

Centreville Hot Spot

Centreville, MS



HOTSPOT
MARKET

PURSER
COMPANY

MS CONSTRUCTION LAW - 1. PURSUANT TO SECTION 73-1-39, PRIVATELY OWNED BUILDINGS THAT ARE THREE (3) STOREYS IN HEIGHT OR MORE, OR BUILDINGS THAT ARE MORE THAN 4,000 SQUARE FEET, OR THE PROJECT IS SPECIFICALLY EXEMPTED BY SECTION 73-1-38, 2. PURSUANT TO SECTION 73-1-38, PRIVATELY OWNED BUILDINGS OWNED BY THE STATE OF MISSISSIPPI IF THE PROJECT CONTAINS MORE THAN TEN THOUSAND (10,000) SQUARE FEET OF GROUND FLOOR AREA, OR IF THE PROJECT IS THREE (3) OR MORE STOREYS IN HEIGHT, UNLESS SPECIFICALLY EXEMPTED BY SECTION 73-1-38.

Paul Purser
5582
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Dhunna Gas Station - Centreville
Project No 20240826001 Date 6/21/2024

PURSER & COMPANY | 601.203.4060 DRAWINGS@PURSERANDCOMPANY.COM

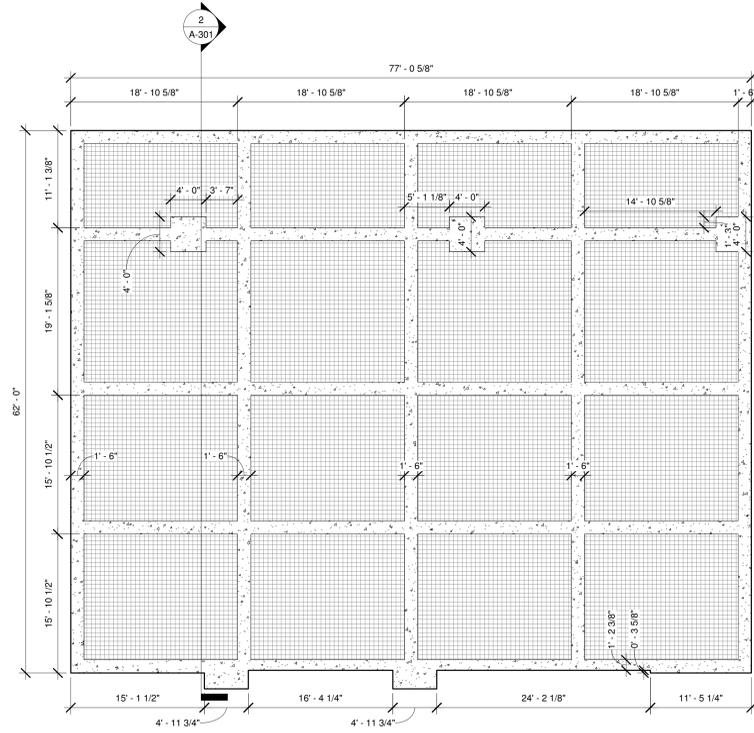
494 MS-24, Centreville, MS
New Construction

Construction Documents

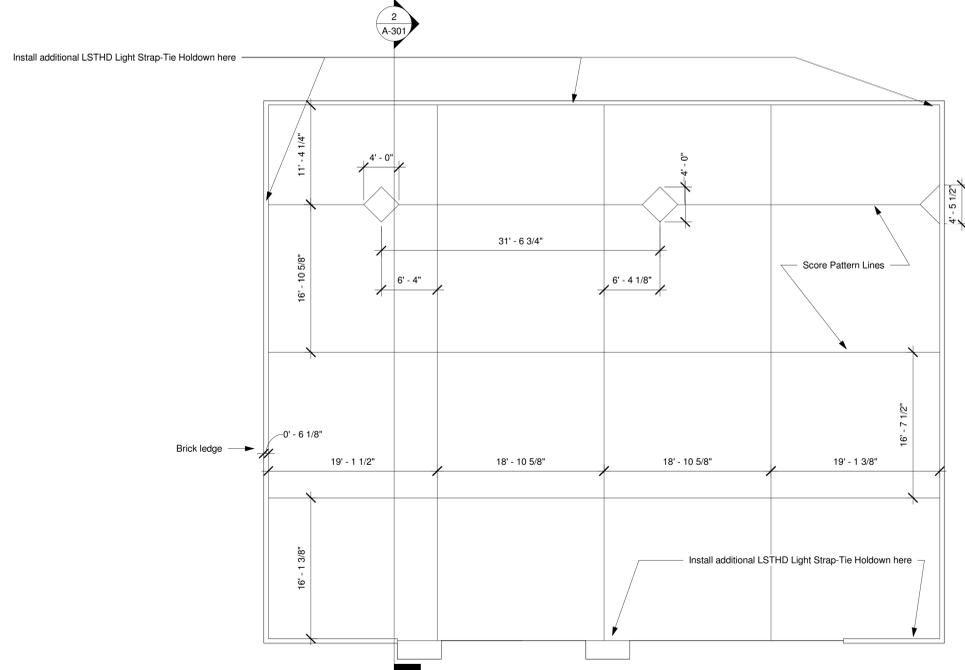
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Cover Sheet

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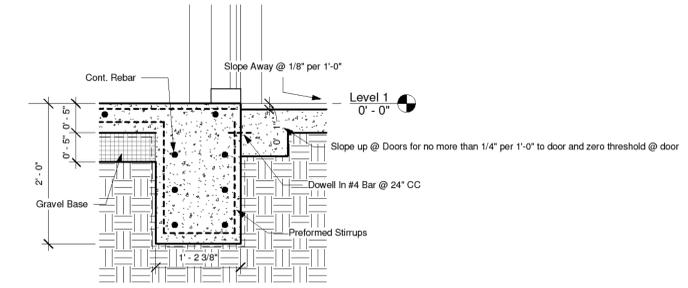
1 Foundation Footings
1/8" = 1'-0"



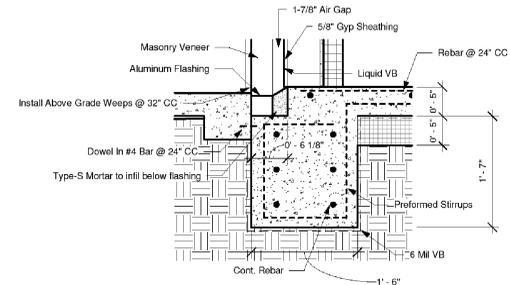
2 Foundation Slab
1/8" = 1'-0"

