

Business Services Procurement and Contracting 16550 SW Merlo Road Beaverton, OR 97003 (503) 356-4324

April 20, 2020

SOLICITATION ADDENDUM NO. 1 ITB 19-0054 Errol Hassell Restrooms Remodel

THE FOLLOWING CHANGES/ADDITIONS TO THE ABOVE CITED SOLICITATION ARE ANNOUNCED:

This Addendum modifies the Invitation to Bid (ITB) document(s) only to the extent indicated herein. Allother areas not changed or otherwise modified by this Addendum shall remain in full force and effect. This Addendum is hereby made an integral part of the ITB document. Bidder must be responsive to any requirements of this Addendum as if the requirements were set forth in the ITB. Failure to do so may result in Bid rejection. See the ITB regarding requests for clarification or change and protests of this Addendum, and the deadlines for the foregoing.

This addendum is to be acknowledged in the space provided on the Bidder Certification form supplied in the solicitation document. Failure to acknowledge receipt of this addendum may be cause to reject your offer.

The closing date REMAINS UNCHANGED: May 19, 2020 at 2:00 PM Pacific Time

CLARIFICATIONS:

Due to the nature of COVID-19, we are requiring bidders to submit their bid via email to: contracts@beaverton.k12.or.us prior to 2:00 PM on May 19, 2020

Please join us via conference call to hear the opening of these bids:

+1(503)356.4400 Participant code: 41605148

Please see Revised Items to Attached:

Sheet CS1: Updated sheet index with current release, typ..

Sheet P0.1: Updated plumbing schedule with floor-mounted (stall-type) urinals.

Sheet P2.3: Removed spec section for grease interceptor.

-END of Addendum

Peter Madaus Contract Specialist

ERROL HASSELL ES- TR REMODELS

BEAVERTON, OR

BEAVERTON SCHOOL DISTRICT

OWNER

CCB #:----

18100 SW BANY RD, BEAVERTON, OR 97007 (T): (503)793-4536 (F): (555) 555-5555 CONTACT: STEPHEN YAMASAKI

TBD CONTRACTOR

STREET ADDRESS CITY, STATE, ZIP (T): (555) 555-5555 (F): (555) 555-5555 CONTACT: --

CIDA, INC.

ARCHITECT

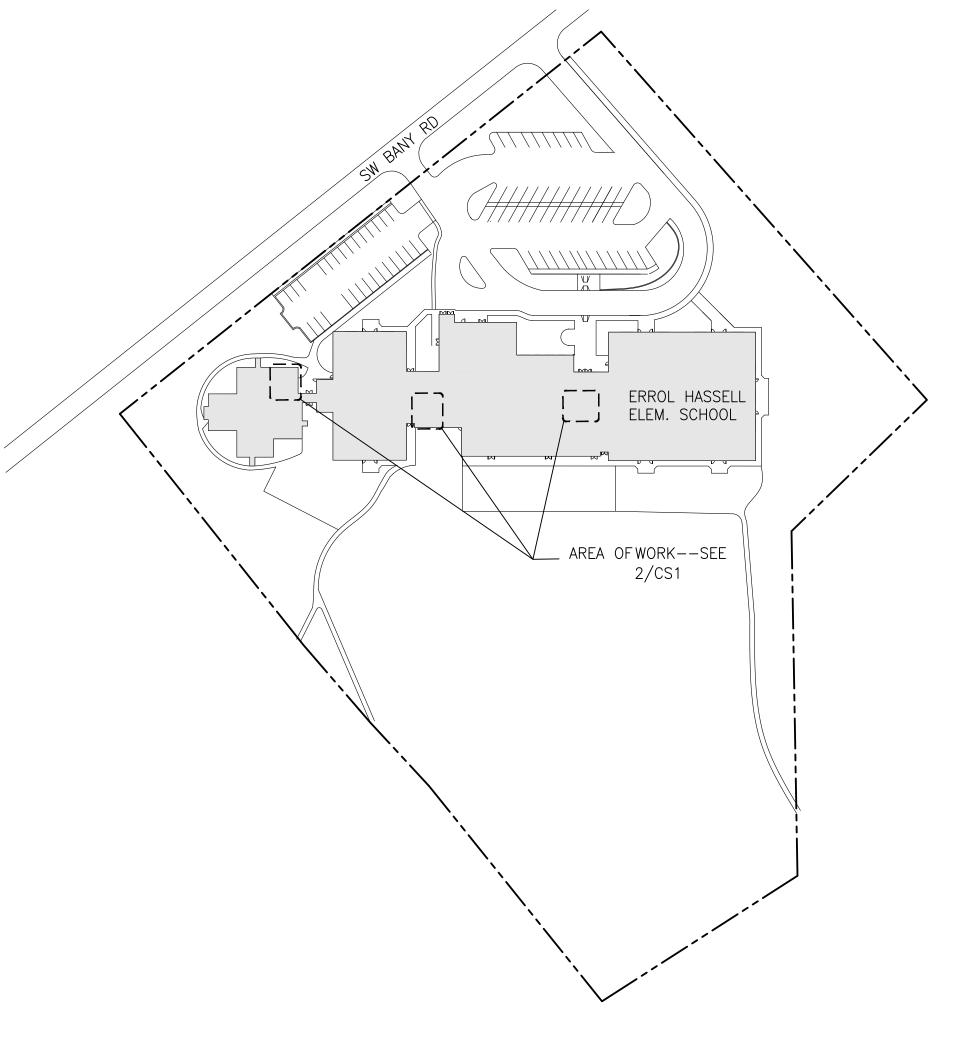
15895 SW 72ND AVE, SUITE 200 PORTLAND, OREGON 97224 (T): (503) 226-1285 (F): (503) 226-1670 CONTACT: DUSTIN JOHNSON

R&W ENGINEERING, INC.

