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PLUMBING LEGEND AND GENERAL

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REGULATIONS, THE DRAWINGS OR SPECIFICATIONS SHALL GOVERN. 2. INSTALL ALL PLUMBING SYSTEMS SPECIFIED IN DIVISION 22 AND 23, INCLUDING CONNECTIONS TO EQUIPMENT PROVIDED BY OTHERS, IN ACCORDANCE WITH THE APPLICABLE

MANUFACTURER'S INSTRUCTIONS, EXCEPT WHERE THE REQUIREMENTS ARE MORE STRINGENT HEREIN, THEN THESE DRAWINGS SHALL GOVERN. 3. DRAWINGS ARE DIAGRAMMATIC IN NATURE INDICATING APPROXIMATE LOCATIONS OF FIXTURES, APPARATUS, EQUIPMENT, AND PIPING. CHANGES DUE TO BUILDING CONDITIONS AND OTHER TRADES, SHALL BE MADE DURING THE PREPARATION OF COORDINATION

DRAWINGS AND PRIOR TO INSTALLATION, WITHOUT ADDITIONAL COST TO THE OWNER. 4. PROVIDE ACCESS TO VALVES, EQUIPMENT AND APPARATUS REQUIRING OPERATION, SERVICE OR MAINTENANCE THROUGHOUT THE LIFE OF THE SYSTEM.

PIPING OR EQUIPMENT SHALL NOT BE INSTALLED IN ELECTRICAL EQUIPMENT ROOMS, ELEVATOR EQUIPMENT ROOMS, OR ELEVATOR SHAFTS UNLESS SERVING EQUIPMENT LOCATED IN ROOM.

6. MOTOR QUANTITIES, SIZES AND EQUIPMENT WATTAGE RATINGS SPECIFIED HEREIN OR INDICATED ON THE DRAWINGS ARE THE MINIMUM REQUIREMENTS, PRIOR TO INSTALLATION AND AT NO ADDITIONAL COST TO THE OWNER, CONTRACTOR SHALL COORDINATE THE ELECTRICAL REQUIREMENTS OF THE PLUMBING EQUIPMENT ACTUALLY FURNISHED ON THIS PROJECT, AND PROVIDE THE ELECTRICAL SYSTEMS REQUIRED BY THAT EQUIPMENT.

7. COORDINATE THE WITH LOCATION OF THE ENGINE-GENERATOR SET AND FUEL SUPPLY REQUIREMENTS

8. COORDINATE WITH THE HVAC EQUIPMENT FOR FINAL LOCATIONS OF FLOOR DRAINS, AND MAKE-UP WATER, AND GAS SUPPLY.

9. COORDINATE WATER HEATER LOCATIONS AND REQUIREMENTS FOR VENTS.

10. COORDINATE WITH FIRE PUMPS FOR FINAL LOCATIONS OF FLOOR SINKS. 11. COORDINATE PLUMBING REQUIREMENTS WITH EQUIPMENT AND FIXTURES SPECIFIED IN OTHER DIVISIONS: FOOD SERVICE, LABORATORIES, MEDICAL, SPECIALTY EQUIPMENT, LAUNDRY EQUIPMENT AND SWIMMING POOL EQUIPMENT

12. ADHESIVES, SEALANTS, SEALANT PRIMERS, PAINTS, AND COATINGS USED INSIDE THE BUILDING (DEFINED AS INSIDE THE WEATHERPROOFING ENVELOPE AND APPLIED ON-SITE SHALL BE TESTED AND DETERMINED COMPLIANT WITH CALIFORNIA DEPARTMENT OF PUBLIC HEALTH (CDPH) STANDARD METHOD V1.2, USING THE APPLICABLE EXPOSURE SCENARIO.

13. METHYLENE CHLORIDE AND PERCHLOROETHYLENE SHALL NOT BE INTENTIONALLY ADDED IN

PAINTS, COATINGS, ADHESIVES, OR SEALANTS THAT ARE APPLIED ON-SITE 14. ALL PAINTS AND COATINGS THAT ARE WET-APPLIED ON SITE AND USED INSIDE THE BUILDING MUST MEET THE APPLICABLE VOC CONTENT LIMITS OF ONE OF THE FOLLOWING: CALIFORNIA AIR RESOURCES BOARD (CARB), SUGGESTED CONTROL MEASURE (SCM) FOR ARCHITECTURAL

15. ALL ADHESIVES AND SEALANTS THAT ARE WET-APPLIED ON SITE AND USED INSIDE THE BUILDING MUST MEET THE APPLICABLE VOC CONTENT REQUIREMENTS OF SCAQMD RULE 1168.

16. ALL EXTERIOR APPLIED ADHESIVES, SEALANTS, COATINGS, AND WATERPROOFING MATERIALS MUST MEET VOC CONTENT LIMITS OF BOTH OF THE FOLLOWING: CALIFORNIA AIR RESOURCES BOARD (CARB) SUGGESTED CONTROL MEASURE (SCM) FOR ARCHITECTURAL COATINGS AND SOUTH COAST AIR QUALITY MANAGEMENT DISTRICT

SMALL CONTAINERS OF ADHESIVES AND SEALANTS SUBJECT TO STATE OR FEDERAL CONSUMER PRODUCT VOC REGULATIONS ARE EXEMPT.

17. PAINT THAT IS APPLIED ON SITE SHALL NOT CONTAIN LEAD OR ANY INTENTIONALLY ADDED

18. MATERIALS CONTAINING ASBESTOS OR ANY TRACE OF ASBESTOS RELATED MATERIALS SHALL NOT BE USED ON THIS PROJECT.

19. SCHEDULE WORK SO EXISTING SYSTEMS WILL NOT BE INTERRUPTED. WHEN THEY ARE REQUIRED FOR NORMAL USAGE OF THE EXISTING BUILDING. OBTAIN APPROVAL FROM THE OWNER AND ARCHITECT AT LEAST 7 DAYS PRIOR TO ANY UTILITY INTERRUPTION OR

20. PERFORM WORK AT SUCH TIME AND IN SUCH MANNER AS TO CAUSE MINIMUM INCONVENIENCE TO THE OWNER AND AS APPROVED BY THE ARCHITECT. NO ALLOWANCE WILL BE MADE FOR LACK OF KNOWLEDGE OF EXISTING CONDITIONS.

22. THE EXISTING INSTALLATION SHALL REMAIN AS IS EXCEPT AS OTHERWISE INDICATED ON THE DRAWINGS OR SPECIFIED HEREIN. PROTECT EXISTING PIPING, FIXTURES AND EQUIPMENT TO

REMAIN; IN THE PATH OF NEW CONSTRUCTION. 23. COORDINATE THE INSTALLATION OF NEW PIPING AND EQUIPMENT WITH EXISTING EQUIPMENT TO REMAIN OPERATIONAL

24. REMOVE PIPING RENDERED USELESS DUE TO CHANGES. CAP OUTLETS IN PIPING. 25. RELOCATE AND REROUTE CONCEALED EXISTING PIPING EXPOSED BY THE REMOVAL OF

WALLS AND RECONNECT. 26. EXERCISE CARE IN REMOVING PLUMBING FIXTURES WHICH ARE TO BE REUSED AND PROTECT

FIXTURES WHICH ARE TO REMAIN IN PLACE WHILE WORK IS IN PROGRESS. 27. SLEEVES LEFT OPEN BY REMOVAL OF PIPING SHALL BE CUT FLUSH WITH THE FINISHED SLAB

AND FILLED WITH GROUT FLUSH WITH BOTH SIDES OF SLAB. 28. EXISTING PLUMBING FIXTURES WHICH ARE REMOVED AND ARE NOT REUSED IN THE NEW

WORK SHALL BE TURNED OVER TO THE OWNER. 29. MATERIAL AND EQUIPMENT WHICH HAS BEEN REMOVED AND NOT ACCEPTED BY THE OWNER

SHALL BECOME THE PROPERTY OF THE CONTRACTOR AND SHALL BE REMOVED FROM THE

30. MATERIAL AND EQUIPMENT WHICH HAS BEEN REMOVED SHALL NOT BE USED IN THE NEW WORK, EXCEPT AS SPECIFIED HEREIN.

31. WHERE EXISTING PIPING AND EQUIPMENT IS INDICATED ON THE DRAWINGS, ITS SIZE AND LOCATION SHALL BE VERIFIED. 32. EQUIPMENT AND MATERIALS SHALL, UNLESS OTHERWISE SPECIFIED HEREIN, BE NEW AND

SHALL BE OF THE CUSTOMARY STANDARD AND QUALITY FURNISHED BY THE DESIGNATED MANUFACTURER FOR THAT CATALOGUE NUMBER. 33. MATERIALS AND EQUIPMENT SHALL BE ULLISTED AND BEAR THE ULLISTING MARK ON

PRODUCTS FOR WHICH STANDARDS HAVE BEEN ESTABLISHED AND FOR WHICH LISTING IS REGULARLY FURNISHED BY UL.

34. IN LIEU OF THE UL LISTING AND WITH AUTHORITY HAVING JURISDICTION APPROVAL, OR WHERE STANDARDS HAVE NOT BEEN ESTABLISHED BY UL AND UL LISTING IS NOT REGULARLY FURNISHED, MATERIALS AND EQUIPMENT SHALL BE LISTED BY A LABORATORY RECOGNIZED UNDER THE OSHA NATIONALLY RECOGNIZED TESTING LABORATORY PROGRAM OR BY A LABORATORY ACCREDITED BY INTERNATIONAL ACCREDITATION SERVICE.

 ARRANGE UTILITY CONNECTIONS, EXTENSION OF SERVICES AND INSTALLATION OF METERS WITH AUTHORITIES HAVING JURISDICTION AND PAY CHARGE IN CONNECTION THEREWITH.

36. PROVIDE CONCRETE FOUNDATIONS FOR THE FLOOR-MOUNTED PLUMBING EQUIPMENT. 37. WHERE PLUMBING WORK IS CONCEALED BY WALLS OR CEILINGS, OR IS INACCESSIBLE,

PROVIDE AN ACCESS PANEL TO PROVIDE ACCESS FOR SERVICE AND MAINTENANCE. 38. FIRE-RATED ACCESS PANELS SHALL BE PROVIDED IN FIRE BARRIERS WITH RATINGS TO MATCH THE CONSTRUCTION FIRE RATING.

39. DURING BACKFILL, INSTALL UNDERGROUND WARNING TAPE CONTINUOUSLY ALONG LENGTH OF PIPING, 12" TO 18" ABOVE THE PIPING FOR: DIESEL FUEL, DOMESTIC COLD WATER, DOMESTIC HOT WATER, DOMESTIC HOT WATER CIRCULATING, FUEL OIL, GASOLINE, NATURAL GAS, NITROGEN, OXYGEN, PROPANE GAS, RAINWATER, REUSE WATER, SOIL, WASTE, AND UTILITIES LOCATED UNDERGROUND, NOT LISTED.

40. EXCEPT WHERE OTHERWISE SPECIFIED HEREIN, PAINTING SHALL BE DONE UNDER ANOTHER DIVISION. SURFACES SHALL BE LEFT CLEAN AND FREE FROM OIL 41. WHERE GALVANIZING IS BROKEN DURING FABRICATION OR INSTALLATION, RECOAT EXPOSED

AREAS WITH ZINC-RICH PAINT.

42. EXTERIOR FERROUS EQUIPMENT, PIPING AND SUPPORTS SHALL BE PAINTED WITH 2 COATS OF RUST PREVENTIVE PAINT, COLOR SELECTED BY THE ARCHITECT

43. EXPOSED INTERIOR UNINSULATED BLACK STEEL PIPING, AND EXPOSED NONGALVANIZED FERROUS ACCESSORIES, HANGERS, RODS, INSERTS, AND MECHANICAL SUPPORTS SHALL BE PREPARED AND PAINTED WITH 1 COAT OF RUST PREVENTIVE PAINT PRIOR TO OTHER

PAINTING OR IDENTIFICATION, OR 2 COATS OF RUST PREVENTIVE PAINT IF NO OTHER PAINTING IS SPECIFIED. 44. PROVIDE OFFSETS, TRANSITIONS, AND FITTINGS TO COORDINATE THE WORK OF EACH TRADE WITH THAT OF OTHER TRADES, INCLUDING HVAC, FIRE SUPPRESSION, ELECTRICAL,

STRUCTURAL, AND ARCHITECTURAL.

45. INSTALL WORK IN PHASES AS REQUIRED BY THE ARCHITECTURAL DOCUMENTS. 46. COMPILE AN OPERATION AND MAINTENANCE DOCUMENTATION AND COORDINATE THE DOCUMENTATION FOR EQUIPMENT AND SYSTEMS INSTALLED. DOCUMENTATION SHALL INCLUDE AN OPERATIONS AND MAINTENANCE DOCUMENTATION DIRECTORY. EMERGENCY INFORMATION, OPERATING MANUAL, MAINTENANCE MANUAL, TEST REPORTS, AND CONSTRUCTION DOCUMENTS

47. REFER TO DIVISION 01 FOR REQUIREMENTS FOR RECORD DRAWINGS. 48. A RECORD OF FIELD AND AS-INSTALLED CONDITIONS SHALL BE MAINTAINED AT THE SITE, SHALL BE KEPT CURRENT THROUGHOUT THE PROJECT, AND SHALL BE USED IN THE PREPARATION OF THE FINAL RECORD DRAWINGS. FIELD AND AS-INSTALLED CONDITIONS SHALL BE RECORDED ON DESIGN DRAWINGS AND SHALL BE MARKED TO INCLUDE ADDENDA.

CHANGE ORDERS, FIELD CHANGES AND SELECTIONS MADE DURING CONSTRUCTION. 49. UPON COMPLETION OF THE PROJECT, SUBMIT MARKED-UP DESIGN DRAWINGS INDICATING FIELD AND AS-INSTALLED CONDITIONS, AND SHOP DRAWINGS INCORPORATING CHANGES MADE DURING CONSTRUCTION FOR PIPING AND EQUIPMENT

50. EQUIPMENT OPERATED PRIOR TO THE DATE OF SUBSTANTIAL COMPLETION SHALL BE MAINTAINED IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS.

51. FACTORY-TRAINED TECHNICIANS SHALL GIVE INSTRUCTIONS ON EACH MAJOR PIECE OF EQUIPMENT AND ON ALL SPECIALTY SYSTEMS AND EQUIPMENT.

52. PROVIDE PROTECTIVE COVERS, SKIDS, PLUGS OR CAPS TO PROTECT EQUIPMENT AND MATERIALS FROM DAMAGE OR DETERIORATION DURING CONSTRUCTION.

53. STORE EQUIPMENT AND MATERIAL UNDER COVER, AND OFF THE GROUND OR FLOORS EXPOSED TO RAIN. 54. PROVIDE DUST AND DEBRIS PROTECTION FOR EQUIPMENT, MOTORS, AND BEARINGS

OPERATED DURING CONSTRUCTION. 55. REMOVE DUST, DIRT, RUST, STAINS, AND TEMPORARY COVERS ON EQUIPMENT AND IN

56. CLEAN ALL EQUIPMENT ROOM SURFACES AND ACCESSORIES UNTIL FINAL COMPLETION OF

57. REMOVE EXCESS MATERIAL FROM THE PROJECT SITE.

58. UTILIZE SERVICE PROCEDURES TO MAXIMIZE RECYCLING, AND DISPOSAL OF EQUIPMENT CONTAINING REFRIGERANTS, IN ACCORDANCE WITH THE CLEAN AIR ACT AMENDMENTS, TITLE

THE DRAWINGS IN ACCORDANCE WITH THE MANUFACTURERS' INSTRUCTIONS AND RECOMMENDATIONS FOR THIS PROJECT 60. PROVIDE ROUGHING, TRAPS, TAIL PIECES, FITTINGS, WATER STOPS, AND CONNECTING PIPING

59. EQUIPMENT SHALL BE INSTALLED AND CONNECTED AS SPECIFIED HEREIN OR INDICATED ON

AS REQUIRED, AND MAKE FINAL WATER SUPPLY AND DRAIN CONNECTIONS TO EQUIPMENT. 61. FINAL CONNECTIONS TO LAUNDRY EQUIPMENT SHALL BE MADE BY THE LAUNDRY VENDOR. 62. FOR EQUIPMENT THAT DOES NOT HAVE WATER CROSS CONNECTION WITHIN, PROVIDE CHECK

VALVES IN THE COLD AND HOT WATER SUPPLIES. 63. IN UNFINISHED AREAS DESIGNATED FOR FUTURE BUILD-OUT, INSTALL PIPING, CONDUIT AND EQUIPMENT TIGHT AGAINST THE STRUCTURE TO MAXIMIZE FUTURE CEILING HEIGHT.

64. FIELD-INSTALLED EQUIPMENT CONTROLS OR SENSOR WIRING SHALL BE INSTALLED IN CONDUIT. LOW VOLTAGE CONTROL AND SENSOR WIRING SHALL BE INSTALLED IN CONDUITS SEPARATE FROM LINE VOLTAGE CONTROL WIRING AND POWER WIRING.

