



University of South Carolina
 Purchasing Department
 1600 Hampton Street, 6th floor
 Columbia, SC 29208
 Telephone: (803) 777-4115

Request for Quotation

Page One

THIS IS NOT AN ORDER

Quotation must be received No Later Than:	Send quotation to above address Attention of:	Quotation Number:	Date
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Print company name and address:

Please quote your lowest delivered price of the items(s) listed below. The Purchasing Department reserves the right to reject any or all quotes and to waive any or all technicalities.

1. If an item cannot be furnished, indicate by **NO QUOTE**.
2. All quotes must be signed by the vendor's representative and terms noted, failure to comply with this instruction may result in disqualification of the quote.
3. **FAXED QUOTES ACCEPTABLE.** FAX # (803) 777-2032

Federal I.D. or Social Security No. _____ SC Minority Certification Number (If Applicable) _____

Submitted By (Print Name) _____ Signature _____ Telephone _____

Item No.	Quantity and Unit	Description of Commodity or Services	Unit Price	Total Price

GENERAL CONDITIONS

DEFAULT: In case of default by the Contractor, the University of South Carolina reserves the right to purchase any or all items in default in the open market, charging the Contractor with any additional costs. The defaulting Contractor shall not be considered a responsible bidder until the assessed charge has been satisfied.

All amendments to and interpretation of this RFQ shall be in writing. The procurement officer shall not be legally bound by any amendment or interpretation that is not in writing.

Any contract entered into by the University of South Carolina or its agencies resulting from this quotation shall be subject to cancellation at the end of any fiscal or appropriated year unless otherwise provided by law.

Payment will be made in accordance with Section 11-35-45 of the South Carolina Consolidated procurement Code and Disbursement Regulations. Delay in receiving invoices, as well as errors and omissions on the invoices, will be considered just cause for withholding payment without losing discount privileges. The University reserves the right to withhold payment or make such deductions as may be necessary to protect the University from loss or damage because of defective work, claims, damages or to pay for repair of correction of materials furnished hereunder.

Quoted prices must remain firm for a period of thirty days beyond the Request for Quotation deadline. Unit prices will govern over extended prices unless otherwise stated.

The University of South Carolina shall consider payment discounts in the award of this contract when such discounts are for thirty days or more after final inspection and acceptance of contract requirements. Payment discounts for less than thirty days are encouraged but shall not be a factor in award determination. Please state your discount terms using the above referenced information as the University's position on the matter.

All materials and products offered must be guaranteed to meet and comply with the requirements all the specifications, terms and conditions indicated or referred to.

The award will be made in accordance with Section 11-35-1520 of the South Carolina Consolidated Procurement Code.

The University reserves the right to reject any and all quotations and to cancel the solicitation; waive any and all technicalities; the University reserves the right to reject any quotation in which the delivery time indicated to be of substantial length to cause disruption and/or delay in operation for which the item(s) is/are intended; ambiguous quotations which are uncertain as to terms, delivery, quantity or compliance with specifications may be rejected.

The contractor assumes sole responsibility and shall hold harmless the University of South Carolina, its directors, officers, employees and agents from and against any and all claims, actions or liabilities of any nature which may be asserted against them by third parties in connection with the performance of the bidder, its directors, officers, employees and agents under this agreement. The University of South Carolina agrees to accept responsibility for claims, actions or liabilities resulting from negligent acts of its employees occurring within the scope of their employment which may be asserted against them by third parties in connection with the performance of the University of South Carolina, its members, directors, officers, employees and agents under this agreement.

Contractor agrees not to refer to award of this contract in commercial advertising in such a manner to state or imply that the products or service provided are endorsed or preferred by the user.

Upon award of a contract under this quotation, the person, partnership, association or corporation to whom the award is made must comply with the laws of South Carolina that require such person or entity to be authorized and/or licensed to do business in this State. Notwithstanding the fact that applicable statutes may be exempt or exclude the successful quoter from requirements that it be authorized and/or licensed to do business in this State, by submission of this signed quote, the quoter agrees to subject itself to the jurisdiction and process of the courts of the State of South Carolina as to all matters and disputes arising or to arise under the contract and the performance thereof, including any questions as to the liability for taxes, licenses or fees levied by the State.

Termination: Subject to the provisions below, the contractor may be terminated for any reason by the University providing a thirty-day advance notice in writing is given to the contractor.

Termination for Convenience: In the event that this contract is terminated or cancelled upon request and for the convenience of the University may negotiate reasonable termination costs, if applicable.

Termination for Cause: Termination by the University for cause, default, or negligence on the part of the Contractor shall be excluded from the foregoing provisions; termination costs, if any, shall not apply. The thirty day advance notice requirement is waived and the default provision in this bid shall apply.

HIPAA Law: The Contractor agrees that to the extent that some or all of the activities within the scope of this Contract are subject to the Health Insurance Portability Accountability Act of 1996, P.L. 104-91, as amended ("HIPAA"), or its implementing regulations, it will comply with the HIPAA requirements and will execute such agreements and practices as the University of South Carolina may require to ensure compliance. Additional information may be viewed at: <http://www.sc.edu/hipaa/>

SPECIAL CONDITIONS

LICENSES, PERMITS, INSURANCE: All costs for required licenses, permits and insurance shall be borne by the Bidder.

