NAME OF PROJECT: USC ADVISING RENOVATION FOR CLOSE SIDE 3RD FLOOR RESTROOMS 1705 COLLEGE STREET, COLUMBIA, SC ADDRESS: PROPOSED USE: OWNER OR AUTHORIZED AGENT: ANN DERRICK UNIVERSITY OF SOUTH CAROLINA CODE ENFORCEMENT JURISDICTION: OFFICE OF THE STATE ENGINEER

PROJECT DESIGN TEAM

DESIGNER	FIRM	CONTACT	PHONE #
ARCHITECTURAL:	STUDIO 2LR, INC.		(803) 233-6602
CIVIL:			()
STRUCTURAL:			()
PLUMBING:	MECHANICAL DESIGN INC.	DANA FULMER	(803) 731-9834
FIRE PROTECTION:			()
MECHANICAL:	MECHANICAL DESIGN INC.	JUSTIN VARCO	(803) 731-9834
SPRINKLER-STANDPIPE:			()
ELECTRICAL:	BELKA ENGINEERING ASSOCIATES	JASON AREHART	(803) 731-0650
OTHER:			()

CODE COMPLIANCE

SHEET NO.

ARCHITECTURE

PLUMBING

MECHANICAL

ELECTRICAL

for this project.

ARCHITECTURAL DEMOLITION

COVER SHEET

FLOOR PLANS

DEMOLITION PLANS

REFLECTED CEILING PLANS

INTERIOR ELEVATIONS & TOILET DETAILS

PLBG NOTES, SCHEDS AND SPECIFICATIONS

FINISH SPECIFICATIONS & SCHEDULE

PLBG FLOOR PLANS - 3RD FLOOR

HVAC RENOVATION FLOOR PLANS

HVAC NOTES, DTL'S, SCHD'S, AND SPECS

THIRD FLOOR RESTROOMS ELECTRICAL PLANS

Note to Permitting Authority: Studio 2LR, Inc. and their consultants are not

under contract with the Owner to provide construction administration services

INTERNATIONAL BUILDING CODE: 2018 EDITION WITH SC MODIFICATIONS INTERNATIONAL PLUMBING CODE: INTERNATIONAL MECHANICAL CODE: INTERNATIONAL FIRE CODE: 2018 EDITION WITH SC MODIFICATIONS NATIONAL ELECTRIC CODE: INTERNATIONAL ENERGY CONSERVATION CODE 2009 EDITION

CURRENT

CURRENT REVISION

REVISION DATE

DRAWING LIST

SHEET NAME

BUILDING DATA

CONSTRUCTION TYPE (TABLE 503): SPRINKLERS: YES - UNDER CONSTRUCTION BY OWNER / SEPARATE SCOPE OF WORK STANDPIPES: FIRE DISTRICT: NUMBER OF STORIES UNLIMITED PER _ EXISTING (SQ. FT.) 3RD FLOOR

HIPP SIDE

CLOSE SIDE

EXIT REQUIREMENTS

NUMBER AND ARRANGEMENTS OF EXITS

EXISTING EXITS TO REMAIN

EXISTING EXIT WIDTH TO REMAIN

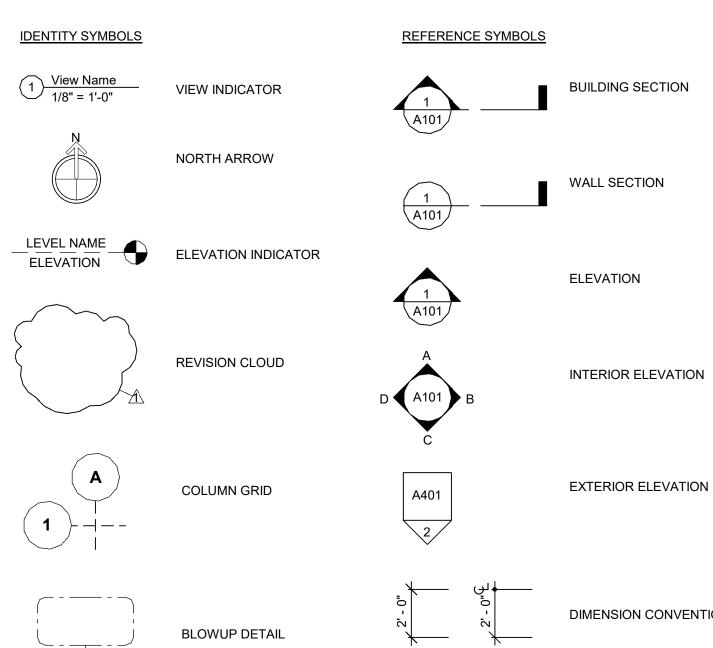
PLUMBING FIXTURE REQUIREMENTS

EXISTING PLUMBING FIXTURE COUNTS TO REMAIN, REPLACEMENT OF EXISTING FIXTURES AND FINISHES

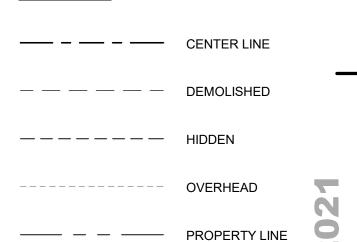
ABBREVIATIONS

AT				
	# & @ A.C.T. A.F.F. ALUM. ANOD. APPROX. B.O. C.I.P. C.J. CCLR. CONC. CONT. CONT. CT. DEMO DIM. DIMS. DN. DR. ELEC. ELEV. EPDM EQ. EXIST. EXY. EXT. EXT. EXT. F.E. F.E. F.E. F.O.	AND AT ACOUSTICAL CEILING TILE ABOVE FINISHED FLOOR ALUMINUM ANODIZED APPROXIMATE BOTTOM OF CAST IN PLACE CONTROL JOINT CEILING CLEAR CONCRETE MASONRY UNIT COLUMN CONCRETE CONTINUOUS CARPET CERAMIC TILE DEMOLISH DIAMETER DIMENSION DIMENSION DIMENSIONS DOWN DOOR DRAWING EACH ELECTRICAL ELEVATION OR ELEVATOR ETHYLENE PROPYLENE DIENE M-CLASS (ROOFING) EQUAL EXISTING EXPANSION JOINT EXTERIOR ELECTRIC WATER COOLER FLOOR DRAIN FIRE EXTINGUISHER CABINET FICOOR	GALV. GYP. GYP. BRD. H. H.M. HVAC INSUL. MAX. M.O. MECH. MIN. MTL. N.I.C. NO. NOM. O.C. O.H. O.P.C.I. OPP. HAND PLYWD. P.T. PVC R.C.P. R.D. REQD. RM. SIM. SS STL. STRUCT. T T&G TELE. TLT. T.O. T.O.S. TYP. U.O.N. V.I.F. W. W/	GALVANIZED GYPSUM GYPSUM WALLBOARD HIGH HOLLOW METAL HEATING, VENTILATION, AND AIR CONDITIONING INSULATION MAXIMUM MASONRY OPENING MECHANICAL MINIMUM METAL NOT IN CONTRACT NUMBER NOMINAL ON CENTER OVERHEAD OWNER PROVIDED CONTRATOR INSTALLED OPPOSITE HAND PLYWOOD PRESSURE TREATED POLYVINYL CHLORIDE REFLECTED CEILING PLAN ROOF DRAIN REQUIRED ROOM SIMILAR STAINLESS STEEL STEEL STEUCTURAL TEMPERED TONGUE AND GROOVE TELEPHONE TOILET TOP OF TOP OF STEEL TYPICAL UNLESS OTHERWISE NOTED VERIFY IN FIELD WIDTH

