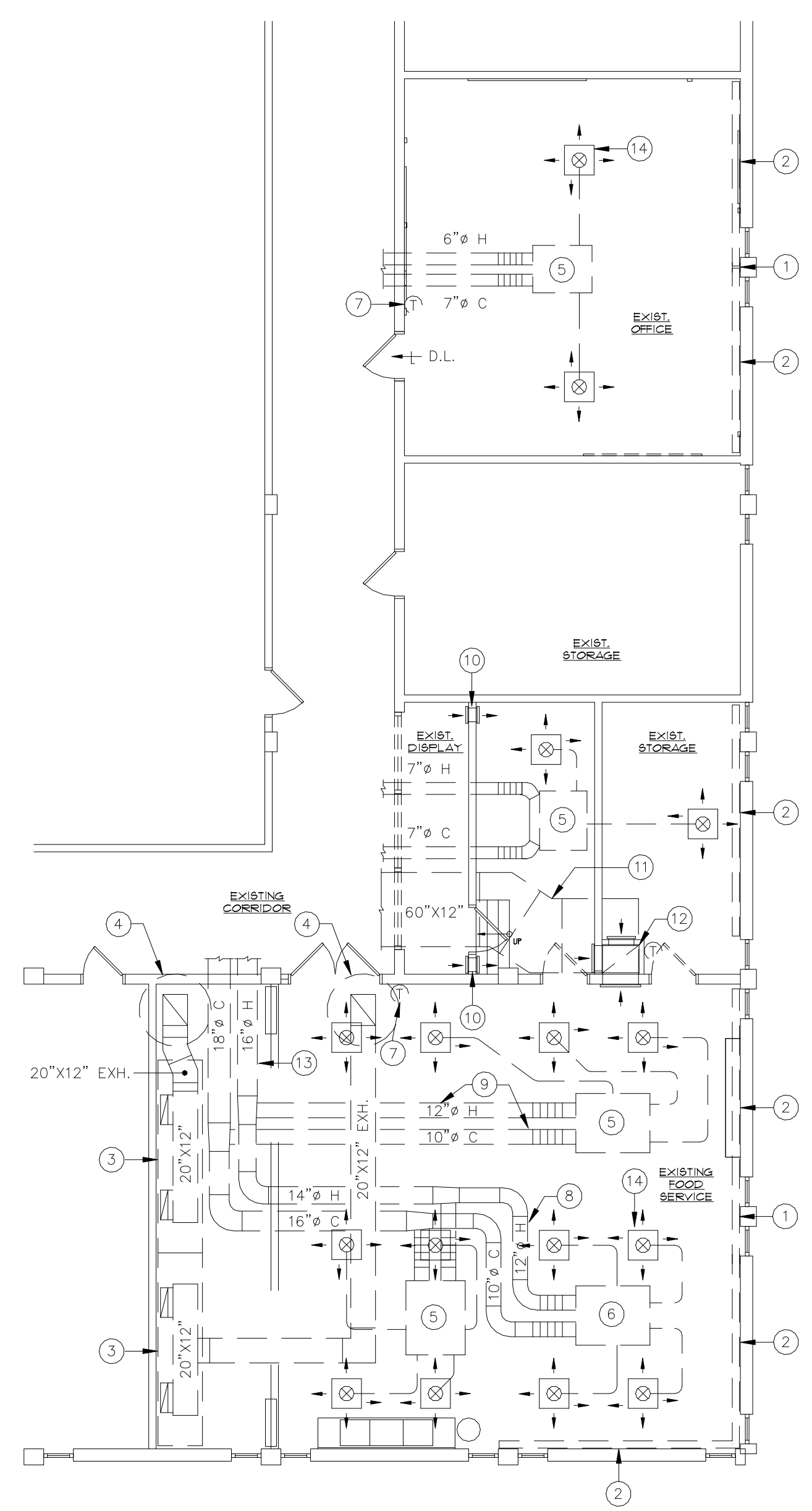


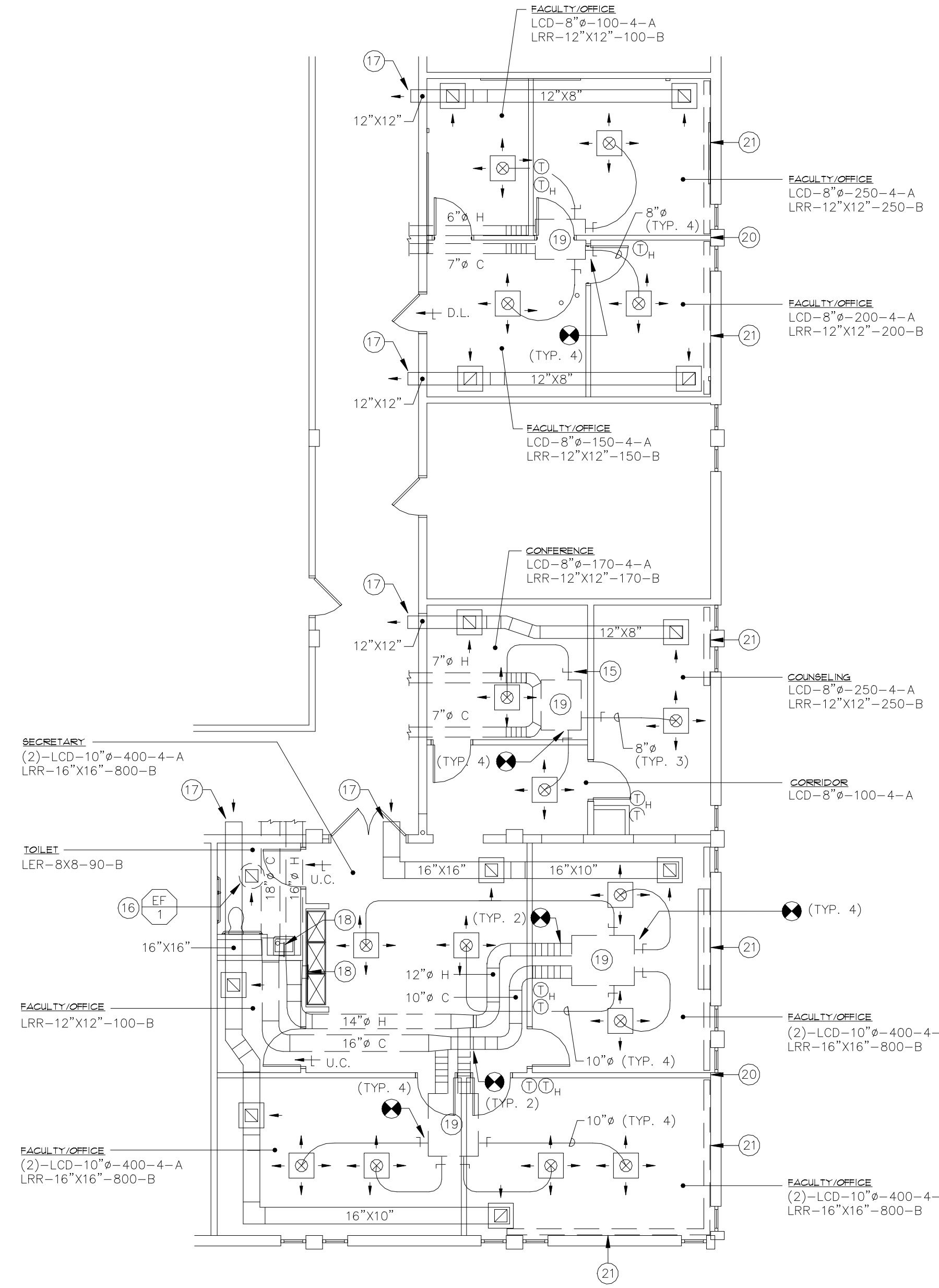
**RANDY PAUL & ASSOCIATES, INC.**  
MECHANICAL & ELECTRICAL ENGINEERING  
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08-117



