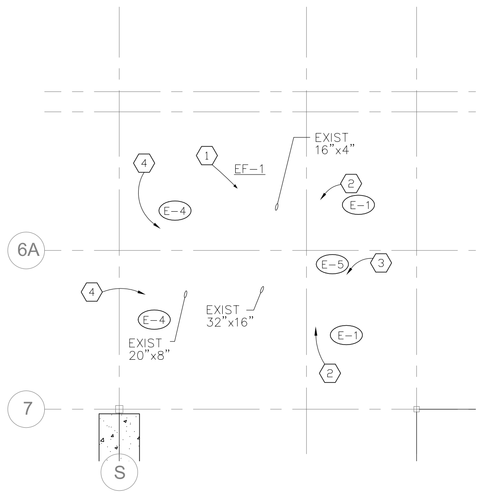


2 M.1 **PARTIAL SECOND FLOOR PLAN - HVAC**

SCALE:1/4"=1'-0"

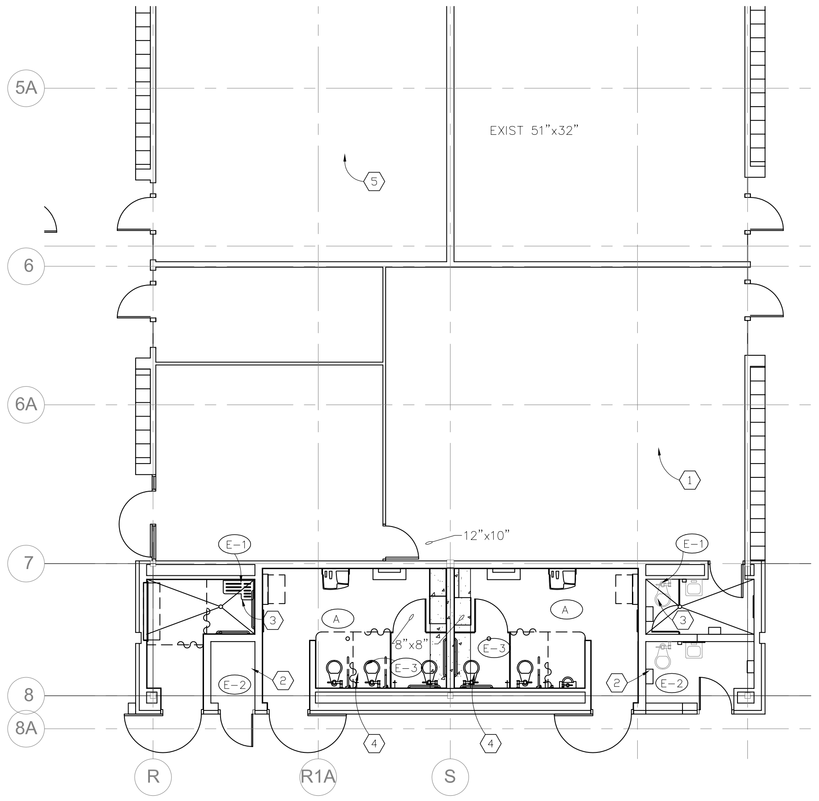
PLAN NOTES – HVAC

1. 32"x32" EXHAUST AIR DUCT TO ROOF EXHAUST FAN. REMOVE EXISTING EXHAUST FAN AND CURB. INSTALL NEW EXHAUST FAN (EF-1) AND NEW CURB. CONNECT TO EXISTING DUCT. PROVIDE FLUSHING/ COUNTER FLUSHING FOR CURB.
2. EXISTING 14"x14" EXHAUST REGISTER TO BE REMOVED. INSTALL NEW 14"x14" EXHAUST REGISTER.
3. EXISTING 10"x10" SIDE WALL EXHAUST REGISTER TO BE REMOVED. INSTALL NEW 10"x10" SIDE WALL EXHAUST REGISTER.
4. EXISTING 24"x18" EXHAUST REGISTER TO BE REMOVED. INSTALL NEW 24"x18" EXHAUST REGISTER.

