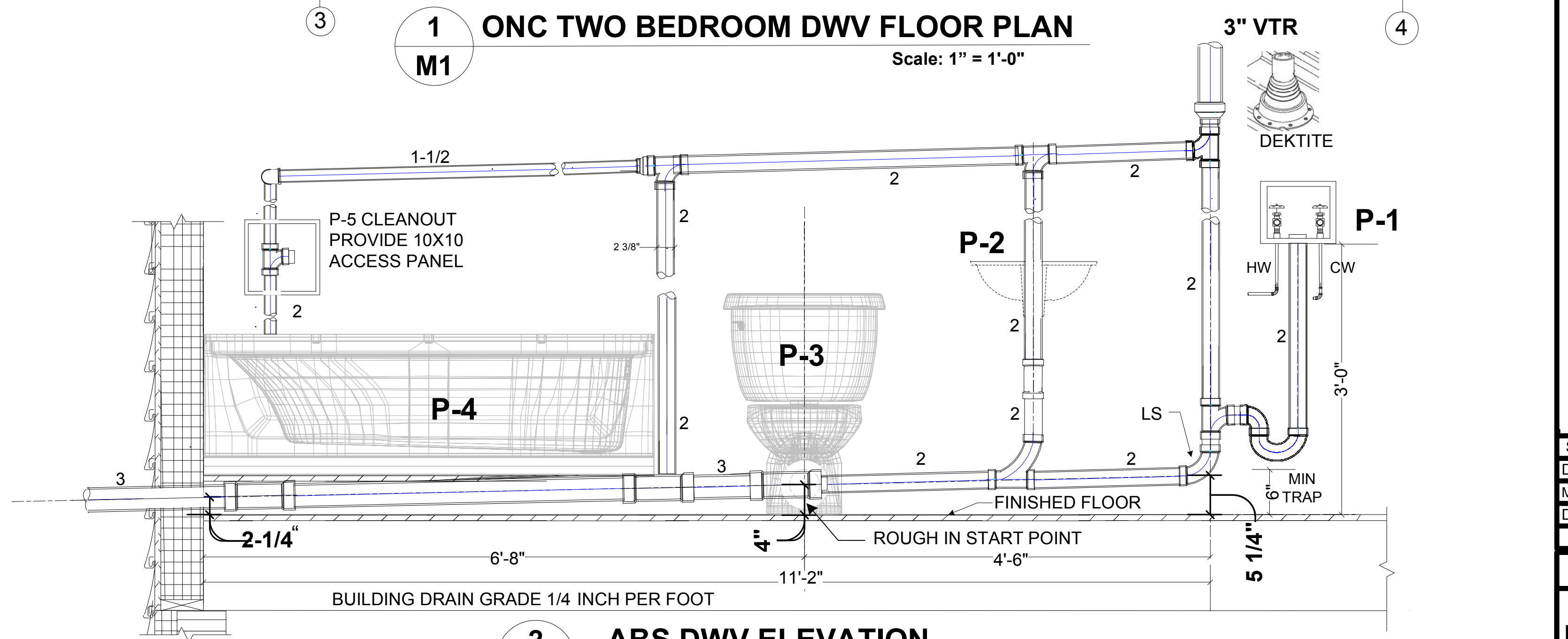
ELEVATION 3D MODEL



SECTION A-A; P-4 BATHTUB ROUGH IN DETAILS
SCALE: 2" = 1'-0"



1 ONC TWO BEDROOM DWV FLOOR PLAN
Scale: 1" = 1'-0"



2 ABS DWV ELEVATION
Scale: 1" = 1'-0"

SHOP DRAWING SCALED DETAILS FOR 5" FLOOR

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5" RAISED FLOOR ONLY AT BATHTUB - TOILET ON MAIN FLOOR LEVEL
SHOP DRAWING - TWO BEDROOM FIXTURES, DRAINAGE WASTE & VENTS DETAILS
 ONC HOUSING PROJECT PHASE II
 ORUTSARMIUT NATIVE COUNCIL
 2018.05.7
 Revision: None



Scale: Per Detail	
Design/drawn by jn	
Mechanical Administrator	
Date: 8/7/19	
Category	Sheet
M	2

THE DO'S & DO NOT IN INSTALLING DRAINAGE FITTINGS

CHAPTER 706.0 CHANGES IN DIRECTION OF DRAINAGE FLOW

Horizontal to Vertical
 Fittings A through E may be used for vertical drain piping picking up horizontal branches.
 Fittings F to J may be used for horizontal drain piping changing to a vertical direction.

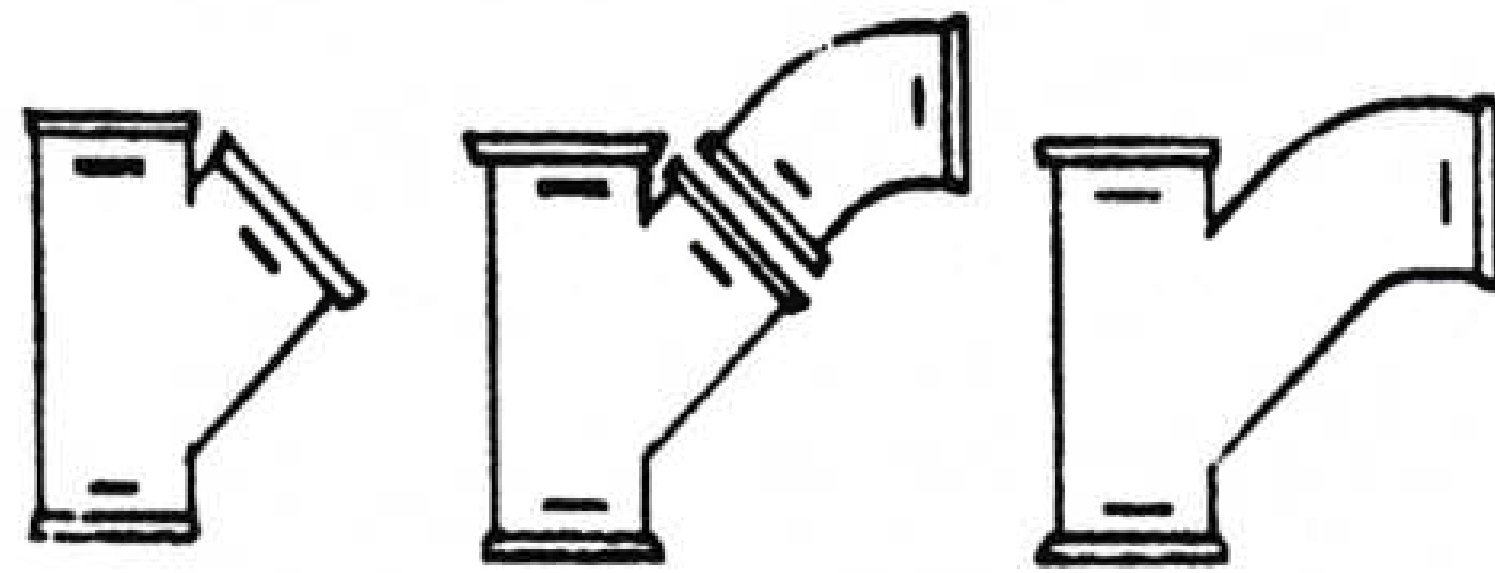
UPC
706.2

Vertical to Horizontal
 Fittings A, B, C, F, G and J may be used for this type of change in direction. Fitting J may be used when installed in a true vertical position.

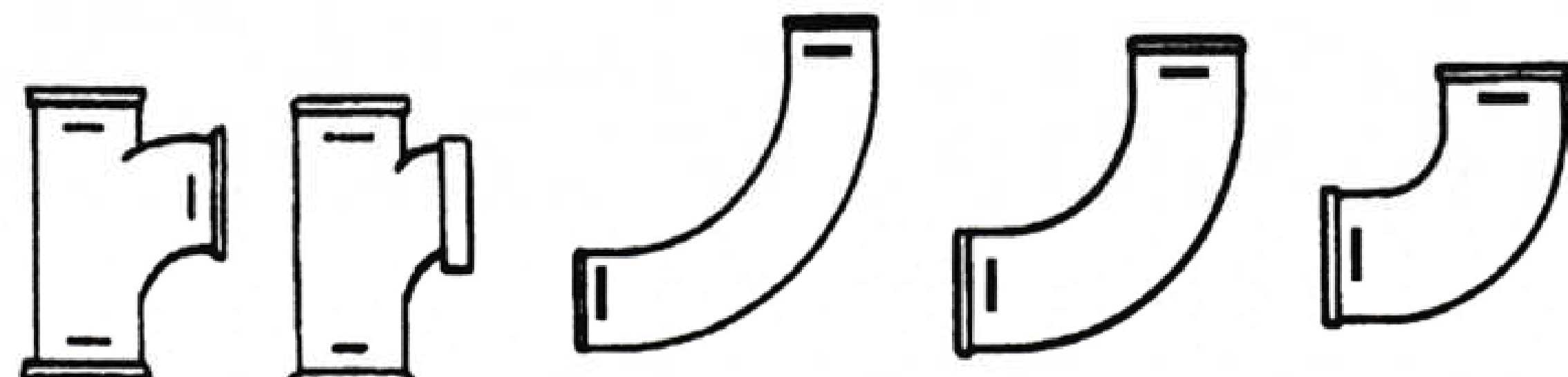
UPC
706.4

Horizontal to Horizontal
 Fittings A, B, C, F, G and I may be used for this type of change in direction.

