COUNTY

NORTH CAROLINA



PLUMBING GENERAL NOTES

- GENERAL AND SPECIAL CONDITIONS OF THE CONTRACT APPLY TO THE PLUMBING SCOPE OF WORK. THE PLUMBING DRAWINGS AND SPECIFICATIONS SHALL NOT BE INTERPRETED AS WAIVING OR OVERRULING ANY REQUIREMENTS EXPRESSED IN GENERAL CONDITIONS.
- PLUMBING WORK SHALL BE INSTALLED IN ACCORDANCE WITH THE NORTH CAROLINA STATE PLUMBING CODE AND WITH THE REQUIREMENTS OF THE LOCAL AUTHORITY HAVING JURISDICTION.
- PROVIDE ALL LABOR, MATERIALS, AND EQUIPMENT REQUIRED FOR THE COMPLETION AND OPERATION OF ALL
- APPLY AND PAY FOR ALL NECESSARY PERMITS, FEES, AND INSPECTIONS REQUIRED BY ANY PUBLIC AUTHORITY HAVING JURISDICTION. ACREAGE CHARGES, FACILITIES CHARGES, AND BOND PROPERTY ASSESSMENTS ARE NOT TO BE CONSTRUED TO BE A PART OF THIS CONTRACT.

PLUMBING SYSTEMS IN ACCORDANCE WITH ALL APPLICABLE CODES.

- WARRANT THE SYSTEM LABOR, MATERIALS, AND EQUIPMENT FOR THE TIME PERIOD SPECIFIED IN THE PROJECT MANUAL. IF NO WARRANTY SECTION IS PROVIDED, THEN WARRANT THE SYSTEM LABOR, MATERIALS, AND EQUIPMENT FOR A MINIMUM OF ONE (1) YEAR AFTER COMPLETION AND ACCEPTANCE. PRIOR TO TURNING THE COMPLETED SYSTEM OVER TO THE OWNER, REVIEW THE INSTALLATION WITH THE ENGINEER AND REPLACE OR REPAIR ANY DEFECTIVE WORKMANSHIP, EQUIPMENT, AND MATERIALS AT NO ADDITIONAL COST TO THE OWNER.
- COORDINATE ALL PLUMBING PIPING LOCATIONS, ROUGH-IN LOCATIONS, AND EQUIPMENT LOCATIONS WITH OTHER TRADES TO AVOID CONFLICTS AND INTERFERENCES. FINAL PIPING AND EQUIPMENT LOCATIONS SHALL BE A CODE COMPLIANT INSTALLATION FOR ALL TRADES.
- PLUMBING PLANS SHALL NOT BE SCALED. REFERENCE THE ARCHITECTURAL PLANS FOR DIMENSIONS OF ALL LOCATIONS OF PLUMBING FIXTURES, FLOOR DRAINS, COLUMNS, WALLS, DOORS, ETC.
- WHERE DISCREPANCIES ARE FOUND IN THE DRAWINGS AND SPECIFICATIONS, THE MORE STRINGENT SHALL APPLY. CONTACT ENGINEER FOR CLARIFICATION.
- PROVIDE PRODUCTS REQUIRING ELECTRICAL CONNECTIONS LISTED AND CLASSIFIED BY UNDERWRITERS' LABORATORIES, INC. (UL), AS SUITABLE FOR THE PURPOSE SPECIFIED.
- 10. ALL PIPING SHALL BE MANUFACTURED IN THE UNITED STATES OF AMERICA.
- 1. ALL VALVES, BACKFLOW PREVENTERS, BOOSTER PUMPS, ETC. SERVING THE DOMESTIC WATER SYSTEM SHALL MEET LEAD FREE STANDARDS PER ANSI/NSF 372 AND NSF 61, ANNEX G.
- PROVIDE COMPLETE PLUMBING FIXTURES AND EQUIPMENT. INCLUDE SUPPLIES, STOPS, VALVES, FAUCETS, DRAINS, TRAPS, TAILPIECES, ESCUTCHEONS, ETC. AND INSTALL PER THE MANUFACTURER'S INSTALLATION INSTRUCTIONS.
- 13. CUT WALLS, FLOORS, AND CEILINGS AS REQUIRED FOR INSTALLATION OF PLUMBING WORK. ALL CUTTING SHALL BE HELD TO A MINIMUM. PATCH AND FINISH SURFACES TO MATCH ADJOINING SURFACES.
- 14. PIPE PENETRATIONS THROUGH WALLS, PARTITIONS, AND FLOORS SHALL BE SLEEVED. CORE DRILLING THROUGH WALLS AND PARTITIONS IS PERMITTED IF PERFORMED IN A NEAT CRAFTSMAN LIKE MANNER. OPENINGS THROUGH WALLS, PARTITIONS, AND FLOORS SHALL BE LARGE ENOUGH FOR PIPE INSULATION TO REMAIN CONTINUOUS THROUGH THE PENETRATION. PIPES PENETRATING THROUGH EXTERIOR WALLS SHALL BE SEALED WATER TIGHT. INSTALL ESCUTCHEONS IN ALL EXPOSED AREAS.
- I5. PIPING AND SPECIALTIES SHALL BE LOCATED CONCEALED IN WALLS, PARTITIONS, OR ABOVE CEILINGS UNLESS NOTED OTHERWISE. PIPING IN EXPOSED AREAS SHALL BE RUN TIGHT TO STRUCTURAL ELEMENTS.
- 16. PROVIDE ACCESS DOORS FOR ALL SPECIALTIES, VALVES, WATER HAMMER ARRESTERS, TRAP PRIMERS, ETC., CONCEALED BEHIND WALLS OR CEILINGS THAT REQUIRE MAINTENANCE ACCESS.
- I7. DO NOT INSTALL PIPING IN AREAS SUBJECT TO FREEZING TEMPERATURES. INSTALL PIPING SHOWN IN EXTERIOR WALLS ON THE CONDITIONED SIDE OF THE WALL INSULATION.
- 18. PIPING, VENTS, ETC. EXTENDING THROUGH EXTERIOR WALLS AND/OR THE ROOF SHALL BE FLASHED AND COUNTER-FLASHED IN A WATERPROOF MANNER. COORDINATE FLASHING WITH THE GENERAL CONTRACTOR.
- 19. PROVIDE A CHROME-PLATED FINISH FOR ALL EXPOSED PIPING FOR PLUMBING FIXTURES IN FINISHED AREAS.
- 20. PROVIDE NON-CONDUCTING DIELECTRIC UNIONS WHENEVER CONNECTING DISSIMILAR METALS. 21. ATTACH HANGERS TO STRUCTURE. SUPPORT PIPING IN ACCORDANCE WITH SECTION 308 OF THE NORTH
- 22. PROVIDE MANUFACTURER'S RECOMMENDED CLEARANCES AROUND ALL EQUIPMENT FOR MAINTENANCE.
- 23. VALVES AND OTHER PIPING ACCESSORIES REQUIRING ACCESS SHALL BE INSTALLED IN ACCESSIBLE LOCATIONS NO MORE THAN EIGHTEEN (18) INCHES ABOVE THE CEILING, PROVIDE OFFSETS IN PIPING AS NEEDED TO MEET THIS REQUIREMENT.
- 4. FIRESTOP ALL PENETRATIONS OF FIRE-RATED WALLS, FLOORS, AND PARTITIONS. PROVIDE A DEVICE(S) OR SYSTEM(S) WHICH HAS BEEN TESTED AND LISTED AS COMPLYING WITH ASTM E814 AND INSTALL IN ACCORDANCE WITH THE CONDITIONS OF THE LISTING. PROVIDE A DEVICE(S) OR SYSTEM(S) WITH AN F-
- RATING EQUAL TO THE RATING OF THE ASSEMBLY BEING PENETRATED. REFER TO ARCHITECTURAL PLANS FOR WALL AND FLOOR TYPES. 5. PROVIDE PIPING LABELS FOR ALL PLUMBING PIPING. PIPING LABELS SHALL BE ACRYLIC FACED, WRAP-AROUND TYPE. EACH LABEL SHALL INDICATE THE PIPING CONTENTS, DIRECTION OF FLOW AND SHALL BEAR