DRAWING CONVENTIONS



LINE SYMBOLS



─ MATCH LINE

• 1 HOUR RATING

2 HOUR RATING

• • • 3 HOUR RATING

REVISIONS

NO. DATE DESCRIPTION

Columbia, SC

PROJECT NUMBER 20001

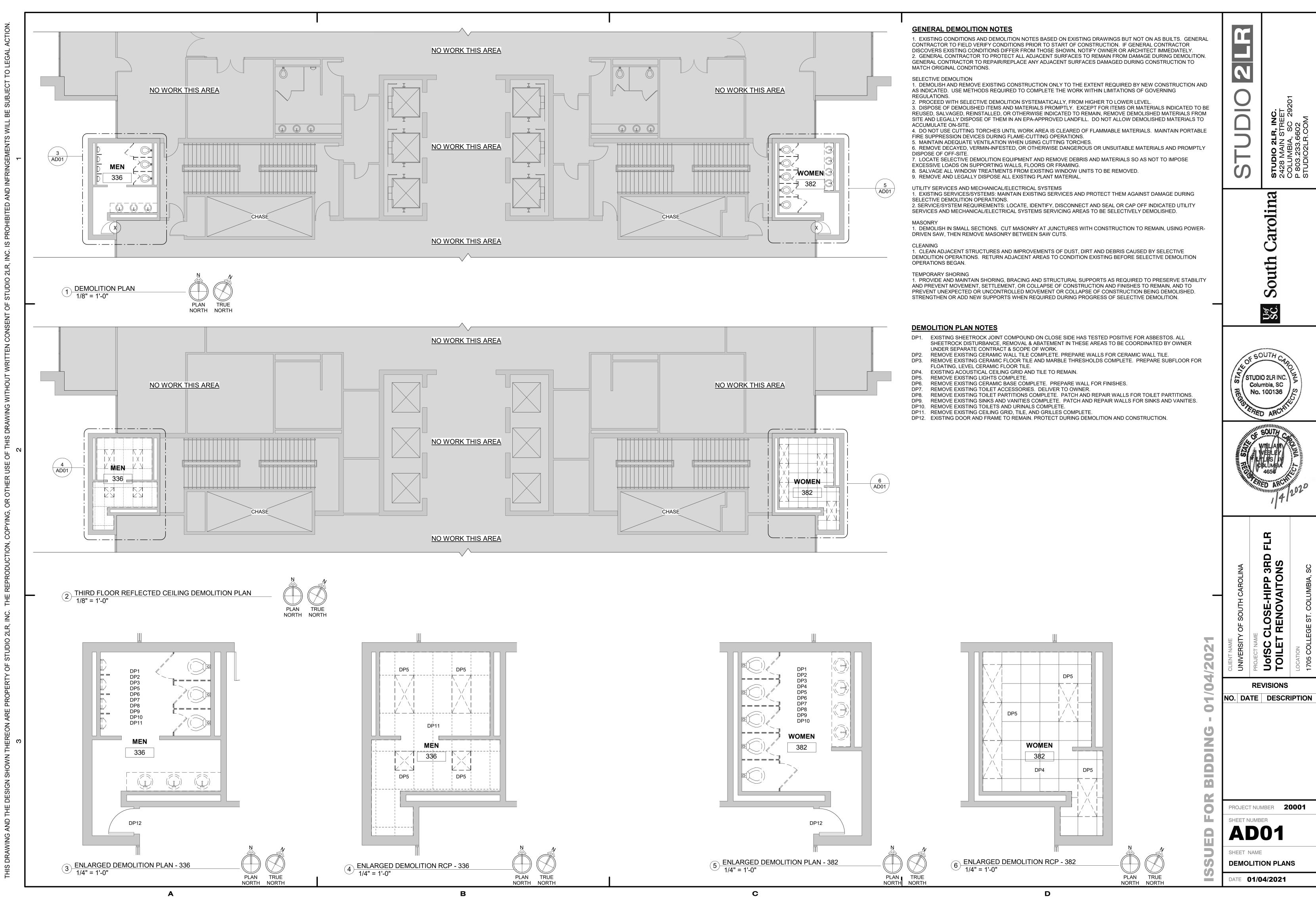
SHEET NAME **COVER SHEET**

2 THIRD FLOOR KEY PLAN 1/32" = 1'-0"

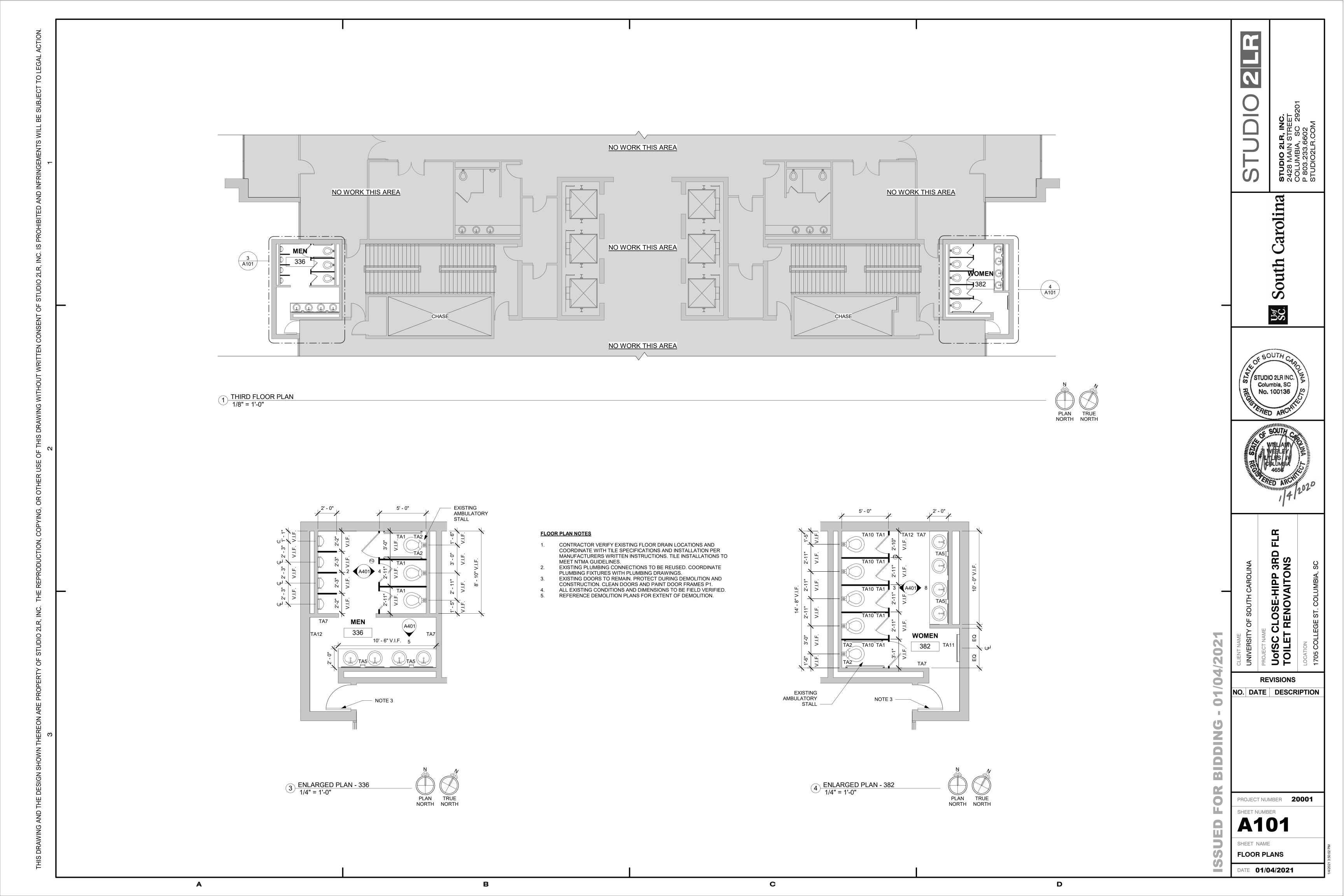
DIMENSION CONVENTIONS

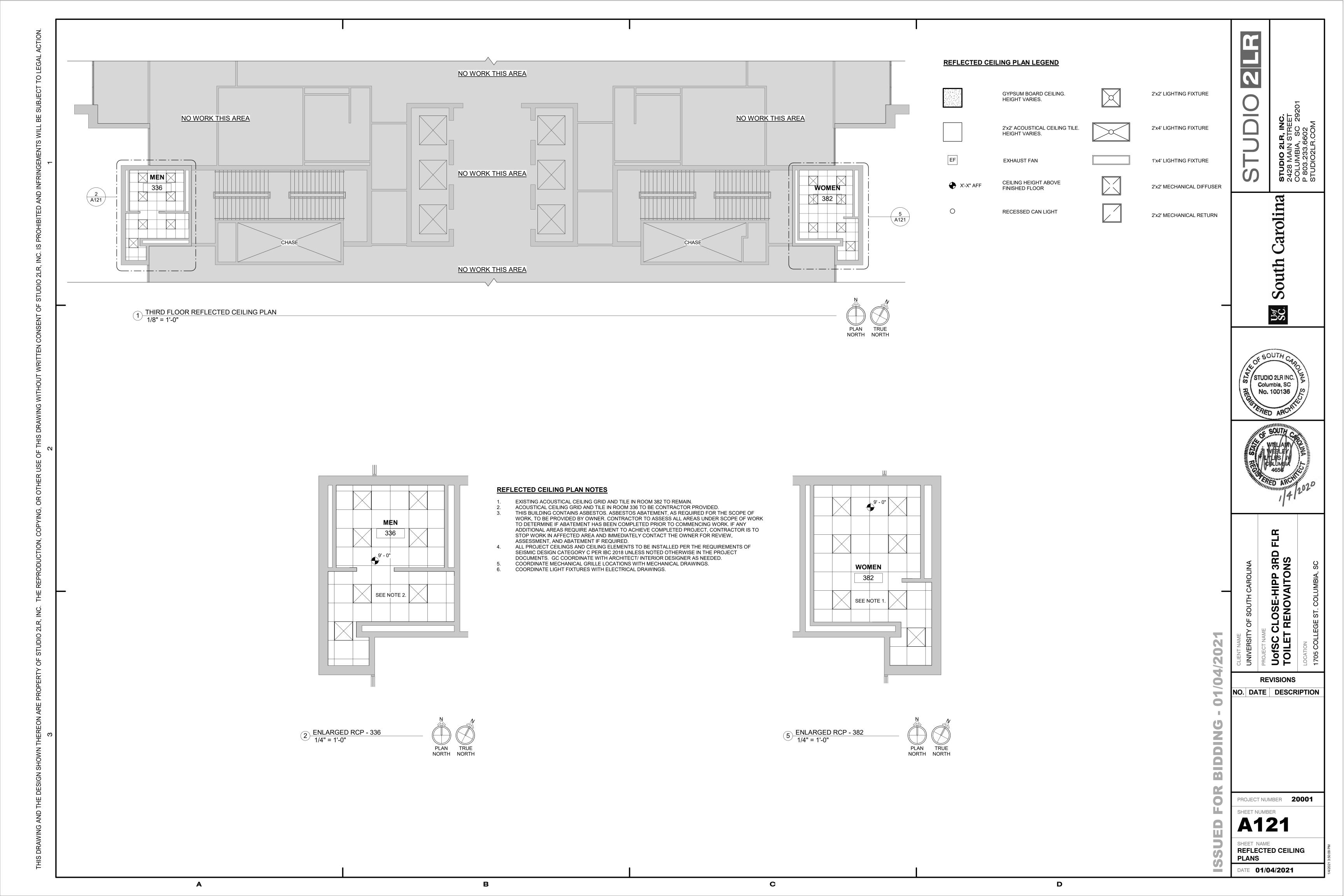
SLOPE CONVENTION

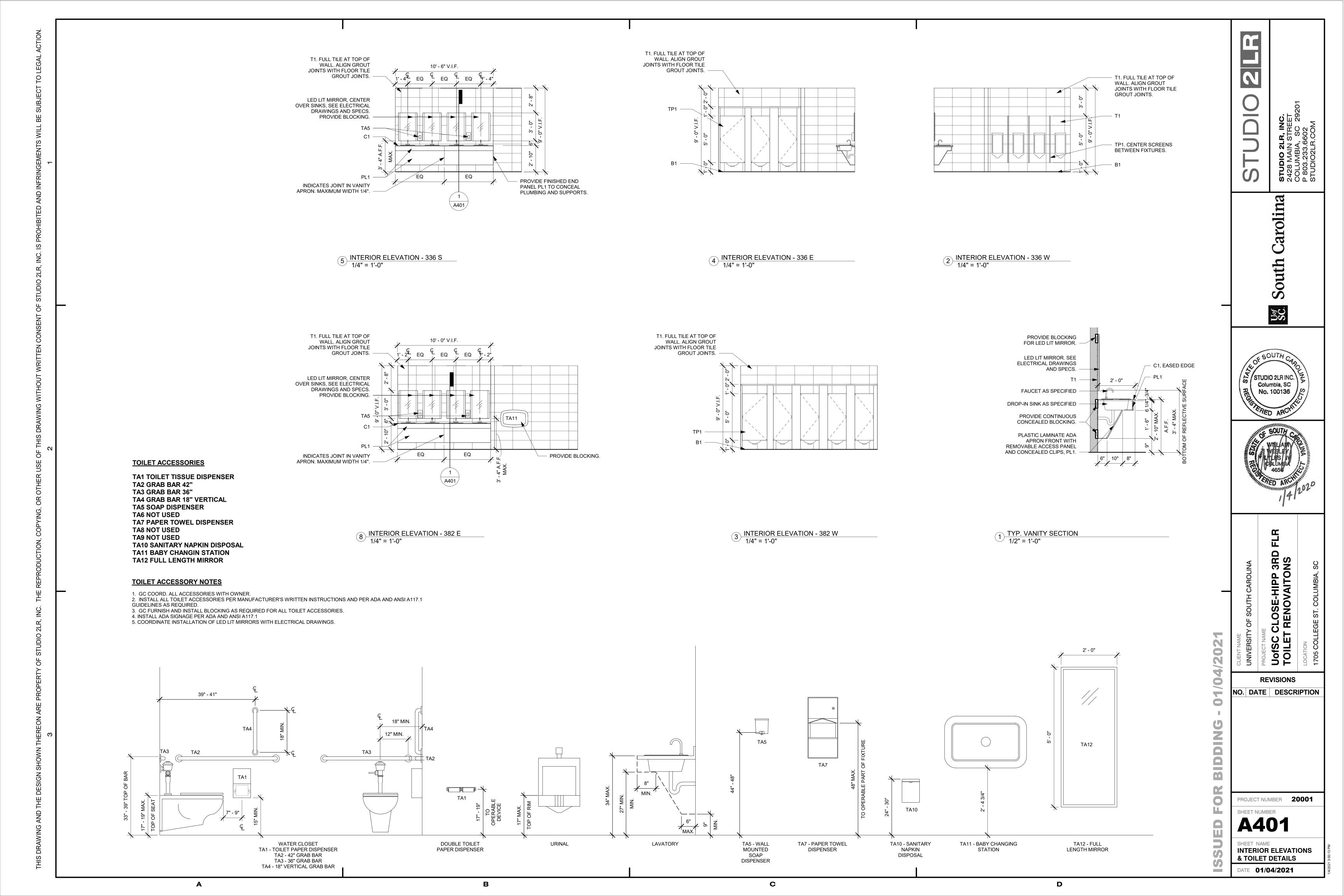
DATE **01/04/2021**



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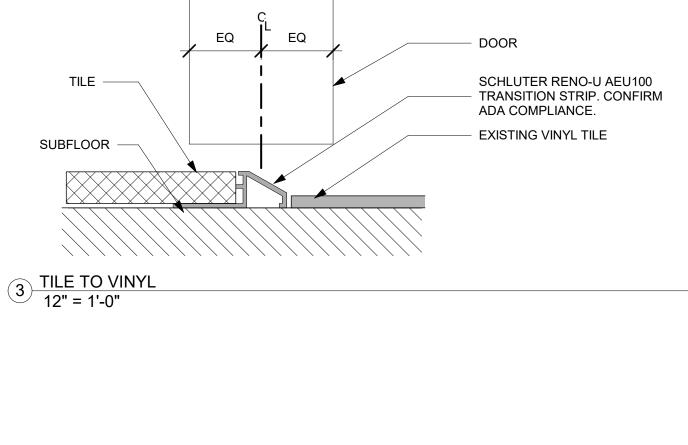




LAY FLOOR TILE SO LONG EDGES RUN PLAN NORTH TO PLAN SOUTH. CENTER

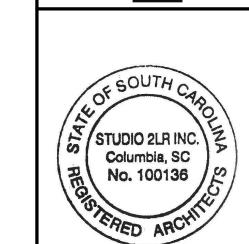
FLOOR TILE IN ROOM

	ROOM FINISH SCHEDULE											
	FLOOR BASE CEILING WALL FINISH						WALL	. FINISH				
NO.	NAME	MATERIAL	MATERIAL	MATERIAL	HEIGHT	NORTH	SOUTH	EAST	WEST	COMMENTS		