General Notes

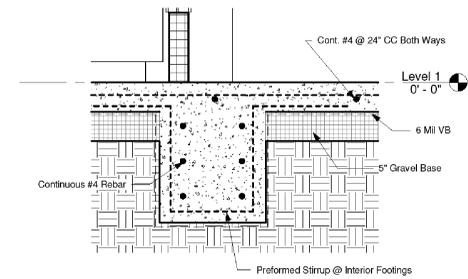
- Concrete Mix shall bear at least 3500 PSI
- Contractor shall verify all dimensions with Architectural drawings before detailing and construction begin.
- Field Verify all conditions shown. Notify Architect/Engineer in writing of any differences.
- Include corner stirrups at all 90 degree footing junctions.
- Install 5 Mil plastic water barrier at bottom of all footings.
- DO NOT Over-excavate footings; if footings are over-excavated, recompact to industry standards.
- Reinforce Footings with continuous #4 Rebar x6 in all footings; include preformed stirrups at all footings on 48" CC.
- Include #4 Rebar at 24" CC both ways at entire slab.
- If joint to be saw cut, perform work within 48 hours after concrete pour.
- Wet slab for a minimum of 7 days post pour.
- Install J-bolts with minimum of 7" embedment @ 5' CC at perimeter walls for plate install and hold down.
- Install LSTHD Light Strap-Tie Holddown @ all Exterior Corners and as indicated on framing plan at perimeter wall.