MEP ENGINEER

9615 SW ALLEN BOULEVARD, SUITE 107 BEAVERTON, OR 97005 (T): (503)292-6000 (F): (503)726-3326 CONTACT: EDWARD A. CARLISLE, P.E.

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LEGAL DESCRIPTION

TAX LOT: IS119CB22300
TAX MAP: --

ZONING CODE INFORMATION

ZONE: 9210 -- EXEMPT PUBLIC SCHOOL DIST IMPROVED INSTITUTIONAL DISTRICT (INST)

TOTAL SITE AREA: 180774 SF (A&T Acres: 4.15 AC)

BUILDING CODE SUMMARY

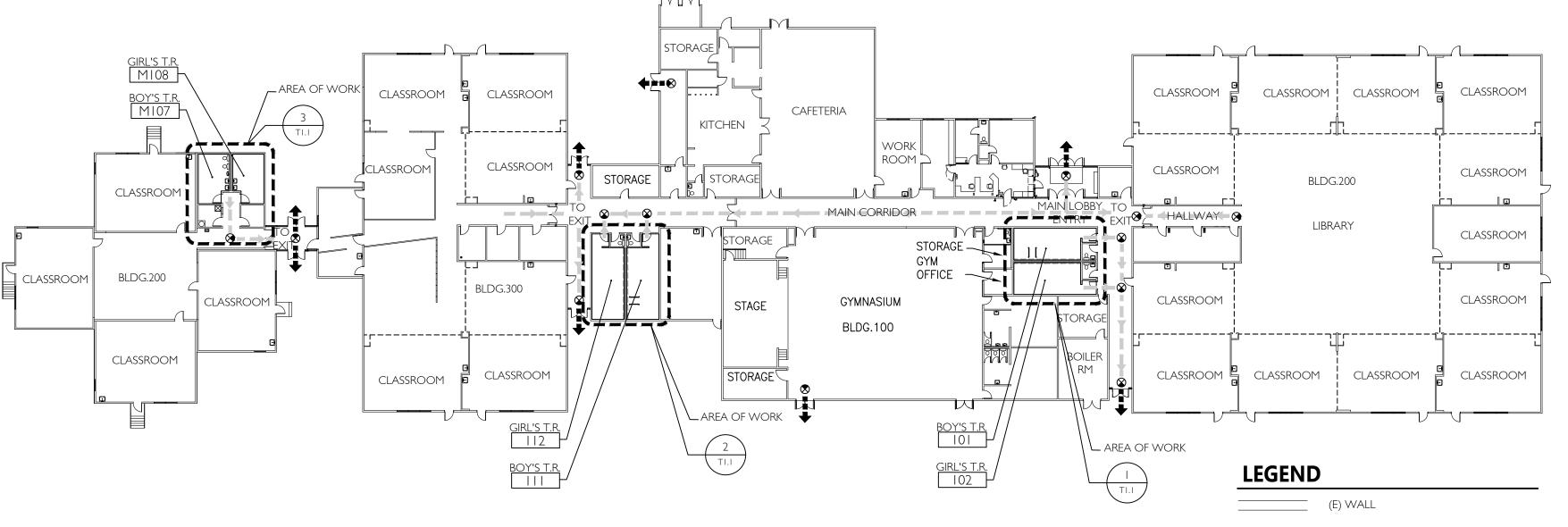
GOVERNING CODE: 2019 OREGON STRUCTURAL SPECIALTY CODE OCCUPANCY TYPE: EDUCATION E

CONSTRUCTION TYPE: V-B, SPRINKLERED

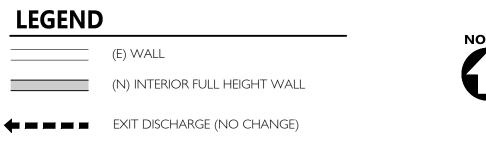
BUILDING EXISTING AREA: 60483 SQUARE FT

PROJECT DESCRIPTION

THE PROJECT CONSISTS OF A REMODEL OF THE EXISTING BOYS' AND GIRLS TR FACILITIES AT THE EAST AND WEST HALLS TO MEET ADA REQUIREMENTS FOR ACCESSIBILITY. IT ALSO CONSISTS OF RE-FLOORING AND RE-PARTITIONING OF THE GIRLS TR IN THE MODULAR SECTION OF THE SCHOOL.

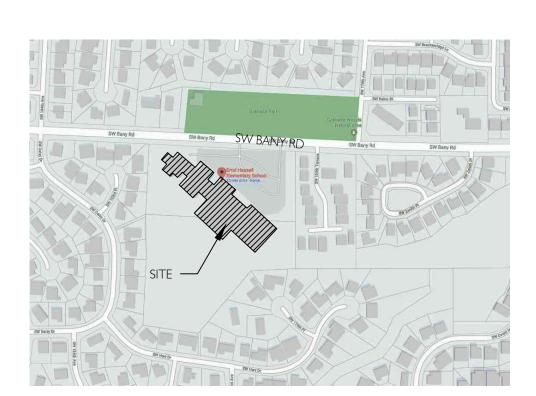




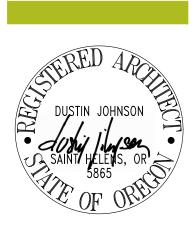


PATH OF EGRESS (NO CHANGE)

