A0.1

Project Information Commonwealth Follies

New 1 story public restroom and pump house at Commonwealth Park.

Building Information

This project was designed under the 2017 OBC, 2017 NEC, 2017 OPC and 2017 OMC Building is concrete masonry unit construction with stone veneer and aluminum siding with nominal lumber roof framing.

West Folly - Pump House 143 SF
Total 248 SF

Owner:

City of Bexley

Elena Andrews 2242 E. Main Street, Bexley, Ohio, 43209

Structural Engineer: Schaefer

Jim Miller 537 East Pete Rose Way, Cincinnati, Ohio 45202

MEP Engineer: VMP Engineering Inc.

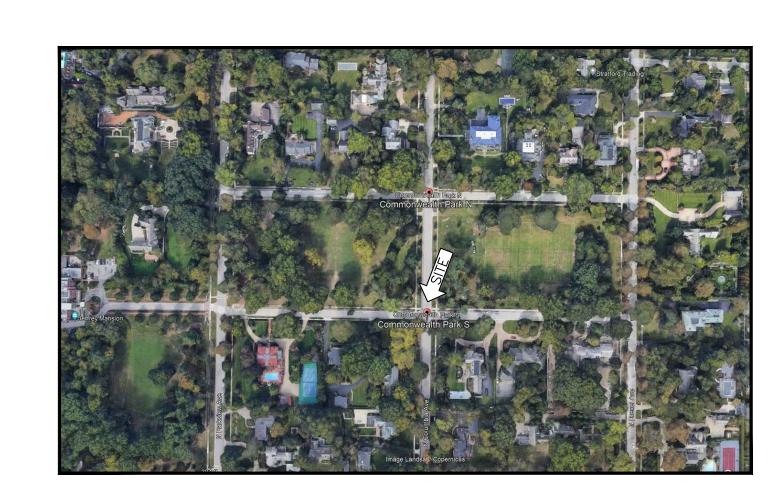
Sean Smith 6225 Emerald Parkway, Dublin, Ohio 43016 Phone 614-408-3862

WATER & SEWER: CITY OF COLUMBUS DEPARTMENT OF PUBLIC UTILITIES SEWERS & DRAINAGE: 645-7175

COLUMBIA GAS 1600 DUBLIN ROAD 1-800-440-8111

ELECTRIC: AMERICAN ELECTRIC POWER CUSTOMER SERVICE: 1-800-277-2177

Location Map No Scale



SHEET INDEX

BY OTHER - CONTACT OWNER

SECTIONS

HVAC PLAN

HVAC SPECIFICATIONS

ELECTRICAL SPECIFICATIONS

PLUMBING PLAN AND SPECIFICATIONS

ELECTRICAL PLAN

A0.2

CIVIL

A1.0

A2.0

A3.0

S1.0

H1.1

H2.1

E1.1 E2.1

P1.1

COVER SHEET

GRAPHIC SITE PLAN

PLANS, INTERIOR ELEVATIONS

EXTERIOR ELEVATIONS, DOOR AND WINDOW INFO

STRUCTURAL NOTES AND SPECIFICATIONS

Phone 614-559-4200

Architect of Record: Marzich Architecture

Brian Marzich 2465 Seneca Park Place, Bexley, Ohio, 43209 Phone 614-314-0260

Phone 513-562-2718

Utilities:

910 DUBLIN ROAD COLUMBUS, OH 43215 WATER: 645-8270

COLUMBUS, OH 43215

UNDERGROUND LINE LOCATION: 1-800-362-2764

<u>CATV</u>: NA

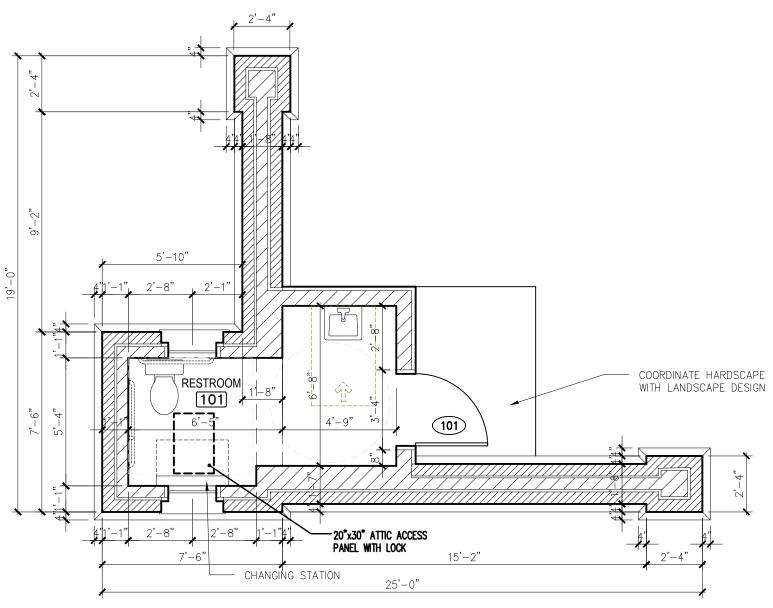
BID SET

MARCH 22, 2023

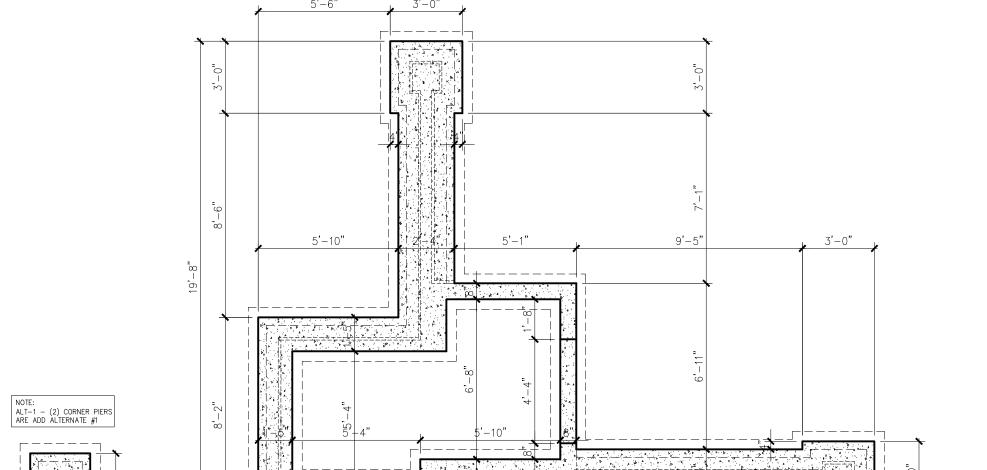


A0.2

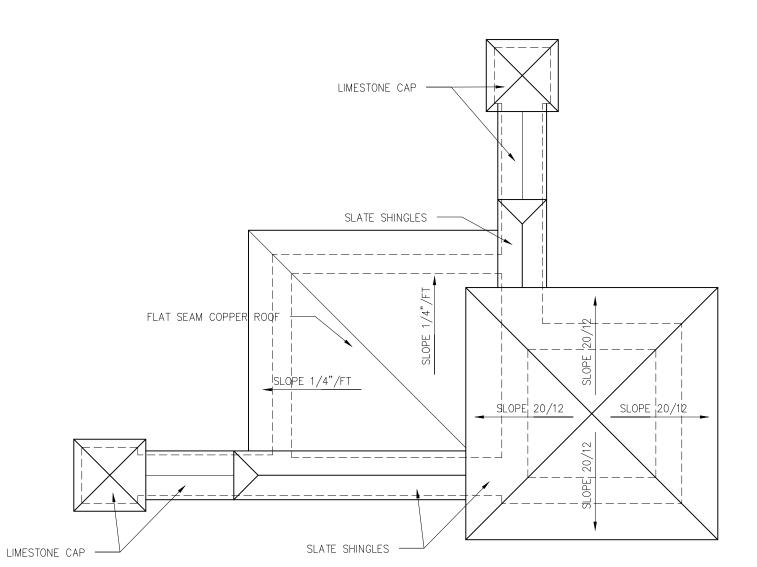


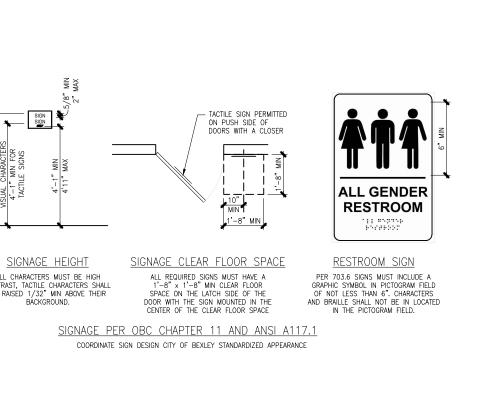


EAST FOLLY - FLOOR PLAN



14'-6" 25'-8"





ROOM FINISH SCHEDULE

CMU PAINTED

CMU PAINTED

CMU PAINTED

CMU PAINTED

CMU PAINTED

CMU PAINTED

FLOOR

SEALED CONC.

SEALED CONC.

101 RESTROOM

CLG MATL/ FINISH

GYP BD PAITED

GYP BD PAITED

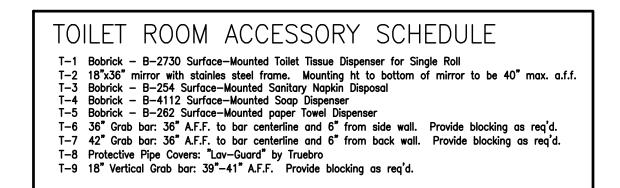
CMU PAINTED CMU PAINTED

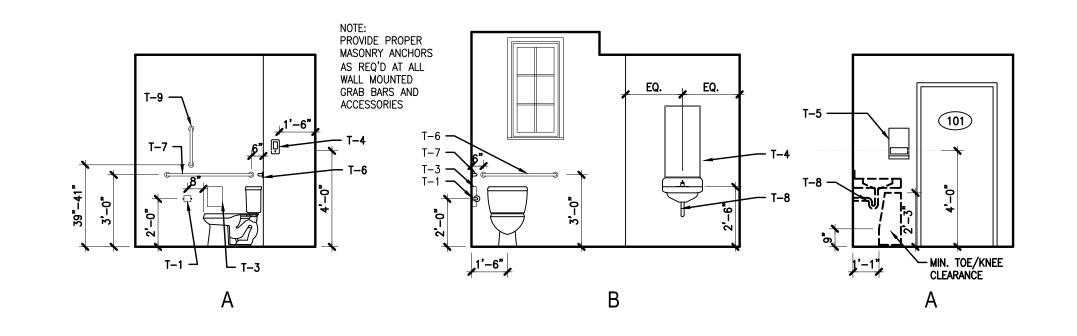
HEIGHT

TRIM/ DOORS

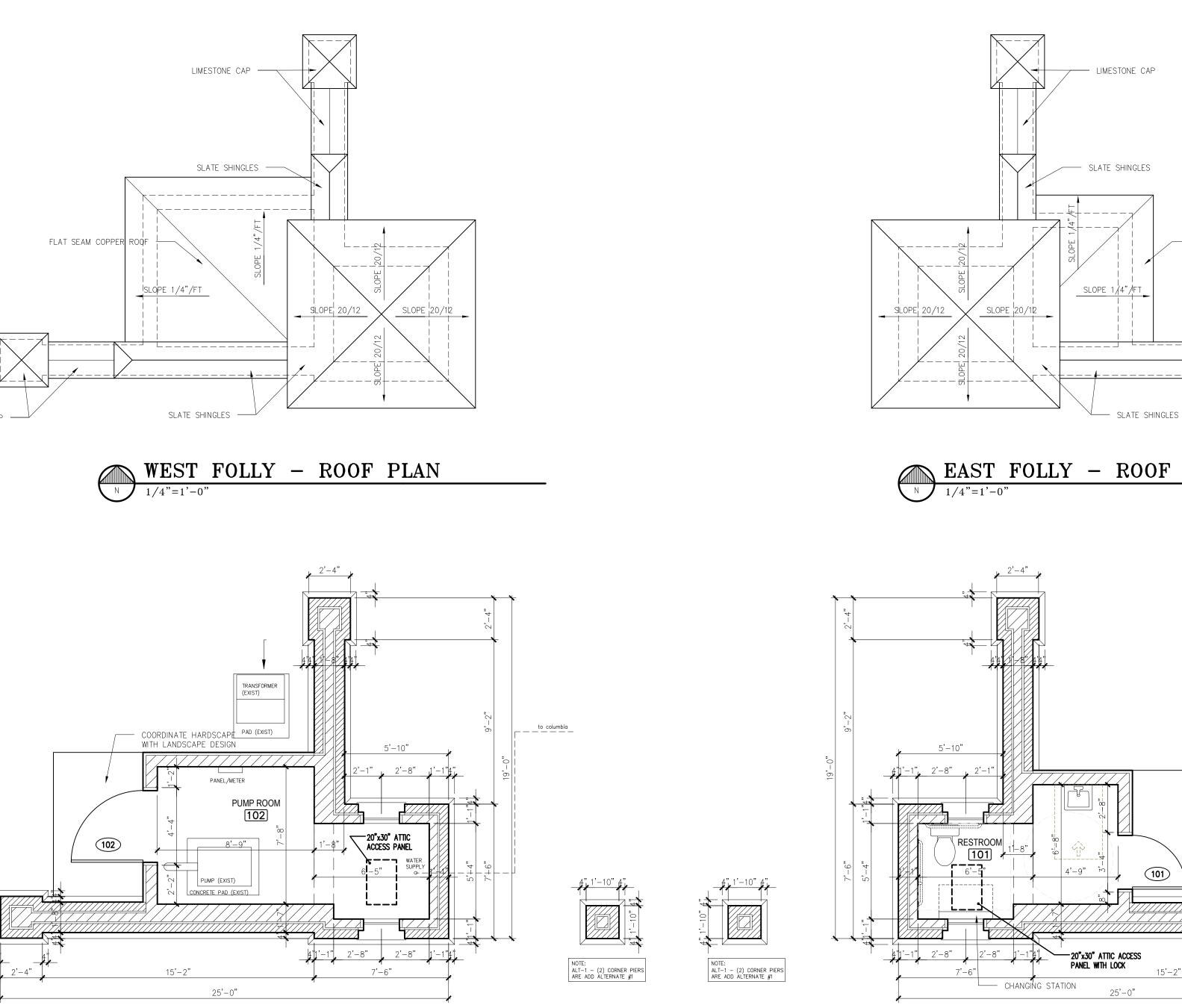
REMARKS



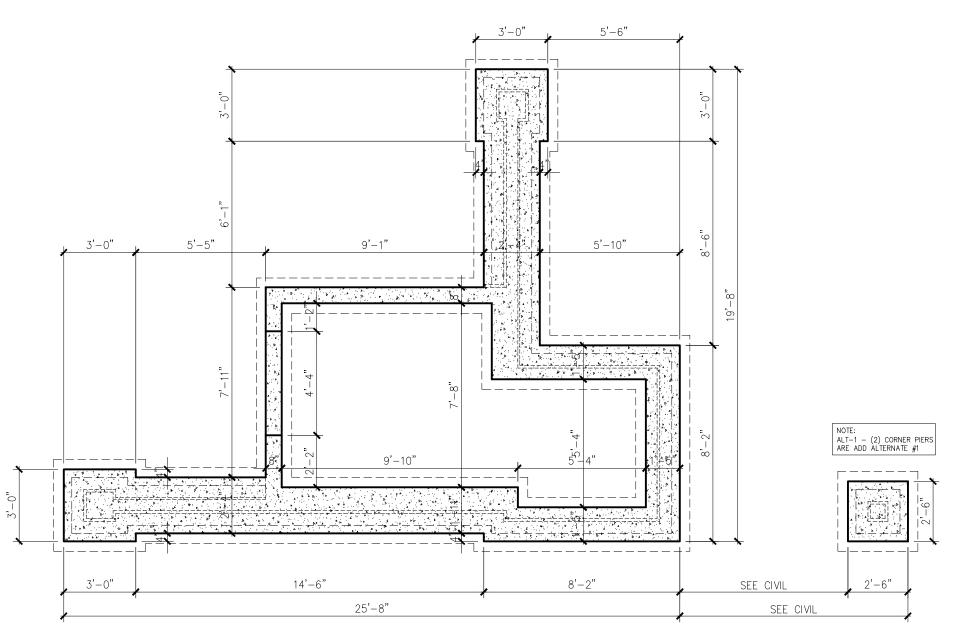








WEST FOLLY - FLOOR PLAN



WEST FOLLY - FOUNDATION PLAN

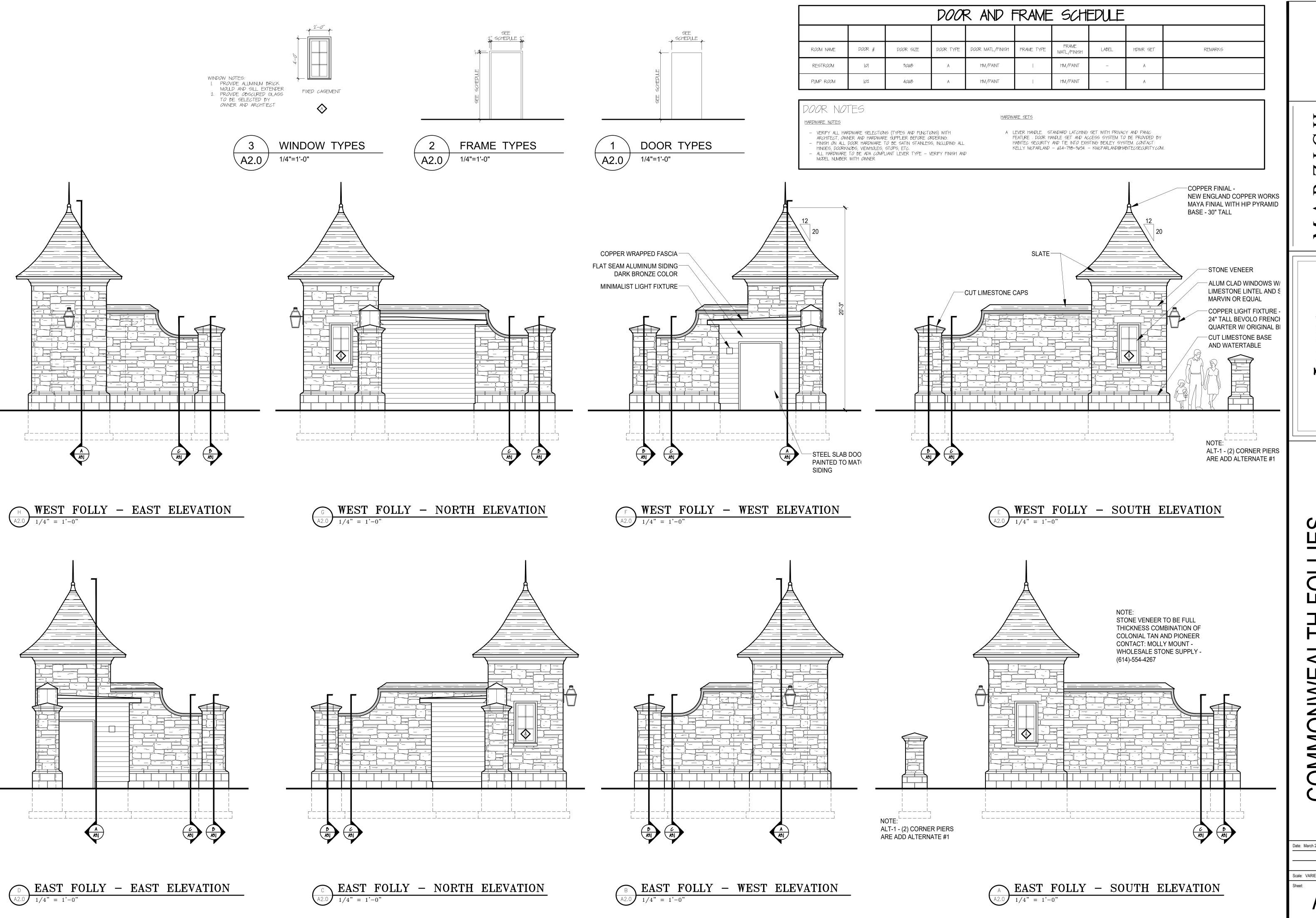
1/4"=1'-0"

EAST FOLLY - FOUNDATION PLAN

OMMONWE

NEW RESTROOM AND PUMP HOUSE COMMONWEALTH PARK, BEXLEY, OHIO

Date: March 22, 2023 - BID SET



BIDSET

MARZICA PARK PLACE BEXLEY, OHIO

JONES

BRIAN KENT JONES ARCHITIS SO3 CITY PARK AVENUE COLUMBUS, OH 43 P 614-358-3729 F 614-340-7015

FOLLIES

TROOM AND PUMP HOUSE

Date: March 22, 2023 - BID SET

ale: VARIES

A2.0



Date: March 22, 2023 - BID SET

Scale: VARIES

A3.0 BUILDING SECTION
1/2" = 1'-0"

SLATE SHINGLES ON ROOF PAPER ON ROOF SHEATHING

2x6 @ 16" OC W/ (3) 10dNAILS EACH END

— SIMPSON STRONG-TIE — H2.5 HURRICANE TIES @ EACH TRUSS

2x6 TREATED SILL PLATE WITH SILL SEALER. 1/2"

ANCHOR BOLTS @ 48" O.C. MAX.