The University of South Carolina requires all contractual activities to be performed in a manner that is consistent with all applicable federal, state and local laws, regulations, rules, rulings and ordinances. These include, but are not limited to: the Occupational Safety and Health Act, The Environmental Protection Act, The South Carolina Hazardous Waste Management Act.

IMPORTANT – Please Note – Vendors, we MUST have your Federal ID # (company) or Social Security # (individual) before processing any invoices for payment. Failure to provide this information will result in delay of payments until this information is received. Please include this information with your quote.

SCOPE OF WORK

It is the intent of the University of South Carolina to solicit quotes to supply new double lift station.

Attached is the Plumbing Plan P001.

Attached is Specification Section 22-05-00 for the Lift Station, dated 4-4-2014. Note: Reference page 5 of 7 in the product specification, section 2.4_LIFT STATION

Quote to include product specifications, submittal of standard shop drawings, freight, and shipping.

Shipping location (FOB Destination):

Hampton Street Annex
1600 Hampton Street
Columbia, South Carolina 29208

SPECIFICATIONS

REFER TO SPECIFICATION 122996, SECTION 22-05-00

ADDITIONAL CONDITIONS

PREFERENCES - A NOTICE TO VENDORS (SEP. 2009): On June 16, 2009, the South Carolina General Assembly rewrote the law governing preferences available to in-state vendors, vendors using in-state subcontractors, and vendors selling in-state or US end products. This law appears in Section 11-35-1524 of the South Carolina Code of Laws. A summary of the new preferences is available at www.procurement.sc.gov/preferences. ***ALL THE PREFERENCES MUST BE CLAIMED AND ARE APPLIED BY LINE ITEM, REGARDLESS OF WHETHER AWARD IS MADE BY ITEM OR LOT. VENDORS ARE CAUTIONED TO CAREFULLY REVIEW THE STATUTE BEFORE CLAIMING ANY PREFERENCES. THE REQUIREMENTS TO QUALIFY HAVE CHANGED. IF YOU REQUEST A PREFERENCE, YOU ARE CERTIFYING THAT YOUR OFFER QUALIFIES FOR THE PREFERENCE YOU'VE CLAIMED. IMPROPERLY REQUESTING A PREFERENCE CAN HAVE SERIOUS CONSEQUENCES.*** [11-35-1524(E)(4)&(6)]

PREFERENCES - SC/US END-PRODUCT (SEP 2009): Section 11-35-1524 provides a preference to vendors offering South Carolina end-products or US end-products, if those products are made, manufactured, or grown in SC or the US, respectively. An end-product is the tangible project identified for acquisition in this solicitation, including all component parts in final form and ready for the use intended. The terms "made," "manufactured," and "grown" are defined by Section 11-35-1524(A). By signing your offer and checking the appropriate space(s) provided and identified on the bid schedule, you certify that the end-product(s) is either made, manufactured or grown in South Carolina, or other states of the United States, as applicable. Preference will be applied as required by law. Post award substitutions are prohibited. See "Substitutions Prohibited - End Product Preferences (Sep 2009)" provision.

PREFERENCES - RESIDENT VENDOR PREFERENCE (SEP 2009): To qualify for the RVP, you must maintain an office in this state. An office is a nonmobile place for the regular transaction of business or performance of a particular service which has been operated as such by the bidder for at least one year before the bid opening and during that year the place has been staffed for at least fifty weeks by at least two employees for at least thirty five hours a week each. In addition, you must either: (1) maintain at a location in South Carolina at the time of the bid an inventory of expendable items which are representative of the general type of commodities for which the award will be made and which have a minimum total value, based on the bid price, equal to the lesser of fifty thousand dollars [\$50,000] or the annual amount of the contract; or (2) be a manufacturer headquartered and having an annual payroll of at least one million dollars in South Carolina and the end product being sold is either made or processed from raw materials into a finished end product by that manufacturer or its affiliate (as defined in Section 1563 of the Internal Revenue Code).

SUBSTITUTIONS PROHIBITED - END PRODUCT PREFERENCES (SEP 2009): If you receive the award as a result of the South Carolina end product or United States end product preference, you may not substitute a nonqualifying end product for a qualified end product. If you violate this provision, the State may terminate your contract for cause and you may be debarred. In addition, you shall pay to the State an amount equal to twice the difference between the price paid by the State and your evaluated price for the item for which you delivered a substitute. [11-35-1534(B)(4)]

MINORITY PARTICIPATION (JAN 2006)

Is the bidder a South Carolina Certified Minority Business? Yes NO

Is the bidder a Minority Business certified by another governmental entity? Yes NO

If so, please list the certifying governmental entity: _____

Will any of the work under this contract be performed by a SC certified Minority Business as a subcontractor? Yes NO

If so, what percentage of the total value of the contract will be performed by a SC certified Minority Business as a subcontractor? Yes NO

Will any of the work under this contract be performed by a minority business certified by another governmental entity as a subcontractor? Yes NO

If so, what percentage of the total value of the contract will be performed by a minority business certified by another governmental entity as a subcontractor? Yes NO

If a certified Minority Business is participating in this contract, please indicate all categories for which the Business is certified:

- Traditional minority
- Traditional minority, but female
- Women (Caucasian females)
- Hispanic minorities
- DOT referral (Traditional minority)
- DOT referral (Caucasian female)
- Temporary certification
- SBA 8 (a) certification referral
- Other minorities (Native American, Asian, etc.)