336	MEN	T1	B1	ACT	9'-0"	T2	T2	T2	T2	WALL TILE TO CEILING ON ALL WALLS. CENTER FLOOR TILE PATTERN IN ROOM AS INDICATED ON FINISH PLANS. FLOOF TILE TO CONTINUE BELOW VANITY.		
382	WOMEN	T1	B1	EXIST. ACT	9'-0"	T2	T2	T2	T2	WALL TILE TO CEILING ON ALL WALLS. CENTER FLOOR TILE PATTERN IN ROOM AS INDICATED ON FINISH PLANS. FLOOF TILE TO CONTINUE BELOW VANITY.		



GENERAL FINISH NOTES

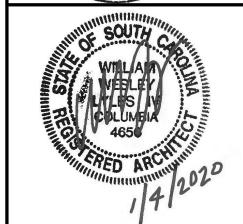
- WALL FINISH DIRECTION IS BASED ON PLAN ORIENTATION (I.E. NORTH WALL REFERS TO PLAN
- PROVIDE CODE COMPLIANT TRANSITION STRIPS WHERE NEEDED.
 PREP ALL SUB SURFACES TO RECEIVE NEW FINISH PER MANUFACTURER'S WRITTEN
- ALL FINISHES TO BE SUBMITTED TO OWNER FOR APPROVAL PRIOR TO
- ORDERING/FABRICATING.
- ALL DIMENSIONS ARE FROM EXISTING CONDITIONS. VERIFY IN FIELD AND CONTACT ARCHITECT IF DISCREPANCIES PRIOR TO INSTALLATION.
- TRANSITIONS AT DOORWAYS TO OCCUR AT CENTERLINE OF CLOSED DOOR (SEE DETAIL). PROVIDE FLOOR TRANSITION STRIPS BETWEEN NEW AND EXISTING FLOORING. CONTRACTOR CONFIRM ALL LOCATIONS.