65. WHERE WATER PIPE SIZES AT EQUIPMENT VARY FROM THE PIPE SIZE INDICATED ON THE DRAWINGS, PROVIDE APPROPRIATE REDUCERS/INCREASERS DIRECTLY ADJACENT TO THE PIPE-EQUIPMENT UNIONS.

66. UNLESS OTHERWISE SPECIFIED HEREIN OR INDICATED ON THE DRAWINGS. THE SIZE OF THE VALVES, PIPING, AND ACCESSORIES DEDICATED TO A PIECE OF EQUIPMENT SHALL NOT BE LESS THAN THE PIPE SIZE TO WHICH THEY ARE CONNECTED.

67. PROVIDE HANGER AND PIPING SUPPORT AS SPECIFIED IN SECTIONS OF DIVISION 22, 23 AND AS RECOMMENDED BY PIPING MANUFACTURER. 68. PIPING SUPPORT SPACING SHALL BE FROM CENTER TO CENTER OF THE SUPPORT

SUPPORT CONNECTED PIPING AND EQUIPMENT INDEPENDENTLY OF EACH OTHER. 70. ADJUST HANGERS, CLAMPS, AND SUPPORTS SO THAT LOADING AND SUPPORT IS UNIFORM. 71. SUSPEND HANGER RODS ONLY FROM THE STRUCTURE: DO NOT SUSPEND FROM PIPING,

EQUIPMENT, OR DUCTWORK. 72. ISOLATE BARE COPPER TUBING FROM FERROUS METAL HANGERS, CHANNEL STRUT

SUPPORTS, AND BUILDING COMPONENTS. 73. PROVIDE PENETRATION SEALS AS SPECIFIED UNDER DIVISION 22 AND 23 IN ACCORDANCE WITH MANUFACTURER'S PUBLISHED INSTRUCTIONS TO ACHIEVE RATINGS AND CLASSIFICATIONS SPECIFIED HEREIN. A COPY OF THESE INSTRUCTIONS SHALL BE MAINTAINED AND AVAILABLE ON SITE.

74. FILL VOIDS BETWEEN PIPING OR INSULATION AND SLEEVES AT AREAS WHERE NEEDED FOR ACCOUSTIC PURPOSES OR TO MAINTAIN ROOM PRESSURE. MAINTAIN WALL AND FLOOR FIRE

75. PROVIDE FIRESTOP AT ABANDONED PENETRATIONS AND PENETRATIONS THROUGH FIRE- AND SMOKE-RATED CONSTRUCTION. PENETRATION AND PIPE ASSEMBLY MUST MAINTAIN RATING

OF BARRIER PASSING THROUGH AFTER INSTALLATION. 76. LABEL PIPING AND EQUIPMENT AS SPECIFIED UNDER DIVISION 22 AND 23 IN ACCORDANCE

WITH ASME A13.1 AND NFPA 99 FOR MEDICAL SYSTEMS. 77. PIPING WITH TEMPERATURE MAINTENANCE CABLE SHALL BE ADDITIONALLY LABELED,

"ELECTRONICALLY TRACED" ON THE OUTSIDE OF THE INSULATION JACKET 78. PROVIDE NUMBERED BRASS TAGS ON VALVES EXCEPT AT PLUMBING FIXTURES.

79. VALVES IN MEDICAL GAS SYSTEMS SHALL BE IDENTIFIED AS REQUIRED BY NFPA 99. 80. TAGS ON NEW VALVES SHALL CONTINUE THE NUMBERING SEQUENCE OF EXISTING VALVES. 81. PROVIDE FOR EACH SYSTEM A SCHEDULE AND PIPING DIAGRAM OF VALVES.

SUBMITTALS NOTES

SUBMITTALS SHALL INCLUDE PIPING, FITTINGS, FIXTURES, EQUIPMENT AND ACCESSORIES, AS SPECIFIED IN SECTIONS OF DIVISION 22, 23 AND ON DRAWINGS, SHOP AND COORDINATION DRAWINGS.

EACH SUBMITTAL SHALL BE SUBMITTED IN SUCH A WAY TO ALLOW TIME FOR REVIEW, POSSIBLE RESUBMITTALS AND TIME FOR ACQUISITION FABRICATION, SHIPPING, AND INTEGRATION INTO THE CONSTRUCTION SEQUENCE.

SUBMITTALS SHALL INDICATE COMPLIANCE WITH EACH REQUIREMENT SPECIFIED IN DIVISION 22 AND 23, ON THE DRAWINGS, AND INDICATE MANUFACTURER'S INSTALLATION INSTRUCTIONS. DEVIATIONS, IF ANY, INCLUDING ANY FROM THE MANUFACTURER'S

INSTALLATION INSTRUCTIONS SHALL BE STATED IN SUBMITTAL PACKAGE. 4. RESUBMITTALS SHALL INCLUDE A WRITTEN EXPLANATION OF HOW EACH REVIEW COMMENT HAS BEEN ADDRESSED

5. SHOP DRAWINGS SHALL NOT BE REPRODUCTION OR ELECTRONIC VERSION OF DESIGN DRAWING. 6. APPROVED TRADE SHOP DRAWINGS SHALL BE UTILIZED AS THE BASIS FOR THE

COORDINATION DRAWINGS SHOP AND COORDINATION DRAWINGS SHALL INCLUDE DIMENSIONS AND ELEVATIONS, OF PLUMBING WORK INCLUDING EQUIPMENT, PIPING WITH FITTINGS, VALVES, ACCESSORIES AND SLEEVES WHERE APPLICABLE, MINIMUM 1/4" = 1'-0" SCALE

NO WORK SHALL BE FABRICATED AND/OR INSTALLED PRIOR TO RECEIPT BY THE CONTRACTOR OF APPROVED TRADE SHOP AND APPROVED COORDINATION DRAWINGS. NO CHANGE ORDERS WILL BE APPROVED OR DESIGN ASSISTANCE PROVIDED FOR REMEDIAL FIELD COORDINATION ACTIVITIES FOR WORK FABRICATED AND/OR INSTALLED PRIOR TO RECEIPT BY THE CONTRACTOR OF APPROVED TRADE SHOPAND APPROVED COORDINATION DRAWINGS.

GENERAL PIPING INSTALLATION NOTES

1. INSTALL ALL PIPING, FITTINGS, AND JOINTS IN ACCORDANCE WITH THE APPLICABLE MANUFACTURER'S INSTRUCTIONS WHETHER UNDERGROUND OR ABOVEGROUND. CUT PIPING TO MEASUREMENTS ESTABLISHED AT THE SITE AND WORKED INTO PLACE

WITHOUT SPRINGING OR FORCING.

USE CONCENTRIC REDUCING FITTINGS BETWEEN DIFFERENT SIZE PIPES. SLOPE WATER AND ORAL VACUUM PIPING TO DRAIN BACK TO THE MAINS.

PROVIDE PLASTIC PIPE MANUFACTURER'S RECOMMENDED EXPANSION AND CONTRACTION

PLASTIC PIPING SHALL NOT BE STORED IN DIRECT SUNLIGHT OR AT TEMPERATURES HIGHER THAN 90°F. PROTECT PIPING FROM HEAT SAGGING OR BENDING.

DO NOT MIX PLASTIC PIPE AND FITTING MANUFACTURERS. PITCH NATURAL LP GAS PIPING DOWN TO THE MAIN OR LOW POINT 0.5" PER 10'. TAKE BRANCH PIPING OFF THE TOP OF MAINS. INSTALL A WATER LEG OR TRAP WITH DRAIN VALVE AT LOW POINTS AND BOTTOMS OF RISERS.

9. ISOLATE JOINTS BETWEEN DISSIMILAR METALS AND CONNECTIONS TO TANKS WITH DIELECTRIC FITTINGS

 PROVIDE ADAPTERS WHERE PIPING OF DIFFERENT MATERIALS CONNECT TOGETHER. 11. OBTAIN MANUFACTURER TRAINING CERTIFICATION PRIOR TO INSTALLATION OF SPECIALTY PIPING JOINTS, (MECHANICALLY EXPANDED JOINTS, ROLL OR CUT GROOVED JOINTS,

THERMALLY FUSED JOINTS). 12. PAINT COPPER PIPING INSTALLED UNDERGROUND OR IN CONTACT WITH CONCRETE OR CMU CONSTRUCTION WITH 2 COATS OF ASPHALTUM OR SLEEVED IN SEAMLESS POLYETHYLENE

CONTINUOUS SLEEVE. 13. INSTALL DRAINAGE PIPING, WATER PIPING AND GAS PIPING OUTSIDE THE BUILDING IN

TRENCHES SEPARATE FROM EACH OTHER. AS APPLICABLE TO THE BUILDING AND SITE PLUMBING WORK, EXCAVATION, SHORING, BRACING, BACKFILLING, AND COMPACTION SHALL CONFORM TO DIVISION 22, 23 AND 31,

EARTHWORK, EXCEPT AS SUPERSEDED HEREIN. AT MINIMUM EXCAVATIONS SHALL COMPLY WITH OSHA 29 CFR 1926.651AND 29 CFR 1926.652 OR WHERE APPLICABLE, AN OSHA APPROVED STATE PLAN.

16. CONNECT UNDERGROUND PIPING TO THE EXTERIOR SERVICE LINES, OR CAPPED OR PLUGGED IF THE EXTERIOR SERVICE IS NOT IN PLACE.

17. BLOCK DUCTILE IRON WATER PIPE WITH CONCRETE POURED IN CONTACT WITH UNDISTURBED EARTH. PROVIDE TIE RODS FOR OUTSIDE JOINTS. 18. INSTALL PIPING BELOW THE LEVEL OF FOOTINGS 12" HORIZONTALLY FROM THE FOOTING FOR

EACH 12" OF DEPTH BELOW THE FOOTING. BURIED PIPING SHALL BE PROTECTED AGAINST FROST, CORROSION, AND PHYSICAL DAMAGE. 20. INSTALL PIPING TO PERMIT FREE EXPANSION AND CONTRACTION, AS CONTROLLED BY PIPE ANCHORS, WITHOUT DAMAGE TO JOINTS, HANGERS, OR THE BUILDING. ARRANGE PIPING TO MINIMIZE STRESSES CAUSED BY EXPANSION AND CONTRACTION.

21. GROUP EXPOSED PIPE TOGETHER AND ARRANGE CONTROL VALVES AT FIXTURES FOR EASE OF OPERATION. 22. INSTALL PIPING SO AS TO PRESERVE ACCESS TO VALVES AND EQUIPMENT AND TO PROVIDE

THE MAXIMUM HEADROOM POSSIBLE. 23. PROVIDE LINE SIZE DIRT POCKETS IN GAS PIPING, MINIMUM 6" LONG. TERMINATE WITH THREADED CAP OR FLANGE.

24. MECHANICAL COUPLINGS ON DRAINAGE PIPING: DURING THE TORQUE PROCESS, IF ANY ONE

BAND OF THE COUPLING BREAKS, REPLACE THE ENTIRE COUPLING. 25. IN BLACK STEEL PIPING, BRANCHES TWO OR MORE PIPE SIZES LESS THAN THE MAIN MAY BE

USED USING FORGED STEEL BRANCH CONNECTIONS, WELDS AND THREADS. 26. PROVIDE UNIONS IN EACH PIPING CONNECTION TO EACH PIECE OF EQUIPMENT WHERE EQUIPMENT MAY BE REMOVED. UNIONS ARE NOT REQUIRED IF FLANGES OR ROLL-GROOVED

MECHANICAL JOINT COUPLINGS ARE PROVIDED.

27. CAST IRON DRAIN AND VENT PIPING: INSTALL HUB AND SPIGOT PIPING WITH HUBS UPSTREAM. 28. EXTEND VENT PIPING MINIMUM 12" ABOVE THE ROOF.

29. BLACK STEEL COMPRESSED AIR PIPING 1.5" AND LARGER MAY BE WELDED IN LIEU OF USING THREADED FITTINGS. 30. PIPING TO FIXTURES AND EQUIPMENT SHALL BE BRACED SO THAT THERE IS NO HORIZONTAL OR VERTICAL MOVEMENT IN THE PIPING.

 PIPING AND PIPING JOINTS SHALL BE LEAK FREE. 32. TEST SOIL, WASTE, AND VENT, AND RAINWATER, AND FOOD SERVICE WASTE AND VENT SYSTEMS PIPING AS SPECIFIED IN DIVISION 22 AND 23. WHERE A SYSTEM IS TESTED IN SECTIONS, EACH SECTION SHALL BE SUBJECTED TO THE SAME TEST.

33. PRESSURE TEST WATER SYSTEMS AS SPECIFIED DIVISION 22 AND 23. DISCONNECT THE PUMP SOURCE PRIOR TO AND DURING TESTING. WHERE A SYSTEM IS TESTED IN SECTIONS, EACH SECTION SHALL BE SUBJECTED TO THE SAME TEST.

34. TEST NATURAL GAS SYSTEM PIPING BY CAPPING OPENINGS AND APPLYING AN AIR PRESSURE OF 100 PSIG FOR 2 HOURS WITHOUT ANY LEAKS. DISCONNECT THE AIR SOURCE PRIOR TO AND DURING TESTING. WHERE THE SYSTEM IS TESTED IN SECTIONS, EACH SECTION SHALL BE SUBJECTED TO THE SAME TEST.

PLUMBING VIBRATION AND SEISMIC CONTROL NOTES

 PROVIDE VIBRATION ISOLATORS FOR THE FOLLOWING SYSTEMS AND SOURCE EQUIPMENT: COMPRESSED AIR AND AIR COMPRESSORS, AND VACUUM AND VACUUM PUMPS, AND DOMESTIC WATER AND WATER BOOSTER PUMPS, AND SUSPENDED DRINKING WATER

2. SELECT AND LOCATE VIBRATION ISOLATORS FOR UNIFORM LOADING AND DEFLECTION. ACCORDING TO WEIGHT DISTRIBUTION OF PIPING AND EQUIPMENT

3. THERE SHALL BE NO DIRECT CONTACT OF ISOLATED PIPING AND EQUIPMENT WITH WALLS, FLOORS, STRUCTURAL COMPONENTS, OR ANY OTHER NON-ISOLATED ITEM.

4. VIBRATION ISOLATORS SHALL NOT CAUSE ANY CHANGE IN POSITION OF PIPING AND EQUIPMENT, THUS RESULTING IN STRESSES OR MISALIGNMENTS. 5. ISOLATED MOUNTING SYSTEMS FOR EQUIPMENT SHALL PERMIT EQUIPMENT MOTION IN ALL

DIRECTIONS. 6. INERTIA BASES SHALL BE ARRANGED WITH SPRING ISOLATOR LOCATIONS SUCH THAT A HORIZONTAL PLANE PASSING THROUGH THE TOP OF THE ISOLATORS WILL PASS THROUGH OR ABOVE THE CENTER OF GRAVITY OF THE EQUIPMENT AND BASE. THERE SHALL BE A MINIMUM OPERATING CLEARANCE OF 2" BETWEEN THE INERTIA BASE BOTTOM AND THE FLOOR.

7. CLEAN ALL FOREIGN MATTER FROM BETWEEN INERTIA BASES AND BUILDING FLOOR, BETWEEN EQUIPMENT BOTTOM AND TOP OF INERTIA BASE, AND BETWEEN ISOLATOR SPRINGS, AND EQUIPMENT BOTTOM AND TOP OF FLOOR.

 CLEAN ISOLATOR SPRINGS AND ENSURE THEY ARE STRAIGHT AND VERTICAL. FOR PIPE STAND SUPPORTS AT SOURCE EQUIPMENT, INSTALL A TYPE NS (NEOPRENE SANDWICH PAD) ISOLATOR BETWEEN STAND BASE AND FLOOR.

10. VERIFY THAT TYPE DN (DOUBLE DEFLECTION NEOPRENE) ISOLATORS ARE BOLTED TO THE 11. PROVIDE NEOPRENE BUSHINGS AND WASHERS WHEN BOLTING FLOOR MOUNTED ISOLATORS

TO THE FLOOR OR STRUCTURE. VERIFY THAT FREE STANDING SPRING ISOLATORS ARE ADJUSTED, WITH SPRINGS PERPENDICULAR TO EQUIPMENT BASES, AND ADJUSTMENT BOLTS ARE TIGHTENED ON EQUIPMENT MOUNTINGS.