(If more than one minority contractor will be utilized in the performance of this contract, please provide the information above for each minority business.)

BIDDING SCHEDULE / PRICE-BUSINESS PROPOSAL

Commodity (Material)

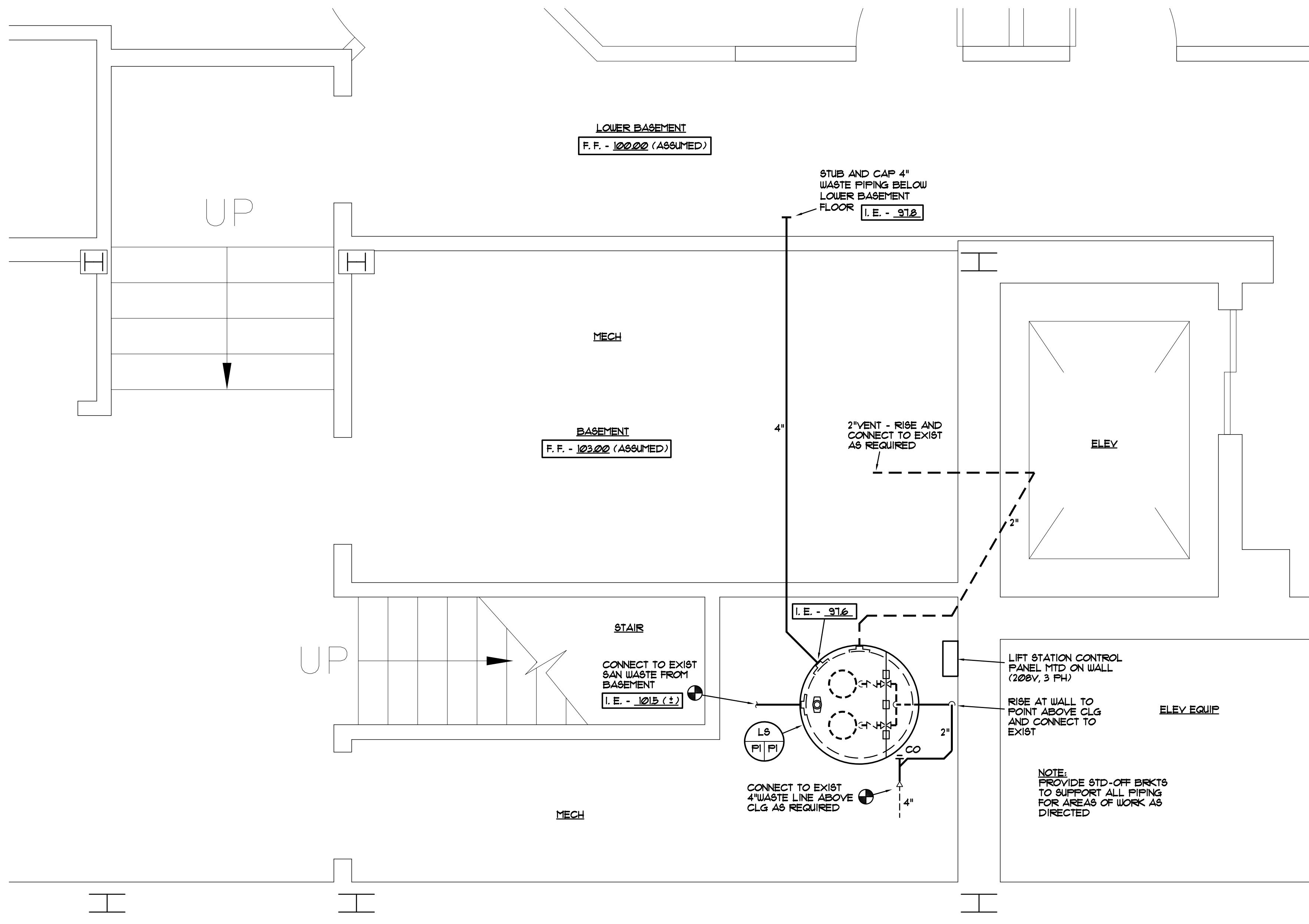
(do not include sales tax in your price, this will be calculated after award)

Item	Qty	Unit of Measure	Description	Unit Price
1	1	each	Lift Station, as specified.	\$ _____