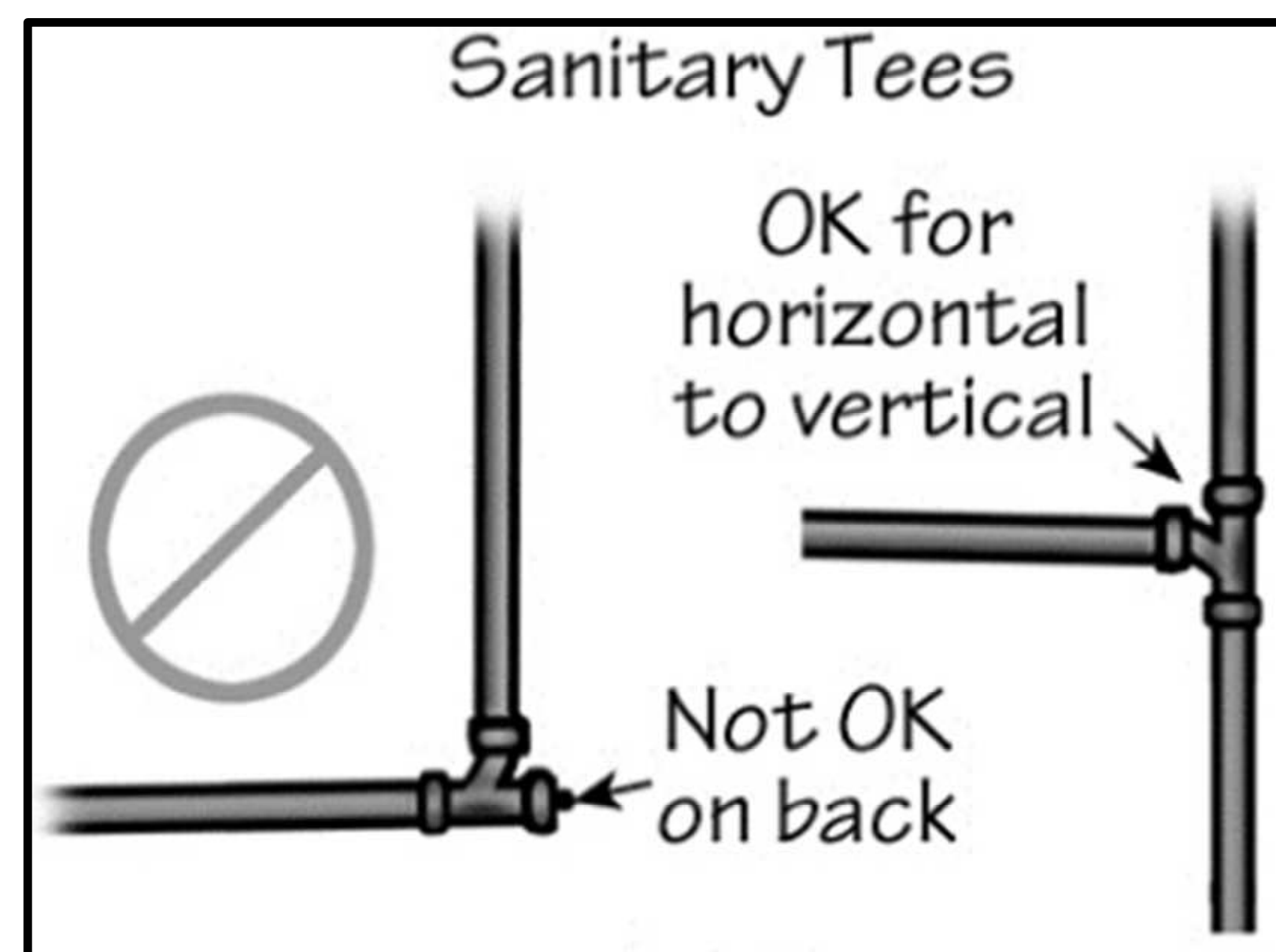
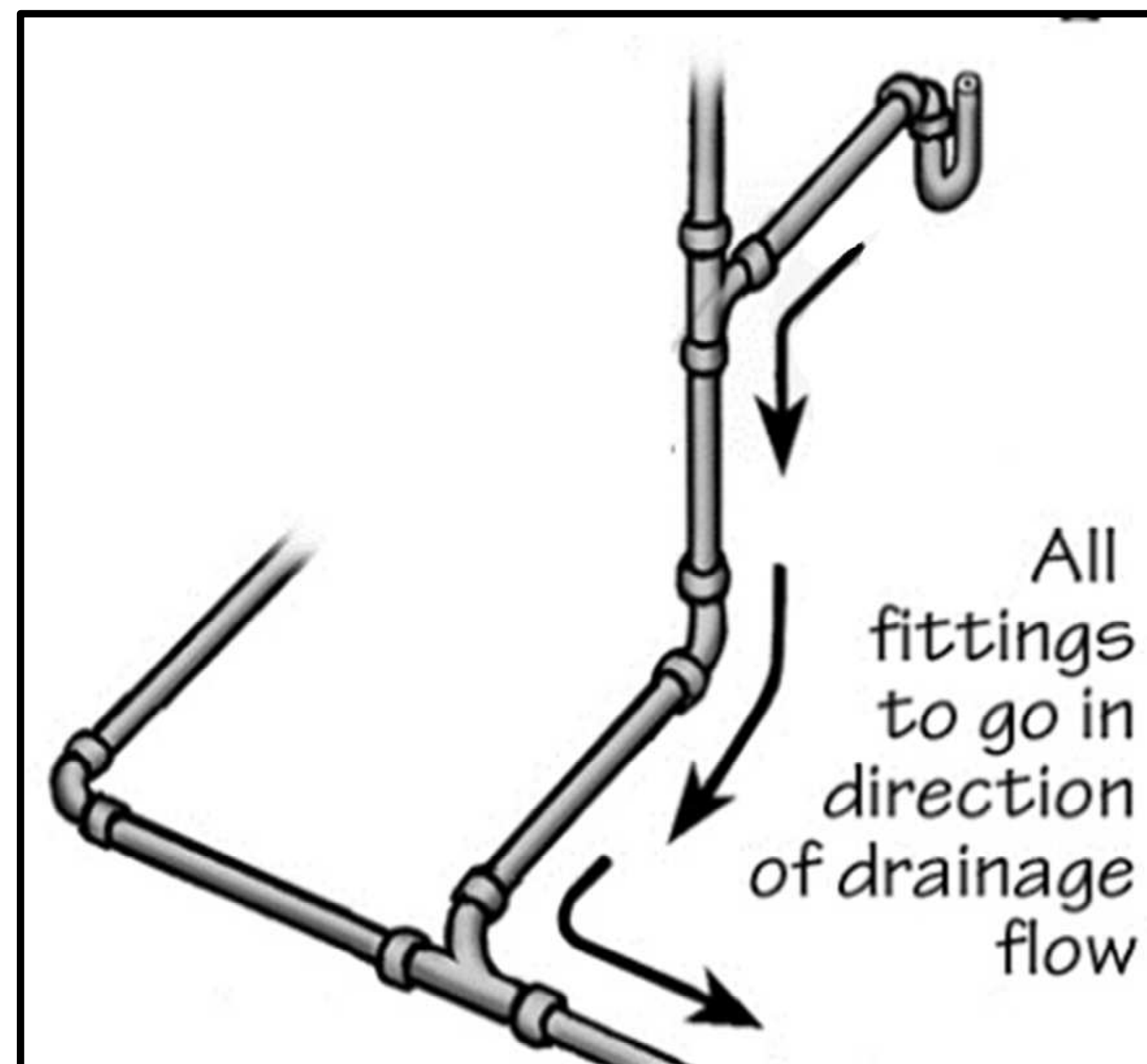
UPC
706.3



A. Wye B. Wye & 1/8 Bend C. Combination Wye & 1/8 Bend



D. Sanitary Tee E. Sanitary Tapped Tee F. Long Sweep G. Short Sweep H. 1/4 Bend I. 1/8 Bend J. 1/6 Bend



P-TRAPS

The weir of a p-trap must be below the top of the opening in the fitting that connects it to its vent.

MUST BE MORE THAN TWO (2) PIPE DIAMETERS (I.D.) OF THE TRAP ARM FROM THE WEIR.

WASTE VENT PIPE DIA. (I.D.) WEIR TRAP ARM

RIGHT

WRONG

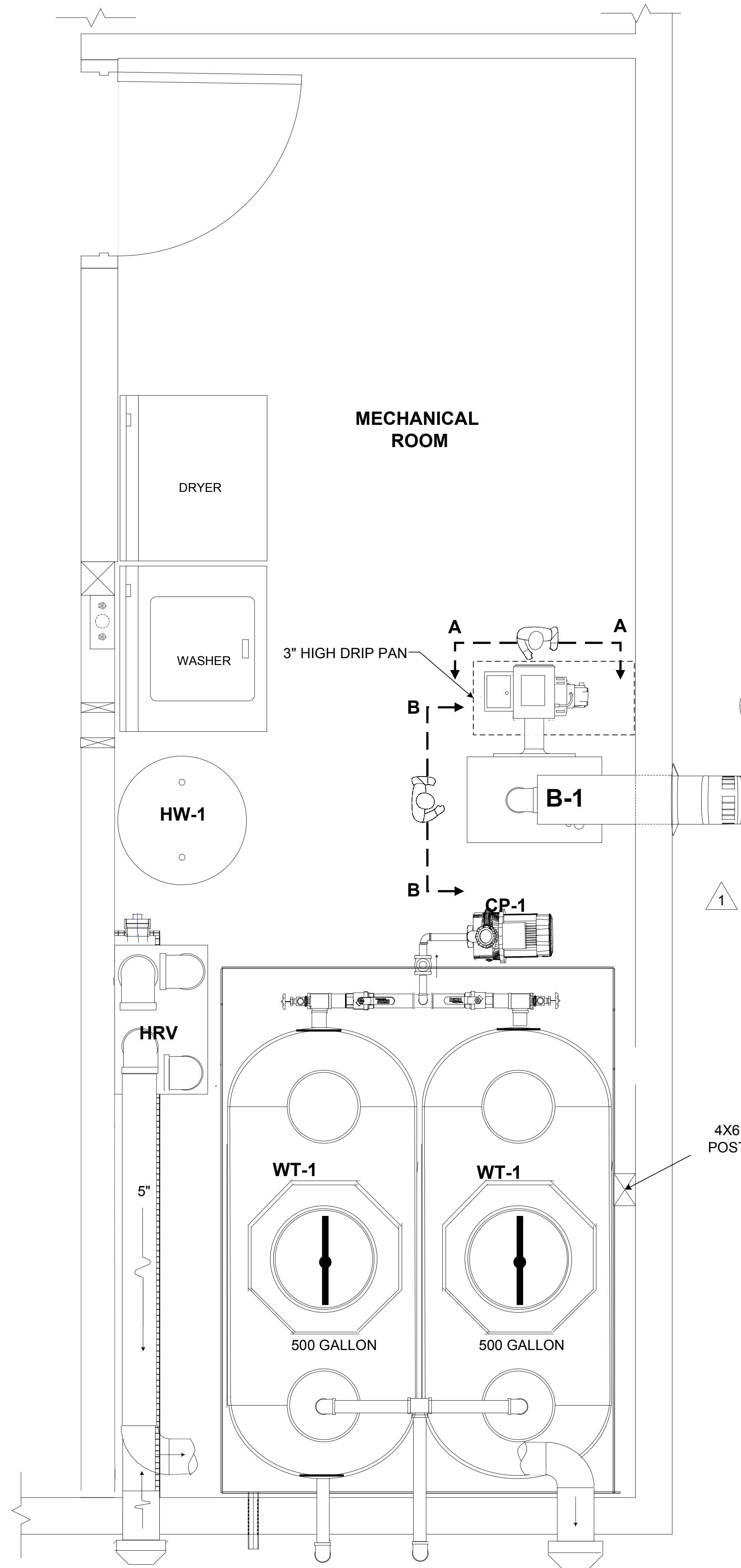
Horizontal Length of Trap Arms
 (Except for water closets and similar fixtures)*

Trap Arm Pipe Size (I.D.)	Distance Trap to Vent Max.	Min.
1-1/4"	2' 6"	2 1/2"
1-1/2"	3' 6"	3"
2"	5'	4"
3"	6'	6"
4"	10'	8"

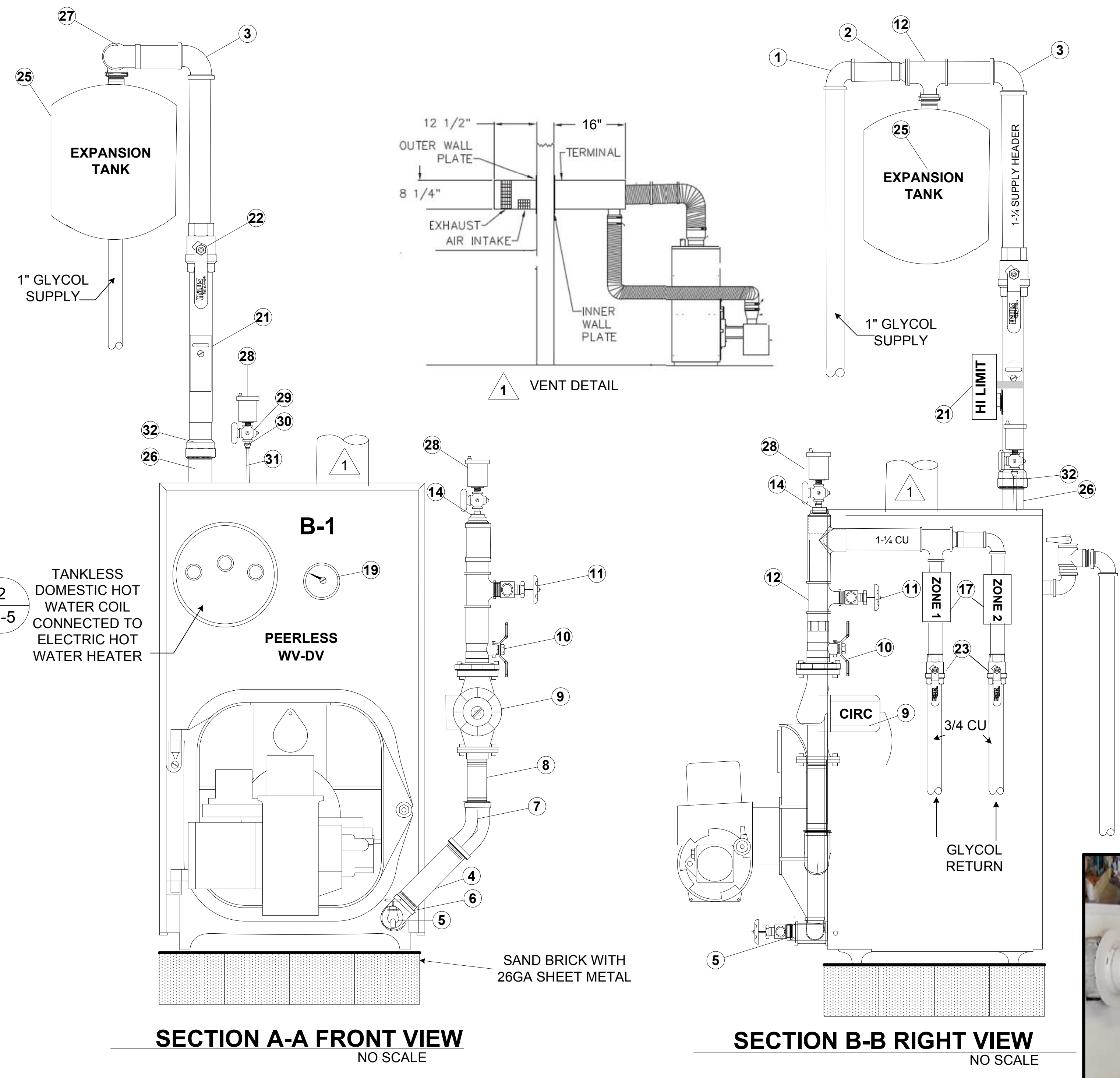
* The length of Water closet (toilet) trap arms is measured from the floor flange to the inner edge of its vent. Developed length shall not exceed 6'.