— #5 + GROUT @ 32" O.C., -CENTER IN CMU

BOND BEAM W/ (2)#4 + GROUT —

5/8" GYP BOARD ON 2x4 @ 24" O.C.

MIN R-38 INSULATION

(2)6 x8 PRECAST CONCRETE

LINTELS W/ (2)#4 TOP AND

— ISOLATION MATERIAL

— CONCRETE SLAB OVER VAPOR

BARRIER AND GRAVEL FILL

STONE VENEER

LIMESTONE WATERTABLE -

THRU WALL FLASHING AND

LIMESTONE BLOCKS
GROUT SOLID ———

WEEPS -

— 2x8 OUTRIGGERS W/ CUT RADIUS, TYP.

- 1x4 FIBER CEMENT FASCIA ON 2x

— 2" CONTINUOUS SOFFIT VENT IN 1/2"FIBER CEMENT SOFFIT PANEL

— MISC. 2x BLOCKING AS REQ'D

— FLASHING AND COUNTER

- THRU WALL FLASHING AND WEEPS

TOP OF BLOCK

— 2x10 RIPPED TO SLOPE @ 16" O.C.

— FLAT SEAM COPPER ROOF ON

— COPPER WRAPPED 2x6 FASCIA

— ALUM. SOFFIT PANEL TO MATCH

— 2x6 TREATED SILL PLATE WITH

— FLAT SEAM ALUMINUM SIDING

— BUILDING WRAP ON 1/2" EXT.

SHEATHING ON 1x2 FURRING

-- #5 + GROUT @ 32" O.C., CENTER IN

— ALUM. FLASHING WITH DRIP EDGE.

PROVIDE INSECT SCREEN AT

TOP OF FOUNDATION WALL

— #5 BENT BARS @ 32" O.C., TYP.

— (2)#5 BARS, TYP.

1'-4"

TOP OF FOOTING

DARK BRONZE COLOR

STRIPS @ 16" O.C.

SILL SEALER. 1/2" ANCHOR BOLTS

TOP OF BLOCK

@ 48" O.C. MAX.

FULLY ADHERED ROOF MEMBRANE ON ROOF SHEATHING

— COPPER DRIP EDGE

SUB-FASCIA

FLASHING SLOPE 1/4"/FT

PROVIDE MINIMUM R-38

URETHANE CLOSED CELL

INSULATION TO UNDERSIDE OF

ROOF SHEATHING. NO ROOF VENTILATION REQUIRED.

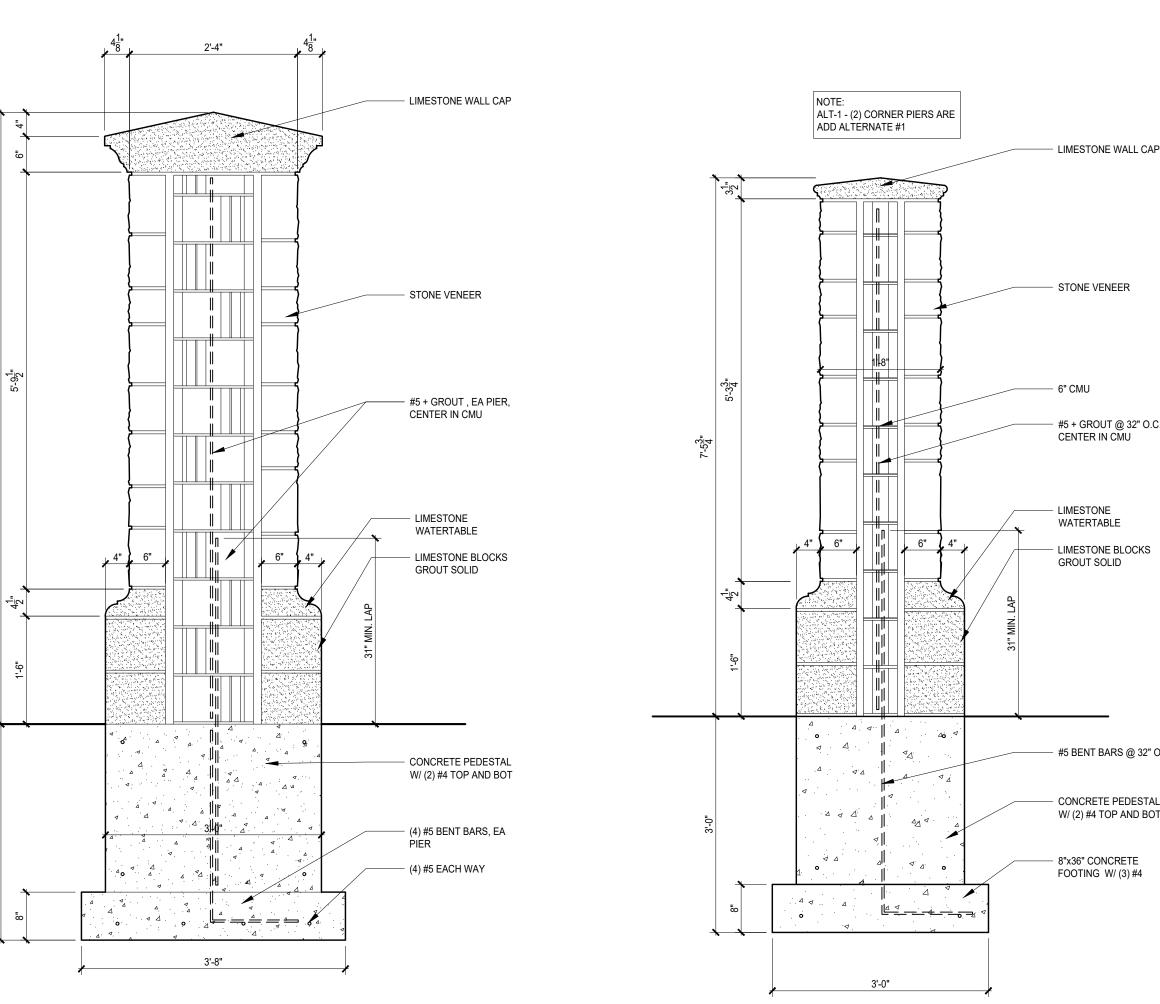
— PT 2x10 W/ 1/2" DIA. EXP BOLTS

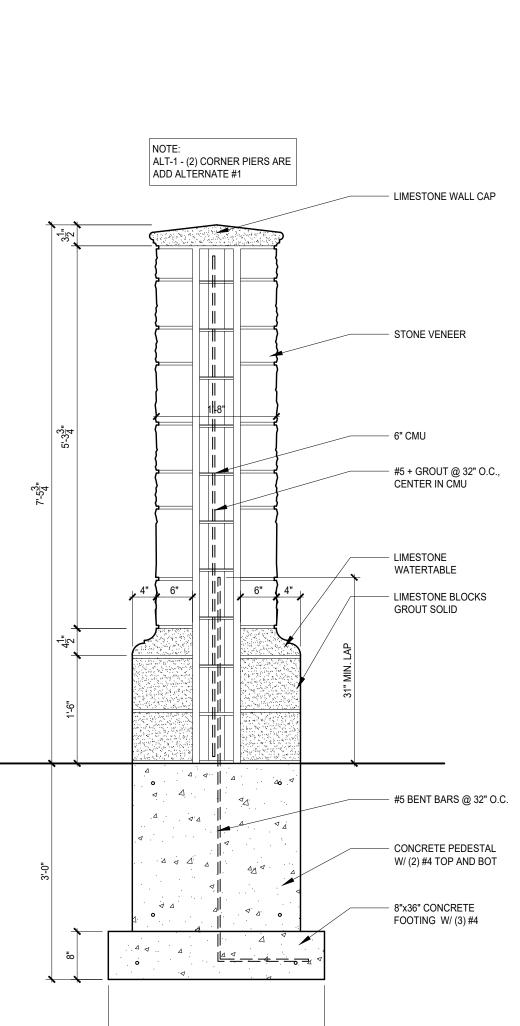
@ 24" O.C. 3" EMBED, TYP.

INSULATE CMU CORES SOLID WITH URETHANE CLOSED CELL

INSULATION IN LOCATIONS WITH NO GROUT/REINFORCING

— 7 1/4" CROWN MOULD — 1x4 FIBER CEMENT TRIP BOARD





STRUCTURAL NOTES

GOVERNING CODE

2017 OHIO BUILDING CODE (REFERENCES IBC 2015 & ASCE-7 10).

DESIGN LOADS

	ROC A. B. C. D. E.	OF LOAD. MINIMUM COMBINATION OF WIND LOAD, LIVE LOAD RAIN LOAD, OR SNOW LOAD (Pf OR Pm) SHINGLES, MEMBRANE ROOF SHEATHING AND FRAMING CEILING, INSULATION MISC. TOTAL LOAD		20 6 2 2	PSF* PSF PSF PSF PSF MIN
	*FL <i>F</i>	AT ROOF SNOW LOAD, P_F = 14 PSF GROUND SNOW, P_g = 20 PSF SNOW LOAD IMPORTANCE FACTOR, I_S = 1.0 SNOW EXPOSURE FACTOR, C_e = 1.0 SNOW LOAD THERMAL FACTOR, C_e = 1.2 MINIMUM SNOW LOAD, P_m = 20 PSF			
)	WIN	D LOAD (PER ASCE 7):			
		BASIC DESIGN WIND SPEED, V= 115 MPH ALLOWABLE STRESS DESIGN WIND SPEED, V _{ASD} = 90 MPH RISK CATEGORY = II WIND EXPOSURE = B			
3.	A. B.	SMIC LOAD SEISMIC RISK CATEGORY SEISMIC IMPORTANCE FACTOR, I _® SITE CLASS (ASSUMED) DESIGN SPECTRAL RESPONSE ACCELERATION	= II = 1.0 = D		

CONSTRUCTION AND SAFETY

FACTOR AT SHORT PERIODS, SDS

FACTOR AT 1 SECOND PERIOD, SD1

F. SEISMIC DESIGN CATEGORY

E. DESIGN SPECTRAL RESPONSE ACCELERATION

- 1. CONTRACTOR SHALL BRACE ENTIRE STRUCTURE AS REQUIRED TO MAINTAIN STABILITY UNTIL COMPLETE AND FUNCTIONING AS THE DESIGNED UNIT.
- 2. ARCHITECT/ENGINEER SHALL NOT BE RESPONSIBLE FOR THE MEANS, METHODS, TECHNIQUES, SEQUENCES OR PROCEDURES OF CONSTRUCTION SELECTED BY CONTRACTOR.

= 0.14

= 0.095

= B

3. THE CONTRACTOR WILL BE SOLELY AND COMPLETELY RESPONSIBLE FOR CONDITIONS OF THE JOB SITE INCLUDING SAFETY OF ALL PERSONS AND PROPERTY DURING PERFORMANCE OF THE WORK. THIS REQUIREMENT WILL APPLY CONTINUOUSLY AND IS NOT LIMITED TO NORMAL WORKING HOURS. WHEN ON SITE, THE ARCHITECT/ENGINEER IS RESPONSIBLE FOR HIS/HER OWN SAFETY BUT HAS NO RESPONSIBILITY FOR THE SAFETY OF OTHER PERSONNEL OR SAFETY CONDITIONS AT THE SITE.

FOUNDATIONS

1. THE FOUNDATION DESIGN AND GENERAL FOUNDATION NOTES ARE BASED ON THE ASSUMPTION OF FAVORABLE SOIL CONDITIONS. ALL FOOTINGS SHALL BEAR ON LEVEL (WITHIN 1 IN 12) UNDISTURBED SOIL. FOUNDATIONS HAVE BEEN DESIGNED FOR A MAXIMUM SOIL BEARING PRESSURE OF 1500 PSF.

- 2. FOUNDATION ELEVATIONS SHOWN ARE FOR BIDDING PURPOSES AND MAY VARY TO SUIT SUB-SURFACE SOIL CONDITION.
- 3. ALL AREAS WITHIN THE FOOTPRINT OF THE BUILDING, INCLUDING UTILITY TRENCHES, MUST BE FREE OF ANY WET AND/OR SOFT AREAS PRIOR TO PLACEMENT OF FILL MATERIAL OR SLAB.
- 4. CONTRACTOR SHALL CONTACT UTILITY COMPANIES FOR LOCATING UNDERGROUND SERVICES AND IS RESPONSIBLE FOR THEIR PROTECTION AND SUPPORT.
- 5. FILL BELOW INTERIOR SLAB AREAS SHALL BE ODOT 304 (GREATER THAN 6") OR #57 CRUSHED CRUSHED AGGREGATE (LESS THAN 6") WELL GRADED GRANULAR MATERAIL COMPACTED TO 95% STANDARD PROCTOR DENSITY. PEA GRAVEL IS NOT PERMITTED.
- 6. FINISHED GRADE SHALL SLOPE AWAY FROM THE PERIMETER FOUNDATION

<u>CONCRETE</u>

1. CONCRETE WORK SHALL CONFORM TO ALL REQUIREMENTS OF ACI 301-10, "SPECIFICATIONS FOR STRUCTURAL CONCRETE FOR BUILDINGS".

2. MATERIALS:

- A. CONCRETE FOR INTERIOR AND EXTERIOR SLABS:
- i. f'c = 3500 PSI
- ii. MAXIMUM WATER / CEMENTITIOUS RATIO = 0.45

v. LIMIT POZZOLAN CONTENT PER ACI 301-10 TABLE 4.2.2.9.

- iii. NORMAL WEIGHT AGGREGATE
 iv. 5% TO 7% ENTRAINED AIR
- B. CONCRETE FOR FOUNDATION WALLS:
- i. f'c = 3500 PSIii. MAXIMUM WATER / CEMENTITIOUS RATIO = 0.45.
- iii. NORMAL WEIGHT AGGREGATE
 iv. 5% TO 7% ENTRAINED AIR
 v. LIMIT POZZOLAN CONTENT PER ACI 301-10 TABLE 4.2.2.9.
- C. CONCRETE FOR FOOTINGS: i. f'c = 3000 PSI.
- ii. NORMAL WEIGHT AGGREGATE.D. REINFORCING STEEL: ASTM A615 60 KSI YIELD DEFORMED BARS.
- E. ADMIXTURES: ADMIXTURES CONTAINING CHLORIDE ARE NOT PERMITTED IN REINFORCED CONCRETE OR CONCRETE CONTAINING METALS.
- 3. IF CONCRETE ARRIVES AT THE SITE WITH A SLUMP BELOW THE SPECIFIED SLUMP AND IS UNSUITABLE FOR PLACING AT THAT SLUMP, THE SLUMP MAY BE ADJUSTED ONCE ONLY BY ADDING WATER UP TO THE AMOUNT ALLOWED IN THE ACCEPTED MIXTURE PROPORTIONS. ADDITION OF WATER SHALL BE IN ACCORDANCE WITH ASTM C94. DO NOT EXCEED THE SPECIFIED WATER-CEMENTITIOUS MATERIAL RATIO OR SLUMP IN THE APPROVED MIX DESIGN. DO NOT ADD WATER TO CONCRETE DELIVERED IN EQUIPMENT NOT ACCEPTABLE FOR MIXING.
- 4. WHEN THE AIR TEMPERATURE IS LESS THAN 40° F, THE TEMPERATURE OF THE CONCRETE SHALL BE MAINTAINED BETWEEN 50° AND 70°F FOR 7 DAYS.
- 5. DURING HOT WEATHER, WHEN NECESSARY, PROVIDE FOR PROTECTIVE MEASURES IN ADVANCE OF PLACEMENT.
- 6. AT CORNERS AND INTERSECTIONS OF WALLS, PROVIDE BENT BARS OF EQUAL SIZE AND AT SAME SPACING AS TYPICAL REINFORCING AROUND CORNER AND/OR INTO ABUTTING WALL. BARS SHALL HAVE EMBEDMENT OF 30 DIAMETERS (18" MIN.).

- 7. ALL CAST-IN-PLACE CONCRETE WALLS SHALL BE PLACED CONTINUOUSLY WITH NO COLD JOINTS AND VIBRATED ADEQUATELY TO PREVENT AIR POCKETS.
- 8. INTERIOR CONCRETE SLABS SHALL BE 5" THICK, WITH 6 MIL VAPOR BARRIER OVER 4" MINIMUM CRUSHED GRANULAR COMPACTED BASE. PLACE CONTRACTION JOINTS IN INTERIOR SLABS AND EXTERIOR FLAT WORK AT 10' O.C. MAXIMUM EACH WAY WITH A MAXIMUM ASPECT RATIO OF 1.5:1. SLOPE TO DRAINS.
- 9. STEEL TROWEL FINISH FLOOR SLAB AND CURE USING "CURE AND SEAL" TYPE CURING COMPOUND MEETING FEDERAL SPECIFICATION TT-C-00800 VOC COMPLIANT, 30% MINIMUM SOLIDS CONTENT. FOR EXTERIOR FLAT WORK APPLICATIONS EXPOSED TO SUNLIGHT USE LIGHT BROOM FINISH AND ACRYLIC BASED CURING COMPOUND. PRIOR TO APPLICATION, CONTRACTOR SHALL VERIFY COMPATIBILITY OF CURING COMPOUND WITH FINAL FLOOR FINISHES.
- 10. CONTRACTION JOINTS IN SLABS-ON-GRADE SHALL BE HAND TROWELED OR SAW CUT WITHIN 6 HOURS OF PLACING CONCRETE OR WHEN CONCRETE IS STRONG ENOUGH TO WITHSTAND CUTTING WITHOUT RAVELING AT THE EDGES.

MASONRY

1. MASONRY CONSTRUCTION AND MATERIALS SHALL CONFORM TO ALL REQUIREMENTS OF "SPECIFICATIONS FOR MASONRY STRUCTURES" (TMS 602-13), EXCEPT AS MODIFIED BY THE REQUIREMENTS OF THESE CONTRACT DOCUMENTS.

2. MATERIALS

- CONCRETE MASONRY UNITS: ASTM C90 TYPE I.
 NORMAL WEIGHT AGGREGATE PER ASTM C33.
- B. MORTAR: ASTM C270
- i. ALL MASONRY UNLESS NOTED OTHERWISE: TYPE S
- C. PORTLAND CEMENT-LIME MORTAR:
- i. PORTLAND CEMENT: TYPE I.
- ii. HYDRATED LIME: TYPE S.
- D. MASONRY CEMENT MORTAR IS PERMITTED.