**SECOND FLOOR PLAN - HVAC DEMOLITION**  
SCALE: 1/8" = 1'-0"



**SECOND FLOOR PLAN - HVAC**  
SCALE: 1/8" = 1'-0"

**HVAC ABBREVIATIONS**

- DWG. DRAWING
- W/ WITH
- TYP. TYPICAL
- Ø ROUND
- EXH. EXHAUST
- SW. SWITCH
- DISC. DISCONNECT
- G.C. GENERAL CONTRACTOR
- H.C. HEATING CONTRACTOR
- H. HEAT
- C. COOLING

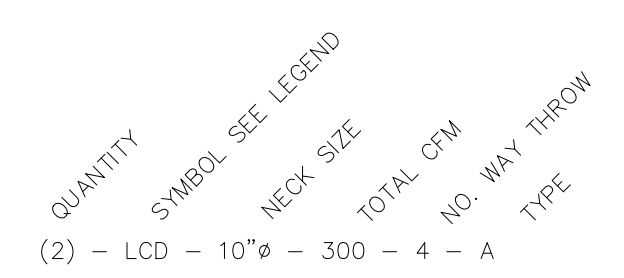
**PLAN NOTES**

- 1 EXISTING ELECTRIC WALL MOUNTED HEATER ENCLOSURE TO BE VERTICALLY SEPARATED AT THIS LOCATION TO PROVIDE FOR FUTURE WALL CONSTRUCTION AT THIS LOCATION.
- 2 EXISTING ELECTRIC WALL MOUNTED HEATER TO REMAIN. CONTRACTOR SHALL RECONFIGURE HEATING ELEMENTS AS REQUIRED TO CORRESPOND TO FUTURE ZONING AS INDICATED ON NEW FLOOR PLAN.
- 3 EXISTING KITCHEN EXHAUST HOOD AND ALL ASSOCIATED DUCTWORK, FIRE SUPPRESSION AND CONTROLS TO BE REMOVED.
- 4 EXISTING ROOFTOP KITCHEN EXHAUST FAN AND CURB TO BE REMOVED.
- 5 EXISTING HEATING/COOLING DUAL DUCT TERMINAL MIXING BOX MOUNTED ABOVE CEILING TO REMAIN. CONTRACTOR SHALL RECONFIGURE CONTROLS AS REQUIRED TO CORRESPOND TO FUTURE ZONING AS INDICATED ON NEW FLOOR PLAN.
- 6 EXISTING HEATING/COOLING DUAL DUCT TERMINAL MIXING BOX MOUNTED ABOVE CEILING AND ASSOCIATED ACCESSORIES TO BE REMOVED.
- 7 EXISTING HEATING/COOLING THERMOSTAT TO BE REMOVED AND RELOCATED AS INDICATED ON NEW FLOOR PLAN.
- 8 EXISTING HEATING/COOLING MAIN SUPPLY DUCTWORK TO BE REMOVED AT THIS LOCATION. CONTRACTOR SHALL REINSTALL DUCTWORK AS REQUIRED ON NEW FLOOR PLAN.
- 9 EXISTING HEATING/COOLING MAIN SUPPLY DUCTWORK TO BE REMOVED.
- 10 EXISTING TRANSFER AIR DUCTWORK AND ASSOCIATED TRANSFER AIR GRILLES TO BE REMOVED.
- 11 EXISTING RETURN AIR DUCTWORK TO BE REMOVED.
- 12 EXISTING RETURN AIR DUCTWORK RISER AND RETURN AIR GRILLES TO BE REMOVED.
- 13 EXISTING HEATING/COOLING MAIN SUPPLY DUCTWORK TO BE REMOVED.
- 14 ALL EXISTING SUPPLY AIR DIFFUSERS AND ASSOCIATED BRANCH DUCTWORK TO BE REMOVED. (TYP.)
- 15 MANUAL BALANCING DAMPER. (TYP.)
- 16 8"X8" EXHAUST AIR DUCT RISE UP THRU ROOF TO EF-1 MOUNTED ON ROOFTOP ABOVE.
- 17 RETURN AIR DUCT OPEN TO CEILING SPACE.
- 18 CAP AND SEAL EXISTING HEATING/COOLING MAIN SUPPLY DUCTS.
- 19 EXISTING HEATING/COOLING DUAL DUCT TERMINAL MIXING BOX MOUNTED ABOVE CEILING SHALL BE RECONFIGURED TO CORRESPOND TO REVISED ZONING AS INDICATED.
- 20 SEPARATE EXISTING ELECTRIC WALL MOUNTED HEATER AT THIS LOCATION TO PROVIDE CLEARANCE FOR WALL CONSTRUCTION AND REZONING OF HEATER.
- 21 EXISTING ELECTRIC WALL MOUNTED HEATER SHALL BE MODIFIED AND RECONFIGURED TO CORRESPOND TO REZONING OF SPACE AS INDICATED. CONTRACTOR SHALL FURNISH AND INSTALL ALL THERMOSTATS, CONTROLS AND EQUIPMENT REQUIRED TO CONTROL INDIVIDUAL AREAS AS INDICATED.

**HVAC SYMBOLS**

- ⊖ THERMOSTAT
- ⊕ HEATING THERMOSTAT
- AIR FLOW DIRECTION
- ⌋ MANUAL DAMPER
- ⊞ SUPPLY AIR DUCT UP
- ⊞ RETURN AIR DUCT UP
- ⊞ SUPPLY AIR DUCT DOWN
- ⊞ RETURN AIR DUCT DOWN
- ⊞ SUPPLY AIR DIFFUSER
- ⊞ RETURN AIR DIFFUSER
- ⊞ DOOR LOUVER
- ⊞ UNDER CUT DOOR
- ⊞ CONNECT TO EXISTING
- ⊞ EXISTING DUCTWORK
- ⊞ NEW DUCTWORK