13. ISOLATORS SHALL NOT INCORPORATE A LEVELING BOLT OF GREATER LENGTH THAN THAT SUPPLIED FROM THE MANUFACTURER. 14. EXTENT OF HANGER MOUNTED ISOLATORS FOR COMPRESSED AIR, VACUUM, AND DOMESTIC

WATER PIPING FROM THE SOURCE OUTLET SHALL BE 50 FT DISTANCE FROM EQUIPMENT FOR 4" AND SMALLER PIPE AND 60 FT FOR 6" AND LARGER PIPE. THE FIRST 3 HANGERS FROM THE SOURCE EQUIPMENT SHALL BE TYPE PSH (PRE-COMPRESSED SPRING HANGER) AND HAVE THE SAME MINIMUM STATIC DEFLECTION AS THE SOURCE EQUIPMENT ISOLATORS UP TO A MAXIMUM OF 2". THE REMAINING ISOLATOR

HANGERS SHALL BE TYPE SH (SPRING HANGER) AND HAVE A MINIMUM 1" STATIC DEFLECTION. 16. INSTALL WITH HOUSINGS AS CLOSE TO THE STRUCTURE FRAME AS POSSIBLE 17. WHERE HANGER MOUNTED ISOLATORS WILL BE CONCEALED BY NON-ACCESSIBLE CEILINGS. INSTALL THE HANGERS IMMEDIATELY BELOW THE CEILINGS FOR ACCESS AND MAINTENANCE

DEFLECTION MAY BE SUPPORTED ON A COMMON TRAPEZE SUPPORT THAT IS ISOLATED WITH THE SAME TYPE OF ISOLATORS. 19. VERTICAL PIPING RUNNING BETWEEN FLOORS AND LOCATED WITHIN THE MAXIMUM DISTANCE AS SCHEDULED, SHALL USE AN EXTENDED RISER CLAMP SUPPORTED BY 2 TYPE FS (FREE-

DIFFERENT PIPING REQUIRING THE SAME TYPE OF ISOLATOR WITH THE SAME MINIMUM STATIC

STANDING SPRING) ISOLATORS HAVING A MINIMUM 1" STATIC DEFLECTION 20. WHERE THE DISTANCE FROM THE SOURCE EQUIPMENT TO THE SUPPLY OR DISCHARGE PIPE IS LESS THAN 5 TIMES THE HOSE DIAMETER, PROVIDE A FLEXIBLE METAL HOSE WITH LENGTH

TO PRODUCE AT LEAST ONE 360 LOOP BETWEEN CONNECTIONS. 21. RESTRAINTS SHALL BE INSTALLED AFTER THE EQUIPMENT IS MOUNTED, PIPED, CONNECTED, AND OPERATING TO ENSURE THAT NO CONTACT OCCURS DURING NORMAL EQUIPMENT

OPERATION. 22. INSTALLATION OF SEISMIC RESTRAINTS SHALL NOT CAUSE ANY CHANGE OF POSITION OF EQUIPMENT OR COMPONENTS RESULTING IN STRESS AND MISALIGNMENT.

23. NO RIGID CONNECTIONS BETWEEN EQUIPMENT OR COMPONENTS AND THE BUILDING STRUCTURE SHALL BE MADE THAT DEGRADE THE VIBRATION ISOLATED SYSTEM SPECIFIED

24. EQUIPMENT THAT IS INTERNALLY VIBRATION ISOLATED AND RESTRAINED SHALL HAVE ITS ENTIRE UNIT ASSEMBLY SEISMICALLY ATTACHED TO THE STRUCTURE. 25. DO NOT BRACE A SYSTEM TO TWO DIFFERENT STRUCTURES, SUCH AS A WALL AND A CEILING. 26. AFTER INSTALLATION, VIBRATION ISOLATOR AND SEISMIC RESTRAINTS MANUFACTURER SHALL

VERIFY THAT ISOLATOR AND RESTRAINTS ARE INSTALLED AND OPERATING PROPERLY AND

PLUMBING INSULATION NOTES INSULATE PIPING AS SPECIFIED IN SECTIONS OF DIVISION 22 AND 23. 2. WHERE EXISTING INSULATION IS DAMAGED DUE TO THE NEW WORK, REPAIR DAMAGE TO

MATCH EXISTING WORK OR REPLACE DAMAGED PORTION WITH INSULATION SPECIFIED FOR NEW WORK. 3. INSULATE UNIT-MOUNTED MEDICAL VACUUM PUMP AND AIR COMPRESSOR CHILLED WATER

PIPING AND SURFACES SUBJECT TO SWEATING WITH FLEXIBLE ELASTOMERIC TAPE. 4. INSTALL INSULATION AFTER PIPING HAS BEEN TESTED AND APPROVED. PROTECT INTERIOR FIBERGLASS PIPING INSULATION EXPOSED TO DAMAGE WITH A

SHALL SUBMIT A CERTIFICATE SO STATING.

CORRUGATED ALUMINUM JACKET. 6. PROTECT INTERIOR SITE INSULATED TANKS WITH A CORRUGATED ALUMINUM JACKETS.

7. PROTECT EXTERIOR PIPING INSULATION, EXCEPT FLEXIBLE ELASTOMERIC, WITH A CORRUGATED ALUMINUM JACKET. 8. PROTECT EXTERIOR FLEXIBLE ELASTOMERIC INSULATION WITH A UV RESISTANT WHITE

ACRYLIC LATEX COATING. PLUMBING FIXTURES NOTES

SET FIXTURES LEVEL AND IN ALIGNMENT WITH WALLS.

2. CAULK BETWEEN FIXTURES AND MOUNTING SURFACES WITH A WHITE NON-HARDENING MILDEW-RESISTANT SILICONE SEALANT.

3. WRIST BLADE HANDLES ON FAUCET FITTINGS SHALL BE ALIGNED PERPENDICULAR TO THE SPOUT WHEN IN THE OFF POSITION.

4. SET P-TRAPS TRUE AND LEVEL. TIGHTEN AND SECURE ALL JOINTS. 5. LOCATE TRANSFORMERS FOR HARD-WIRED SENSOR FLUSH VALVES AND FAUCETS AS INDICATED ON THE DRAWINGS.

7. INSTALL FIXTURES AND TRIM IN ACCORDANCE WITH THE MANUFACTURER'S INSTRUCTIONS AND RECOMMENDATIONS. 8. FOR SINKS AND LAVATORIES INSTALLED IN COUNTER, COORDINATE WITH COUNTERTOP

SUPPLIER FOR SIZE OF OPENING. 9. FOR UNDER-MOUNT SINKS AND LAVATORIES. COORDINATE WITH COUNTERTOP SUPPLIER FOR BASIN OPENING.

6. COORDINATE FAUCET HOLE PUNCH WITH SINK OR MILLWORK.

10. PROVIDE ROUGH-IN FOR PLUMBING RELATED FIXTURES. 11. FOR EXPOSED DRAINAGE PIPING THAT IS NOT CHROMIUM-PLATED, PRIME AND PAINT SILVER. 12. FOR EQUIPMENT PRESSURE PIPING, ROUGH-IN EACH UTILITY AT 6" FROM WALL OR 6" ABOVE FLOOR, UNLESS OTHERWISE INDICATED ON THE DRAWINGS OR REQUIRED DIFFERENTLY BY THE EQUIPMENT MANUFACTURER, WITH A VALVE AND CAP.

13. PROVIDE VACUUM BREAKERS FOR EQUIPMENT CONNECTIONS REQUIRING WATER, AND NOT HAVING BUILT-IN BACKFLOW PREVENTION. 14. PROVIDE INDIRECT DRAINS WITH WASTE CONNECTIONS AND EXTEND OVER THE APPROPRIATE FLOOR SINK AND TURN DOWN WITH AN INDIRECT CONNECTION.

16. OPEN AND CLEAN ALL FAUCET AERATORS/STRAINERS, AND FLUSH VALVE DIAPHRAGMS/PISTONS OF START-UP FILM AND CONSTRUCTION DEBRIS.

DRAINAGE SYSTEMS NOTES

WHERE EXTRA HEAVY-DUTY COUPLINGS ARE REQUIRED FOR UNDERGROUND CONNECTIONS

COAT THE STAINLESS-STEEL BOLTS WITH ASPHALTIC PAINT SEALER. 2. CONCRETE PIPE BURIED UNDER DRIVEWAYS OR PARKING AREAS SHALL BE CLASS IV V AND

HAVE NOT LESS THAN 3' OF COVER. PROVIDE P-TRAPS IN RAINWATER PIPING CONNECTING TO COMBINATION SEWERS.

4. PROPERLY LOCATE AND INSTALL CLEANOUTS SO THAT THEY ARE ACCESSIBLE AND IN

COMPLIANCE WITH CODES. . SET TRAPS TRUE AND LEVEL

6. DRAINS SHALL NOT BE FIELD MODIFIED, EXCEPT GRATES MAY BE MODIFIED WHERE REQUIRED FOR ABOVE FLOOR INDIRECT DRAINAGE PIPING. . WHERE WATERPROOF LINERS ARE USED WITH THE BUILDING CONSTRUCTION, SECURE TO

THE PLUMBING DRAIN BODY WITH THE CLAMPING RING, MAKING A WATERTIGHT CONNECTION. PROVIDE TRAP SEAL PROTECTION FOR EACH DRAIN, EXCEPT SHOWER DRAINS.

9. OMIT GRATES OF DRAINS RECEIVING PIPED DISCHARGE FROM MECHANICAL EQUIPMENT SO PIPES CAN TURN DOWN INTO BASKET, UNLESS PROVIDED OTHERWISE. 10. SET SQUARE DRAINAGE GRATES WITH SIDES PARALLEL TO THE ADJACENT WALLS.

 INSTALL DRAINS AND MANUFACTURED TRENCH DRAINAGE SYSTEM IN ACCORDANCE WITH THE MANUFACTURER'S INSTRUCTIONS.

12. INSTALL SUMP AND SEWAGE PUMPS AND RELATED EQUIPMENT AND RAIL SYSTEMS PER THE MANUFACTURER'S RECOMMENDATIONS. 13. SUMP AND SEWAGE PUMPS SHALL NOT BE USED FOR DEWATERING. IF PUMPS ARE USED IN AN

EMERGENCY, REPLACE WITH NEW UNITS. 14. INSTALL GREASE INTERCEPTORS PER MANUFACTURER'S RECOMMENDATIONS, AS INDICATED ON THE DRAWINGS, MEETING ACCESS REQUIREMENTS FOR SERVICING AND REMOVAL OF GREASE, AND IN ACCORDANCE WITH MUNICIPALITY REQUIREMENTS.

15. INSTALL GREASE LEVEL DETECTOR PROBE ASSEMBLY IN THE CENTER OF ROUND GREASE

16. FOR BACKWATER VALVES: PROVIDE PROPERLY SIZED AND INSTALLED CONCRETE PADS AND BOXES WITH ALUMINUM ACCESS PANELS TO ALLOW ACCESS FOR CLEANING AND MAINTENANCE TO BACKWATER VALVES.

17. COORDINATE THE SIZE OF ARCHITECTURAL DOWNSPOUTS WITH SIZE OF DOWNSPOUT BOOT'S TOP CONNECTION. 18. INSTALLER SHALL ENSURE PROPER VENT PIPING AND PIPING THROUGH ROOFS PENETRATION

INSTALLATION FOR PLASTIC MEMBRANE AND BUILT-UP ASPHALTIC ROOFS, AND METAL DECK

CONSTRUCTION. 20. ENSURE A SMOOTH AND NON-OBSTRUCTED FLOW OF LIQUID FOR EVERY DRAINAGE PIPE FREE FROM CONSTRUCTION OR NATURAL SEDIMENT DEBRIS THAT MAY HAVE ENTERED DURING CONSTRUCTION.

METHODS AND PROCEDURES FOR FLAT ROOFS AND SLOPING SHINGLE ROOFS.

19. INSTALLER SHALL PERFORM PROPER METHODS AND PROCEDURES OF ROOF DRAIN

WATER SYSTEMS NOTES

ROLL-GROOVED COUPLINGS, FITTINGS, VALVES, AND SPECIALTIES SHALL BE THE PRODUCTS

OF A SINGLE MANUFACTURER AND STAMPED FOR QUALITY ASSURANCE AND TRACEABILITY. 2. FOR FUSION-POLYPROPYLENE PIPING SYSTEMS, FIRE WRAP FOR INSTALLATION IN RETURN AIR PLENUMS: INSTALL IN ACCORDANCE WITH THE MANUFACTURER'S INSTRUCTIONS.

3. BALL JOINTS SHALL BE INSTALLED IN ACCORDANCE WITH MANUFACTURER'S

ACCESSIBLE FOR COMPLETELY OPENING AND CLOSING OF THE VALVES.

4. PROVIDE AN ISOLATION VALVE IN THE COLD WATER SERVICE LINE NEAR THE POINT OF ENTRANCE INTO THE BUILDING, ON THE BUILDING SIDE AND NEAR THE GATE VALVE, INSTALL A DRAIN LEG WITH 0.75" HOSE BIB.

5. PROVIDE A VALVE IN EACH WATER SUPPLY CONNECTION TO HOSE BIBS, WALL HYDRANTS AND WATER USING EQUIPMENT. 6. INSTALL VALVES IN CLEAR LOCATIONS SO THAT HANDLES AND HAND WHEELS ARE EASILY

INSTALL UNDERGROUND VALVES ON A POURED IN-PLACE 16" X 16" X 4" CONCRETE BASE PAD. 8. FOR UNDERGROUND VALVES INSTALL VALVE BOXES, WITH COVERS FLUSH WITH FINISHED GRADE, EXCEPT IN GRASSED AREAS, INSTALL TOP OF BOX AT 1" ABOVE FINISHED GRADE AND ENCASED IN AN 18" X 18" X 6" POURED IN-PLACE CONCRETE PAD. INSTALL BOXES WHERE NO TRAFFIC WEIGHT IS TRANSFERRED FROM GRADE THROUGH THE VALVE BOX TO THE VALVE. FURNISH 1 TEE HANDLE WRENCH LONG ENOUGH TO TURN VALVE PLUS 30" ABOVE FINISHED

PROVIDE GLOBE VALVES IN EACH WATER SUPPLY CONNECTION TO SINKS, WATER COOLERS,

FURNISHED WITH FIXTURES. 10. INSTALL STRAINER VALVE UPSTREAM OF AUTOMATIC FLOW BALANCING VALVE. 11. INSTALL IN THE INLET TO EACH PUMP, PRESSURE REDUCING VALVE, FLOW CONTROL VALVE, THERMOSTATIC MIXING VALVE, BACKFLOW PREVENTER, AND AS INDICATED ON THE

AND ANY FIXTURE PROVIDED BY OTHERS, EXCEPT WHERE GLOBE TYPE STOP VALVES ARE

DRAWINGS OR SPECIFIED HEREIN. 12. INSTALL WALL HYDRANTS 18" ABOVE FINISHED GRADE, EXCEPT WHERE BUILDING CONDITIONS AND/OR GRADE PREVENTS THE INSTALLATION. MODIFY INSTALLATION HEIGHT AS REQUIRED, UP TO 36" ABOVE FINISHED GRADE, WHERE 18" WILL NOT WORK.

FINISHED GRADE AND ENCASE IN AN 18" X 18" X 6" POURED CONCRETE PAD. IN HARDSCAPES, INSTALL TOP OF BOX FLUSH WITH TOP OF FINISHED SURFACE. 14. ENSURE THAT ROOF HYDRANTS WILL WINTERIZE AND PROVIDE MANUFACTURER'S

WINTERIZING INFORMATION TO OWNER. 15. DRAIN LINE FROM EACH BACKFLOW PREVENTER SHALL BE DWV COPPER RUN FULL SIZE TO

13. IN GRASSED AREAS, FOR BOX TYPE YARD HYDRANTS, INSTALL TOP OF BOX AT 1" ABOVE

LEVEL OF THE DEVICE BEING SERVED. 17. INSTALL ATMOSPHERIC TYPE VACUUM BREAKER A MINIMUM OF 6" ABOVE THE OVERFLOW LEVEL OF THE DEVICE BEING SERVED.

16. INSTALL PRESSURE TYPE VACUUM BREAKERS A MINIMUM OF 12" ABOVE THE OVERFLOW

18. INSTALL VACUUM BREAKERS WHERE SPILLAGE OF WATER WILL NOT CAUSE DAMAGE TO ROOM SURFACES OR EQUIPMENT. 19. CONNECT TRAP PRIMER LINES TO THE DRAIN TAILPIECES WHERE FIELD CONDITIONS PROHIBIT CONNECTION TO THE TRAP PRIMER CONNECTIONS ON THE DRAIN BODIES

20. INSTALL TRAP PRIMERS WITH A STRAIGHT DOWNWARD SLOPE TO ALLOW DRAINAGE FROM THE TRAP PRIMER VALVE.

REQUIREMENTS, AND AS INDICATED ON THE DRAWINGS.

INSTALLATION, TEST THE CABLE.

21. INSTALL WATER HAMMER ARRESTERS IN ACCORDANCE WITH PDI WH201-2017. 22. INSTALL WATER HEATERS AND STORAGE TANKS LEVEL AND STABLE 23. SUPPORT THERMAL EXPANSION TANKS WITH HANGERS INDEPENDENTLY FROM ADJACENT PIPING OR ON THE FLOOR WHERE FLOOR BASES ARE PROVIDED.

24. CONNECT MIXING VALVES TO THE PIPING SYSTEMS PER THE MANUFACTURER'S PUBLISHED INSTALLATION RECOMMENDATIONS. 25. EMERGENCY FIXTURE WATER TEMPERING VALVES SHALL BE ACCESSIBLE TO READ THERMOMETERS AND ADJUST TEMPERATURE SETTING AS REQUIRED.

