

## SYMBOL LIST

	DUCT UNDER POSITIVE PRESSURE	—U—	UNDERROUT DOOR
	DUCT UNDER NEGATIVE PRESSURE	Y.I.F.	VERIFY IN FIELD
	SQUARE ELBOW WITH TURNING VANES	(E)ST/EXTG	EXISTING
	ROUND TO RECTANGULAR TRANSITION	(E)X	EXISTING AS NOTED
	EXISTING DUCTWORK SHALL BE REMOVED	CD	CEILING DIFFUSER
	NEW DUCTWORK	CR	CEILING REGISTER
	EXIST'G. DUCTWORK	TA	RETURN AIR GRILLE
	EXIST'G. DUCTWORK	TAO	TRANSFER AIR DUCT
	EXIST'G. DUCTWORK	TAG	TRANSFER AIR GRILLE
	FLEXIBLE CONNECTION	DG	DOOR GRILLE
	MOTORIZED DAMPER	EGH	ELECTRIC DUCT HEATER
	FIRE DAMPER	EJH	ELECTRIC DUCT HEATER
	COMBINATION FIRE/SMOKE DAMPER	EMW	ELECTRIC WALL HEATER
	BALANCING DAMPER	EF	AIR HANDLING UNIT
	BACKDRAFT DAMPER	RTU	ROOFTOP UNIT
	DUCT INCLINED DROP IN DIRECTION OF FLOW	TWHP	THROUGH-WALL HEAT PUMP
	DUCT INCLINED RISE IN DIRECTION OF FLOW	HTD	HYDRONIC
	SOUND LINED DUCTWORK	①	THERMOSTAT (NEW)
	24"x24" PERFORATED CEILING GRILLE	②	SWITCH
	THREE WAY AUTOMATIC VALVE	③	DUCT SMOKE DETECTOR
	UNION	④	ACCESS DOOR
	TWO WAY AUTOMATIC VALVE	⑤	INDICATES ROUND DUCT DIA. (INCHES)
	CHECK VALVE	AD	NECK
	FLOW CONTROL VALVE	12"φ	1" SOUND LINED DUCT - FREE AREA DIMENSION SHOWN
	GATE VALVE	NK	2" SOUND LINED DUCT - FREE AREA DIMENSION SHOWN
	DEZURIK VALVE	12X12-SL	EXISTING WORK TO BE REMOVED
	PETES PLUG	(TBX)	EXISTING WORK TO REMAIN
	THERMOMETER	(E)	EXISTING WORK TO BE REMOVED
	PRESSURE GAUGE	(ER)	EXISTING WORK TO BE REMOVED
	GLOBE VALVE	CH	CABINET HEATER
	AIR VENT	●	POINT OF CONNECTION NEW WORK TO EXISTING
	FLEXIBLE CONNECTION PIPING	A 000	GFM
	CONCENTRIC REDUCER	P 0X0	GFM
	STRAINER W/HOSE END CONNECTION	H 000	GFM
	RELIEF VALVE	OXO	GFM
	PRESSURE REDUCING VALVE		SIZE (NOMINAL)
	DIRECTION OF FLOW		SIZE (NOMINAL)
	PIPE SLOPE DIRECTION		SIZE (NOMINAL)

## EQUIPMENT SPECIFICATION:

DUCTWORK: BUILD IN ACCORDANCE WITH SMACNA LOW PRESSURE DUCT STANDARDS.  
 SUPPLY GRILLE: ANEMOSTAT X240 OR EQUAL.  
 RETURN REGISTER: ANEMOSTAT X340D OR EQUAL.  
 INSULATION: STANDARD FIBERGLASS "DUCT WRAP" WITH PAPER FACING.  
 NOTE: REFER TO MECHANICAL SPECIFICATIONS (THIS SHEET) FOR ADDITIONAL INFORMATION ON DUCTWORK, INSULATION, AND INSTALLATION.