EDUCATION BY jerry

PRESCRIPTIVE SHOP DRAWING FOR PEERLESS WV-DV BOILER



1
M4 **BOILER DETAILS**
SCALE: 1"=1'-0"



SECTION A-A FRONT VIEW
NO SCALE

SECTION B-B RIGHT VIEW
NO SCALE

MATERIAL TAKEOFF	
1	1" COP ELBOW
2	1-1/4X1 COP REDUCER
3	1/1-4 COP ELBOW
4	1-1/2" X 5 BLK NIPPLE
5	3/4 BOILER DRAIN
6	1-1/4X3/4X1-1/4 BK TEE
7	1-1/4 BLK 45 ELBOW
8	1-1/4X2 BK NIPPLE
9	**CIRCULATOR
10	SWT ISOLATE FLANGE
11	1/2 HOSE BIB
12	1-1/4X1-1/4X1-1/2 COP TEE
13	1-1/4 COP TEE
14	1-1/4X1-1/4x3/4 COP TEE
15	1-1/4X3/4 C FTG/TUB REDU
16	3/4 COP ELBOW
17	HON V8043E1061
18	1-1/4X5 BK NIPPLE
19	**PRESS/TEMP GAUGE
20	**1-1/4X1-1/4X3/4 BK TEE
21	AQUA L6006C-1018
22	1-1/4 SWT BALL VALVE
23	3/4 SWT BALL VALVE
24	1/2 C FTG FEMALE ADAP
25	EXTROL #A30
26	1-1/2 X 5 BRASS NIP
27	1-1/4 COP 45 EL
28	AUTO AIR VENT
29	1/8 BALL COCK
30	1/2X1/8 BLK BELL REDUC
31	1/2X5-1/2 BK NIPPLE
32	1-1/2X1-1/4 COP FEMALE ADAPT

**SUPPLIED WITH BOILER



B-1 PEERLESS WV-DV O3

DRAFT
NOT FOR
CONSTRUCTION

OPTION #1 - HEATING

DO NOT SCALE 11X17 DRAWING DESIGN IS 24X36

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EXAMPLE INSTALLATION OF RIGHT VIEW

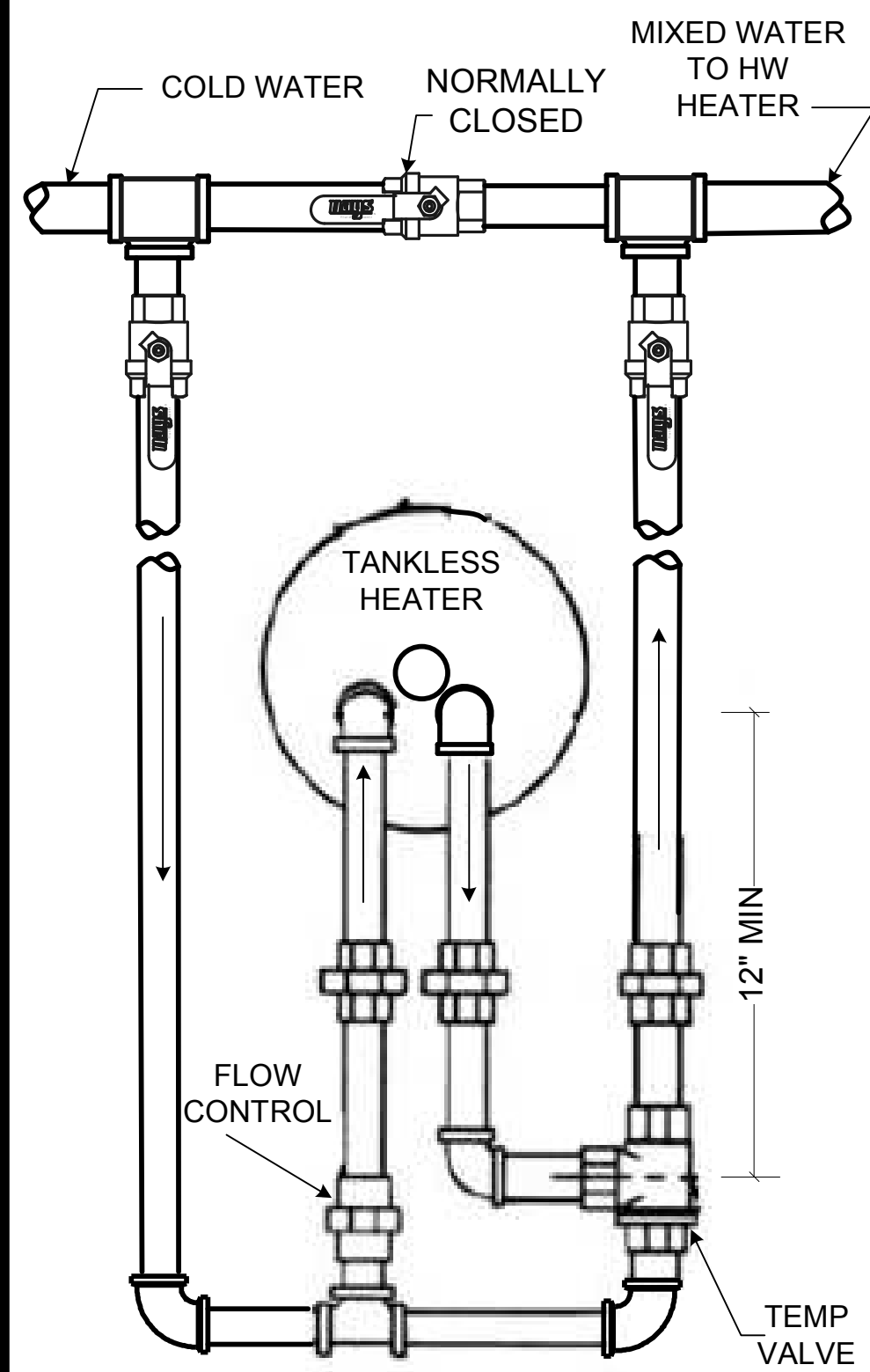
LEGEND

LOW VOLTAGE THERMOSTAT (T)

Z-1, Z-2 ZONE VALVE

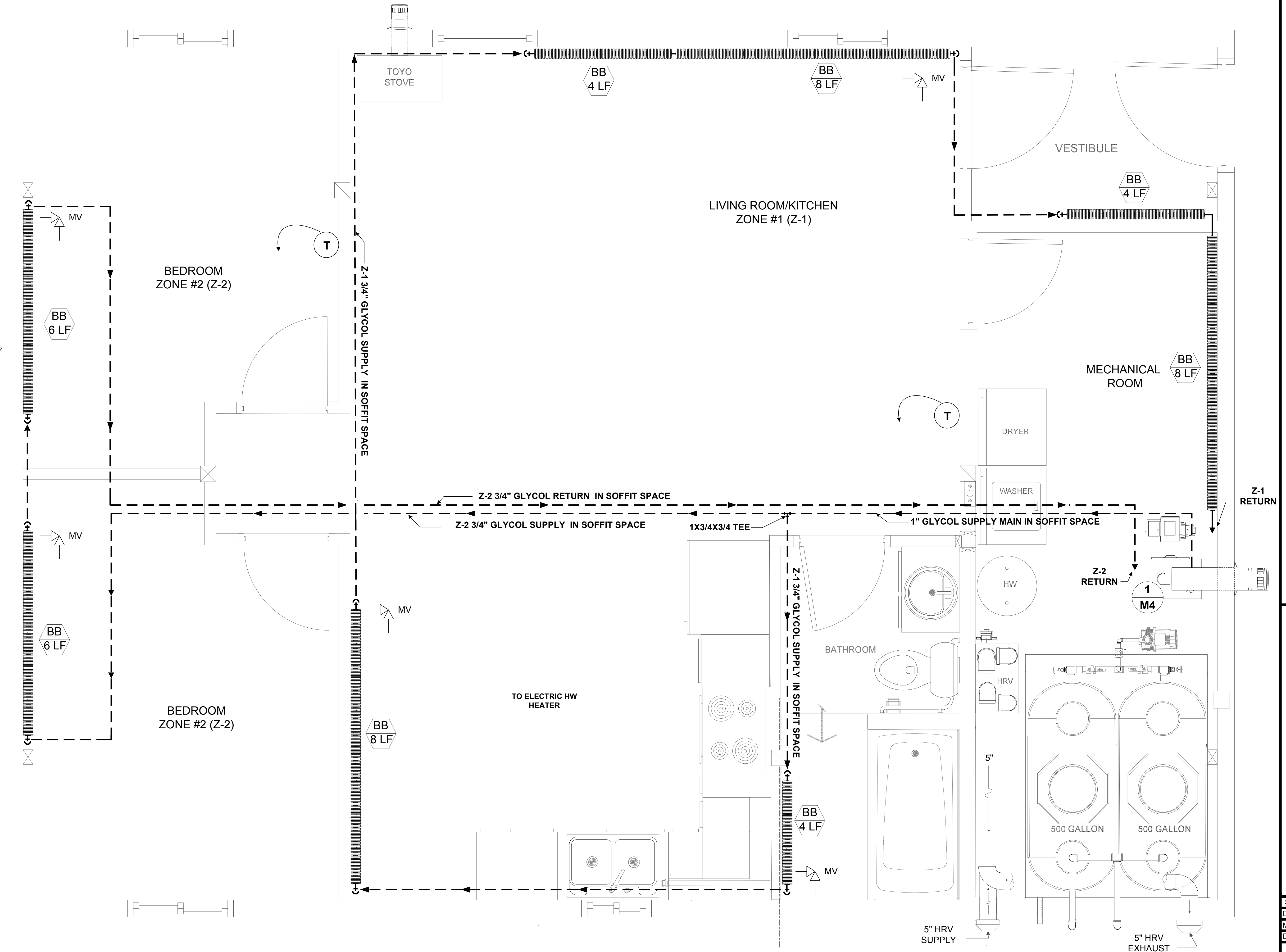
MANUAL AIR VENT (MV)

BASEBOARD / LINEAL FEET (BB LF)



2 ELECTRIC HW PREHEATER
M5 NO SCALE

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1 ONC BASEBOARD RADIATION FLOOR PLAN
M5 Scale: 3/4" = 1'-0"