(E) EXISTING ILLUMINATED EXIT SIGN







BUILDING PERMIT SET 02.19.20
BUILDING PERMIT SET 03.19.20
REVIEW CHANGES 03.26.20
BID SET 04.07.20 1



| 15895 SW 72ND AVE SUITE 20 | PORTLAND, OREGON 9722 | T E L : 5 0 3 . 2 2 6 . | 2 8 | F A X : 5 0 3 . 2 2 6 . | 6 7 | W W W . C | D A | N C . C O

L ES- TR REMODELS

ERROL HASSELL ELE

cover sheet

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PLUMBING FIXTURE CONNECTION SCHEDULE ①								DULE ①	
	MARK	FIXTURE	w	\ \	CW	HW	TW	MANUFACTURER	REMARKS
	WC-1	WATER CLOSET	4	2	1			KOHLER K-4350 SLOAN ROYAL 111 FLUSH VALVE	FLOOR MOUNTED, 1.6 GPF VALVE, ELONGATED, STD. HEIGHT, WHITE W/ WHITE OPEN FRONT SEAT.
	WC-2	WATER CLOSET ADA	4	2	1			KOHLER K-4368 SLOAN ROYAL 111 FLUSH VALVE	FLOOR MOUNTED, 1.6 GPF VALVE, ELONGATED, ADA HEIGHT, WHITE W/ WHITE OPEN FRONT SEAT.
<u>^</u> 2\	UR-1	URINAL	2	2	3/4	~	_	KOHLER K-4920-T SLOAN ROYAL 186.1 FLUSH VALVE	STALL TYPE, 1.0 GPF VALVE
	LV-1	LAVATORY	1-1/2	1-1/4	1/2	1/2		KOHLER K-2005 KINGSTON SYMMONS S-20-2-G FAUCET	WALL HUNG, RECTANGULAR, CHROME GRID STRAINER, P-TRAP, SUPPLIES & STOPS, WHITE, WALL HANGER. PROVIDE THERMOSTATIC MIXING VALVE
	WF-1	WASH FOUNTAIN	1-1/2	1-1/4	1/2	1/2		BRADLEY LVRD3-TMA VERGE CHICAGO FAUCET 3500-E2805ABCP	WALL MOUNTED, P-TRAP, SUPPLIES & STOPS, NAVIGATOR THERMOSTATIC MIXING ASSEMBLY.
1 BRANCH PIPE SIZE TO FIXTURE SAME AS CONNECTION SIZE SHOWN ABOVE UNLESS INDICATED OTHERWISE ON DRAWING								ATED OTHERWISE ON DRAWINGS.	

		PLU	MBIN	G LEGEND
			CW	COLD WATER
			HW	HOT WATER
			HWR	HOT WATER RECIRC
	— 140 —		140	140°F HOT WATER
	-140R-		140R	140°F HOT WATER RECIRC
			V	VENT
			W	SANITARY WASTE (ABOVE GRADE
			W	SANITARY WASTE (BELOW GRADI
	— RD —		RD	RAIN DRAIN (ABOVE GRADE)
	— RD —		RD	RAIN DRAIN (BELOW GRADE)
	—G—		G	NATURAL GAS
B.G.		BELOW	GRADE	
DS		DOWN	SPOUT	
(E)		EXISTIN	G	
(N)		NEW		

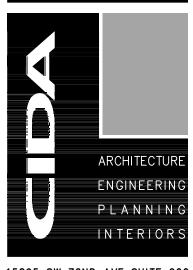
(R) REMOVE VENT THRU ROOF O CO FLOOR CLEANOUT O COTG CLEANOUT TO GRADE WCO WALL CLEANOUT BALL VALVE CHECK VALVE PLUMBING FIXTURE MARK NO. SEE PLUMBING FIXTURE CONNECTION SCHEDULE. SHEET NOTE

CONNECT TO EXISTING AT THIS POINT. VERIFY EXACT LOCATION, SIZE AND CONDITION.

"Engineering Integrated Solutions" 9615 S.W. Allen Blvd., Suite 107 Beaverton, Oregon 97005 Phone: (503) 726-3312 Fax: (503) 726-3326 E-mail: rweng@rweng.com
Project No.: 382.115.001
Contact: TONYA MINNICK

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15895 SW 72ND AVE SUITE 200 PORTLAND, OREGON 97224 TEL: 503.226.1285

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L HASSELL ES- TR REMODELS
L ELEMENTARY SCHOOL , 18100 SW
RD
BEAVERTON, OR

COVER SHEET PLUMBING

P0.1

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WITH THE FOLLOWING INSTALLATION REQUIREMENTS: CLAMPS: ATTACH CLAMPS, INCLUDING SPACERS (IF ANY), TO PIPING OUTSIDE THE INSULATED PIPING SUPPORT. DO NOT EXCEED PIPE STRESSES ALLOWED BY

INSULATED PIPE SUPPORTS: INSULATED PIPE SUPPORTS SHALL BE SUPPLIED AND

INSTALLED ON ALL INSULATED PIPE AND TUBING. c. LOAD RATING: ALL INSULATED PIPE SUPPORTS SHALL BE LOAD RATED BY THE MANUFACTURER BASED UPON TESTING AND ANALYSIS IN CONFORMANCE WITH ASME 2.4 PIPE FITTING INSULATION COVERS

B31.1, MSS SP-58, MSS SP-69 AND MSS SP-89. d. SUPPORT TYPE: MANUFACTURER'S RECOMMENDATIONS, HANGER STYLE AND LOAD 2.5 DUCT INSULATION ACCESSORIES SHALL DETERMINE SUPPORT TYPE.