## PLUMBING FIXTURE SPECIFICATIONS

AVAILABLE MANUFACTURERS: SUBJECT TO COMPLIANCE WITH REQUIREMENTS, MANUFACTURERS OFFERING PRODUCTS THAT MAY BE INCORPORATED INTO THE WORK INCLUDE BUT ARE NOT LIMITED TO, THE FOLLOWING:

1. BASIS-OF-DESIGN PRODUCT: SUBJECT TO COMPLIANCE WITH REQUIREMENTS, PROVIDE THE PRODUCT INDICATED ON DRAWINGS, CHICAGO FAUCET MODEL 788-E2805-5-317" OR A COMPARABLE PRODUCT BY ONE OF THE FOLLOWING:

AMERICAN STANDARD COMPANIES, INC.  
 a. BRADLEY CORPORATION.  
 b. CHICAGO FAUCETS.  
 c. DELTA FAUCET COMPANY.  
 d. ELIER.  
 e. ELKAY MANUFACTURING CO.  
 f. FISHER MANUFACTURING CO.  
 g. GROHE AMERICA, INC.  
 h. JUST MANUFACTURING COMPANY.  
 i. KOHLER CO.  
 j. KOHLER INC.  
 k. ROYAL BRASS MFG. CO.  
 l. SAYCO - A BRIGGS PLUMBING PRODUCTS, INC. COMPANY.  
 m. SPEAKMAN COMPANY.  
 n. T & S BRASS AND BRONZE WORKS, INC.  
 o. ZURN PLUMBING PRODUCTS GROUP, COMMERCIAL BRASS OPERATION.

3. DESCRIPTION: TWO-HANDLE MIXING, INDICATE HOT AND COLD-WATER INDICATORS, COORDINATE FAUCET INLETS WITH SUPPLIES AND WITH SPOUT AND COORDINATE OUTLET WITH SPOUT AND FUTURE RECEPTION.

BODY MATERIAL: COMMERCIAL, SOLID BRASS.  
 FINISH: POLISHED CHROME PLATE.  
 q. MAXIMUM FLOW RATE: 0.5 GPM.

CENTERS: 8 INCHES.

f. MOUNTING: DECK EXPOSED.  
 s. VALVE HANDLE(S): WRIST BLADE, 4 INCHES.  
 t. INLET(S): NPS 1/2 MALE SHANK.  
 u. SPOUT: RIGID TYPE.  
 v. SPOUT OUTLET: LAMINAR FLOW.  
 w. OPERATION: NONCOMPRESSION, MANUAL.  
 x. DRAIN: GRID.

1.02 FLUSHMETERS  
 A. FLUSHMETERS, P-1B:  
 BASIS-OF-DESIGN PRODUCT: SUBJECT TO COMPLIANCE WITH REQUIREMENTS, PROVIDE THE PRODUCT INDICATED ON DRAWINGS, SLOAN MODEL OF THE FOLLOWING:  
 COVNE & DELANY CO.  
 z. DELTA FAUCET COMPANY.  
 aa. SLOAN VALVE COMPANY.  
 bb. ZURN PLUMBING PRODUCTS COMMERCIAL BRASS OPERATION.

DESCRIPTION: FLUSHMETER BRASS FOR WATER-CLOSET-TYPE FIXTURE. INCLUDE BODY WITH CORROSION-RESISTANT INTERNAL COMPONENTS, NON-SOLID-OPEN VALVE, THERMOSTATIC CONTROL, COPPER OR BRASS TUBING, AND POLISHED CHROME-PLATED FINISH ON EXPOSED PARTS.

INTERNAL DESIGN: DIAPHRAGM OPERATION.  
 ic. STYLE: EXPOSED.  
 od. INLET SIZE: NPS 1/2.  
 oe. TRIP MECHANISM: OSCILLATING, LEVER-HANDLE ACTUATOR.  
 of. CONSUMPTION: 1.6 GAL./FLUSH.  
 og. TAILPIECE SIZE: NPS 1-1/2" AND STANDARD LENGTH TO TOP OF BOWL.