NEW EXHAUST FAN (EF-1)

ROOF MOUNTED, BELT DRIVE WITH SPUN ALUMINUM HOUSING, BEARING THE (AMCA) CERTIFIED RATING SEAL. COMPLETE WITH:

- DISCONNECT SWITCH
- BACKDRAFT DAMPER,
- CURRANT SWITCH FOR CONNECTION TO THE (BMS)
- ROOF CURB
- FAN COPACITY 4000 CFM, .75" STATIC PRESSURE, 1 1/2 HP MOTOR, 208/3/60 ELECTRICITY.
- MANUFACTURER GREENHECK, MODEL GB-260 OR APPROVED EQUAL.



4 M.1 **PARTIAL FIRST FLOOR PLAN - HVAC - NEW WORK**

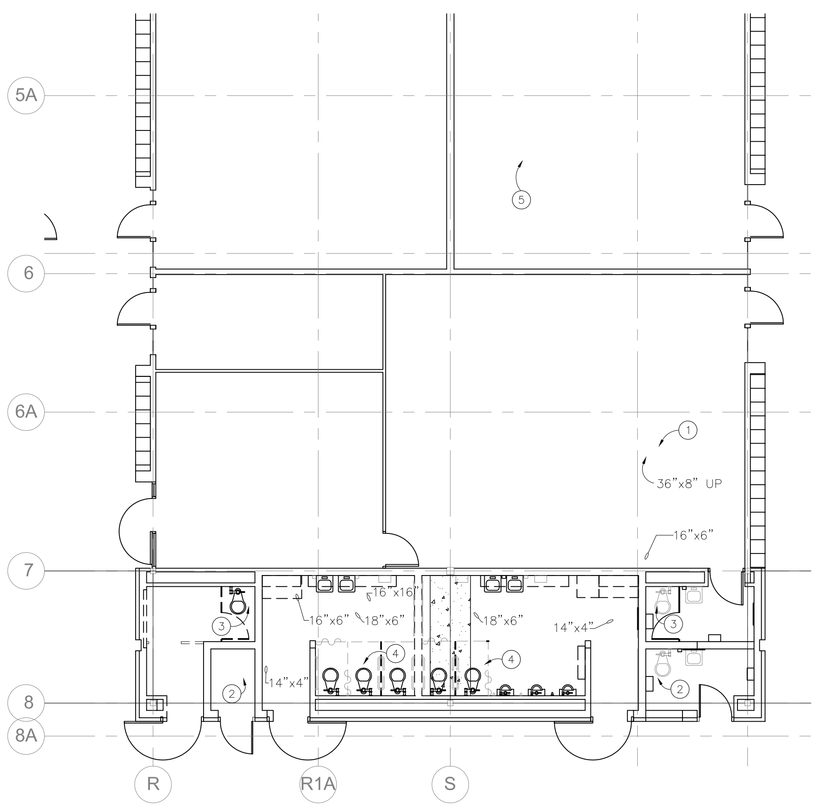
SCALE:1/8"=1'-0"

DUCT CLEANING

ENTIRE EXHAUST DUCTS: FIRST FLOOR, SECOND FLOOR AND RISERS SHALL BE CLEANED OUT BY A CERTIFIED DUCT CLEANING COMPANY. FURNISH CERTIFICATE OF COMPLETION TO THE ARCHITECT FOR APPROVAL.

NOTE:

EXHAUST DUCT ROUTING, DUCT SIZES AND EXHAUST AIR REGISTERS AS SHOWN ARE BASED ON THE EXISTING DRAWINGS, AND SHALL BE FIELD VERIDIED.



3 M.1 **PARTIAL FIRST FLOOR PLAN - HVAC - DEMOLITION**

SCALE:1/8"=1'-0"

PLAN NOTES – HVAC – DEMOLITION

1. EXISTING 36"x8" EXHAUST AIR DUCT UP TO SECOND FLOOR. SEE PARTIAL SECOND FLOOR PLAN.
2. EXISTING 12"x12" EXHAUST REGISTER TO BE REMOVED.
3. EXISTING 14"x14" EXHAUST REGISTER TO BE REMOVED.
4. EXISTING 16"x16" EXHAUST REGISTER TO BE REMOVED.
5. EXISTING 51x32 SUPPLY AIR DUCT. FIELD VERIFY EXACT LOCATION.