B. PIPE HANGERS AND SUPPORTS:

1. VERTICAL SPACING: SUPPORT AT BASE, EVERY FLOOR HEIGHT NOT EXCEEDING 10 FEET AND REQUIRED BY CODE AND JUST BELOW ROOF LINE.

2. SCREWED OR WELDED STEEL OR COPPER PIPING: MAXIMUM HANGER SPACING SHALL BE AS FOLLOWS:

> 1-1/4 INCHES AND SMALLER 6 FOOT SPAN 5 FOOT SPAN 1-1/2 INCH PIPE 9 FOOT SPAN 6 FOOT SPAN 2 INCH PIPE 10 FOOT SPAN 10 FOOT SPAN

3. CAST IRON SOIL PIPE:

a. HUBLESS AND COMPRESSION JOINT: AT EVERY OTHER JOINT EXCEPT WHEN DEVELOPED LENGTH EXCEEDS 4 FEET, THEN AT EACH JOINT.

ADDITIONAL SUPPORT: PROVIDE AT EACH HORIZONTAL BRANCH AND/OR AT CONCENTRATED LOADS TO MAINTAIN ALIGNMENT AND PREVENT SAGGING INSTALL ADDITIONAL HANGERS OR SUPPORTS AT CONCENTRATED LOADS SUCH AS PUMPS,

VALVES, ETC. TO MAINTAIN ALIGNMENT AND PREVENT SAGGING. 5. INSTALL HANGERS TO PROVIDE MINIMUM 1/2 INCH SPACE BETWEEN FINISHED COVERING

AND ADJACENT WORK.

6. PLACE A HANGER WITHIN 12 INCHES OF EACH HORIZONTAL ELBOW.

7. SUPPORT ROD: HANGER SUPPORT RODS SIZED AS FOLLOWS: PIPE SIZE ROD DIAMETER MAX. LOAD 2 INCHES AND SMALLER 3/8 INCH 610 LB. 2-1/2 TO 3 INCHES 1/2 INCH 1130 LB. 5/8 INCH 1810 LB. 4 INCHES

ADJUST HANGERS AND SUPPORTS TO BRING PIPING TO PROPER LEVELS AND ELEVATIONS. PROVIDE ALL NECESSARY STRUCTURAL ATTACHMENTS SUCH AS ANCHORS, BEAM CLAMPS, HANGER FLANGES AND BRACKETS IN ACCORDANCE WITH MSS SP-69. ATTACHMENTS TO BEAMS WHEREVER POSSIBLE. SUPPORTS SUSPENDED FROM OTHER PIPING, EQUIPMENT, METAL DECKING,

ETC., ARE NOT ACCEPTABLE. E. HORIZONTAL BANKS OF PIPING MAY BE SUPPORTED ON COMMON STEEL CHANNEL MEMBER SPACED NOT MORE THAN THE SHORTEST ALLOWABLE SPAN REQUIRED ON THE INDIVIDUAL PIPE. MAINTAIN PIPING AT ITS RELATIVE LATERAL POSITION USING CLAMPS OR CLIPS. ALLOW LINES

15260 MECHANICAL INSULATION

PART 1 - GENERAL

1.1 WORK INCLUDED

A. PROVIDE PIPING, DUCTWORK AND EQUIPMENT INSULATION INCLUDING JACKETING, ADHESIVE AND ALL RELATED ACCESSORIES FOR COMPLETE INSULATED SYSTEM. 1.2 QUALITY ASSURANCE

A. APPLICATOR: COMPANY SPECIALIZING IN PIPING INSULATION APPLICATION WITH THREE YEARS

B. INSULATION, JACKET AND ALL RELATED MATERIALS: FLAME SPREAD RATING OF 25 AND SMOKE DEVELOPED RATING OF 50.

C. CODES: COMPLY WITH ALL APPLICABLE CODES.

D. INSTALLATION: INSTALL IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS. 1.3 SUBMITTALS

A. SUBMIT PRODUCT DATA AND INSTALLATION INSTRUCTIONS UNDER PROVISIONS OF SECTION

B. INCLUDE PRODUCT DESCRIPTION, LIST OF MATERIALS AND THICKNESS FOR EACH SERVICE, AND LOCATIONS. 1.4 DELIVERY, STORAGE AND HANDLING

A. STORE INSULATION IN ORIGINAL SHIPPING CONTAINER WITH LABELING IN PLACE. DO NOT INSTALL DAMAGED INSULATION.

A. MAXIMUM FIRE HAZARD CLASSIFICATION OF THE COMPOSITE INSULATION TO BE NOT MORE THAN A FLAME SPREAD OF 25, FUEL CONTRIBUTED OF 50 AND SMOKE DEVELOPED OF 50 AS TESTED BY ASTM E84, NFPA 255 AND UL 723 METHOD.

TEST PIPE INSULATION IN ACCORDANCE WITH THE REQUIREMENTS OF UL "PIPE AND EQUIPMENT COVERINGS R5583 400 8.15.", ASTM C1136 AND ASTM C547. C. TEST DUCT INSULATION IN ACCORDANCE WITH ASTM E84 AND ASTM C1071 AND BEAR THE UL

1.6 LINING MATERIALS A. MATERIALS TO BE MOLD, HUMIDITY, AND EROSION RESISTANT SURFACE TO MEET THE

1.7 HANDICAPPED LAVATORY

REQUIREMENTS OF UL 181.