DO NOT SCALE 11X17 DRAWING DESIGN IS 24X36

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DRAFT NOT FOR CONSTRUCTION
OPTION # 1- HEATING

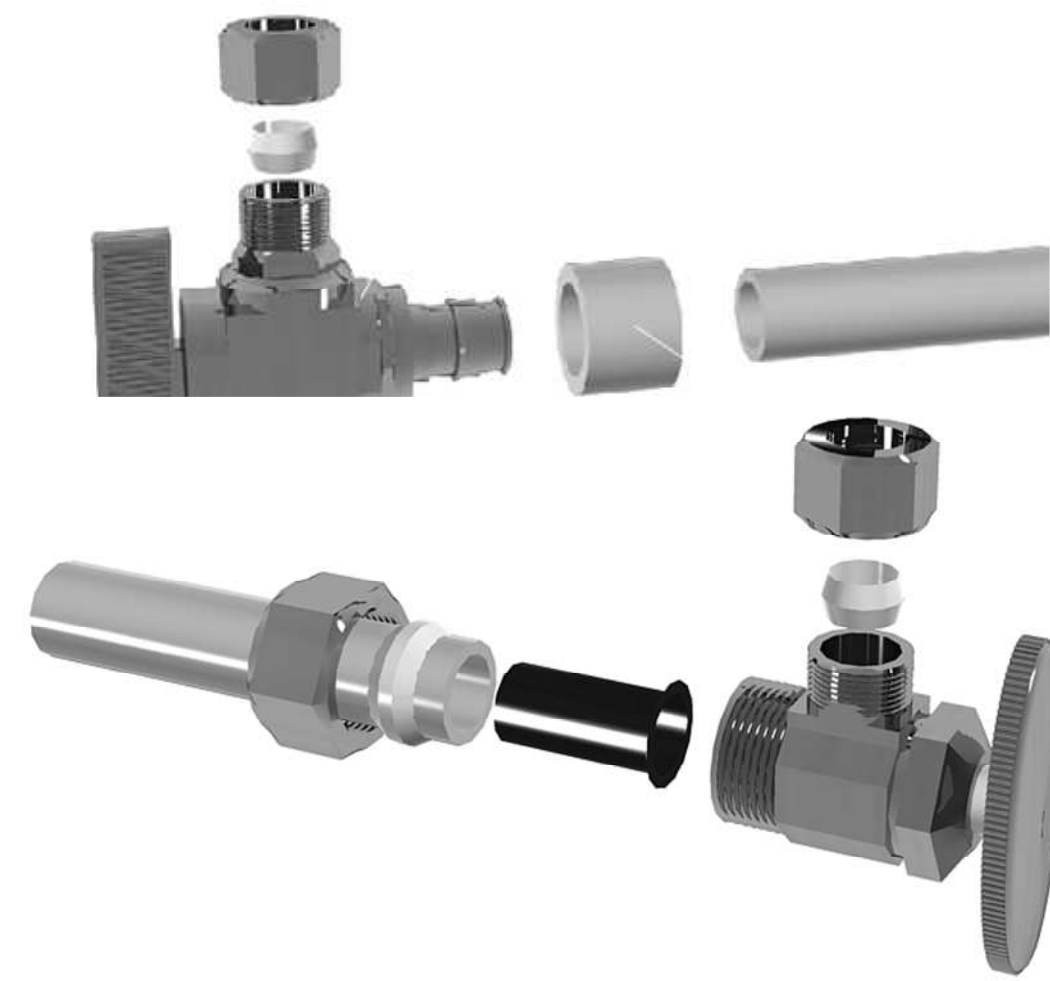
OPTION #1 HYDRONIC HEATING - BASEBOARD & APPURTENANCES
TWO BEDROOM FLOOR PLAN
 ONC HOUSING PROJECT PHASE II
 ORUTSARMIUT NATIVE COUNCIL
 2018.05.7
 Revision: None