STUDIO 2428 MAII COLUMBI P 803.233 STUDIO21

arolina

South



UofSC CLOSE-HIPP 3RD TOILET RENOVAITONS

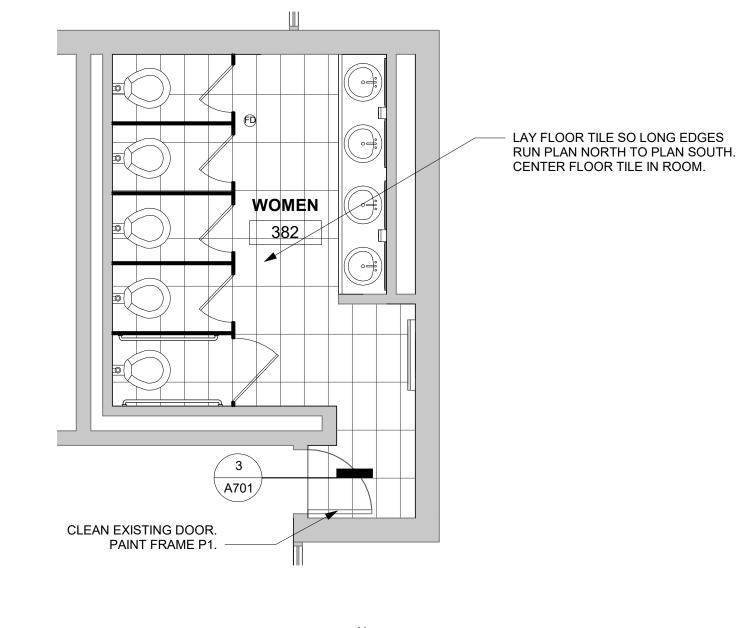
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NO. DATE DESCRIPTION

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PROJECT NUMBER 20001

FINISH SPECIFICATIONS & SCHEDULE



PLAN TRUE NORTH NORTH

PLAN TRUE

1 FINISH PLAN - 336 1/4" = 1'-0"

CLEAN EXISTING DOOR.
PAINT FRAME P1.

2 FINISH PLAN - 382 1/4" = 1'-0"

NORTH NORTH

D

C

DATE **01/04/2021**

PLUMBING SPECIFICATIONS

1.1 SCOPE:

- A. Provide all related equipment, labor, materials, excavation and backfill, operations and accessories required for the installation of complete and quietly operating plumbing systems, in accordance with the plans and specifications. This shall include the following:
 - 1. Waste Piping
 - 2. Domestic Hot and Cold Water Piping
 - 3. Pipe Hangers and Supports
 - 4. Plumbing Fixtures and Trim
 - 5. Floor Drains
 - 6. Sterilization of Domestic Water Piping and Certificates
 - 7. Warranty
- 8. Submittals
- 9. Engineer Site Visits
- 10. Closeout Documents

1.2 WASTE PIPE:

- A. Waste piping shall be cast iron, hubless pipe with heavy duty No-Hub fittings. Pipe and fittings shall be in accordance with ASTM A-74 and WW-P-401d.
- 1. No—Hub pipe and fittings shall be as mfr's by Charlotte Pipe and Foundry or Tyler Pipe.
- B. Heavy duty couplings shall be as manufactured by Clamp-All Hi-Torq 125 or Anaheim Husky "Orange" SD-4000 couplings.
- 1.3 HOT AND COLD WATER PIPING:
- A. Water piping shall be hard drawn Type L copper. Use lead—free hard solder (95/5) for all joints located above slab. Use soldering nipples or couplings between screwed and soldered pipe and fittings.
- 1.4 PIPE SUPPORTS:
- A. Perforated strap hangers, chain or wire will not be permitted <u>on the job</u>.
- B. Location and method of support is subject to Engineer's approval. Threaded rods and supplementary steel to span structural supports to accommodate hangers shall be included.
- C. Provide copper stand-off brackets for copper pipe.
- D. Pipe support systems shall be as manufactured by M-CO Michigan Hanger, Anvil, PHD Hangers, Holdrite or accepted

1.5 FIXTURES:

A. Provide heavy stop valves to replace exist. Stop valves shall be furnished complete with CP risers for lavatories as follows:

McGuire EBC Zurn Lavs (3/8"): H-165-F LAH10-N3-CF ZH8820LR-CE-3-PC

- 1. Sweat supplies will not be accepted.
- 2. Stop valves shall be furnished complete with cast brass setscrew escutcheons and chrome plated nipples.
- B. Provide 1-1/4" x1-1/4" 17 ga. c.p. cast brass p-traps to replace existing as follows:

<u>Brasscraft</u> <u>Zurn</u> <u>McGuire</u> Z-8700-BCE-PC 8872-C TB125-CF 0110-CB

- 1. P—traps shall be furnished complete with cast brass setscrew escutcheons.
- C. Plumbing fixtures shall be as manufactured by Kohler or equal by CECO, American Standard or Zurn.
- D. Faucets shall be as manufactured by Chicago or equal by T&S Faucet. Provide vandal resistant and water saving features on all faucets. Vandal features shall include hex socket screws for all handles, key operated aerators and abrasive washers for all single faucet shank fittings.
- 1. Provide water saving features (flow control aerators) as manufactured by Chicago. Flow control fittings shall be rated as follows:

Lavatories: 0.7 GPM

- E. Flush valves shall be Royal as manufactured by Sloan. Equal flush valves by Zurn will be accepted provided that mfr maintains dual flush technology. Flush valves shall be furnished complete with the following:
- 1. Polished chrome plated cast brass setscrew escutcheons
- Solid ring pipe support brackets
- 3. Dual flush feature for water closets: Up for liquid waste, down for solid waste.

Water Closets: 1.6 / 1.1 GPF Urinals: 1.0 GPF

- F. Contractor shall replace existing carriers to accommodate fixtures specified. Coordinate demolition and repair of existing walls with General Contractor as required.
- Option: If possible, contractor may reuse existing carriers in lieu of replacing as noted above.
- G. Plumbing fixtures shall be as specified below:
- P1 Water Closet; Kohler K-4325 elongated siphon jet wall hung water closet. Sloan WES-111-YBC-YK dual flush valve. Bemis 1655SSCT white open front seat, less cover and bolt caps. Reuse existing mounting height.

P2 Urinal; Kohler K-4991-ET wall hung vitreous china washdown uringl with SS beehive strainer and Sloan 186-0.5-YBC-YK flush valve. Reuse existing mounting heights.

P3 Countertop Lavatory; Kohler K-2917, 19" diameter selfrimming enameled cast iron lavatory, 4" centers, Chicago 802A-CP-VPC faucet with 369 lever handles and McGuire 155A arid strainer.

HB Hosebibb, Toilet; Chicago 293—CP—LK, polished chrome plated hosebibb with loose key operator and integral chrome plated vacuum breaker. Equal hosebibb by T&S Faucet will be accepted.

1.6 FLOOR DRAINS:

- A. Floor drains shall be as manufactured by JR Smith or equal by Josam or Zurn will be accepted.
- 1. Provide ProSet Trap Guard "trap primer alternative" and locate below strainer at each floor drain. Equal trap seal by JR Smith or Sure—Seal will be accepted.

(FD): 2005-8A-G-V-NB with 8" diameter nickle bronze strainer. integral backwater valve, galvanized ci body. Outlet size shall match existing pipe size. Provide deep seal p-trap at each drain.

1.7 STERILIZATION OF HOT AND COLD WATER SYSTEMS:

- A. Have samples collected from throughout the systems on (2) consecutive days tested by an approved independent testing laboratory and deliver certificates of approval to County Sanitarian, and Owner. All laboratory fees shall be included in the plumbing contract. Contractor shall be responsible for preventing use of water from systems for human consumption until tested and approved. Should any of the tests prove unfavorable, the entire disinfection and sampling process shall be repeated.
- B. Certificates indicating negative results of bacteriological tests shall be procured prior to building acceptance. Engineer shall be notified immediately of positive results.

1.8 WARRANTY:

- A. Contractor shall warranty all equipment, piping and any other materials specified under this Division of the contract for a period of (I) year from the date of project acceptance unless otherwise indicated. Upon failure of any part(s) of the system during the warranty period, the affected part(s) shall be repaired or replaced promptly by and at the expense of the Contractor.
- B. If any component fails during the regular one year period, then the replacement part(s) shall be given an additional (I) year warranty from the time of replacement. This shall continue until the items have given (I) year satisfactory service.

1.9 ENGINEER SITE VISIT REPORTS

- A. Engineer site visit reports will be furnished during construction
- B. Contractor is responsible for correcting all construction items and to respond in writing to all deficiencies as directed. Contractor shall contact Engineer immediately if there are any questions or conflicts after receipt of written site visit reports.
- C. Furnish response to all punchlist items within 10 days of receipt of report including completion status to maintain timely, planned construction progress without delays or problems.