1.5 FIRE HAZARD CLASSIFICATION

A. P-TRAP, HOT AND COLD WATER INSULATED GUARDS. THERMAL CONDUCTIVITY: K = 1.17BTU/IN/HR. SQ. FT./DEG. PROVIDE ACCESSORIES AS REQUIRED. TRUE BRO INC., MODEL 102, MCGUIRE, PRO WRAP, BROCAR OR ACCEPTED SUBSTITUTE.

PART 2 - PRODUCTS

2.1 ACCEPTABLE MANUFACTURERS

A. INSULATING MANUFACTURERS: JOHNS MANVILLE, KNAUF, ARMSTRONG, OWENS-CORNING, CERTAIN TEED OR ACCEPTED SUBSTITUTE. B. ADHESIVE MANUFACTURERS: BENJAMIN FOSTER, 3M, BORDEN, KINGCO OR ARMSTRONG.

2.2 PIPING INSULATION, JACKETING AND ACCESSORIES

A. FIBERGLASS PIPE INSULATION: 4. PIPING SYSTEMS 55 TO 600 DEG. F: GLASS FIBER PREFORMED PIPE INSULATION WITH A MINIMUM K-VALUE OF 0.23 AT 75 DEG. F, A MINIMUM DENSITY OF 3.5 POUNDS PER CUBIC FOOT.

B. JACKETS:

 INTERIOR APPLICATIONS: a. VAPOR BARRIER JACKETS: KRAFT REINFORCED FOIL OR VINYL VAPOR BARRIER WITH SELF-SEALING ADHESIVE JOINTS OR PRESSURE SENSITIVE SEAL.

b. PVC JACKETS: ONE PIECE, PREMOLDED TYPE.

C. ACCESSORIES:

1. INSULATION BANDS: 3/4 INCH WIDE; 16 GAUGE STAINLESS STEEL.

METAL JACKET BANDS: 0.25 THICK STAINLESS STEEL.

INSULATING CEMENT: ANSI/ASTM C195; HYDRAULIC SETTING MINERAL WOOL. FINISHING CEMENT: ASTM C449.

5. FIBROUS GLASS CLOTH: UNTREATED; 9 OZ/SQ YD (305 G/SQ M) WEIGHT.

2.3 DUCT INSULATION AND JACKETS

 A. DUCT WRAP: 2 INCH FLEXIBLE GLASS FIBER; ANSI/ASTM C612; COMMERCIAL GRADE; 'K' VALUE OF 0.27 AT 75 DEGREES F.

B. JACKETING AND FASTENERS:

INDOOR JACKET: FOIL-SKRIM-KRAFT.

LAGGING ADHESIVE: FIRE RESISTIVE TO ASTM E84, NFPA 255, AND UL 723. IMPALE ANCHORS: GALVANIZED STEEL, 12 GAUGE, SELF-ADHESIVE PAD.

4. JOINT TAPE: GLASS FIBER CLOTH, OPEN MESH. 5. TIE WIRE: ANNEALED STEEL, 16 GAUGE (1.5 MM).

A. PVC PREFORMED MOLDED INSULATION COVERS. ZESTON OR ACCEPTED SUBSTITUTE.

A. STAPLES, BANDS, WIRES, TAPE, ANCHORS, AND ACCESSORIES AS RECOMMENDED BY INSULATION MANUFACTURER

2.6 DUCT INSULATION COMPOUNDS CEMENTS, ADHESIVES, COATINGS, SEALERS, FINISHES AND ACCESSORIES AS RECOMMENDED BY INSULATION MANUFACTURER.

PART 3 - EXECUTION

3.1 PREPARATION

A. INSTALL MATERIALS AFTER PIPING, DUCTWORK AND EQUIPMENT HAS BEEN TESTED AND APPROVED.

3.2 PIPING INSULATION INSTALLATION

 INSTALL MATERIALS IN ACCORDANCE WITH MANUFACTURER'S INSTRUCTIONS CONTINUE INSULATION WITH VAPOR BARRIER THROUGH PENETRATIONS.

IN EXPOSED PIPING, LOCATE INSULATION AND COVER SEAMS IN LEAST VISIBLE LOCATIONS. PROVIDE AN INSERT. NOT LESS THAN 6 INCHES LONG. OF SAME THICKNESS AND CONTOUR AS ADJOINING INSULATION, BETWEEN SUPPORT SHIELD AND PIPING, BUT UNDER THE FINISH JACKET. ON PIPING 2 INCHES DIAMETER OR LARGER. TO PREVENT INSULATION FROM SAGGING AT SUPPORT POINTS. INSERTS SHALL BE CORK OR OTHER HEAVY DENSITY INSULATING MATERIAL SUITABLE FOR THE PLANNED TEMPERATURE RANGE. FACTORY

FABRICATED INSERTS MAY BE USED. NEATLY FINISH INSULATION AT SUPPORTS, PROTRUSIONS, AND INTERRUPTIONS.

JACKETS: INDOOR APPLICATIONS: INSULATED PIPES CONVEYING FLUIDS ABOVE AMBIENT TEMPERATURE SHALL HAVE STANDARD JACKETS, WITH VAPOR BARRIER, FACTORY-APPLIED OR FIELD APPLIED. INSULATE FITTINGS, JOINTS, AND VALVES WITH INSULATION OF LIKE MATERIAL AND THICKNESS AS ADJOINING PIPE, AND FINISH WITH GLASS CLOTH AND ADHESIVE.