**DIFFUSER & REGISTER KEY**



(2) - LCD - 10"ø - 300 - 4 - A

**LEGEND**

- LCD = LAY-IN CEILING DIFFUSER
- LRR = LAY-IN RETURN REGISTER
- LER = LAY-IN EXHAUST REGISTER

**TYPES**

- A = TUTTLE & BAILEY MODEL RC OR RCLT
- B = TUTTLE & BAILEY MODEL CRE 500

**NOTES**

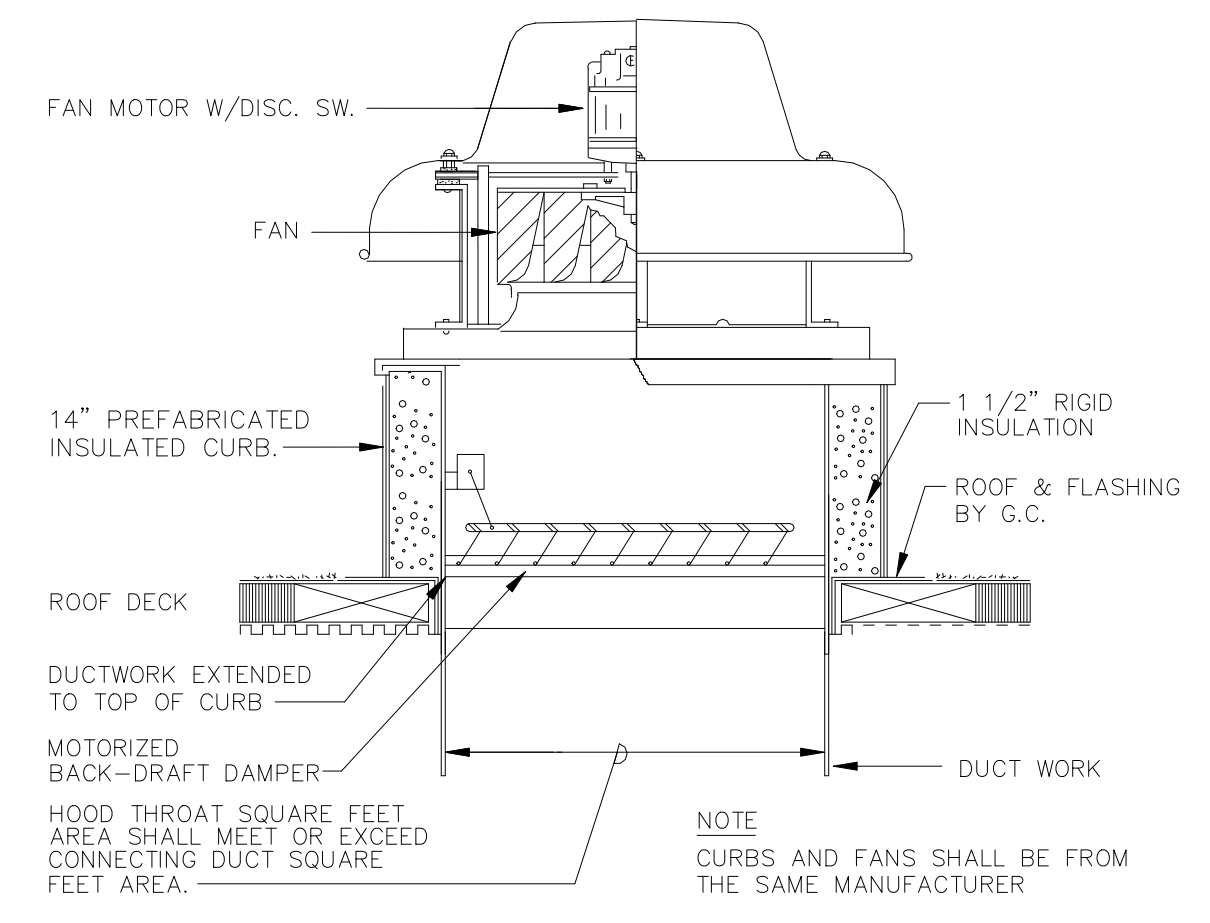
1. DIFFUSER KEY UNDER ROOM NAME & NUMBER IS TYPICAL FOR ALL DIFFUSERS IN THAT SPACE UNLESS OTHERWISE NOTED.
2. THIS CONTRACTOR SHALL COORDINATE ALL DIFFUSER LOCATIONS WITH THE REFLECTED CEILING PLANS & LIGHTING PLANS.
3. ALL SUPPLY AIR REGISTERS AND DIFFUSERS SHALL BE INSTALLED WITH OPPOSED BLADE DAMPERS AT DUCT CONNECTION.

**GENERAL HVAC NOTES**

1. THIS CONTRACTOR SHALL INSTALL ALL OVERHEAD DUCTWORK TO MAINTAIN MAXIMUM CLEARANCE ABOVE CEILING UNLESS OTHERWISE NOTED.
2. ALL CONTROL REQUIREMENTS ARE TO BE BY THIS CONTRACTOR. CONTRACTOR SHALL FURNISH AND INSTALL ALL THERMOSTATS RELAYS, CONTRACTORS, MOTOR STARTERS, WIRING AND CONDUITS ETC. REQUIRED FOR A COMPLETE WORKING SYSTEM.
3. THIS CONTRACTOR SHALL COORDINATE AND VERIFY ALL FINAL HVAC, EQUIPMENT AND DUCTWORK CONFIGURATIONS WITH OTHER TRADES' AND EXISTING CONDITIONS.
4. ALL DUCTWORK SHOWN ON THESE DRAWINGS SHALL RUN IN CEILING SPACE PROVIDING MAXIMUM CEILING CLEARANCE.
5. PROVIDE DUCT TRANSITIONS REQUIRED TO CONNECT DUCT TO EXISTING EQUIPMENT AND COORDINATE WITH EQUIPMENT MANUFACTURER.
6. REFER TO EQUIPMENT SCHEDULES FOR EQUIPMENT CAPACITIES AND TO EQUIPMENT DETAILS FOR INSTALLATION REQUIREMENTS.
7. ALL ROUND BRANCH DUCTS SHALL BE SIZED TO MATCH LISTED DIFFUSER NECK SIZE LISTED UNDER ROOM NAME.
8. THE H.C. SHALL CUT ANY OPENINGS IN FLOORS, WALLS, AND CEILINGS REQUIRED FOR THIS WORK AND SHALL PATCH AND REPAIR ANY OPENINGS MADE BY REMOVAL OR INSTALLATION OF H.V.A.C. PIPING AND EQUIPMENT TO MATCH EXISTING SUBSTRATE AND SO THAT IT IS READY FOR NEW FINISH. ALL FINISHES SHALL BE DONE BY THE G.C. ALL ROOF OPENINGS, AND THE PATCHING AND SEALING OF ROOF SHALL BE BY THE G.C..

**GENERAL HVAC DEMOLITION NOTES**

1. CONTRACTOR SHALL REMOVE ONLY EXISTING HVAC EQUIPMENT/ CONTROLS AND ETC. NOTED TO BE REMOVED ON THESE CONTRACT DRAWINGS. CONTRACTOR SHALL COORDINATE ALL REMOVALS WITH OWNERS REPRESENTATIVE AND ALL OTHER TRADES AS REQUIRED.
2. CONTRACTOR SHALL COORDINATE WITH OWNERS REPRESENTATIVE ON ANY ITEM TO BE REMOVED. IF OWNER ELECTS TO KEEP REMOVED ITEM, IT SHALL BE MAINTAINED IN GOOD CONDITION AND TURNED OVER TO OWNER FOR STORAGE. ALL REMAINING ITEMS AND MATERIAL NOT RETAINED SHALL BE REMOVED AND DISPOSED OF OFF SITE BY THIS CONTRACTOR.
3. DEMOLITION WORK SHALL BE DONE ACCORDING TO PHASING ESTABLISHED BY G.C.. AREAS NOT DESIGNATED FOR WORK SHALL NOT BE DISTURBED UNTIL WORK IN THAT AREA IS SCHEDULED.
4. DEMOLITION DRAWINGS ARE FOR INDICATING THE MAJORITY OF EXISTING EQUIPMENT AND SYSTEMS TO BE REMOVED. HOWEVER NOT EVERY ITEM MAY BE SHOWN BUT CONTRACTOR SHALL BE RESPONSIBLE TO REMOVE ALL EXISTING ITEMS NO LONGER REQUIRED FOR RENOVATIONS UNLESS OTHERWISE NOTED.



**ROOF EXHAUST FAN DETAIL**  
NO SCALE

FAN SCHEDULE											
SYMBOL	TYPE	MFG.	MODEL NO.	C.F.M.	E.S.P.	R.P.M.	ELECTRICAL DATA		CONTROL	SONES	REMARKS
							MOTOR HP	VOLTAGE			
EF-1	R	GREENHECK	G-060	90	.375"	1550	.022	120V-1PH	LIGHT SWITCH	4.9	1 2
<b>REMARKS</b>											
1 FURNISH AND INSTALL WITH MOTORIZED BACKDRAFT DAMPER (120V-1PH) 14" HIGH INSULATED ROOF CURB (GREENHECK MODEL GP) AND UNIT MOUNTED POWER DISCONNECT SWITCH.											
2 EXHAUST FAN SHALL BE INTERLOCKED WITH ROOM LIGHT SWITCH.											
<b>TYPE</b>											
R = ROOFTOP EXHAUST FAN											

**OFFICE RENOVATIONS**  
**W226 & W207**

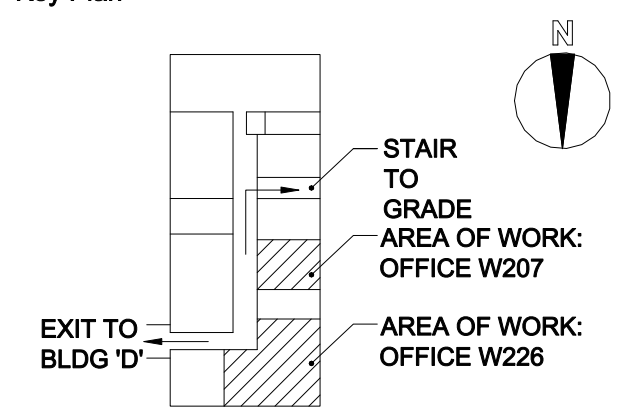
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 AS-BUILT DRAWING DATE ISSUED:

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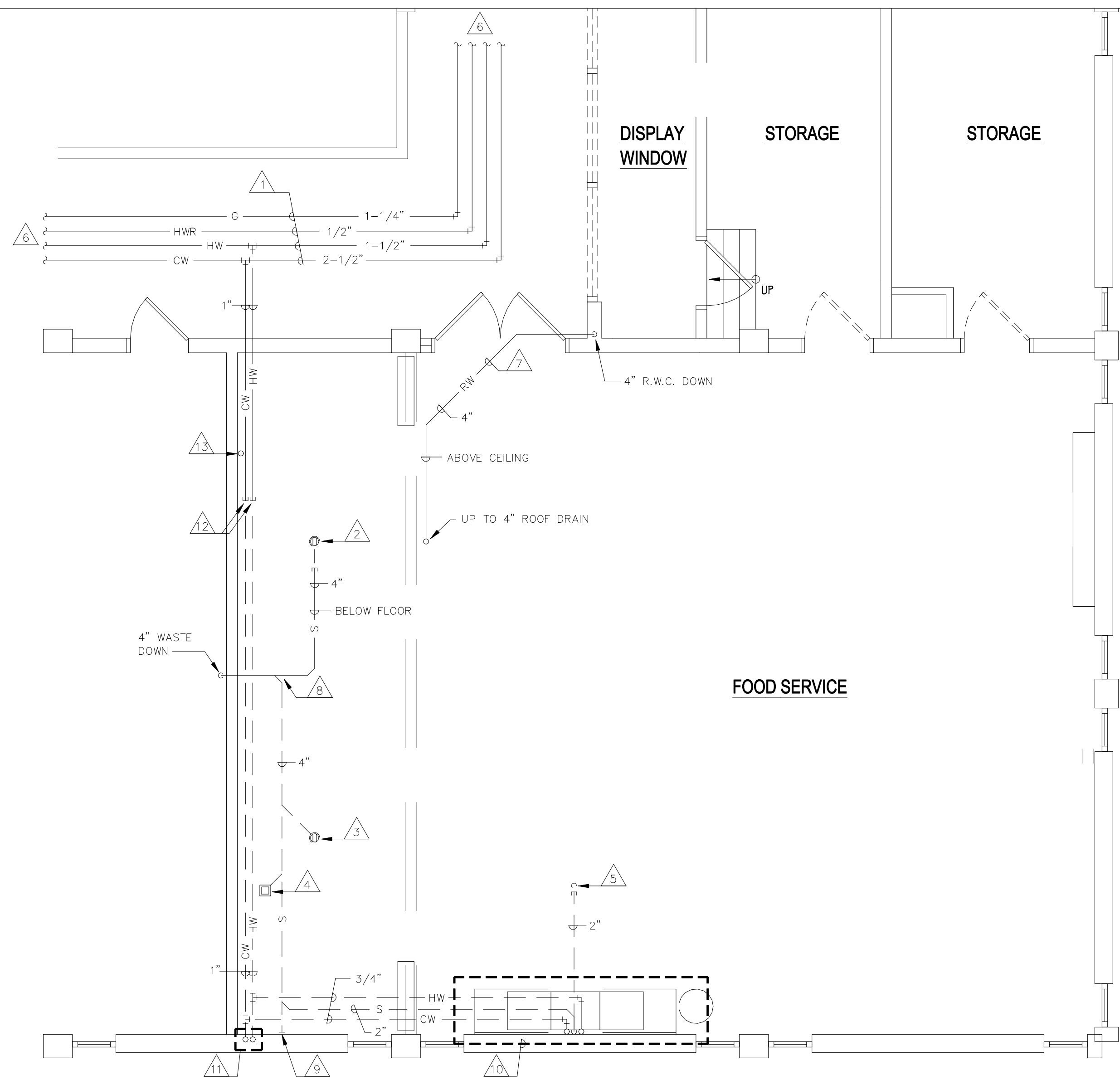
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Project Name: **OFFICE RENOVATIONS**  
 W226 & W207  
 Project # **0535**  
 Description:

Date: **NOVEMBER 5, 2008**  
 Scale: **AS SHOWN**



**H1.1**  
 Scale: 0  
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**SECOND FLOOR PLAN - PLUMBING DEMOLITION**  
SCALE: 1/4" = 1'-0"

**PLUMBING DEMOLITION PLAN NOTES**

- 1. EXISTING GAS, COLD WATER, HOT WATER AND HOT WATER RETURN AT FIRST FLOOR CEILING TO REMAIN.
- 2. EXISTING FLOOR DRAIN TO BE REMOVED. CAP PIPE BELOW FLOOR FOR FUTURE USE. CUTTING AND PATCHING OF FLOOR TO BE BY G.C.
- 3. EXISTING FLOOR DRAIN TO BE REMOVED. ASSOCIATED PIPING BELOW FLOOR TO BE REMOVED. CUTTING AND PATCHING OF FLOOR TO BE BY G.C.
- 4. EXISTING FUNNEL DRAIN TO BE REMOVED. ASSOCIATED PIPING BELOW FLOOR TO BE REMOVED. CUTTING AND PATCHING OF FLOOR TO BE BY G.C.
- 5. EXISTING 3" V.T.R. TO REMAIN AND BE CAPPED FOR FUTURE USE. ANY ASSOCIATED PIPING TO BE REMOVED.
- 6. REFER TO ORIGINAL CONSTRUCTION DWG'S FOR CONTINUATION.
- 7. EXISTING R.W.C. TO REMAIN.
- 8. EXISTING 4" SEWER LINE TO BE REUSED. P.C. TO CAP UNUSED BRANCHES, AS REQUIRED.
- 9. EXISTING CLEAN OUT TO BE REMOVED. ASSOCIATED PIPING BELOW FLOOR TO BE REMOVED. CUTTING AND PATCHING OF FLOOR TO BE BY G.C.
- 10. EXISTING 3 BOWL SINK TO BE REMOVED. ASSOCIATED PIPING TO BE REMOVED. CUTTING AND PATCHING OF FLOOR TO BE BY G.C.
- 11. EXISTING 3/4" H & CW VALVES TO BE REMOVED. ASSOCIATED PIPING TO BE REMOVED. CUTTING AND PATCHING OF FLOOR OR WALL TO BE BY G.C.
- 12. EXISTING 1" H & CW LINES TO BE CUT AND CAPPED FOR FUTURE USE. REMAINING PIPING TO 3/4" VALVES AND 3 BOWL SINK TO BE REMOVED.
- 13. EXISTING 3/4" GAS LINE UP THROUGH FLOOR - CAP AND REMOVE LINE AT MAIN TAKE-OFF.

**GENERAL PLUMBING DEMOLITION NOTES**

- 1. P.C. SHALL REUSE THE EXISTING SANITARY SEWER, VENTING AND RAIN WATER PIPING AS MUCH AS POSSIBLE. IN AREAS WHERE CUTTING AND PATCHING OF FLOORS OR WALLS OCCURS, THE G.C. SHALL BE RESPONSIBLE FOR ALL CUTTING, PATCHING AND REFINISHING OF THESE SURFACES.
- 2. P.C. SHALL FIELD VERIFY ALL EXISTING CONDITIONS INCLUDING LOCATIONS AND SIZES OF PLUMBING UTILITIES, CONDITION OF EXISTING PLUMBING AND FIXTURES NOTED TO REMAIN, AND A COMPLETE SCOPE OF WORK PRIOR TO PLACING A BID.
- 3. ANY PLUMBING FIXTURES, PIPING, DRAINS, ETC. THAT WERE NOTED TO REMAIN, AND WERE DAMAGED IN THE DEMOLITION OR CONSTRUCTION PHASES, SHALL BE REPLACED IN KIND AT NO ADDITIONAL EXPENSE TO THE OWNER.
- 4. PLUMBING SHOWN ON DEMOLITION PLANS AS "EXISTING" WAS OBTAINED FROM ORIGINAL CONSTRUCTION DRAWING PROVIDED BY OWNER. ACTUAL PLUMBING LOCATIONS AND FIELD CONDITIONS MAY VARY.