THE MANUFACTURER'S STANDARD COLOR AND NOMENCLATURE FOR THE SERVICE INDICATED.

SUBMITTALS:

- PROVIDE SUBMITTALS BEARING THE CONTRACTOR'S REVIEW STAMP FOR ALL PLUMBING FIXTURES, PIPING, EQUIPMENT, AND ACCESSORIES IN ELECTRONIC FORMAT (PDF).
- NO PRIVATELY LABELED MATERIALS WILL BE ACCEPTED AS EQUALS TO PRODUCTS SPECIFIED HEREIN.
- THE PLUMBING CONTRACTOR IS RESPONSIBLE FOR ALL COSTS ASSOCIATED WITH SUBSTITUTIONS TO SPECIFIED PLUMBING FIXTURES AND EQUIPMENT INCLUDING BUT NOT LIMITED TO: PROVIDING MAINTENANCE ACCESS CLEARANCE, PIPING, ELECTRICAL, REPLACEMENT OF OTHER SYSTEM COMPONENTS, BUILDING ALTERATIONS, ETC. AND ANY MODIFICATIONS TO ASSOCIATED MECHANICAL, ELECTRICAL, OR PLUMBING SYSTEMS REQUIRED BY THE EQUIPMENTS INSTALLATION INSTRUCTIONS. ALL COSTS ASSOCIATED WITH SUBSTITUTIONS SHALL BE INCLUDED IN THE ORIGINAL BASE BID.

COORDINATION DRAWINGS

THE MECHANICAL CONTRACTOR SHALL ORGANIZE COORDINATION MEETINGS TO DEVELOP A SET OF COORDINATION DRAWINGS WITH ALL CONTRACTORS (ELECTRICAL, MECHANICAL, PLUMBING, IT/DATA, AND GENERAL CONTRACTOR). THE MECHANICAL CONTRACTOR WILL HAVE THE LEAD RESPONSIBILITY FOR THE COORDINATION DRAWINGS. THE MECHANICAL CONTRACTOR SHALL PRODUCE THE ORIGINAL DRAWINGS AND FORWARD THE DRAWINGS TO EACH OF THE OTHER CONTRACTORS FOR THEM TO ADD THEIR SYSTEMS TO THIS SET OF COORDINATION DRAWINGS. THE CONTRACTORS WILL DEVELOP THE DRAWINGS IN THIS ORDER: MECHANICAL, PLUMBING, ELECTRICAL, IT/DATA, AND GENERAL. THIS SHALL ALSO BE THE ORDER OF PRECEDENCE FOR INSTALLATION OF SYSTEMS. ANY RELOCATION OF SYSTEM ROUTINGS WILL BE FOUND IN THE COORDINATION PHASE AND NOTICED BY EACH OF THE CONTRACTORS. THESE DRAWINGS, WHEN COMPLETED, SHALL BE SIGNED OFF BY ALL OF THE ABOVE LISTED PARTIES. DRAWINGS SHALL BE COMPLETED PRIOR TO FABRICATION AND INSTALLATION OF DUCTWORK AND PIPING SYSTEMS, OR PURCHASE OF EQUIPMENT. THE

- ALL COORDINATION DRAWINGS WILL BE PRODUCED AT 1/4" = 1'-0 SCALE.
- DRAWINGS WILL BE ORIGINAL DRAWINGS AND NOT OVERLAYS OF THE CONTRACT/DESIGN DRAWINGS. COORDINATION DRAWINGS ARE NOT SHOP DRAWINGS AND ARE REQUIRED IN ADDITION TO SHOP

FOLLOWING ITEMS REPRESENT THE MINIMUM REQUIREMENTS AND COORDINATION DRAWINGS:

DRAWINGS. ONCE THE COMPLETE COORDINATION DRAWINGS HAVE BEEN COMPILED, THE MECHANICAL CONTRACTOR WILL DISTRIBUTE ONE SIGNED SET TO EACH OF THE FOLLOWING CONTRACTORS: ELECTRICAL, PLUMBING, AND GENERAL. ADDITIONAL SETS WILL BE SENT TO THE OWNER, ARCHITECT, AND ENGINEER.

THE USE OF BUILDING INFORMATION MODELING (BIM) THROUGHOUT THE CONSTRUCTION PROCESS IS A REQUIREMENT FOR THIS PROJECT TO HELP REDUCE OR ELIMINATE FIELD-DETECTED CONFLICTS, IMPROVE CONSTRUCTION QUALITY, AND MAINTAIN AN AGGRESSIVE SCHEDULE. THE CONTRACTOR WILL BE RESPONSIBLE FOR CREATING THE MODEL AND MANAGING THE COORDINATION AND COLLISION DETECTION PROCESS. THE MODEL MUST CONTAIN COMPLETE ARCHITECTURAL, STRUCTURAL, MECHANICAL, ELECTRICAL, AND PLUMBING SYSTEMS CONSISTENT WITH THE DESIGN AND FABRICATION DRAWINGS.