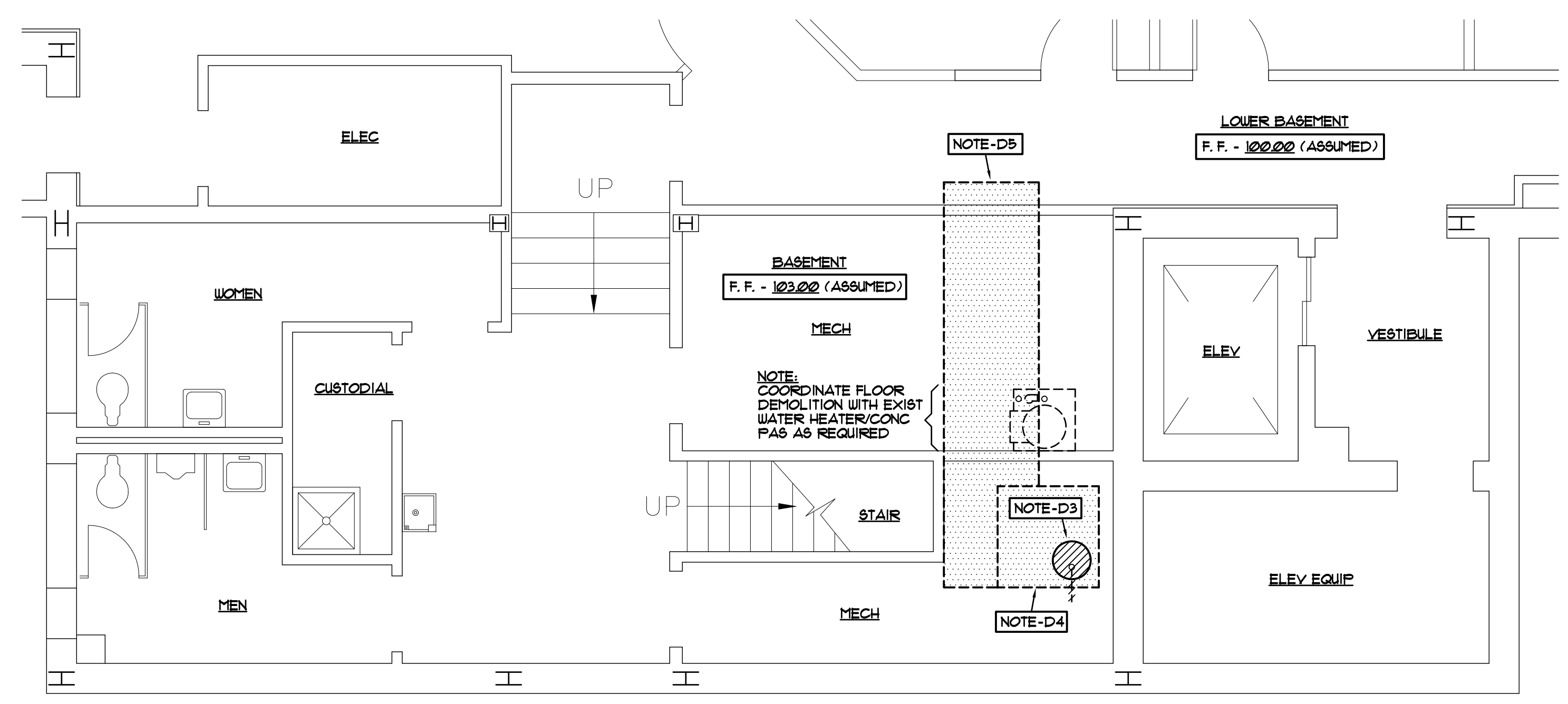
Manufacturer: _____ Product #: _____

Resident Vendor Preference _____
SC End Product Preference _____
US End Product Preference _____

DELIVERY ARO: _____



PLUMBING FLOOR PLAN - BASEMENT
SCALE: 1/2" = 1'-0"