Scale: N/A
 Design/drawn by jn
 Mechanical Administrator
 Date: 3/9/2020

Category	Sheet
M	5



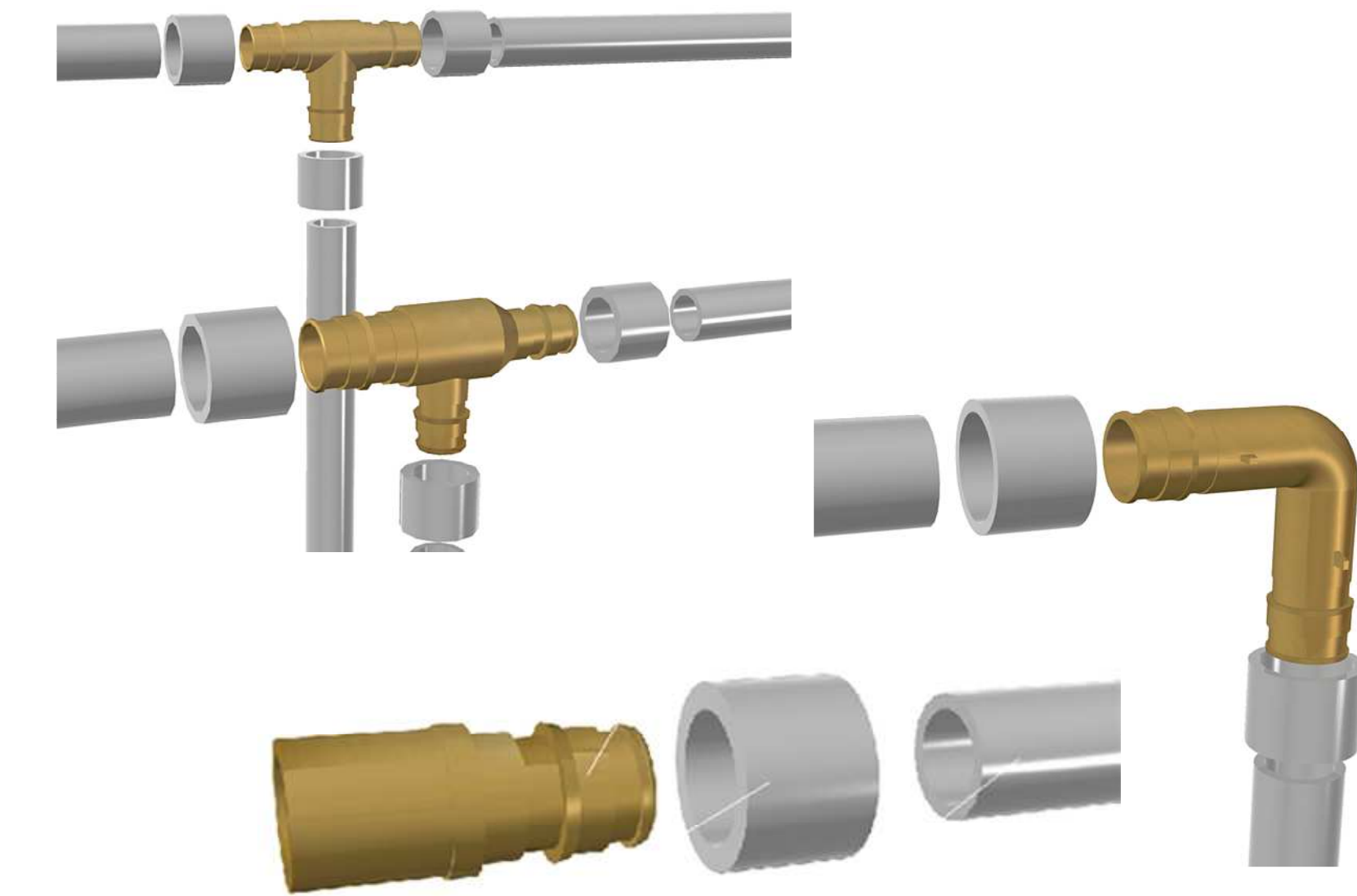
1 P-2 OATEY WASH MACHINE BOX
M-6 WITH WATER HAMMER ARRESTOR



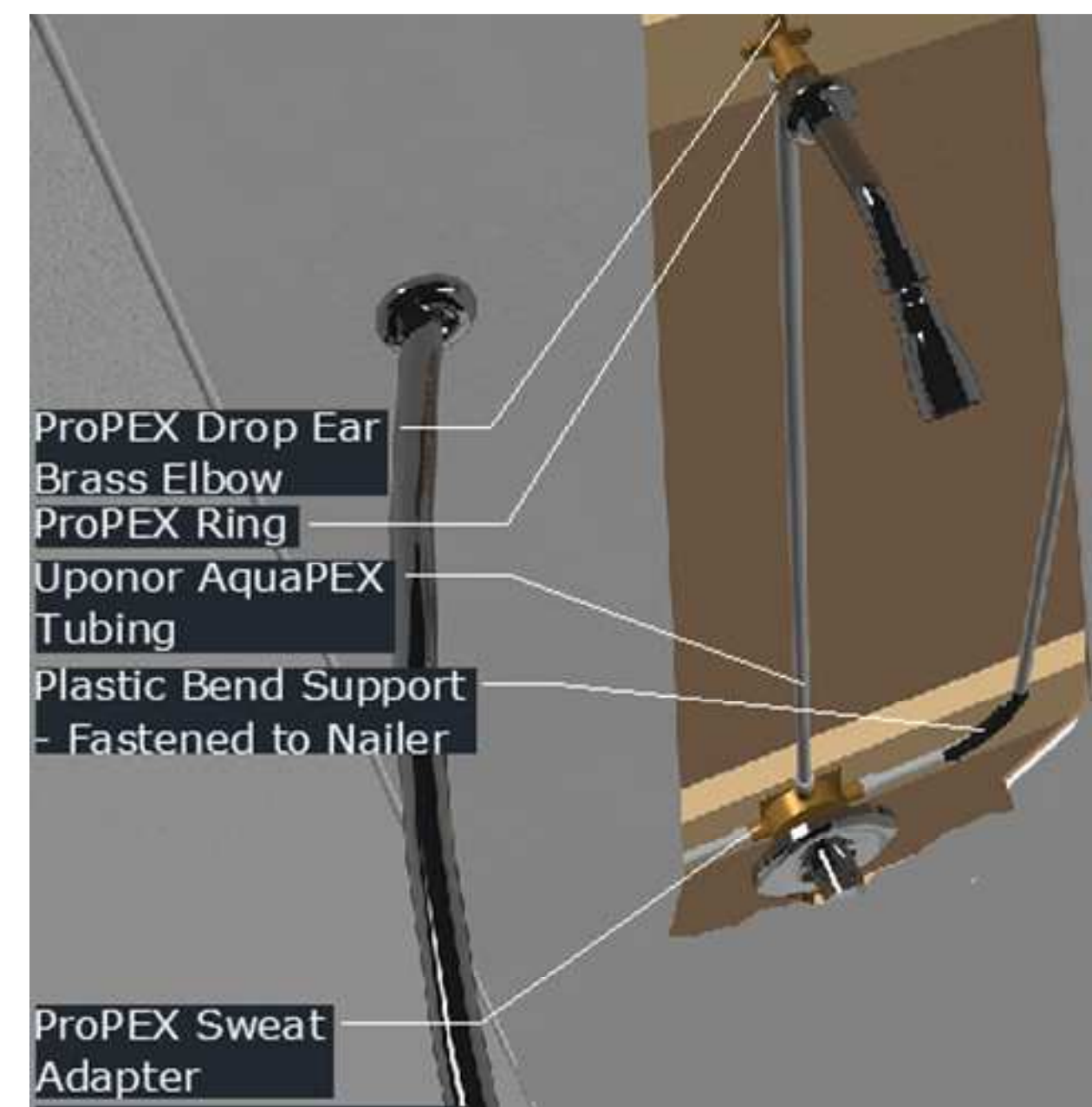
UPONOR ANGLE STOP CONNECTIONS



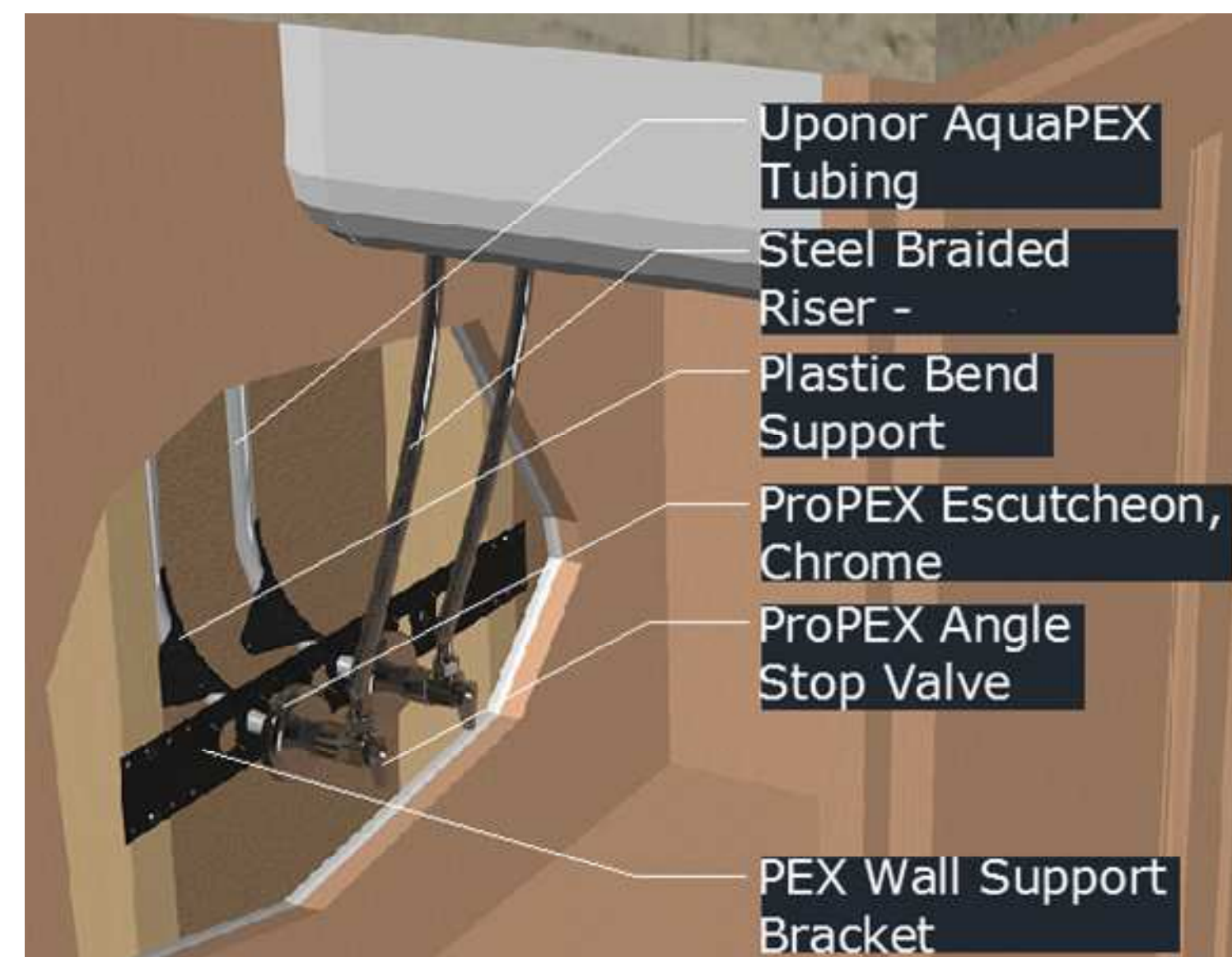
UPONOR BENDS



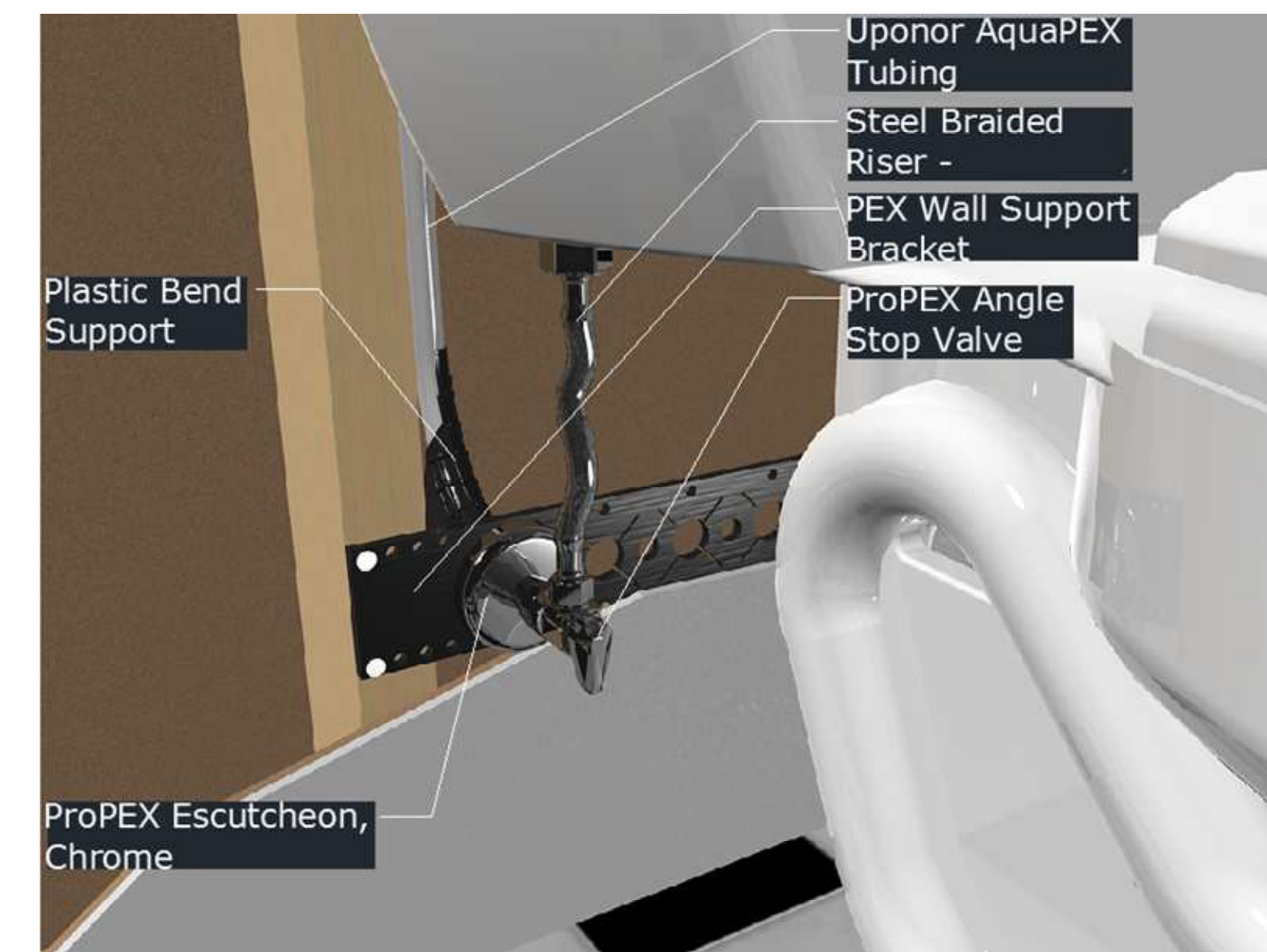
UPONOR PROPEX BRASS FITTINGS



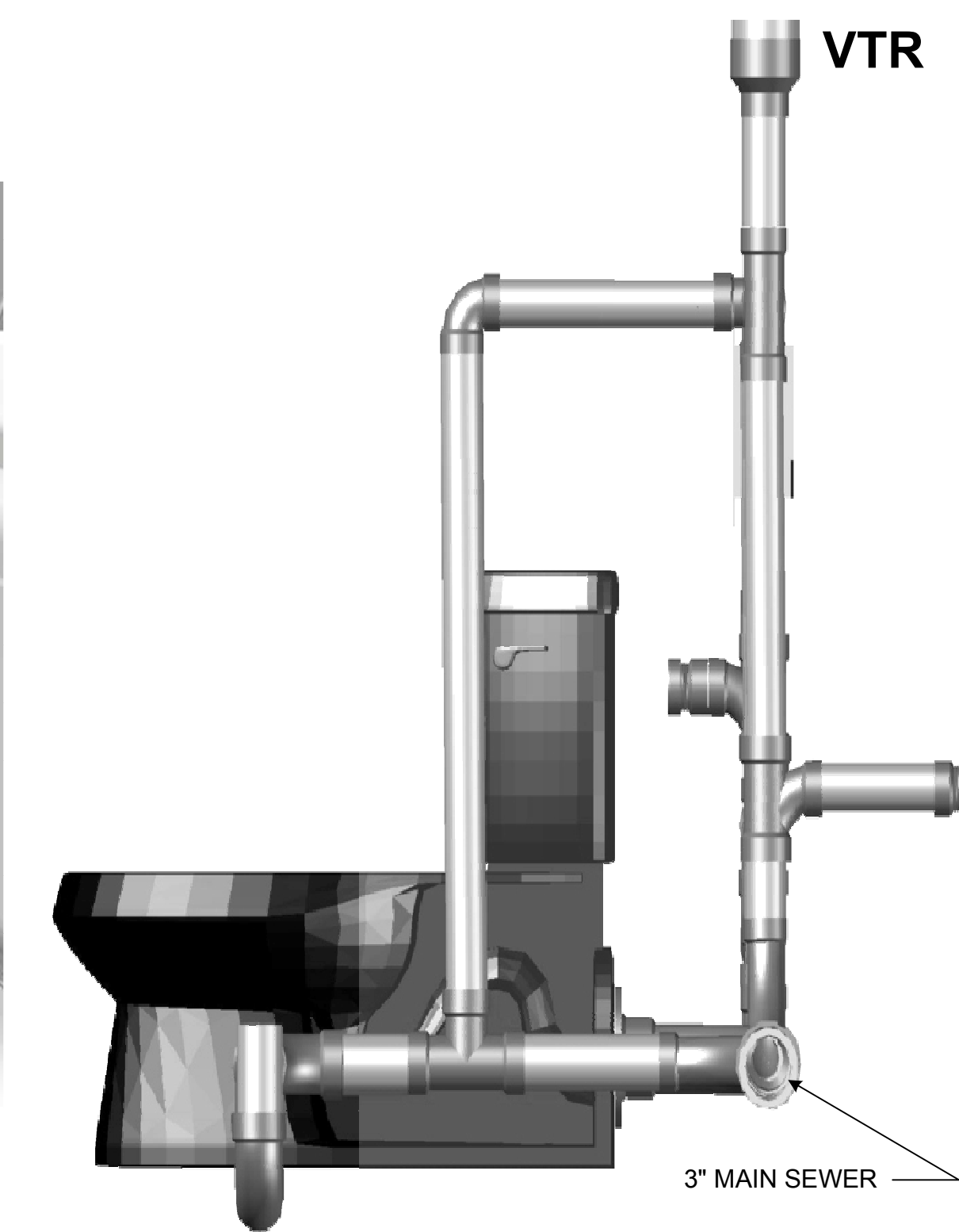
2 P-5 SHOWER DETAIL
M-6



3 P-1 & 3 KITCHEN SINK & LAV DETAIL
M-6



4 P-4 CLOSET DETAIL
M-6



7 SECTION
M-6 3D VIEW DWV EXAMPLE BACKFLUSH TOILET

UPONOR PROPEX PIPING SYSTEM WITH BRASS FITTINGS
EXCELLENT FOR FREEZING CONDITIONS

ONC DOMESTIC WATER LINES
FIXTURE CONNECTION DETAILS

PROJECT
OWNER

JERRY NICHOLSON
MECHANICAL ADMINISTRATOR
BETHEL NATIVE CORPORATION SHAREHOLDER
dba NUSLAGAK CONSULTANTS
907 277 1864

Scale: per detail
Design/Drawing by: jn
Date: 7/22/19
Job No. Bethel Demo
Contents:

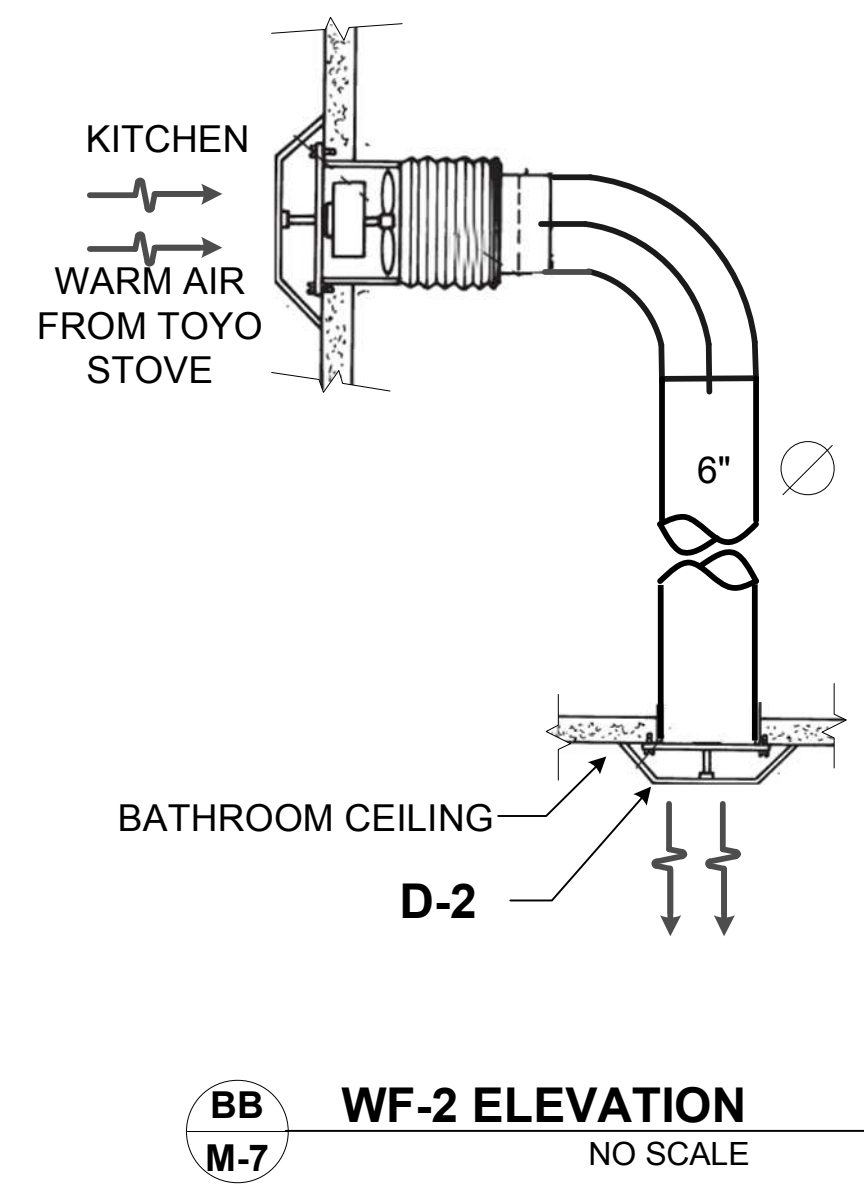
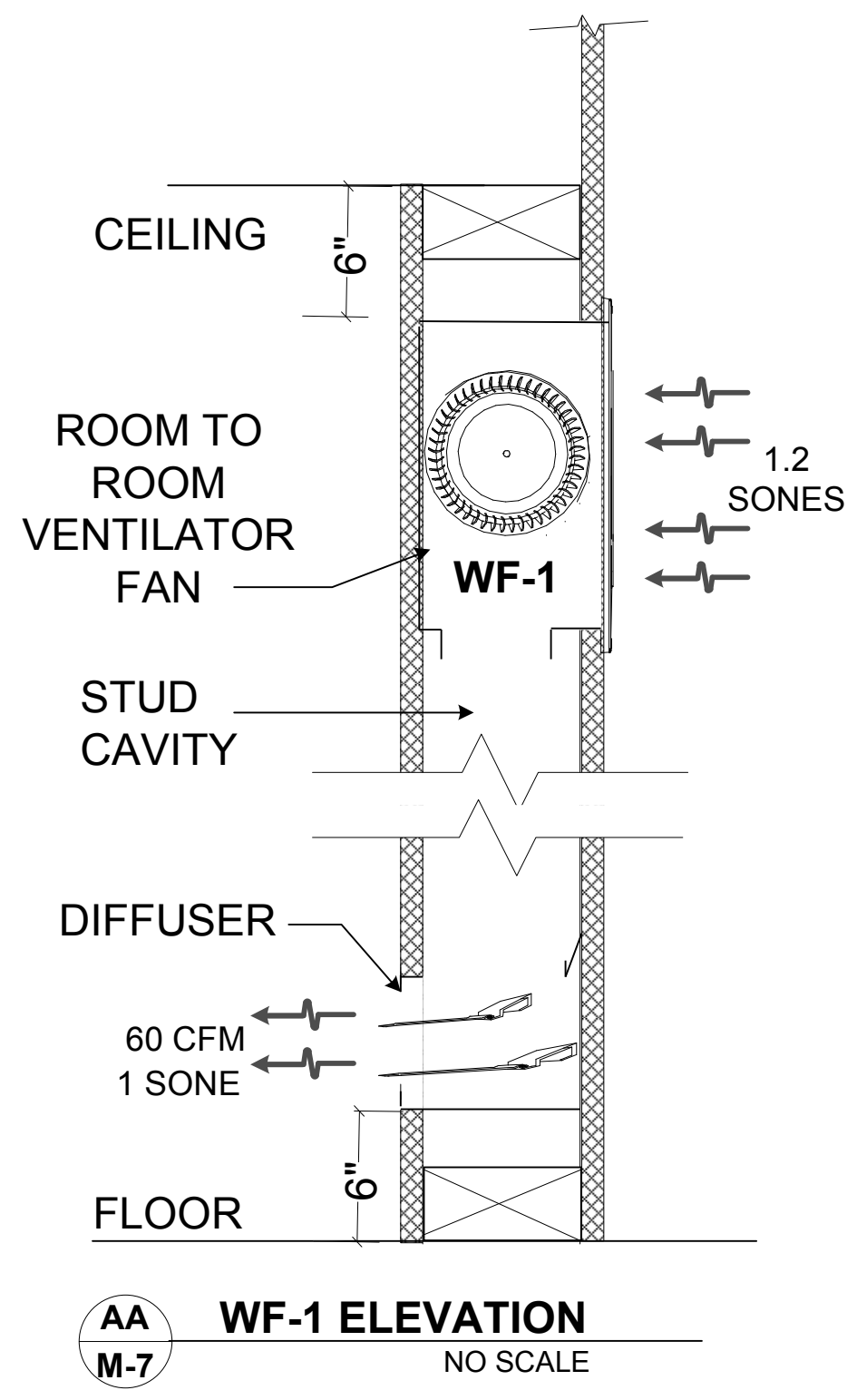
Category Sheet

M 6

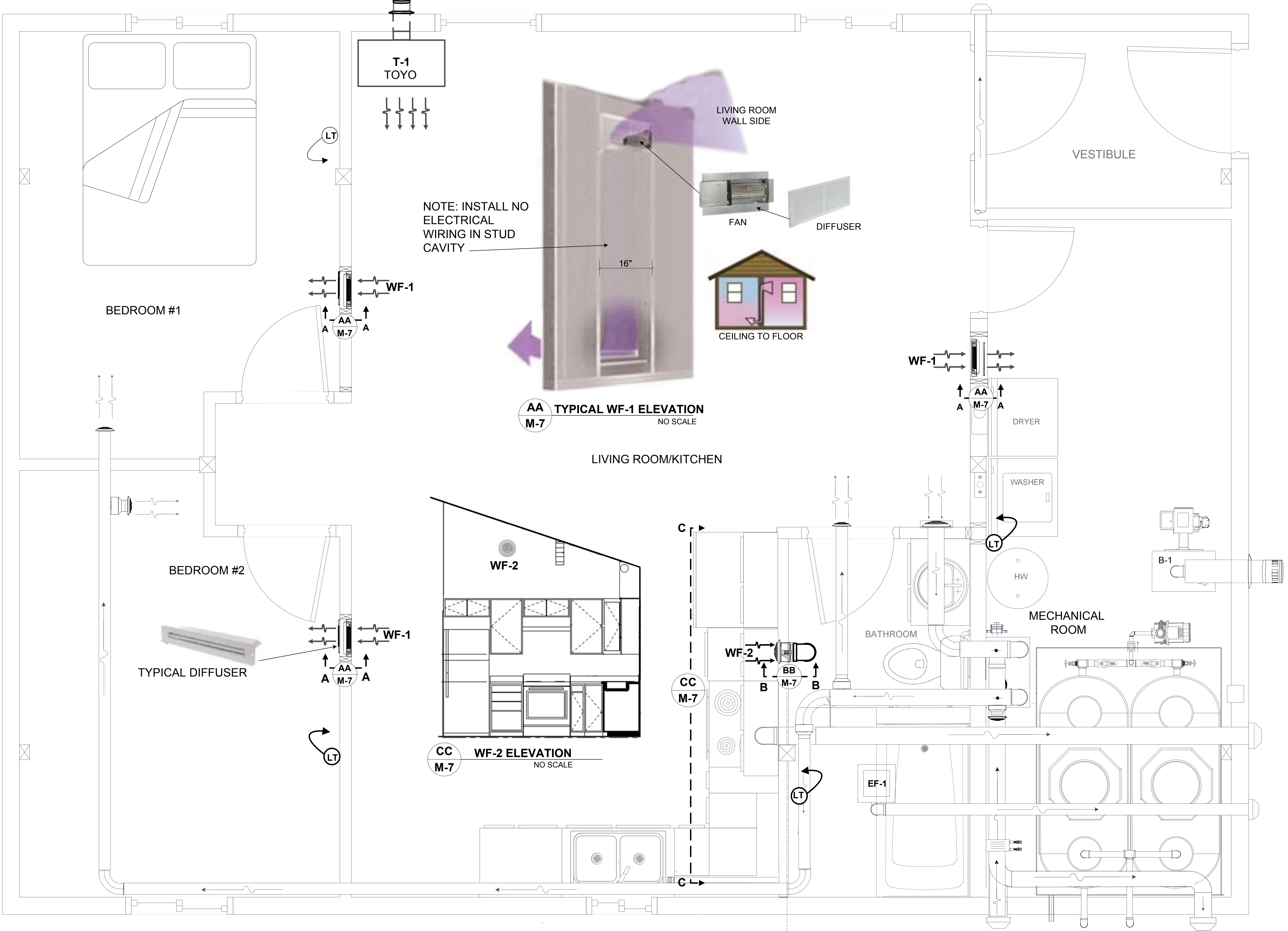
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REVISION: None
None

Revision: None



NOTE: UNDERCUT DOORS 1"
BEDROOM #1
BEDROOM #2
BATHROOM
MECHANICAL ROOM ONLY



NOTE: INSTALL NO ELECTRICAL WIRING IN STUD CAVITY



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OPTION #2 - HEATING

1
M7 ROOM TRANSFER FANS FLOOR PLAN
Scale: 3/4" = 1'-0"

OPTION # 2 HEATING - ROOM TRANSFER FANS
TWO BEDROOM FLOOR PLAN
ORUTSARMIUT NATIVE COUNCIL

JERRY NICHOLSON
MECHANICAL ADMINISTRATOR
BETHEL NATIVE CORPORATION SHAREHOLDER
NUSHAGAK CONSULTANTS
907 277 1864

Scale: N/A
Design/drawn by jn
Mechanical Administrator
Date: 4/26/2020

Category	Sheet
	M 7

(Quick Check)
ANSI/ASHRAE Standard 62.2-2013

TABLE 4.1a Ventilation Air Requirements, cfm (I-P)					
Floor Area, ft ²	Bedrooms				
	1	2	3	4	5
<500	30	38	45	53	60
501-1000	45	53	60	68	75
1001-1500	60	68	75	83	90
1501-2000	75	83	90	98	105
2001-2500	90	98	105	113	120
2501-3000	105	113	120	128	135

VENTILATION AIR REQUIREMENTS
CALCULATION METHOD #2

1) Calculate Required Air Flow
The amount of fresh air flow for any type of ventilation system is calculated according to a national standard known as ASHRAE 62.2 – 2016*, which takes into account both the number of occupants and the conditioned floor area of the home. The simple equation goes like this:

Occupants x 7.5 + square feet of conditioned floor area x 0.03 = ventilation rate in cfm

So, 3 people living in a 753-square-foot, 2-bedroom home would need a continuous air flow of

$$(3 \times 7.5) + (753 \times 0.03) = 45.09 \text{ cfm}$$

VENTILATION AIR REQUIREMENTS
CALCULATION METHOD #1

AIR CHANGE PER HOUR (ACH)

Formula Total cubic feet x 0.35 per hour = Total cubic feet per hour
Take total and divide by 60 to get cubic feet per minute (CFM)

Cubic Feet	
Bedroom #1864	Condition space 12x9x8
Bedroom #2864	
Liv/Kit/Bath.....3600	18'x25'x8' Rectangle
Liv/Kit/Bath.....1125	18'x25'x5' Vaulted
Mech.....1064	19'x7'x8' Rectangle
Mech315	25'x7'x5' Vaulted
Total Cubic Feet 7,832	

WHOLE HOUSE
(CFM Conditioned Space)

Formula 7,832 cu. Ft. x 0.35 ACH = 2,741 cubic feet per hour
2,741 cu. Ft. / 60 minutes = **45.69** cubic feet per minute (CFM)

BEDROOM #1
(CFM Conditioned Space)

Formula 864 cu. Ft. x 0.35 ACH = 302.40 cubic feet per hour
302.40 cu. Ft. / 60 minutes = **5.04** cubic feet per minute (CFM)
Two person= **10 CFM**

BEDROOM #2
(CFM Conditioned Space)