3 Exterior Footing @ Storefront
1" = 1'-0"



4 Exterior Footing
1" = 1'-0"

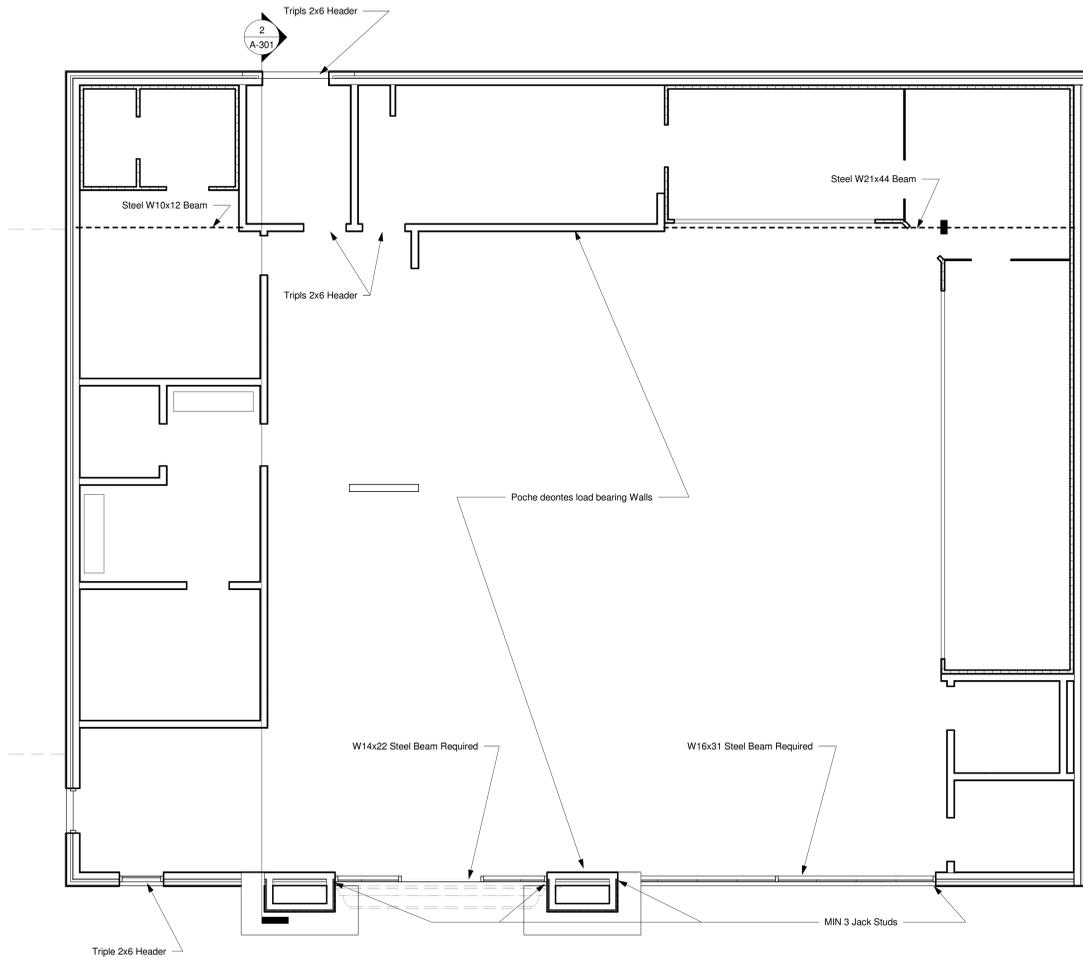


5 Interior Footing
1" = 1'-0"

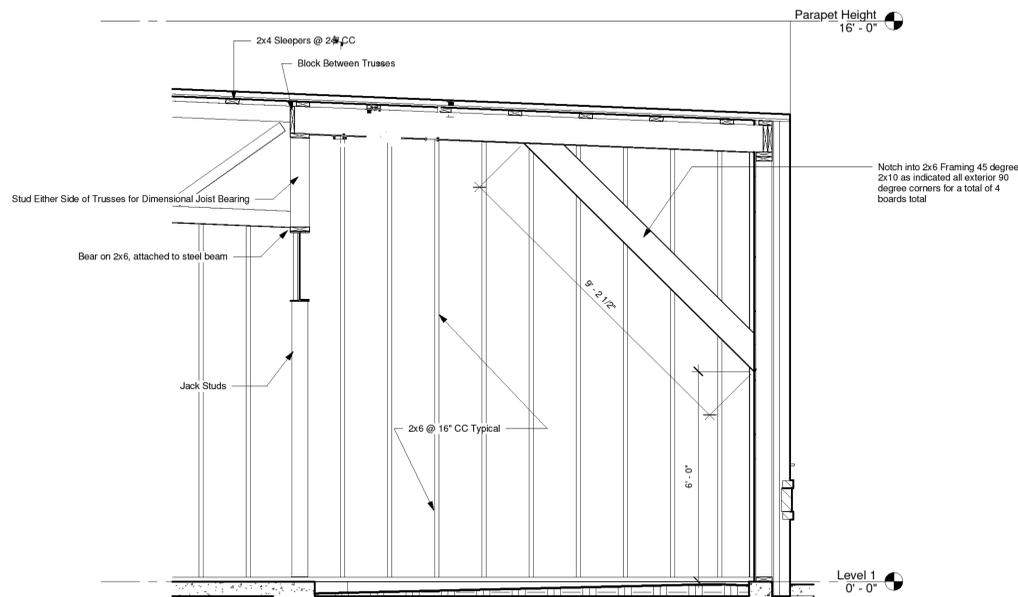
Construction Documents

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Foundations



1 First Floor Framing
3/16" = 1'-0"



2 Framing Elevation @ Corners
1/2" = 1'-0"

General Notes

1. All Wood Framing Members shall be #2 Southern Pine or better.
2. Where horizontal members cannot bear on load bearing plates, steel ties shall be used.
3. All connections shall have the number of recommended fasteners per IRC framing regulations.
4. All wood members that are in direct contact with concrete shall be treated.
5. All Wall framing shall be 2x4 @ 16" CC.
6. Typical 2x6 Box Header at all Openings unless noted otherwise.
7. All Built up Beams shall be glued & screwed.
8. Block all end of framing. For joist larger than 2x8, block every 6' CC.
9. Truss supplier shall provide engineered submittals for Architectural review.
10. Truss design by manufacturer shall follow all points listed under 2304.4 of the IBC 2018 Edition.
11. MANUFACTURED TRUSSES
 - A. LATERAL SUPPORT
 - A. Trusses must be laterally supported at end supports (including supports adjacent to overhangs) with hangers or blocking for lateral support.
 - B. Install 2x4 above bottom chord @ 6' CC for entire length of building for lateral support.
 - B. MINIMUM BEARING LENGTH
 - A. Minimum end bearing: 3" for all trusses.
12. METAL BUILDING TIES
 - A. Install Hurricane Ties @ Every Joist connection at top plate at exterior wall and at top of beams at interior supports.
 - B. Install foundation ties per foundation plan.
 - C. Install Metal x-Brace Ties @ 9' Centers between all ceiling joists.
 - D. Install Column Connection per detail.



Dhunna Gas Station - Centreville

Project No 20240625001 Date 6/21/2024

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Framing & Section Details

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MS CONSTRUCTION LAW: 1. PURSUANT TO SECTION 73-1-39, PRIVATELY OWNED BUILDINGS THAT ARE THREE (3) STOREYS IN HEIGHT OR MORE, OR BUILDINGS THAT ARE MORE THAN 500 SQUARE FEET, UNLESS THE PROJECT IS SPECIFICALLY EXEMPTED BY SECTION 73-1-38, 2. PURSUANT TO SECTION 73-1-38, BUILDINGS OWNED BY THE STATE OF MISSISSIPPI IF THE PROJECT CONTAINS MORE THAN TEN THOUSAND (10,000) SQUARE FEET OF GROUND FLOOR AREA, OR IF THE PROJECT IS THREE (3) OR MORE STOREYS IN HEIGHT, UNLESS SPECIFICALLY EXEMPTED BY SECTION 73-1-38.

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Dhunna Gas Station - Centreville

Project No. 20240625001 Date 6/21/2024

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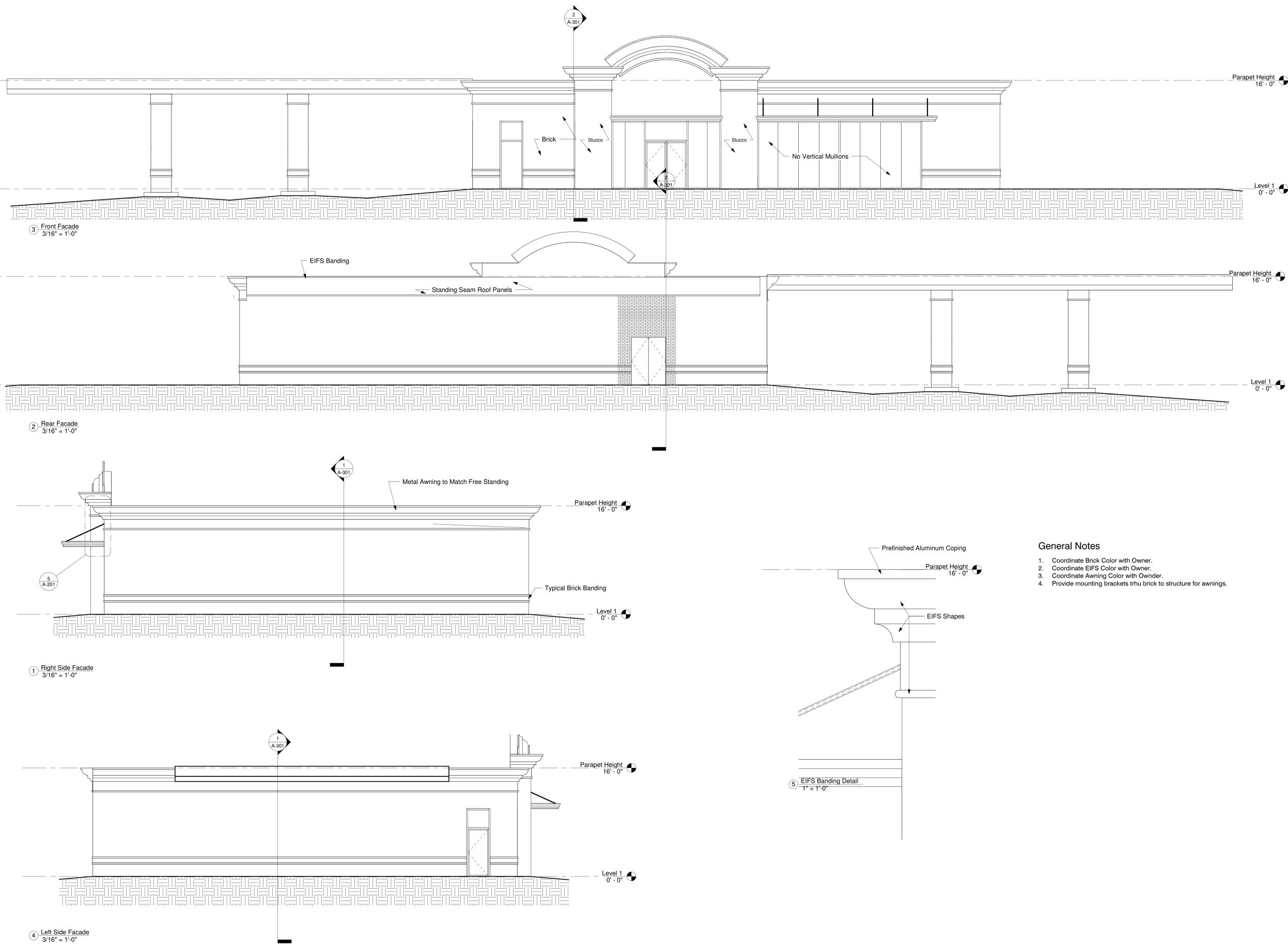
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Exterior Elevations