ABOVE GRADE VENEER: TYPE N

- E. GROUT: ASTM C476. SLUMP 8" TO 11". MINIMUM COMPRESSIVE STRENGTH = 2000 PSI AT 28 DAYS.
- F. REINFORCING STEEL: ASTM A615, ASTM A706, OR ASTM A996, 60 KSI YIELD.
- G. HORIZONTAL JOINT REINFORCING FOR SINGLE WYTHE CONCRETE MASONRY: ASTM A951 9 GAGE LADDER TYPE. HOT DIPPED GALVANIZED PER ASTM A153 CLASS B. PLACE HORIZONTAL JOINT REINFORCING AT 16" CENTERS VERTICALLY FOR CONCRETE MASONRY. LAP HORIZONTAL JOINT REINFORCING 6" MINIMUM. HORIZONTAL JOINT REINFORCING SHALL BE DISCONTINUOUS ACROSS MOVEMENT JOINTS.
- H. HORIZONTAL JOINT REINFORCING FOR CONCRETE MASONRY AND BRICK VENEER CAVITY WALL: ASTM A951 9 GAGE LADDER TYPE PLACED IN CONCRETE MASONRY WITH PROJECTING EYES FOR 3/16" DIAMETER DOUBLE WIRE RECTANGULAR ADJUSTABLE PINTLE. HOT DIPPED GALVANIZED PER ASTM A153 CLASS B. PLACE HORIZONTAL JOINT REINFORCING AT 16" CENTERS VERTICALLY FOR CONCRETE MASONRY. LAP HORIZONTAL JOINT REINFORCING 6" MINIMUM. HORIZONTAL JOINT REINFORCING SHALL BE DISCONTINUOUS ACROSS MOVEMENT JOINTS.
- 3. MORTAR PROPORTIONS MUST BE ACCURATELY MEASURED PRIOR TO MIXING. ADD CEMENT TO MIX IN FULL BAG QUANTITIES. MEASURE SAND IN BOX WITH VOLUME OF ONE CUBIC FOOT AS OFTEN AS NECESSARY TO MAINTAIN CONSISTENT PROPORTIONS AND AT LEAST ONCE DAILY AND EVERY 4 HOURS OF MIXING.
- 4. PROVIDE PREFABRICATED "L" AND "T" SHAPED HORIZONTAL JOINT REINFORCING AT WALL INTERSECTIONS.
- 5. KEEP AIR SPACE BEHIND VENEER FREE OF MORTAR DROPPINGS.
- 6. RUNNING BOND PATTERN SHALL BE USED FOR ALL MASONRY WORK UNLESS OTHERWISE NOTED.

7. LINTELS IN CONCRETE MASONRY SHALL BE 8" DEEP PRECAST CONCRETE LINTELS REINFORCED WITH BARS TOP AND BOTTOM OF LINTEL.

- 8. FILL CELLS WITH GROUT, 3 COURSES MINIMUM, BELOW LINTEL BEARING.
- 9. UNLESS NOTED OTHERWISE ON PLANS, LINTELS SHALL HAVE 8" MINIMUM END BEARING.
- 10. ALL REINFORCING STEEL SHALL BE SUPPORTED AND FASTENED TO APPROVED POSITIONERS LOCATED AT 192 BAR DIAMETERS MAXIMUM SPACING AND WITH A MINIMUM OF TWO POSITIONERS PER GROUT POUR (ONE NEAR THE BOTTOM AND ONE NEAR THE TOP) TO PREVENT DISPLACEMENT DURING THE PLACEMENT OF GROUT.
- 11. GROUT ALL CELLS BELOW GRADE SOLID.

STONE MASONRY

- 1. MATERIALS:
- A. STONE SHALL BE WASHED AND FREE OF DIRT. STONE SHALL HAVE NO SHALE ADHERED TO THE SURFACE.
- B. SETTING MORTAR: SHALL BE ASTM C-270 TYPE N COMPOSED OF ONE PART PORTLAND CEMENT, ONE PART MASON'S LIME AND SIX PARTS SAND MIXED WITH POTABLE WATER OR ONE PART MASONRY CEMENT AND TWO AND THREE QUARTERS PARTS SAND MIXED WITH POTABLE WATER.
- C. MASONRY VENEER (STONE) SHALL HAVE 18-GAUGE CORRUGATED, GALVANIZED STEEL WALL TIES SPACED AT 16" ON CENTER VERTICALLY AND HORIZONTALLY WITH A MINIMUM 1" AIR SPACE BETWEEN VENEER AND CONCRETE MASONRY WALL. PLACE ADDITIONAL WALL TIES AT 16" ON CENTER AROUND ALL OPENINGS, WITHIN 12" OF THE OPENING. ATTACH EACH WALL TIE WITH GALVANIZED MASONRY SCREW WITHIN 1/2" OF THE ANCHOR'S 90 DEGREE BEND. PROVIDE FLASHING LOCATED BENEATH THE FIRST COURSE OF MASONRY ABOVE FINISHED GRADE LEVEL, ABOVE ALL LINTELS, AND BELOW ALL SILLS. PLACE WEEP HOLES DIRECTLY ABOVE FLASHING SPACED AT 32" CENTERS.
- EVERY STONE SHALL BE SET IN FULL BEDS OF MORTAR WITH ALL VERTICAL JOINTS SLUSHED FULL. ALL BED AND JOINT WIDTHS SHALL BE 3/8" MINIMUM.
- 3. HEAVY STONES OR PROJECTING COURSES SHALL NOT BE SET UNTIL MORTAR IN COURSES BELOW HAS HARDENED SUFFICIENTLY TO AVOID SQUEEZING.
- 4. JOINTS CAN BE TOOLED WHEN INITIAL SET HAS OCCURRED, OR RAKED OUT 1" AND POINTED LATER.
- 5. DURING COLD WEATHER, INTERNATIONAL MASONRY INDUSTRY ALL WEATHER COUNCIL RECOMMENDATION FOR SETTING FROM 40 DEGREES TO 20 DEGREES FAHRENHEIT SHALL BE FOLLOWED, EXCEPT THAT NO ADDITIVES SHALL BE USED IN THE SETTING MORTAR. BELOW 20 DEGREES FAHRENHEIT, ALL WORK SHALL BE DONE IN HEATED ENCLOSURES.
- 6. CONTINUOUS FLASHING SHALL BE PLACED AT BASE OF ALL WALLS AND OUTLET ABOVE GRADE, AND ABOVE AND BELOW ALL WINDOWS. PROVIDE WEEPHOLES AT VERTICAL JOINTS AT 24" ON CENTER.
- 7. LINTELS SHALL BE STRUCTURAL LIMESTONE WITH 4" MINIMUM BEARING.

WOOD - ROUGH CARPENTRY

- 1. WOOD FRAMING MATERIALS:
- A. DIMENSION LUMBER FRAMING INTERIOR APPLICATIONS:
- i. 2x4 AND 2x6: STUD GRADE OR BETTER SPRUCE PINE FIR KILN DRIED.
- ii. 2x8 AND DEEPER: NO. 1 GRADE OR BETTER SOUTHERN PINE KILN DRIED.
 iii. 2x4 AND DEEPER (PRESERVATIVE TREATED LUMBER): NO.2 GRADE OR BETTER PRESERVATIVE TREATED
- SOUTHERN PINE, AWPA USE CATEGORY UC2.

 2. NAILS: ASTM F1667. FOR EXTERIOR APPLICATIONS OR PRESERVATIVE TREATED, HOT DIP GALVANIZE PER ASTM F2329 OR

ASTM A 153. WHERE PENNYWEIGHTS ARE INDICATED, CONTRACTOR SHALL CONFIRM NAIL SIZES INDICATED ON DRAWINGS

AND NOTES MEET THE FOLLOWING DIAMETER AND LENGTH REQUIREMENTS. PNEUMATIC GUN NAILS SHALL MEET THESE DIAMETER AND LENGTH REGARDLESS OF THE NAIL SIZE INDICATED BY THE MANUFACTURER:

- i. 8d = 0.131" DIA, 2½" LG.
 ii. 10d = 0.148" DIA, 3" LG.
- iii. 16d = 0.162" DIA, 3 ½" LG.
- 3. UNLESS NOTED OTHERWISE, CONNECTIONS SHALL BE MADE PER TABLE 2304.10.1 "FASTENING SCHEDULE", IN REFERENCED BUILDING CODE.
- 4. ALL CONNECTION HARDWARE SPECIFIED ON THE STRUCTURAL DRAWINGS SHALL BE MANUFACTURED BY THE SIMPSON STRONG-TIE COMPANY, SHALL BE FASTENED AS SPECIFIED IN THE SIMPSON PRODUCT AND INSTRUCTION MANUAL, AND ARE BASED ON THEIR CATALOG PUBLISHED CAPACITIES. ALL CONNECTORS SHALL BE INSTALLED USING THE MAXIMUM NAILING SPECIFIED AND PROPER NAIL SIZE UNLESS NOTED OTHERWISE.
- A. EXTERIOR APPLICATIONS OR PRESERVATIVE TREATED: ZMAX (G185), OR HOT DIPPED GALVANIZED, OR STAINLESS STEEL TYPE 304 OR TYPE 316 WHERE INDICATED. G60 AND G90 COATED PRODUCTS ARE NOT PERMITTED. ONLY USE GALVANIZED FASTENERS WITH ZMAX AND HOT DIP GALVANIZED CONNECTORS. ONLY USE STAINLESS STEEL FASTENERS WITH STAINLESS STEEL CONNECTORS.
- 5. FOR ROOF FRAMING, INSTALL ONE SIMPSON H2.5T HURRICANE TIE AT EACH MEMBER AT EACH BEARING LOCATION IN ADDITION TO THE TYPICAL NAILING REQUIREMENT IN THE "FASTENING SCHEDULE".
- 6. NOTCHES IN ROOF RAFTERS SHALL NOT BE LOCATED IN THE MIDDLE ONE-THIRD OF THE SPAN. DEPTH OF NOTCHES IN THE TOP OR BOTTOM OF THE MEMBER ARE NOT TO EXCEED ONE-SIXTH OF THE MEMBER DEPTH, AND LENGTH SHALL NOT EXCEED ONE-THIRD OF MEMBER DEPTH. HOLES SHALL NOT BE BORED LARGER THAN ONE-THIRD OF THE MEMBER DEPTH, OR WITHIN TWO INCHES OF THE TOP OR BOTTOM OF THE MEMBER, OR WITHIN TWO FEET OF BEARING. NO HOLES OR NOTCHES ARE ALLOWED IN BEAMS UNLESS APPROVED BY ENGINEER.

WOOD - SHEATHING

- 1. MATERIALS:
- A. ROOF SHEATHING (TYPICAL): 3/4" (NOMINAL) APA SPAN RATING 48/24 ROOF SHEATHING, EXPOSURE 1 CLASSIFICATION.
- 2. NAIL SHEATHING TO WOOD FRAMING WITH 0.131" DIA, 3" LG NAILS AT 6 INCHES ON CENTER AT PANEL EDGES AND 12 INCHES ON CENTER AT INTERMEDIATE SUPPORTS UNLESS NOTED OTHERWISE. STAPLES NOT PERMITTED FOR FASTENING APA RATED SHEATHING.
- 3. SHEATHING AT ROOF FRAMING: INSTALL PANEL CLIP THAT CREATES AN 1/8" SPACE BETWEEN SHEATHING PANELS AT MIDSPAN OF EACH TRUSS/RAFTER SPACE ALONG UNSUPPORTED SHEATHING EDGES.

EXPANSION ANCHORS

- 1. ANCHORAGE TO CONCRETE: HILTI "KWIK BOLT TZ2 CARBON STEEL" (EVALUATION REPORT: ICC-ES ESR-4266). SUBSTITUTES COMPLYING WITH ACCEPTANCE CRITERIA ICC-ES AC193 AND ACI 355.2 FOR USE IN CRACKED CONCRETE MAY BE CONSIDERED.
- 2. ANCHORAGE TO GROUT FILLED CONCRETE MASONRY: HILTI "KWIK BOLT TZ2 CARBON STEEL" (EVALUATION REPORT: ICC-ES ESR-4561). SUBSTITUTES COMPLYING WITH ACCEPTANCE CRITERIA ICC-ES AC01 (INCLUDING SEISMIC TESTS) FOR EXPANSION ANCHORS IN MASONRY ELEMENTS MAY BE CONSIDERED.



MARZICE HITECTURE 2465 SENECA PARK PLACE BEXLEY, OHIO 4320

FCHITECTS, IN

RIAN KENT JONES ARC:

503 CITY PARK AVENUE COLUMBU
DE 113 259 2720

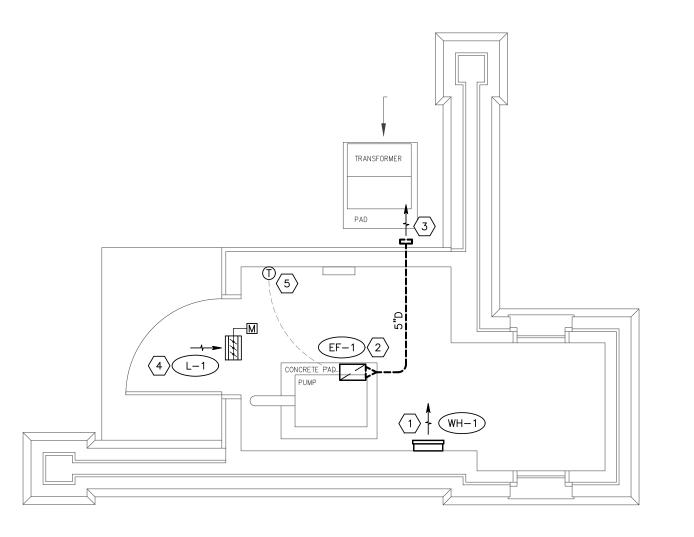
EALTH FOLLIE

W RESTROOM AND PUMP

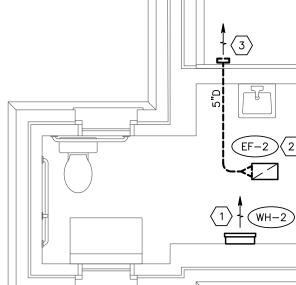
Date: March 22, 2023 - BID SET

Scale: VARIES

A3.0









GENERAL NOTES

- HC SHALL VISIT SITE AND FAMILIARIZE HIM/HERSELF WITH EXISTING CONDITIONS, VERIFYING EXITING EQUIPMENT LOCATIONS AND DUCT ROUTING BEFORE BEGINNING ANY NEW WORK OR ORDERING MATERIALS.
- ALL WORK SHALL BE INSTALLED ACCORDING TO THE LATEST LOCAL, STATE AND NATIONAL CODES. ALL DUCTWORK SHALL BE INSTALLED ACCORDING TO THE LATEST ASHRAE RECOMMENDATIONS AND SMACNA INSTALLATION MANUALS.
- HVAC PLANS IN GENERAL, ARE DIAGRAMMATIC IN NATURE, AND ARE TO BE READ IN CONJUNCTION WITH ARCH., PLUMBING, ELECTRICAL, FIRE PROTECTION AND STRUCTURAL PLANS AND SHALL BE CONSIDERED AS ONE SET OF DOCUMENTS. DUCT BENDS AND TRANSITIONS WILL BE REQUIRED TO PROVIDE AND INSTALL A COMPLETE FUNCTIONAL SYSTEM AND SHALL BE PROVIDED BY THIS CONTRACTOR AT NO ADDITIONAL COST TO
- THROUGHOUT THE COURSE OF THE WORK, MINOR CHANGES AND ADJUSTMENTS TO THE PLANS AND SPECIFICATIONS MAY BE REQUESTED BY THE OWNER. THE HC SHALL MAKE SUCH ADJUSTMENTS WITHOUT ADDITIONAL COST TO THE OWNER, WHERE SUCH ADJUSTMENTS ARE NECESSARY FOR THE PROPER INSTALLATION AND OPERATION OF THE SYSTEMS, AND WITHIN THE INTENT OF THE CONSTRUCTION DOCUMENTS.
- IT IS THE INTENT OF THE PLANS AND SPECIFICATIONS TO FORM A GUIDE FOR A COMPLETE INSTALLATION. EVERYTHING NECESSARY FOR THE COMPLETION AND SUCCESSFUL OPERATION OF THE WORK, WHETHER OR NOT HEREIN DEFINITELY SPECIFIED OF INDICATED ON THE DRAWINGS SHALL BE FURNISHED AND INSTALLED AS WELL AND AS FAITHFULLY AS IF SO SPECIFIED OR INDICATED WITHOUT ADDITIONAL COST TO THE OWNER. THE HC SHALL VERIFY ALL DIMENSIONS AND WEIGHTS PRIOR TO
- NOTWITHSTANDING ANY OTHER PROVISIONS OF THE CONTRACT DOCUMENTS, THE HC BEARS ULTIMATE RESPONSIBILITY FOR COMPLIANCE OF THE INSTALLATION WITH THE REQUIREMENTS OF THE OWNER AND OF THE LOCAL AUTHORITY HAVING JURISDICTION.
- IF ANY ERRORS, DISCREPANCIES OR OMISSIONS APPEAR IN THE DRAWINGS, SPECIFICATIONS OR OTHER CONTRACT DOCUMENTS, THE HC SHALL NOTIFY THE ARCHITECT IN WRITING OF SUCH ERROR OR OMISSION. IN THE EVENT OF THE HC FAILING TO GIVE SUCH NOTICE BEFORE CONSTRUCTION AND/OR FABRICATION OF THE WORK, HE/SHE SHALL BE HELD RESPONSIBLE FOR THE RESULTS OF ANY SUCH ERRORS, DISCREPANCIES OR OMISSIONS AND THE COST OF RECTIFYING SAME.
- FURNISH "AS-BUILT" DRAWINGS, AIR BALANCE REPORT AS WELL AS OPERATING & MAINTENANCE MANUALS AFTER PROJECT COMPLETION TO ARCHITECT.
- ALL DUCT SIZES ARE FINISHED SHEETMETAL DIMENSIONS.
- DUCT LAYOUT IS ONLY SCHEMATIC. EXACT LOCATION OF DUCTS TO BE COORDINATED ON JOB WITH BUILDING STRUCTURE AND WORK OF OTHER CONTRACTORS.
- CAULK SPACE BETWEEN SLEEVES, WALLS AND DUCTS WHERE DUCTS PASS THROUGH WALLS. CAULKING TO BE AIRTIGHT.
- OFFSET DUCTS INTO JOIST SPACE FOR CLEARANCE WHERE SPACE ABOVE CEILING IS NOT SUFFICIENT FOR DUCTS TO CROSS OTHER DUCTS OR WORK OF OTHER CONTRACTORS.
- M. PROVIDE INSULATED SUB-BASES ON ALL THERMOSTATS LOCATED ON EXTERIOR WALLS.
- BULLHEAD FITTINGS IN SUPPLY AIR DUCTWORK ARE "PROHIBITED" O. HC SHALL INSTALL ALL OUTDOOR EQUIPMENT TO WITHSTAND SUSTAINED WIND LOADING FORCES AS REQUIRED BY LOCAL CODES.
- INSTALL BALANCING DAMPERS AS SHOWN AND AS REQUIRED FOR PROPER BALANCING
- ALL SCHEDULED EXTERIOR WALL LOUVERS ARE TO BE TURNED OVER TO THE GC FOR
- OPENINGS THROUGH ROOF BY GC. FURNISH AND SETTING OF PREFABRICATED CURBS
- AND FANS BY HC. NOTIFY GC OF SIZE AND LOCATION OF ALL RECESSES AND OPENINGS REQUIRED FOR
- REFER TO ARCHITECTURAL REFLECTED CEILING PLAN FOR EXACT LOCATION OF
- ALL LINTELS FOR HVAC OPENINGS SHALL BE BY THE GC, COORDINATE SIZES AND LOCATIONS WITH THE GC.

HVAC LEGEND

THERMOSTAT ELECTRIC - MOUNTING HEIGHT 48"

DIFFUSERS, GRILLES AND OTHER CEILING DEVICES.

NEW EQUIPMENT REFERENCE SYMBOL

NOTE SYMBOL

CEILING MOUNTED AIR DEVICE, R1— AIR DEVICE DESIGNATION.
REFER TO SCHEDULE. 22"x22" NECK SIZE, 1,200 REQUIRED CFM. DUCT SIZE SAME AS NECK SIZE UNLESS INDICATED OTHERWISE.

