

MC-#	Rv-#	HVAC CRITERIA - BASIC MATERIALS & METHODS	Check Off
MC-1.01	1.01	GENERAL: Provide a complete Mechanical / HVAC system, left in proper working order. Provide herein means installed completely, including labor & materials.	
MC-1.02	1.02	INCLUSION: The Mechanical work is portion of the over all project requirements and as such shall comply with the conditions and requirements of the General Conditions, Supplementary Conditions and all applicable requirements of the overall project.	
MC-1.03	1.03	CODES: Meet & comply with all Federal, State, County & City Codes including ICC-IBC 2012 & Ga Amendments 2014 & 2015; ICC-IMC 2012 & Ga Amendments 2014 & 2015; ICC-IEC 2009 & Ga Amendments 2011 & 2012.	
MC-1.04	1.04	PERMITS & FEES: Secure & pay for all fees, licenses, permits, inspections. Submit Copy Of Each Permit	
MC-1.05	1.05	LICENSE(S)/BUSINESS: This Contractor Shall Be Properly Licensed Business Wise, In This Project State. In Accordance With All Applicable State Laws. Submit Copies Of Business License(s).	
MC-1.06	1.06	LICENSE(S)/HVAC: This Contractor Shall Be Fully Licensed To Perform HVAC Work, In This Project State. For The Type Of Work To Be Performed In Accordance With All Applicable State Laws. Submit Copies Of HVAC License(s).	
MC-1.07	1.07	BONDING & INSURANCE(S): This Contractor Shall Be Properly Bonded And Insured In Accordance With The General & Supplemental Requirements Of The Project Document. Submit Copies Of All Such Documents.	
MC-1.08	1.08	COORDINATION OF UTILITY: Coordinate & verify, in writing, with the utility company, confirming the utility arrangements, characteristics, metering arrangement and equipment locations. Copy Own/ Archt Engr	
MC-1.09	1.09	UTILITIES FEES & CHARGES: Secure & pay for all utility related fees, licenses, permits, inspections. Coordinate with owner for owner's completion of Electrical Utility Service & Metering request forms & payment of charges.	
MC-1.10	1.10	CONTRACTOR REQUIREMENTS: The installing contractor providing for this work shall be a firm licensed for this type work. The contractor's field personnel shall be under the direct supervision of a licensed contractor at all times.	
MC-1.11	1.11	COORDINATION OF OTHER TRADES: This contractor is responsible for coordinating with all other trades for the proper installation of this work, maintaining required clearances, and confirming, in writing, the electrical characteristics and power requirement of items requiring power, prior to ordering equipment. Coordinate with structural for supports and Plumbing for drainage and related.	
MC-1.12	1.12	MANUFACTURERS, ALTERNATES & SUBSTITUTIONS: Components & products are to be provided matching the prescribed characteristics, features, performance, types, etc. based on the Manufacturer & Series as given. NO Alter, Bid, Alternates, Changes Or Substitutions Accepted Or Allowed. Prior To Bid Request For Acceptance Must Be Submitted To Architect & Engineer NO LESS Than Two Business Weeks Prior To Bid Date. Request For Acceptance Must Include Complete & Marked Product Data Indicating Full Matching Compliance. Any Variations Must Be Marked & Noted. Acceptance Will Be At The Discretion Of The A/E Judgment.	
MC-1.13	1.13	SUBMITTALS: Provide complete submittals on Contractor qualifications, all items, equipment, products, etc. For review, prior to finalizing orders. Submit a minimum of three sets, more if required by the General Conditions.	
MC-1.14	1.14	PROVISIONS TO BE INCLUDED: Labor, supplies and materials, tools, equipment, etc.; material shipping, delivery, receiving, storage, & protection; installation of all Mechanical equipment & connections; coordination with other trades.	
MC-1.15	1.15	MATERIALS: All materials shall be new, currently manufactured, U.L. labeled, and meet all industry standards. Label all equipment. Provide 3000 PSI class concrete for bases and backfill. Provide 3/4" thick A/D fire retardant grade backboards. Provide all support hardware. Paint all material exposed to view as directed by architect.	
MC-1.16	1.16	CUTTING / TRENCHING / PATCHING: Contractor shall provide for all necessary cutting, trenching, backfilling & patching related to this work. Backfill to 95% compaction. Patch & finish to match original conditions. Contact "Call-Before-You-Dig" services prior to any excavation work.	
MC-1.17	1.17	FIRE & SMOKE SEALS: Provide fire / smoke seal of each penetration of any rated barrier.	
MC-1.18	1.18	EQUIPMENT & CONTROLS: All equipment shall be factory pre-wired complete, and provided with equipment disconnect, starters, over-load relays, etc. including all controls and low-voltage wiring. All equipment motors shall meet current energy efficiency requirements. Provide all control and interlock wiring.	
MC-1.19	1.19	EQUIPMENT SUPPORT, CLEARANCES & ACCESS: Equipment shall be properly supported as instructed by the manufacturer. Provide vibration isolation devices for each item. Equipment shall be located to maintain proper clearances and required access. Verify and coordinate prior to installation.	
MC-1.20	1.20	SEISMIC REQUIREMENTS: Support all items in accordance with the seismic zoning requirements.	
MC-1.21	1.21	WORKMANSHIP: All work shall be installed in a coordinated, organized, neat & professional manner and in accordance with ANSI/ACCA-05-QI, SMACNA and other industry standards.	
MC-1.22	1.22	STRUCTURAL COORDINATION: Review & coordinate with the structural conditions prior to the start of any work. Any attachments, welding and/or cutting of the building structure must first be approved, in writing, by the building structural engineer. Locate slab penetrations to avoid conflict & damage. Sleeve & seal each penetration.	
MC-1.23	1.23	ROOF PENETRATIONS: Any roof modifications shall be by the building owner's designated roofing installer / supplier to maintain the roofing warranty. Provide all necessary components (curbs, patch pockets, etc.) and pay all related cost for a complete installation.	
MC-1.24	1.24	CLOSE OUT / INSPECTIONS: This contractor shall assist with on-site reviews of this work. At completion of the project, demonstrate in the presence of the Owner / Tenant, Architect & Engineer to proper operation of all components, systems, devices, etc.	
MC-1.25	1.25	WARRANTY: This contractor shall warrant all materials, labor & installation for one full year from date of Certificate of Occupancy. Any extended product warranties shall be passed onto the owner.	