26. FOR WATER PRESSURE BOOSTER SYSTEMS, HYDRO-PNEUMATIC TANKS SHALL BE LOCATED WITHIN THE BUILDING WITH REQUIRED PROVISIONS AS INDICATED ON THE DRAWINGS. BOLT TANKS TO FOUNDATIONS. 28. INSTALL WATER METER, PIPING, VALVES, AND ACCESSORIES PER THE MANUFACTURER'S

TEST AND MAKE ADJUSTMENTS AS REQUIRED TO ALL RELATED COMPONENTS TO THE SYSTEM 30. PERFORM HOT WATER TEMPERATURE CHECKS AT EACH FIXTURE, AND VERIFY THAT THE CORRECT WATER TEMPERATURE, AS INDICATED ON THE DRAWINGS, IS FLOWING FROM EACH

31. AFTER TEMPERATURE MAINTENANCE CABLE INSTALLATION AND PRIOR TO PIPING INSULATION

29. FOLLOWING THE INSTALLATION OF THE HOT/TEMPERED WATER PIPING SYSTEMS, ENERGIZE

△ DATE DESCRIPTION

SHEET NAME:

SHEET:

P-002

05/21/23

TEST PLUMBING FIXTURES FOR SOUNDNESS, STABILITY OF SUPPORT, AND OPERATION.

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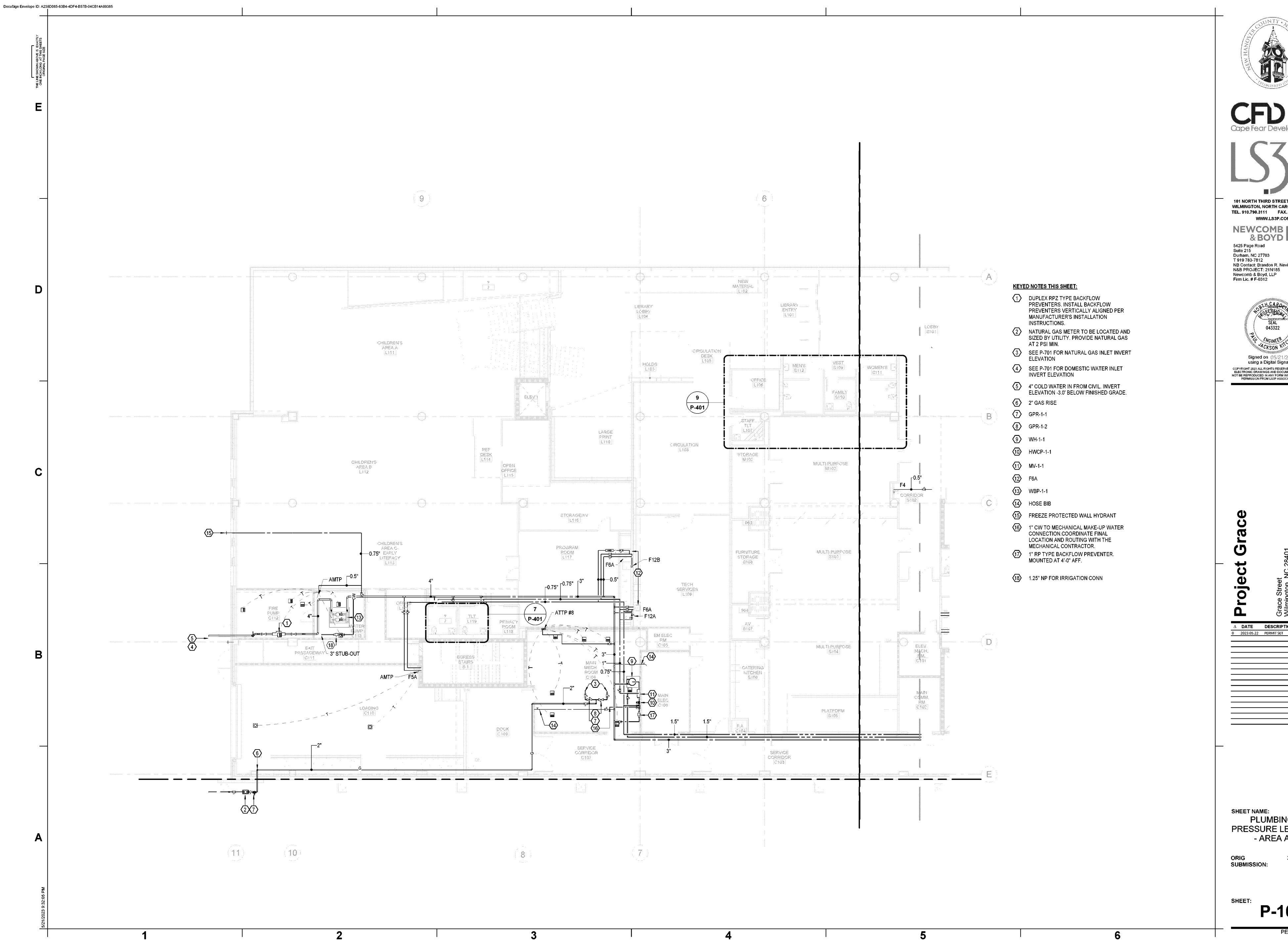
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PLUMBING GENERAL NOTES

SUBMISSION:

PERMIT SET







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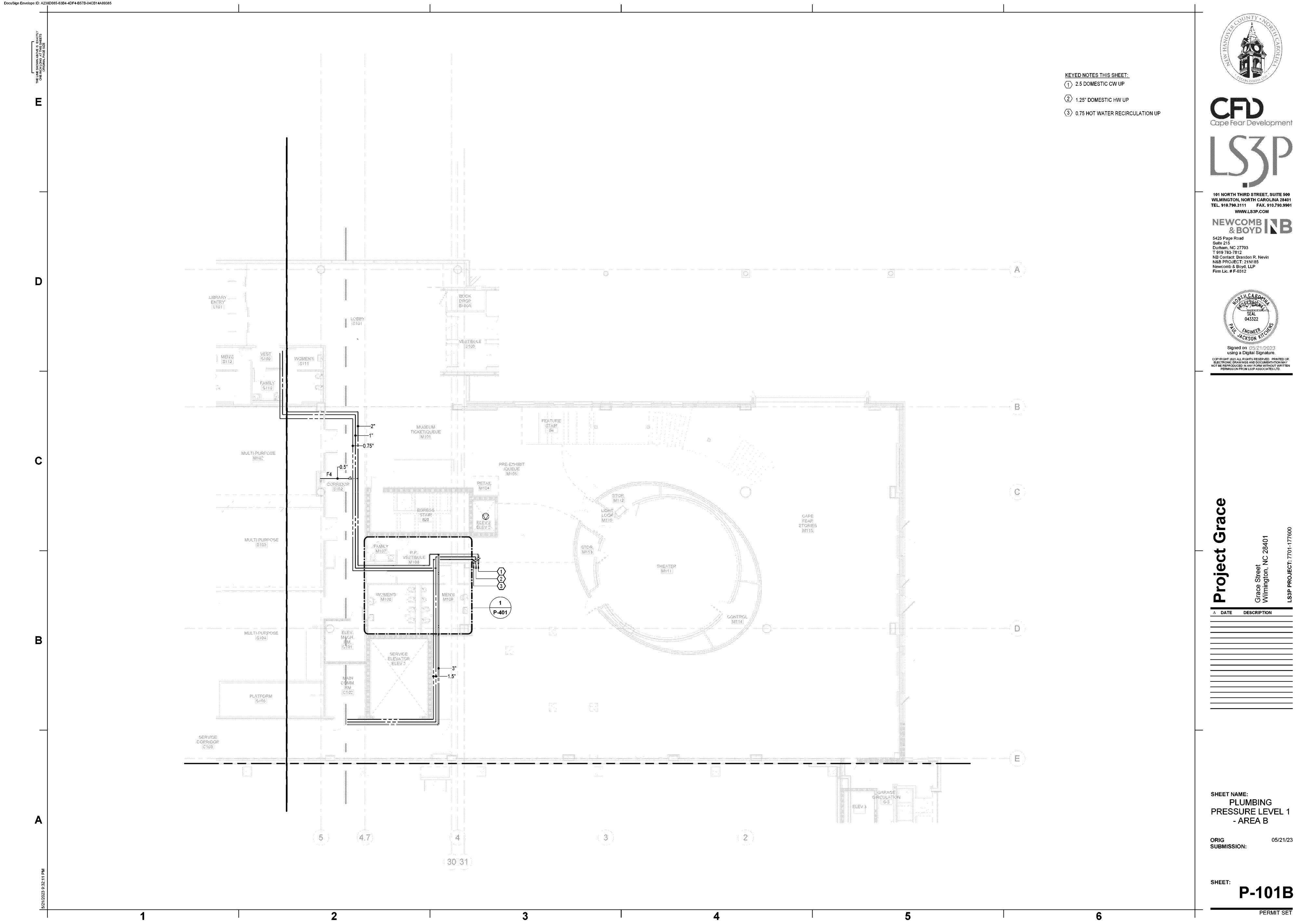


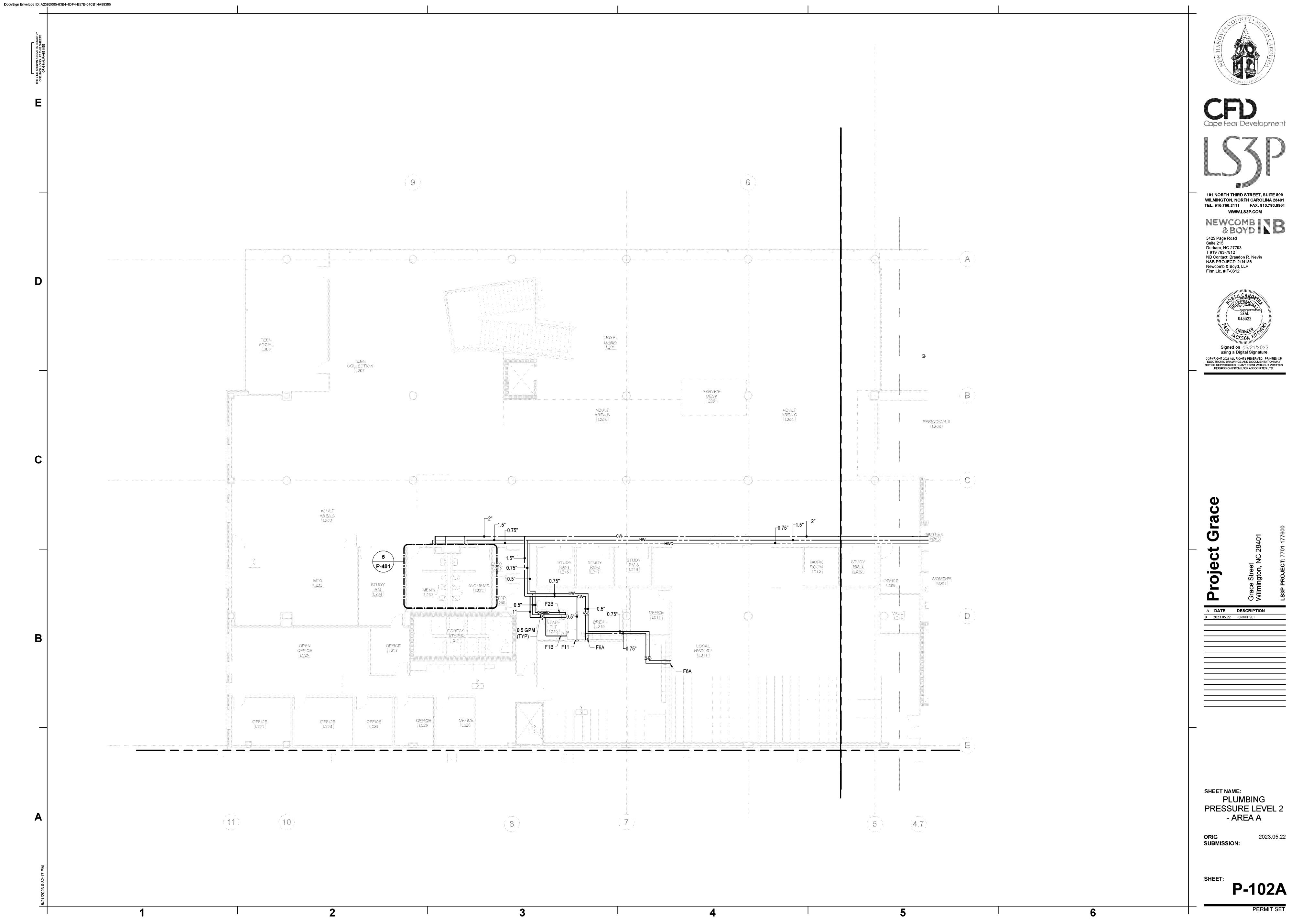
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PLUMBING PRESSURE LEVEL 1 - AREA A

2023.05.22

P-101A



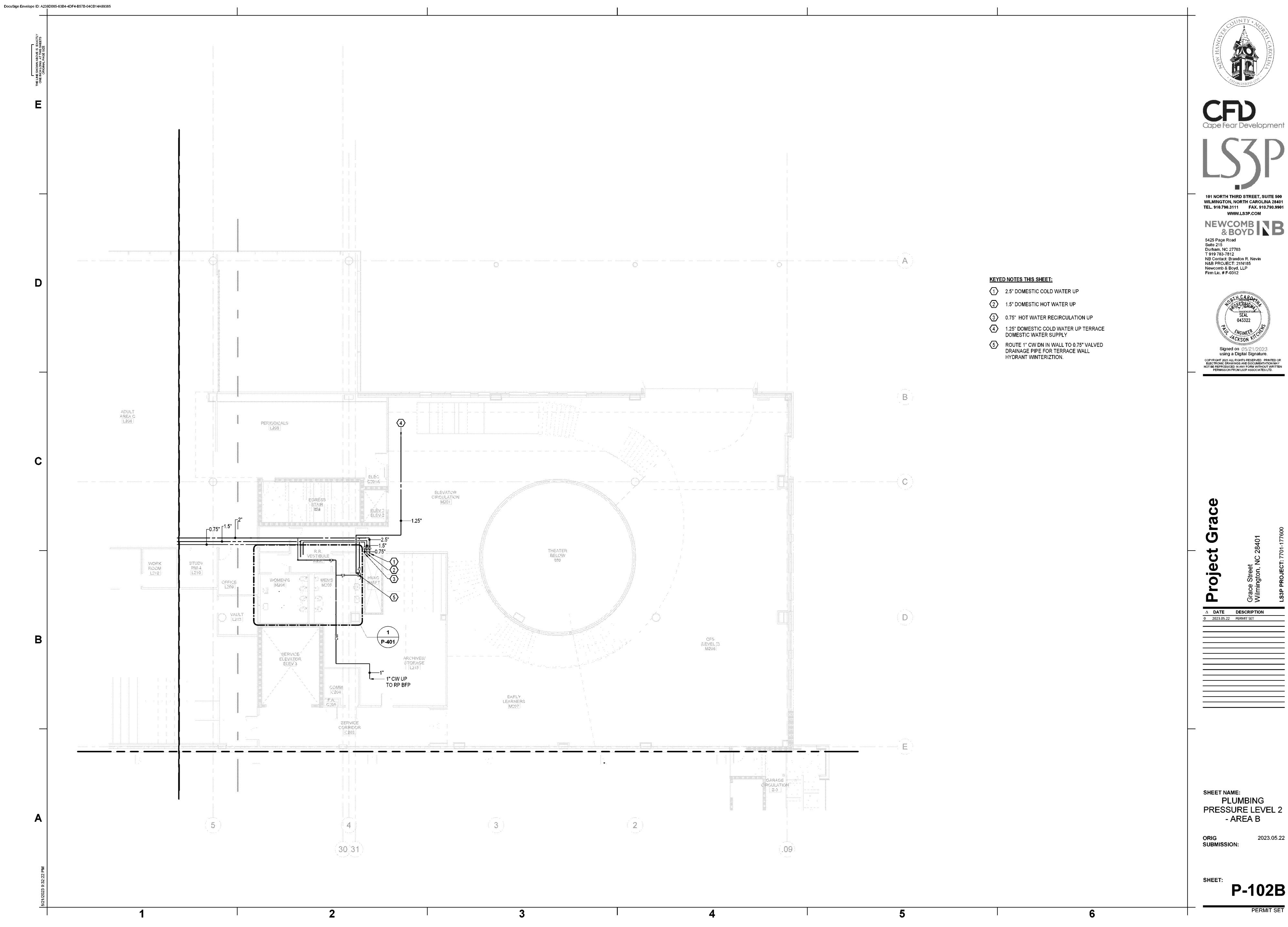




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PLUMBING PRESSURE LEVEL 2 - AREA A