UNDERSLAB DRAINAGE VIDEO RECORDING

THE CONTRACTOR SHALL PERFORM TWO SEPARATE DIAGNOSTIC VIDEOS OF UNDERSLAB DRAINAGE LINES. THE FIRST VIDEO SHALL BE PERFORMED AFTER ALL FLOOR SLABS HAVE BEEN POURED. THE SECOND VIDEO SHALL BE RECORDED AFTER VISUAL VERIFICATION BY THE DESIGN ENGINEER THAT ALL DEFICIENCIES FROM THE FIRST DIAGNOSTIC VIDEO HAVE BEEN CORRECTED AND PRIOR TO THE REQUEST FOR SUBSTANTIAL COMPLETION OF THE PROJECT. THE CONTRACTOR SHALL SUBMIT EACH VIDEO RECORDING TO THE OWNER AND DESIGN ENGINEER IN A DIGITAL FILE FORMAT FOR FINAL REVIEW. THE DIAGNOSTIC VIDEO SHALL CONTAIN THE PIPE SEGMENT DESIGNATION MATCHING THE SUBMITTED REFERENCE PLAN AT THE BEGINNING OF THE RECORDING FOR EACH PIPE SEGMENT. THE DIAGNOSTIC VIDEOS APPLY TO ALL UNDERGOUND SANITARY WASTE PIPING 3" AND LARGER.

- PRIOR TO EACH DIAGNOSTIC VIDEO THE CONTRACTOR SHALL: SUBMIT A DIAGNOSTIC VIDEO REFERENCE PLAN OF ALL UNDERGROUND DRAINAGE PIPING CONTAINING DESIGNATIONS FOR EACH PIPING SEGMENT (i.e. PIPE SEGMENT A-B, B-C, C-D, etc.) TO THE ENGINEER.
- PROVIDE AT LEAST TWO WEEKS NOTICE TO THE DESIGN ENGINEER AND THE OWNERS REPRESENTATIVE. CLEAN ALL DRAINAGE LINES TO BE FREE OF ALL DEBRIS.
- PROVIDE A LIGHT STREAM OF CLEAR WATER FLOWING THROUGH THE PIPE SEGMENT DURING THE VIDEO.

PLUMBING LEGEND

ABBREVIATION DESCRIPTION

	HW	HOT WATER PIPING
	HWR	HOT WATER RETURN PIPING
	W	SANITARY WASTE PIPING
	V	SANITARY VENT PIPING
GW	GW	GREASE WASTE PIPING
GV	GV	GREASE VENT PIPING
D	D	INDIRECT DRAINAGE PIPING
		PIPING ELBOW DOWN
		TEE BOTTOM CONNECTION
$\overline{}$		PIPING ELBOW UP
		PIPING CONTINUES
$-\!$		SHUTOFF VALVE
─ ─ ▽		CHECK VALVE
		INLINE PUMP
——⊚	FCO	FLOOR CLEANOUT
——————————————————————————————————————	WCO	WALL CLEANOUT
	GCO	GRADE CLEANOUT
	FD	FLOOR DRAIN
	FS	FLOOR SINK
	HY	WALL HYDRANT
—- 	WHA-#	WATER HAMMER ARRESTER - SUFFIX INDICATES PDI SIZE

COLD WATER PIPING

	ADDITIONAL A	BBREVIATIONS	<u> </u>
AAV	AIR ADMITTANCE VALVE	НР	HORSEPOWER
AFC	ABOVE FINISH CEILING	HZ	HERTZ
AFF	ABOVE FINISH FLOOR	· ·	INCH(ES)
AFG	ABOVE FINISH GRADE	IE	INVERT ELEVATION
BFP	BACKFLOW PREVENTER	KW	KILOWATT(S)
BFC	BELOW FINISH CEILING	MAX	MAXIMUM
BFF	BELOW FINISH FLOOR	MIN	MINIMUM
BFG	BELOW FINISH GRADE	PSI	POUNDS PER SQUARE INCH
CFH	CUBIC FEET PER HOUR	RPZ	REDUCED-PRESSURE ZONE
•	DEGREE(S)	T&P	TEMPERATURE AND PRESSURE
°F	DEGREES FAHRENHEIT	TYP	TYPICAL
DN	DOWN	VTR	VENT TERMINAL THROUGH ROOF
DFU	DRAINAGE FIXTURE UNIT	WSFU	WATER SUPPLY FIXTURE UNIT
•	FOOT (FEET)		
FT-HD	FEET OF HEAD	EC	ELECTRICAL CONTRACTOR
GAL	GALLONS	FC	FIRE ALARM CONTRACTOR
GPF	GALLONS PER FLUSH	GC	GENERAL CONTRACTOR
GPH	GALLONS PER HOUR	MC	MECHANICAL CONTRACTOR
GPM	GALLONS PER MINUTE	PC	PLUMBING CONTRACTOR
HD	HUB DRAIN	SC	SPRINKLER CONTRACTOR

2018 NORTH CAROLINA **ENERGY CONSERVATION CODE** COMMERCIAL ENERGY EFFICIENCY - PLUMBING SUMMARY

C401 METHOD OF COMPLIANCE

2018 NCECC CHAPTER 4

COMCHECK PROVIDED (2018 NCECC) ASHRAE 90.1-2013 PRESCRIPTIVE COMCHECK PROVIDED (90.1-2013)

ASHRAE 90.1-2013 PERFORMANCE **ENERGY MODELING DATA PROVIDED** N/A (EXISTING LIGHTING, HVAC, AND DOM. WATER HEATING SYSTEMS TO REMAIN)

C406 ADDITIONAL EFFICIENCY PACKAGE OPTIONS

C406.5 ON-SITE RENEWABLE ENERGY C406.2 EFFICIENT MECH EQUIPMENT C406.3 REDUCED LTG DENSITY C406.6 DEDICATED OA SYSTEM

C406.4 ENHANCED LTG CONTROLS C406.7 SERVICE WATER HEATING

TAB	LE C404.2 - MINIMUN	И PERFORMANCE OF W	/ATER HEATING EQUIPMENT _C		
EQUIPMENT TYPE	SIZE CATEGORY (INPUT)	SUB CATEGORY OR RATING CONDITION	PERFORMANCE REQUIRED a,b	REQ'D SL	SPECIFIED EQPM
WATER HEATER ELECTRIC	> 12 kW	RESISTANCE	1.73V + 155, SL	293.4 BTU/H	282.7 BTU/H