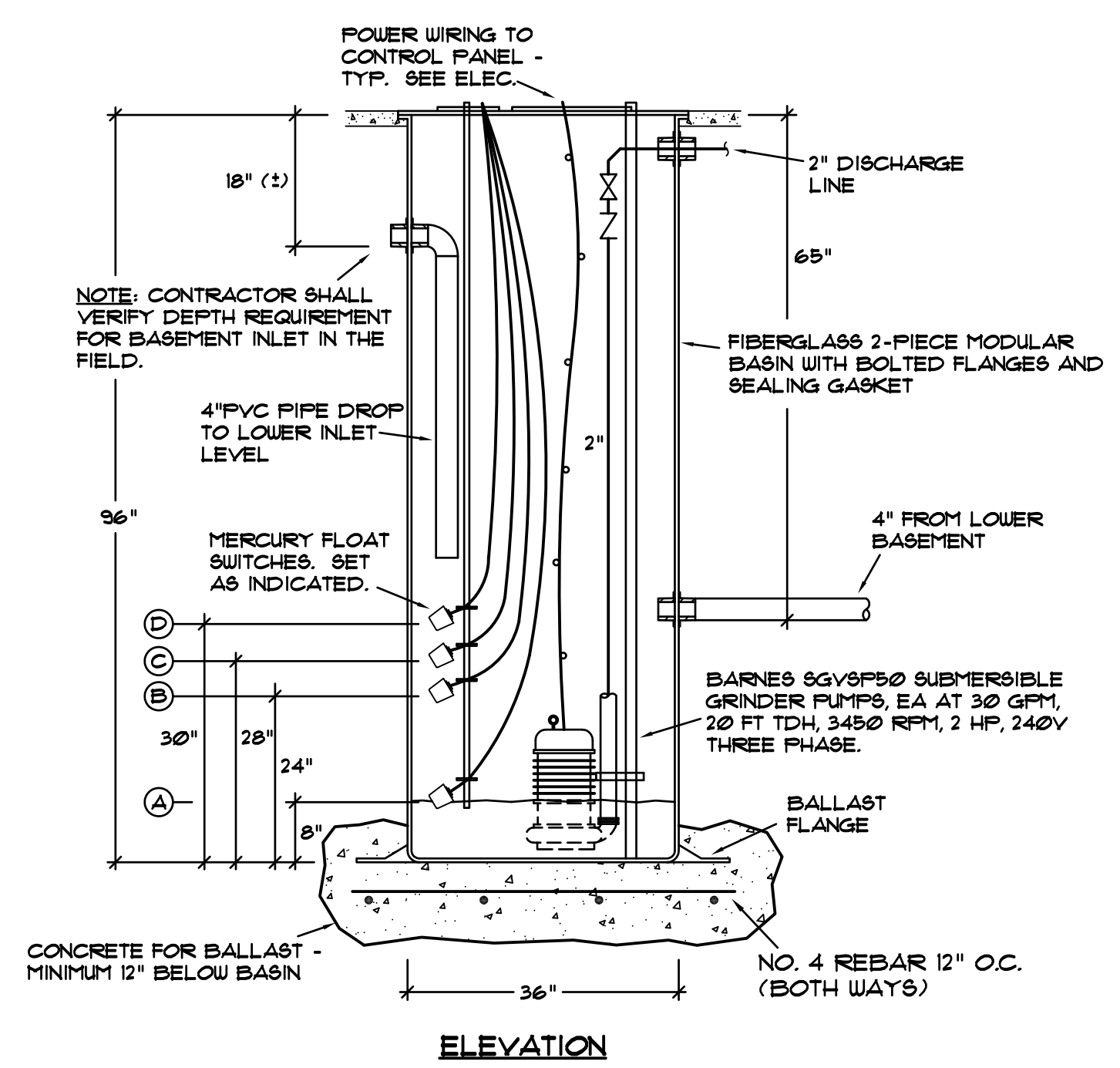
PLUMBING DEMOLITION PLAN - BASEMENT
SCALE: 1/4" = 1'-0"

- PLUMBING NOTES**
- DO NOT SCALE DRAWINGS. ROUGH FROM EXISTING CONDITIONS AND EQUIPMENT MANUFACTURER'S DRAWINGS.
 - COORD PLUMBING WITH ALL TRADES TO AVOID INTERFERENCE AND CONFLICTS PRIOR TO INSTALLATION OF PIPING AND EQUIPMENT.
 - ALL WORK AND MATERIALS SHALL BE IN ACCORDANCE WITH THE (IBC) BUILDING AND (IPC) PLUMBING CODES, 2012 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.
 - INSTALLATION OF EQUIPMENT AND PIPING SHALL COMPLY WITH THE (IBC) BUILDING CODE 2012 EDITION FOR SEISMIC PROTECTION.

PLUMBING SYMBOLS

SYMBOL	DESCRIPTION
—	SANITARY WASTE PIPING
- - -	SANITARY VENT PIPING
AFF	ABOVE FINISHED FLOOR
⊕	CONNECT TO EXISTING
LS	LIFT STATION
G.C.	GENERAL CONTRACTOR

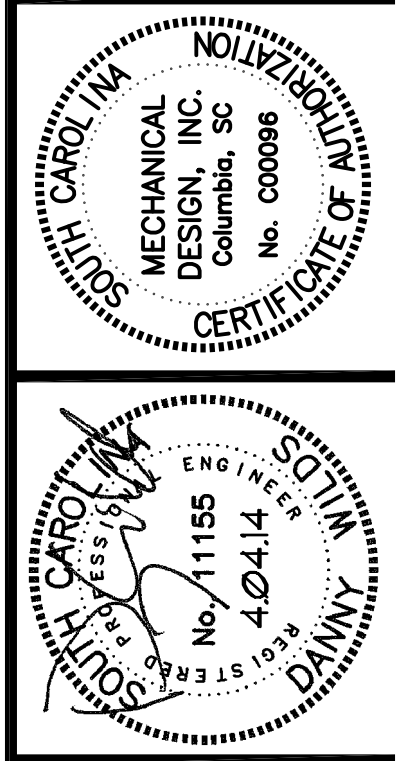
- PLUMBING DEMOLITION NOTES**
- CONTRACTOR SHALL FIELD COORDINATE AND VERIFY EXIST CONDITIONS PRIOR TO START OF DEMOLITION WORK. NOTIFY ENGINEER OR ARCH IMMEDIATELY IF QUESTIONS OR CONFLICTS ARE DISCOVERED AT START OF PROJECT.
 - PROVIDE SAWCUTTING, CUTTING, CORE DRILLING AND REMOVAL OF EXIST FLOOR SLABS AND/OR EXIST WALL FINISH AS REQ'D FOR THE INSTALLATION OF PLUMBING SYSTEMS. CONTRACTOR SHALL COORDINATE ALL DEMOLITION OF EXIST SURFACES WITH THE GENERAL CONTRACTOR TO MAINTAIN MINIMAL AMOUNT OF CUTTING AS REQUIRED. PATCHING OF EXIST FINISHED SURFACES SHALL BE BY THE GENERAL CONTRACTOR.
 - REMOVE EXISTING PACKAGED LIFT STATION COMPLETE. REMOVE DISCHARGE PIPING TO POINT ABOVE EXISTING CEILING.
 - PROVIDE SAWCUT AND REMOVAL OF EXISTING FLOOR SLAB THIS APPROXIMATE LOCATION FOR THE REMOVAL AND REPLACEMENT OF SEWER LIFT STATION. SEE PLEBG FLOOR PLAN, THIS SHT FOR LOCATION OF LIFT STATION SPECIFIED.
 - PROVIDE SAWCUT AND REMOVAL OF EXISTING FLOOR SLAB THIS APPROXIMATE LOCATION FOR THE INSTALLATION OF 4" WASTE LINE TO SERVE TENANT UNIT. SEE PLEBG FLOOR PLAN, THIS SHT FOR LOCATION OF PIPING.