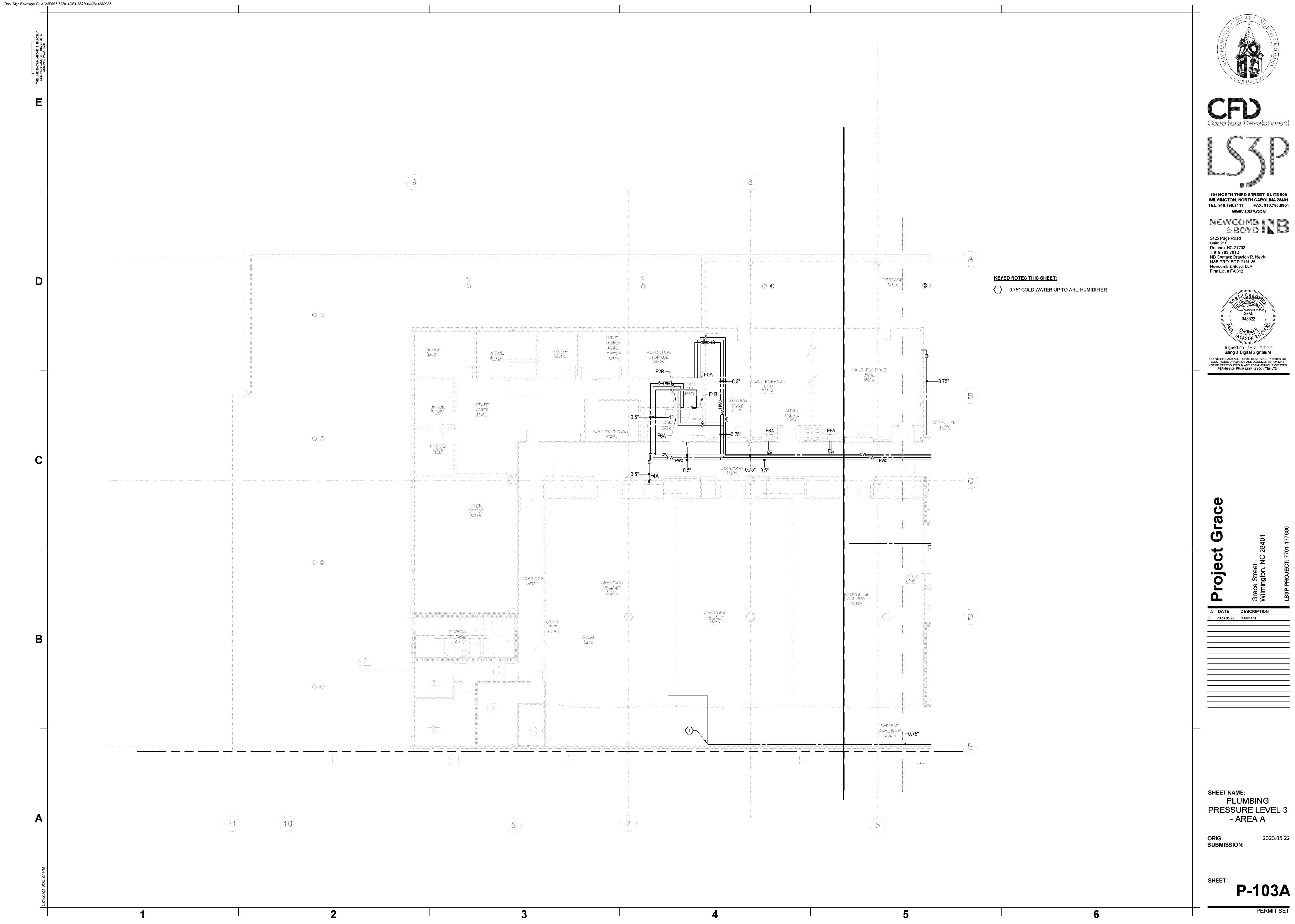


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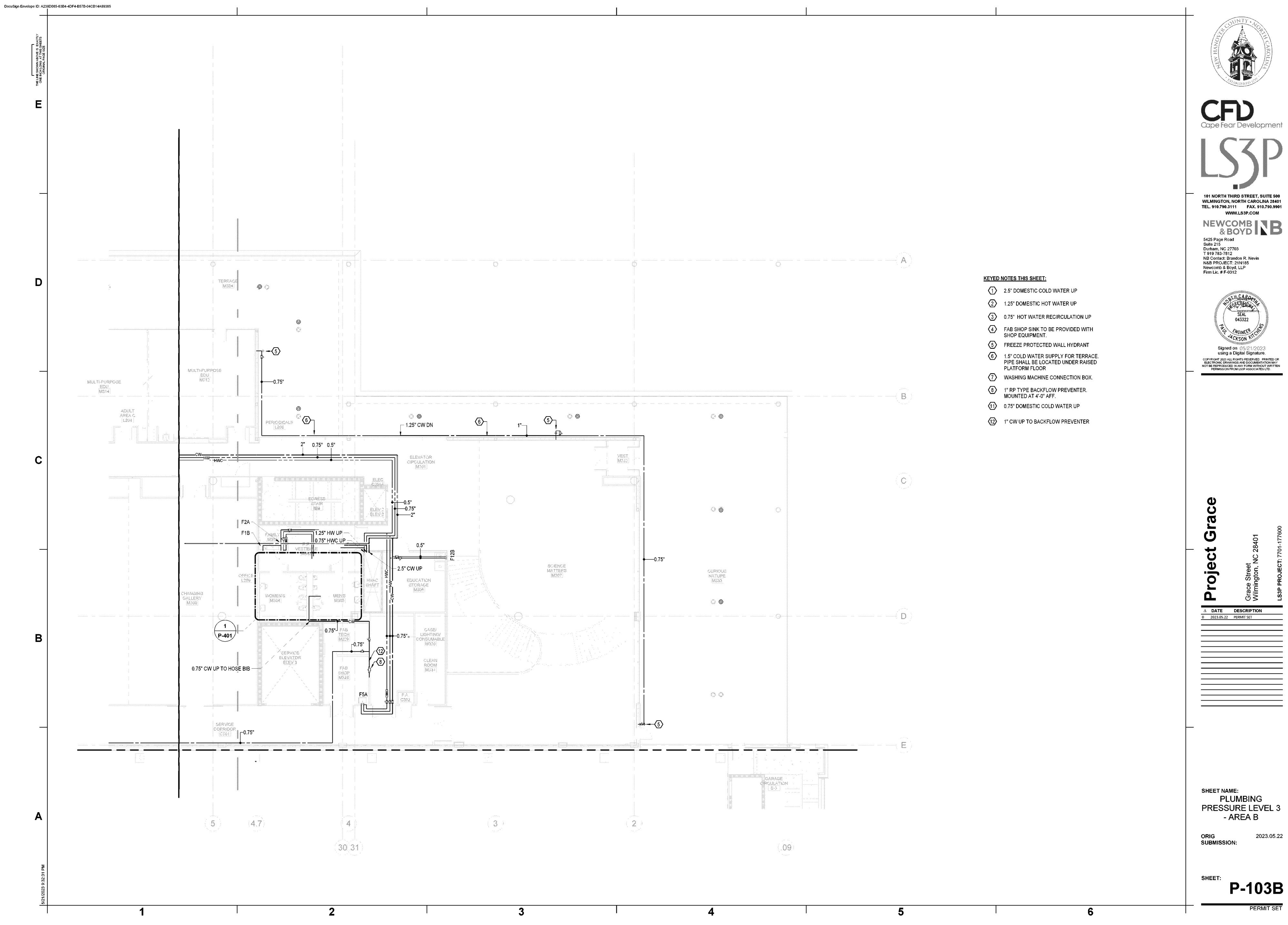




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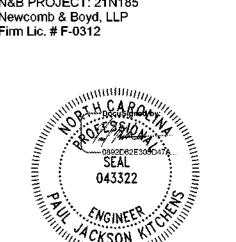
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PLUMBING PRESSURE LEVEL 3 - AREA A





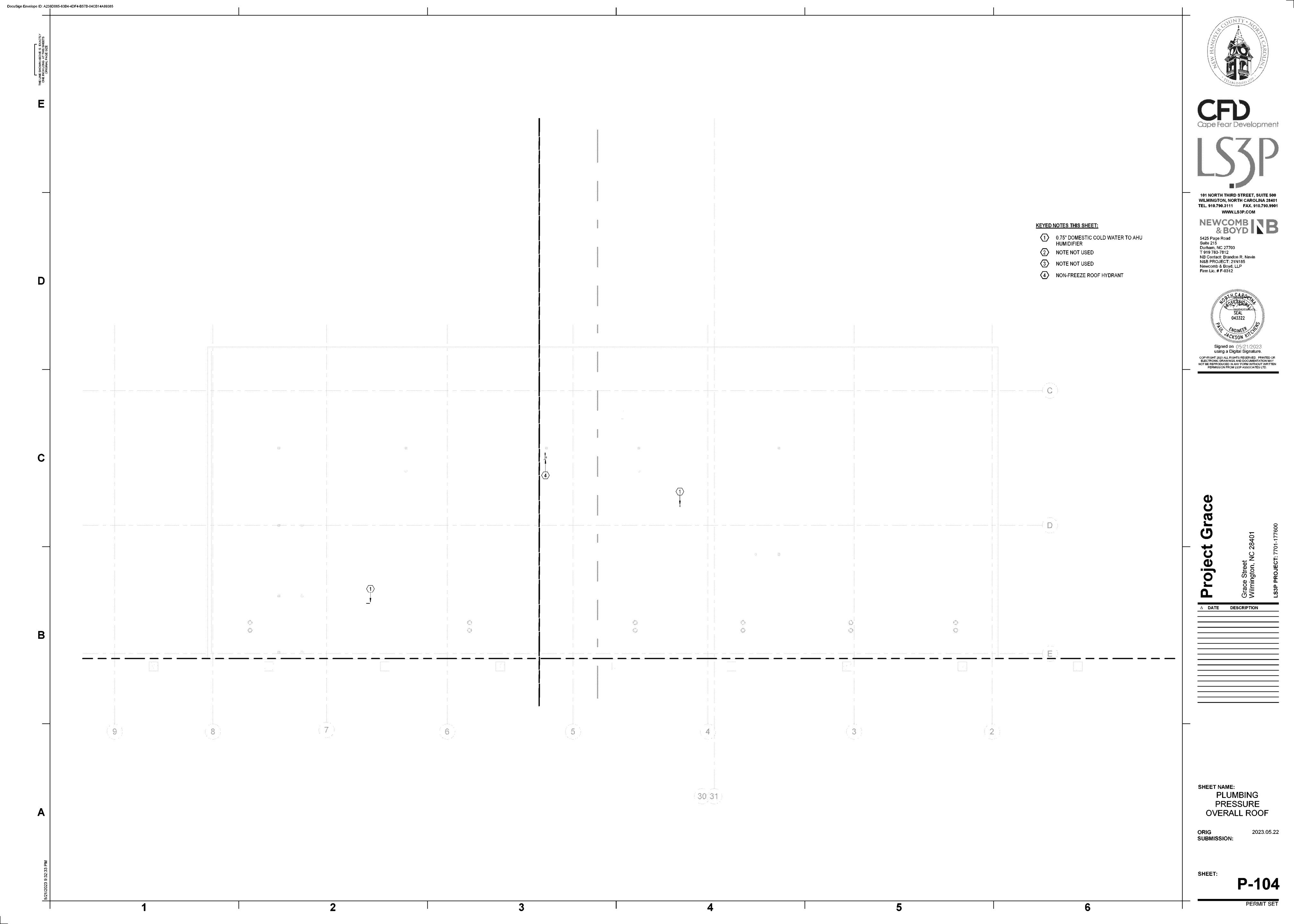


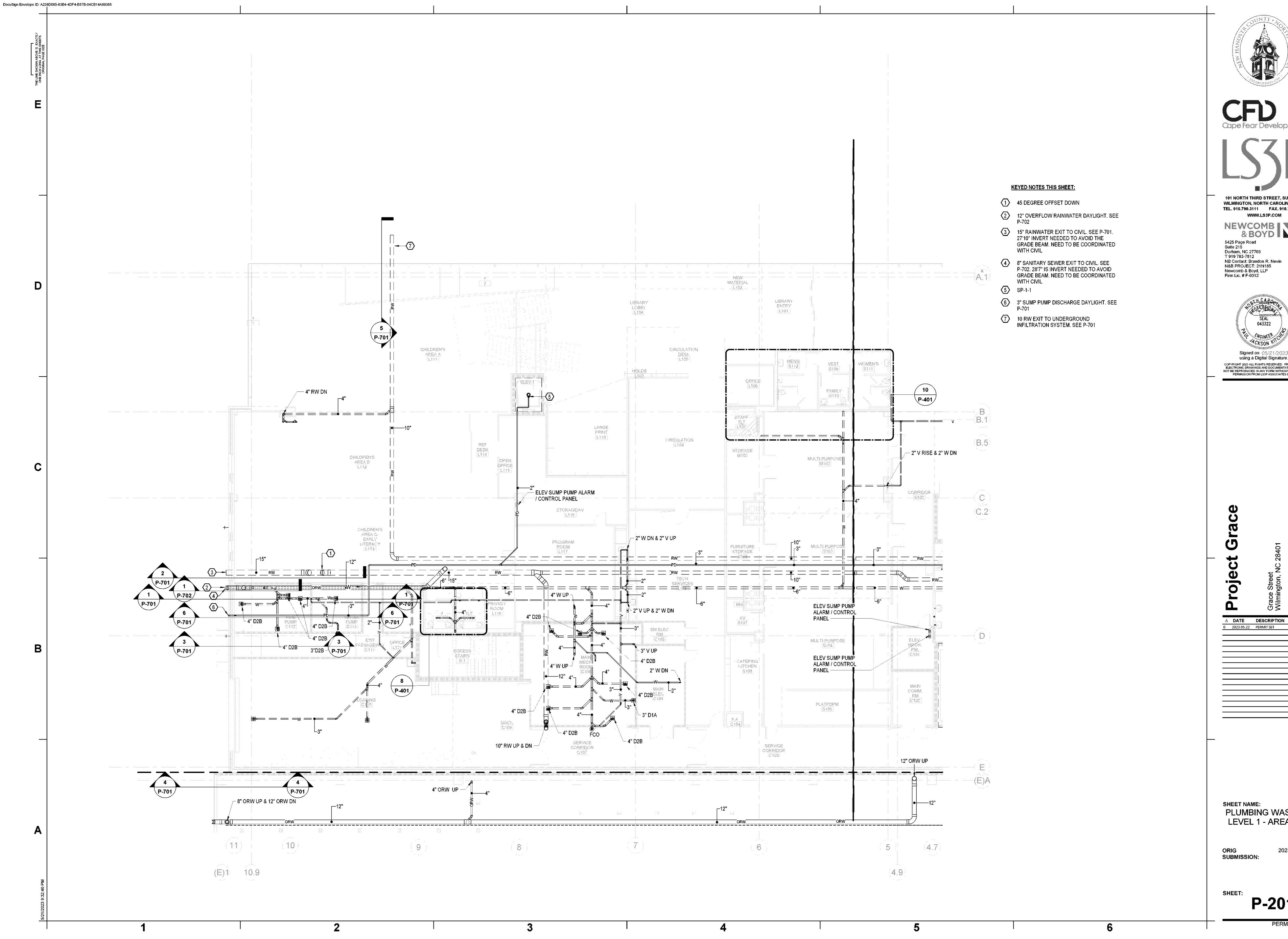
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PLUMBING PRESSURE LEVEL 3