MC-#	Rv-#	HVAC CRITERIA - EQUIPMENT	Check Off
MC-2.01	2.01	EQUIPMENT GENERAL: Provide all necessary equipment to make a complete & properly functioning HVAC system.	
MC-2.02	2.02	EQUIPMENT SCHEDULES: Refer to the equipment schedules for the characteristics, features, performance, ratings, etc. of the manufacturers. Refer to the manufacturer's model refer only to the manufacturer's equipment. It is the contractor's responsibility to provide complete equipment with all related components, controls, hardware, etc.	
MC-2.03	2.03	EQUIPMENT ATTACHMENT & PLACEMENT: Coordinate all interfacing trades on equipment placement prior to any rough-in. Ensure proper clearances and access. Provide equipment pad(s) for gas burner and mountings (DiversiTech or equal). Verify & confirm support structure or hung hangers. Provide vibration-isolation mounting for each.	
MC-2.04	2.04	EQUIPMENT CONDUITS: Route all equipment lines (power, refrigeration, etc.) concealed where possible. Use routing schedule per the equipment manufacturers installation requirements. Provide access to protective conduit(s) for any exposed lines (DiversiTech SpeediChannel or equal).	

MC-#	Rv-#	HVAC CRITERIA - AIR DISTRIBUTION	Check Off
MC-3.01	3.01	DIAGRAMMATIC DRAWINGS: Drawings are diagrammatic to indicate the intended requirements for the HVAC system. Every fitting & detail is not necessarily indicated. The contractor shall provide for and install all for a complete and properly functioning system(s) in a professional manner. All work shall be installed so that working components are accessible for service.	
MC-3.02	3.02	DUCTWORK STANDARDS: All duct work, fittings, support, etc. shall comply with the latest SMACNA standards, and be in conformance with NFPA and UL requirements.	
MC-3.03	3.03	GENERAL DUCTWORK: Contractor shall coordinate and field verify exact duct routes, dimensions, clearances and other requirements prior to duct fabrication. Provide for duct modifications to adjust to field conditions and maintain access and clearances.	
MC-3.04	3.04	SHEET METAL REQUIREMENTS: All ductwork shall be constructed of sheet metal, U.O.N., G-80 grade galvanized steel, or better, conforming to ASTM-A653/A653M & A924/A924M Standards. Deflection limits per SMACNA.	
MC-3.05	3.05	LOW PRESSURE DUCT DESIGN BASIS: The low pressure duct layout & design is based on smooth sheet metal duct system, 2 in. Pressure Class. Supply Air at 0.08 to 0.10 InCh WG Friction Rate. Return Air at 0.65 to 0.80 InCh WG Friction Rate.	
MC-3.06	3.06	DUCT SIZES & SHAPES: Duct sizes are shown for clear inside dimensions, increase duct size to maintain clear dimensions where interior duct restrictions occur. Duct shape may be changed, however the equivalent air carrying capacity, area and pressure drops.	
MC-3.07	3.07	DUCT JOINTS & CONNECTIONS: Provide all joints, flange, off-sets, connections and related components for a complete air distribution system. Components shall match the material & construction type of the duct system to which they are connected.	
MC-3.08	3.08	TURNING VANES: All rectangular duct work bend greater than 45 degrees shall have turning vanes. Turning vanes shall be single-blade type, with 3/4 inch trailing edge.	
MC-3.09	3.09	DUCTWORK SEALING: All ductwork shall be sealed per SMACNA. Utilize water-based, non-toxic mastic (Ductmate PROseal or equal) to form air & water tight seal.	
MC-3.10	3.10	DUCT WRAP INSULATION: All supply, return, exhaust, outside air and make-up-air ducts shall be insulated. Utilize Fiber-Free, Closed-Cell, Non-Wicking, GreenGuard Certified, Mold-Resistant Microban-Antimicrobial insulation, having an UL FHC maximum rating of 25-Flame Spread Index & 50-Smoke Developed Index. Insulation shall be self-adhering or be secured to duct with annealed stainless steel wire at spacing not to exceed Two-Foot On-Centers. Seal all joints, seams & punctures with matching Low-VOC Amaflex adhesive-seal. Minimum duct insulation shall be R-05.	