ENERGY FACTOR (EF) AND THERMAL EFFICIENCY (Et) ARE MINIMUM REQUIREMENTS. IN THE ENERGY FACTOR

- EQUATION V IS THE VOLUME IN GALLONS. STANDBY LOSS (SL) IS THE MAXIMUM BTU/H BASED ON A NOMINAL 70° TEMPERATURE DIFFERENCE BETWEEN STORED WATER AND AMBIENT REQUIREMENTS. IN THE STANDBY LOSS EQUATION Q IS THE NAMEPLATE INPUT RATE IN BTU/H. IN THE EQUATIONS FOR ELECTRIC WATER HEATERS, V IS THE RATED VOLUME IN GALLONS AND V_m IS THE MEASURED VOLUME IN GALLONS. IN THE STANDBY LOSS EQUATION FOR GAS WATER HEATERS AND BOILERS, V IS THE RATED VOLUME IN GALLONS.
- REFER TO WATER HEATER SCHEDULES FOR SPECIFIED WATER HEATING EQUIPMENT TYPES, CAPACITIES (STORAGE VOLUME) AND ENERGY INPUTS (ELECTRIC AND/OR GAS).

C405.8 ELECTRICAL MOTORS (MANDATORY REQUIREMENTS)

■ ELECTRICAL MOTORS HAVE BEEN SPECIFIED TO MEET MINIMUM EFFICIENCY REQUIREMENTS PER C405.8, EXCEPT WHERE EXEMPT.

NOT APPLICABLE.

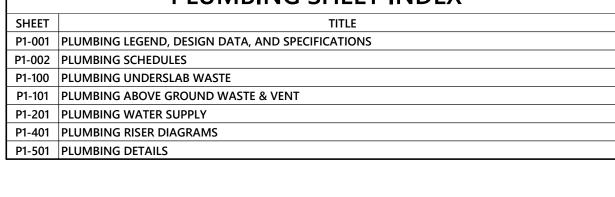
C408 - SYSTEM COMMISSIONING

■ PROJECT AREA IS LESS THAN 10,000 SQUARE FEET AND IS EXEMPT FROM THE SYSTEM COMMISSIONING REQUIREMENTS OF SECTION C408.

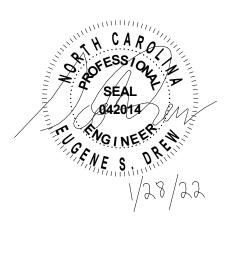
PROJECT AREA IS GREATER THAN 10,000 SQUARE FEET AND REQUIRES SYSTEM COMMISSIONING PER SECTION C408.

PLUME	PLUMBING SYSTEMS SUMMARY							
PLUMBING SYSTEM	TOTAL FIXTURE UNITS	PEAK DEMAND FLOW						
DOMESTIC WATER SUPPLY	131.50 WSFU	75.03 GPM						
SANITARY SEWER	172.00 DFU	N/A						

PLUMBING SHEET INDEX







DOCUMENTS



tary Pha Ele OV 283 On/R(7, Camero O dition 5 NC-27 **Q**

ISSUE DATE: 01/28/2022 02103.000 PROJECT #: DRAWN BY: CAW CHECKED BY: ESD © 2021 SfL+a Architects, PA All Rights Reserved