MECHANICAL SPECIFICATION

GENERAL NOTES

1. THE ACCOMPANYING DRAWINGS SHOW THE ARRANGEMENT, GENERAL DESIGN AND EXTENT OF THE WORK AND ARE MORE OR LESS DIAGRAMMATICAL WITH EQUIPMENT IN ITS GENERAL LOCATION, EXCEPT THAT IN CERTAIN CASES, THE DRAWINGS MAY INCLUDE DETAILS GIVING EXACT LOCATIONS AND ARRANGEMENTS.
2. THE DRAWINGS ARE NOT INTENDED TO BE SCALED FOR ROUGHING IN NOR TO SERVE AS SHOP DRAWINGS. IF DRAWINGS ARE REQUIRED FOR THIS PURPOSE OR HAVE TO BE MADE FROM FIELD MEASUREMENTS, IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO PREPARE SUCH DRAWINGS.
3. THE PLANS AND SPECIFICATIONS ARE INTENDED TO INCLUDE ALL WORK AND MATERIALS FOR ENTIRE COMPLETION OF THE WORK. ANY ITEM OF MATERIAL, LABOR OR DETAIL REQUIRED FOR THE PROPER EXECUTION AND COMPLETION OF THE WORK AND OMITTED FROM EITHER THE PLANS AND SPECIFICATIONS OR BOTH, BUT OBVIOUSLY UNDERSTOOD, SHALL BE FURNISHED AS PART OF THE CONTRACT WITHOUT ADDITIONAL COST.
4. UPON COMPLETION OF THE CONTRACT, THE OWNER SHALL RECEIVE THROUGH THE ARCHITECT, A COMPLETE SET OF MANUFACTURER'S OPERATING AND MAINTENANCE INSTRUCTIONS AND PARTS LISTS WITH NUMBERS AND DESCRIPTIONS FOR EACH PIECE OF EQUIPMENT. AT THE COMPLETION OF THE JOB, THE CONTRACTOR SHALL PREPARE A PRINTED SET OF OPERATING INSTRUCTIONS FOR ALL MECHANICAL SYSTEMS AND EQUIPMENT FOR USE BY THE OWNER'S MAINTENANCE PERSONNEL. THE CONTRACTOR SHALL ALSO PROVIDE THE OWNER'S PERSONNEL WITH INSTRUCTIONS IN THE OPERATIONAL USE OF ALL SYSTEMS AND EQUIPMENT.
5. SHOP DRAWINGS, PORTFOLIOS AND/OR CATALOGUES ON ALL ITEMS OF MECHANICAL EQUIPMENT SPECIFIED HEREIN SHALL BE SUBMITTED TO THE ARCHITECT FOR WRITTEN APPROVAL BY THE ARCHITECT. NO EQUIPMENT SHALL BE DELIVERED TO THE JOB SITE UNTIL SAID APPROVAL IS ISSUED.
6. THE CONTRACTOR SHALL SUBMIT A MINIMUM OF SEVEN (7) COPIES OF SHOP DRAWINGS COVERING EACH ITEM OF MECHANICAL EQUIPMENT.
7. THE MECHANICAL WORK INTENDED UNDER THESE SPECIFICATIONS, AND AS INDICATED ON THE DRAWINGS SHALL CONSIST OF FURNISHING ALL LABOR, MATERIALS, EQUIPMENT AND SERVICES TOGETHER WITH SUPERVISION AND TOOLS NECESSARY FOR INSTALLATION OF HEATING, AIR CONDITIONING AND PLUMBING SYSTEMS.
8. ALL WORK SHALL BE IN STRICT CONFORMITY WITH BOCA, OSHA, MIOSHA, AND ALL LOCAL AND STATE RULES, AND REGULATIONS, AND CODES APPLICABLE TO THE TRADE AFFECTED.
9. THE CONTRACTOR SHALL MAKE APPLICATION FOR ALL PERMITS, AND LICENSES NECESSARY FOR THE PROSECUTION OF HIS WORK, AND SHALL PAY ALL FEES, INSPECTIONS, ETC., AND COMPLY WITH ALL LAWS, ORDINANCES, RULES AND REGULATIONS GOVERNING THE INSTALLATION OF HIS WORK.
10. THIS CONTRACTOR SHALL PROVIDE ALL LABOR FOR THE COMPLETE ERECTION OF THE INSTALLATION, ALL LABOR TO BE PERFORMED BY COMPETENT WORKMEN SKILLED IN THEIR PARTICULAR BRANCHES OF THE TRADE.
11. THE CONTRACTOR, ON HIS OWN BEHALF, SHALL ISSUE A WRITTEN GUARANTEE COVERING THE WORK UNDER THIS CONTRACT AND INCLUDE THE GUARANTEES OF THIS SUB-CONTRACTORS, ALL OF WHICH HE SHALL BE HELD RESPONSIBLE FOR.
12. ALL GUARANTEES SHALL BE FOR THE OWNER'S PROTECTION AGAINST DEFECTIVE WORKMANSHIP, AND/OR MECHANICAL DEFECTS IN EQUIPMENT AND MATERIALS.
13. GUARANTEE SHALL BE EFFECTIVE FOR A PERIOD OF ONE (1) YEAR FROM DATE OF FINAL CERTIFICATE.
14. SHOULD ANY DEFECTS APPEAR DURING THE PERIOD OF THE GUARANTEE, THE CONTRACTOR SHALL MAKE GOOD ANY SUCH DEFECTS, REPLACING ALL MATERIALS EFFECTED THEREBY, AND MAKE GOOD ANY DAMAGE TO WORK AND MATERIALS INSTALLED BY HIM UNDER HIS CONTRACT.
15. UPON THE COMPLETION OF THE PLUMBING WORK, COMPLETE TESTS SHALL BE MADE TO THE SATISFACTION OF THE ARCHITECT. ALL PIPING SHALL BE TESTED AS PRESCRIBED IN THE RULES, AND REGULATIONS OF THE CITY AND COUNTY BOARD OF HEALTH, HAVING JURISDICTION.
16. ALL EXCAVATION, BACKFILLING, PIPE SLEEVES, ETC., SHALL BE BY THE CONTRACTOR.