PIPING INSULATION SCHEDULE:

<u>PIPING</u> <u>INSULATION</u> DOMESTIC COLD 1/2" FIBERGLASS DOMESTIC HOT/TEMPERED

AND RECIRCULATING 2" AND SMALLER 1-1/2" FIBERGLASS PIPE FITTINGS:

INSULATE AND FINISH ALL FITTINGS INCLUDING VALVE BODIES, BONNETS, UNIONS, FLANGES AND EXPANSION JOINTS WITH PRECUT FIBERGLASS INSULATION AND PREFORMED PVC COVERS SEALED TO ADJACENT INSULATION JACKET FOR CONTINUOUS VAPOR BARRIER COVERING OVER ALL FITTINGS.

PIPING INSULATION LAP SEAMS AND BUTT JOINTS: INSTALL INSULATION JACKET IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATION. WHERE JACKET JOINT AND LAP SEAMS HAVE NOT ADHERED, REMOVE AFFECTED SECTION OF INSULATION AND REINSTALL. WHERE PIPING IS INSTALLED IN THE EXTERIOR BUILDING ENVELOPE OR IN ANY COMPONENT OF THE EXTERIOR BUILDING ENVELOPE IT SHALL BE LOCATED ON THE WARM BUILDING

3.3 DUCTWORK INSULATION INSTALLATION INSTALL MATERIALS IN ACCORDANCE WITH MANUFACTURER'S INSTRUCTIONS.

INTERIOR SIDE OF THE BUILDING ENVELOPE INSULATION.

B. INSTALLATION: BUTT INSULATION JOINTS FIRMLY TOGETHER AND INSTALL JACKETS AND TAPES SECURELY. APPLY DUCT INSULATION CONTINUOUSLY THROUGH SLEEVES AND OPENINGS. APPLY VAPOR

BARRIER MATERIALS TO FORM A VAPOR SEAL OVER THE INSULATION. COVER BREAKS IN THE JACKET MATERIAL WITH PATCHES OF THE SAME MATERIAL AS THE VAPOR BARRIER. EXTEND THE PATCHES 2-INCHES BEYOND THE BREAK IN ALL DIRECTIONS AND SECURE WITH ADHESIVE

SEAL INSULATION TERMINATIONS AND PIN PUNCTURES WITH A REINFORCED VAPOR BARRIER COATING.

CONTINUE INSULATION AT FIRE DAMPERS UP TO AND INCLUDING THOSE PORTIONS OF THE

FIRE DAMPER FRAME WHICH ARE VISIBLE AT THE OUTSIDE OF THE RATED BARRIER. H. DO NOT CONCEAL DUCT ACCESS DOORS WITH INSULATION.

DUCT WRAP: COVER SUPPLY AIR DUCTS EXCEPT DUCTS INTERNALLY LINED OR WHERE FIBERGLASS DUCTBOARD IS UTILIZED. WRAP TIGHTLY WITH ALL CIRCUMFERENTIAL JOINTS BUTTED AND LONGITUDINAL JOINTS OVERLAPPED MINIMUM OF 2-INCH. ADHERE INSULATION WITH 4-INCH STRIPS OF INSULATING BENDING ADHESIVE AT 8-INCH ON CENTER. ON DUCTS OVER 24-INCH WIDE, ADDITIONALLY SECURE INSULATION WITH SUITABLE MECHANICAL FASTENERS AT 18-INCH ON CENTER. CIRCUMFERENTIAL AND LONGITUDINAL JOINTS STAPLED WITH FLARE STAPLES 6-INCH ON CENTER AND COVERED WITH 3-INCH WIDE FOIL REINFORCED TAPE.

J. CONTINUE INSULATION WITH VAPOR BARRIER THROUGH PENETRATIONS.

3.4 DUCTWORK SURFACES TO BE INSULATED <u>DUCTWORK</u>

INSULATION THICKNESS DUCT SIZE

SUPPLY AND RETURN ALL

2" DUCT WRAP

15400 PLUMBING PART 1 - GENERAL

1.1 WORK INCLUDED

A. THE REQUIREMENT OF THIS SECTION APPLIES TO THE PLUMBING SYSTEM.

1.2 QUALITY ASSURANCE

A. CODES: SECTION 15010. B. FIXTURES: BY SAME MANUFACTURER FOR EACH PRODUCT SPECIFIED THROUGHOUT. COLOR SHALL BE WHITE UNLESS INDICATED OTHERWISE.

C. TRIM: BY SAME MANUFACTURER FOR EACH PRODUCT SPECIFIED THROUGHOUT. 1.3 SUBMITTALS

A. SUBMIT PRODUCT DATA UNDER PROVISIONS OF SECTION 15010. INCLUDE FIXTURES, SIZES, UTILITY SIZES, TRIM, AND FINISHES.

C. SUBMIT FOR:

ALL FIXTURES.

DRAINS.

1.4 PLUMBING FIXTURES GENERAL: PROVIDE FACTORY FABRICATED FIXTURES OF TYPE, STYLE AND MATERIAL INDICATED ON THE PLUMBING FIXTURE CONNECTION SCHEDULE. FOR EACH TYPE FIXTURE, PROVIDE MANUFACTURER'S STANDARD TRIM, CARRIER, SEATS AND VALVES AS SCHEDULED OR AS RECOMMENDED BY MANUFACTURER AS REQUIRED FOR COMPLETE INSTALLATION.