P1-001

PLUMBING LEGEND

DESIGN DATA, AND

SPECIFICATIONS

SUFFIX INDICAL SA-X SHOCK ARREST HB1 HOSE BIBB, INTERPRETATION STAINLESS STE HB2 HOSE BIBB, INTERPRETATION STAINLESS STE HB3 HOSE BIBB, EXTERNAL STAINLESS STE CO PLUG CLEANOR	DESCRIPTION ALVE, THERMOSTATIC, AUTOMATIC, ATES PIPE SIZE, SEE FLOOR PLANS TOR, SUFFIX INDICATES PDI SIZE TERIOR, EXPOSED, EEL FACE PLATE, ANTI-SIPHON TERIOR, RECESSED EEL FACE PLATE, ANTI-SIPHON VACUUM BREAKER TERIOR, EXPOSED, EEL FACE PLATE, FREEZELESS, ANTI-SIPHON			CW - x 3/4"	+*	SPECIFICATION EQUIPMENT: CIRCUIT SOLVER CS SERIES, SIZES 1/2" THRU 2", NSF 61 CERTIFIED. EQUIPMENT: SIOUX CHIEF 650 SERIES, SIZES 1/2" THRU 2", NSF 61 CERTIFIED. EQUIPMENT: WOODFORD 26P, PROVIDE VACUUM BREAKER AND METAL LOOSE KEY FOR EACH HOSE BIBB EQUIPMENT: WOODFORD B24	REMARKS PROVIDE 105°F MODEL SEE SHOCK ARRESTOR TABLE THIS SHEET MOUNT 18" AFF MOUNT 18" AFF
SUFFIX INDICAL SA-x SHOCK ARREST HB1 HOSE BIBB, INTERPRETATION STAINLESS STE HB2 HOSE BIBB, INTERPRETATION STAINLESS STE HB3 HOSE BIBB, EXTERNAL STAINLESS STE CO PLUG CLEANOR	TES PIPE SIZE, SEE FLOOR PLANS TOR, SUFFIX INDICATES PDI SIZE TERIOR, EXPOSED, EEL FACE PLATE, ANTI-SIPHON TERIOR, RECESSED EEL FACE PLATE, ANTI-SIPHON VACUUM BREAKER TERIOR, EXPOSED, EEL FACE PLATE, FREEZELESS, ANTI-SIPHON	-	-	3/4"	-	EQUIPMENT: SIOUX CHIEF 650 SERIES, SIZES 1/2" THRU 2", NSF 61 CERTIFIED. EQUIPMENT: WOODFORD 26P, PROVIDE VACUUM BREAKER AND METAL LOOSE KEY FOR EACH HOSE BIBB	SEE SHOCK ARRESTOR TABLE THIS SHEET MOUNT 18" AFF
HB1 HOSE BIBB, INTESTAINLESS STEE HB2 HOSE BIBB, INTESTAINLESS STEE HB3 HOSE BIBB, EXTESTAINLESS STEE CO PLUG CLEANOR	TERIOR, EXPOSED, EEL FACE PLATE, ANTI-SIPHON TERIOR, RECESSED EEL FACE PLATE, ANTI-SIPHON VACUUM BREAKER TERIOR, EXPOSED, EEL FACE PLATE, FREEZELESS, ANTI-SIPHON	-	-	3/4"	-	EQUIPMENT: WOODFORD 26P, PROVIDE VACUUM BREAKER AND METAL LOOSE KEY FOR EACH HOSE BIBB	
HB2 HOSE BIBB, IN STAINLESS STE HB3 HOSE BIBB, EX STAINLESS STE CO PLUG CLEANOR	TERIOR, RECESSED SEL FACE PLATE, ANTI-SIPHON VACUUM BREAKER TERIOR, EXPOSED, SEL FACE PLATE, FREEZELESS, ANTI-SIPHON		-	3/4"		PROVIDE VACUUM BREAKER AND METAL LOOSE KEY FOR EACH HOSE BIBB	
HB3 HOSE BIBB, EX STAINLESS STE CO PLUG CLEANOR	EEL FACE PLATE, ANTI-SIPHON VACUUM BREAKER TERIOR, EXPOSED, EEL FACE PLATE, FREEZELESS, ANTI-SIPHON		-	Í	-	EQUIPMENT: WOODFORD B24	MOUNT 18" AFF
STAINLESS STE CO PLUG CLEANO	EL FACE PLATE, FREEZELESS, ANTI-SIPHON	-	-				
	LIT CAST IDON DODY			3/4"	-	EQUIPMENT: ZURN Z1310-34EL, PROVIDE VACUUM BREAKER AND METAL LOOSE KEY FOR EACH HOSE BIBB	MOUNT 18" AFF
WCO WALL CLEANO	UT, CAST IRON BODY	**	-	-	-	CLEANOUT: ZURN Z-1440-BP, BRONZE PLUG	GAS / WATER TIGHT
	UT, CAST IRON BODY, STAINLESS STEEL WALL PLATE	**	-	-	-	CLEANOUT: ZURN Z-1446-BP, BRONZE PLUG	GAS / WATER TIGHT
	OUT, CAST IRON BODY, ZE TOP, ADJUSTABLE	**	-	-	-	CLEANOUT: ZURN ZN-1400-BP, BRONZE PLUG	GAS / WATER TIGHT, INSTALL TOP FLUSH WITH FINISHED FLOOR
	UT, CAST IRON BODY, NICKEL BRONZE TOP, NSTALLED IN 18"x18"x6" CONCRETE PAD	**	-	-	-	CLEANOUT: ZURN ZN-1400-BP, BRONZE PLUG INSTALL IN 18"x 18"x 6" DEEP CONCRETE PAD	GAS / WATER TIGHT, INSTALL TOP FLUSH WITH FINISHED GRADE
· · · · · · · · · · · · · · · · · · ·	CAST IRON BODY, EL BRONZE GRATE, ADJUSTABLE, TRAP PRIMER	3"	2"	-	-	DRAIN: ZURN ZN415-SZ1-DP-P-Y	INSTALL TOP FLUSH WITH FINISHED FLOOR.
· ·	CAST IRON BODY, L BRONZE GRATE, ADJUSTABLE, TRAP PRIMER	3"	2"	-	-	DRAIN: ZURN ZN415-P-Y	INSTALL TOP OF DRAIN LIP FLUSH WITH FLOOR.

ACCEPTED MANUFACTURERS:

ZURN, J.R. SMITH, WADE

WILKINS, WATTS, APOLLO

SIOUX CHIEF, PPP INC., ZURN, WATTS

ZURN, WOODFORD, ZURN, J.R. SMITH

	STORAG	GE ELEC	TRIC WA	TER	HEA	TER	SCI	HEDULE	
MARK	DESCRIPTION	STORAGE	GPH AT		ELECTRIC	AL DATA	١	SPECIFICATION	NOTES
IVIANN	DESCRIPTION	(GAL)	80 °F RISE	KW	>	PH	HZ	SPECIFICATION	NOTES
<u>WH1</u>	ELECTRIC, VERTICAL STORAGE	50	88	15	480	3	60	A.O. SMITH DSE-50A-15	1 - 4

I. APPROVED MANUFACTURERS: A.O. SMITH, BRADFORD WHITE, RHEEM, STATE INDUSTRIES. WATER HEATER SHALL MEET OR EXCEED THE REQUIREMENTS OF ASHRAE 90.1 AND THE NORTH CAROLINA ENERGY EFFICIENCY CODE.

PRODUCT TYPE:

HOSE BIBBS

DRAINS

SHOCK ARRESTOR

BACKFLOW PREVENTER

SET WATER HEATER OUTLET TEMPERATURE TO 140 °F.

4. PROVIDE UNIT WITH OPTIONAL FIVE (5) YEAR MANUFACTURER'S WARRANTY.

		F	PUMP SO	CHE	DULE	<u>-</u>			
MARK	DESCRIPTION	CAPA	ELECTRICAL DATA			\	SPECIFICATION	NOTES	
IVIARK	DESCRIPTION	GPM	FT-HD	НР	٧	PH	HZ	SPECIFICATION	INOTES
<u>CP1</u>	INLINE CIRCULATION PUMP SERVING WH1	3.0	5.0	1/8	120	1	60	TACO 111S	1 - 4

1. APPROVED MANUFACTURERS: BELL & GOSSETT, GRUNDFOS, GOULDS, TACO.

APPROVED EQUALS:

THE CONTRACTOR IS RESPONSIBLE FOR PROVIDING THE MODEL

WHICH MOST CLOSELY MATCHES THE SPECIFIED PRODUCT.

PROVIDE PRODUCTS MADE BY THE MANUFACTURER'S LISTED.

2. PUMP SHALL BE BRONZE OR STAINLESS STEEL CONSTRUCTION. MOUNT SECURELY FROM STRUCTURE SUCH THAT THE PIPING BEARS NO WEIGHT OF THE PUMP.

4. PROVIDE WITH AQUASTAT CONTROL WITH CONNECTION TO BUILDING AUTOMATION SYSTEM FOR TIME CLOCK OVERRIDE(S). CONTROL WIRING TO BUILDING AUTOMATION SYSTEM PROVIDED BY

MECHANICAL CONTRACTOR.

	THE	RMAL EXP	ANSION TA	NK SCHEE	DULE	
MARK	DESCRIPTION	TOTAL VOLUME (GAL)	ACCEPTANCE VOLUME (GAL)	WEIGHT (LB)	SPECIFICATION	NOTES
<u>ET1</u>	DIAPHRAGM, THERMAL EXPANSION	3.5	2.3	22.0	WESSELS TTA-5	1 - 3

NOTES: 1. APPROVED MANUFACTURERS: AMTROL, BELL & GOSSETT, WATTS, WESSELS.