**ABBREVIATIONS**

A.F.F.	ABOVE FINISHED FLOOR
BLDG.	BUILDING
C.O.	CLEANOUT
E.C.	ELECTRICAL CONTRACTOR
EXIST.	EXISTING
F.C.O.	FLOOR CLEAN OUT
G.C.	GENERAL CONTRACTOR
H. & C.W.	HOT & COLD WATER
H.C.	HEATING CONTRACTOR
HORI.	HORIZONTAL
INV.	INVERT
P.C.	PLUMBING CONTRACTOR
PLBG.	PLUMBING
R.T.U.	ROOF TOP UNIT
SAN.	SANITARY
RW	RAIN WATER
RWC	RAIN WATER CONDUCTOR
S. & W.	SOIL & WASTE
V.R.	VENT RISER
V.T.R.	VENT-THRU-ROOF
W.	WASTE
W/W.	W/ WITH
W.C.	WATER COLUMN

NOTE:  
THE ABOVE SYMBOLS AND ABBREVIATIONS ARE A GENERAL LIST. SOME OF THE ITEMS ABOVE MAY NOT BE APPLICABLE.

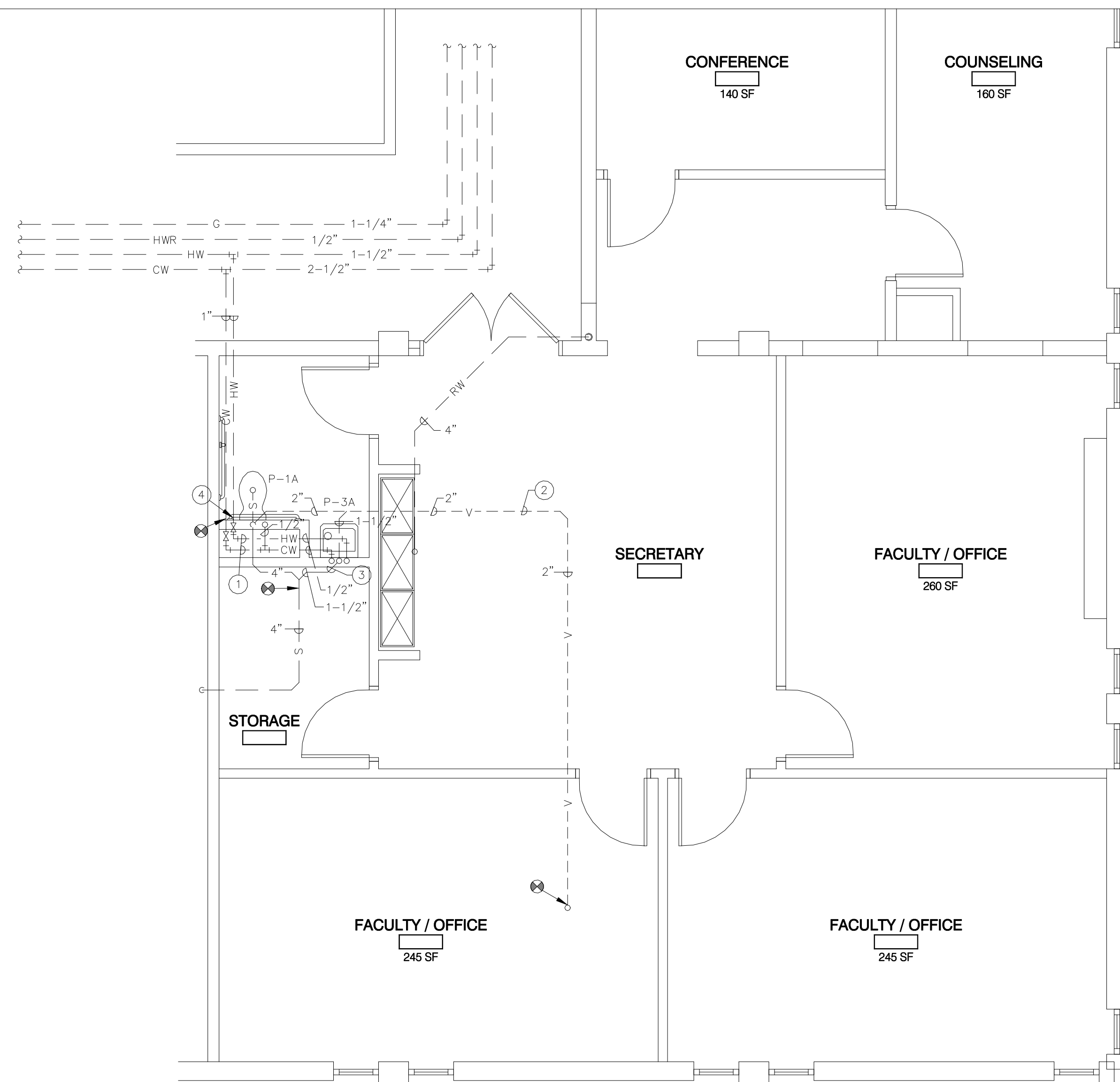
**SYMBOLS**

— S —	SANITARY
— CW —	COLD WATER
— HW —	HOT WATER
— G —	GAS PIPING
— RW —	RAIN WATER
- - - V - - -	VENTING
○	RISE
⊥	DROP
⊕	ELBOW
⊕	TEE
⊕	GATE VALVE
⊕	BALL VALVE
⊕	CHECK VALVE
⊕	CLEANOUT
⊕	FLOOR DRAIN
⊕	FUNNEL DRAIN
⊕	HOSE BIBB
⊕	CONNECT TO EXISTING

**PLAN NOTES**

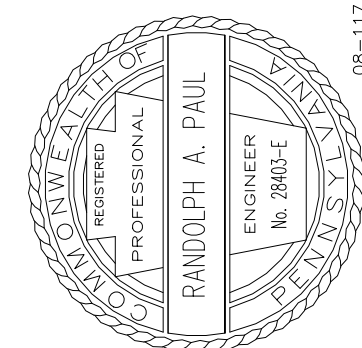
- 1. NEW H&CW PIPING RUNS CONTINUED BELOW FLOOR.
- 2. NEW VENT PIPING RUN ABOVE CEILING.
- 3. NEW SEWER PIPING RUN AT MIN 1/8" SLOPE BELOW FLOOR. (TYP.)
- 4. REDUCE NEW HOT WATER PIPING FROM 1" TO 1/2" AFTER CONNECTING TO EXISTING HW PIPE.