 FIXTURES: COMPLETE WITH FITTINGS, SUPPORTS, FASTENING DEVICES, FAUCETS. VALVES, TRAPS, STOPS AND ADDITIONAL DEVICES REQUIRED.

EXPOSED IPS PIPING AND TUBING: BRASS, CHROME PLATED. ESCUTCHEONS: BRASS, CHROME PLATED.

4. FIXTURES LOCATIONS: AS SHOWN ON ARCHITECTURAL DRAWINGS.

5. STOPS: STOPS INSTALLED ON EACH SUPPLY PIPE AT EACH FIXTURE ACCESSIBLY LOCATED WITH WALL ESCUTCHEONS.

6. SHOWERS, PUBLIC LAVATORIES, INTERIOR FAUCETS: PROVIDE WITH FLOW CONTROL DEVICE PER CODE.

1.5 OPERATION AND MAINTENANCE DATA

A. SUBMIT OPERATION AND MAINTENANCE DATA UNDER PROVISIONS OF SECTION 15010.

PART 2 - PRODUCTS

2.1 INTERIOR PLUMBING MATERIALS

A. CLEANOUTS: MANUFACTURER: J.R. SMITH, JONESPEC, ZURN, WADE, OR ACCEPTED SUBSTITUTE

TILE FLOOR CLEANOUTS: SMITH 4053-U WITH SQUARE HEAVY-DUTY NICKEL BRONZE TOP, TAPER THREAD, BRONZE PLUG, AND VANDALPROOF SCREWS. CARPETED FLOOR CLEANOUT: SMITH 4023-U-X WITH ROUND HEAVY-DUTY

NICKEL BRONZE TOP, TAPER THREAD, BRONZE PLUG, CARPET CLAMPING DEVICE AND VANDALPROOF SCREWS. CONCRETE FLOOR CLEANOUT: SMITH 4023-U WITH ROUND HEAVY-DUTY NICKEL

BRONZE TOP, STAINLESS STEEL SHALLOW COVER AND VANDALPROOF SCREWS. WALL CLEANOUTS: SMITH 4472-U, BRONZE FERRULE WITH RAISED HEAD BRONZE PLUG, STAINLESS STEEL SHALLOW COVER AND VANDALPROOF SCREWS

OUTSIDE AREA WALKS AND DRIVES: SMITH 4253-U-G WITH GALVANIZED CAST IRON BODY, TOP SECURED WITH VANDALPROOF SCREWS, TAPER THREAD AND BRONZE PLUG. INSTALL IN 18" X 18" X 6" DEEP CONCRETE PAD FLUSH WITH

B. FLASHING: MINIMUM 4# SHEET LEAD; TO EXTEND HORIZONTALLY 10" FROM EDGE OF VENT PENETRATIONS OR RAIN DRAIN BODY AND VERTICALLY 12" MINIMUM UP FROM ROOF TURNED OVER AND DOWN INTO HUB OF VENT OR FINISHED WITH BRONZE CAP PROVIDING COUNTERFLASHING FOR SCREWED PIPE

TRAPS: PROVIDE TRAPS ON ALL FIXTURES EXCEPT FIXTURES WITH INTEGRAL TRAPS. EXPOSED TRAPS CHROMIUM PLATED CAST BRASS OR 17 GAUGE CHROME PLATED BRASS TUBING. AMERICAN STANDARD, KOHLER, CHICAGO, BRASSKRAFT, EASTMAN, SPEEDWAY, MCGUIRE OR APPROVED SUBSTITUTE.

SUPPLIES AND STOPS: FIRST QUALITY, CHROME PLATED WITH BRASS STEMS. STOPS: LOOSE KEY TYPE. AMERICAN STANDARD, KOHLER, CHICAGO, BRASSKRAFT, EASTMAN, SPEEDWAY, MCGUIRE OR APPROVED SUBSTITUTE.

2.2 PRIMING VALVES: A. SMITH 2699, WADE, ZURN, PPP OR ACCEPTED SUBSTITUTE. LOCATE IN CLOSETS, UNDER COUNTERS OR IN WALLS BEHIND MILCOR OR ACCESS PANELS AS SPECIFIED IN SECTION 15050. USE COPPER SPECIFIED IN SECTION 15060 FOR ALL UNDERGROUND PRIMING

2.3 PLUMBING FIXTURE MANUFACTURERS

A. LAVATORIES AMERICAN STANDARD, KOHLER, OR ZURN.

B. TRIPLE POT SINK

C. 1. OWNER SUPPLIED D. FAUCET FITTINGS.

 CHICAGO, MOEN, DELTA, SYMMONS, T&S BRASS OR ACCEPTED SUBSTITUTE E. FOOD PREP SINK.

 OWNER SUPPLIED. F. SERVICE SINK

1. AMERICAN STANDARD, MUSTEE, FIAT OR ACCEPTED SUBSTITUTE.

G. FLOOR DRAINS

CAST IRON BODY, DOUBLE DRAINAGE FLANGE WITH WEEP HOLES, PRIMING CONNECTION, NICKEL BRONZE STRAINER FINISH, FLASHING CLAMP DEVICE, ADJUSTABLE OR INSERT TYPE STRAINER. COMPLY WITH ANSI. SMITH, JOSAM, ZURN OR ACCEPTED SUBSTITUTE.