L9 P1 DUPLEX PUMP LIFT STATION
NOT TO SCALE

KEY

⊕	HI WATER ALARM (1" BELOW WASTE INLET)
⊙	LAG PUMP ON
⊙	LEAD PUMP ON
⊙	PUMP OFF (LIQUID LEVEL)



1600 HAMPTON ANNEX - DEFERRED MAINTENANCE
UNIVERSITY OF SOUTH CAROLINA
COLUMBIA, SOUTH CAROLINA

REVISIONS:

DRAWN BY: **DLF**

CHECKED BY: **MCH**

COMM NO: **122998**

DATE: **4/04/2014**

SHEET TITLE:

PLBG BASEMENT AND FLOOR PLANS

SHEET NO: **P001**

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SECTION 22 05 00 - MECHANICAL, PLUMBING

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. Section 23 00 00 MECHANICAL, GENERAL applies to this section of the specifications. Refer to Plumbing drawings (*Sht P1*) for work and materials for this section of the specifications.
1. Furnish products, materials and equipment as specified herein. Manufacturers and products or materials which are not indicated on drawings or specified will not be accepted.
 2. *Refer to 10 day prior approval requirements for substitutions of plumbing equipment, materials, fixtures, fittings, valves, etc. as specified below.*
 3. Private label products such as distributed by ProFlo, Brigade, Mainline, etc. will not be accepted as substitution for specified manufacturers for this project.
 4. Failure to comply with specifications regarding Prior Approval will require replacement of all materials and products which are not listed in these specifications.
 5. Contractor shall order all accepted products and materials immediately after receipt of Engineer shop drawing review comments to insure timely delivery without construction delays. See specifications 3.7 Submittals para. B.3 as applicable.

1.2 GENERAL

- A. Before construction of project starts, check locations and inverts of existing and proposed pipes, sewers, mains and points of connection to existing utilities. Report to Architect before start of construction any unsatisfactory condition or conflict between plumbing and any other trades. No extra charge will be approved after start of construction from failure to follow these instructions.
- B. All work and materials shall comply with the IPC International Plumbing Code and IBC International Building Code, 2012 editions and all applicable local codes and ordinances.
- C. Installation of Plumbing equipment and systems shall be in accordance with the requirements for Seismic of the IBC International Building Code.
- D. Protect fixtures, materials and equipment from theft or against damage. Seal pipe and drain openings by test plugs or rubber "Gem" caps secured with stainless steel bands to prevent debris from being introduced into the drainage system.
1. Duct tape or PVC caps will not be permitted to seal soil, waste, drain or vent pipe openings.
- E. All electrical wiring for plumbing equipment shall be provided under Division 26 of these specifications. Coordinate electrical requirements of all equipment with Division 26 prior to ordering equipment.
- F. Contractor shall verify and coordinate the exact locations and inverts of the underground sewer, water and roof drain lines and the connections to the utilities serving this site prior to start of construction. *It is extremely important that these locations and inverts are verified at the start of*

this project to prevent any conflicts during construction.

G. Fees for construction permits shall be included.

1.3 **SCOPE**

A. Provide all related equipment, labor, materials, and operations and accessories required for the installation of complete and quietly operating plumbing systems as indicated in accordance with the plans and specifications. This shall include the following:

- Soil, Waste, Drain and Vent Piping
- Pipe Caulking Materials
- Pipe Hangers and Supports including Seismic Shop Drgs
- Pipe Sleeves
- Lift Station
- Tests
- Plumbing Submittal Data
- Project Record Drawings
- Plumbing Maintenance Manuals

1.4 **DEMOLITION**

A. Provide demolition and removal of all existing materials affected by the installation of plumbing systems in the existing building in addition to work indicated on Plumbing drawings and where noted on Architectural drawings.