1.03 TOILET SEATS  
 TOILET SEATS, P-1B:  
 AVAILABLE MANUFACTURERS: SUBJECT TO COMPLIANCE WITH REQUIREMENTS, MANUFACTURERS OFFERING PRODUCTS THAT MAY BE INCORPORATED INTO THE WORK INCLUDE, BUT ARE NOT LIMITED TO, THE FOLLOWING:

4. BASIS-OF-DESIGN PRODUCT: SUBJECT TO COMPLIANCE WITH REQUIREMENTS, PROVIDE THE PRODUCT INDICATED ON DRAWINGS, BENEKE NO. 52355/CH OR A COMPARABLE PRODUCT BY ONE OF THE FOLLOWING:

BEMIS MANUFACTURING COMPANY.  
 ah. CENTROO MANUFACTURING CORP.  
 ai. CHURCH SEATS.  
 aj. KOHLER CO.  
 ak. OLSONITE CORP.  
 al. PRESSAIT A/S.  
 am. SANDERSON PLUMBING PRODUCTS, INC., BENEKE DIV.  
 an. SPERZEL.

## MECHANICAL SPECIFICATIONS:

1.01 DUCTWORK  
 A. SHEET METAL DUCT FABRICATION REQUIREMENTS:  
 1. COMPLY WITH SMACNA'S "HVAC DUCT CONSTRUCTION STANDARDS - METAL AND FLEXIBLE" FOR FABRICATION OF ALL DUCTWORK AND FITTINGS.  
 2. SELECT JOINT AND SEAM TYPES IN ACCORDANCE WITH "HVAC DUCT CONSTRUCTION STANDARDS - METAL AND FLEXIBLE."  
 B. SHEET METAL MATERIALS  
 1. GENERAL MATERIAL REQUIREMENTS: COMPLY WITH SMACNA'S "HVAC DUCT CONSTRUCTION STANDARDS - METAL AND FLEXIBLE" FOR ACCEPTABLE MATERIALS. MATERIAL THICKNESSES, AND DUCT CONSTRUCTION METHODS UNLESS OTHERWISE INDICATED, SHEET METAL MATERIALS SHALL BE FREE OF PITTING, SEAM MARKS, ROLLER MARKS, STAINS, DISCOLORATIONS, AND OTHER IMPERFECTIONS.  
 2. GALVANIZED SHEET STEEL: COMPLY WITH ASTM A 653/A 653M.  
 3. STAINLESS-STEEL SHEETS: COMPLY WITH ASTM A 480/A 480M.  
 4. ALUMINUM SHEETS: COMPLY WITH ASTM B 209 ALLOY 3003.  
 C. SHEET METAL REINFORCEMENT SHAPES AND PLATES SHALL COMPLY WITH ASTM A 36/A 36M.  
 1.02 DUCT INSULATION SCHEDULE, GENERAL  
 A. PLENUMS AND DUCTS REQUIRING INSULATION:  
 1. INDOOR, CONCEALED AND EXPOSED SUPPLY AND OUTDOOR AIR DUCT, AND INDOOR CONCEALED AND EXPOSED RETURN DUCT LOCATED IN NON-CONDITIONED SPACES.  
 2. INDOOR, CONCEALED EXHAUST BETWEEN ISOLATION DAMPER AND PENETRATION OF BUILDING EXTERIOR.  
 3. INDOOR, EXPOSED EXHAUST BETWEEN ISOLATION DAMPER AND PENETRATION OF BUILDING EXTERIOR.  
 4. OUTDOOR, CONCEALED AND EXPOSED SUPPLY AND RETURN