2023.05.22







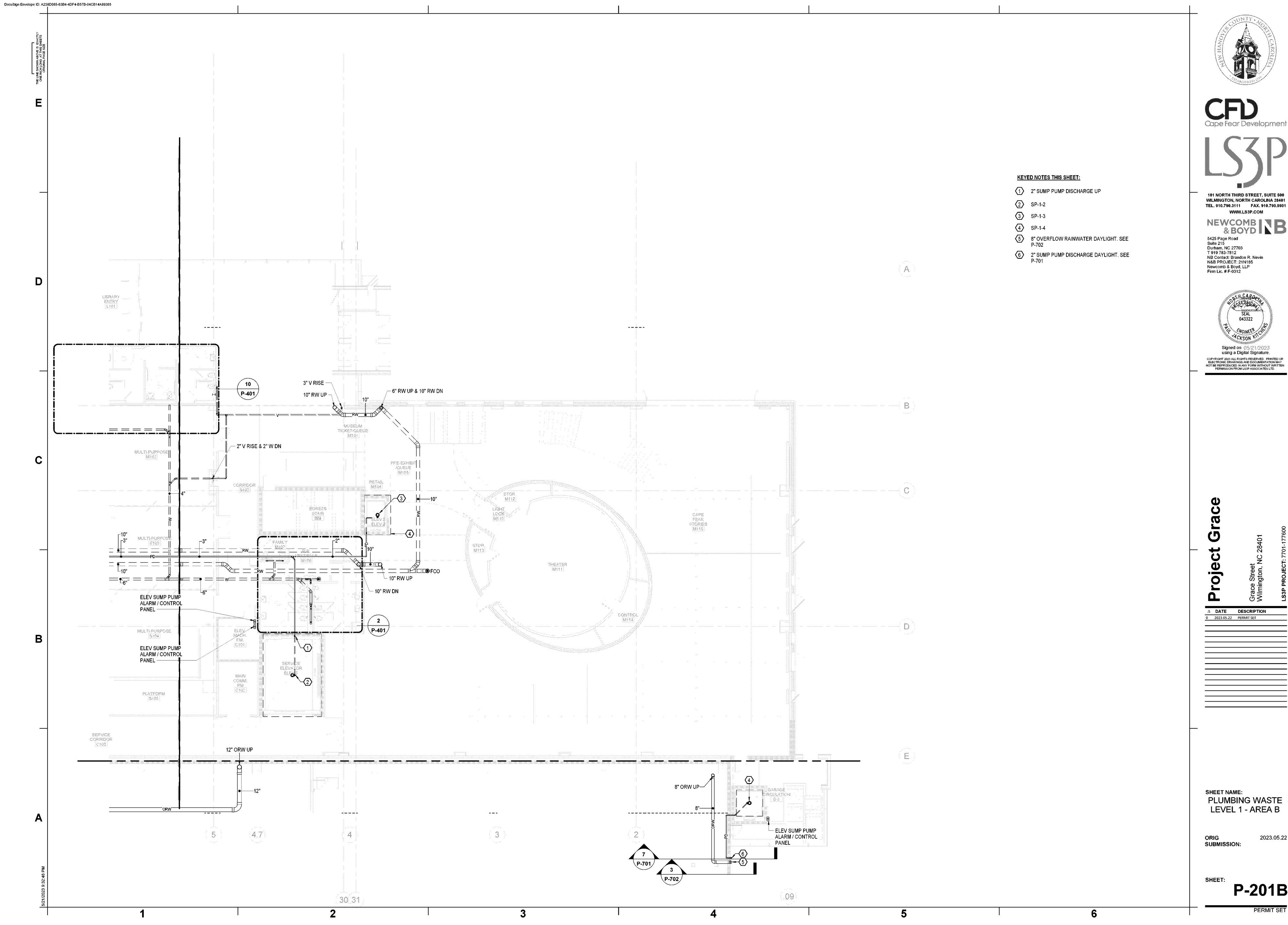


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PLUMBING WASTE LEVEL 1 - AREA A

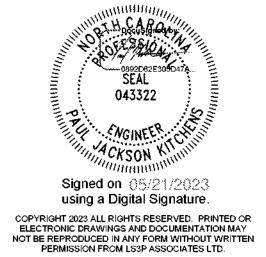






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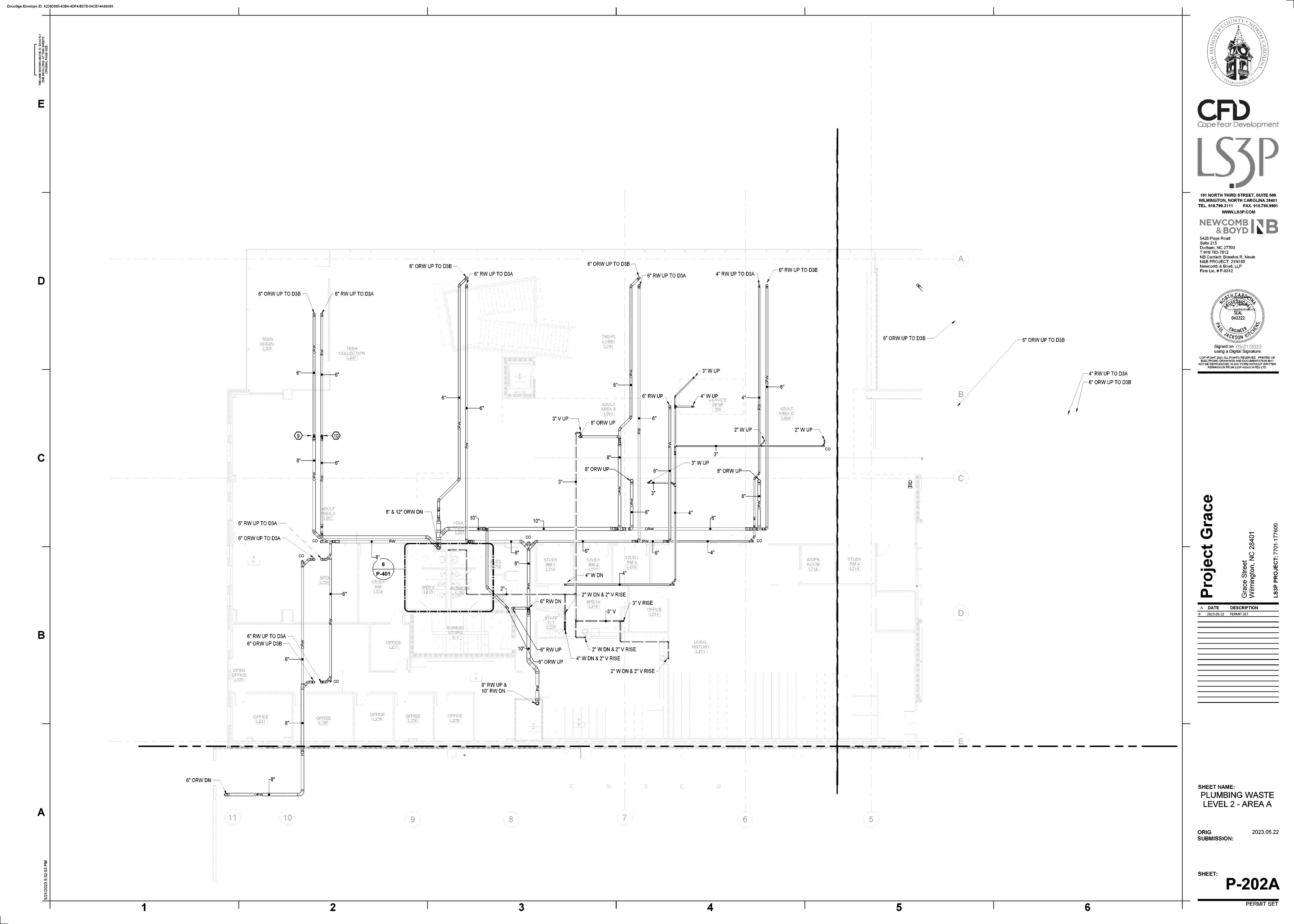
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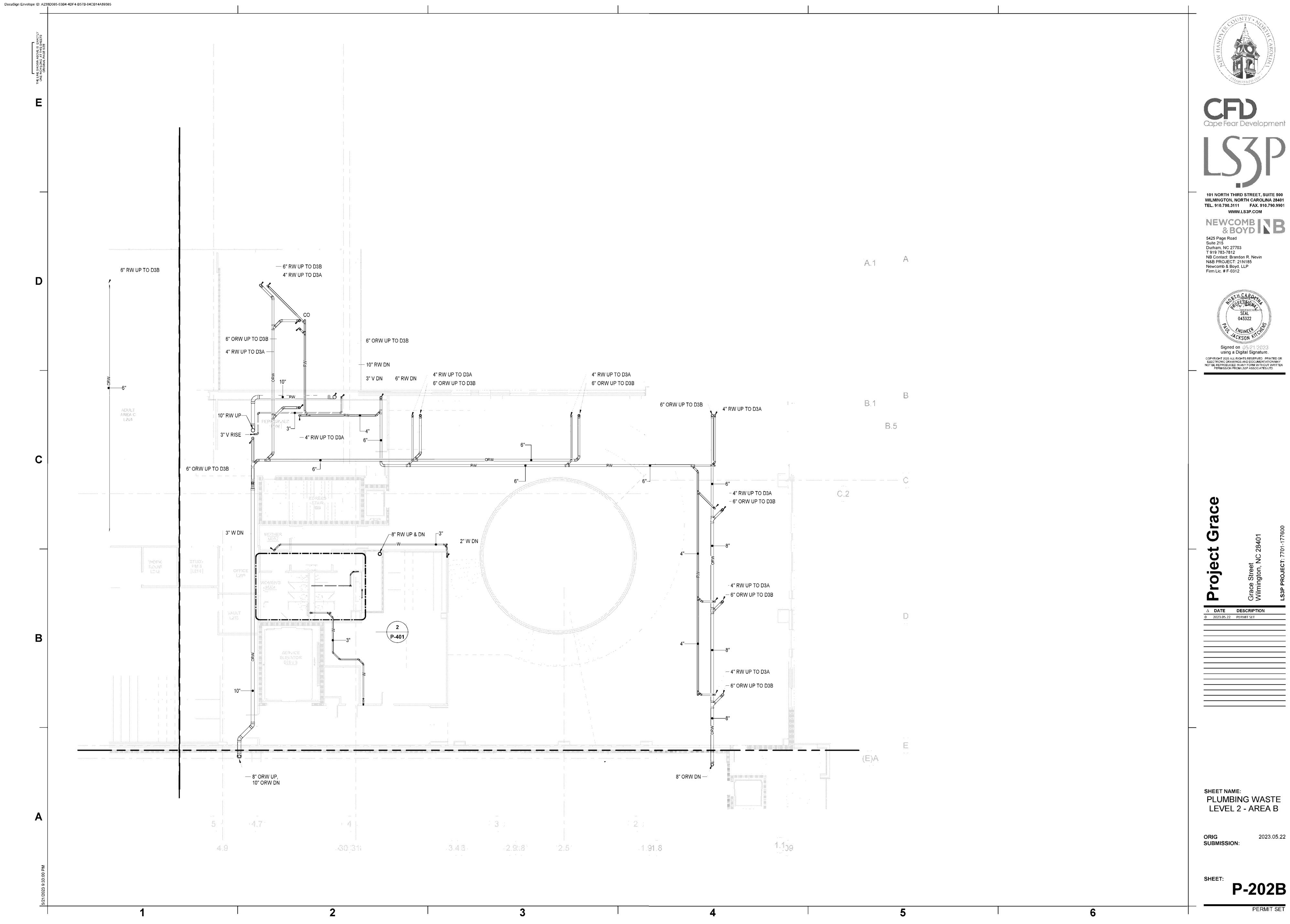


SHEET NAME:
PLUMBING WASTE
LEVEL 1 - AREA B

2023.05.22

P-201B





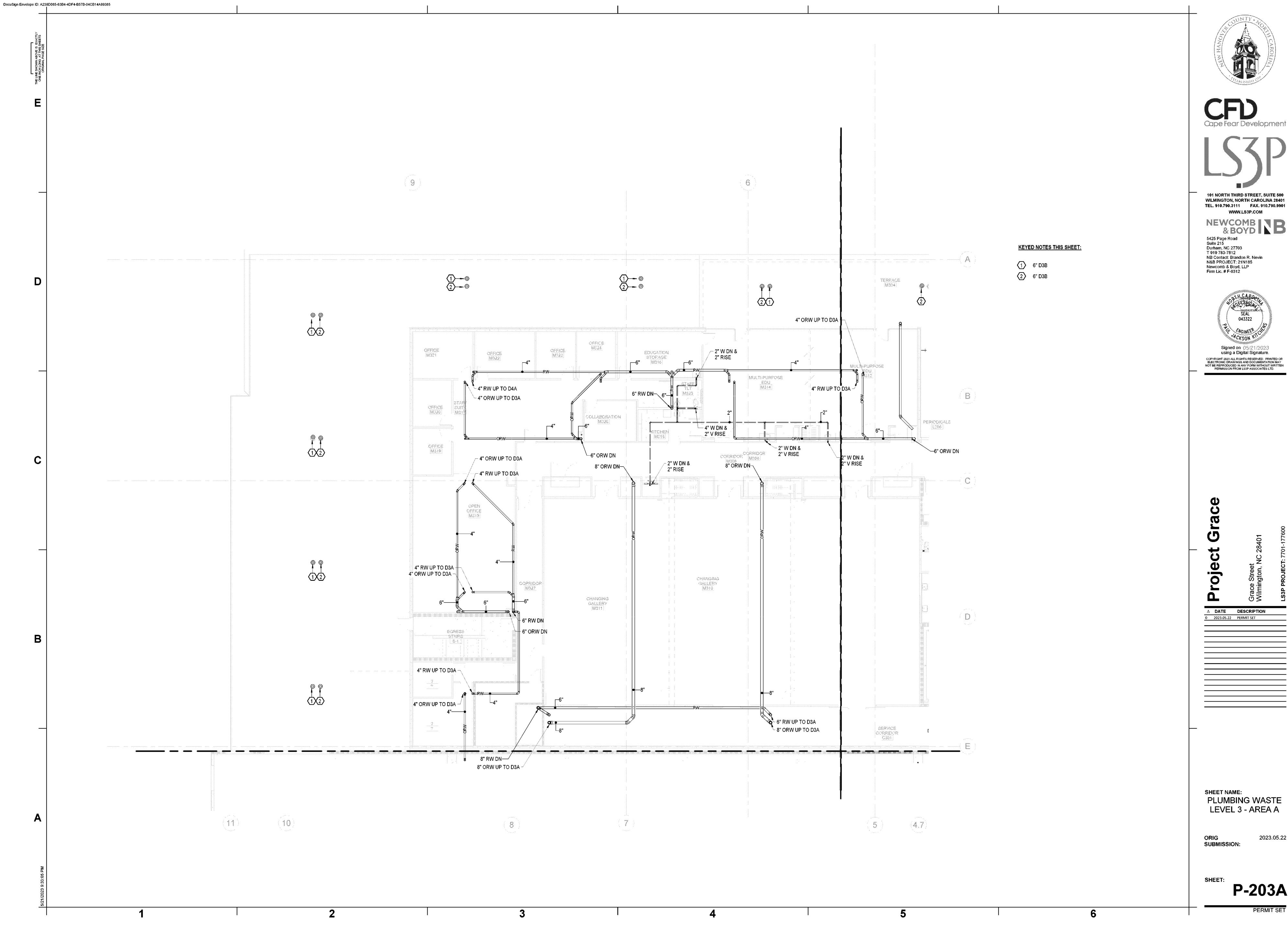
Cape Fear Development

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P-202B





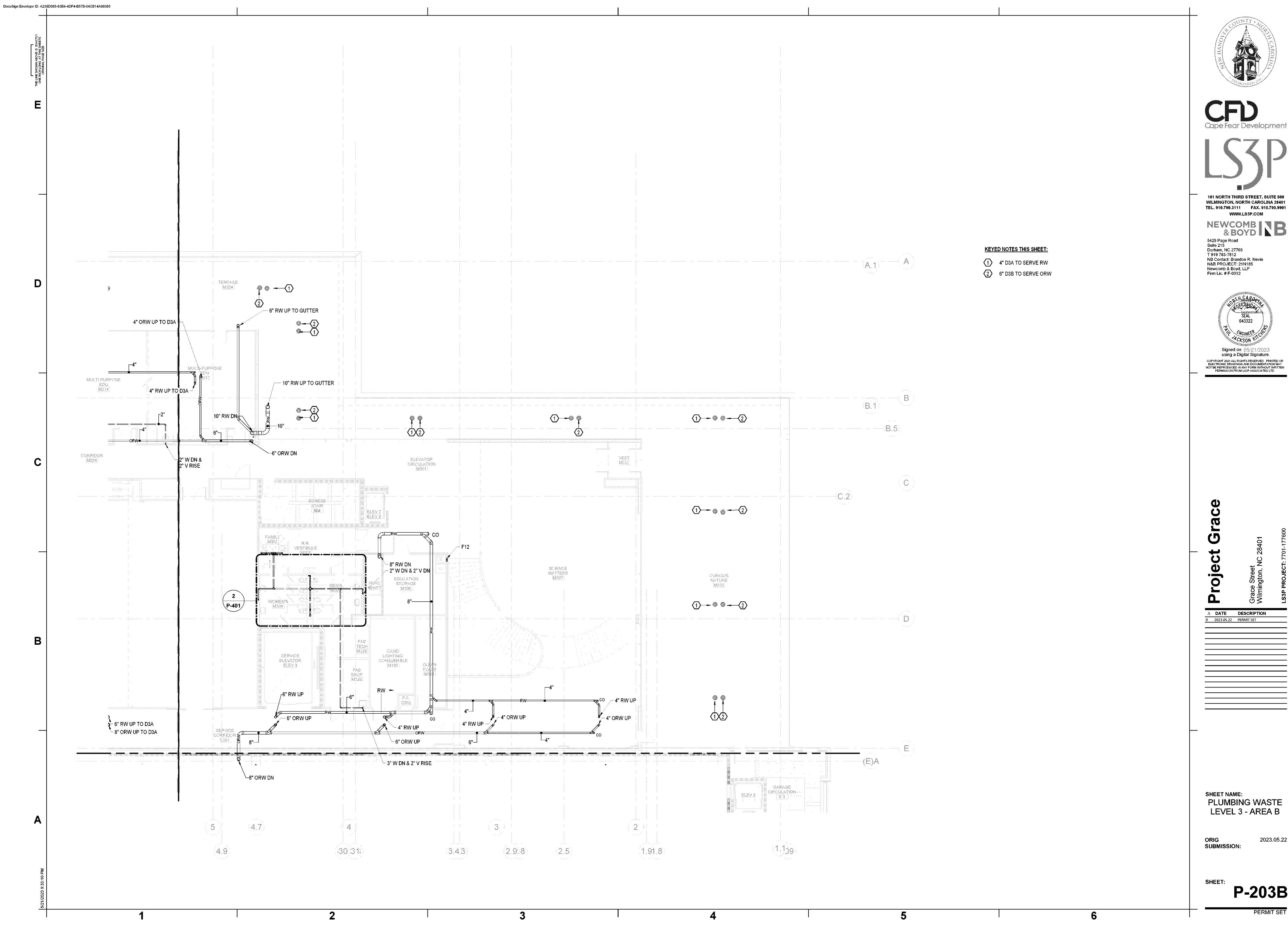
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SHEET NAME:
PLUMBING WASTE