**SECOND FLOOR PLAN - PLUMBING**  
SCALE: 1/4" = 1'-0"



**GENERAL NOTES**

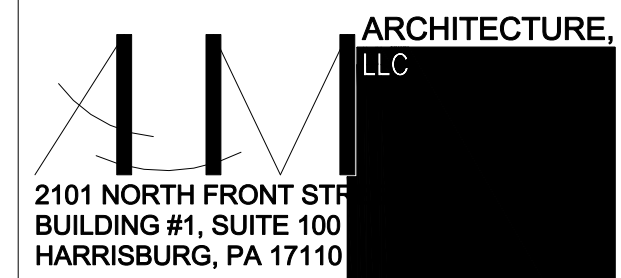
- 1. ALL PLUMBING WORK SHOULD BE IN ACCORDANCE TO THE LATEST EDITION OF THE INTERNATIONAL PLUMBING CODE, NFPA 13 GUIDELINES, THE NATIONAL FUEL GAS CODE, AND THE LOCAL AUTHORITIES HAVING JURISDICTION.
- 2. P.C. SHALL FIELD VERIFY ALL EXIST. CONDITIONS PRIOR TO BID.
- 3. ALL ABOVE FLOOR HOT AND COLD WATER PIPING SHALL BE INSULATED WITH 1/2" ARMSTRONG AP ARMAFLEX INSULATION.
- 4. ALL WORK SHALL BE GUARANTEED TO BE FREE OF DEFECTIVE WORK, MATERIALS, OR PARTS FOR A PERIOD OF ONE YEAR AFTER ACCEPTANCE BY THE OWNER. REPAIR, REVISE OR REPLACE AT NO COST TO THE OWNER, ANY SUCH DEFECTS OCCURRING WITHIN THE GUARANTEE PERIOD.
- 5. PIPES AND FITTINGS SPECIFICATIONS:  
DOMESTIC WATER PIPING: COPPER TUBING TYPE "L" WITH COPPER PRESSURE FITTINGS JOINED WITH LEAD-FREE SOLDER. BALL VALVES SHALL BE FULL PORT TYPE SIMILAR TO WATTS MODEL NO. B-6301.  
SANITARY SEWER AND VENT PIPING: PVC SCHEDULE 40 W/ SOLVENT WELD FITTINGS. PIPING LOCATED IN PLENUM RETURN AREAS SHALL BE METAL PIPING MATERIAL.  
SLOPE SANITARY SEWER PIPING AT MIN. 1/8" PER FOOT FOR SIZES 3" AND LARGER, AND 1/4" PER FOOT FOR SIZES 2 1/2" AND SMALLER, IN DIRECTION OF FLOW.
- 6. PROVIDE DRAINS, OVERFLOWS, STRAINERS, P-TRAPS, STOPS & SUPPLIES, ETC. AS REQUIRED. KOHLER, CHICAGO, BRASS CRAFT, OR MCCOURE ARE ACCEPTABLE MANUFACTURERS FOR THESE ITEMS.
- 7. PROVIDE ADA COMPLIANT FIXTURE INSTALLATION WITH ALL ADA CODE RECOMMENDATIONS & REQUIREMENTS INCLUDING MOUNTING HEIGHTS & PIPE INSULATION COVERINGS. PIPE INSULATION COVERS SHALL BE "LAV-GUARD" HANDICAP COVERS BY TRUEBRO, INC.
- 8. PROVIDE WATER STOP VALVES IN AN ACCESSIBLE LOCATION FOR EVERY PLUMBING FIXTURE.
- 9. TEST ALL PLUMBING PIPING FOR LEAKS IN ACCORDANCE WITH THE REGULATIONS OF THE LOCAL AUTHORITY PRIOR TO CONSTRUCTION COMPLETION. AT COMPLETION OF PLUMBING WORK, BUT BEFORE THE FINAL INSPECTION IS MADE, THOROUGHLY CLEAN ALL PLUMBING FIXTURES, EQUIPMENT, ESCUTCHEONS, ETC. TO BE FREE FROM ALL MARKS, SCRATCHES, STAINS, ETC. REPLACE ANY DAMAGED OR MARRED ITEMS AT NO COST TO THE OWNER.
- 10. P.C. SHALL OBTAIN AND PAY ALL PERMITS, FEES, AND COORDINATE INSPECTIONS FOR PLUMBING WORK WITH LOCAL AUTHORITY HAVING JURISDICTION.



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PRELIMINARY DRAWING DATE ISSUED 10-31-08
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CREATING EXCEPTIONAL PLACES

No.	Date	Revisions	By	Check
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Project Name: **OFFICE RENOVATIONS**

W226 & W207

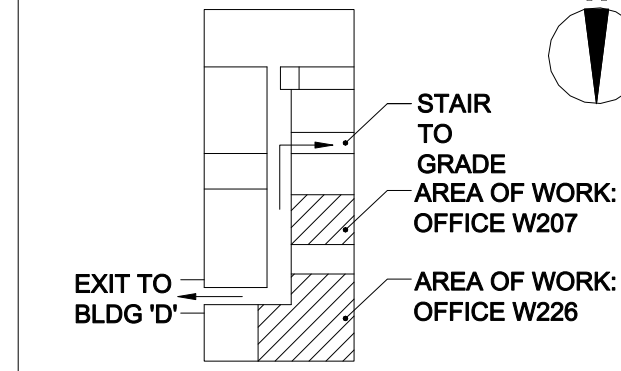
Project # 0535

Description

Date: **NOVEMBER 5, 2008**

Scale: **AS SHOWN**

Key Plan



PLUMBING FIXTURE SCHEDULE						
I.D.	DESCRIPTION	H.W.	C.W.	W.	V.	SPECIFICATIONS
P-1A	WATER CLOSET-FLOOR MTD.		1/2"	4"	2"	KOHLER NO. K-11466 FLOOR MOUNTED, TANK TYPE TOILET W/ELONGATED BOWL, AND K-4650 OPEN FRONT, SOLID PLASTIC SEAT W/LID AND CHECK HINGES, MOUNTED PER ADA GUIDELINES. ((AMERICAN STANDARD AND TOTO SHALL BE APPROVED EQUALS)).
P-3A	LAVATORY-WALL HUNG	1/2"	1/2"	1 1/2"	1 1/2"	KOHLER NO. K-2032 WALL HUNG, VITREOUS CHINA LAVATORY (20"x18"), W/ CHICAGO FAUCETS NO. 802-V HEAVY DUTY LAVATORY FAUCET, GRID DRAIN, ZURN #Z-1231 CONCEALED ARM CARRIER, P-TRAP, SUPPLIES & STOPS. MOUNTED PER ADA GUIDELINES. ((AMERICAN STANDARD AND ELJER)).

NOTES:  
1. (( )) INDICATES THE ONLY ALTERNATES TO BE ACCEPTED.  
2. ADA COMPLIANT INSULATION COVERS FOR TRAPS AND SUPPLIES SHALL BE TRUEBRO, INC.  
3. ♿ SYMBOL INDICATES FIXTURE TO BE ADA COMPLIANT.

**OFFICE RENOVATIONS**  
**W226 & W207**

**P1.1**

Scale

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**ELECTRICAL SPECIFICATIONS:**