3. DESCRIPTION: TOILET SEAT FOR WATER-CLOSET-TYPE FIXTURE.  
 MATERIAL: MOLDED, SOLID PLASTIC WITH ANTI-MICROBIAL AGENT.  
 ao. CONFIGURATION: OPEN FRONT WITHOUT COVER.  
 ap. SIZE: ELONGATED.  
 aq. HINGE TYPE: SC, SELF-SUSTAINING, CHECK.  
 ar. CLASS: AMERICAN STANDARD COMMERCIAL.  
 as. COLOR: WHITE.  
 B. LAVATORY SUPPORTS, P-3, P-3A, AND P-3B:  
 1. DESCRIPTION: TYPE II, LAVATORY CARRIER WITH CONCEALED ARMS AND THE ROD FOR WALL-MOUNTING, LAVATORY-TYPE FIXTURE. INCLUDE STEEL UPRIGHTS WITH FEET.  
 2. ACCESSIBLE-FIXTURE SUPPORT: INCLUDE RECTANGULAR STEEL UPRIGHTS.  
 1.04 WATER CLOSETS  
 WATER CLOSETS, P-1B:  
 1. AVAILABLE MANUFACTURERS: SUBJECT TO COMPLIANCE WITH REQUIREMENTS, MANUFACTURERS OFFERING PRODUCTS THAT MAY BE INCORPORATED INTO THE WORK INCLUDE, BUT ARE NOT LIMITED TO, THE FOLLOWING:  
 2. BASIS-OF-DESIGN PRODUCT: SUBJECT TO COMPLIANCE WITH REQUIREMENTS, PROVIDE THE PRODUCT INDICATED ON DRAWINGS, WHIRLTON 3325 OR A COMPARABLE PRODUCT BY ONE OF THE FOLLOWING:  
 a. AMERICAN STANDARD COMPANIES, INC.  
 b. CRANE PLUMBING, L.L.C./FAT PRODUCTS.  
 c. ELIER CO.  
 d. KOHLER CO.  
 e. ELKAY CO.  
 3. DESCRIPTION: ACCESSIBLE, FLOOR-MOUNTING, BOTTOM-OUTLET, VITREOUS-CHINA FIXTURE DESIGNED FOR FLUSHMETER VALVE OPERATION.  
 1) BOWL TYPE: ELONGATED WITH SIPHON-LEFT DESIGN.  
 2) HEIGHT: STANDARD.  
 3) DESIGN CONSUMPTION: 1.6 GAL./FLUSH.  
 4) COLOR: WHITE.  
 4) FLUSHMETER: P-1B.  
 d. TOILET SEAT: P-1B.  
 d. P-2A CHAIR CARRIER.  
 LAVATORIES, P-3C:  
 1. AVAILABLE MANUFACTURERS: SUBJECT TO COMPLIANCE WITH REQUIREMENTS,

B. ALL INDOOR DUCT SHALL BE INSULATED USING 1 INCH THICK, FIBERGLASS DUCT WRAP.  
 C. ALL OUTDOOR DUCT SHALL BE INSULATED USING 2-INCH THICK DUCT WRAP HAVING FOLI OR ALUMINIZED OUTER JACKET SUITED FOR OUTDOOR CONDITIONS.  
 D. OPTION FOR ALL DUCT WRAP: FIBERGLASS WRAP WITH BONDED OUTER JACKET HAVING THE SAME OR BETTER THERMAL AND FIRE/SMOKE RESISTANT CHARACTERISTICS AS SPECIFIED MINERAL-FIBER BLANKET MAY BE USED IN LIEU OF MINERAL-FIBER BLANKET.  
 E. ITEMS NOT INSULATED:  
 1. FIBROUS-GLASS DUCTS.  
 2. METAL DUCTS WITH DUCT LINER OF SUFFICIENT THICKNESS TO COMPLY WITH ENERGY CODE AND ASHRAE/IESNA 90.1.  
 3. FACTORY-INSULATED FLEXIBLE DUCTS.  
 4. FACTORY-INSULATED PLENUMS AND CASINGS.  
 5. FLEXIBLE CONNECTORS.  
 6. VIBRATION-CONTROL DEVICES.  
 7. FACTORY-INSULATED ACCESS PANELS AND DOORS.  
 F. DUCTS TO BE INSULATED INCLUDE EXISTING AND NEW DUCTWORK LOCATED IN CLASSROOM "A", CLASSROOM "B", CLASSROOM "C", ART, AND SCIENCE AS SHOWN ON DRAWING M1.01.  
 1.03 DUCTWORK INSTALLATION  
 A. ALL EXPOSED DUCTWORK SHALL BE FREE FROM DAMAGE AND DISFIGUREMENT.  
 B. ALL SEALANTS SHALL BE TRIMMED FLUSH WITH METAL.  
 C. ALL DUCTWORK SHALL BE SEALED IN ACCORDANCE WITH SMACNA'S "HVAC DUCT CONSTRUCTION STANDARDS - METAL AND FLEXIBLE."  
 D. ALL DUCTWORK SHALL BE INSTALLED, BRACED, AND SUPPORTED IN ACCORDANCE WITH SMACNA'S "HVAC DUCT CONSTRUCTION STANDARDS - METAL AND FLEXIBLE," CHAPTER 4.