DIFFUSERS, REGISTERS SCHEDULE

PLAN CODE	TYPE	CFM	NECK SIZE	MODULE	TITUS MODEL No.
A	DIFF	300	8"ø	24"x24"	TMSA-AA
E-1	EXH	250	12"x12"	14"x14"	23RL
E-2	EXH	100	10"x10"	12"x12"	23RL
E-3	EXH	600	14"x14"	16"x16"	23RL
E-4	EXH	700	22"x16"	24"x18"	23RL
E-5	EXH	100	8"x8"	10"x10"	23RL

NOTES:

1. ALL REGISTERS SHALL HAVE KEY OPERATED VOLUME DAMPERS. BALANCE AIR VOLUMES AS SHOWN IN SCHEDULE.
2. PROVIDE DUCT TRANSITION FITTINGS FOR CONNECTING TO THE EXISTING EXHAUST DUCTS.

PLUMBING FIXTURE SCHEDULE

FIXTURE	COLD WATER	HOT WATER	WASTE	VENT
WC-1, WC-2	1"	–	4"	2"
WF-1	1/2"	1/2"	1 1/2"	1 1/2"
UR-1	3/4"	–	3"	2"
BP-1	1/2"	–	–	–
SHR	1/2"	1/2"	2"	1 1/2"

PIPE AND PIPE FITTINGS

1. ALL DOMESTIC COLD WATER, HOT WATER ABOVE GROUND OR EXPOSED SHALL BE TYPE "L" COPPER TUBING. PIPES BELOW SLAB SHALL BE TYPE "K" HARD COPPER.
2. SANITARY UNDERGROUND SHALL BE PVC (40) SOIL PIPE, AND FITTINGS.
3. SANITARY WASTE AND VENT PIPING ABOVE GROUND SHALL BE SCHEDULE 40, ASTM-D-2447-74, FIRE RETARDANT POLYPROPLYENE CONFORMING TO ASTM-D-635, AND ASTM-D-2843. VENT PIPING LOCATED IN RETURN AIR PLENUM SHALL BE GALVANIZED STEEL.

SHUT OFF VALVES

1. SHUT-OFF VALVES FOR DOMESTIC WATER SHALL BE SOLDERED ALL BRASS, 200 POUNDS PRESSURE.
2. SHUT-OFF VALVES SHALL BE LUNKENHEIMER, NIBCO OR APPROVED EQUAL.

INSULATION

1. ALL RECTANGULAR SUPPLY AIR DUCTWORK SHALL HAVE 1" THICK ACOUSTIC LINING.
2. NSULATE CW, HW PIPES WITH 1" THICK INSULATION.