2.4 ELECTRIC WATER HEATER

A. ELECTRIC HOT WATER HEATERS:

1. UL APPROVED AND COMPLYING WITH THE STATE ENERGY CODE REQUIREMENTS WITH ADJUSTABLE AUTOMATIC THERMOSTATICALLY CONTROLLED ELECTRIC INSERTION ELEMENTS CONSTRUCTED TO WITHSTAND 400 DEGREES F WITHOUT FAILURE. HEAVY GLASS-LINES STEEL TANK WITH MAGNESIUM ANODE. NOT LESS THAN 1-1/2" OF NON-ORGANIC INSULATION AND FACTORY ENAMELED JACKET. INSTALL WITH ASME CODE PRESSURE-TEMPERATURE RELIEF VALVE AND HOSE BIB DRAIN. CAPACITY AS SHOWN ON DRAWINGS. INTERNAL FACTORY CIRCUIT FUSING ON ALL HEATERS DRAWING 48 AMPS OR MORE PER CIRCUIT.

MANUFACTURERS: STATE, RUUD, RHEEM, BRADFORD WHITE, A.O. SMITH, OR ACCEPTED

PART 3 - EXECUTION

3.1 INSPECTION

OPENINGS BEFORE ROUGH-IN AND INSTALLATION.

VERIFY ADJACENT CONSTRUCTION IS READY TO RECEIVE ROUGH-IN WORK OF THIS SECTION. C. REVIEW ROUGH-IN LOCATIONS OF POTABLE WATER AND WASTE PIPING SYSTEMS TO VERIFY ACTUAL LOCATIONS PRIOR TO INSTALLING FIXTURES.

3.2 INSTALLATION INSTALL EACH FIXTURE WITH TRAP, EASILY REMOVABLE FOR SERVICING AND CLEANING.

D. REVIEW MILLWORK SHOP DRAWINGS. CONFIRM LOCATION AND SIZE OF FIXTURES AND

INSTALL COMPONENTS LEVEL AND PLUMB. INSTALL AND SECURE FIXTURES IN PLACE WITH WALL CARRIERS AND BOLTS. INSTALL FIXTURES AS SHOWN ON DRAWINGS.

POINT WIDTH. FLOOR MOUNTED CONCEALED ARM CARRIERS APPROVED.

1. SUPPORT ALL WALL HUNG WATER CLOSETS AND URINALS ON HEAVY DUTY, CONCEALED, CHAIR CARRIERS MOUNTED TO FLOOR STRUCTURE. SUPPORT WALL HUNG LAVATORIES MOUNTED ON STUD PARTITIONS ON HEAVY CONCEALED WALL BRACKETS BOLTED TO A STEEL PLATE ANCHORED FIRMLY TO STUDS WITH BOLTS. PLATE TO EXTEND ONE STUD EACH WAY BEYOND FIXTURE MOUNTING

D. CLEANOUTS 11. WHERE REQUIRED BY CODE, AT EACH CHANGE OF SEWER DIRECTION 45 DEGREES OR GREATER AND MORE THAN 10' LONG, AT END OF EACH BRANCH OR MAIN AND SPACED NOT GREATER THAN 100' APART, AS REQUIRED BY CODE AND/OR AS SHOWN

ON DRAWINGS. INSTALL ALL DEVICES IN ACCORDANCE WITH MANUFACTURER'S WRITTEN INSTRUCTIONS AND

RECOMMENDATIONS. PROVIDE WASTE PIPING TO PLUMBING FIXTURES AND DRAINS, WITH APPROVED TRAP, OF SIZES INDICATED; BUT IN NO CASE SMALLER THAN REQUIRED BY CODE.

MECHANICAL EQUIPMENT CONNECTIONS: CONNECT PIPING SYSTEM TO MECHANICAL EQUIPMENT AS INDICATED. COMPLY WITH EQUIPMENT MANUFACTURER'S INSTRUCTIONS. PROVIDE SHUTOFF VALVE AND UNION FOR EACH CONNECTION. PROVIDE DRAIN VALVE

ON DRAIN CONNECTION. ARRANGE LOCATIONS OF VALVES, UNIONS, DRAINS AND OTHER COMPONENTS TO PROVIDE FOR EASE OF MAINTENANCE, REPAIR OR SERVICE. SIZE ACCESS PANELS AND LOCATE TO PROVIDE WORKING

SPACES FOR ALL DEVICES SERVED BY ACCESS.

FIXTURES: INSTALL PLUMBING FIXTURES WHERE SHOWN AND AT APPROPRIATE HEIGHTS; IN ACCORDANCE WITH FIXTURE MANUFACTURER'S WRITTEN INSTRUCTIONS, ROUGHING-IN DRAWINGS AND INDUSTRY STANDARDS

SET AND CONNECT TO SOIL, WASTE, VENT AND WATER PIPING IN NEAT, UNIFORM MANNER. CONNECTIONS TO BE PLUMB AND SET AT RIGHT ANGLES TO FLOOR AND WALL UNLESS OTHERWISE REQUIRED.

SEAL FIXTURES MOUNTED ON FLOORS AND WALLS WITH SEALANT COMPOUNDS AS DIRECTED BY ARCHITECT. INSTALL HANDLE OF TANK TYPE TOILETS AT WIDE PORTION OF

SET MIXING VALVES OF LAVATORIES TO LIMIT TEMPERATURE TO

STOPS: SCREWDRIVER OR LOOSE KEY STOPS TO BE INSTALLED IN HOT AND COLD SUPPLY PIPE TO EACH FIXTURE ACCESSIBLY LOCATED.

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PLUMBING SPECIFICATION

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