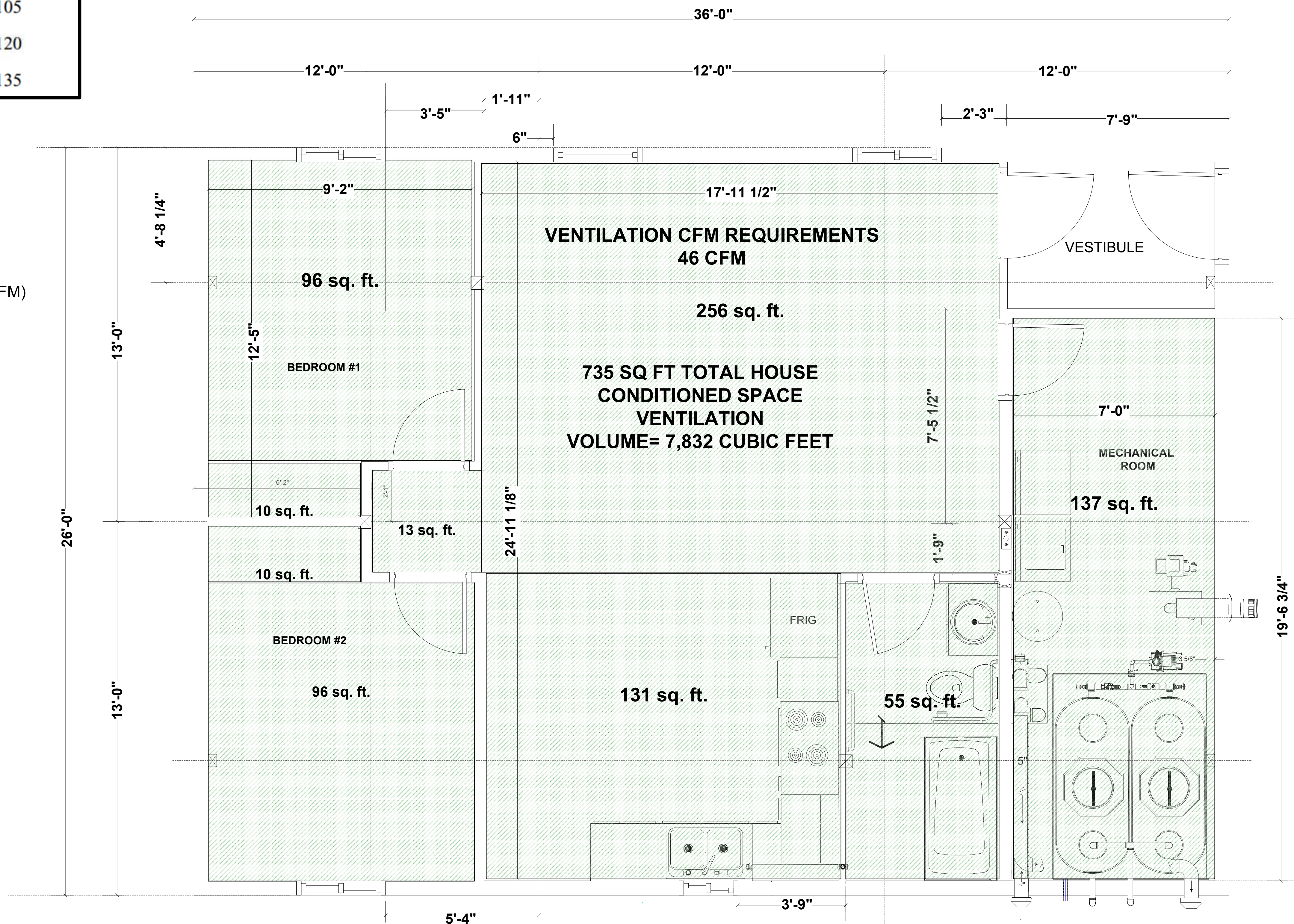
Formula 864 cu. Ft. x 0.35 ACH = 302.40 cubic feet per hour
302.40 cu. Ft. / 60 minutes = **5.04** cubic feet per minute (CFM)
One person= **5 CFM**

LIVING/KITCHEN/BATHROOM
(CFM Conditioned Space)

Formula 4725 cu. Ft. x 0.35 ACH = 1653.75 cubic feet per hour
1653.75 cu. Ft. / 60 minutes = **27.56** cubic feet per minute (CFM)

MECHANICAL ROOM
(CFM Conditioned Space)

Formula 1379 cu. Ft. x 0.35 ACH = 482.65 cubic feet per hour
482.65 cu. Ft. / 60 minutes = **8.04** cubic feet per minute (CFM)



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1 ONC TWO BEDROOM FLOOR PLAN
M8 Scale: 1/2" = 1'-0"

HRV VENTILATION CALCULATIONS
TWO BEDROOM BATHROOM DESIGN SHOWN
ONC HOUSING PROJECT PHASE II
ORUTSARMIUT NATIVE COUNCIL

JERRY NICHOLSON
MECHANICAL ADMINISTRATOR
BETHEL NATIVE CORPORATION SHAREHOLDER
dba NUSHAGAK CONSULTANTS
907 277 1864

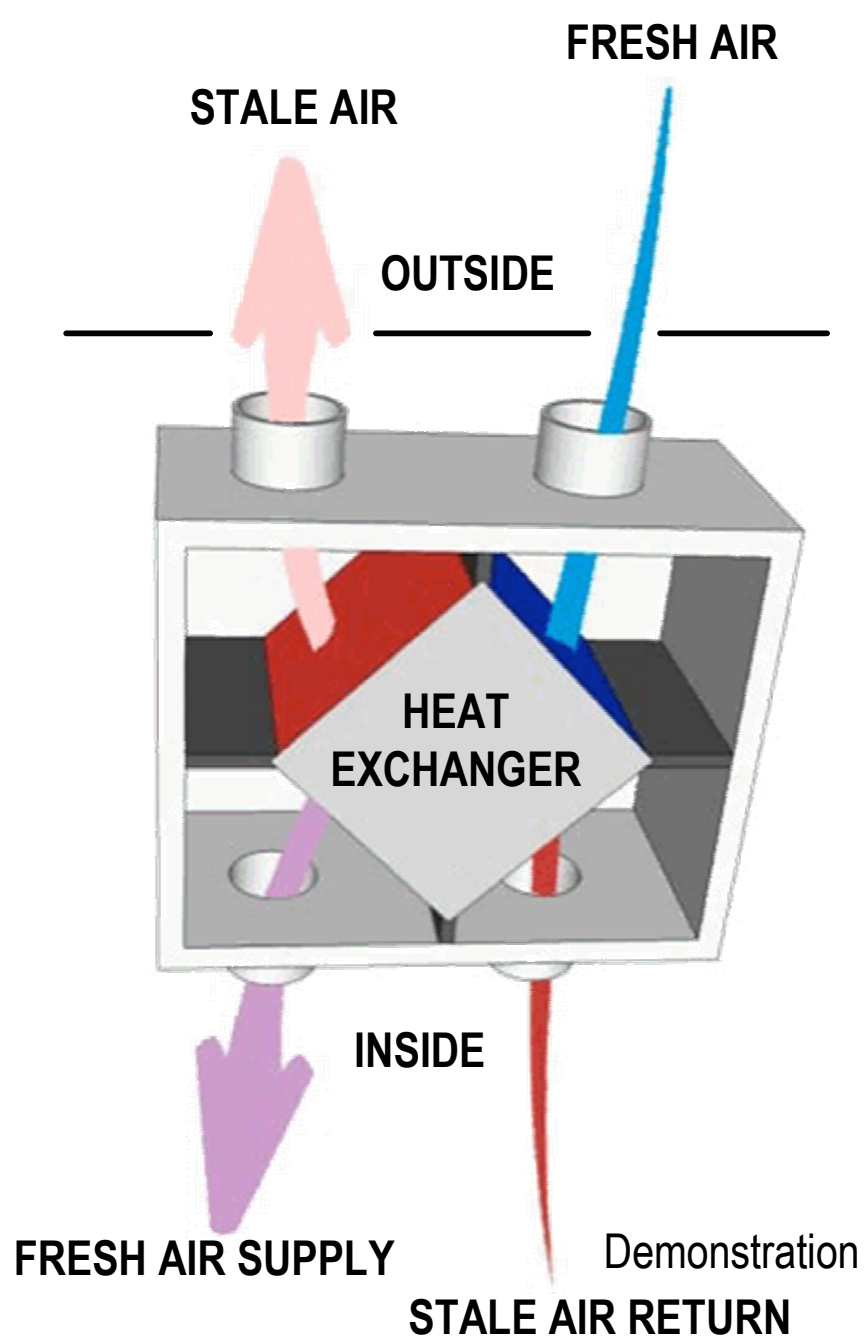
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Design/drawn by jn
Mechanical Administrator
Date: 4/24/2020

Category Sheet
M 8

2018.05.7
Revision: None
Revision: None

RECOMMENDATION - DRAFT NOT FOR CONSTRUCTION

DO NOT SCALE 11X17 DRAWING DESIGN IS 24X36



HEAT RECOVERY VENTILATOR

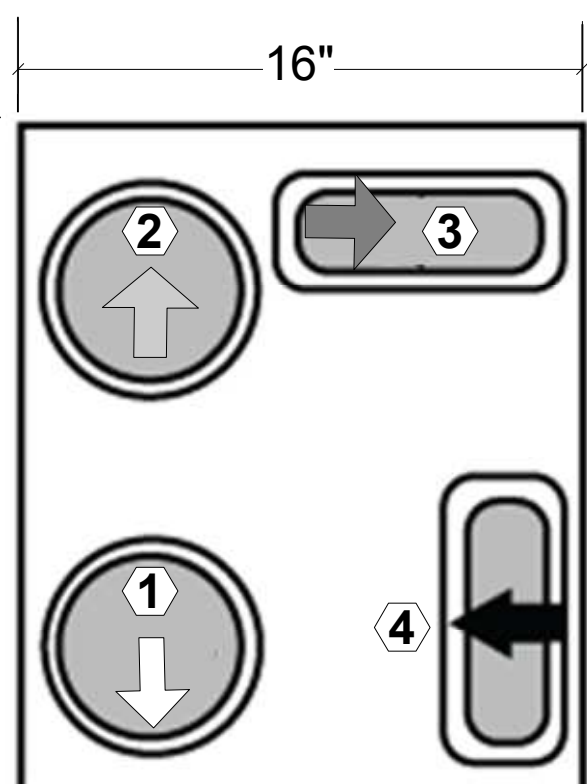
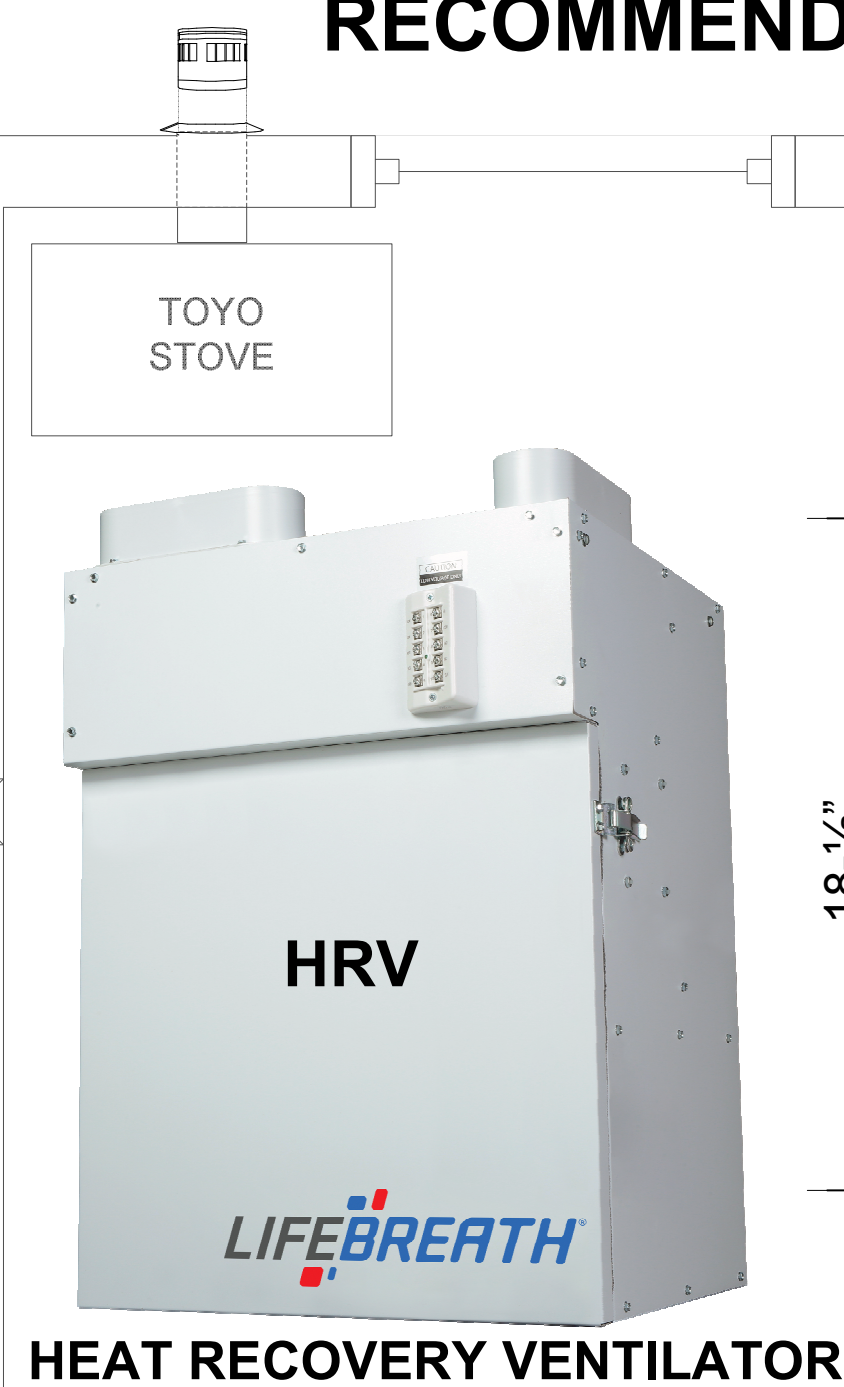
Heat Recovery Ventilators (HRVs) are becoming increasingly common in cold climate construction and are almost indispensable in today's super-insulated, airtight homes.