1.10 SUBMITTALS

- A. Contractor shall submit detailed shop drawings, equipment materials cutsheets and product data <u>clearly marked</u> for all items listed below. All product data shall be submitted at one time in detail. Partial submission will not be accepted.
- 1. Pipe Materials
- 2. Pipe Jointing Materials
- 3. Floor Drains
- 4. Plumbing Fixtures and Trim
- 5. Hosebibbs

1.11 FINAL CLOSEOUT PROCEDURES

- A. Contractor shall provide the following items at completion of this project and furnish to the construction manager, Owner or Architect as directed:
- 1. Satisfactory water samples. Place in warranty and maintenance manuals.
- 2. Minimum (2) copies of completed product submittal data including maintenance manuals as applicable.
- 3. Vandal keys for all faucet handles including faucet aerators. Minimum (2) of each for all faucets. Place in Ziplock

END OF SPECIFICATIONS

PLUMBING FIXTURE SCHEDULE

SYMBOL	DESCRIPTION	CW	HW	WASTE	VENT	MOUNTING HEIGHT
P1 P2	WALL HUNG WATER CLOSET URINAL	EXIST EXIST		EXIST EXIST	EXIST EXIST	EXIST EXIST
P3	COUNTERTOP LAVATORY	EXIST	EXIST	EXIST	EXIST	SEE ARCH
HB	HOSEBIBB, TOILET	1/2"				SEE SPECS

REUSE EXISTING WASTE AND WATER ROUGH-IN LOCATIONS FOR ALL FIXTURES. REPLACE FLUSH VALVES, SUPPLIES AND P-TRAPS WITH SPECIFIED PRODUCTS,

PLUMBING NOTES

- DO NOT SCALE DRAWINGS. ROUGH FROM EXISTING CONDITIONS, ARCHITECTURAL AND EQUIPMENT MANUFACTURER'S DRAWINGS.
- COORDINATE PLUMBING SYSTEMS WITH ALL TRADES TO AVOID INTERFERENCE AND CONFLICTS PRIOR TO INSTALLATION OF PIPING, FIXTURES, AND EQUIPMENT.
- ALL WORK AND MATERIALS SHALL BE IN ACCORDANCE WITH THE (IBC) BUILDING AND (IPC) PLUMBING CODES, 2018 EDITIONS OF THE (ICC) INTERNATIONAL CODE COUNCIL AND ALL LOCAL CODES AND ORDINANCES.
- . WHENEVER THE WORD "PROVIDE" IS USED, IT SHALL MEAN FURNISH AND INSTALL COMPLETE AND READY FOR USE.
- . UNLESS OTHERWISE SHOWN OR NOTED, ALL PIPING SHALL BE RUN CONCEALED IN WALLS, CHASES AND/OR ABOVE CEILINGS.

PLUMBING SYMBOLS DESCRIPTION SANITARY WASTE PIPING

HOSEBIBB, TOILET HB HB FLOOR DRAIN - GENERAL CONNECT TO EXISTING CW, HW COLD WATER, HOT WATER HDC'D HANDICAPPED

SYMBOL

ABOVE FINISHED FLOOR

PLUMBING DEMOLITION NOTES

GENERAL: REFER TO ARCHITECTURAL DEMOLITION PLANS AND COORDINATE ALL DEMOLITION AND REWORK REQUIRED FOR THE INSTALLATION OF PLUMBING SYSTEMS AS INDICATED.

- DI. CONTRACTOR SHALL FIELD COORDINATE AND VERIFY EXIST CONDITIONS PRIOR TO START OF DEMOLITION WORK. NOTIFY ENGINEER IMMEDIATELY IF QUESTIONS OR CONFLICTS ARE DISCOVERED AT START OF PROJECT.
- D2. PROVIDE SAWCUTTING, CUTTING, CORE DRILLING AND REMOVAL OF EXIST FLOOR SLABS AND/OR EXIST WALLS AS REQUIRED FOR THE DEMOLITION AND INSTALLATION OF PLUMBING SYSTEMS.
- D3. PATCHING OF EXIST FINISHES SHALL BE BY THE GENERAL CONTRACTOR.
- D4. REFER TO ASBESTOS NOTES, THIS SHT AS APPLICABLE.
- D5. COORDINATE REMOVAL OF EXIST FIXTURES WITH OWNER PRIOR TO REMOVAL FROM SITE. <u>OWNER SHALL IDENTIFY ALL FIXTURES</u> WHICH ARE TO BE RETAINED.

ASBESTOS NOTES

- PLUMBING CONTRACTOR IS TO BE AWARE THAT EXISTING DRYWALL AND CEILING SYSTEMS LOCATED THROUGHOUT THIS STRUCTURE ARE ASBESTOS CONTAINING MATERIALS (ACM).
- ONLY PERSONNEL LISCENSED AND CERTIFIED TO WORK WITH ACM SHALL DISTURB EXISTING DRYWALL WALL AND CEILING SYSTEMS. CONTRACTOR 16 TO COORDINATE WITH THE GC AND THE ABATEMENT CONTRACTOR PRIOR TO ALL RENOVATIONS AND DEMOLITION ACTIVITIES THAT WILL IMPACT THE EXISTING DRYWALL IN THE BUILDING.
- ALL PENETRATIONS AND ATTACHMENTS TO EXISTING DRYWALL SHALL BE COORDINATED WITH AND PERFORMED BY THE ABATEMENT CONTRACTOR THROUGHOUT ALL PHASES OF THE PROJECT, TO INCLUDE INSTALLATION OF PLUMBING SYSTEMS.
- CONTRACTOR SHALL INCLUDE IN HIS BASE BID THE COSTS ASSOCIATED WITH THE COORDINATION AND SEQUENCING OF THESE TASKS.

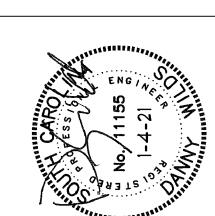
CONTRACTOR IS REQ'D TO VISIT PROJECT SITE PRIOR TO SUBMITTING BID AND THOROUGHLY FAMILIARIZE HIMSELF WITH ALL EXIST CONDITIONS RELATING TO THIS PROJECT. SUBMISSION OF A BID WILL BE CONSIDERED AS EVIDENCE THAT THE CONTRACTOR HAS VISITED THE SITE OF WORK. CONTACT: D. Fulmer

MECHANICAL 4403 Broad River Road Columbia, S.C. 29210 (803) 731-9834 dana@mdi9834.com

comm. No. 203610

DATE JANUARY 2021

SPECIAL NOTE:





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REVISIONS

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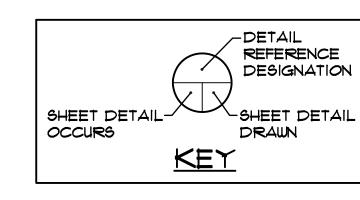
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PROJECT NUMBER 20001 SHEET NUMBER

> **PLBG NOTES. SCHEDS AND SPECIFICATIONS**

EXISTING CEILING NOTE

THE EXISTING SUSPENDED CEILING TILES ON THE SECOND FLOOR ARE TO BE REMOVED, STORED AND REINSTALLED BY THE GENERAL CONTRACTOR IF REQUIRED FOR THE INSTALLATION OF PLUMBING SYSTEMS ON THE THIRD FLOOR. THE PLUMBING CONTRACTOR SHALL BE RESPONSIBLE FOR ENSURING THAT NO CEILING GRID IS DISTURBED DURING THE INSTALLATION OF THE PIPING ABOVE THE SECOND FLR CEILINGS. FAILURE TO COMPLY WITH THIS REQUIREMENT WILL RESULT IN REPLACEMENT OF THE DAMAGED CEILING GRID. ANY COSTS ASSOCIATED WITH A FAILURE TO COMPLY WITH THIS REQUIREMENT WHETHER INTENTIONAL OR ACCIDENTAL SHALL BE THE SOLE RESPONSIBILITY OF THE PLUMBING CONTRACTOR.