MC-3.11	3.11	DUCT LINER: Provide U.L. listed duct liner in duct work within the first 10 Feet on duct connection to any motorized equipment (both supply & return). EPA listed for use in HVAC. Secure liner to duct work per SMACNA or manufacturer. John Mansville LinaAcoustic RC or equivalent. Duct liner shall be 1/4 inch thick, ASTM-C-1071 listed, secured per manu's data.	
MC-3.12	3.12	INTERIOR DUCT WORK: All interior duct work shall be concealed, except where so noted or indicated.	
MC-3.13	3.13	EXPOSED INTERIOR DUCTWORK: Ductwork that is exposed in non-utilitarian areas shall be round or oval spiral duct, dual-wall, internally insulated, with matching components. Connections shall be low-profile, flange style with matching barrel clamp.	
MC-3.14	3.14	EXPOSED EXTERIOR DUCTWORK: Ductwork that is exposed to the exterior, weather or damp / wet conditions shall consist of round or rectangular sheet metal ductwork, with rigid board insulation, and totally encapsulated with a UV resistant, water-proof coating, Amaceil ArmaTuff or equal.	
MC-3.15	3.15	PREFABRICATED DUCTWORK SYSTEMS: Use of factory cataloged & manufactured duct system(s) will be considered by submitting complete data for review, no less than 14 days prior-to-bid.	
MC-3.16	3.16	TAKE-OFFS: Each Low pressure branch or take-offs from truck-duct to branch-ducts, and air-device take-offs shall utilize "scoop" type device with adjustable damper & locking handle.	
MC-3.17	3.17	FLEX DUCT RUN-OUTS: Flexible run-outs to individual supply diffusers is allowed, full size, insulated with internal support spring, U.L. listed for use in environmental air plenums. Each end shall be taped & banded. Flex lengths shall not exceed 6 Feet. 6.0 R-Value. Flexduct shall be Thermalex M-KE (or equivalent) & matching Flex-Flow Elbow support collar.	
MC-3.18	3.18	AIR NOISE: Duct, diffuser neck & other components are sized to reduce noise, thus size reduction shall not be made, except by written agreement.	
MC-3.19	3.19	ACCESS PANELS: Provide flush mounted hinged cover access panels for access to any concealed devices requiring maintenance or adjustment, etc. Finish to match adjacent area.	
MC-3.20	3.20	FIRE DAMPERS: The contractor shall review the architectural & structural drawings and provide UL listed fire-dampers at each fire rated barrier, in accordance with labeling, to match the barrier rating (at minimum) and where required by the AHJ. Provide access to any concealed unit.	
MC-3.21	3.21	DUCT-TO-EQUIPMENT ISOLATION: Connections between ductwork and equipment shall be UL labeled heavy glass fiber fabric duct connection, at least four inches long with rigid collar on each side. The gap between the equipment & metal duct work shall be a minimum of two inches to avoid transmission of vibrations.	
MC-3.22	3.22	AIR QUALITY / FILTERS: Each Air-Handling system shall be equipped with Air Quality Devices / Filters as shown or scheduled.	
MC-3.23	3.23	REGISTERS, DIFFUSERS, GRILLS, ETC.: GENERAL: Registers, grills, diffusers, etc. for a complete installation. Coordinate with the architect / Owner for colors & finishes. Provide complete schedule(s) for new prior to finalizing orders.	
MC-3.24	3.24	REGISTERS, DIFFUSERS, GRILLS, ETC.: SCHEDULES: Refer to schedule(s) for items & criteria, provide type, schedule, accessories and hardware as required for complete installation.	
MC-3.25	3.25	DUCTWORK INSULATION: Each housing shall be fully insulated to prevent sweating, etc. Insulation shall be 2 in., foil-backed, 3/4 LB. density and may be field or factory applied.	