MANUFACTURERS OFFERING PRODUCTS THAT MAY BE INCORPORATED INTO THE WORK INCLUDE, BUT ARE NOT LIMITED TO, THE FOLLOWING:  
 2. BASIS-OF-DESIGN PRODUCT: SUBJECT TO COMPLIANCE WITH REQUIREMENTS, PROVIDE THE PRODUCT INDICATED ON DRAWINGS, KOHLER PINOR K-2035-8, OR A COMPARABLE PRODUCT BY ONE OF THE FOLLOWING:  
 a. AMERICAN STANDARD COMPANIES, INC.  
 b. CRANE PLUMBING, L.L.C./FAT PRODUCTS.  
 c. ELIER.  
 d. KOHLER CO.  
 e. MANSFIELD PLUMBING PRODUCTS, INC.  
 3. DESCRIPTION: ACCESSIBLE, WALL-MOUNTING, VITREOUS-CHINA FIXTURE.  
 a. TYPE: SLAB.  
 b. SIZE: 22 BY 18 INCHES RECTANGULAR.  
 c. FAUCET HOLE PUNCHING: THREE HOLES, 4-INCH CENTERS.  
 d. FAUCET HOLE LOCATION: TOP.  
 e. PEDESTAL: NOT REQUIRED.  
 f. COLOR: WHITE.  
 9. FAUCET: LAVATORY P-3C FOR SEPARATE DRAIN.  
 h. SUPPLIES: NPS 3/8 CHROME-PLATED COPPER WITH STOPS.  
 1. DRAIN: GRID WITH OFFSET WASTE.  
 1) LOCATION: NOT APPLICABLE.  
 j. DRAIN PIPING: NPS 1-1/4 CHROME-PLATED, CAST-BRASS P-TRAP; NPS 1-1/4, 0.045-INCH-THICK TUBULAR BRASS WASTE TO WALL; AND WALL ESCUTCHEON.  
 k. HAR INTERCEPTOR: NOT REQUIRED  
 l. PROTECTIVE SHIELDING GUARD(S): P-3C.



**GRACE EPISCOPAL DAY SCHOOL**  
 9411 CONNECTICUT AVENUE  
 KENSINGTON MARYLAND 20895

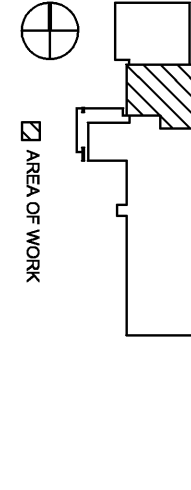
**cox graae + spack architects**  
 2909 M Street NW  
 Washington DC 20007  
 202-965-7070  
 fax: 202-965-7144

**a. morton thomas & associates civil engineers**  
 12750 Twinbrook Parkway  
 Rockville, MD 20852  
 telephone: 301 984 2522  
 facsimile: 301 984 0814

**linton engineering structural engineers**  
 46900 Lake Center Plaza | Suite 309  
 Potomac Falls, VA 20165  
 telephone: 571 923 0320  
 facsimile: 571 923 0899

**century engineering m.e.p. engineers**  
 200 Airport Road | Capital City Airport  
 New Cumberland, PA 17070  
 telephone: 717 901 7055  
 facsimile: 717 901 7059

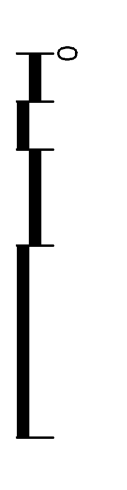
**KEY PLAN**  
 NORTH BUILDING



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 Expiration Date: 2/14/2010

No.	Date:	Revision:
2009.06.12	Permit 1	Bld
2009.06.19	Bld	S&L

Drawing Title:  
**MECHANICAL NOTES**  
**SYMBOLS & ABBREVIATIONS**  
**Phase 1A**  
 Graphic Scale: 1/8" = 1'-0"



Drawn By:	Checked By:
DT	CJ
Project No.:	Date:
071065.00	2009.06.12
Drawing No.:	
<b>MO.01</b>	