2. PROVIDE WITH PRESSURE GAUGE, AIR-CHARGE FITTING, AND TANK DRAIN; PRECHARGE TO 40.0 PSI. 3. MOUNT SECURELY AND INDEPENDENTLY FROM THE STRUCTURE SUCH THAT THE CONNECTED PIPING BEARS NO WEIGHT OF THE TANK.

	THE	RMOSTATIC	MIXING V	ALVE SCH	EDULE	
MARK	DESCRIPTION	OUTLET (IN)	OUTLET (IN)	FLOW RATE (GPM)	SPECIFICATION	NOTES
TMV1	THERMOSTATIC MIXING AND RETURN ASSEMBLY, FACTORY ASSEMBLED, 110 F OUTLET, 25 GPM	1-1/4"	1-1/4"	25.0	LEONARD XL-32A-LF-DT-RF-R34	1 - 3

1. APPROVED MANUFACTURERS: ARMSTRONG, LAWLER, POWERS.

2. MOUNT SECURELY TO WALL IN ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDATIONS. 3. PROVIDE WITH COLD WATER BYPASS.

		(CONNECT	TION SIZ	Έ		
SYMBOL	DESCRIPTION	W	V	CW	HW	SPECIFICATION	REMARKS
P1	FIXTURE: TOILET: ELONGATED, WHITE VITREOUS CHINA, CARRIER MOUNTED, TOP SPUD, 1.6 GPF.	4"	2"	1"	-	FIXTURE: TOTO CT708UG#01 FLUSH VALVE: TOTO "ECOPOWER" TET1GA32#CP	NOTE 1
	FLUSH VALVE: SELF-GENERATING, SENSOR OPERATED, PUSH-BUTTON OVERRIDE, 1.6 GPF.					SEAT: TOTO SC534#01	
P1A	FIXTURE: TOILET: ELONGATED, WHITE VITREOUS CHINA, CARRIER MOUNTED, TOP SPUD, 1.6 GPF. FLUSH VALVE: SELF-GENERATING, SENSOR OPERATED, PUSH-	4"	2"	1"	-	FIXTURE: TOTO CT708UG#01 FLUSH VALVE: TOTO "ECOPOWER" TET1GA32#CP	NOTE 1
	BUTTON OVERRIDE, 1.6 GPF.					SEAT: TOTO SC534#01	
P2	FIXTURE: URINAL. WHITE VITREOUS CHINA, CARRIER MOUNTED, 0.125 GPF	2"	2"	3/4"	-	FIXTURE: TOTO UT445U#01 FLUSH VALVE: TOTO "ECOPOWER" TEU1UA12#CP	NOTE 2
	FLUSH VALVE: SELF-GENERATING, SENSOR OPERATED, PUSH-BUTTON OVERRIDE, 0.125 GPF.						
P2A	FIXTURE: URINAL. WHITE VITREOUS CHINA, CARRIER MOUNTED, 0.125 GPF	2"	2"	3/4"	-	FIXTURE: TOTO UT445U#01 FLUSH VALVE: TOTO "ECOPOWER" TEU1UA12#CP	NOTE 2
	FLUSH VALVE: SELF-GENERATING, SENSOR OPERATED, PUSH-BUTTON OVERRIDE, 0.125 GPF.					TEGSTI VILEYE. TOTO EGGT GWER TEGTOVILE#CI	
Р3	FIXTURE: LAVATORY, ADA. 20"x18", VITREOUS CHINA, CARRIER MOUNTED, 4" CENTERS.	2"	1-1/2"	1/2"	1/2"	FIXTURE: TOTO LT307(A) FAUCET: ZURN Z6950-XL-S-MV-N-HW6	NOTES 3, 5
	FAUCET: BATTERY POWERED, SENSOR OPERATED, POLISHED CHROME, LAMINAR SPRAY, MIXING VALVE, 0.50 GPM.					77.0 0217 20187 20350 7/2 5 IIIV 17 17 17 0	
P4A	FIXTURE: WATER COOLER & BOTTLE FILLER, ADA. STAINLESS STEEL FINISH, SINGLE BOWL, VANDAL RESISTANT, CARRIER MOUNTED, INTEGRAL WATER FILTER, SENSOR OPERATED BOTTLE FILLER WITH AUTO SHUT-OFF.	2"	1-1/2"	1/2"	-	FIXTURE: ELKAY LZS8WSLK P-TRAP: ZURN Z-870 (1-1/4"x1-1/2", 17 GA.) SUPPLY/STOP: ZURN 8806-XL-LR-LK	NOTE 4, 6
P4B	FIXTURE: WATER COOLER. STAINLESS STEEL FINISH, SINGLE BOWL, VANDAL RESISTANT, CARRIER MOUNTED, INTEGRAL WATER	2"	1-1/2"	1/2"	-	FIXTURE: ELKAY LZS8L	NOTE 4, 6
	FILTER.					P-TRAP: ZURN Z-870 (1-1/4"x1-1/2", 17 GA.) SUPPLY/STOP: ZURN 8806-XL-LR-LK	
P5	FIXTURE: CASEWORK SINK, ADA. , 20"x18", SINGLE BOWL, 18 GAUGE STAINLESS STEEL, COUNTER MOUNTED, SELF RIMMING.	2"	1-1/2"	1/2"	1/2"	FIXTURE: ELKAY LRAD191955-3	NOTES 5
	FAUCET: 6" GOOSENECK FAUCET, WRIST BLADE HANDLES, VANDAL RESISTANT AERATOR, 1.5 GPM.					FAUCET: AMERICAN STANDARD 6530.170 "MONTERREY" BASKET STRAINER: ZURN Z-8740 P-TRAP: ZURN 8703 (1-1/2"x2", 17 GA.) SUPPLY/STOP: ZURN 8806-XL-LR-LK	
P6	FIXTURE: MOP SINK. 24"x 24"x 12" TERRAZZO BASIN, 6" DROP FRONT WITH STAINLESS STEEL THRESHOLD CAP, 36" HIGH STAINLESS STEEL WALL GUARDS, HOSE, MOP HANGER BRACKET.	3"	2"	1/2"	1/2"	FIXTURE: FIAT TSB100-830AA-832AA-MSG2424 FAUCET: T&S BRASS B-0665-BSTR	
	FAUCET: POLISHED CHROME, 8" CENTERS, VACUUM BREAKER.						