MC-#	Rv-#	HVAC CRITERIA - TEST & BALANCE / CLOSEOUT	Check Off
MC-4.01	4.01	START UP & ADJUSTMENTS: Contractor shall provide for the final lubrication of all equipment, adjustments, and setting of dampers, registers and air distribution devices for proper air distribution.	
MC-4.02	4.02	TEST & BALANCE FRM: Provide a complete test & balance, with report, prepared by and independent 3rd party firm, AABC or NEBB or equal certified company.	
MC-4.03	4.03	DUCT TESTING: Test the duct system for leaks and problems, correct any deficiencies.	
MC-4.04	4.04	TEST REPORT: Provide a fully documented test report, including tester, testing equipment data, all air quantities, and operating points of the HVAC equipment. Provide three copies, minimum.	
MC-4.05	4.05	ADJUSTMENTS & CORRECTIONS: Should the test fail, the tester shall provide written recommendations for the correction, to the contractor for corrective action. Retest the system after corrections.	
MC-4.06	4.06	REVIEWS & INSPECTIONS: The contractor shall make a complete review of the work-in-progress and final working review with the AHJ owner & owner's designated representatives at each stage of work, before items are covered up. Provide all necessary labor & tools for reviews & inspections.	
MC-4.07	4.07	MANUFACTURERS START UP: Where required or indicated, the equipment manufacturer shall provide factory authorized start-up and written certification of the installed system.	
MC-4.08	4.08	SYSTEM DEMONSTRATION: At project completion provide a complete working demonstration of each system, all components and proper interface with other trades.	
MC-4.09	4.09	FILTERS & CLEANING: Replace all filters, clean all equipment & ductwork, check coils for obstructions.	
MC-4.10	4.10	PROGRAMMING & SETPOINTS: Review and program complete system operation, temperature set-points, timing & sequences of operation as directed by owner.	
MC-4.11	4.11	INSTRUCTION & TRAINING: Instruct & train the owner designated personnel in the proper programming, operation, & maintenance of each system. Provide a follow-up on-site session at 30, 90 & 180 days after C.O.	
MC-4.12	4.12	MANUALS & FIELD DOCUMENTS: Provide two complete sets of 3-ring bound manuals to include equipment submittals & data, operation & maintenance data, all permits & approvals, warranty certificates & contact information. Provide two sets of field record "as-built" documents that reflect the actual installed layouts & related information. Also provide same in a scanned PDF format on CD.s.	