PLUMBING FIXTURES

LAVATORY SYSTEM

LAV-1 LAVATORY SYSTEM SHALL BE ALL-IN ONE DESIGN ALLOWING USERS TO ACCESS SOAP, WATER AND HAND DRYER. THE STATION SHALL INCLUDE: CHEMICAL, STAIN RESISTANT BOWL, TRAP COVER, END PANELS – STAINLESS STEEL, MOUNTING FRAME – HEAVY GAUGE STAINLESS STEEL INFRARED ACTIVATED FAUCET – 0.38 GPM, THERMOSTATIC MIXING VALVE WITH STOP/STRAINER/CHECK VALVE, LOW VOLTAGE TRANSFORMER, ELECTRIC LIQUID SOAP DISPENSER, NFRARED ACTIVATED HAND DRYER UTILIZING 1600 WATTS, 13.7 AMPS. 20 AMPS CIRCUIT, 120/1/60 ELECTRICITY, WITH 70 CFM AIR CAPACITY.
LAVATORY SYSTEM SHALL BE AS MANUFACTURED BY BRADLEY. ADVOCATE LAVATORY SYSTEM AV-30, COLOR TO BE SELECTED BY THE ARCHITECT. MOUNTING HEIGHT IS DIRECTED BY THE ARCHITECT.

WATER CLOSETS

WC-1 FLOOR MOUNTED WHITE VITREOUS CHINA, 1.6 GPM, ELONGATED BOWL, SIPHON ACTION JET FLUSH, TOP SPUD WITH BOLT COVERS. FURNISH WITH HEAVY DUTY ELONGATED OPEN FRONT TOILET SEAT, SLOAN No.111, 1 1/2" TOP SPUD FLUSH VALVE, AND BED PAN LEGS. ELJER MODEL 111-2133.

WC-2 FLOOR MOUNTED WHITE VITREOUS CHINA, 1.6 GPM, (ADA), 17" HIGH ELONGATED RIM, SIPHON ACTION JET FLUSH, TOP SPUD WITH BOLT COVERS. FURNISH WITH HEAVY DUTY ELONGATED OPEN FRONT TOILET SEAT, SLOAN No.111, 1 1/2" TOP SPUD FLUSH VALVE, AND BED PAN LEGS. ELJER MODEL 111-2145.

URINAL

UR-1 WALL MOUNTED WHITE VITREOUS CHINA, 1.0 GPF, 3/4" TOP SPUD, ELONGATED FLUSHING RIM, AND INTEGRAL TRAP. FURNISH WITH WALL HANGERS, AND SLOAN No.186-1 FLUSH VALVE. (ADA) MOUNTING HEIGHT. ELJER MODEL 161-2032.

BED PAN WASHER FAUCET

BP-1 BRASS CONSTRUCTION, WITH BRASS VALVE, VACUUM BREAKER, LOOSE KEY STOP, SPRAY HEAD, SELF CLOSING LEVER CONTROL SPRAY, AND VINYL HOSE. FAUCET SHALL BE KOHLER MODEL K-13925-CP. INSTALL AT LOCATIONS SHOWN ON PLANS.