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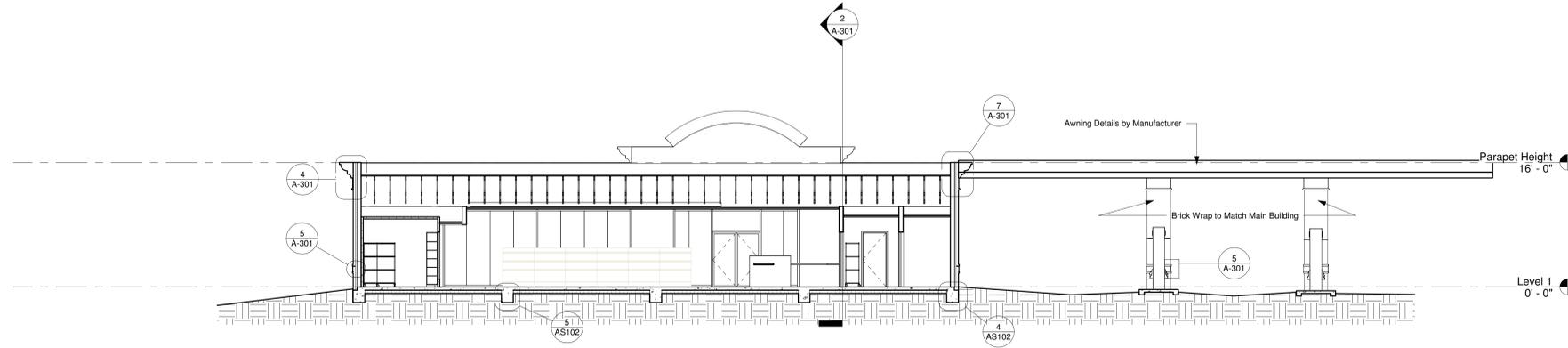
- #### General Notes
1. Coordinate Brick Color with Owner.
 2. Coordinate EIFS Color with Owner.
 3. Coordinate Awning Color with Owner.
 4. Provide mounting brackets thru brick to structure for awnings.

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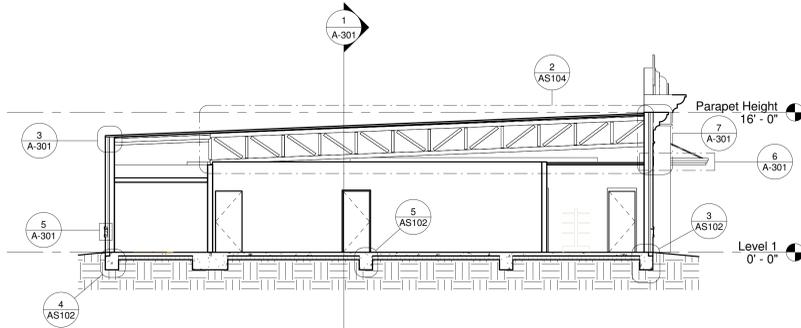
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General Section Notes

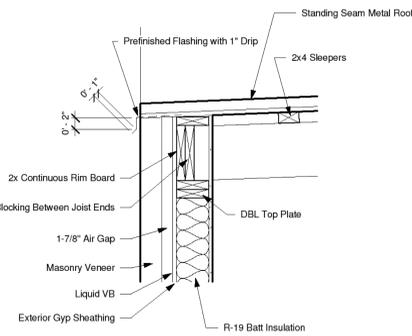
1. Exterior air/water barrier and thermal insulation to be installed so as to provide a continuous separation of the building exterior from all interior occupied or conditioned spaces.
2. All anchors, fasteners, relief angles and attachment devices to be hot dipped galvanized steel.
3. All wood framing unless noted otherwise.



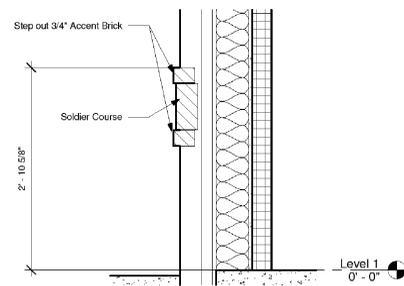
1 E/W Building Section
1/8" = 1'-0"



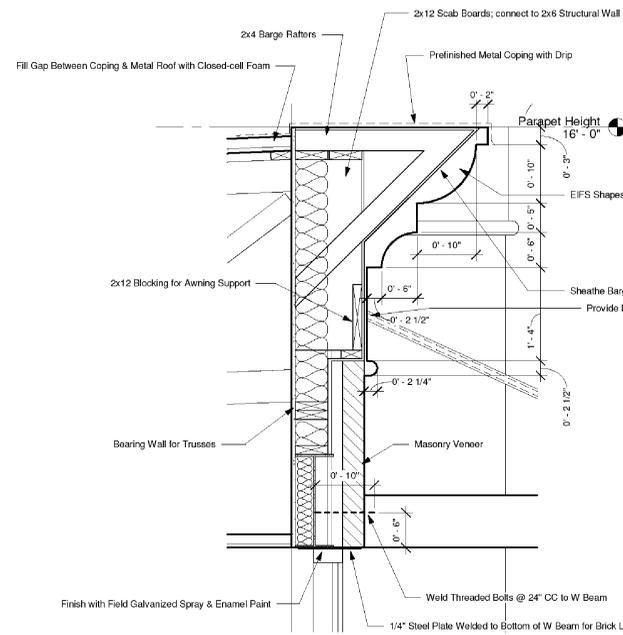
2 N/S Building Section
1/8" = 1'-0"