----- NEW WORK

AIR TURNING VANES

MOTOR OPERATED DAMPER (OPPOSED) MOTOR OPERATED DAMPER (PARALLEL)

SUPPLY AND OR OUTSIDE AIR DUCT DROP

RETURN, EXHAUST AND OR RELIEF AIR DROP SUPPLY AND OR OUTSIDE AIR RISE

RETURN, EXHAUST AND OR RELIEF AIR RISE FLAT OVAL DUCT SIZE (22" MAJOR x 12" MINOR)

ROUND DUCT S1ZE (12 INCH DIAMETER) SINGLE LINE DUCT TRANSITION

PLAN NOTES

- INSTALL WALL HEATER AT LOCATION INDICATED. CONTRACTOR TO COORDINATE EXACT LOCATION WITH OWNER PRIOR TO ROUGH—IN. SEE HVAC DETAILS FOR ADDITIONAL INFORMATION AND REQUIREMENTS.
- INSTALL CEILING MOUNTED EXHAUST FAN/LIGHT COMBO AT LOCATION INDICATED.
 CONTRACTOR TO COORDINATE EXACT LOCATION WITH OWNER PRIOR TO ROUGH—IN. SEE HVAC DETAILS FOR ADDITIONAL INFORMATION AND REQUIREMENTS.
- ROUTE EXHAUST DUCTWORK FROM FAN TO EXTERIOR WALL CAP, DUCTWORK SIZE AS INDICATED. CONTRACTOR TO COORDINATE EXACT LOCATION WITH OWNER PRIOR TO ROUGH-IN. SEE HVAC DETAILS FOR ADDITIONAL INFORMATION AND REQUIREMENTS.
- INSTALL MOTOR ACTUATED LOUVER HIGH ON WALL ABOVE DOOR AT LOCATION INDICATED. CONTRACTOR TO COORDINATE EXACT LOCATION WITH OWNER PRIOR TO ROUGH-IN. SEE HVAC DETAILS FOR ADDITIONAL INFORMATION AND REQUIREMENTS.
- INSTALL THERMOSTAT FOR ASSOCIATED EXHAUST FAN AT LOCATION INDICATED. CONTRACTOR TO COORDINATE EXACT LOCATION WITH OWNER PRIOR TO ROUGH-IN.

VMP

ENGINEERING INC. 6225 Emerald Parkway
Dublin, Ohio 43016
Phone: 614.408.3862
Email: mail@vmpengineering.com

NEW RESTROOM AND PUMP HOU COMMONWEALTH PARK, BEXLEY,

HVAC SPECIFICATIONS A COMPLETE HEATING, VENTILATING AND AIR CONDITIONING SYSTEM AS SHOWN ON THE DRAWINGS AND AS SPECIFIED HEREIN. WORK INCLUDES, BUT IS NOT NECESSARILY LIMITED TO, THE FOLLOWING PRINCIPAL CATEGORIES: a. NEW CEILING MOUNTED EXHAUST FAN b. NEW ELECTRIC WALL HEATERS c. NEW LOUVER

- CODES: ALL WORK SHALL CONFORM TO ALL NATIONAL, STATE, COUNTY, CITY, HEALTH AND SAFETY AND ENERGY CODES THAT APPLY, AS WELL AS WITH ALL OWNER CRITERIA. THIS CONTRACTOR SHALL INQUIRE INTO AND COMPLY WITH ALL APPLICABLE CODES. ORDINANCES. AND REGULATIONS. THIS CONTRACTOR SHALL INCLUDE ANY CHANGES REQUIRED BY CODES IN THE BID AND IF THESE CHANGES ARE NOT INCLUDED IN THE BID. THEY MUST BE QUALIFIED AS A SEPARATE LINE ITEM IN THE BID. AFTER CONTRACT IS ISSUED, NO ADDITIONAL COST DUE TO CODE ISSUES SHALL BE REIMBURSED TO THE
- OBTAIN AND PAY FOR ALL PERMITS.
- DURING THE BIDDING PERIOD INSPECT THE SITE AND PREMISES OF THE PROPOSED WORK. REPORT IMMEDIATELY ANY SIGNIFICANT OBSERVED DISCREPANCIES AS RELATED TO THE PLANS OR THE REQUIRED WORK.
- WHERE TRADE NAMES, BRANDS OR MANUFACTURERS ARE LISTED, ANY ONE OF THE SEVERAL NAMED ARE CONSIDERED EQUALLY ACCEPTABLE. NO UNNAMED PRODUCT OR MATERIAL SHALL BE USED.
- SUBMIT ELECTRONIC COPY OF SHOP DRAWINGS ON MAJOR ITEMS OF EQUIPMENT AND MATERIALS. SUBMITTALS SHALL INCLUDE: EXHAUST FANS. WALL HEATERS AND LOUVER.
- WORKMANSHIP SHALL BE FIRST CLASS. THE ARCHITECT'S JUDGMENT SHALL PREVAIL IF THE QUALITY IS SUSPECT.
- PROTECT MATERIALS AND EQUIPMENT AFTER DELIVERY TO THE JOB SITE. RESPECT OTHER TRADES AS RELATED TO PROTECTING THEIR WORK AND TO AVOID CONSTRUCTION INTERFERENCES. CALL ATTENTION TO PROBLEMS RELATING TO SPACE REQUIREMENTS, SO EARLY RESOLUTION MAY BE OBTAINED. RESPECT OWNER'S PROPERTY AT ALL TIMES.
- CUT AND PATCH TO INSTALL WORK WHERE FAILURE TO INSTALL SLEEVES OCCURS, OR PAY OTHERS TO PERFORM SUCH WORK.
- D. SUPPORT EQUIPMENT FROM STRUCTURAL PORTIONS ONLY, NOT FROM DECKS.
- FURNISH 18"x18" SIZE ACCESS DOOR WITH CONCEALED HINGE, SCREWDRIVER LOCK, TYPE 27. BALANCING (AIR SYSTEMS) M OR DW BY MILCOR OR APPROVED EQUIVALENT WHERE REQUIRED.
- 2. PAINT ALL UNPAINTED OR RUSTY SURFACES ON SUPPORTS, HANGERS, PIPING AND EQUIPMENT WITH ONE (1) COAT RUSTOLEUM (COLOR BY ARCHITECT WHERE THE ITEM WILL BE EXPOSED TO VIEW IN ITS FINAL STATE.
- . TOUCH-UP OR REFINISH EQUIPMENT WHERE FACTORY FINISH HAS DETERIORATED DUE TO
- 14. PAINT DULL BLACK ALL VISIBLE METAL BEHIND GRILLES AND REGISTERS.
- 5. INSULATION-DUCTWORK: ALL CONCEALED SHEETMETAL DUCTWORK WITH 1-1/2" THICK, 3/4 PCF, MINIMUM INSTALLED "R" VALUE OF 4.2 (ABOVE CEILING APPLICATIONS) / 2-1/2" THICK, 3/4 PCF, MINIMUM INSTALLED "R" VALUE OF 8.0 (ATTIC APPLICATIONS) FLEXIBLE FIBROUS GLASS BLANKET WITH FOIL FACE. INSULATION SHALL MEET 25/50 SMOKE DEVELOPMENT RATINGS PER NFPA 255 & SHALL BE "FORMALDEHYDE" FREE.

- HE FOLLOWING LISTS TYPES OF FANS, RELATED CONSTRUCTION FEATURES AND MANUFACTURERS. ALL FANS OF ANY ONE LIST TYPE SHALL BE OF THE SAME MANUFACTURER. (COLOR BY ARCHITECT)
 - a. BATHROOM TYPE CEILING MOUNTED CENTRIFUGAL EXHAUSTER WITH GRAVITY BACKDRAFT DAMPER, ELECTRONIC SPEED CONTROL, ALUMINUM GRILLE. FANS UTILIZED FOR SHOWER EXHAUST SHALL BE CONSTRUCTED FOR SHOWER APPLICATION. FANS SHALL BE AS MANUFACTURED BY: PENN-BARRY, GREENHECK, ACME OR COOK.

LOUVERS (COLOR BY ARCHITECT)

- a. SHALL BE ARCHITECTURAL STYLE WITH CONTINUOUS APPEARING STATIONARY BLADES; INTERMEDIATE SUPPORT MULLIONS SHALL NOT INTERRUPT BLADE APPEARANCE WHEN VIEWED FROM OUTSIDE OF LOUVER. COLOR AND FINISH SHALL BE SELECTED BY THE ARCHITECT. LOUVERS SHALL BE 12 GAUGE EXTRUDED ALUMINUM CONSTRUCTION. COLOR ANODIZED FINISHED STEEL LOUVERS SHALL BE 16 GAUGE FORMED STEEL. FACTORY PRIME COAT AND FINISH WITH AIR DRIED ENAMEL
- FINISH. LOUVERS SHALL BE COMPLETE WITH BIRDSCREEN ON INTERIOR FACE. b. COMBINATION LOUVERS - STATIONARY ADJUSTABLE TYPE BLADES SHALL BE CONTAINED WITHIN A SINGLE 6" LOUVER FRAME. ADJUSTABLE SECTION SHALL INCLUDE LOW LEAKAGE BLADE AND JAMB SEALS & 24 VOLT ACTUATOR. c. LOUVERS BY RUSKIN, NCA, CESCO, AIROLITE, GREENHECK, LEADER INDUSTRIES AIRSTREAM, ARROW, POTTORFF, VENT PRODUCTS OR EMPCO OF THE SAME TYPE AND MEETING SPECIFIED REQUIREMENTS, MAY BE FURNISHED AT THE CONTRACTOR'S
- 8. ELECTRIC WALL HEATER TO BE CONSTRUCTED OF 20 GAUGE GALVANIZED STEEL. FRONT COVER SHALL BE BAR GRILLE TYPE CONSTRUCTED OF 16 GAUGE COLD ROLLED STEEL. WELDED INTO A UNIFORM GRILLE AND FINISHED IN BAKED FNAMFI. FAN MOTOR TO BE TOTALLY ENCLOSED WITH AN ALUMINUM FAN BLADE. HEATING FLEMENTS SHALL BE NON-GLOWING DESIGN CONSISTING OF CHROMIUM RESISTANCE WIRE ENCLOSED IN A STEEL SHEATH TO WHICH PLATE FINES ARE COPPER BRAZED. ELEMENTS SHALL BE WARRANTED FOR FIVE (5) YEARS. UNIT SHALL CONTAIN FAN DELAY SWITCH. BUILT-IN TAMPER-PROOF THERMOSTAT, THERMAL CUTOUT (TO PREVENT OVERHEATING), DOUBLE POLE DISCONNECT SWITCH. MANUFACTURER'S SHALL BE Q-MARK, BERKO, BRASH, MARKEL, RAYWALL OR ERINCRAFT.

9. DUCTWORK STANDARDS

- a. CONSTRUCTION SHALL BE GALVANIZED SHEET METAL UNLESS OTHERWISE NOTED OR ALLOWED UNDER ALTERNATE CONSTRUCTION, SMACNA STANDARDS OF CONSTRUCTION SHALL GOVERN REGARDING DUCT PRESSURE CLASSIFICATION, METAL GAUGES. GALVANIZING THICKNESS. CONSTRUCTION DETAILS AND STIFFENERS. b. ALL ROUND GALVANIZED DUCTWORK SHALL BE SPIRAL LOCK SEAM.
- c. NFPA 90 SHALL GOVERN WHERE APPLICABLE. d. ELBOWS SHALL HAVE AN INSIDE RADIUS EQUAL TO THE DUCT WIDTH, IN LIEU OF
- WHICH DOUBLE WALL TURNING VANES HAVING EQUIVALENT OR LESS PRESSURE DROP ARE ACCEPTABLE.
- e. MATERIALS SHALL MEET ASTM E-84 STANDARDS FOR SMOKE DEVELOPMENT OF 50 OR LESS AND FLAME SPREAD OF 25 OR LESS.

DUCT TYPES AND APPLICATION

- THE FOLLOWING LISTS VARIOUS TYPES OF DUCTWORK SYSTEMS INCLUDING APPLICATION AND SPECIFIC CONSTRUCTION REQUIREMENTS: a. TYPE 1 - UNDER 3" W.C. PRESSURE - DUCTWORK, GALVANIZED ASTM A924, G90
- SMACNA STANDARDS CLASSIFICATION. TYPE 2 - LOW PRESSURE ALUMINUM ASTM B209 ALLOY 3003, TEMPER H14, STANDARD MILL FINISH FOR CONCEALED DUCTS, 1-SIDE BRIGHT FINISH FOR

COATING, USED FOR SUPPLY, RETURN, EXHAUST AND GENERAL VENTILATION,

- EXPOSED DUCTS, USED FOR SHOWER EXHAUST, MINIMUM 26 GAUGE. c. TYPE 3 - FLEXIBLE DUCT LOW PRESSURE INSULATED GENFLEX TYPE IL ACOUSTICAL OR WIRE MOLD OR THEMOFLEX EQUIVALENT, 1-1/2" FLEXIBLE FIBROUS GLASS INSULATION. R=4.2 WITH ACOUSTICALLY "SOFT" LINER BONDED TO A GALVANIZED SPRING WIRE HELIX AND WITH REINFORCING VAPOR BARRIER JACKET. UL 181 CLASS 1. USE FACTORY FURNISHED END CLAMPING COLLAR AND ADHESIVE. USE FOR CONNECTING LOW PRESSURE SUPPLY DUCTS TO AIR DISTRIBUTION DEVICES WHERE SHOWN. MAXIMUM 3 FT. LENGTH. FLEXIBLE DUCTS "SHALL NOT BE USED IN THE FOLLOWING LOCATIONS: "THROUGH FIRE RATED FLOORS/WALLS/PARTITIONS, IN CORRIDORS HAVING A FIRE RATED PARTITION ENCLOSURE, THROUGH SMOKE PARTITIONS, IN THE IMMEDIATE VICINITY OF, AND CONNECTING TO, AIR DEVICES IN FIRE RATED CEILINGS WHERE THE ASSEMBLY IS REQUIRED TO BE CONSTRUCTED OF MINIMUM 26 GAUGE STEEL DUCTWORK AND TO RUN CONTINUOUS FROM THE AIR
- DUCT SHALL BE SECURELY SUPPORTED, HUNG OR SUSPENDED IN ACCORDANCE WITH SECTION 603 OF THE 2006 INTERNATIONAL MECHANICAL CODE. PROVIDE MINIMUM

HANDLER TO THE AIR INLET/OUTLET.

1-1/2" WIDE 22 GA. STRAPS, 10 FT. SPACING FOR MAXIMUM HALF DUCT PERIMETER UP TO 30" AND ALL ROUND FLEX DUCT. PROVIDE 1" WIDE 22 GA. STRAPS, 5 FT. SPACING FOR MAXIMUM HALF DUCT PERIMETER FROM 31" TO 72" AND 1" WIDE 20 GA. STRAPS, 5

22. FLEXIBLE DUCT CONNECTORS SHALL BE USED AT FAN INLETS AND OUTLETS, EQUAL TO VENTGLASS "METALEDGE" OR DURO DYNE "DURALON".

FT. SPACING FOR MAXIMUM HALF DUCT PERIMETER UP TO 96".

- 23. WHILE PREPARING SHEET METAL DRAWINGS FOR REVIEW, COORDINATE DUCT LAYOUT CAREFULLY WITH OTHER TRADES TO AVOID CONFLICT WITH STRUCTURAL ELEMENTS, LIGHTING AND PLUMBING-HEATING PIPING. DO NOT HANG ANY DUCT LINES UNTIL RECEIVING APPROVAL OF SHEETMETAL DRAWINGS. HAVING DUCTWORK FABRICATED AND DELIVERED IN ADVANCE SHALL NOT BE JUSTIFICATION FOR INTERFERENCE WITH OTHER
- 24. AS EACH AIR DISTRIBUTION SYSTEM IS PUT INTO OPERATION, ALL ITEMS OF EQUIPMENT INCLUDED THEREIN SHALL BE ADJUSTED TO PERFECT WORKING ORDER. THIS SHALL INCLUDE BALANCING AIR AND ADJUSTING FAN SPEEDS, BELTS, PULLEYS, TIGHTENING PACKING GLANDS, OILING AND ADJUSTING ALL OPERATING EQUIPMENT.
- 25. VERSE THE OWNER'S REPRESENTATIVES IN ALL MATTERS PERTAINING TO THE PROPER OPERATION AND MAINTENANCE OF EQUIPMENT WHICH IS FURNISHED UNDER THIS CONTRACT. INSTALLATION, MAINTENANCE AND OPERATING INSTRUCTION PAMPHLETS, OR BROCHURES AND WARRANTIES, SHALL BE OBTAINED FROM EACH MANUFACTURER OF THE PRINCIPAL ITEMS OF EQUIPMENT, AND THESE SHALL BE TURNED OVER TO THE ARCHITECT FORMALLY, IN A LETTER OF TRANSMITTAL, LISTING SPECIFICALLY THE NATURE OF THE MATERIAL BEING TRANSMITTED. THE ARCHITECT WILL TURN THIS MATERIAL OVER TO THE OWNER IN A FORMAL LETTER OF TRANSMITTAL. IN ADDITION, THE CONTRACTOR SHALL PREPARE A CHART LISTING ALL ITEMS OF EQUIPMENT WHICH ARE FURNISHED UNDER HIS/HER CONTRACT AND INDICATING THE NATURE OF MAINTENANCE REQUIRED, THE RECOMMENDED FREQUENCY OF CHECKING THESE POINTS AND THE TYPE OF LUBRICATING MEDIA OR REPLACEMENT MATERIAL REQUIRED. THREE (3) SETS OF OPERATING AND MAINTENANCE INSTRUCTIONS AND WIRING DIAGRAMS SHALL BE FURNISHED ON EACH PIECE OF EQUIPMENT.
- 26. AFTER ALL EQUIPMENT HAS BEEN ADJUSTED, THE CONTRACTOR SHALL MAKE A TRIAL RUN AND DEMONSTRATE TO THE ARCHITECT AND THE OWNER THAT THE REQUIREMENTS OF THE CONTRACT HAVE BEEN FULFILLED, DURING THIS RUN, THE CONTRACTOR SHALL EXPLAIN TO THE OWNER'S REPRESENTATIVE THE COMPLETE OPERATION OF THE SYSTEM AND THE FUNCTION OF ALL MAJOR ITEMS OF EQUIPMENT. A PERIOD OF 48 HOURS OF CONTINUOUS TROUBLE-FREE OPERATION ON ALL PARTS OF THE WORK SHALL BE CONSIDERED THE MINIMUM REQUIREMENT TO DEMONSTRATE THAT THE SYSTEM IS SATISFACTORY AND MEETS FULLY THE REQUIREMENTS OF THE CONTRACT.