1. *It is not the intent of the plumbing drawings to indicate all plumbing work relating to the renovations in the existing building. Demolition of existing pipe, hangers, drains, etc. shall be accomplished throughout the renovated areas as directed and in accordance with plumbing demolition drawings.*
2. *Provide demolition of existing above ground LP gas piping, regulators, conduit vents, etc. at the gas service to each lab. Cap piping concealed below grade as required. (The Owner is removing the existing LP tank in its entirety)*
3. *Contractor shall field verify scope of demolition during construction and remove all materials as directed.*
4. *Contractor shall coordinate all demolition work with the Owner and the Architect prior to start of demolition.*
5. *The Owner reserves the right to claim any materials, products or equipment which is to be removed prior to disposal by the contractor.*

B. Provide all sawcutting or core drilling of existing concrete slabs and any core drilling or cutting of existing walls as required for the removal and/or installation of piping for plumbing systems. *Patching shall be furnished under another section of these specifications.*

C. Schedule all disruptions to existing sanitary waste and water lines to the buildings with the Owner prior to disconnecting services. Coordinate installation of piping and connections to service lines to allow for minimum disruption of service.

1. Install, test and backfill piping prior to making final connections.

PART 2 - PRODUCTS

2.1 SOIL, WASTE, DRAIN AND VENT PIPE

- A. Coordinate with existing conditions including Plumbing and Architectural drawings prior to start of demolition or construction.
- B. Below Slab/Grade: Soil, waste, drain and vent piping shall be cast iron pipe with bell and spigot fittings. Pipe and fittings shall be in accordance with ASTM A-74 and WW-P-401d.
 1. Cast iron pipe and fittings shall be as manufactured by Charlotte Pipe and Foundry or Tyier Pipe and shall bear the collective trademark of the Cast Iron Soil Pipe Institute and listed by NSF International.
- C. Above Slab: Piping located above finished floor slab shall be cast iron, hubless pipe with No-Hub fittings. Pipe and fittings shall be in accordance with ASTM A-74 and WW-P-401d.
- D. Joints and Connections:
 1. Joints for bell and spigot piping shall be caulked with lead and oakum. Each joint shall be firmly packed with oakum or hemp and filled with molten lead not less than 1" deep and extending not more than 1/8" below rim of hub. Contractor may use compression gasket system in lieu of lead caulk specified above. Gasket joints shall be installed in strict accordance with manufacturer's recommendations.
 2. Joints for No-hub piping shall be made with No-Hub fittings furnished with neoprene sleeves and band couplings. Standard No-Hub couplings will not be permitted. Couplings shall be medium duty as follows:

Clamp-All Corporation: Clamp-All Hi-Torq 80 coupling
Anaheim Foundry: Husky "White" SD-2000 coupling
Mission: Heavyweight "Blue" coupling

Note: Contractor shall use caution in layout and installation of piping systems as required to avoid installation of mechanical couplings partially in walls. This is to avoid problems with installation of thru-wall pipe penetration materials at rated assemblies and to maintain integrity of UL/FM fire safing thruout the project.
 3. Failure to comply with specifications will require removal and replacement of all unaccepted joint materials.

2.2 PIPE SUPPORTS

- A. Perforated strap hangers, chain or wire will not be permitted on the job. All pipe hangers and supports shall be as required to meet Seismic requirements of the IBC International Building Code.
 1. *Note: Installation of "Uni-strut" or pipe support channel systems will not be permitted for installation of pipe systems.*

2. Installation of hangers for all piping shall be suspended from building structures or supplementary steel as specified. Piping secured in corridors to walls with stand-off brackets is not permitted.
- B. Support horizontal piping above ground with hangers, threaded rods and turnbuckles as manufactured by M-CO Michigan Hanger, Anvil, PHD Hangers, Holdrite or accepted equal.
 1. ERICO hammer-on rod clips and Z purlin rod clips for 3/8" diameter rods will be accepted for suspended pipe sizes up to 2" in accordance with manufacturer instructions.
- C. Support cast iron pipe with steel clevis hangers, spaced not over 5 feet apart for 5 foot sections of pipe and 10 feet apart for 10 foot sections. Locate hangers as near as possible to hubs or band connections.
- D. Provide concrete inserts for hanging pipe from concrete structures. Inserts shall permit adjustment, removal and use of different size hanger rods.
- E. Provide supplementary steel required for proper support of suspended piping and installation of pipe hangers. All supplementary steel support bracing shall meet seismic design constraints.

2.3 PIPE SLEEVES

- A. Core holes where all pipes pass through block wall construction, sized to allow clearance entirely around the passing pipe in accordance with seismic requirements of the International Building Code.
 1. Sleeves in bearing walls and floors shall be made of Sch 40 steel or service weight cast iron pipe. Extend vertical sleeves a minimum of 1" above finished floor. Install all pipe sleeves in a waterproof manner.
 2. Sleeves in other walls shall be made of 20 gauge galvanized steel.
- B. See Architectural drawings for locations of fire rated assemblies. Provide pipe sleeves where pipes pass through fire-rated walls or floors. The space between the pipe and the pipe sleeve shall be filled with a UL rated through wall penetration system fire proofing material. Install in accordance with the manufacturer's specific instructions. Installation of fire stopping and sealing of all penetrations is included in this section of these specifications.
 1. Failure to comply will require the removal of caulking materials and replacement with UL fire rated materials and sleeves as specified. Submit data sheets for caulking materials for Engineer review. See Architectural drawings for wall ratings and locations.
 2. Sleeves in bearing walls and floors shall be made of Sch 40 steel or service weight cast iron pipe. *Sleeves may be omitted provided that penetration is completed in accordance with specific manufacturer requirements and installation details for a thru-wall penetration assembly.*
 3. Openings shall not be excessively large and/or irregular for efficient fire stopping details. All firestopping throughout the building shall utilize the same manufacturer's products to ensure compatibility and consistency of penetration seals. Coordinate with the general Contractor and other trades prior to beginning firestopping work.