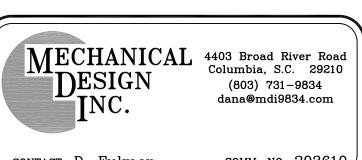
CONNECT TO EXIST

EXIST ACCESS PANEL TO BE REMOVED, STORED, CLEANED AND REINSTALLED AS

CONNECT TO EXIST
CW PIPING AS REQ'D

HACW PIPING AS

REQUIRED



PROJECT NUMBER 20001 SHEET NUMBER

> **PLBG FLOOR PLANS -3RD FLOOR**

3RI NS

CLOSE-HIPP 3

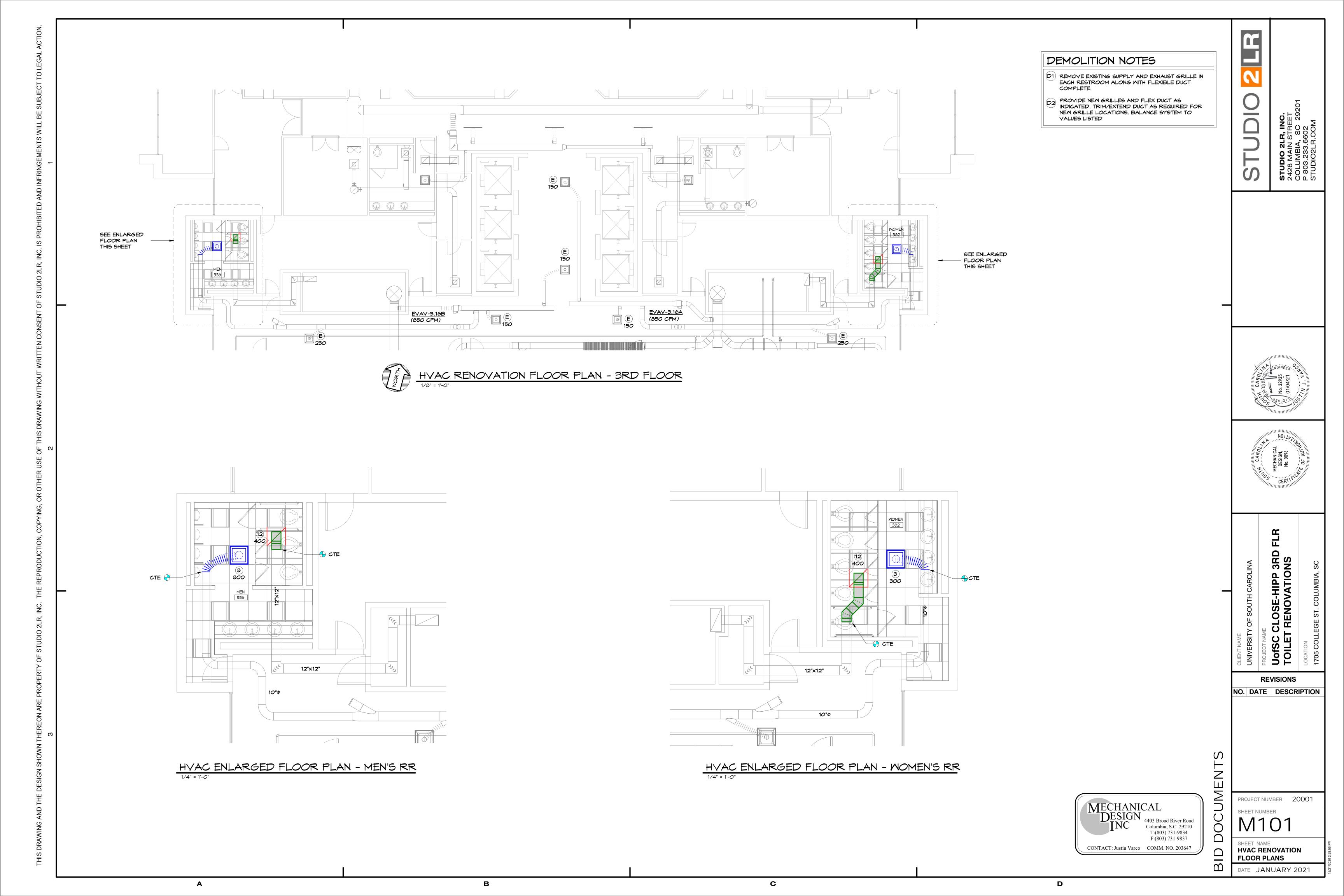
UofSC TOILET

REVISIONS

NO. DATE DESCRIPTION

DATE JANUARY 2021

CONTACT: D. Fulmer сомм. No. 203610



MECHANICAL SPECIFICATIONS

1.0 MECHANICAL; GENERAL

- 1.1 All material and work shall comply with the National Fire Codes of the NFPA, National and local codes and the 2018 International Building Code and Mechanical Codes.
- 1.2 Drawings for work under Division 23 are diagrammatic and generally, indicate reasonable arrangements. Work under Division 23 includes all work necessary to make HVAC systems complete and fully operational.
- 1.3 SUBSTITUTIONS: For substitution requests made during the bidding of the project. All requests for substitutions shall be submitted in writing so as to be received by the Engineer at least ten (10) calendar days prior to final pricing and must be granted permission to quote before award of contract.
- 1.4 MATERIAL AND EQUIPMENT

SUBMITTALS: Submit for review detailed drawings of all equipment and all material listed in this section. All submittal data shall be submitted electronically as well as bound in a hardback binder. Furnish two (2) hard copies of equipment submittals. Partial submittals will not be reviewed by the Engineer. Review rendered on equipment submittals shall not be considered as a guarantee of measurements of building conditions. WHERE DRAWINGS ARE REVIEWED, SAID REVIEW DOES NOT MEAN THAT DRAWINGS HAVE BEEN CHECKED IN DETAIL; SAID REVIEW DOES NOT IN ANY WAY RELIEVE THE CONTRACTOR FROM HIS RESPONSIBILITY OR NECESSITY OF FURNISHING MATERIAL OR PERFORMING WORK AS REQUIRED BY THE CONTRACT DOCUMENTS. Submit for the following materials and equipment for review by the Engineer:

- 1. Test and Balance Firm
- 2. Ductwork & Duct Supports
- 3. Air Distribution
- 1.5 WORKMANSHIP: Work that is not of good quality will require removal and reinstallation.
- 1.6 COORDINATION: No work shall be performed on this project before thoroughly coordinating all space requirements for pipes, control panels, and control components with all trades concerned and existing conditions. Temperature and equipment control wiring is included under Division 23.
- 1.7 The responsibility for obtaining, cutting, and patching for work under Division 23 of the specifications is included Division 23.
- 1.8 DAMAGES DURING CONSTRUCTION: Contractor shall be responsible for any costs of repairing any damages caused by this contractor, to the building, building contents, and site during construction and warranty period.
- 1.9 WARRANTY: Warrant all control components, piping and any other materials specified under Division 23. Warrant all equipment, ductwork, piping and any other materials specified under Division 23 for a period of one (I) year from the date of project acceptance unless otherwise indicated. Upon failure of any part(s) of the system during the warranty period, the affected part(s) shall be repaired or replaced promptly by and at the expense
- 1.10 IDENTIFICATION: Identify each piece of equipment and control component. Items shall be identified by name and numerical sequence. Nameplates shall be 1/16" thick plates with 1/2" high white letters on black background. Nameplates shall be attached securely with screws, not glued.
- 2.0 MECHANICAL: HVAC. ADJUSTING. TESTING AND BALANCING
- 2.1 TESTING AND BALANCING
- A. Provide T&B services for all new mechanical systems.
- B. All work shall be performed by an independent Test and Balance Agency. Testing, adjusting and balancing work shall be the firm's sole source of income. All work shall be under the direct supervision of a project manager who is qualified for testing and balancing the hydronic and air performance of heating, air conditioning, and ventilating systems.
- C. Testing and balancing of the HVAC system is defined as the optimization of the installed system. The equipment schedule is used for equipment selection only. Industry standards of \pm 0% are considered to be benchmarks and will not be used as an absolute requirement for final acceptance of the project. Approval of the final report will be the sole responsibility of the design engineer.

3.0 MECHANICAL; HVAC, INSULATION

- 3.1 INSULATION All insulation material shall have a fire hazard classification not to exceed flame spread of 25 and smoke developed rating of 50, as listed by Underwriters Laboratories and acceptable under NFPA standards. This is to apply to the complete system and to the composite insulation with jacket or facings, vapor barrier, joint sealing tapes, mastic and fittings.
- 3.2 All insulation work shall be performed by a franchised insulation company firm. All insulation shall be installed in a neat and clean manner by qualified workers in the regular employ of the insulation company.

3.3 DUCT INSULATION

- A. Insulation for sheet metal ducts shall be 2" thick Manville Microlite "commercial grade" duct wrap or equal. Insulation shall be 1 lb. density (R-7.5 min) with FSK vapor barrier.
- B. All sheet metal supply, return, and outside air ducts shall be insulated. Adhere insulation on ducts to metal with 4" strips of insulation bonding adhesive at 8" centers. Secure insulation on ducts over 24" wide with weld pins and clip washers spaced not more than 15" o.c., to bottom of duct. Staple insulation at all seams with outward clinch staples and vapor sealed with a 3" piece of Glasfab coated completely with a flame retardant mastic. This application also applies at connections to pre—insulated flexible ductwork. <u>Duct tape will not be allowed</u>.

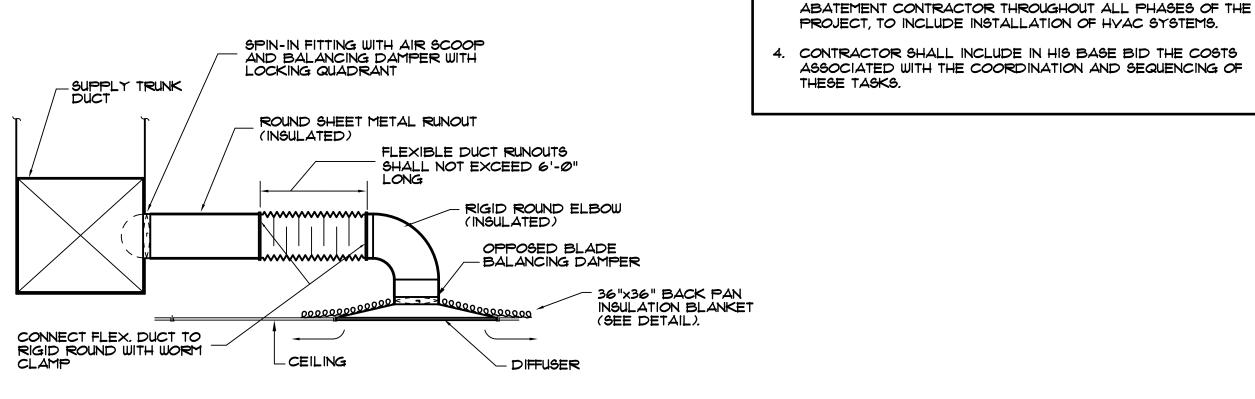
4.0 MECHANICAL; HVAC, FANS AND AIR DISTRIBUTION

- 4.1 GRILLES AND DIFFUSERS
- A. Unless otherwise indicated, color and finish to be as selected by Architect/Owner.
- B. Maximum noise level on any unit shall be at least 5 less than noise criteria level (NC) for which room is designed unless otherwise indicated. Room NC to be assumed to be 35 unless known. Maximum pressure drop shall not exceed 0.1" w.g. unless otherwise
- 4.2 BALANCING DAMPERS
- A. Manual balancing dampers shall be equal in performance and construction as Ruskin
- B. Dampers shall be round blade, positive lock, non stick, non corrosive, constructed of galvanized steel. Provide damper with 3/8" square steel control shaft with manual operator with locking hand quadrant.
- C. Dampers shall have a 20 gauge galvanized frame and damper blade. Provide damper with molded synthetic bearings.