- a. SYSTEM BALANCING SHALL BE PERFORMED POST CONSTRUCTION BY A SEPARATE SUBCONTRACTOR SPECIALIZING IN THIS FIELD. THE BALANCE CONTRACTOR SHALL BE AN ACTIVE, FULLY CERTIFIED MEMBER OF THE ASSOCIATED AIR BALANCE COUNCIL (AABC) OR NATIONAL ENVIRONMENTAL BALANCING BUREAU (NEBB). b. AS EACH SYSTEM IS COMPLETED, IT SHALL BE SET IN OPERATION AND THE SYSTEMS BALANCED TO DELIVER THE QUANTITIES OF INDICATED (WITHIN PLUS OR MINUS 10%). METHODS, PROCEDURES, EQUIPMENT AND CERTIFICATION SHALL BE IN ACCORDANCE WITH THE LATEST EDITION OF "NATIONAL STANDARDS FOR FIELD MEASUREMENTS AND INSTRUMENTATION, TOTAL SYSTEM BALANCE", AS PUBLISHED
- c. BALANCE SUBCONTRACTOR SHALL CALL THE HEATING CONTRACTOR'S ATTENTION T ANY REQUIREMENTS FOR ADDITIONAL BALANCING DAMPERS WHICH HE/SHE DEEMS TO BE NECESSARY BEYOND THOSE SHOWN ON THE DRAWINGS, DURING THE BIDDING PERIOD, OR IN ANY EVENT PRIOR TO INSTALLATION OF THE DUCTWORK.
- d. SUBMIT PRELIMINARY BALANCE TO ENGINEER PRIOR TO FINAL BALANCE. e. HC SHALL SUBMIT FINAL BALANCE REPORT TO BUILDING INSPECTOR AT THE FINAL MECHANICAL INSPECTION. INCLUDE A COPY OF THE FINAL BALANCE REPORT IN THE O&M MANUAL.
- f. BALANCE REPORTS SHALL INCLUDE AMPERE RATINGS OF MOTORS (FANS) g. MEASURE & RECORD THE FOLLOWING TEMPERATURES: OUTSIDE AIR, MIXED AIR, DISCHARGE AIR (IN COOLING MODE dB/Wb), SPACE.
- 28. AS THE TIME OF WORK COMPLETION APPROACHES, THE CONTRACTOR SHALL SURVEY AND INSPECT HIS /HER WORK TO CONFIRM THAT IT IS COMPLETE AND FINISHED. HE /SH SHALL THEN NOTIFY THE ARCHITECT AND REQUEST THAT A FINAL INSPECTION BE MADE. IT SHALL NOT BE CONSIDERED THE ARCHITECT'S OR ENGINEER'S OBLIGATION TO PERFORM A FINAL INSPECTION UNTIL THE CONTRACTOR HAS INSPECTED THE WORK AND SO STATES AT THE TIME OF THE REQUEST FOR THE FINAL INSPECTION.
- 29. REQUESTS TO THE ARCHITECT OR ENGINEER OR OWNER FOR FINAL INSPECTION SHALL B ACCOMPANIED BY A LIMITED LIST OF KNOWN DEFICIENCIES IN COMPLETION, WITH APPROPRIATE EXPLANATION AND SCHEDULE FOR COMPLETING THESE; THIS IS IN THE NTEREST OF EXPEDITING ACCEPTANCE FOR BENEFICIAL OCCUPANCY.
- 30. SUBMIT A COMPLETE SET OF RECORD DRAWINGS TO THE ARCHITECT AT THE COMPLETION OF THE PROJECT. THE DRAWINGS ARE TO SHOW ALL EQUIPMENT, PIPING, DUCTWORK AND
- 31. FURNISH (1) ONE COPY (IN PDF FORMAT) OF OPERATION AND MAINTENANCE INSTRUCTIÒNS TO ENGINEÈR FOR REVIEW. THE COPY SHALL BE NEAT AND LEGIBLE. AFTER APPROVAL PROVIDE (1) ONE ELECTRONIC COPY IN PDF FORMAT TO THE OWNER, INSTRUCTIONS SHALL CONSIST OF THE FOLLOWING:
- a. TITLE PAGE: TITLE OF PROJECT, ADDRESS, DATE OF SUBMITTAL, NAME AND ADDRESS OF CONTRACTOR, NAME OF ENGINEER. b. SECOND PAGE: INDEX OF MANUAL CONTENTS.
- c. FIRST SECTION: A COPY OF EACH APPROVED SHOP DRAWING AND SUBMITTAL WITH AN INDEX AT THE BEGINNING OF THE SECTION.
- d. SECOND SECTION: LIST OF ALL EQUIPMENT USED ON THE PROJECT WITH THE SUPPLIER'S NAME AND ADDRESS. MANUFACTURER'S NAME, REPRESENTATIVE, MODEL, SERIAL NUMBER, METHOD BY WHICH OWNER CAN CONTACT SERVICE. e. THIRD SECTION: COPY OF ALL TEST REPORTS, INSPECTIONS AND CERTIFICATIONS,
- INCLUDING: AIR BALANCE REPORT
- f. FOURTH SECTION: EQUIPMENT WARRANTY INFORMATION. g. FIFTH SECTION: "SIGN-OFF" SHEETS:

EQUIPMENT.

- OWNER TRAINING.
- h. SIXTH SECTION: ROUTINE AND 24 HOUR EMERGENCY INFORMATION:
- NAME, ADDRESS AND TELEPHONE NUMBER OF SERVICING AGENCY. NAMES OF PERSONNEL TO BE CONTACTED FOR SERVICE ARRANGEMENTS.
- i. THE FOLLOWING ITEMS TOGETHER WITH ANY PERTINENT DATA SHALL BE INCLUDED: PROCEDURES FOR START-UP AND SHUT-DOWN, NORMAL MAINTENANCE AND PRELIMINARY TROUBLESHOOTING.

WIRING DIAGRAMS. 32. GUARANTEE

- a. THIS CONTRACTOR SHALL GUARANTEE ALL WORKMANSHIP, EQUIPMENT AND MATERIAL ENTERING INTO THIS CONTRACT FOR A PERIOD OF ONE (1) YEAR FROM THE DATE OF FINAL ACCEPTANCE. ANY MATERIALS OR EQUIPMENT PROVING TO BE DEFECTIVE DURING THIS GUARANTEE PERIOD SHALL BE MADE GOOD BY THIS
- CONTRACTOR WITHOUT EXPENSE TO THE OWNER. b. THIS PROVISION IS INTENDED SPECIFICALLY TO COVER DEFICIENCIES IN CONTRACT COMPLETION OR PERFORMANCE WHICH ARE DISCOVERED AFTER SYSTEMS ARE PLACED IN OPERATION, PIPE AND DUCT LEAKS, NOISE OR VIBRATION PROBLEMS WHICH ARE NOTED OR WHICH DEVELOP, REPAIR OR REPLACEMENT OF MOTORS AND SWITCHES WHICH FAIL REPLACING PUMP SEALS, FAULTY, FAILING OR NOISY BEARINGS, DAMAGE DUE TO EXPANSION OR CONTRACTION, SUPPLEMENTARY ASSISTANCE IN BALANCING, ADJUSTING OR PROVIDING OPERATING INSTRUCTIONS AS A NEED DEVELOPS AND REPLACING OVERLOAD HEATER ELEMENTS IN STARTERS
- WHERE NECESSARY TO KEEP SYSTEMS IN OPERATION. c. THIS PROVISION SHALL NOT BE CONSTRUED TO INCLUDED MAINTENANCE ITEMS SUCH AS REPLACING FILTERS, TIGHTENING OR REPACKING GLANDS, GREASING,
- OILING, BELT TIGHTENING AND CLEANING STRAINERS. d. PROVISIONS OF THIS GUARANTEE SHALL BE CONSIDERED SUPPLEMENTARY TO
- GUARANTEE PROVISIONS UNDER GENERAL CONDITIONS. e. GUARANTEE PERIOD SHALL BEGIN AT THE TIME OF BENEFICIAL OCCUPANCY OF THI BUILDING, WHICH SHALL BE A MATTER OF AGREEMENT AND RECORD BETWEEN THE
- 33. FURNISH AN INSPECTION CERTIFICATE OF APPROVAL BY THE LEGAL INSPECTION

DEPARTMENT AS A CONDITION OF FINAL ACCEPTANCE.

FANS

<u>FAN TYPES</u> : • P.R.V. – PO	WER ROOF VENTILA	ATOR											CONTROL BY: E.C. – ELECTF	RIC CONTRACTOR
TAG	TYPE	SERVICE	CFM	STATIC PRESSURE	MAX SONES	WHEEL DIAMETER (IN)	FAN RPM	MOTOR HP (WATTS)	ELECTRICAL VOLTAGE	DATA PHASE	FAN CONTROL	MFR	MODEL #	REQUIRED ACCESSORIES
EF-1	C.E.	RESTROOM	70	0.25	1.5	7.63	749	66.0	120	1	E.C.	BROAN	744LED	ALL

REQUIRED ACCESSORIES: 1. GRAVITY BACK DRAFT DAMPER

. FACTORY MOUNTED AND WIRED DISCONNECT SWITCH . ELECTRONIC SPEED CONTROLLER

. WALL CAP, COLOR TO BE COORDINATED BY OWNER/ARCHITECT PRIOR TO ORDERING 5. CONTRACTOR TO COORDINATE LIGHT BULB COLOR TEMP WITH OWNER TO MATCH ADJACENT LIGHT COLOR TEMP PRIOR TO ORDERING

ELECTRIC HEATING UNITS

TAG	DESCRIPTION	MOUNTING	AIR FLOW	CAPACITY		ELECTRIC	AL DATA		APPROXIM	MATE DIMENS	SIONS (IN)	MFR	MODEL #	REQUIRED
			(CFM)	(MBH)	VOLTS	PHASE	KW	HP	WIDTH	DEPTH	HEIGHT			ACCESSORIE
VH−1 & WH−2	WALL HEATER	SURFACE	100	5.1	120	1	1.5	1/100	16.00	6.50	19.38	QMARK	AWH3150F	ALL

. COLOR BY ARCHITEC

. UNIT MOUNTED DISCONNECT

. SURFACE MOUNTING KIT 4. INTEGRAL TAMPER-PROOF THERMOSTAT

5. COLOR TO BE COORDINATED BY OWNER/ARCHITECT PRIOR TO ORDERING

LOUVERS

TAG	SERVICE		SIZE (IN)		AIR FLOW	PRESSURE DROP	FREE AREA	MFR	MODEL #	REQUIRED
170	SERVICE	DEPTH	WIDTH	HEIGHT	(CFM)	(IN)	(SF)	IVII IX		ACCESSORIES
L-1	INTAKE	6.00	12.00	12.00	70	0.125	0.15	RUSKIN	ELC6375DAX	ALL
DECLUBED AC	DECLURED ACCESCADICS									

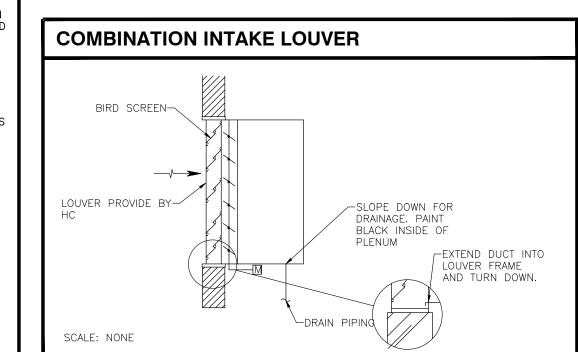
COLOR TO BE COORDINATED BY OWNER/ARCHITECT PRIOR TO ORDERING . PROVIDE WITH BIRD SCREEN.

. PROVIDE 24 VOLT MOTOR ACTUATOR

4. COORDINATE MOUNTING HEIGHT/LOCATION WITH OWNER AND G.C.

CEILING FAN 3/8" DIA. HANGER RODS. (4) REQUIRED PER FAN -R-I-S ISOLATOR BACK DRAFT DAMPER-DUCT TRANSITION-**←** EXHAUST FAN -CEILING PANEL

EXHAUST DUCTWORK, SEE PLANS FOR CONTINUATION— FLEXIBLE DUCT CONNECTION-SCALE: NONE



DUCTWORK CONSTRUCTION / SEALING

	SI		
DUCT SYSTEM	PRESSURE CLASS	SEAL CLASS	NOTES
GENERAL EXHAUST	-2	А	1
NOTES: . GALVANIZED CONSTRUCTION			

CONTROL SEQUENCE

SEQUENCE OF OPERATION: HC TO PROVIDE ALL RELAYS, CONTACTORS, CONTROL MODULES AND INTERLOCK WIRING AS REQUIRED FOR A COMPLETE OPERATIONAL SYSTEM.

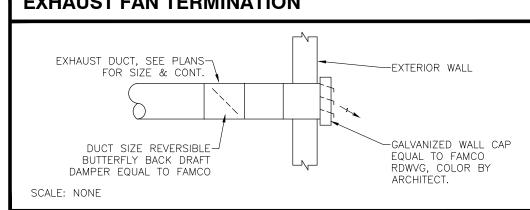
F-1 TO BE INTERLOCKED WITH THERMOSTAT. FAN TO ENERGIZE WHEN TEMPERATURE DROPS ABOVE/BELOW SETPOINT (60°F ADJ). WHEN TEMPERATURE REACHES SETPOINT, HEATER/FAN TO BE DE-ENERGIZED. EF-2 TO BE INTERLOCKED WITH ROOM LIGHTING CONTROL CIRCUITING TO ENERGIZE FAN WHEN ASSOCIATED LIGHTS COME ON AND DE-ENERGIZE WHEN LIGHTS TURN OFF.

WITH ROOM EXHAUST FAN SUCH THAT DAMPER OPENS WHEN FAN IS ENERGIZED. LOUVER TO CLOSE WHEN FAN IS DE-ENERGIZED. **ELECTRIC HEATERS**: WH-1 AND WH-2: BUILT-IN THERMOSTAT TO ENERGIZE FAN/HEATER WHEN TEMPERATURE

CONTRACTOR TO INTERLOCK ASSOCIATED INTAKE LOUVER'S 24 VOLT MOTOR OPERATED DAMPER

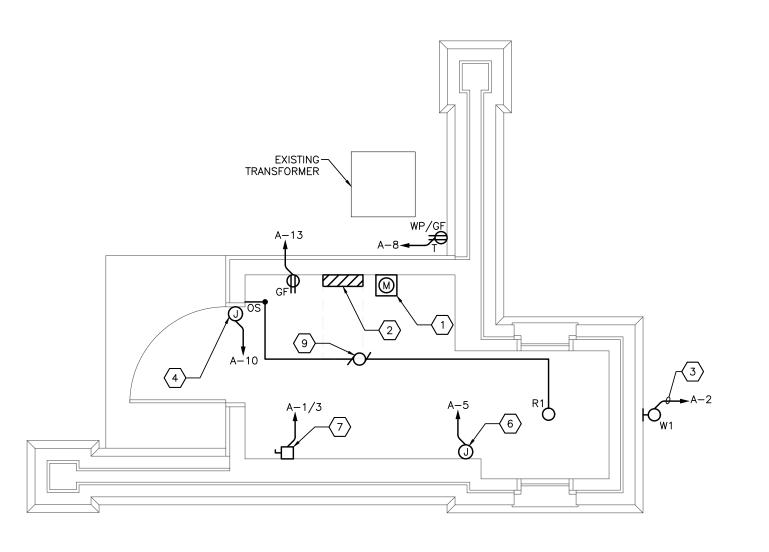
DROPS BELOW SETPOINT (60°F ADJ). WHEN TEMPERATURE REACHES SETPOINT, HEATER/FAN TO BE DE—ENERGIZED.

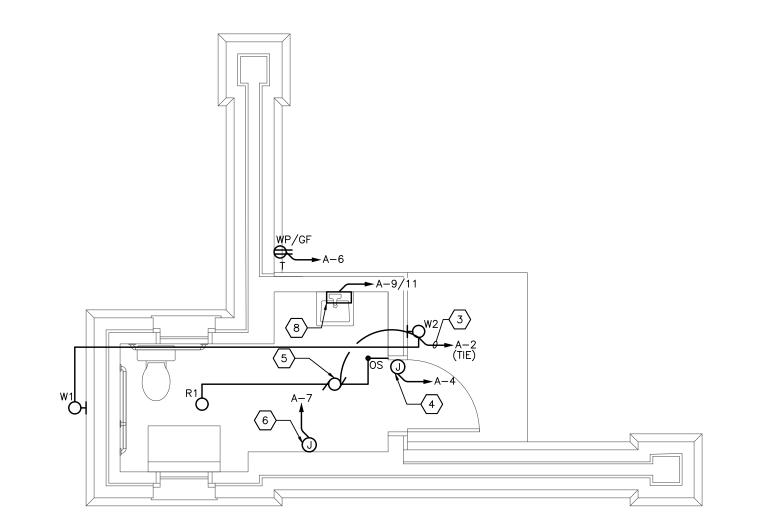
EXHAUST FAN TERMINATION



6225 Emerald Parkway

VMP IIIIII **ENGINEERING INC.** Phone: 614.408.3862 Dublin, Ohio 43016 Email: mail@vmpengineering.com







			LIGHTING FIXTURE SCHED	U	LE				DES	URES SHOWN ARE FOR IGN. ARCHITECT TO MAKI ECTIONS. APPROVED BY	E FINAL
								L	AMPS	MOUNTING OPTIONS AC - AIRCRAFT CABLE	
FIXTURE DESIGNATION	VOLTAGE	MANUFACTURER AND CATALOG NUMBER	FIXTURE DESCRIPTION		18 B		WATTS / LAMP	G.E. CATALOG NUMBER	CH — CHAIN CM — CEILING MOUNT ST — STEM R — RECESSED S — SURFACE UC — UNDER CABINET W — WALL UV — UNIVERSAL * — SEE PLANS	REFER TO NOTE(S)	
R1	120	LITHONIA #LDN6 35/15 MVOLT GZ10 HSG FINAL SELECTION BY ARCHITECT	6" RECESSED DOWNLIGHT WITH 0-10V DIMMING DRIVER AND MATTE WHITE FINISH. 1500 LUMENS. 3500K.				1	20	LED	R	ALL
W1	120	KICHLER GROVE MILL 2 LIGHT WALL LIGHT SKU# 9439PB FINAL SELECTION BY ARCHITECT	2 LIGHT COPPER WALL SCONCE. WET RATED. USE 2 CAND BASE LED LAMPS EQUIVALENT TO 60W INCANDESCENT				1	20	LED	WM	ALL
W2	120	KICHLER 7.25 LED WALL LIGHT SKU# 49550AZLED FINAL SELECTION BY ARCHITECT	LED WALL SCONCE. WET RATED.				1	15	LED	WM	ALL
1. S	NOTES: 1. SUBMIT CUT SHEETS ON ALL FIXTURES. 2. ALL FIXTURES SHOWN ARE FOR BASIS OF DESIGN. ALL FIXTURES TO BE SELECTED BY ARCHITECT AND APPROVED BY OWNER.										

DESIG.	# OF SETS	# OF CONDUCTORS	WIRE SIZE	GROUND SIZE(CU)	CONDUIT SIZE						
1	1	4	600	_	5"						
FEEDER KEY (S)											
DE010			EEDER (COPPE								
DESIG.	# OF SETS	# OF CONDUCTORS	WIRE SIZE	GROUND SIZE	CONDUIT SIZE						
1	2	4	250	1	2-1/2"						
POWER CO. RISER NEW 400 AMP METER 208y/120V 3P 4W SERVICE ENTRANCE RATED PANEL A 400A MCB ONE-LINE RISER SCALE: NO SCALE											

FFFDFR KFY (X)

FEEDER (ALUMINUM)

MAINS: 400A VOLTAGE: 208Y/120V., 3ø, 4W.								
400A MCB			MOU	NTING:	SURF	ACE		
REMARKS	KVA	BKR.		RCUIT D PH		BKR.	KVA	REMARKS
PUMP	5.82-A	80/2	1	Α	2	20/1	0.60-L	LIGHTS
	5.82-A		3	В	4	20/1	0.20-A	DOOR CONTROL
WALL HEATER	1.50-H	20/1	5	С	6	20/1	0.20-R	OUTDOOR REC
WALL HEATER	1.50-H	20/1	7	Α	8	20/1		OUTDOOR REC
WATER HEATER	2.00-H	25/2	9	В	10	20/1	0.20-A	DOOR CONTROL
550	2.00-H	00/4	11	С	12	20/1	_	SPARE
REC SPACE	0.20-R	20/1 –	13 15	A B	14	20/1	_	SPARE
SPACE	_		17	С	16 18	20/1	_	SPARE SPACE
SPACE	_		19	A	20	_	_	SPACE
SPACE	_	_	21	В	22	_	_	SPACE
SPACE	_	_	23	С	24	_	_	SPACE
SPACE	_	_	25	Α	26	_	_	SPACE
SPACE	-	_	27	В	28	_	_	SPACE
SPACE	_	_	29	С	30	_	_	SPACE
LEGEND: L-LIGHMLO-MAIN LUGS CONNECTED LOAD LIGHTING: 1.39	ONLÝ, MO DS <u>[</u>		BREA	KER,				
RECEPTS: 18.87	KW (9 100%	TO 10) KW	+ 50%	% REMAIN	1	= 14.44 KW
MOTOR: 3.59		9 80%						= 2.87 KW
APPLIANCE: 15.1		9 80%						= 12.08 KW
		9 80%						= 0.01 KW
SUBTOTAL: 38.96	KW					S	UBTOTAL:	= 30.79 KW
	[DEMAND	TOTAL:	30.	.79 KW	/ (208	3V × √3) = 85.46 AMPS

NEW PANEL: A

PROVIDE LOCKING CLIP. PROVIDE RED LABEL "FIRE ALARM CIRCUIT" ON CIRCUIT BREAKER PER NFPA 70 PARAGRAPH 760.41(B).