SEE ARCHITECTURAL PLANS FOR MOUNTING HEIGHT. PROVIDE A FLOOR MOUNTED PLATE STYLE CARRIER EQUAL TO ZURN Z1201 SERIES. WHEN CARRIER IS LOCATED BEHIND A BLOCK WALL, PROVIDE EXTENDED STUD LENGTHS TO COMPENSATE FOR THE BLOCK WALL THICKNESS.

SEE ARCHITECTURAL PLANS FOR MOUNTING HEIGHT. PROVIDE A FLOOR MOUNTED PLATE STYLE CARRIER EQUAL TO ZURN Z1222 SERIES. WHEN CARRIER IS LOCATED BEHIND A BLOCK WALL, PROVIDE EXTENDED STUD LENGTHS TO COMPENSATE FOR THE BLOCK WALL THICKNESS.

SEE ARCHITECTURAL PLANS FOR MOUNTING HEIGHT. PROVIDE A FLOOR MOUNTED, ADJUSTABLE CONCEALED ARM CARRIER EQUAL TO ZURN Z1231 SERIES. WHEN CARRIER IS LOCATED BEHIND BLOCK WALL, PROVIDE EXTENDED CONCEALED ARM SLEEVES TO COMPENSATE FOR THE BLOCK WALL THICKNESS.

SEE ARCHITECTURAL PLANS FOR MOUNTING HEIGHT. PROVIDE A FLOOR MOUNTED, ADJUSTABLE CONCEALED ARM CARRIER EQUAL TO ZURN Z1225 SERIES. WHEN CARRIER IS LOCATED BEHIND BLOCK WALL, PROVIDE EXTENDED CONCEALED ARM SLEEVES TO COMPENSATE FOR THE BLOCK WALL THICKNESS.

PROVIDE PRE-MANUFACTURED ADA COMPLIANT INSULATION KIT FOR EXPOSED P-TRAP AND SUPPLY TRIM UNDER SINK.

5. PROVIDE CANE APRON ON WATER COOLERS MOUNTED ON EXPOSED WALLS.

APPROVED EQUALS: THE CONTRACTOR IS RESPONSIBLE FOR PROVIDING THE MODEL WHICH MOST CLOSELY MATCHES THE SPECIFIED PRODUCT. PROVIDE PRODUCTS MADE BY THE MANUFACTURER'S LISTED.

PRODUCT TYPE: VITREOUS CHINA FLUSH VALVES ENAMELED CAST IRON CARRIERS STAINLESS STEEL SINKS FAUCETS WATER COOLERS SUPPLIES, STOPS HOSE BIBBS UTILITY SINKS

ACCEPTED MANUFACTURERS: KOHLER, AMERICAN STANDARD, SLOAN SLOAN, ZURN, DELANEY KOHLER, AMERICAN STANDARD, ZURN ZURN, J.R. SMITH, WADE ELKAY, JUST, ADVANCE TABCO AMERICAN STANDARD, ZURN, CHICAGO ELKAY, HALSEY TAYLOR, HAWS ZURN, MCGUIRE, BRASSCRAFT ZURN, J.R. SMITH, WOODFORD FIAT, FLORESTONE, STERN WILLIAMS

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Elementary Novation Phas Johnsonville | Addition/Rences 8495 NC-27, Cameron, NC

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CONSTRUCTION DOCUMENTS



Johnsonville Elementary School Addition/Renovation Phase 2 18495 NC-27, Cameron, NC 28326

Date Description

ISSUE DATE: 01/28/2022

PROJECT #: 02103.000

DRAWN BY: CAW

CHECKED BY: ESD

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PLUMBING

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P1-100

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Sheet No. 3 of 7

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CONSTRUCTION DOCUMENTS



Johnsonville Elementary School 장점 Addition/Renovation Phase 2

Date Description

SUE DATE: 01/28/2022

ISSUE DATE: 01/28/2022

PROJECT #: 02103.000

DRAWN BY: CAW

CHECKED BY: ESD

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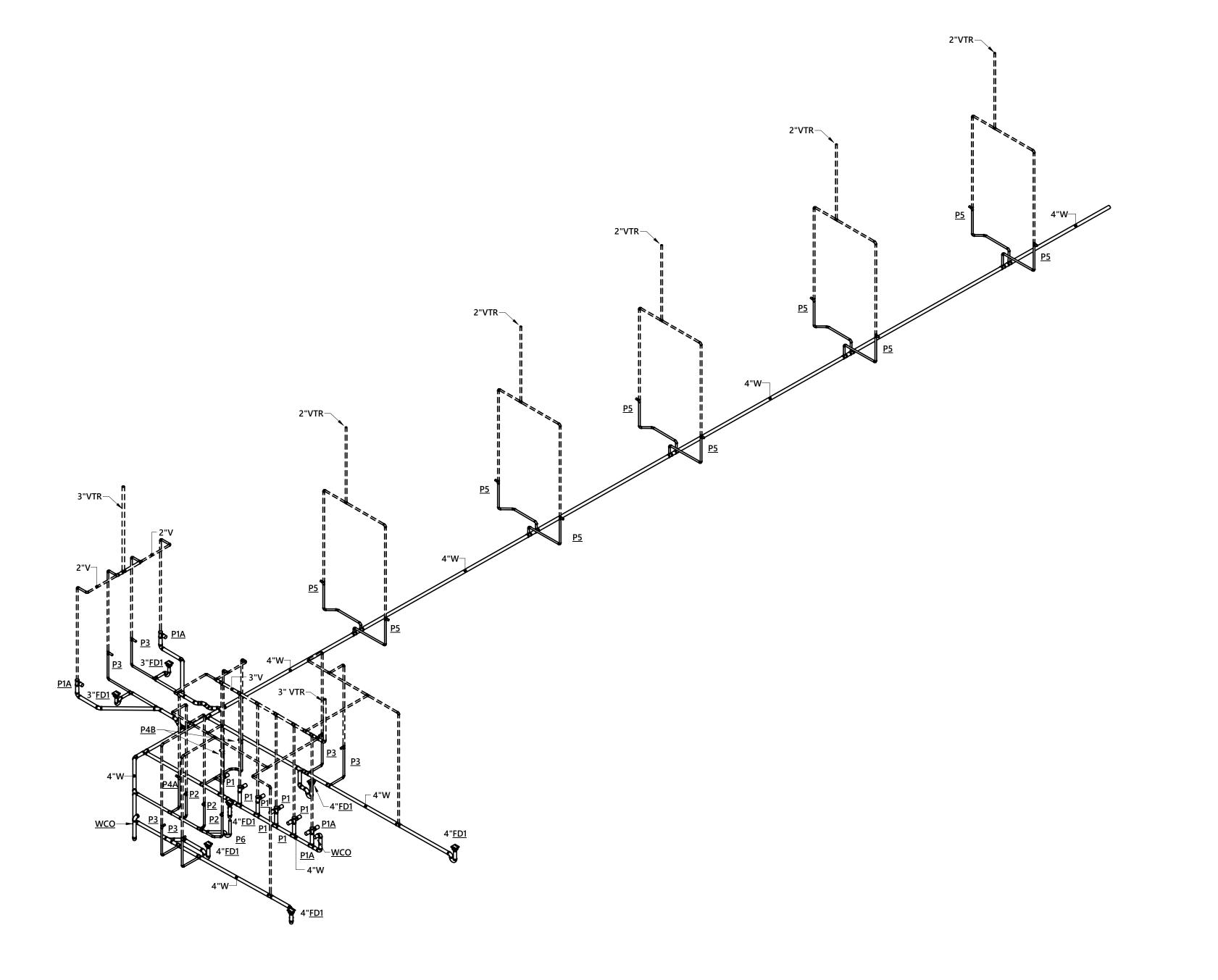