MECHANICAL; HVAC, DUCTWORK

- All ductwork shall meet job conditions and after coordinating with all trades and existing conditions. Follow duct dimensions indicated on drawings as closely as possible. Provide offsets, vary shape or alter run if required to meet structural or other interferences. Where shape of duct is varied, alter dimensions to provide equal static pressure drop per unit length.
- Obtain copies of applicable "Sheet Metal and Air Conditioning Contractors National Association, Inc." (SMACNA) Manuals, latest edition, and keep one copy of each on job site.
- Ductwork shall be air tight, smooth on inside and neatly finished on outside. Details of support, construction and materials not specified herein to be in accordance with recommendations of SMACNA.
- No ductwork shall be fabricated or installed until all space requirements have been thoroughly coordinated with all other trades (see shop drawings)
- DUCTWORK: All return, exhaust and outside air ducts shall be low pressure sheet metal. Seal all joints and seams with high pressure sealant. All turns greater than 45 degrees shall be made with turning vanes. Turning vanes shall be single vane type installed on runners. Provide flexible duct connectors at air handling units at all supply, return and outside air duct connections if not factory provided. Provide flexible duct connectors at inlet and discharge of in line fans. Flexible duct connectors shall conform to NFPA 90A.
- RUNOUT TAKE-OFFS Take-offs from low pressure trunks to diffusers shall be a factory-manufactured spin-in type fitting including an air-scoop, manual balancing damper with locking quadrant, mounting flange and gasket seal.

END OF DIVISION 23



CEILING DIFFUSER INSTALLATION

NOT TO SCALE

GRILLE AND DIFFUSER SCHEDULE MAXRUNOUT NECK MARK SERVICE REMARKS SIZE CFM SIZE (1)SUPPLY 6"¢ 110 6"0 W/ BUTTERFLY DPR SUPPLY 230 W/BUTTERFLY DPF 3 SUPPLY 375 1Ø"¢ 1Ø"¢ W/BUTTERFLY DPF (8) | W/OPP.BL.DPR* RETURN 8"x8" 250 8"x8" 10 340 1Ø"x8" W/OPP.BL.DPR* RETURN 10"x10" (12) W/OPP.BL.DPR.* 12"×12" 580 12"×1Ø" GRILLE/ MOUNTING PRICE * MATERIAL MODEL NO. DIFFUSER TYPE SQUARE SUPPLY ALUMINUM LAY-IN ASPD-31 SQUARE SUPPLY SURFACE ASPD-31 ALUMINUM SQUARE RETURN LAY-IN 81-TB ALUMINUM SQUARE RETURN SURFACE 81-F-A ALUMINUM

- * OR EQUAL BY TITUS, METALAIRE, CARNES, NAILOR, KREUGER OR APPROVED EQUAL.
- ** CONTRACTOR MAY OMIT DAMPER IN RETURN GRILLES.
- NOTES: 1. GRILLE AND DIFFUSER LOCATIONS SHOWN ON FLOOR PLANS ARE APPROXIMATE, SEE ARCHITECTURAL REFLECTED CEILING PLAN FOR EXACT LOCATION.
 - 2. GRILLES AND DIFFUSERS SHALL MATCH CEILING TYPE. SEE ARCHITECTURAL DRAWINGS FOR CEILING TYPE.
 - 3. GRILLE AND DIFFUSER COLORS SHALL BE SELECTED BY ARCHITECT, SUBMIT COLOR SAMPLES TO ARCHITECT.
 - 4. LAY-IN EGGCRATE SHALL HAYE FULL FACE (24x24) AND FULL SIZE STEEL BACK PLATE WITH DUCT CONNECTOR COLLAR. INTERIOR OF GRILLE SHALL BE FLAT BLACK.
 - 5. PROVIDE 36x36 BACK PAN INSULATION BLANKET FOR ALL LAY-IN DIFFUSERS.

ASBESTOS NOTES (ALL SHEETS)

CONTRACTOR IS TO BE AWARE THAT EXISTING DRYWALL AND

ASBESTOS CONTAINING MATERIALS (ACM).

DRYWALL IN THE BUILDING.

CEILING SYSTEMS LOCATED THROUGHOUT THIS STRUCTURE ARE

ONLY PERSONNEL LICENSED AND CERTIFIED TO WORK WITH ACM

CONTRACTOR SHALL COORDINATE WITH THE GC AND THE ABATEMENT CONTRACTOR PRIOR TO ALL RENOVATIONS AND

DEMOLITION ACTIVITIES THAT WILL IMPACT THE EXISTING

3. ALL PENETRATIONS AND ATTACHMENTS TO EXISTING DRYWALL

SHALL BE COORDINATED WITH AND PERFORMED BY THE

SHALL DISTURB EXISTING DRYWALL WALL AND CEILING SYSTEMS.

GENERAL NOTES

- DO NOT SCALE DRAWINGS. ROUGH FROM ARCHITECTURAL AND EQUIPMENT MANUFACTURER'S DRAWINGS.
- WHENEVER THE WORD PROVIDE IS USED IT SHALL MEAN "FURNISH
- ELECTRICAL CHARACTERISTICS SHOWN ON SCHEDULES OR DRAWINGS ARE DESIGN VALUES ONLY AND SHALL BE VERIFIED BEFORE
- DUCT SIZES SHOWN ON DRAWINGS ARE INTERIOR DIMENSIONS.
- 6. UNLESS OTHERWISE NOTED, CEILING RETURN GRILLES SHALL BE THE SAME SIZE AS CEILING SUPPLY GRILLE.
- BY THE MANUFACTURE FOR SERVICE.
- ALL SUPPLEMENTAL STEEL AND HANGERS REQUIRED FOR THIS PROJECT SHALL BE PROVIDED BY THE CONTRACTOR UNLESS SHOWN OTHERWISE IN BID DOCUMENTS.
- PROVIDE ACCESS DOOR FOR ALL EQUIPMENT LOCATED ABOVE INACCESSIBLE CEILINGS. DOOR SHALL BE OF ADEQUATE SIZE TO FACILITATE SERVICE, REPAIR OR REMOVAL OF EQUIPMENT.
- 10. CONSTRUCT DUCTWORK AS JOB PROGRESSES AND AFTER

FLEXIBLE DUCT (6 FT. MAX. LENGTH) NEW MATERIAL **-----**MATERIAL TO BE REMOVED L-----AIR FLOWRATE, CUBIC FEET PER MINUTE (1)100 GRILLE OR DIFFUSER MARK, BALANCING CFM TURNING YANE SPIN-IN TAKEOFF WITH SCOOP AND DAMPER MANUAL DAMPER WITH LOCKING QUADRANT FLEXIBLE CONNECTION (T)O(H)THERMOSTAT, OVER RIDE SWITCH, HUMIDISTAT FD FIRE DAMPER TRANSFER DUCT HWS HOT WATER SUPPLY HUR HOT WATER RETURN BALL YALVE (2" & SMALLER) BUTTERFLY VALVE (2-1/2" & LARGER) UNDERCUT DOOR CONNECT NEW TO EXISTING

SYMBOLS

- DIMENSIONS ARE IN INCHES UNLESS OTHERWISE NOTED.
- AND INSTALL COMPLETE AND READY FOR USE".
- ORDERING EQUIPMENT.
- MAINTAIN RECOMMENDED CLEARANCES AT EQUIPMENT AS REQUIRED
- COORDINATING WITH ALL CONCERNED TRADES AND CONTRACTORS.

SPECIAL NOTE: THE CONTRACTOR IS REQUIRED TO VISIT THE PROJECT SITE PRIOR TO SUBMITTING BID AND THOROUGHLY FAMILIARIZE HIMSELF WITH ALL EXIST CONDITIONS RELATING TO THIS PROJECT. SUBMISSION OF A BID WILL BE CONSIDERED AS EVIDENCE THAT THE CONTRACTOR HAS VISITED THE SITE OF WORK.



contact: Justin Varco

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сомм. No. 203647

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PROJECT NUMBER 20001 SHEET NUMBER **M301**

> **HVAC NOTES, DTL'S,** SCHD'S. AND SPECS

DATE **JANUARY 2021**

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KEY NOTES

- 1 RE-USE EXISTING 277V LIGHTING BRANCH CIRCUIT(S) CURRENTLY IN THESE SPACES. CONTRACTOR SHALL FIELD VERIFY WHICH BRANCH CIRCUIT(S) ARE CURRENTLY IN THIS SPACE AND UPDATE THE PANELBOARD DIRECTORY TO INDICATE WHICH CIRCUITS ARE IN THIS SPACE.
- 2 PROVIDE BLANK STAINLESS-STEEL WALL PLATE OVER BOX.
- 3 ALL GTD'S SHALL BE DUAL RELAY TYPE. FIXTURES SHALL BE SWITCHED WITH NORMAL CIRCUIT, BUT BYPASS CONTROL IN EVENT OF A NORMAL POWER FAILURE.