The main job of the HRV is to supply fresh outdoor air to the house and it will also protect the occupants as well as the home by removing excess moisture and pollutants before they have a harmful effect.

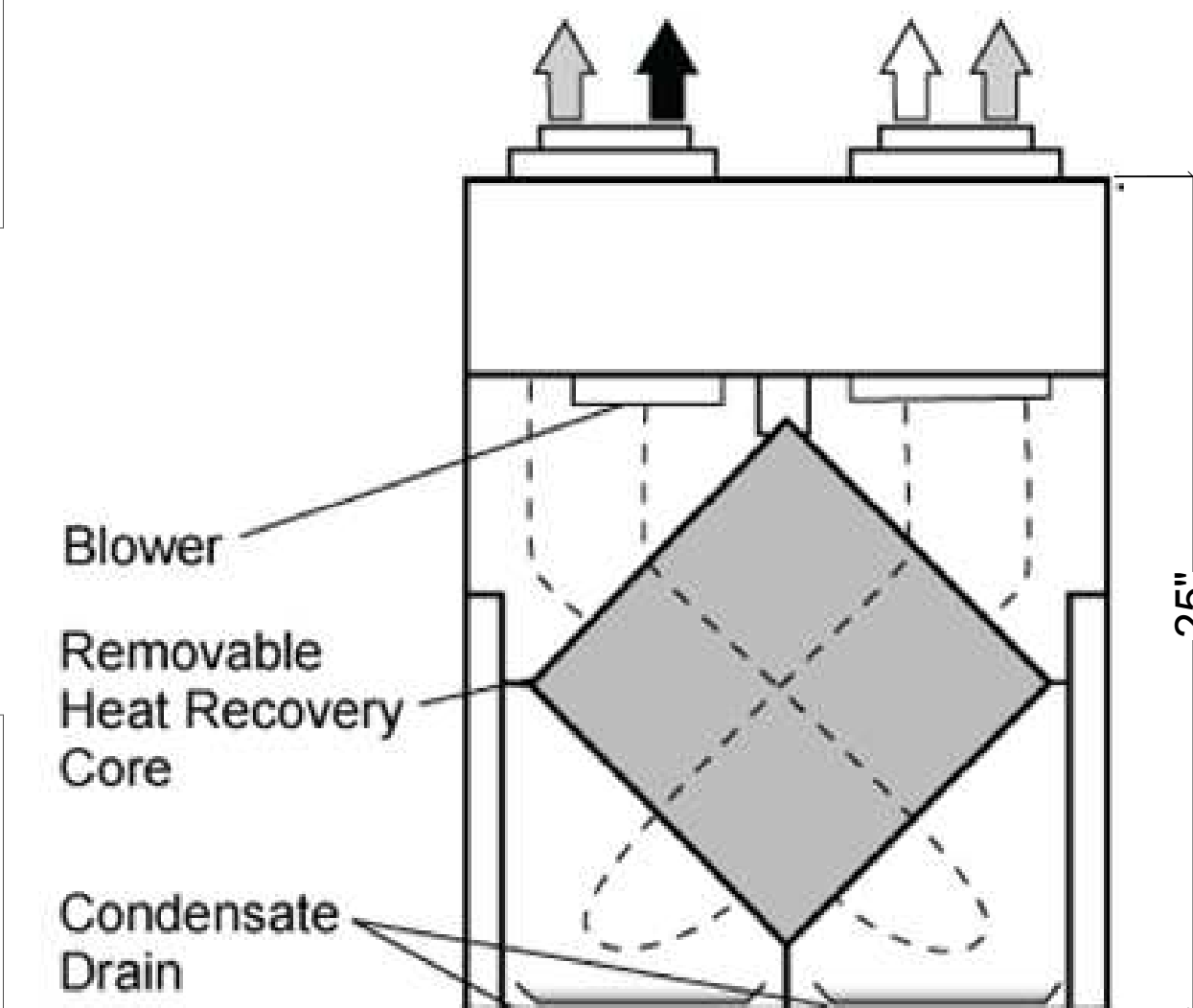
At the heart of the HRV is a heat exchanger where heat is transferred from outgoing stale air to incoming fresh air without the airstreams mixing. Most HRVs recover between 70-90% of heat from exhaust air, depending on the unit and controls, far more efficient than a standard exhaust fan that blows warm air directly outside.

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NOTE: UNDERCUT DOORS 1" BEDROOM #1 BEDROOM #2 BATHROOM MECHANICAL ROOM ONLY



- ① Stale air to outside
 - ② Fresh air from outside
 - ③ Stale air from inside
 - ④ Fresh air to inside
- AIR FLOW SYMBOL**



HRV FRONT VIEW

EX-1 BATHROOM FAN BASED ON MANUFACTURE RECOMMENDATION OF: 8' (HEIGHT OF CEILING) X .1375 = 1.10 55 (SQUARE FOOT OF ROOM) X 1.10 = 82.5 CFM'S IS REQUIRED TO ADEQUATELY EXHAUST THE AIR FROM THE ROOM.

SEE 2 A301 FOR SOFFIT DETAILS INSTALL NO ELBOWS

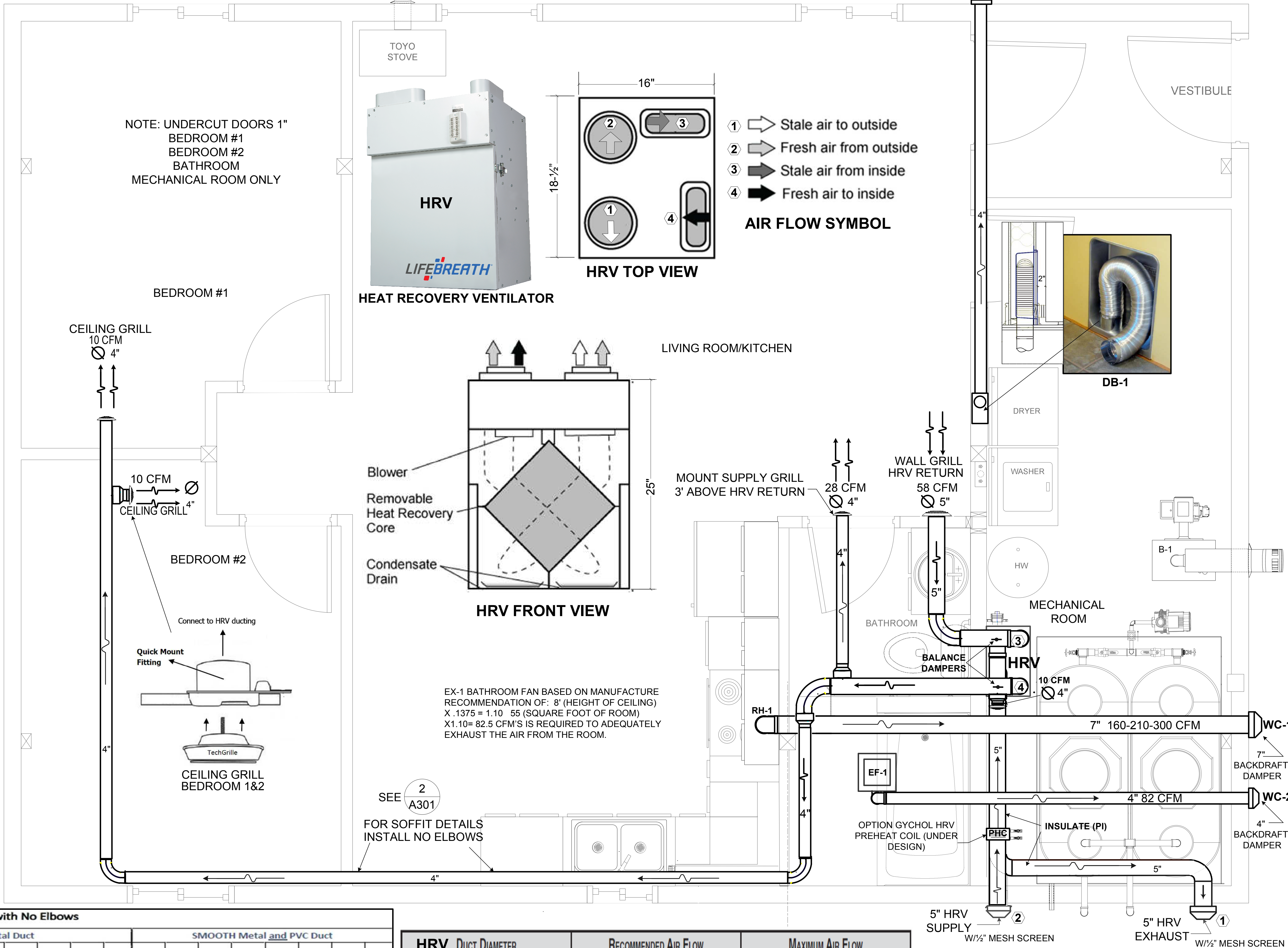


Table 1-6. Maximum Duct Length (ft.) with No Elbows

DIAMETER	HRV Fan CFM*	FLEX Metal Duct								SMOOTH Metal and PVC Duct							
		50	80	100	125	150	200	250	300	50	80	100	125	150	200	250	300
4"	56'	4'	NA	NA	NA	NA	NA	NA	114'	31'	10'	NA	NA	NA	NA	NA	NA
5"	No Limit	81'	42'	16'	2'	NA	NA	NA	No Limit	152'	91'	51'	28'	4'	NA	NA	NA

The table assumes no elbows. Make the following deductions:
 • Subtract 15 feet for each 90° elbow. • Subtract 7.5 feet for each 45° offset.

HRV DUCT DIAMETER	RECOMMENDED AIR FLOW	MAXIMUM AIR FLOW
4" Ø (102 mm)	40 CFM (19 L/s OR 68 m³/h)	60 CFM (28 L/s OR 102 m³/h)
5" Ø (127 mm)	75 CFM (35 L/s OR 127 m³/h)	110 CFM (52 L/s OR 187 m³/h)

1 M9 HRV & DUCT LAYOUT FLOOR PLAN
Scale: 3/4" = 1'-0"

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HEAT RECOVERY VENTILATOR (HRV) & DUCTS & APPURTENANCES
TWO BEDROOM FLOOR PLAN
 ONC HOUSING PROJECT PHASE II
 ORUTSARMIUT NATIVE COUNCIL
 2018.05.7
 Revision: None

JERRY NICHOLSON
 MECHANICAL ADMINISTRATOR
 BETHEL NATIVE CORPORATION SHAREHOLDER
 dba NUSHAGAK CONSULTANTS
 907 277 1864

Scale: N/A	Design/drawn by jn
Mechanical Administrator	Date: 4/26/2020
Category	Sheet
M	9