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P1-201

PLUMBING RISER DIAGRAM - WATER SUPPLY
NOT TO SCALE



PLUMBING RISER DIAGRAM - WASTE AND VENT

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150 Fayetteville St., Suite 520, Raleigh, NC 27601 1927 South Tryon St., Suite 300, Charlotte NC 28203 Phone: 919-926-2200 - www.optimaengineering.com North Carolina License Number C-0914

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P1-401

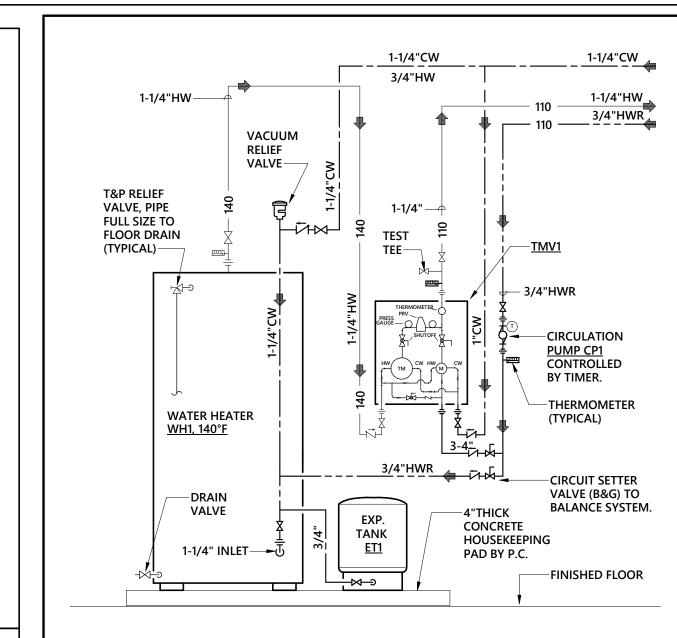
OPTIMA # 21-0266R

DIAGRAMS

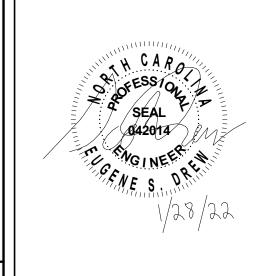
MARK	CONNECTED WSFU	PDI WH201 DESIGNATION	ARRESTER SIZE
<u>WHA-A</u>	1 - 11	Α	1/2"
<u>WHA-B</u>	12 - 32	В	3/4"
<u>WHA-C</u>	33 - 60	С	1"
<u>WHA-D</u>	61 - 113	D	1 1/4"
<u>WHA-E</u>	114 - 154	E	1 1/2"
WHA-F	155 - 330	F	2"
NOTES: I. INSTALL WATER HAM	MER ARRESTERS IN ACCORDA	ANCE WITH PDI WH201 GU	IDELINES.

WATER HAMMER ARRESTERS

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WATER HEATER PIPING SCHEMATIC - WH1



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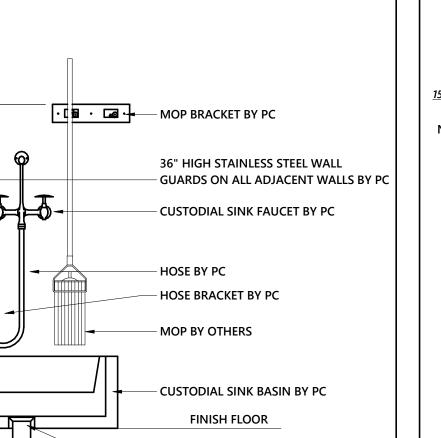
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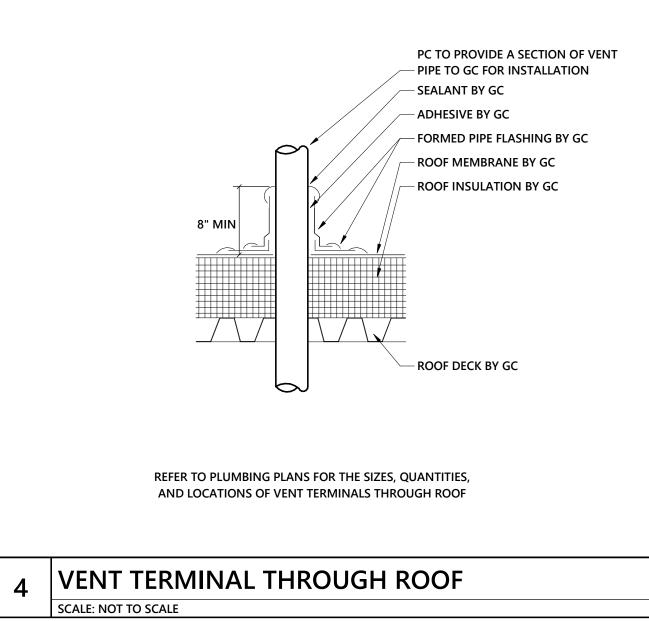
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— GRID DRAIN OUTLET



CUSTODIAL SINK ACCESSORIES

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