SHOWER SYSTEM

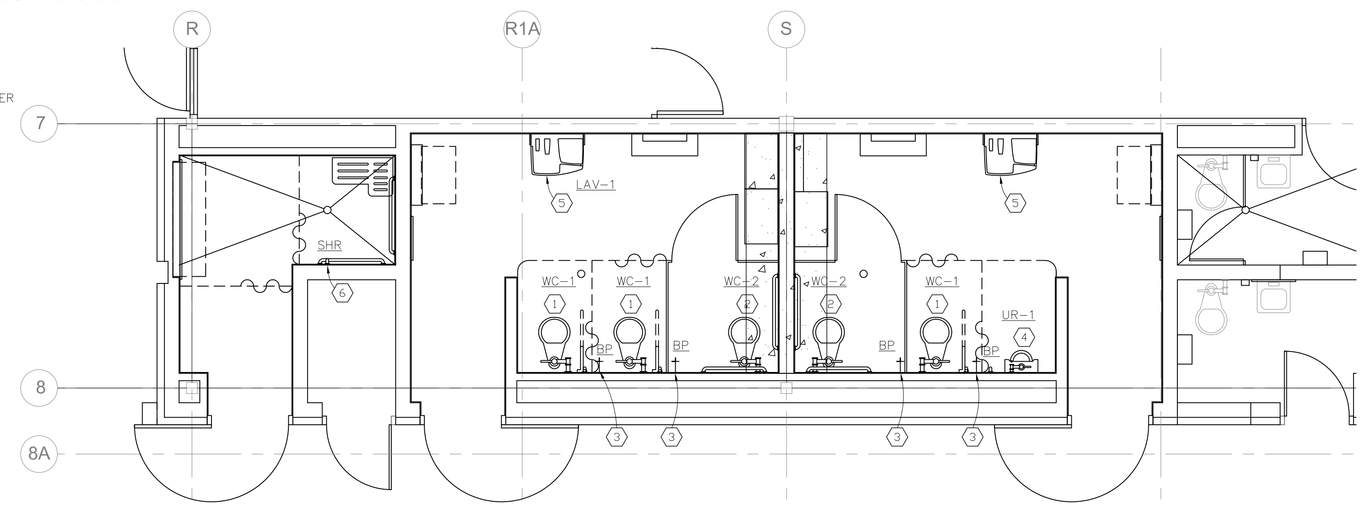
SHR ADA COMPLIANT SINGLE LEVER PRESSURE BALANCED, TEMPERATURE AND VOLUME CONTROL, 2 GPM FLOW. FURNISH WITH 24" CHROME PLATED BRASS SLIDE BAR SELF TENSIONED FOR HEIGHT ADJUSTMENT, AND 60" METAL SPIRAL HOSE. FURNISH WITH SOAP DISH.

AIR DISTRIBUTION

1. DIFFUSERS, REGISTERS
   A. AIR OUTLETS SHALL BE OF SIZE, AND CAPACITIES AS SHOWN ON DRAWINGS AS MANUFACTURED BY TITUS OR APPROVED EQUAL. DUCT DIMENSIONS ARE NET DUCT SIZES.
2. DUCTWORK
   A. ALL DUCTWORK SHALL BE CONSTRUCTED IN ACCORDANCE WITH SMACNA STANDARDS WITH SIZES AS SHOWN ON DRAWINGS.
   B. FLEXIBLE DUCTS, MUST BE INSULATED AND SHALL NOT EXCED 4'-0" IN LENGTH.

PLAN NOTES – PLUMBING – NEW WORK

1. NEW WATER CLOSET (WC-1) CONNECT TO THE EXISTING SANITARY, VENT AND CW PIPES.
2. NEW WATER CLOSET (WC-2) CONNECT TO THE EXISTING SANITARY, VENT AND CW PIPES.
3. NEW BED PAN (BP-1) WASHER MOUNT ON WALL CONNECT TO 1/2" CW.
4. NEW URINAL (UR-1) CONNECT TO THE EXISTING SANITARY, VENT AND CW PIPES.
5. NEW LAVATORY SYSTEM (LAV-1) CONNECT TO 1/2" HW, 1/2" CW AND 1 1/2" DRAIN. FIELD VERIFY POINTS OF CONNECTIONS TO THE EXISTING PIPES.
6. SHOWER VALVE (SHR)