INSTALL AN ARC FLASH WARNING LABEL ON THE PANEL TRIM.

* RECONNECT REMAINING CIRCUITS FROM DEMO'D PANEL "1C".

GENERAL POWER NOTES

- EVERYTHING SHOWN ON THIS DRAWING AND/OR IDENTIFIED IN THE DIVISION 26, 27, AND 28 SPECIFICATIONS IS FURNISHED AND INSTALLED BY THE ELECTRICAL CONTRACTOR. IF ANY DEVICE, EQUIPMENT, FEEDERS, ETC., IS FURNISHED AND/OR INSTALLED BY ANYONE OTHER THAN THE ELECTRICAL CONTRACTOR, IT WILL BE SPECIFICALLY NOTED.
- ELECTRICAL CONTRACTOR SHALL REVIEW OTHER TRADES DRAWINGS, AND COORDINATE WITH OTHER TRADES TO AVOID CONFLICTS WITH THE ELECTRICAL CONTRACTOR'S INSTALLATIONS. FAILURE TO COORDINATE WILL RESULT IN THE ELECTRICAL CONTRACTOR
 - REMEDYING HIS CONFLICT(S) AT HIS EXPENSE. FOR VOLTAGE DROP ON 120V CIRCUITS, THE MAXIMUM LENGTHS ARE AS FOLLOWS: #12=65 FEET, #10=108 FEET, AND #8=162 FEET. FOR 277V CIRCUITS, MAXIMUM LENGTHS SHALL BE #12=150 FEET , #10=247 FEET, AND #8=375 FEET. THESE DISTANCES MUST BE FOLLOWED TO MAINTAIN 3% VOLTAGE DROP.
- ALL BACKBOXES LOCATED IN RATED WALLS MUST BE ENCASED IN FIRE PUTTY SEALANT. ALL CONDUITS THAT PASS THRU RATED WALLS MUST BE FIRE SEALED ON BOTH SIDES OF THE WALL. COORDINATE WITH THE ARCHITECT'S DRAWINGS FOR LOCATIONS OF THE
- LOCATION OF DEVICES ARE SCHEMATIC. REFER TO THE ARCHITECT'S INTERIOR ELEVATIONS FOR EXACT LOCATIONS AND MOUNTING HEIGHTS FOR ALL DEVICES. LOCATING ON THE NEAREST STUD IS NOT ACCEPTABLE. COORDINATE WITH THE GC TO INSTALL ADDITIONAL BRACING/SUPPORTS, ETC. SO THAT THE ARCHITECT'S DIMENSIONS
- PROVIDE A NEW TYPED UPDATED PANEL DIRECTORY FOR ALL BRANCH CIRCUIT CHANGES TO NEW AND EXISTING ELECTRICAL PANELS IN AREA OF WORK. INDICATE ANY SPARE CIRCUIT BREAKERS AS A RESULT OF THE DEMOLITION WORK IN THE EXISTING PANELS.
- CUTTING AND PATCHING TO BE PERFORMED BY GENERAL CONTRACTOR.

LINE TYPE LEGEND

LIGHT CONTINUOUS LINEWEIGHT IS EXISTING TO REMAIN. ----- HEAVY DASHED LINEWEIGHT IS DEMOLISHED WORK. HEAVY CONTINUOUS LINEWEIGHT IS NEW WORK.

ELECTRICAL LEGEND

ALL HEIGHTS INDICATED ARE TO CENTERLINE OF ITEM UNLESS INDICATED OTHERWISE ON DRAWINGS.

MOUNTING HEIGHT TO CENTERLINE OF ITEM UNLESS INDICATED.

WEATHERPROOF

ROOM NUMBER

PLAN NOTE SYMBOL - APPLIES ONLY TO SHEET ON WHICH NOTE IS SHOWN.

EQUIPMENT REFERENCE SYMBOL

ELECTRICAL CONNECTION REQUIRED.

FOR COMPATIBILITY (46" MH).

EACH ARROWHEAD REPRESENTS ONE COMPLETE CIRCUIT; CAPITAL LETTER DENOTES PANEL; NUMBER(S) DENOTES CIRCUIT(S).

---- WIRE & CONDUIT IN WALL OR ABOVE CEILING. ---- WIRE & CONDUIT IN OR BELOW FLOOR SLAB OR BELOW GRADE.

WALL MOUNTED DUAL-TECHNOLGY PASSIVE INFRARED/ULTRASONIC OCCUPENCY SENSOR WITH MANUAL-ON/AUTO-OFF FUNCTION -HUBBELL #LightHAWK2 SERIES. EQUALS BY SENSOR SWITCH, DOUGLAS OR GREENGATE. COORDINATE WITH LIGHTING MANUFACTURER

F10B1 . LIGHTING FIXTURE; CAPITAL LETTER DENOTES FIXTURE TYPE.

JUNCTION BOX.

 \bigcirc

⇒ → 20A-125V DUPLEX/SINGLE RECEPT., NEMA 5-20R (18"MH). HUBBELL HBL8300/HBL8310-I/R, UNO.

20A-125V DUPLEX RECEPTACLE, NEMA 5-20R, WITH GROUND FAULT FEED THROUGH CIRCUIT INTERRUPTER (16" MH).

EXTRA DUTY, WEATHER RESISTANT, TAMPER-PROOF 20A-125V DUPLEX RECEPTACLE, NEMA 5-20R, WITH GROUND FAULT CIRCUIT INTERRUPTER (16" MH). INCLUDE VERTICAL MOUNT WEATHERPROOF IN-USE COVER.

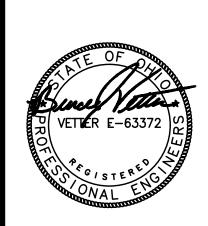
SEE SPÉCIFICATIONS. MOTORIZED EQUIPMENT CONNECTION. CIRCUIT BREAKER PANEL (FLUSH MOUNTED) 6'-0" TO TOP.

CIRCUIT BREAKER LOADCENTER (SURFACE MOUNTED).

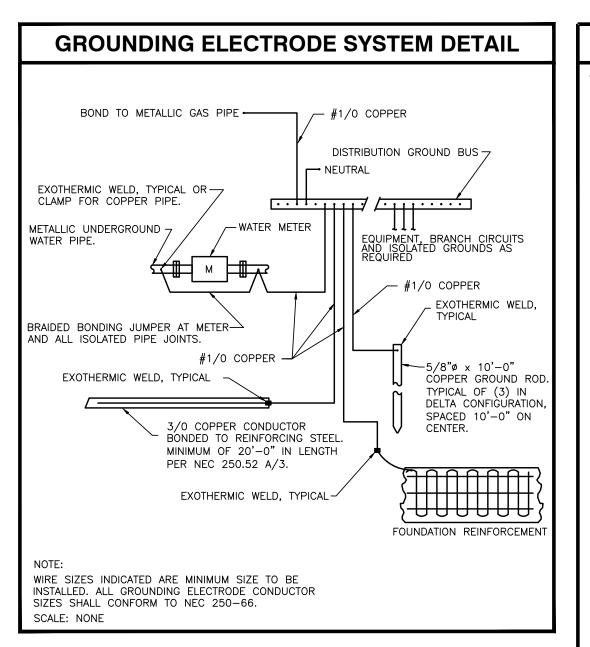
PLAN NOTES

- 1. 400A 208Y/120V ELECTRIC SERVICE, EXISTING TRANSFORMER TO REMAIN. TEMPORARY METER TO BE RELOCATED TO NEW LOCATION AS SHOWN IN PLANS. (LOCATED INSIDE WITH LOCAL UTILITY AND AHJ APPROVAL). EXISTING CONDUIT MAY BE REUSED.
 COORDINATE REQUIREMENTS WITH LOCAL UTILITY COMPANY. SEE ONE LINE DIAGRAM AND PANEL SCHEDULE FOR ADDITIONAL INFORMATION.
- 2. NEW 400A(400A MCB) 208Y/120V SERVICE ENTRANCE RATED PANEL. SEE ONE LINE DIAGRAM AND PANEL SCHEDULE FOR ADDITIONAL INFORMATION. REUSE EXISTING
- 3. LIGHTS TO BE CONTROLLED VIA PHOTOCELL ORIENTED TOWARDS THE NORTH, EITHER STAND ALONE OR INTEGRATED.
- 4. REMOTE DOOR LOCK AND WIRING BY OTHERS. PROVIDE ROUGH—IN WITH 3/4" CONDUIT STUBBED UP TO ACCESSIBLE SPACE. COORDINATE FINAL REQUIREMENTS WITH OWNER SELECTED DOOR SECURITY VENDOR.
- 5. CIRCUIT CEILING FAN/LIGHT COMBO TO LIGHTING CIRCUIT. FAN/LIGHT TO TURN ON/OFF WITH SWITCH IN THIS ROOM.
- 6. WALL HEATER. RUN 2#12 AND 1#12 GROUND IN 3/4" CONDUIT FROM UNIT TO A 20A-1P CIRCUIT BREÄKER IN PANEL.
- 7. WATER PUMP. RUN 2#3 AND 1#10 GROUND IN 1-1/2" CONDUIT FROM UNIT THRU BUILT IN MANUAL DISCONNECT TO A 80A-2P CIRCUIT BREAKER IN PANEL. COORDINATE LOCATION WITH GENERAL CONTRACTOR.
- TANKLESS WATER HEATER. RUN 2#12 AND 1#12 GROUND FROM UNIT TO A 20A-2P CIRCUIT BREAKER IN PANEL. COORDINATE FINAL POWER REQUIREMENTS WITH SELECTED MODEL. MAKE FINAL CONNECTIONS.
- CIRCUIT CEILING/FAN LIGHT COMBO TO LIGHTING CIRCUIT. LIGHT TO TURN ON/OFF WITH SWITCH IN THIS ROOM. THERMOSTAT TO CONTROL FAN. COORDINATE WITH HVÁC CONTRACTOR.





NEW RESTROOM AND PU COMMONWEALTH PARK,



ELECTRICAL SPECIFICATIONS

- GENERAL

 A. FURNISH AND INSTALL A COMPLETE ELECTRICAL SYSTEM AS SHOWN ON THE DRAWINGS AND AS SPECIFIED HERE-IN. WORK INCLUDES, BUT IS NOT NECESSARILY LIMITED TO THE FOLLOWING CATEGORIES:) WIRING DEVICES POWER WIRING
- MISCELLANEOUS WIRING AND INTERLOCKS EQUIPMENT CONNECTIONS PANELBOARDS/LOADCENTERS LIGHTING FIXTURES
- B. OBTAIN AND PAY FOR ALL PERMITS. UPON COMPLETION, PROVIDE A CERTIFICATE OF INSPECTIONS FROM THE GOVERNING ELECTRICAL AUTHORITY
- DURING THE BIDDING PERIOD, INSPECT THE SITE AND PREMISES OF PROPOSED WORK. REPORT IMMEDIATELY ANY OBSERVED DISCREPANCIES AS RELATED TO THE PLANS OR REQUIRED WORK. ALL WORK SHALL COMPLY WITH N.E.C.
- WHERE TRADE NAMES, BRANDS, OR MANUFACTURERS ARE LISTED, ANY ONE OF THE NAMED ARE CONSIDERED EQUALLY ACCEPTABLE. NON-SPECIFIED MANUFACTURERS, PRODUCTS, OR MATERIAL SHALL BE USED UNLESS IT IS SUBMITTED DURING BIDDING, WITH STATED CHANGE IN COST, AND APPROVED BY THE ENGINEER PRIOR TO PLACEMENT OF ORDER. SUBMIT SHOP DRAWINGS ON ALL EQUIPMENT AND MATERIALS.
- WORKMANSHIP SHALL BE FIRST CLASS. THE ARCHITECT AND/OR ENGINEER'S
- JUDGEMENT SHALL PREVAIL IF THE QUALITY IS SUSPECT. PROTECT MATERIAL AND EQUIPMENT AFTER DELIVERY TO THE JOB SITE. RESPECT OTHER TRADES AS RELATED TO PROTECTING THEIR WORK AND TO AVOID CONSTRUCTION INTERFERENCES. CALL ATTENTION TO PROBLEMS RELATING TO SPACE REQUIREMENTS SO EARLY RESOLUTION MAY BE OBTAINED. RESPECT THE OWNER'S PROPERTY AT ALL TIMES
- G. CUT AND PATCH TO INSTALL WORK WHERE FAILURE TO INSTALL SLEEVES OCCURS, OR PAY OTHERS TO PERFORM SUCH WORK. THE ELECTRICAL CONTRACTOR SHALL BE RESPONSIBLE TO PERFORM ALL OF HIS OWN CUTTING AND PATCHING OF LOORS AND WALLS WHERE NECESSARY TO INSTALL ELECTRICAL EQUIPMENT. CONCRETE SHALL BE SAW CUT, NEATLY AND ACCURATELY. NECESSARY HOLES SHALL BE CORE DRILLED AND FIRE SEALED. PATCHING SHALL BE DONE TO MATCH BOTH THICKNESS AND FINISH OF ADJACENT MATERIAL. GENERAL CONTRACTOR SHALL DO ALL PATCHING WORK, PAID FOR BY THE ELECTRICAL CONTRACTOR
- CONDUITS. CABLES AND WIRING WHICH PENETRATE WALLS, SLABS, MASONRY, ETC. SHALL DO SO THROUGH PIPE SLEEVES. PENETRATIONS THROUGH ALL ASSEMBLIES SHALL HAVE SLEEVES AND BE SEALED OUTSIDE AND INSIDE WITH CAULK OR TIGHTLY PACKED WITH INSULATION (BLANKET OR FOAM) TO PREVENT HEAT LOSS. INFILTRATION AND SOUND TRANSMISSION. PENETRATIONS THROUGH FIRE/SMOKE RATED ASSEMBLIES SHALL BE PROTECTED WITH PRODUCTS LISTED AND LABELED TO MAINTAIN THE FIRE/SMOKE RATING OF THE ASSEMBLY.
- AS EACH ELECTRICAL SYSTEM IS COMPLETED, IT SHALL BE TESTED TO ASSURE FREEDOM FROM GROUND, AND THAT ALL REQUIRED FUNCTIONS HAVE BEEN PERFORMED. WORK SHALL BE INSPECTED AND APPROVED BY THE LOCAL INSPECTION AGENCY HAVING JURISDICTION. PERFORM SPECIAL RESISTANCE TESTS WHEN REQUESTED BY THE INSPECTION AGENCY TO PROVE THE SYSTEM'S INTEGRITY. FURNISH TO THE OWNER (THROUGH THE ARCHITECT), A FINAL INSPECTION CERTIFICATE.
- DEMONSTRATE FUNCTIONS PERFORMED BY DEVICES AND SYSTEMS TO THE OWNER'S REPRESENTATIVE. FURNISH TO THE OWNER, DATA SHEETS INDICATING NATURE AND FREQUENCY OF MAINTENANCE REQUIRED FOR SWITCHES, DEVICES, AND EQUIPMENT. ASSEMBLE AND DELIVER TWO (2) BOUND COPIES OF THIS DATA.
- K. THIS CONTRACTOR SHALL GUARANTEE ALL WORKMANSHIP, EQUIPMENT, AND MATERIAL ENTERING INTO THIS CONTRACT FOR A PERIOD OF ONE (1) YEAR FROM THE DATE OF ACCEPTANCE, INCLUDING ALL LAMPS AND BALLASTS. ANY WORK PROVEN TO BE DEFECTIVE DURING THIS PERIOD SHALL BE MADE GOOD BY THIS CONTRACTOR WITH NO EXPENSE TO THE OWNER.
- THE CONTRACTOR SHALL SUBMIT A COMPLETE SET OF "AS-BUILT" DRAWINGS TO THE OWNER AT THE COMPLETION OF THE PROJECT. THE DRAWINGS ARE TO SHOW ALL CONDUIT, DEVICES, WIRE QUANTITY AND SIZES.
- THE ELECTRICAL CONTRACTOR SHALL REMOVE ALL EXISTING WORK WHICH IS KINDRED TO HIS TRADE, AND NOT REQUIRED WHEN THE NEW SYSTEM IS INSTALLED. COOPERATE WITH THE GENERAL CONTRACTOR AND REMOVE EXISTING UNUSED CONDUIT TO BEHIND WALLS OR BELOW FLOORS AS NECESSARY, OR AS DIRECTED. UPON COMPLETION, NO UNUSED CONDUIT, STUB UPS, OR JUNCTION BOXES SHALL EXTEND THRU FLOORS, WALLS, OR CEILINGS. ABANDON CONDUIT WHERE REMAINING IN PLACE SHALL HAVE ALL UNUSED WIRING REMOVED. MATERIAL AND EQUIPMENT WHICH IS REMOVED SHALL NOT BE RE-USED ON THIS
- HARD USE SPECIFICATION GRADE WIRING DEVICES AND GROUND FAULT CIRCUIT INTERRUPTERS IN NEMA CONFIGURATIONS AS SHOWN ON THE ELECTRICAL PLANS. DEVICES AND COVER PLATES SHALL BE IVORY IN COLOR. COVER PLATES SHALL NON-BREAKABLE, AND NON-COMBUSTIBLE NYLON, 0.100# THICK. DEVICES MUST BE SIDE AND BACK WIRED. QUICK CONNECT OR PLUĞ-IN TYPE RECEPTACLES ARE NOT APPROVED. HUBBELL, P&S, OR COOPER.
- ALL DUPLEX AND QUAD RECEPTACLES WITHIN BUSINESS OFFICES, CORRIDORS AND WAITING ROOMS IN CLINICS, MEDICAL & DENTAL OFFICES AND OUTPATIENT FACILITIES SHALL BE TAMPER-RESISTANT TYPE PER N.E.C. 406.12 EXCEPT WHERE
- RACEWAYS & BOXES B. CONDUIT SHALL BE USED FOR ALL WIRING, EXCEPT AS NOTED FOR "MC" CABLE
- ASSEMBLIES. CONDUIT SYSTEMS MAY BE ANY ONE OR A COMBINATION OF THE FOLLOWING, WITHIN RESTRICTING LIMITS INDICATED. CONDUIT TYPES NOT LISTED SHALL NOT BE USED. MINIMUM SIZE FOR ALL TYPES SHALL BE 3/4".) RIGID GALVANIZED CONDUIT - NO RESTRICTIONS
- INTERMEDIATE GRADE GALVANIZED THREADED CONDUIT NO RESTRICTIONS THINWALL CONDUIT WITH APPROVED CONNECTOR FITTINGS TO ASSURE GROUNDING CONTINUITY, SUBJECT TO THE FOLLOWING RESTRICTIONS: a. HAZARDOUS OR CORROSIVE ATMOSPHERES
- b. NOT IN POURED CONCRETE, OUTDOOR OR UNDERGROUND c. EXPOSED BELOW 96" ABOVE FINISHED FLOOR 4) FLEXIBLE METAL CONDUIT (GREENFIELD TYPE), GALVANIZED. USE RESTRICTED TO THE FOLLOWING APPLICATIONS:
- a. CONNECTIONS TO LIGHTING FIXTURES, MAXIMUM LENGTH IS 6 FEET 5) LIQUID TIGHT FLEXIBLE METAL CONDUIT WITH WATERTIGHT OIL RESISTANT OUTER PVC COVERING. USE REQUIRED:
- o. CONNECTIONS TO FURNITURE ELECTRICAL OUTLETS 6) RIGID NON-METALLIC (SCHEDULE 40 PVC) THIS CONDUIT MAY BE USED IN OR UNDER CONCRETE SLABS ON GRADE, IN CONCRETE DUCT BANKS, AND DIRECT BURIED b. THIS CONDUIT MAY NOT RUN EXPOSED WHERE SUBJECT TO PHYSICAL