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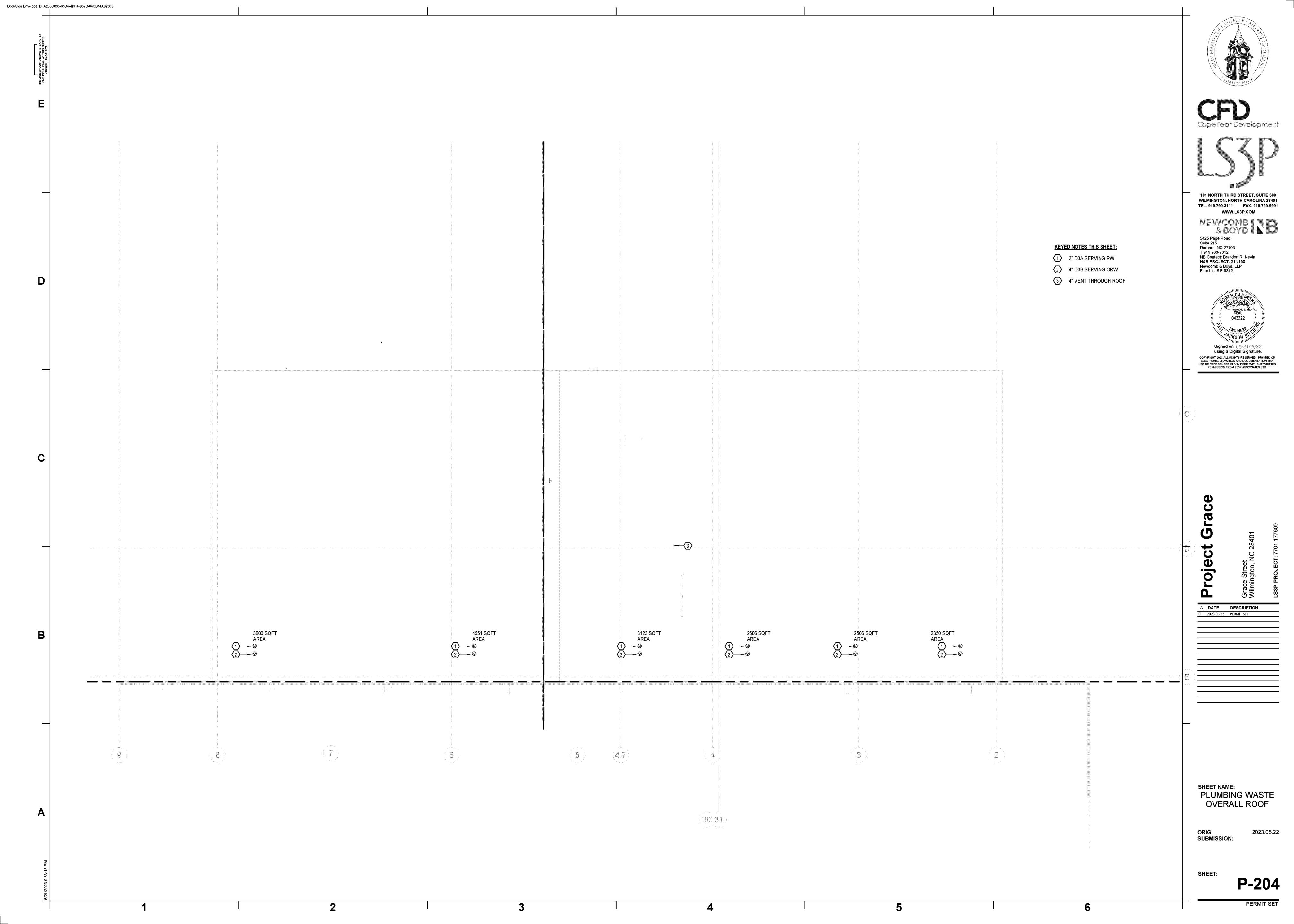
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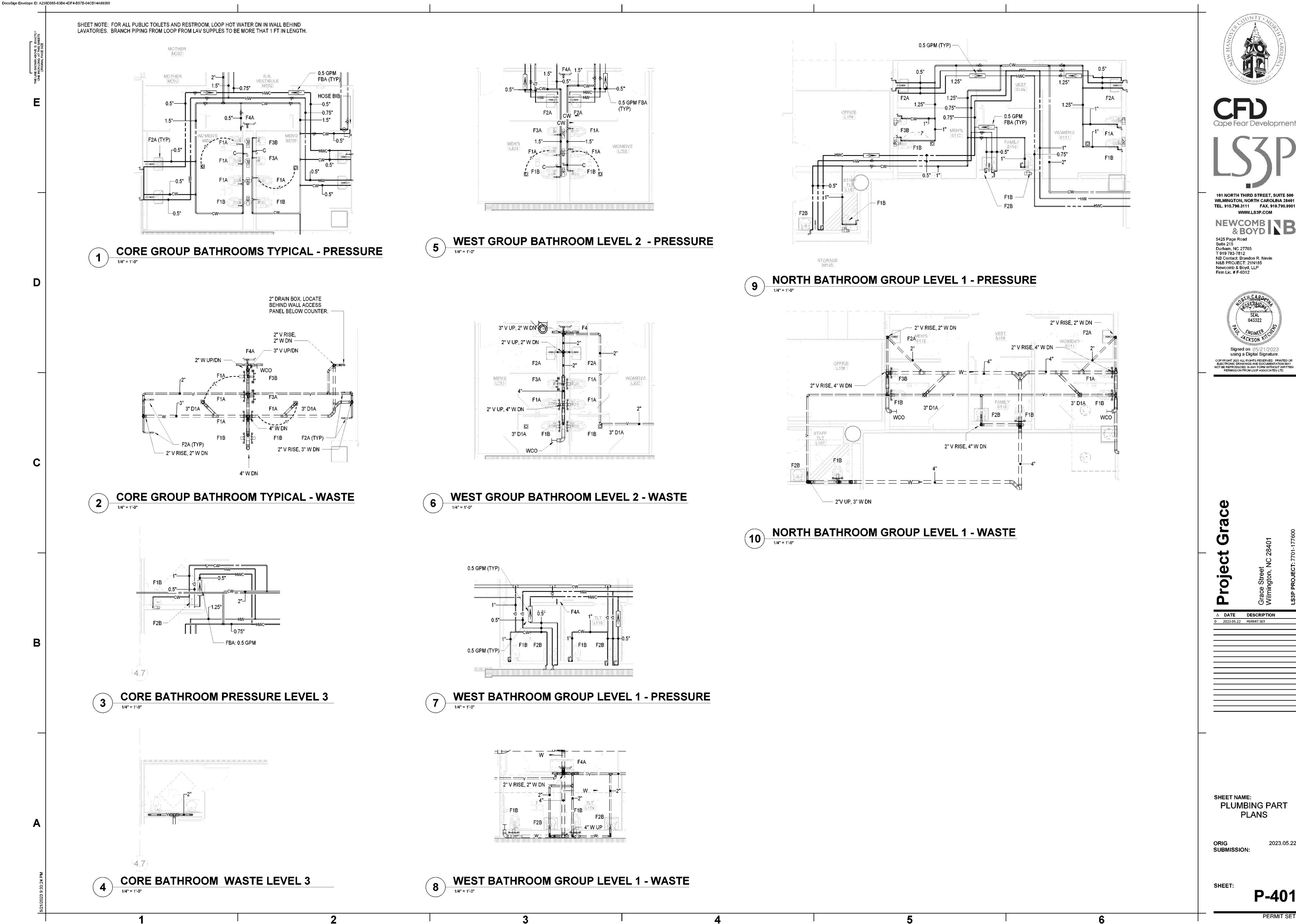


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PLUMBING WASTE LEVEL 3 - AREA B

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P-203B





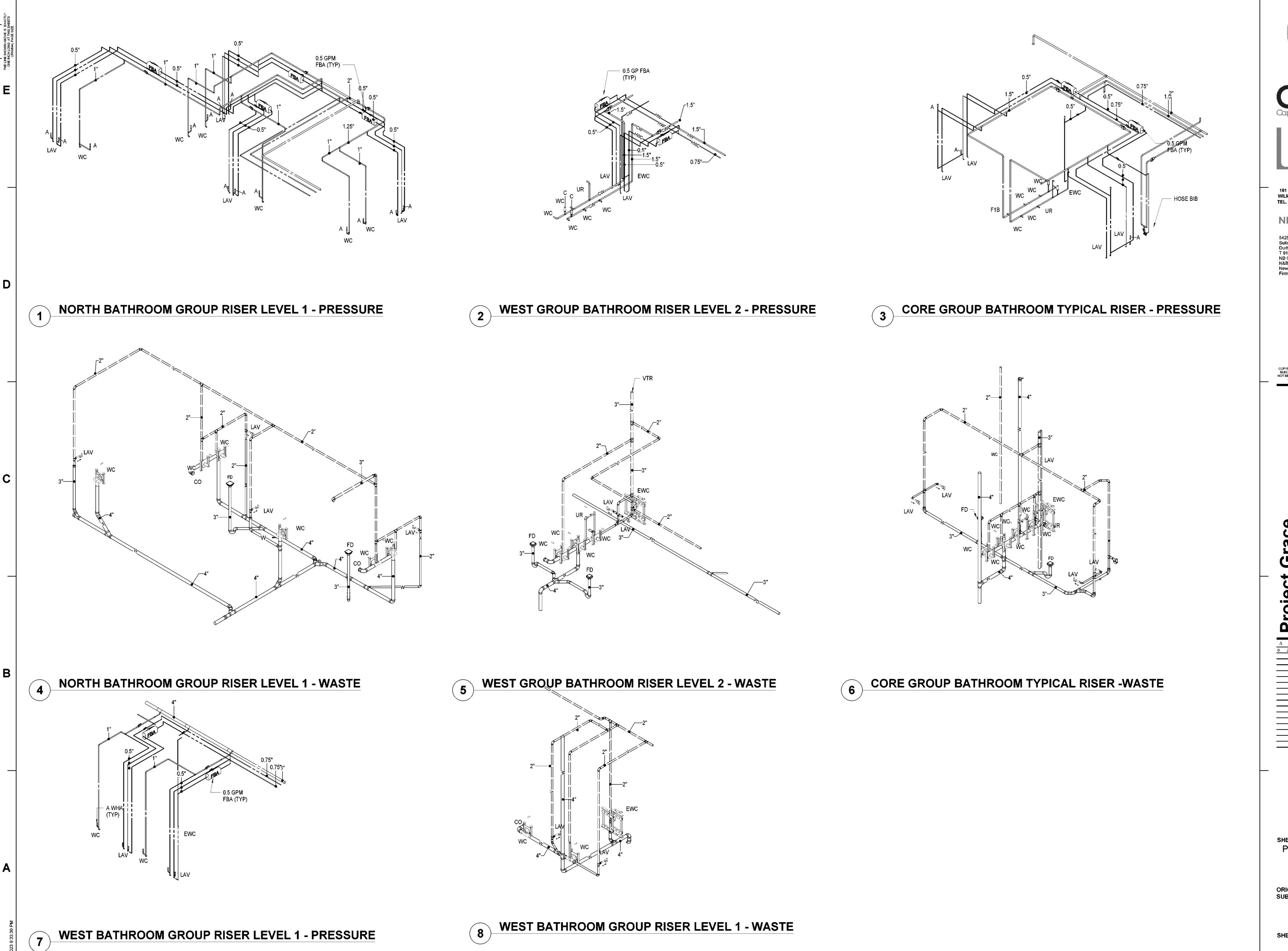
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PLUMBING PART **PLANS**

P-401

2023.05.22





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SHEET NAME: PLUMBING RISER DIAGRAMS

ORIG SUBMISSION:

2023.05.22

P-402

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			WATER PRESSU	RE BOOSTER	SYSTEM S	CHEDULE				
	GI	РМ			MINIMUM	MOTOR HP	VI	BRATION ISOLATIO	N	
NO.			SUCTION PRESSURE,	TOTAL DYNAMIC				MIN. STATIC	INERTIA	NOTES
	PUMP 1	PUMP 2	PSI (NOTE 3)	HEAD, FT. WG	PUMP 1	PUMP 2	TYPE	DEFLECTION, IN.	BASE	
WPB-1-1	119	119	33	85	3	3	NA	NA	NO	2, 4
OTEO										

OTES:

1. NOMINAL MOTOR RPM SHALL BE 3500.

- 2. REFER TO ELECTRICAL DRAWINGS FOR EQUIPMENT ELECTRICAL CHARACTERISTICS.
- 3. SUPPLY SIDE LOSSES HAVE BEEN ACCOUNTED FOR IN SUCTION PRESSURE.
- 4. PUMP SHALL BE SUPPLIED WITH VIBRATION ISOLATION PADS BY THE MANUFACTURER.
- 5. SET DISCHARGE PRESSURE OF WPB-1-1 AT 70 PSI.

SUMP PUMP SCHEDULE										
NO.	SERVICE (NOTE 1)	TYPE (NOTE 2)	GPM (NOTE 3)	TOTAL DYNAMIC HEAD, FT. WG	MINIMUM MOTOR HP	PIT DIMEN SIZE	DEPTH	NOTES		
SP-1-1	SU	S-I	50	35	1.0	9' x 7'	5'	3		
SP-1-2	SU	S-I	50	39	2.0	22' x 15'	6'	3		
SP-1-3	SU	S-I	50	40	2.0	9' x 7'	5'	3		
SP-1-4	SU	S-I	50	20	1.0	9' x 8'	5'	3		

NOTES:

1. SERVICE:

SU SU

2. TYPE:

S SIMPLEX I INTERIOR

3. REFER TO ELECTRICAL DRAWING FOR EQUIPMENT ELECTRICAL CHARACTERISTICS.

	PLUMBING FIXTURE SCHEDUL	E.					
			PIPING CONNECTION SIZE				
NO.	FIXTURE TYPE	HW	cw	S OR W	TV\		
F1A	WATER CLOSET, WALL TYPE, (FLUSH VALVE)	-	1"	4"	-		
F1B	WATER CLOSET WALL TYPE, (FLUSH VALVE), ADA USABLE	-	1"	4"	-		
F2A	LAVATORY COUNTER MOUNTED, ADA USABLE	0.5"	0.5"	1.25"	-		
F2B	LAVATORY WALL MOUNTED, ADA USABLE	0.5"	0.5"	1.25"	-		
F2C	LAVATORY COUNTER MOUNTED, STAINLESS STEEL, ADA USABLE	0.5"	0.5"	1.25"	-		
F3A	URINAL WALL TYPE	-	0.75"	2"	-		
F3B	URINAL WALL TYPE	-	0.75"	2"	-		
F4	WATER FOUNTAIN, BI-LEVEL, BOTTLE FILLER ADA USABLE	-	0.5"	1.25"	-		
F4A	ELECTRIC WATER COOLER, BI-LEVEL, DOUBLE, WALL-HUNG	-	0.5"	1.25"	-		
F5A	UTILITY SERVICE FREESTANDING SINK	0.5"	0.5"	3"			
F6A	SINGLE BOWL, SS SINK, COUNTER MOUNTED, UNDERMOUNT, ADA USABLE	0.5"	0.5	1.5"	-		
F11	ICE MAKER BOX	-	0.5	-	-		
F12A	WASHING MACHINE CONNECTION BOX	0.5"	0.5"	2"	-		
F12B	DISHWASHER CONNECTION BOX	0.5"	_	2"	_		

DRAIN SCHEDULE							
NO.	TYPE (NOTE 1)	GENERAL LOCATION	NOTES				
D1A	F	FINISHED AREA					
D1B	F	JANITOR					
D2A	F	MECHANICAL ROOM					
D2B	F\$	MECHANICAL ROOM					
D2C	FS	SP DISCHARGE					
D3A	R	ROOF	RW				
D3B	R	ROOF	ORW				
	1						

NOTES: (D-DRAIN)

1. TYPE:

FLOOR DRAIN FLOOR SINK ROOF DRAIN

> PARKING DRAIN TRENCH DRAIN

WATER HEATER SCHEDULE										
NO.	SERVICE	TYPE SOURCE DEMANI (NOTE 1) (NOTE 2)		GY SOURCE DEMAND	STORAGE CAPACITY, GAL	RECOVERY CAPACITY, GPH (NOTE 3)	NOTES			
WH-1-1	DOMESTIC	S	E	SEE ELECTRICAL	250	220	3,4,5			

NOTES: (WH-WATER HEATER)

1. TYPE:

S STORAGE

2. SOURCE: E ELECTRIC

- 3. BASED ON 100°F DIFFERENTIAL BETWEEN INLET AND OUTLET WATER TEMPERATURES.
- 4. REFER TO THE ELECTRICAL DRAWINGS FOR EQUIPMENT CONTROL POWER CIRCUITS.
- 5. WATER DISCHARGE SET POINT SHALL BE 140°F.