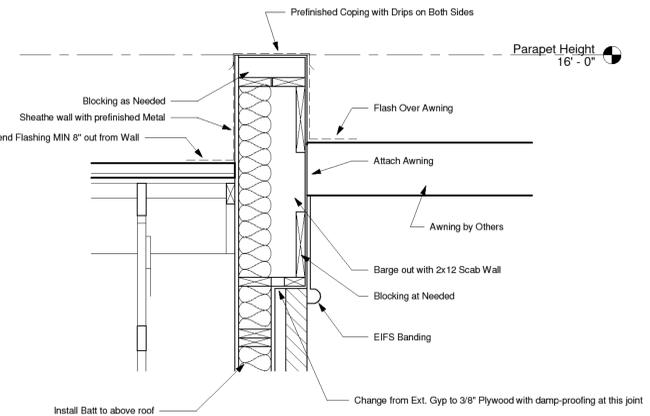
3 Typical Lower Soffit Detail
1" = 1'-0"



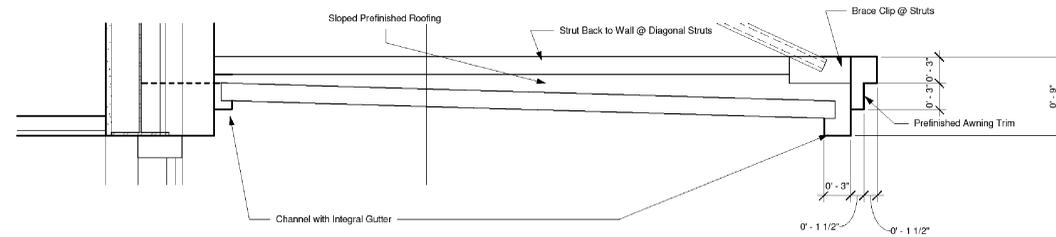
5 Typical Wall Detail
1" = 1'-0"



4 Typical Upper Soffit Detail
1" = 1'-0"



7 Trucker Awning Connection
1" = 1'-0"



6 Typical Awning Detail
1 1/2" = 1'-0"

Construction Documents

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Building Sections & Details

PLUMBING SYMBOLS & ABBREVIATIONS

ABBREVIATIONS

A.S.M.E.	AMERICAN SOCIETY OF MECH. ENGINEERS	HR.	HOUR
A.S.T.M.	AMERICAN SOCIETY FOR TESTING MATERIAL	H.W.	HOT WATER
A/C	AIR CONDITIONING	I.D.	INSIDE DIAMETER
ABV.	ABOVE	IND.	INDIRECT
APPROX.	APPROXIMATE	INV.	INVERT
BLDC.	BUILDING	I.W.	INDIRECT WASTE
BOT.	BOTTOM	KIT.	KITCHEN
BRKR.	BREAKER	K.W.	KILOWATT
B.W.V.	BACK WATER VALVE	MECH.	MECHANICAL
☉	CENTER LINE	MIN.	MINUTE
C.O.	CLEAN OUT	M.H.	MANHOLE
C.P.	CHROME PLATED	MOD.	MODEL
C.V.	CHECK VALVE	N.I.C.	NOT IN CONTRACT
CONC.	CONCRETE	N.T.S.	NOT TO SCALE
CONT.	CONTINUATION	Ø	DIAMETER
COND.	CONDENSATE	O.D.	OUTSIDE DIAMETER
CONN.	CONNECTION	O.S.&Y.	OUTSIDE SCREW & YOKE VALVE
CAP.	CAPACITY	P.&T.	PRESSURE & TEMPERATURE
CLG.	CEILING	PLUMB.	PLUMBING
C.I.P.	CAST IRON PIPE	PROP.	PROPERTY
C.W.	COLD WATER	R.D.	ROOF DRAIN
DN.	DOWN	RED.	REDUCER
DR.	DRAIN	REINF.	REINFORCING
DET.	DETAIL	REQ'D.	REQUIRED
DIAG.	DIAGRAM	R.F.	ROOF
DIAM.	DIAMETER	R.M.	ROOM
DN.	DIMENSION	R.P.M.	REVOLUTIONS PER MINUTE
DOM.	DOMESTIC	R.W.L.	RAIN WATER LEADER
DWG.	DRAWING	SAN.	SANITARY
EA.	EACH	SCH.	SCHEDULE
E.D.F.	ELECTRIC DRINKING FOUNTAIN	SECT.	SECTION
ELEC.	ELECTRICAL	SHT.	SHEET
ELEV.	ELEVATION	SPECS.	SPECIFICATIONS
EMERG.	EMERGENCY	SPKR.	SPRINKLER
E.W.H.	ELECTRIC WATER HEATER	S/S	STAINLESS STEEL
EXIST.	EXISTING	S.S.	SERVICE SINK
F.D.	FLOOR DRAIN	TEMP.	TEMPERATURE
FL.	FLOOR	T.O.P.	TOP OF PIPE
F.O.	FUEL OIL	TYP.	TYPICAL
FT.	FOOT	T.S.	TAMPER SWITCH
F.U.	FIXTURE UNIT	VAC.	VACUUM
F.C.O.	FLUSH CLEAN OUT	V.C.P.	VITRIFIED CLAY PIPE
FIN.	FINISHED	V.T.R.	VENT THRU ROOF
FIXT.	FIXTURE	V.	VENT
FUT.	FUTURE	VS.	VENT STACK
GA.	GAUGE	W/	WITH
G.V.	GATE VALVE		
GAL.	GALLONS		
GALV.	GALVANIZED		
GEN.	GENERAL		
G.P.H.	GALLONS PER HOUR		
G.P.M.	GALLONS PER MINUTE		
H.B.	HOSE BIBB		
HD.	HEAD		
H.P.	HORSE POWER		