CONNECTIONS TO MOTORS OR CONTROL ON DYNAMIC EQUIPMENT

- c. TYPE EB MAY BE USED WHERE U.L. LISTED FOR SPECIFIC USE INTENDED
- C. CONDUIT FITTINGS SHALL BE MANUFACTURED BY EFCOR, STEEL CITY, RACO,

- MIDWEST, ETP, OR T&B. WHERE THE METALLIC CONDUIT SYSTEM IS USED AS THE EQUIPMENT GROUNDING SYSTEM: 1) RIGID CONDUIT-COUPLINGS AND CONNECTORS SHALL BE THREADED STEEL,
- CONCRETE TIGHT WITH NON-INSULATED THROAT. GROUND BUSHINGS SHALL BE INSULATED MALLEABLE IRON. EMT-FITTINGS SHALL BE ALL STEEL SET SCREW TYPE, CONCRETE TIGHT, WITH INSULATED THROAT FITTINGS. GROUND BUSHINGS SHALL BE INSULATED
- MALLEABLE TYPE. FLEXIBLE CONDUIT-MALLEABLE IRON, "SQUEEZE" TYPE LIQUID-TIGHT CONDUIT-STEEL OR MALLEABLE IRON
- D. RUN CONDUITS AGAINST UNDERSIDE OF STRUCTURE OR AGAINST TOP CHORD OF JOISTS OR TRUSSES, WHETHER EXPOSED OR CONCEALED. IN NO CASE SHALL CONDUIT BE RUN IMMEDIATELY ABOVE ACCESSIBLE CEILINGS. USE ONLY METALLIC CONNECTORS AND FASTENERS. IN CONCRETE SLAB, LIMIT CONDUIT SIZE TO 3/4", LARGER CONDUITS SHALL BE INSTALLED UNDER THE SLAB. PLACE METALLIC CONDUITS ABOVE THE VAPOR BARRIER WHEN SLAB IS ON GRADE. WHERE FEEDERS ARE TO BE RUN BELOW FLOOR SLAB ON GRADE, THEY SHALL BE INSTALLED IN CONDUIT ENCASED IN 3" CONCRETE.
- BRANCH CIRCUITS FOR LIGHTING AND RECEPTACLE CIRCUITS MAY BE TYPE "MC" CABLE ASSEMBLIES, WHERE PERMITTED BY N.E.C. "MC" SHALL BE USED ONLY WHERE CONCEALED IN WALLS OR ABOVE CEILINGS. ALL "MC" CABLE SHALL BE PROPERLY SUPPORTED PER N.E.C. ALL CONDUITS LEAVING A PANELBOARD MUST BE A MINIMUM OF EMT CONDUIT TO ABOVE CEILING, THEN TRANSITION TO "MC"
- F. BRANCH CIRCUITS IN HEALTH CARE PATIENT CARE AREAS SHALL COMPLY WITH N.E.C. ARTICLE 517. ALL BRANCH CIRCUITS IN THESE AREAS MAY BE WIRED USING "HCMC" HEALTH CARE MC, AND INSTALLED ACCORDING TO N.E.C. ARTICLE 517. "HCMC" CABLE SHEATH MUST BE GREEN IN COLOR OR HAVE GREEN IDENTIFIABLE STRIPES. APPROVED MANUFACTURERS ARE SOUTHWIRE OR AFC ONLY.
- G. DEVICE AND JUNCTION BOXES SHALL BE GALVANIZED STEEL, CODE GAUGE AND SIZE, BY STEEL CITY, RACO, APPLETON, OR T&B. BOXES CONNECTING MORE THAN ONE PAIR OF CONDUCTORS SHALL BE A MINIMUM 4"x4" OR 4" OCTAGONAL SIZE. USE ADAPTER PLATES FOR DEVICES WHERE NUMBER OF CONNECTIONS OR OTHER CONDITIONS DICTATE. EXTERIOR WEATHERPROOF METALLIC COVER PLATES SHALL BE HEAVY CAST ALUMINUM SIMILAR TO PASS & SEYMOUR #4510 UNLESS NOTED OTHERWISE.
- A. ALL BRANCH CIRCUIT CONDUCTORS SHALL BE COPPER. MINIMUM SIZE IS #12 AWG FOR BRANCH CIRCUITS AND #14 FOR CONTROL CIRCUITS. SEE DRAWINGS FOR VOLTAGE DROP PARAMETERS." BUILDING WIRING SHALL BE INSULATED FOR 600 VOLT, TYPE THW, THWN, XHHW, OR THHN, SUBJECT TO MOISTURE AND HEAT LIMITATIONS STATED IN CODE. USE ONLY THW, THHN, OR XHHW CONDUCTORS FOR CONNECTIONS TO LIGHTING AND EMERGENCY FIXTURES. SERVICE CONDUCTORS AND SELECTED FEEDERS MAY BE ALUMINUM. ALL SERVICE AND FEEDER GROUNDING CONDUCTORS MUST BE COPPER, NO EXCEPTIONS. ALL WIRING TO BE COLOR-CODED AS FOLLOWS:

120/208 VOLT SYSTEM: 277/480 VOLT SYSTEM:

NEUTRAL-WHITE PHASE A OR L1-BLACK PHASE B OR L2-RED PHASE C OR L3-BLUE GROUND-GREEN

NEUTRAL - GRAY PHASE A OR L1-BROWN PHASE B OR L2-ORANGE PHASE C OR L3-YELLOW GROUND-GREEN w/YELLOW TRACER

- B. BRANCH CIRCUITS IN DWELLING UNITS MAY BE TYPE "NM" (ROMEX) CABLE ASSEMBLIES, WHERE PERMITTED BY NEC. "NM" SHALL BE USED ONLY WHERE CONCEALED IN WALLS OR ABOVE CEILINGS AND SHALL BE PROPERLY SUPPORTED.
- GROUNDING
 A. THE BUILDING NEUTRAL SHALL BE IDENTIFIED THROUGHOUT BY A WHITE CONDUCTOR. WORK INCLUDES GROUNDING OF THE SYSTEM NEUTRAL, EQUIPMENT, AND CONDUIT SYSTEMS TO CONFORM TO N.E.C. ALL GROUND RODS SHALL BE COPPER CLAD, MOLTEN CADWELDED COPPER TO STEEL, 5/8" DIAMETERx10'-0' LONG. RUN GREEN GROUND CONDUCTOR IN ALL CONDUITS. PROVIDE BONDING
- PANELBOARDS/LOADCENTERS A. BRANCH CIRCUIT PANELBOARDS SHALL BE SQUARE D TYPE "NQOD" FOR 120/208V-3ø-4W, AND TYPE "NF" FOR 277/480V-3ø-4W. BRANCH CIRCUIT LOADCENTERS SHALL BE SQUARE D TYPE "QO" FOR 120/208V-10-3W. EQUALS BY GENERAL ELECTRIC. EATON OR SIEMENS. SEE DRAWINGS FOR SURFACE OR FLUSH MOUNTING. BUSSING SHALL BE ALL COPPER WITH SEPARATE GROUND BAR CIRCUIT BREAKERS SHALL BE BOLTED TYPE WITH 10KAIC FOR BRANCHES AND 42KAIC FOR MAIN BREAKERS. CIRCUIT BREAKERS USED FOR PROTECTION OF HEATING. AIR CONDITIONING AND REFRIGERATION EQUIPMENT SHALL BE U.L. "HACR" TYPE. CABINETS SHALL BE MINIMUM OF 20" WIDE WITH HINGED AND LOCKED DOOR. ALL PANELS SHALL BE KEYED THE SAME
- B. NEW CIRCUIT BREAKERS ADDED TO EXISTING PANELBOARDS SHALL MATCH PANEL MANUFACTURER, VOLTAGE RATING, AND FAULT CURRENT RATING OF EXISTING PANELBOARD VALUES.
- A. PROVIDE FUSES FOR EACH FUSE GAP IN FUSIBLE DISTRIBUTION EQUIPMENT AND DISCONNECT SWITCHES BY BUSSMANN, GOULD-SHAWMUT OR LITTELFUSE ONLY. FUSES OVER 600 AMP UL CLASS L SHALL BE BUSSMANN TYPE KRP-C. SMALLER FUSES UL CLASS RK-1 SHALL BE BUSSMANN LPJ-SP, LPN-RK OR LPS-RK DUAL ELEMENT TIME DELAY. FURNISH ONE SPARE FUSE FOR EACH FUSE REQUIRE. TURN OVER TO THE OWNER AND RECORD IN WRITING TO THE ARCHITECT.
- 10. <u>DISCONNECTS, STARTERS AND CONTROLS</u>
 A. DISCONNECT SWITCHES SHALL BE HEAVY DUTY WITH LOCKING DEVICES, FUSED WHERE USED TO PROTECT CIRCUIT WIRING.
- B. MOTOR STARTERS AND CONTROLS SHALL BE SQUARE D TYPE S (CLASS 8536) FOUALS BY ALLEN BRADLEY, GENERAL FLECTRIC, FATON OR SIEMENS STARTERS AND CONTROLS. ALL TERMINATIONS SHALL BE MARKED "75°C ONLY". "60/75°C" OR LISTED FOR USE OF 75°C INSULATED WIRE AT FULL 75°C AMPACITY. A HAND-OFF-AUTO SWITCH SHALL BE MOUNTED IN THE FACE OF EACH STARTER ENCLOSURE. ALL CONTROL DEVICES SHALL BE WIRED IN AUTO POSITION ONLY. A SPARE AUXILIARY CONTACT SHALL BE PROVIDED FOR FUTURE INTERLOCK.
- CONTROL RELAYS: CONTROL RELAYS SHALL BE SIMILAR TO SQUARE D CLASS 8501 WITH 600 VOLT, 15 AMP CONVERTIBLE CONTACTS. FURNISH IN NEMA 1 ENCLOSURE WITH COILS AND CONTACTS. EQUIPMENT SHALL BE SQUARE D OR EQUAL BY SIEMENS, G.E. OR EATON.
- A. IDENTIFY THE FOLLOWING: SWITCHBOARDS, PANELBOARDS, DISTRIBUTION PANELS, DISCONNECT SWITCHES AND BREAKERS, AND MOTOR STARTERS, ETC. INSTALL AN ENGRAVED, LAMINATE PLASTIC PLATE (NORMAL POWER=BLACK PLATE WITH WHITE LETTERS, EM POWER=RED PLATE WITH WHITE LETTERS). INSTALL A TYPEWRITTEN DIRECTORY IN EACH BRANCH CIRCUIT PANEL.

LETTERS).

B. IN HOSPITALS AND NURSING HOMES, INSTALL A CIRCUIT NUMBER LABEL (EX. A-30) ON EACH LIGHT SWITCH AND POWER RECEPTACLE COVER PLATE (NORMAL POWER=BLACK LABEL WITH WHITE LETTERS. EM POWER=RED LABEL WITH WHITE

- 12. <u>EQUIPMENT CONNECTIONS</u>
 A. MISCELLANEOUS ITEMS OF EQUIPMENT REQUIRE WIRING CONNECTIONS AS SHOWN. FURNISH POWER AND CONTROL SOURCES FOR THESE. OBTAIN ROUGH-IN DRAWINGS AND INFORMATION ON FURNISHED CONTROLS FROM THE EQUIPMENT SUPPLIER. PLACE DISCONNECTS AND CONNECTION BOXES IN AN INCONSPICUOUS BUT ACCESSIBLE LOCATION. COORDINATE LOCATIONS WITH EQUIPMENT SUPPLIER
- 13. <u>LIGHTING FIXTURES</u>

 A. <u>LIGHTING FIXTURES</u> AND SPECIFIED APPROVED MANUFACTURERS ARE SHOWN ON THE DRAWINGS, AND ARE STANDARDS FOR DESIGN, QUALITY AND APPEARANCE. APPROVED MANUFACTURERS LISTED IN SCHEDULE MAY BE USED AT THE CONTRACTOR'S OPTION FOR THAT FIXTURE ONLY. ALL FIXTURES SHALL BE NEW AND U.L. LABELED. <u>NO SUBSTITUTIONS</u> UNLESS APPROVED IN WRITING FROM THE ENGINEER OR ARCHITECT.
- B. FIXTURE MATERIALS GIVEN WITH THE STANDARD FIXTURES SHALL BE MAINTAINED IF ALTERNATE MANUFACTURERS ARE USED, I.E., METAL SIDES FOR METAL SIDES, ACRYLIC PLASTIC LOUVER OR ACRYLIC PLASTIC LOUVER, ETC. LENS THICKNESS FOR L.E.D. FIXTURES SHALL BE 0.125 INCHES. MINIMUM (NOT NOMINAL) AND HAVE A MINIMUM WEIGHT OF 8.0 OUNCES PER SOUARE FOOT RECESSED INCANDESCENT FIXTURES SHALL BE EQUIPPED WITH THERMAL PROTECTION IN ACCORDANCE WITH NEC ARTICLE 410.115(C) AND UL 1571.
- C. L.E.D. ARRAYS SHALL BE SEALED, HIGH PERFORMANCE, LONG LIFE TYPE; MINIMUM 70% RATED OUTPUT AT 50.000 HOURS. THE L.E.D. LIGHT SOURCE SHALL BE FULLY DIMMABLE WITH USE OF A COMPATIBLE DIMMER SWITCH DESIGNATED FOR LOW VOLTAGE LOADS. DRIVERS SHALL BE SOLID STATE AND ACCEPT 120 THRU 277 VAC AT 60 HZ INPUT.
- D. NO FIXTURES SHALL BE INSTALLED UNTIL PAINTING IS COMPLETED. FIXTURES WITH PAINT MARKS ON THEM SHALL BE REPLACED. ALL LIGHTING FIXTURES ARE TO BE GROUNDED ON THE INTERIOR OF THE FIXTURE HOUSING, ON CLEAN BARE METAL (FREE OF PAINT), BY USE OF A PIGTAIL AND FASTENED BY A SCREW USED FOR NO OTHER PURPOSE. ALL FIXTURES SHALL BE THOROUGHLY CLEANED PRIOR TO THE COMPLETION OF THE PROJECT.
- INSTALLATION: SURFACE MOUNTED FIXTURES SHALL BE FASTENED AT EACH OF THE FOUR CORNERS AND FIT TIGHT TO THE CEILING SUSPENSION SYSTEM. THE FI FCTRICAL CONTRACTOR IS RESPONSIBLE TO SUPPORT EACH RECESSED LIGHT FIXTURE WITH A SUPPORT WIRE AT ALL FOUR CORNERS OF THE LIGHT FIXTURE. FIXTURES SHALL BE INSTALLED FLUSH WITHIN CEILING SUSPENSION SYSTEM. THE T-BAR SHALL NOT BE CUT OUT TO PROVIDE ROOM FOR THE JUNCTION BOX. PRIOR TO THE INSTALLATION OF ANY LIGHT FIXTURES, THIS CONTRACTOR SHALL COORDINATE PLACEMENT OF LIGHT FIXTURES WITH FIRE PROTECTION CONTRACTOR'S SPRINKLER HEAD LAYOUT.
- SHOP DRAWINGS

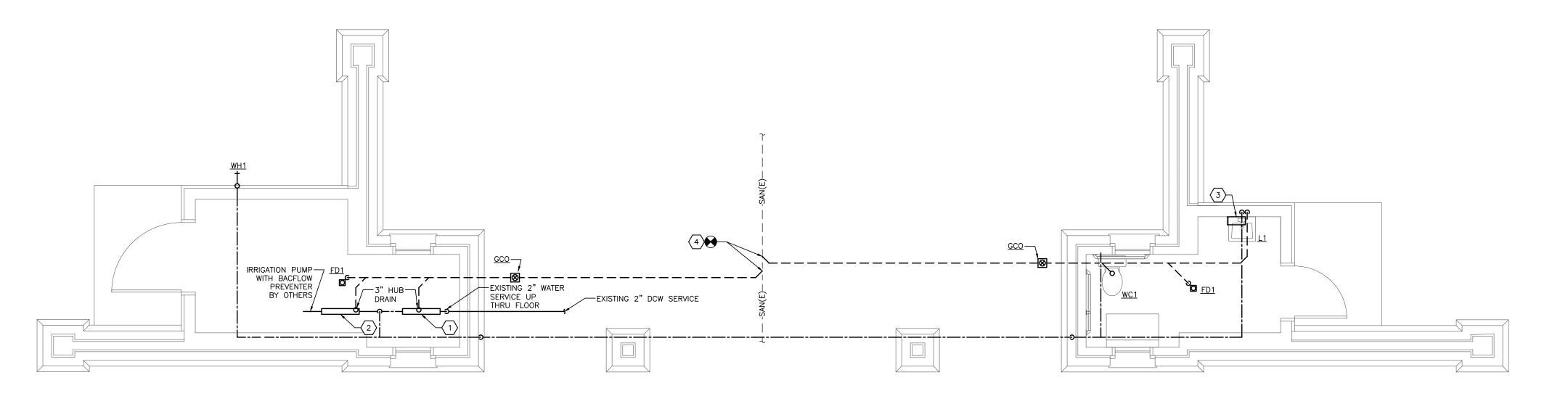
 A. SUBMIT ELECTRONIC COPY OF SHOP DRAWINGS ON MAJOR ITEMS OF EQUIPMENT AND MATERIALS. ALL REQUIREMENTS BELOW APPLY TO ELECTRONIC SUBMITTALS. SHOP DRAWING SUBMITTALS HAVING MISSING OR INCOMPLETE INFORMATION SHALL BE RETURNED AS REJECTED.
- B. REVIEW EACH SUBMITTAL AND INDICATE THE EXACT ITEM TO BE FURNISHED WITH ALL REQUIRED OPTIONS AND ACCESSORIES HIGHLIGHTED. EACH ELECTRONIC COPY SHALL HAVE THE CONTRACTOR'S APPROVAL STAMP BEFORE SUBMITTING TO THE
- C. EACH SUBMITTAL SHALL ALSO PROVIDE A COVER SHEET FOR THE ELECTRONIC SUBMITTAL FOR EACH SHOP DRAWING SECTION WITH THE FOLLOWING FORMAT AND INFORMATION: TITLE OF PROJECT, OWNER, ADDRESS, VMP ENGINEERING PROJECT COMMISSION NUMBER*, SECTION NUMBER AND NAME, DATE SUBMITTED. PROVIDE THE NAME, PHONE, AND ADDRESS OF THE FOLLOWING: CONTRACTOR, ARCHITECT ENGINEER, AND DISTRIBUTOR. SECOND PAGE: INDEX OF SUBMITTALS'S CONTENTS
- D. SUBMIT CUT SHEET SUBMITTALS OF THE FOLLOWING PRODUCTS TO THE ENGINEER FOR REVIEW (ALL PRODUCTS MUST BE APPROVED BY THE ENGINEER PRIOR TO ORDERING):
- 1) LIGHT FIXTURES (INCLUDING LAMPS AND BALLASTS)
- 16. OPERATION & MAINTENANCE MANUAL A. FURNISH (1) ONE COPY (IN PDF FORMAT) OF OPERATION AND MAINTENANCE INSTRUCTIONS TO ENGINEER FOR REVIEW. THE COPY SHALL BE NEAT AND LEGIBLE AFTER APPROVAL PROVIDE (1) ONE ELECTRONIC COPY IN PDF FORMAT TO THE OWNER, INSTRUCTIONS SHALL CONSIST OF THE FOLLOWING: 1) TITLE PAGE: TITLE OF PROJECT, ADDRESS, DATE OF SUBMITTAL, NAME AND ADDRESS OF CONTRACTOR, NAME OF ENGINEER.
 - 2) SECOND PAGE: INDEX OF MANUAL CONTENTS. FIRST SECTION: A COPY OF EACH APPROVED SHOP DRAWING AND SUBMITTA WITH AN INDEX AT THE BEGINNING OF THE SECTION.
- 4) SECOND SECTION: LIST OF ALL EQUIPMENT USED ON THE PROJECT WITH THE SUPPLIER'S NAME AND ADDRESS. MANUFACTURER'S NAME, REPRESENTATIVE, MODEL, SERIAL NUMBER, METHOD BY WHICH OWNER CAN CONTACT SERVICE. 5) THIRD SECTION: BRIFF BUT COMPLETE INSTRUCTIONS FOR START-UP. OPERATION, SHUT-DOWN, TROUBLESHOOTING, AND MAINTENANCE OF MOTOR CONTROL EQUIPMENT, SWITCHBOARDS, DISCONNECTS, PANELBOARDS, AND
- TVSS EQUIPMENT. 6) FOURTH SECTION: OPERATING AND MAINTENANCE INSTRUCTIONS FOR ALL SYSTEMS, INCLUDING FIRE ALARM AND LIGHTING CONTROL SYSTEMS. MANUFACTURER'S OPERATING AND MAINTENANCE MANUALS FOR EQUIPMEN' FURNISHED UNDER THIS CONTRACT WILL BE ACCEPTABLE UNLESS THE SYSTEM IS CUSTOMIZED FOR THE PARTICULAR PROJECT. ALL MANUALS SHALL INCLUDE SUCH ITEMS AS COMPLETE OPERATING INSTRUCTIONS, SYSTEM START-UP, SYSTEM SHUT-DOWN, TROUBLE- SHOOTING TIPS, PARTS LISTS,
- AND DETAILED MAINTENANCE INSTRUCTIONS. 7) FIFTH SECTION: COMPLETE AS-BUILT WIRING DIAGRAMS FOR THE SYSTEMS REFERENCED IN THE FOURTH SECTION. DIAGRAMS SHALL BE CLEARLY LEGIBLE. LEGAL SIZE SHEETS ARE ACCEPTABLE AS LONG AS THEY ARE FOLDED NEATLY. DRAWINGS LARGER THAN LEGAL SIZE SHALL BE ENCLOSED IN A CLEAR ZIP-POUCH AND INCLUDED IN THIS SECTION.