HOT WATER CIRCULATING PUMP SCHEDULE									
NO.	SERVICE GPM		PM TOTAL DYNAMIC MINIMUM HEAD, FT. WG MOTOR HP		VIBRATION TYPE	NOTES			
RCP-1-1	DOMESTIC	12.5	27	1/3	IL	0.25	2		

NOTES:

1. REFER TO THE ELECTRICAL DRAWINGS FOR EQUIPMENT ELECTRICAL CHARACTERISTICS.

- 2. PROVIDE FLEXIBLE METAL HOSE. BRONZE INNER CORRUGATE HOSE
- AND OUTER WOVEN BRAID SHEATH. CONNECTORS SHALL MEET FDA AND NSF LEAD FREE REQUIREMENTS. PRESSURE RATED FOR 150 PSI (MIN.)





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N&B PROJECT: 21N185
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Δ **DATE DESCRIPTION**0 2023.05.22 PERMIT SET

SHEET NAME:
PLUMBING
SCHEDULES

ORIG SUBMISSION:

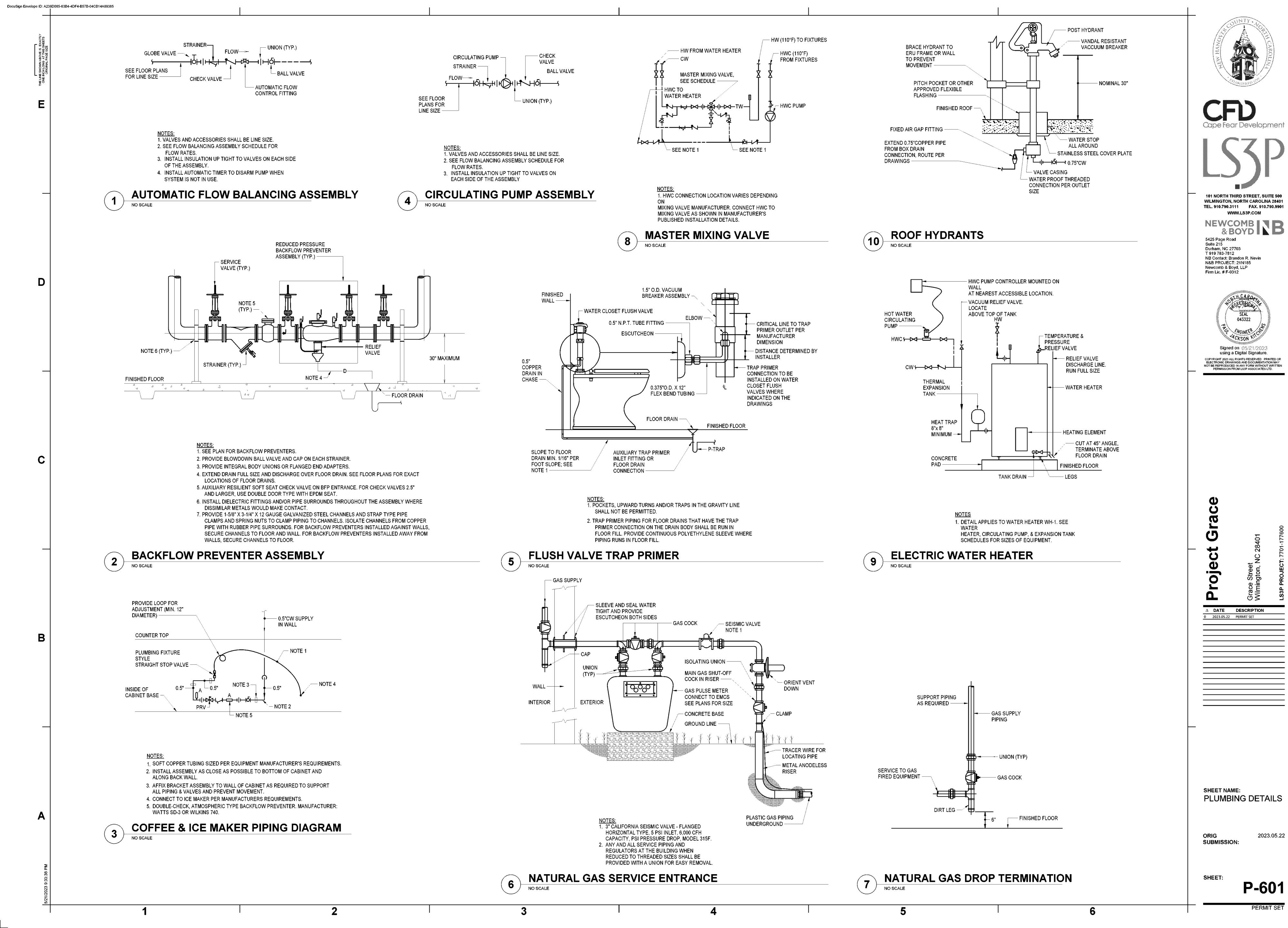
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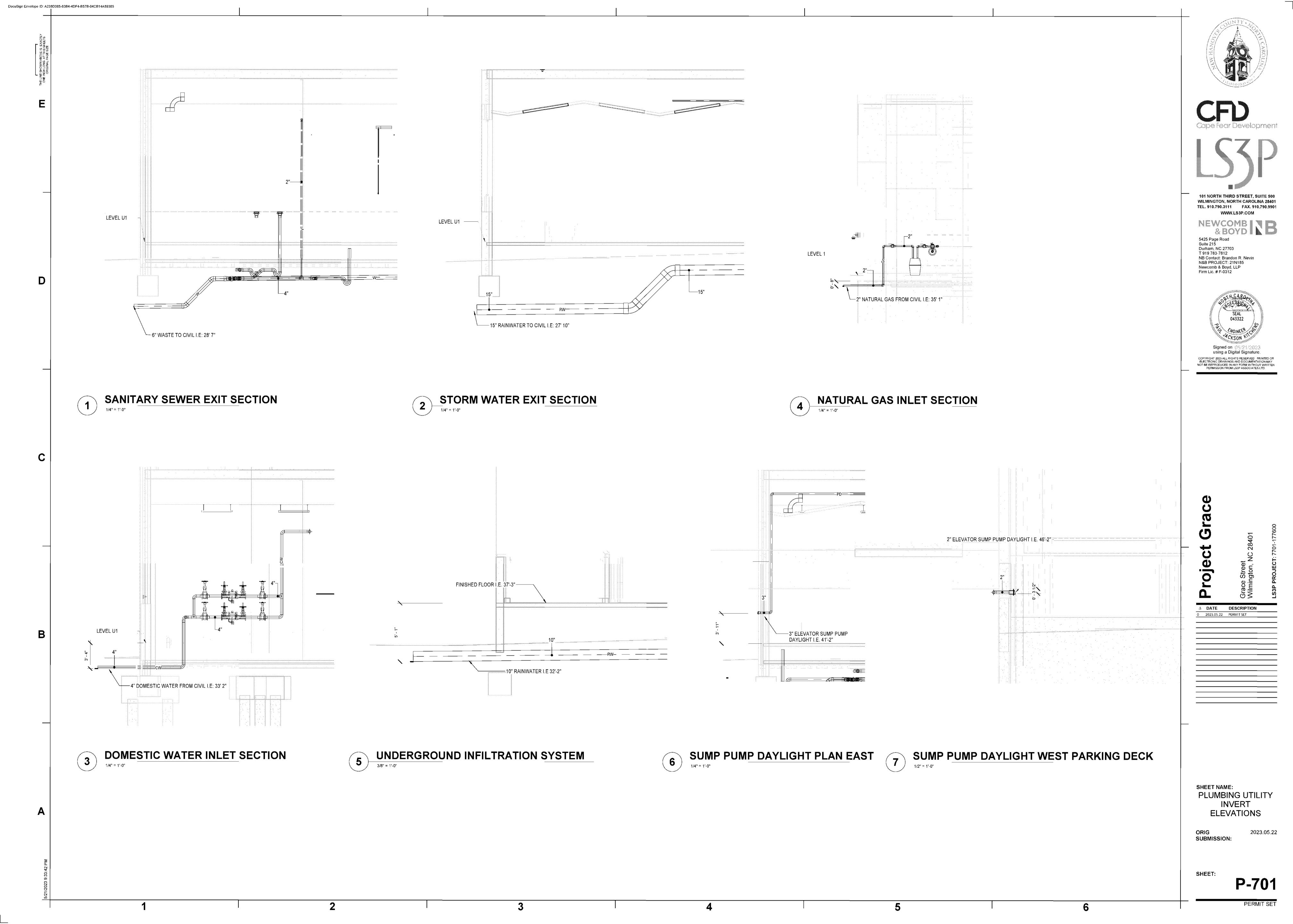
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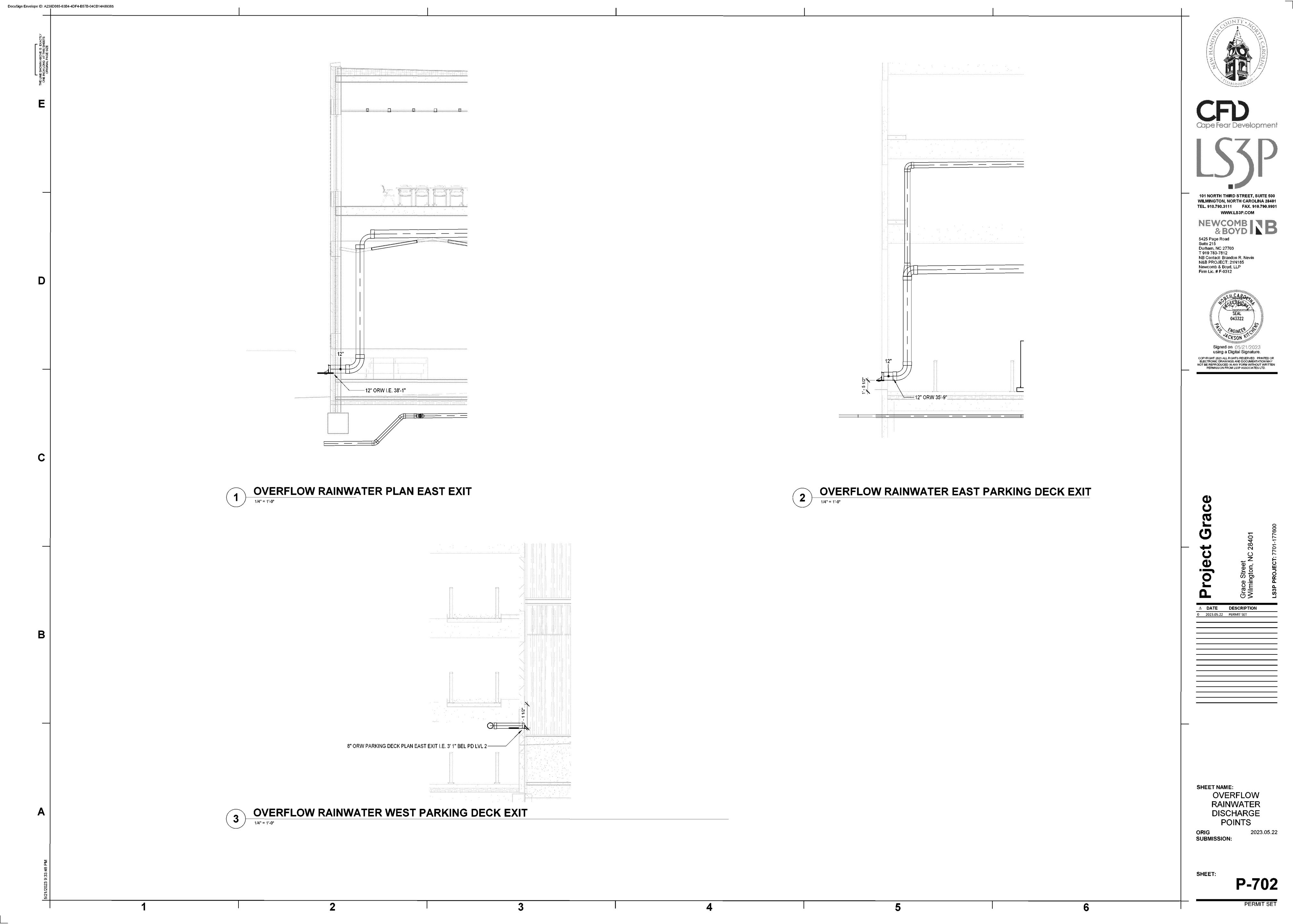
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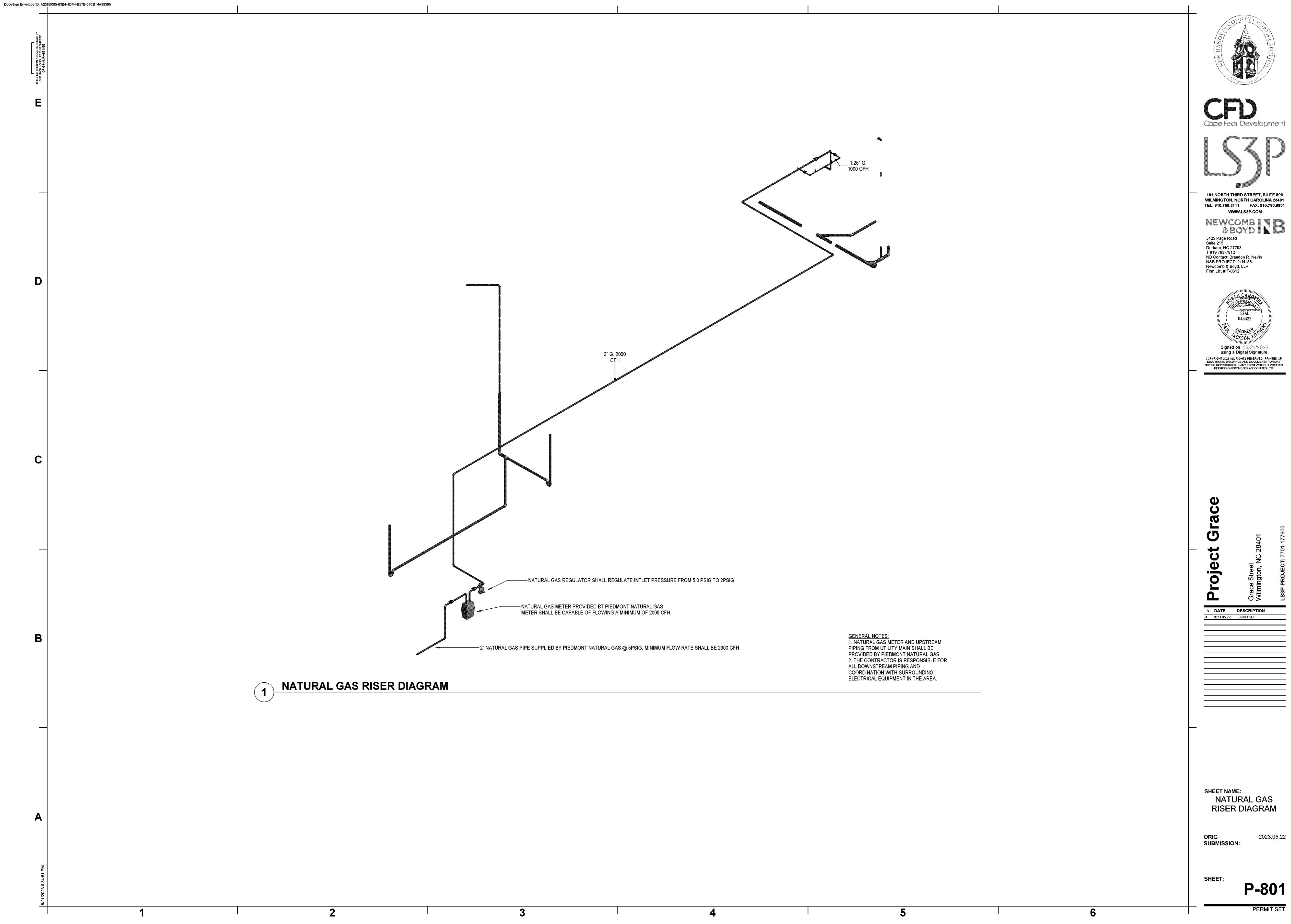
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NATURAL GAS RISER DIAGRAM