2.4 LIFT STATION

- A. Lift Station shall each be a duplex packaged system as manufactured by Barnes/ Crane Pumps. Pump system shall be selected with manufacturer recommendations and shall be a complete packaged pump station to include the following:
- Submersible Grinder Pumps
 - Sump Basin
 - Sump Cover
 - Inlet Pipe Connection
 - Sump Level Control Switches
 - Control Panel
- B. Each pump shall be rated at 2 HP, model SGVSP50, 3450 RPM, 30 GPM at 20 ft. TDH, 240 V, 3 phase.
- C. Sump shall be 36" diameter x 96" deep fiber-reinforced polyester 2-piece modular flanged basin with ci hub inlet, compression flanged discharge, ballast support flange.
1. Sump basin shall have aluminum 1/4" tread plate cover with fasteners. Sump cover shall include all couplings for electrical and vent conduits including 2" vent cap.
- D. Sump level control switches shall be provided for pump on, pump off and high level alarm.
1. Mercury switch shall be encapsulated in polyurethane foam for corrosion and shock resistance. Level switches shall be weighted to hold position in the basin.
2. Float switches shall be connected to a stainless steel float bracket and terminate in a NEMA 4X junction box.
- E. Control panel shall be Duplex NEMA 3R, UL listed to include the following:
- Lockable Cover
 - Main disconnect with thru the door operator
 - FVNR starter with circuit breaker
 - Three position selector (HOA)
 - Pump run light
 - Control transformer (fused primary and secondary)
 - Power and control terminals
 - Alarm Bell and Light with Silencing switch
 - Dry Contacts for Alarm Function
 - Automatic Pump Alternator
- F. Lift station manufacturer shall provide factory start-up with written test and balance report to establish all operating conditions and parameters prior to substantial completion.
- G. Equal package pump systems as manufactured by Zoeller, Goulds, Weil or Ebara will be accepted.

(2) 4"

X 4

PART 3 - EXECUTION

MECHANICAL, PLUMBING
22 05 00 - 5

04/04/14

Handwritten signature
16-JUN-2014

3.1 SOIL, WASTE AND VENT DRAIN PIPE

- A. Run horizontal pipe, graded uniformly, not less than 1/4" per foot for pipes 3" and smaller and 1/8" per foot for larger pipes. Offset to pass obstructions.
- B. Change size by reducing fittings. Change directions by using 45 degree wyes and long-sweep bends. No pipe to be drilled, tapped or welded. Saddle hubs, tapped tees, and crosses will not be permitted.
- C. Each section of sanitary waste pipe shall be laid to the specified line and grade, working in the upstream direction with the bell end laid upgrade.

3.2 TESTS

- A. Test waste and sanitary drainage pipe systems affected by these renovations by plugging all necessary openings and filling systems with minimum 10'-0" water column, or as directed for operational testing of pumping systems as directed and in accordance with local codes and ordinances.
- B. Notify local authorities and Engineer prior to backfill of all underground waste or pumped drain lines. Failure to comply shall require lines to be uncovered, retested and inspected.

3.3 SUBMITTALS

- A. Submit detailed shop drawings, equipment material cut sheets, and product data for all items as listed below. All product data shall be submitted at one time in detail. Partial submission will not be accepted.
 - 1. Place submittal data in 3-ring binders. Number of submittal data to be submitted for review shall be determined by the Architect.
 - 2. Partial data books submitted for review will be **REJECTED** and will not be reviewed or returned to the contractor. Contractor shall resubmit rejected data in its entirety for review.
- B. Contractor shall order all materials after receipt of reviewed shop drawings, equipment material cut sheets, and product data for Plumbing systems to insure timely delivery to project once materials and equipment have been accepted.
 - 1. Delays in delivery of the aforementioned products for this project will not be tolerated.
 - 2. Substitutions of lesser products than specified will not be accepted due to delays in delivery by the supplier or manufacturer.
 - 3. Failure to comply will require the installation of temporary materials and products as directed by the Engineer to permit completion of the job without delay. These temporary products shall be replaced at the contractors expense once specified materials and products are received.
 - Pipe Materials
 - Pipe Jointing Materials
 - Fire Caulking Materials
 - Pipe Hangers and Supports

- Lift Station and Control Panel

3.4 ENGINEER SITE VISIT REPORTS

- A. Engineer site visit reports will be furnished during construction as requested by the Architect.
- B. Contractor is responsible for correcting all construction items as noted 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 indicating completion status to maintain timely, planned construction progress without delays or problems.

3.5 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. Minimum (2) copies of completed product submittal data for warranty and maintenance manuals including warranties and maintenance manuals for lift station and control panel.
 2. Clean and flush debris and dirt from lift station prior to placing in operation.
 3. Provide Owner operation and training seminar at project closeout. Set up time for meeting and instruct Owner personnel in the proper operation and maintenance of the following:
 - Lift Station and Control Panel

END OF SECTION 22 05 00