BASIC ELECTRICAL MATERIALS AND METHODS

- 1.) COMPLY WITH ALL APPLICABLE CODES, LAWS, ORDINANCES, RULES AND REGULATIONS, INCLUDING BUT NOT LIMITED TO 2006 INTERNATIONAL BUILDING CODE, THE NATIONAL FIRE PROTECTION ASSOCIATION, THE AMERICANS WITH DISABILITIES ACT, AND THE OWNERS INSURING AGENCY.
- 2.) COMPLY WITH THE LATEST EDITION OF THE NATIONAL ELECTRICAL CODE, INCLUDING AMENDMENTS.
- 3.) SHOULD ANY CHANGE IN THE DRAWINGS AND/OR SPECIFICATIONS BE REQUIRED TO CONFORM TO THE CODES, ORDINANCES, REGULATIONS OR LAWS MENTIONED ABOVE, NOTIFY THE ARCHITECT PRIOR TO SUBMISSION OF BIDS. AFTER SIGNING OF THE CONTRACT, EACH CONTRACTOR WILL BE RESPONSIBLE FOR THE COMPLETION OF ALL WORK NECESSARY TO MEET THE ABOVE MENTIONED REQUIREMENTS WITHOUT ADDITIONAL EXPENSE TO THE OWNER.
- 4.) CONTRACTOR SHALL VISIT THE SITE AND BECOME FAMILIAR WITH THE LOCATIONS AND CONDITIONS AFFECTING THE WORK. NO ALLOWANCE WILL BE GRANTED BECAUSE OF LACK OF KNOWLEDGE OF SITE CONDITIONS. DAMAGE CAUSED BY THIS CONTRACTOR, OR BY THE ELEMENTS DUE TO NEGLIGENCE ON THE PART OF THE CONTRACTOR DUE TO LACK OF KNOWLEDGE OF SITE CONDITIONS SHALL BE REPAIRED BY THE CONTRACTOR AT HIS OWN EXPENSE.
- 5.) IN GENERAL, CIRCUITING SHALL BE AS SHOWN ON THE DRAWINGS. DETERMINE EXACT CONTRACTOR RESPONSIBLE TO DISPENSE OF ANY HAZARDOUS MATERIAL IN ACCORDANCE WITH THE OTHER TRADES. THE OWNER, THROUGH THE ENGINEER, RESERVES THE RIGHT TO MOVE ANY CONDUIT, BOX OR WIRING DEVICE UP TO 25 FEET BEFORE ROUGHING IN WITH NO ADDED COST TO THE OWNER.
- 6.) PROTECT ALL EXISTING FACILITIES DURING THE CONSTRUCTION PERIOD. REPAIR ANY DAMAGE CAUSED BY THIS CONTRACTOR, TO THE OWNER'S SATISFACTION AND AT NO ADDITIONAL COST TO THE OWNER.
- 7.) FURNISH AND ERECT ALL SCAFFOLDING AND LADDERS REQUIRED IN THE INSTALLATION OF WORK INCLUDED IN THIS CONTRACT.
- 8.) LOCATIONS OF CONDUIT, BOXES AND WIRING DEVICES IN THE FIELD AND COORDINATE WITH LOCAL AND FEDERAL REGULATIONS.

INSPECTION

- 1.) THE ELECTRICAL WORK ON THIS PROJECT SHALL BE INSPECTED BY AN APPROVED INSPECTION AGENCY. ALL INSPECTION COSTS SHALL BE PAID BY THE ELECTRICAL CONTRACTOR. ANY WORK FAILING TO PASS INSPECTION SHALL BE CORRECTED AND REINSPECTED AT NO ADDITIONAL COST TO THE OWNER. THE ELECTRICAL CONTRACTOR SHALL FORMALLY FILE FOR THIS INSPECTION WITHIN TWENTY (20) DAYS OF SIGNING THE CONTRACT. SUBMIT THREE (3) COPIES OF FINAL WIRING CERTIFICATES TO THE ARCHITECT.

CLEANING AND PROTECTION

- 1.) PROTECT EQUIPMENT AND INSTALLATIONS AND MAINTAIN CONDITIONS TO ENSURE THAT COATINGS, FINISHES, AND CABINETS ARE WITHOUT DAMAGE OR DETERIORATION AT TIME OF SUBSTANTIAL COMPLETION. LEAVE THE ELECTRICAL WORK IN SUCH A CONDITION THAT NO CLEANING BY THE OWNER IS REQUIRED.

SHOP DRAWINGS, CATALOG CUT AND DATA SHEETS

- 1.) SUBMIT SIX (6) COPIES OF THE SHOP DRAWINGS, CATALOG CUTS, DATA SHEETS, ETC. FOR THE FOLLOWING ITEMS TO THE ENGINEER. ALL ITEMS SUBMITTED FOR APPROVAL SHALL BE MARKED WITH THE NAME OF THE PROJECT AND SHALL BEAR THE STAMP OF APPROVAL OF THE CONTRACTOR.
- 2.) LIGHTING FIXTURES, SWITCHES, AND RECEPTACLES, SAFETY SWITCHES, DEVICE PLATES,

PANELBOARDS

- 1.) PANELBOARDS SHALL BE MANUFACTURED BY SQUARE D, SIEMANS OR GENERAL ELECTRIC.
- 2.) EVENLY BALANCE LOADS ON ALL PANELBOARDS AND PROVIDE TYPED CIRCUIT DIRECTORIES FOR EACH PANEL.

RACEWAY SYSTEMS

- 1.) CONDUIT: (3/4") INCH TRADE SIZE MINIMUM.  
ELECTRICAL METALLIC TUBING (EMT): INTERIOR ONLY, AND ABOVE FINISHED FLOOR.  
INTERMEDIATE METAL CONDUIT (IMC): OUTDOOR LOCATIONS.  
FLEXIBLE METALLIC CONDUIT: CONNECTION TO MOTORS, TRANSFORMERS, AND RECESSED LIGHTING FIXTURES, AND TO "FISH" EXISTING WALLS.
- 2.) SECURE EXPOSED RACEWAYS TO BUILDING STRUCTURES WITH ANCHOR BOLTS. BOLTS SHALL BE SPACED ON 3-FOOT CENTERS (MAXIMUM).
- 3.) USE COMPRESSION TYPE FITTINGS FOR EMT AND THREADED TYPE FOR IMC. USE GALVANIZED LOCKNUTS AND BUSHINGS AT BOXES.
- 4.) SQUARE BOXES AND SECURE IN POSITION. SUPPORT BOXES INDEPENDENTLY OF CONDUITS. OUTLET BOXES SHALL BE SHEET STEEL, ZINC COATED AND BE OF A CLASS TO SATISFY THE CONDITIONS FOR EACH OUTLET. ALL OUTLET AND DEVICE BOXES INSTALLED IN EXPOSED CONDUIT SHALL BE CAST ALUMINUM FD BOXES.

WIRING

- 1.) WIRE AND INSULATION APPLICATIONS  
FEEDERS: TYPE THHN/THWN, IN RACEWAY.  
BRANCH CIRCUITS: TYPE THHN/THWN, IN RACEWAY.

CLASS 1 CONTROL CIRCUITS: TYPE THHN/THWN, IN RACEWAY.  
CLASS 2 CONTROL CIRCUITS: POWER-LIMITED CABLE, CONCEALED IN BUILDING FINISHES.

- 2.) CONDUCTORS SHALL BE COPPER, NO. 12 MINIMUM, EXCEPT FOR CONTROL WIRING WHICH SHALL NOT BE SMALLER THAN NO. 14.
- 3.) COLOR-CODE 208/120-V SYSTEM SECONDARY SERVICE, FEEDER, AND BRANCH-CIRCUIT CONDUCTORS THROUGHOUT THE SECONDARY ELECTRICAL SYSTEM AS FOLLOWS:  
PHASE A: BLACK, PHASE B: RED, NEUTRAL: WHITE, GROUND: GREEN.

MOUNTING HEIGHTS

LOCAL SWITCHES: 42" A.F.F.  
RECEPTACLES: 24" A.F.F. UNLESS OTHERWISE NOTED.

WIRING DEVICES

- 1.) MANUFACTURED BY HUBBELL, LEVITON OR PASS & SEYMOUR.  
COLOR: GENERAL PURPOSE - IVORY.
- 2.) SNAP SWITCHES: HEAVY-DUTY GRADE, QUIET TYPE. 20 A, 120/277-V AC.  
COLOR: GENERAL PURPOSE - IVORY.
- 3.) DEVICE PLATES: STAINLESS STEEL. FINISH: AS SELECTED BY ARCHITECT.

SAFETY SWITCHES :

- 1.) HEAVY DUTY, FUSED TO EQUIPMENT MANUFACTURER'S REQUIREMENTS, NEMA 3R ENCLOSURE, UNLESS OTHERWISE INDICATED. SAFETY SWITCHES SHALL BE SQUARE D, GENERAL ELECTRIC, SIEMANS OR CUTLER-HAMMER.

IDENTIFICATION AND TAGS.

- 1.) PROVIDE A CORRECTED, TYPED DIRECTORY IN PANELBOARDS, INDICATING THE NEW ITEM OR ITEMS CONTROLLED BY EACH CIRCUIT.
- 2.) IDENTIFY CIRCUITS WITH IN OUTLET BOXES.