PIPING SYMBOLS

	ACID WASTE		UNION
	ACID VENT		CLEAN OUT PLUG
	SANITARY SEWER		FLOOR CLEAN OUT
	SANITARY VENT		IN LINE STRAINER
	GREASE WASTE		WATER HAMMER SHOCK ABSORBER (PLAN VIEW)
	STORM DRAIN		WATER HAMMER ARRESTOR (ELEVATION)
	DENTAL COMPRESSED AIR		POST INDICATOR VALVE
	DENTAL VACUUM		FLOW SWITCH
	COMPRESSED AIR		FIRE DEPT. SIAMESE CONNECTION
	TEMPERED WATER		SEMI-RECESSED CHROME PENDENT
	COLD WATER		UPRIGHT FIRE SPRINKLER HEAD
	HOT WATER (120°)		INSTITUTIONAL TYPE PENDENT SPRINKLER
	HOT WATER RECIRCULATION (120°)		INSTITUTIONAL TYPE SIDEWALL
	HOT WATER (140°)		INSTITUTIONAL TYPE EXTENDED COVERAGE SIDEWALL
	HOT WATER RECIRCULATION (140°)		DRY PENDENT SPRINKLER
	HOT WATER (180°)		EXTRA LARGE ORIFICE 28° UPRIGHT
	HOT WATER RECIRCULATION (180°)		PRESSURE GAUGE WITH COCK
	FIRE PROTECTION WATER		PLUMBING RISER
	AUTOMATIC FIRE SPRINKLER		CONNECTION OF NEW TO EXISTING
	FIRE TEST DRAIN		HOSE BIBB W/ VACUUM BREAKER
	GAS		RISER DOWN
	FUEL OIL SUPPLY		FLOW IN DIRECTION OF ARROW
	FUEL OIL RETURN		RISER UP
	FUEL OIL VENT		PIPE RISE OR DROP
	CUT-OFF VALVE (ABOVE GRADE)		TOP CONNECTION BRANCH
	CUT-OFF VALVE (BELOW GRADE)		BOTTOM CONNECTION BRANCH
	PRESSURE REDUCING VALVE		SIDE CONNECTION BRANCH
	CHECK VALVE		CAP ON END OF PIPE
	BALANCING VALVE		CONCENTRIC REDUCER
	O.S.&Y. VALVE		ECCENTRIC REDUCER
	PRES. AND TEMP. RELIEF VALVE		
	GAS COCK		
	WATER FLOW MEASURING DEVICE		

GENERAL NOTES:

CONTRACTOR IS RESPONSIBLE FOR COORDINATING ALL PLUMBING INSTALLATIONS WITH OTHER TRADES SUCH AS ELECTRICAL, STRUCTURAL, HVAC, LIGHTING, CEILING CONSTRUCTION AND SUPPORTS, ETC. ANY CONFLICTS ARISING OUT OF A LACK OF CONSTRUCTION COORDINATION OR DUE TO LACK OF CONSIDERATION FOR THE NEEDS OF OTHER TRADES SHALL BE RESOLVED AT NO EXPENSE TO THE OWNER.

ALL PIPING SHALL BE INSTALLED IN SUCH A MANNER THAT CONFLICTS WITH AIR CONDITIONING DUCTS AND WITH CEILING LIGHTS WILL NOT OCCUR. SOME PIPING SHALL BE INSTALLED WITH SLEEVES THROUGH WALLS. CONTRACTOR SHALL BE RESPONSIBLE FOR FURNISHING THE SIZES OF SLEEVES AND THE ELEVATIONS AT WHICH OPENINGS ARE TO BE MADE PRIOR TO INSTALLATION OF STRUCTURAL MEMBERS.

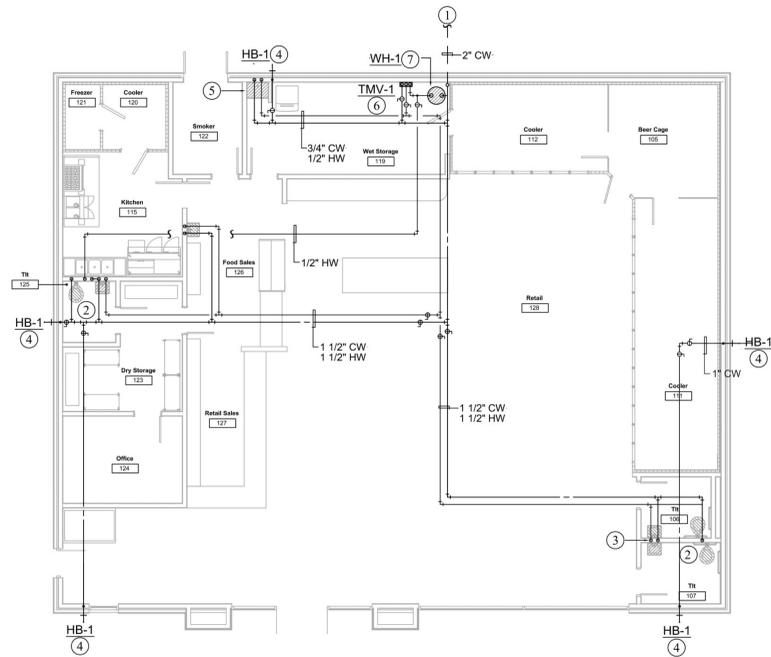
FOR EVERY PIPE SLEEVE PENETRATING FIRE RATED WALLS AND SLABS, USE A FIRE BARRIER WRAP STRIP, FIRE RATED CAULK AND PUTTY, ASTM E-814, U.L. LISTED, CAPABLE OF RAPID EXPANSION WHEN EXPOSED TO HEAT. COMPLIES WITH BOCA, ICBO AND SIBC. PROVIDES 3 HOUR FIRE RATING. SEE FIRESTOPPING SPECIFICATION.

ALL SANITARY AND STORM DRAINAGE PIPING SHALL BE INSTALLED AT 1/8" PER FOOT SLOPE UNLESS OTHERWISE NOTED. FIXTURE ARMS AND SMALL BRANCHES SHALL BE SLOPED IN ACCORDANCE WITH THE INTERNATIONAL PLUMBING CODE.

PROVIDE ACCESS PANELS FOR SHOCK ABSORBERS AND GATE VALVES AND CLEANOUT COVERS FOR CLEANOUT PLUGS AS SPECIFIED. EACH ITEM SHALL BE PROVIDED WITH ITS ACCESS PANEL OR COVER. ACCESS PANELS AND CLEANOUT COVERS SHALL BE EASILY ACCESSIBLE AND CONTRACTOR WILL BE RESPONSIBLE FOR LOCATING THESE ITEMS SO THAT SHOCK ABSORBER, VALVE, OR CLEANOUT LIES WITHIN WALL OR CEILING IMMEDIATELY BEHIND COVER OR PANEL. CONTRACTOR SHALL COORDINATE THE LOCATION OF PANELS AND COVERS WITH OTHER TOILET ACCESSORIES AND FIXTURES AS WELL AS ARCHITECTURAL LAYOUT.