GENERAL "ELECTRICAL" NOTES

- BRANCH CIRCUIT WIRING SHALL BE COPPER (THHN/THWN-2) NO. 12 AWG IN 3/4" CONDUIT UNLESS NOTED OTHERWISE. WHERE CONDUCTOR AND RACEWAY SIZE ARE SHOWN AT HOMERUN, SUCH SIZE SHALL BE USED FOR THE ENTIRE CIRCUIT. EXCEPTION: FINAL CONNECTION TO DEVICES, IN OUTLET BOXES, IS NOT REQUIRED TO BE LARGER THAN NO. 12 AWG.
- RACEWAYS SHALL BE INSTALLED CONCEALED IN NEW WALL CONSTRUCTION ABOVE CEILINGS, BELOW FLOOR, AND IN OTHER CAVITIES TO THE GREATEST EXTENT POSSIBLE. WHERE EXPOSED RACEWAYS MUST BE USED, LAYOUT RACEWAYS TO MINIMIZE THE NUMBER OF VERTICAL RUNS.
- THE ARRANGEMENT, GROUPING, AND ROUTING OF BRANCH CIRCUITS SHALL BE PROVIDED AT THE CONTRACTOR'S DISCRETION IN ACCORDANCE WITH GENERALLY ACCEPTED PRACTICE FOR ELECTRICAL WORK, THE NATIONAL ELECTRICAL CODE REQUIREMENTS, LOCAL ORDINANCES, AND THE FOLLOWING: 4 A COMMON NEUTRAL MAY NOT BE INSTALLED IN A HOMERUN FOR 2 OR 3
- BRANCH CIRCUITS. 5 A GROUND CONDUCTOR SHALL BE PROVIDED IN ALL RACEWAYS UNLESS NOTED OTHERWISE.
- 6 THE USE OF MC CABLE IS NOT ALLOWED.
- 7 SEAL ALL EXISTING AND NEW FIRE RATED WALL AND FLOOR PENETRATIONS IN THE CONSTRUCTION AREA
- 8 IN AREAS WHERE THE EXISTING CEILINGS ARE NOT SLATED TO BE REMOVED, THE CONTRACTOR SHALL WORK THRU THE EXISTING CEILINGS (SEE ARCHITECTURAL REFLECTED CEILING PLAN FOR AREA OF WORK). THE CONTRACTOR SHALL BE RESPONSIBLE FOR REPLACING ANY DAMAGED TILE OR GRID THAT IS A RESULT OF THEIR WORK.
- 9 ALL ELECTRICAL EQUIPMENT TO BE REMOVED SHALL REMAIN THE PROPERTY OF THE OWNER. THE CONTRACTOR SHALL NOT DISPOSE OF ANY MATERIALS UNTIL RELEASED BY OWNER'S PROJECT MANAGER. MATERIALS THAT OWNER' PROJECT MANAGER CHOOSES TO RETAIN SHALL BE DELIVERED BY THE CONTRACTOR TO A LOCATION DESIGNATED BY THE PROJECT MANAGER. ALL
- OTHER MATERIALS SHALL BE PROPERLY DISPOSED OF BY THE CONTRACTOR 10 ELECTRICAL DEVICES NOT SHOWN ON WALLS TO BE DEMOLISHED SHALL BE DEMOLISHED AT NO ADDITIONAL COST TO OWNER.
- 11 ELECTRICAL DEVICES NOT SHOWN ON CEILINGS OR WALLS TO REMAIN SHALL REMAIN IN PLACE. PROTECT FROM DAMAGE DURING CONSTRUCTION
- 12 ELECTRICAL DEVICES NOT SHOWN ON CEILINGS TO BE REMOVED SHALL BE TEMPORARILY DISCONNECTED AND REMOVED DURING DEMOLITION AND
- RE-INSTALLED ON NEW CEILING IN SAME LOCATION. 13 SEE ARCHITECTURAL REFLECTED CEILING PLAN FOR THE EXACT LOCATION OF ALL CEILING MOUNTED LIGHTING FIXTURES.
- 14 REFER TO ARCHITECTURAL DRAWINGS FOR MOUNTING DETAILS OF LIGHT
- FIXTURE TO ACOUSTICAL CEILING SYSTEM AND STRUCTURE. 15 EXISTING FIRE ALARM SYSTEM IS GAMEWELL E3 SERIES.

ALL "EM" FIXTURES INDICATED IN PLAN CONTAIN TRANSFER DEVICE (GTD) AND HAVE CONNECTION TO GENERATOR. ALL EMERGENCY FIXTURES REQUIRE AN EXTRA CONSTANT POWER CONDUCTOR TO BE CONNECTED TO THE EMERGENCY GTD FOR SENSING. CONDUCTOR MUST NOT BE CONTROLLED BY ANY LIGHTING SYSTEM OR HAVE POWER INTERUPTED AT ANY TIME. "NL" FIXTURES SHALL HAVE ABSOLUTELY NO LIGHTING CONTROL & SHALL BE OPERATIONAL AT ALL TIMES.

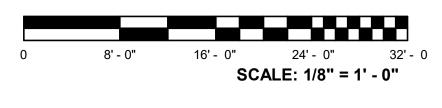
				LIGHT FIXTURE SCHEDULE						
		FIXTUF	LAMPING		ELEC1	RICAL				
SYMBOL	TYPE	FIXTURE DESCRIPTION	MANUFACTURER	CAT. #	NO.	LAMP TYPE	FIXT. LOAD	VOLTS	MOUNTING REMARKS	NOTES
0	A	2'X2' LED RECESSED TROFFER	HE WILLIAMS	LT-22-L27/835-AF-UNV	-	LED (2700 LUMENS, 835)	21	277 V	RECESSED IN GRID CEILING	1,2,3,4
	AE	SAME AS TYPE "A" EXCEPT FED FROM GENERATOR-BACKED CIRCUIT THROUGH A GTD.	HE WILLIAMS	LT-22-L27/835-AF-UNV	-	LED (2700 LUMENS, 835)	21	277 V	RECESSED IN GRID CEILING	1,2,3,4
φ	V	EDGE LIT VANITY MIRROR	LIGHTING SQUARED	WM3035-3624-30-80-H0	_	LED (3300 LUMENS, 80)	33	277 V	WALL MOUNTED MIRROR	1,2,3,4

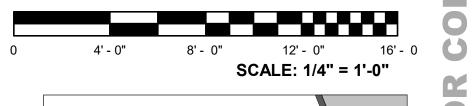
LIGHT FIXTURE SCHEDULE NOTES

- 1 LUMENS LISTED IN SCHEDULE REPRESENT DELIVERED LUMENS OF FIXTURES.
- 2 THREE DIGIT NUMBERS LISTED IN LAMP COLUMN REPRESENT CRI AND COLOR TEMPERATURE. FIRST DIGIT INDICATES MINIMUM CRI AND LAST TWO DIGITS INDICATE COLOR TEMPERATURE. EXAMPLE: 830 INDICATES MINIMUM CRI OF 80 AND A COLOR TEMPERATURE OF 3000K.
- 3 SEE ARCHITECTURAL RCP AND ELEVATIONS FOR EXACT LOCATION AND MOUNTING HEIGHTS.
- 4 CONFIRM QUANTITIES OF FIXTURES SHOWN IN RCP MATCH QUANTITIES SHOWN ON ELECTRICAL PLANS PRIOR TO BID. IF NO DISCREPANCIES ARE NOTED PRIOR TO BID THE HIGHEST QUANTITY OF EACH FIXTURE TYPE SHOWN SHALL BE PROVIDED.

DEMOLITION/RENOVATION NOTATION

- IF NO ANNOTATION IS SHOWN ASSUME EXISTING TO REMAIN IN PLACE FOR SOLID LINES AND DEMOLISH FOR DASHED LINES. DEVICES AND EQUIPMENT NOT SHOWN SHALL BE ASSUMED TO BE EXISTING TO REMAIN IN PLACE.
- E EXISTING FIXTURE OR DEVICE TO REMAIN IN PLACE. REPLACE ANY BROKEN DEVICES OR PLATES; COLOR TO MATCH EXISTING. R EXISTING FIXTURE OR DEVICE TO BE REMOVED BY THE
- ELECTRICAL CONTRACTOR. MAINTAIN CONTINUITY OF REMAINING PORTIONS OF BRANCH CIRCUIT.
- RE EXISTING DEVICE TO BE REMOVED BY THE ELECTRICAL CONTRACTOR. EXISTING CIRCUIT SHALL BE RETAINED. PROVIDE NEW DEVICE AS SHOWN ON RENOVATION PLANS.
- RN RELOCATED FIXTURE (NEW LOCATION). RR EXISTING FIXTURE TO BE RELOCATED BY THE ELECTRICAL CONTRACTOR TO NEW LOCATION SHOWN ON RENOVATION PLAN.







PROJECT NUMBER 20001 SHEET NUMBER

> THIRD FLOOR RESTROOMS **_ELECTRICAL PLANS_**

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REVISIONS

NO. DATE DESCRIPTION

BELKA

ENGINEERING

ASSOC. INC.

JAREHEART@BEA-Consulting.com

DATE **01/04/2021**