GROUNDING

- 1.) GROUNDING SHALL BE IN ACCORDANCE WITH THE LATEST ISSUE OF THE NATIONAL ELECTRICAL CODE.
- 2.) MAKE CONNECTIONS TO APPARATUS AND CONDUITS WITH AN APPROVED TYPE OF SOLDERLESS CONNECTOR. BOLT OR CLAMP CONNECTORS TO THE EQUIPMENT. CLEAN ALL CONTACT SURFACES BEFORE CONNECTIONS ARE MADE.

LIGHTING

- 1.) FURNISH AND INSTALL ALL LAMPS, BOXES, SUPPORTS, SUSPENSION SYSTEM, ETC. REQUIRED FOR THE COMPLETE INSTALLATION OF ALL LIGHTING FIXTURES PROVIDED AND INSTALLED UNDER THIS PROJECT, WHETHER OR NOT INDICATED IN THE FIXTURE SCHEDULE.
- 2.) EVERY LIGHTING OUTLET SHALL HAVE A LIGHTING FIXTURE UNLESS OTHERWISE DIRECTED. WHERE A SPECIFIC TYPE OF FIXTURE HAS NOT BEEN ASSIGNED TO AN OUTLET, PROVIDE A COMPLETE FIXTURE OF THE TYPE AND WATTAGE DESIGNATED FOR OUTLETS OF SIMILAR FUNCTION AND/OR AS DIRECTED BY THE ARCHITECT.
- 3.) RELAMP LUMINAIRES THAT HAVE FAILED LAMPS AT OWNER'S FINAL ACCEPTANCE OF PROJECT. METAL HALIDE LAMPS WITH A COLOR SHIFT BEFORE 100 HOURS OF OPERATION SHALL ALSO BE REPLACED.

TELEPHONE, DATA AND CABLE TELEVISION CONDUIT SYSTEM

- 1.) CONTRACTOR SHALL FURNISH AND INSTALL OUTLET BOX AND CONDUIT WITH PULL STRING TO ABOVE ACCESSIBLE CEILING FOR ALL TELEPHONE, DATA AND TELEVISION OUTLETS AS SHOWN ON THE DRAWINGS. OUTLET JACKS AND COVER PLATES BY OTHERS.

**ABBREVIATIONS**

A	AMPERE
AB	ABOVE
AFF	ABOVE FINISHED FLOOR
ATS	AUTOMATIC TRANSFER SWITCH
C	CONDUIT
CKT	CIRCUIT
CPT	CONTROL POWER TRANSFORMER
CT	CURRENT TRANSFORMER
CU	COPPER
C/B	CIRCUIT BREAKER
DISC	DISCONNECT
DN	DOWN
DS	DISCONNECT SWITCH
DWG	DRAWING
EBB	ELECTRICAL BASEBOARD
EC	ELECTRICAL CONTRACTOR
ETR	EXISTING TO REMAIN
EW	ELECTRIC WATER COOLER
FU	FUSED
FDR	FEEDER
FDS	FUSED DISCONNECT SWITCH
FT	FEET
GC	GENERAL CONTRACTOR
GFI	GROUND FAULT INTERRUPTING
GND	GROUND
HC	HEATING CONTRACTOR
H-O-A	HAND-OFF-AUTO
HP	HORSEPOWER
HTR	HEATER
HUH	HORIZONTAL UNIT HEATER
IG	ISOLATED GROUND
JB	JUNCTION BOX
KW	KILOWATT
LGT	LIGHTING
MC	MECHANICAL CONTRACTOR
MTD	MOUNTED
MTR	MOTOR
MLO	MAIN LUG ONLY
Ø	PHASE
P	POLE
PC	PLUMBING CONTRACTOR
PANL	PANELBOARD
PWR	POWER
PH	PHASE
RGS	RIGID GALVANIZED STEEL CONDUIT
SW	SWITCH
TBB	TELEPHONE BACKBOARD
TV	TELEVISION UNLESS NOTED OTHERWISE
UNO	UNLESS NOTED OTHERWISE
V	VOLT
W	WATT OR WIRE
W/	WITH
W/G	WITH GROUND
WP	WEATHER-PROOF
XFMR	TRANSFORMER

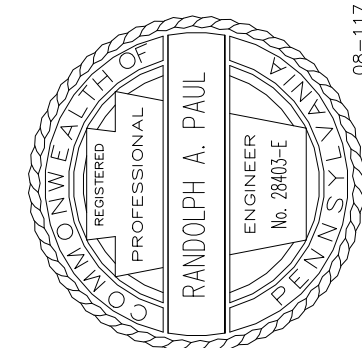
**SYMBOLS**

NOTE 1

	LIGHT FIXTURE, CEILING		DISCONNECT SWITCH
	LIGHT FIXTURE W/ EMERGENCY		CONTACTOR
	SPLIT-WIRED LIGHT FIXTURE		AC MAGNETIC STARTER
	LIGHT FIXTURE, WALL		COMBINATION STARTER/DISCONNECT
S	SINGLE POLE SWITCH		MOTOR
S2	DOUBLE POLE SWITCH		JUNCTION BOX
S3	THREE-WAY SWITCH		FIRE ALARM PULL STATION
S4	FOUR-WAY SWITCH		FIRE ALARM HORN/STROBE
SØ	DIMMER SWITCH		FIRE ALARM HORN/STROBE
	DUPLEX RECEPTACLE		SMOKE DETECTOR
C	C - MOUNTED ABOVE COUNTER		HEAT DETECTOR
CL	CL - CLOCK HANGER RECEPTACLE		DUCT DETECTOR
	SPECIAL PURPOSE RECEPTACLE		HOMERUN TO PANEL INDICATED
	QUADRUPLEX RECEPTACLE		EMERGENCY LIGHTING CIRCUIT
	GROUND FAULT INTERRUPTING RECEPTACLE		CIRCUIT UNDERGROUND OR UNDERFLOOR
WP	WP - WEATHERPROOF		PANELBOARD
	ISOLATED GROUND RECEPTACLE		EMERGENCY BATTERY PACK
W	W - WALL PHONE OUTLET		REMOTE EMERGENCY HEAD
	TELEPHONE OUTLET - ANALOG		EXIT SIGN
W	W - WALL PHONE OUTLET		
	TELEPHONE/DATA OUTLET		
	DATA OUTLET		
S1P	MANUAL STARTER WITH THERMAL OVERLOAD & PILOT LIGHT		
SØ	MANUAL STARTER WITHOUT THERMAL OVERLOAD		

NOTE:

1. THIS SYMBOL SCHEDULE IS TYPICAL. NOT ALL SYMBOLS MAY BE USED.



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- PRELIMINARY DRAWING DATE ISSUED: 10-31-08
- BID DRAWING DATE ISSUED: 11-5-08
- PERMIT DRAWING DATE ISSUED:
- CONSTRUCTION DRAWING DATE ISSUED:
- AS-BUILT DRAWING DATE ISSUED:

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CREATING EXCEPTIONAL PLACES

No. Date Revisions By Check

Project Name  
**OFFICE RENOVATIONS**

**W226 & W207**

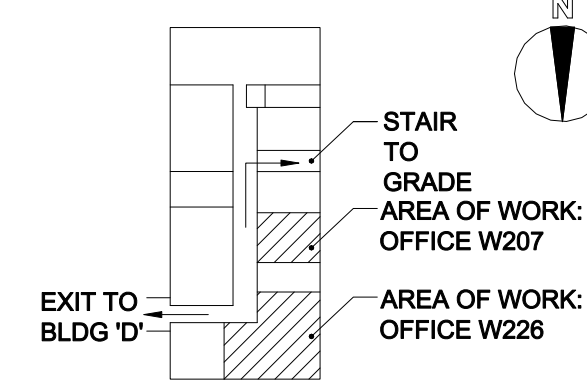
Project # **0535**

Description

Date **NOVEMBER 5, 2008**

Scale **AS SHOWN**

Key Plan



**OFFICE RENOVATIONS  
W226 & W207**

**E1.2**

Scale

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