DURING FINAL PUNCH LIST INSPECTION, CONTRACTOR SHALL HAVE ALL CLEANOUT COVERS AND ACCESS PANELS OPENED AND ITEMS EXPOSED FOR VERIFICATION AS TO THEIR INSTALLATION BY CONTRACTING OFFICER.

PROVIDE AUTOMATIC TRAP PRIMERS FOR ALL FLOOR DRAINS.



① Plumbing Supply
1/8" = 1'-0"

GENERAL NOTES:

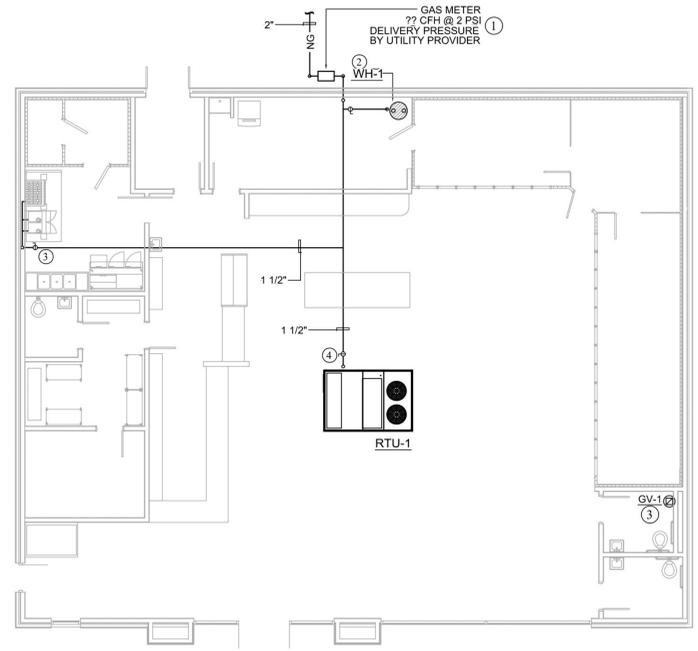
- CONTRACTOR TO INSTALL PLUMBING ACCORDING TO THE 2018 INTERNATIONAL PLUMBING CODE AND LOCAL AUTHORITY HAVING JURISDICTION.
- SLOPE AND SUPPORT ALL PIPING PER CODE REQUIREMENTS. PROVIDE AND INSTALL UL LISTED FIRE STOP COLLARS AND FIRE CAULK ALL PLUMBING PENETRATIONS AT RATED WALL AND FLOOR ASSEMBLIES.
- NOTIFY THE ENGINEER 48 HOURS BEFORE THE WASTE AND VENT PIPING SYSTEM WILL BE PRESSURE TESTED ACCORDING TO 2018 INTERNATIONAL PLUMBING CODE.
- NOTIFY THE ENGINEER 48 HOURS BEFORE ANY PIPING ABOVE THE SLAB IN THE WALLS OR CEILINGS IS COVERED. FAILURE TO NOTIFY ENGINEER FOR INSPECTION WILL CAUSE ALL PIPING TO BE UNCOVERED AND PRESSURE TESTED IN THE PRESENCE OF THE ENGINEER.
- ALL BELOW GRADE SANITARY SEWER WASTE AND VENT PIPING TO BE SCHEDULE 80 PVC WITH SOLVENT WELD JOINTS. ALL ABOVE GRADE WASTE AND VENT TO BE SCHEDULE 40 PVC WITH SOLVENT JOINTS. INSTALL PIPING, JOINTS, AND FITTINGS PER MANUFACTURER'S RECOMMENDATIONS. WASTE PIPING SHOWN ON THIS DRAWING IS ROUTED BELOW THE FLOOR AND INSIDE THE WALLS TO FIXTURE ROUGH IN LOCATIONS.
- ALL VENT PIPING SHOWN IS IN THE WALL AND ABOVE CEILING EXCEPT WHERE OTHERWISE NOTED.
- ALL BELOW GRADE PIPE TRENCHES SHALL BE BACKFILLED WITH SELECT SANDY CLAY MATERIAL, AND STAMPED TO PROVIDE CONTINUOUS PIPE SUPPORT. SLOPE AND SUPPORT ALL PIPING ACCORDING TO THE INTERNATIONAL PLUMBING CODE.
- SLOPE AND SUPPORT ALL PIPING ACCORDING TO THE 2018 INTERNATIONAL PLUMBING CODE.
- ALL WASTE PIPING TO BE SLOPED AT 1/8" OR 1/4" PER FOOT AS REQUIRED FOR THE PIPE SIZE IN CONFORMANCE WITH THE 2018 INTERNATIONAL PLUMBING CODE.
- ALL PLUMBING ON THIS PROJECT WILL BE CONCEALED BELOW FLOOR, ABOVE CEILING, IN WALL, IN CHASE, OR ELSE AS PER ENGINEER.
- COORDINATE VENT STACK THRU ROOF TO BE MINIMUM 15 FEET FROM ANY FRESH AIR INTAKE.
- SUPPLY WATER PIPING TO BE HARD DRAWN TYPE 'L' COPPER TUBING WITH SOLDERED FITTINGS.
- ALL DOMESTIC WATER PIPING TO BE INSULATED WITH 1" PREFORMED FIBERGLASS PIPE INSULATION WITH ALL SERVICE JACKET. APPLY ADHESIVE LABELS ON PIPING ABOVE CEILING TO SHOWN CONTENTS AND FLOW. LABELS TO BE INSTALLED EVERY TWENTY FEET.
- PIPING TO BE SUPPORTED WITH CLEVIS TYPE HANGERS AT SPACING AS REQUIRED BY THE 2018 IPC. FOR DOMESTIC WATER PIPING, THE HANGERS SHALL BE LARGE ENOUGH FOR THE PIPE AND INSULATION TO PASS THROUGH. INSTALL SHEET METAL SADDLE AT ALL HANGER LOCATIONS AT BOTTOM OF PIPE.
- ROUGH IN PLUMBING CONNECTIONS FOR THE NEW FIXTURES ACCORDING TO THE MANUFACTURER'S RECOMMENDATIONS. ALL NEW SUPPLY WATER PIPING TO BE SOLDERED TYPE L COPPER.
- CONTRACTOR IS RESPONSIBLE FOR PROVIDING ALL NEW FLOOR PENETRATIONS FOR NEW SANITARY SEWER ROUGH IN AND FIRE STOPPING ALL WALL, CEILING, AND FLOOR PENETRATIONS OF FIRE RATED ASSEMBLIES. SEE ARCHITECTURAL PLANS FOR WALL RATINGS ON THIS PROJECT. CONTRACTOR TO CONSIDER ALL FLOOR PENETRATIONS AS RATED.
- CONTRACTOR IS RESPONSIBLE FOR ITEMS INCLUDING FIXTURE MOUNTING HEIGHTS, GRAB BARS, FAUCET HANDLES, SEATS, PIPING INSULATION, LAVATORY BARRIERS, AND ELSE REQUIRED TO ENSURE THE ACCESSIBLE FIXTURES ON THIS PROJECT MEET THE REQUIREMENTS OF THE ADA GUIDELINE. CONSULT ENGINEER OR ARCHITECT FOR INFORMATION AS REQUIRED.
- CONTRACTOR IS RESPONSIBLE FOR PROVIDING ALL NEW FLOOR PENETRATIONS FOR NEW SANITARY SEWER ROUGH IN AND FIRE STOPPING ALL WALL, CEILING, AND FLOOR PENETRATIONS OF FIRE RATED ASSEMBLIES. SEE ARCHITECTURAL PLANS FOR WALL RATINGS ON THIS PROJECT. CONTRACTOR TO CONSIDER ALL FLOOR PENETRATIONS AS RATED.
- PENETRATIONS THROUGH PARTITIONS AND FLOORS SHALL BE SLEEVED AND SEALED TO MAINTAIN INTEGRITY OF PARTITION AND FLOOR RATING.
- LICENSED GAS CONTRACTOR TO BE EXPERIENCED IN DESIGN AND INSTALLATION OF LP GAS PIPING SYSTEM PER NFPA 58, NFPA 54, AND INTERNATIONAL FUEL GAS CODE, CURRENT EDITIONS.
- ALL NATURAL GAS PIPING ON THIS PROJECT SHALL BE SCHEDULE 40 BLACK STEEL PIPE WITH THREADED FITTINGS. EXPOSED PIPING TO BE WIRE BRUSHED, CLEANED, PAINTED WITH TWO COATS OF RUST RESISTANT PRIMER, AND THEN PAINTED TO MATCH THE NEW GAS METER.
- VALVES TO BE BRONZE FULL PORT BALL VALVES WITH THREADED FITTINGS.
- METALLIC PIPE EXPOSED TO CORROSIVE ACTION, SUCH AS SOIL CONDITION OR MOISTURE, SHALL BE PROTECTED. PROVIDE PROTECTIVE COATING OR WRAPPING APPROVED FOR APPLICATION. WIRE BRUSH AND CLEAN ALL EXPOSED PIPING. SPRAY PRIME AND FINISH PAINT TO MATCH COLOR OF THE ADJACENT SURFACE TO PIPE.
- PRIOR TO ACCEPTANCE AND INITIAL OPERATION, CONTRACTOR SHALL BE INSPECT AND PRESSURE TEST ALL PIPING INSTALLATION PER INTERNATIONAL FUEL GAS CODE.