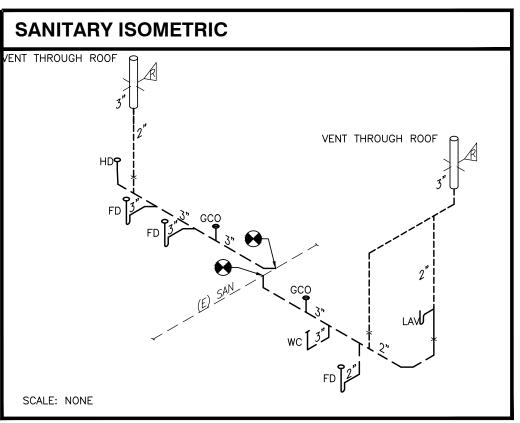
 \triangleleft

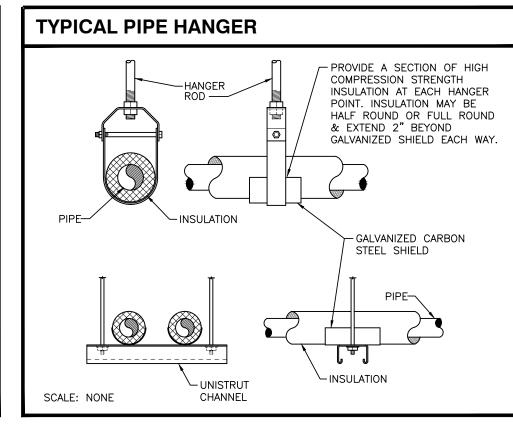
NEW RESTROOM AND PL COMMONWEALTH PARK,

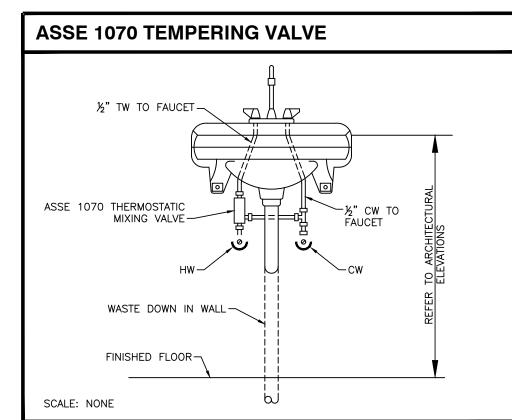
VMP IIIIII **ENGINEERING INC.** 6225 Emerald Parkway Phone: 614.408.3862 Dublin, Ohio 43016 Email: mail@vmpengineering.com

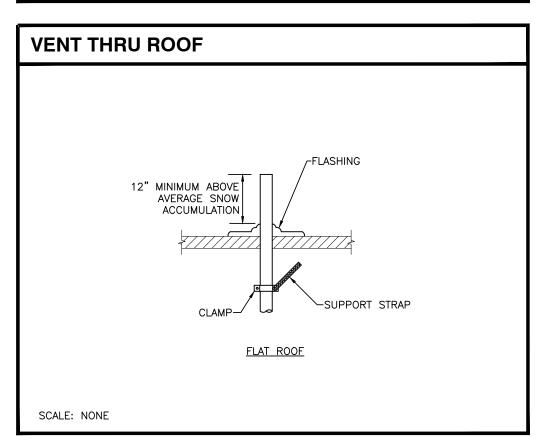












PLUMBING DRAINAGE SPECIALTIES SCHEDULE

TAG	TYPE	BASIS OF DESIGN	OUTLET
<u>FD1</u>	FLOOR DRAIN	ZURN #Z415, STAINLESS STEEL STRAINER. PROVIDE FUNNEL WHERE NOTED. BARRIER TYPE TRAP SEAL: JR SMITH QUAD SEAL, ASSE 1072.	SEE ISO
<u>GCO</u>	GRADE CLEANOUT	ZURN ZS1400-DC, GRADE CLEANOUT-HEAVY DUTY, ADJUSTABLE HEIGHT, DURA-COATED CAST IRON TOP, DURA-COATED CAST IRON BODY, GAS TIGHT PLUG, ACCESS COVER WITH SECURING SCREW.	SEE ISO
	•		

PLUMBING FIXTURE SCHEDULE							
TAG	TYPE		BASIS OF DESIGN	NOTES			
<u>WC1</u>	WATER CLOSET	FIXTURE:	AMERICAN STANDARD #215AA.104, FLOOR SET, BOTTOM OUTLET, 12" ROUGH IN, TANK TYPE, 1.28 GPF. PROVIDE WITH AMERICAN STANDARD #5321.110 SEAT. ADULT ADA COMPLIANT.	FLUSH LEVER SHALL BE ON WIDE SIDE OF STALL			
<u>L1</u>	LAVATORY	FIXTURE: FAUCET:	AMERICAN STANDARD #0356, 20"x18" WALL HUNG, WHITE VITREOUS CHINA, CONCEALED ARMS SUPPORT. CHICAGO #797, 4" WRISTBLADE HANDLES, 0.5 GPM.	PROVIDE WITH ASSE 1070 MIXING VALVE			
<u>WH1</u>	FREEZELESS WALL HYDRANT		WOODFORD #B65, ASSE 1019 VACUUM BREAKER, AUTOMATIC DRAINING, CHROME FINISH, MODULAR BOX WITH KEY CYLINDER LOCK.				

PLUMBING SPECIFICATIONS

- SUBMIT SHOP DRAWINGS ON ALL ITEMS AND MATERIALS.
- REFER TO PLUMBING FIXTURE SCHEDULE ON THE CONTRACT DRAWINGS FOR FIXTURE MODEL 3. WATER METERS: NUMBERS, REQUIRED ACCESSORIES AND SERVICES AND ROUGH-IN PIPE SIZES.
- . PLUMBING FITTINGS, TRIM AND ACCESSORIES.
- a. FITTINGS, TRIM AND ACCESSORIES: BRIGHT CHROME-PLATED OR POLISHED STAINLESS STEEL WHERE EXPOSED. COPPER OR BRASS WHERE NOT EXPOSED.
- b. P-TRAPS: REMOVABLE, WITH CLEANOUT. d. CARRIERS: HEAVY DUTY, DURA-COATED STEEL AND CAST IRON.
- e. FIXTURE BOLT CAPS: PROVIDE MANUFACTURE'S STANDARD EXPOSED FIXTURE BOLT CAPS FINISHED TO MATCH FIXTURE FINISH.
- f. ESCUTCHEONS: CHROME PLATED CAST BRASS ESCUTCHEONS WITH SET SCREW. d. SUPPLIES, STOPS AND WASTE FITTINGS: MCGUIRE, CHICAGO, EBC, ELKAY, KOHLER,
- SPEAKMAN, T&S BRASS, ZURN. FAUCETS: CHICAGO, ZURN, T&S BRASS.
- SUPPLY AND WASTE INSULATION KIT FOR EXPOSED UNDER SINK PIPING: ASTM E-84 25/50. PLUMBEREX, MCGUIRE OR TRUEBRO.
- "POINT-OF-USE" THERMOSTATIC MIXING VALVES: ASSE 1070. APOLLO, LAWLER, LEONARD, POWERS, SYMMONS, WATTS, WILKINS.
- 4. PLUMBING FIXTURES.
- a. VITREOUS CHINA TOILET ROOM FIXTURES: AMERICAN STANDARD, MANSFIELD, CRANE, ZURN, KOLHER, APPROVED EQUAL,
- b. WATER CLOSETS SEATS: BEMIS, CHURCH, OLSONITE, SPERZEL. c. STAINLESS STEEL SINKS: JUST, ELKAY, DAYTON.
- d. MOP BASINS: FIAT, MUSTEE, SWAN, ZURN.
- PROVIDE FIXTURES WITH ALL APPURTENANCES REQUIRED FOR A COMPLETE AND OPERATING INSTALLATION.
- INSTALL FIXTURES PER MANUFACTURER'S WRITTEN INSTALLATION INSTRUCTIONS.
- 7. REFER TO ARCHITECTURAL ELEVATIONS FOR FIXTURE MOUNTING HEIGHTS.

BUILDING SANITARY AND VENT SYSTEM

- PIPING: CAST IRON, SCHEDULE 40, NO-HUB, ASTM A 888; HEAVY DUTY STAINLESS STEEL
- PIPING: PVC, SCHEDULE 40 ASTM D 2665, SOLID-WALL DRAIN, WASTE AND VENT PIPING. FITTINGS TO BE ASTM D 2665 SOCKET TYPE, MADE TO ASTM D 3311, DRAIN, WASTE AND
- 3. INSTALL CAST IRON PIPING IN ACCORDANCE WITH CISPI 301.
- FLOOR DRAINS AND FLOOR CLEANOUTS: ZURN, MIFAB, WADE, ZURN, J.R. SMITH, ANCON.
- PROVIDE MEMBRANE CLAMPS ON ALL FLOOR DRAINS AND CLEANOUTS IN FLOORS HAVING WATERPROOF MEMBRANE.
- 6. ALL DRAINS AND CLEANOUTS TO BE FLUSH AND LEVEL WITH FINISH FLOOR.
- VENT STACKS SHALL PENETRATE ROOF SLABS WITH A MINIMUM SIZE OF 3" AND A HEIGHT ABOVE ROOF NOT LESS THEN 1' - 0". VENTS SHALL NOT BE WITHIN 10 FEET OF FRESH AIR

WATER SERVICE

a. 2" AND UNDER: COPPER TUBING, TYPE "K", SOFT; ONE PIECE CONTINUOUS THROUGH FLOOR.

- 2. INSTALL ACCORDING TO THE MANUFACTURER'S RECOMMENDATIONS.
- 4. BACKFLOW PREVENTER: A.S.S.E. NO. 1013, WATTS.
- DOMESTIC WATER SERVICE.

COVER: MINIMUM 48".

6. INSTALL METER AND BACKFLOW ASSEMBLY, INCLUDING SERVICE ENTRANCE RISER, PER LOCAL WATER DEPARTMENT REQUIREMENTS.

DOMESTIC WATER SYSTEM

- c. COPPER TUBE, TYPE "L", HARD DRAWN, ASTM B-88; WROT COPPER SOCKET FITTINGS,
- ASME B16.22; SOLDER JOINTS. d. COPPER TUBING, TYPE "L", HARD DRAWN, ASTM B-88; VIEGA PRESS FITTINGS OR
- APPROVED EQUAL; PRESS JOINTS. e. CPVC TUBE, SCHEDULE 40, ASTM D-2846, SDR 11; CPVC SOCKET FITTINGS; CEMENTED
- f. PEX TUBE, ASTM F-877, SDR 9; METAL INSERT FITTINGS WITH COPPER OR STAINLESS STEEL CRIMP RINGS. g. PP-R
- 2. INSTALL COPPER PIPING IN ACCORDANCE WITH THE COPPER TUBE HANDBOOK.

2. INSULATION.

- a. FIBERGLASS PIPE INSULATION, ALL—SERVICE JACKET. b. THICKNESS: 1" THICK FOR PIPING 1-1/4" AND LARGER, 1/2" THICK FOR PIPING 1" AND
- 3. COMPLY WITH NSF 61 FOR ALL POTABLE WATER PIPING AND COMPONENTS.
- 4. COMPLY WITH NSF 14 FOR ALL PLASTIC POTABLE WATER PIPING AND COMPONENTS.
- 5. INSTALL COPPER PIPING PER CDA'S "THE COPPER TUBE HANDBOOK".

6. INSTALL PRESS FITTINGS PER MANUFACTURER'S INSTALLATION INSTRUCTIONS.

<u>EQUIPMENT</u>

- 1. ELECTRIC TANK TYPE WATER HEATERS.
- a. ALL ELECTRICAL CONNECTIONS TO BE MADE BY THE ELECTRICAL CONTRACTOR. WATER HEATERS SHALL BE AS MANUFACTURED BY A.O. SMITH. THE SAME TYPE HEATERS AS MANUFACTURED BY BRADFORD WHITE, LOCHINVAR, RUUD OR STATE MAY BE
- FURNISHED AT THE CONTRACTOR'S OPTION.
- c. UNITS TO OPERATE ON 208 VOLT, 60 HERTZ, SINGLE PHASE.
- d. INSTALL WATER HEATERS AS RECOMMENDED BY THE MANUFACTURER. e. PROVIDE A TEMPERATURE PRESSURE RELIEF VALVE ON THE HOT WATER OUTLET ONLY IF REQUIRED BY LOCAL CODE AUTHORITY. f. ALL ELECTRIC WATER HEATERS SHALL MEET OR EXCEED THE REQUIREMENTS OF ASHRAE/IES 90.1 ENERGY EFFICIENCIES STANDARD AND THE INTERNATIONAL ENERGY

CONSERVATION CODE.

- 1. COATED MOUNTED AT 10 FT. INTERVALS. PROVIDE INSULATION SADDLES AND INSERTS TO PROTECT INSULATED PIPING.
- 2. THREADED ROD USED FOR HANGERS SHALL BE %" OR LARGER.

GENERAL NOTES

- ALL WORK SHALL COMPLY WITH THE LATEST EDITIONS OF THE OHIO BUILDING CODE, OHIO PLUMBING CODE AND ALL OTHER FEDERAL, STATE AND LOCAL CODES HAVING
- OBTAIN AND PAY FOR ALL APPLICABLE FEES AND PERMITS AND ARRANGE FOR ALL NECESSARY INSPECTIONS BY THE AUTHORITIES HAVING JURISDICTION.
- PROVIDE ALL NECESSARY MATERIAL, EQUIPMENT, SERVICES, LABOR, ETC., AS REQUIRED TO COMPLETE THE CONSTRUCTION OF THIS WORK IN ACCORDANCE WITH ALL THE CONTRACT DOCUMENTS.
- EXAMINE THE PROJECT CONTRACT DOCUMENTS TO DEVELOP A COMPLETE UNDERSTANDING OF THE SCOPE OF WORK BEFORE SUBMITTING BID.

APPROVED FOR ACTUAL CONDITIONS.

- PIPING ROUTING AND EQUIPMENT LAYOUT IS DIAGRAMMATIC ONLY. COORDINATE THE EXACT LOCATIONS WITH BUILDING STRUCTURE AND WORK OF OTHER CONTRACTORS.
- CUT AND PATCH FLOORS, WALLS AND OUTDOOR SURFACES WHERE NECESSARY TO INSTALL PLUMBING PIPING AND/OR EQUIPMENT. CONCRETE SHALL BE SAW CUT, NEATLY AND ACCURATELY. NECESSARY HOLES SHALL BE CORE DRILLED. PATCHING SHALL BE DONE TO MATCH BOTH THICKNESS AND FINISH OF EXISTING ADJACENT MATERIAL. ALL FIRE WALL PENETRATIONS SHALL BE FIRE STOPPED WITH MATERIALS
- UNLESS OTHERWISE NOTED, ALL PIPING SHALL BE CONCEALED WHEREVER POSSIBLE. PROVIDE CHROME ESCUTCHEON AT EACH PENETRATION OF A FINISHED SURFACE.
- ALL WALL AND SLAB PENETRATIONS OF MASONRY OR CONCRETE CONSTRUCTION SHALL BE SLEEVED.
- PROVIDE FIRE STOPPING AT ALL PENETRATIONS OF FIRE RATED ASSEMBLIES AND
- REFER TO ARCHITECTURAL DRAWINGS FOR ALL PLUMBING FIXTURE MOUNTING
- FIELD VERIFY INVERTS, LOCATION, AND FLOW DIRECTION OF EXISTING SANITARY AND STORM SEWER PIPING PRIOR TO PERFORMING ANY PLUMBING WORK.
- FIELD VERIFY ROUTING AND PIPE SIZING OF EXISTING ABOVE GROUND CW, HW, SAN & VENT PIPING PRIOR TO PERFORMING ANY PLUMBING WORK.
- REMOVE CEILING TILES AS REQUIRED TO PERFORM WORK. RE-INSTALL CEILING TILES AFTER WORK IS COMPLETE AND REPLACE ALL TILES DAMAGED OR BROKEN DURING WORK. COORDINATE ALL WORK WITH OWNER.
- . COORDINATE TEMPORARY SHUTDOWNS OF PLUMBING SYSTEMS.
- REFER TO SCHEDULES AND DETAILS FOR INDIVIDUAL FIXTURE BRANCH SIZES WHERE NOT SHOWN.

PIPING LINETYPES

NEW (DARK)

DCW	DOMESTIC COLD WATER
—HW	DOMESTIC HOT WATER
V	SANITARY VENT
SAN	SANITARY
— — — -SAN- — — —	SANITARY (BELOW FLOOR)
———(E)———	EXISTING (LIGHT)

PIPING	SYMBOLS
G	PIPE RISE
0	PIPE UP
	PIPE TEE BRANCH UP
	PIPE TEE BRANCH DOWN
	DIRECTION OF FLOW
	DIRECTION OF SLOPE (DOWN)
5	CONTINUATION
€	CAP
ı 	CLEAN OUT
\bowtie	SHUTOFF VALVE

ENTURE BRANCH LINE OFF COLLEGE

UNION

FIXTURE BRANCH LINE SIZE SCHEDULE						
FIXTURE TYPE	TRAP	SAN	COLD WATER	HOT WATER		
WATER CLOSET (TANK)	INTEGRAL	3"	1/2"	-		
LAV/4T0DV/	41/ 27	41/7	1/"	1/ "		

					_
FIXTURE TYPE	TRAP	SAN	COLD WATER	HOT WATER	
WATER CLOSET (TANK)	INTEGRAL	3"	1/2"	_	
LAVATORY	1¼"	1½"	1/2"	1/2"	

PLAN NOTES

6225 Emerald Parkway

Dublin, Ohio 43016 Email: mail@vmpengineering.com

- EXISTING WATER SERVICE, METER, AND BACKFLOW PREVENTER TO REMAIN.
- EXISTING IRRIGATION SYSTEM BACKFLOW PREVENTER TO REMAIN.
- TANKLESS WATER HEATER EEMAX MODEL# SPEX4208T OR EQUAL. CONNECT TO COLD WATER LINE AND SINK PER MANUFACTURER'S DIRECTIONS.
- CONTRACTOR TO VERIFY FLOW DIRECTION PRIOR TO CONNECTION.

ENGINEERING INC.

Phone: 614.408.3862

Date: March 20, 2023