MC-#	Rv-#	HVAC CRITERIA - ENERGY CODE COMPLIANCE	Check Off
MC-5.01	5.01	COMPLIANCE: All components, equipment, products, and work shall comply with the requirements of the latest IECC (International Energy Conservation Code) and any related State & Local Addenda & Supplements.	
MC-5.02	5.02	THIRD PARTY VERIFICATION: All Compliance and Testing shall be performed by a completely independent 3rd party verifier in accordance with the IECC requirements.	
MC-5.03	5.03	VERIFICATION DOCUMENTATION: Provide a fully documented verification report, including verifier documentation and statement of independence, testing equipment data, all verification / testing data, and complete documentation of verification. Provide two sets minimum, direct from verifier.	

HVAC ABBREVIATIONS	
AC	Condition
AC	Condition
AUTO	Auto
CEC	Above Finished Ceiling
HP	Horse Power
HP-F	Horse Power- Fractional
HTR	Heater
HPU	Heat Pump Unit
KVA	Kilo-Volt-Amperes
KW	Kilo-Watts
LT	Liquid-Tight
MANUF	Manufacturer
MIN	Minimum
MTD	Mounted
NC	Not In Contract
PNL	Panel
PROT	Protect
QTY	Quantity
RD	Roof Drain
RW	Rain Water
S	Stack / Sanitary
SA	Shock Absorber
SCHD	Schedule
TE	To Elevation
THRU	Through
TYP	Typical
UG	Under-Ground
UNO	Unless Noted Otherwise
V	Vent
WP	Weather Proof

HVAC DISCLAIMERS & PROJECT NOTES		CD
01	CONSTRUCTION: This Project is All New Construction Work	
02	R-VALUES: The Building Envelope R-Values Are Presumed & Based On State Of Georgia Minimum Insulation Standards- R-30 Roof, R-19 Walls, Glass U-0.65 & SHGC-0.25 And Other Building Envelope Performance Stats.	
03	COORDINATION GENERAL: Refer To The Architectural Plans & GC For Exact Locations & Mounting Heights & Other Item Details. Coordinate & Work Out Details With All Other Trades Prior To The Start Of Any Trades Rough-ins.	
04	ELECT COORD: Mechanical Contractor Is To Verify Equipment Electrical Characteristics & Rating With The Electrical Contractor Prior To Starting Work Or Ordering Equipment.	
05	NO SPECIAL CONDITIONS, EQUIPMENT, PROCESSES OR SYSTEMS: To The Best Of Our Knowledge, This Project Has No Conditions, Equipment, Processes Or Systems That Require Any Special Exhaust Systems, Air-Treatment Or Other Type Systems.	
06	OWNER-TENANT-USER RESPONSIBILITY: To Review & Train In Proper System Operation & Maintenance As Relates To The HVAC Components & System.	
07	OWNER-TENANT-USER RESPONSIBILITY: To Regularly Check & Maintain Filters, Treatment & Related Systems To Maintain Proper Air Quality.	

COMCHECK COMPLIANCE
This Project Does Not Involve Any Air Conditioning Equipment
Therefore, Comcheck Compliance Is Not Applicable

RELEASED FOR CONSTRUCTION


ARCHITECT

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Professional Seal:


Notes:

Notes:

YR-MM-DD	Action-Issue-Rev's Description	Rev.#
	Action-Issue-Rev's Description Project & Address	

MAIN STREET RESTROOMS

Main Street & College Street
Intersection
Forest Park, Georgia

Drawing Title:

Drawing Status:
Released For Construction

Scale: As Shown Project #: TMGH 19.102
Drawn By: TMG Conn Date: 2019.01.15
Reviewed By: TMG Stamp: 2019.02.01

M-0.1