2 M.1 **PARTIAL FIRST FLOOR PLAN - PLUMBING - NEW WORK**

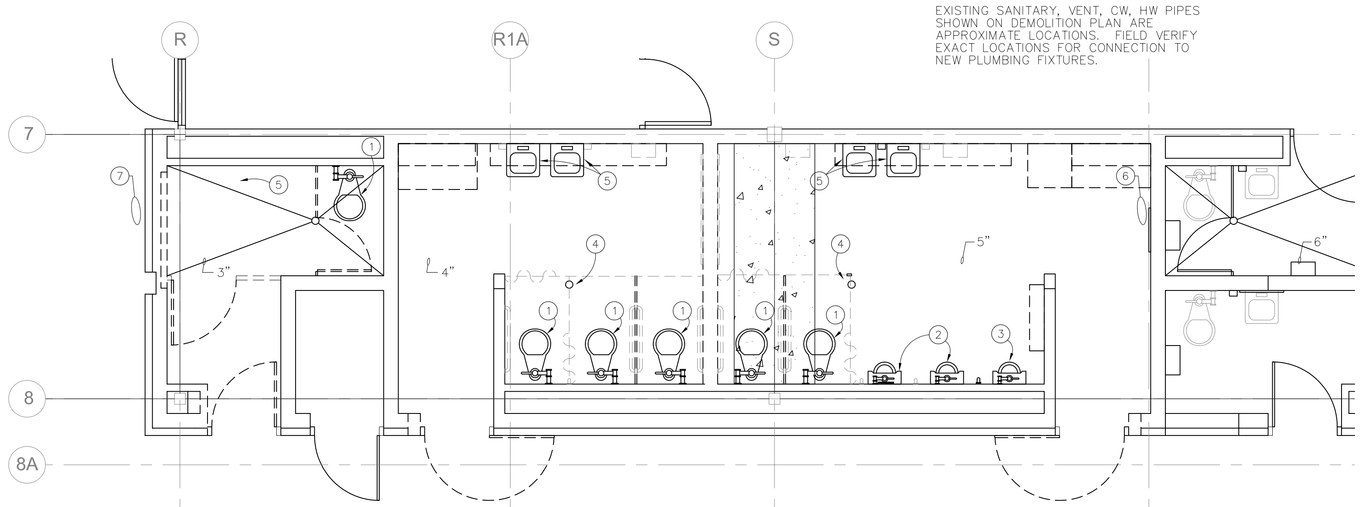
SCALE:1/4"=1'-0"

NOTE:

EXISTING SANITARY, VENT, CW, HW PIPES SHOWN ON DEMOLITION PLAN ARE APPROXIMATE LOCATIONS. FIELD VERIFY EXACT LOCATIONS FOR CONNECTION TO NEW PLUMBING FIXTURES.

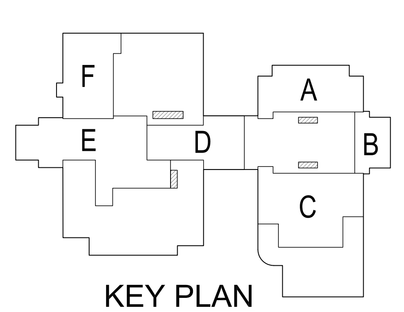
PLAN NOTES – PLUMBING – DEMOLITION

1. REMOVE EXISTING WATER CLOSET, REVISE SANITARY, VENT AND WATER PIPES, CONNECT TO NEW WATER CLOSET.
2. REMOVE EXISTING URINAL. CAP ALL CONNECTING PIPES.
3. REMOVE EXISTING URINAL. REVISE SANITARY, VENT AND WATER PIPES AND CONNECT TO NEW URINAL.
4. EXISTING FLOOR DRAIN REUSED. INSTALL NEW STRAINER. FLUSH CONNECTING PIPE.
5. REMOVE EXISTING LAVATORY. CAP ALL CONNECTING PIPES.
6. EXISTINH 3/4" HWR, 2" HW, 2 1/2" CW AT CEILING. FIELD VERIFY EXACT LOCATIONS.
7. EXISTINH 3/4" HWR, 2" HW, 3" CW AT CEILING. FIELD VERIFY EXACT LOCATIONS.



1 M.1 **PARTIAL FIRST FLOOR PLAN - PLUMBING - DEMOLITION**

SCALE:1/4"=1'-0"



KEY PLAN

WAKELY ASSOCIATES, INC.
ARCHITECTS & ENGINEERS

30500 VAN DYKE AVENUE
SUITE M-7
WARREN, MICHIGAN 48093
PH: 586.573.4100
FX: 586.573.0822
EM: wa@wakelyala.com

MLS ENGINEERING, LLC.
43085 WOODWARD AVE, SUITE 207
BLOOMFIELD HILLS, MICHIGAN 48302
(248) 742-9348
E-MAIL: MLSENGINEERS@AOL.COM

WARREN WOODS PUBLIC SCHOOLS

POHI TOILET ROOM RENOVATIONS TOWER HIGH SCHOOL

ENLARGED TOILET ROOM PLANS - DEMOLITION AND NEW WORK

PRELIMINARY ■
DESIGN DEVELOPMENT ■
CONSTRUCTION ■
FINAL RECORD □

DRAWN BY: IIF
CHECKED BY: AAH

REVISIONS:

DATE: MAY 17, 2013

SHEET NO.:

M-1.1

PROJECT NO.: 131480