NUMBERED NOTES:

- ① CONTRACTOR TO COORDINATE WITH CIVIL SITE PLAN AND PUBLIC UTILITY PROVIDER FOR THE INSTALLATION OF NEW DOMESTIC WATER SERVICE, METER, AND SUPPLY TO BUILDING. ROUTE PIPING A MINIMUM OF 18" BELOW GRADE TO FOUNDATION WALL AND SLEEVE PIPING UP THRU SLAB AND TURN UP IN WALL. INSTALL A MAIN SHUTOFF GATE TYPE VALVE IN RECESSED VALVE BOX BELOW GRADE OUTSIDE BUILDING. CONTINUE PIPING UP AND ROUTE ABOVE THE CEILING AS SHOWN.
- ② ROUTE 1" COLD WATER SUPPLY TO EACH WATER CLOSET AND 1/2" HOT AND 1/2" COLD WATER SUPPLY DOWN IN WALL AND CONNECT TO EACH SINK OR LAVATORY. SEE PLUMBING FIXTURE SCHEDULE FOR MORE INFORMATION. INSTALL FIXTURE PER MANUFACTURER'S RECOMMENDATIONS. TYPICAL.
- ③ ROUTE 1/2" HOT AND 1/2" COLD WATER SUPPLY DOWN IN WALL BEHIND FIXTURE OR AS REQUIRED. INSTALL FIXTURE PER MANUFACTURER RECOMMENDATION. TYPICAL.
- ④ ROUTE 3/4" COLD WATER DOWN IN WALL TO FREEZELESS HOSE BIBB. CONNECT PER MANUFACTURERS RECOMMENDATIONS. TYPICAL.
- ⑤ ROUTE 1/2" HOT AND 1/2" COLD WATER SUPPLY TO MOP SINK FAUCET SET PER MANUFACTURER'S INSTRUCTIONS.
- ⑥ THERMOSTATIC MIXING VALVE LOCATED IN MECHANICAL ROOM AS SHOWN. MINIMUM FLOW RATE 1 TO 100 GPM. MAXIMUM PRESSURE DROP OF 5 PSI. INSTALL PER MANUFACTURER'S RECOMMENDATIONS. MANUFACTURER REPRESENTATIVE TO SETUP.
- ⑦ PROVIDE DIRECT VENT TYPE GAS WATER HEATER. INSTALL PER MANUFACTURER'S RECOMMENDATIONS. PROVIDE DIRECT VENT KIT FOR INTAKE/ EXHAUST PIPING. SEE APPLIANCE DETAIL FOR ADDITIONAL REQUIREMENTS. ROUTE 1" GAS SUPPLY PIPING TO GAS WATER HEATER. PROVIDE AND INSTALL VENTLESS GAS REGULATOR SIZED TO REGULATE PRESSURE FROM 2PSI TO 7 OUNCES OR PER MANUFACTURER'S RECOMMENDATIONS. REDUCE SIZE TO EQUIPMENT CONNECTION. PROVIDE AND INSTALL REQUIRED SHUT-OFF VALVES, PRESSURE RELIEF, EXPANSION TANK, DIRT LEG, GAS COCK, AND UNIONS PER MANUFACTURER'S RECOMMENDATIONS. ROUTE NATURAL GAS PIPING ABOVE CEILING LEVEL AND DOWN ALONG WALL TO WATER HEATER CONNECTION. SUPPORT PIPING ALONG WALL AND AS HIGH AS POSSIBLE TO THE CEILING. COORDINATE POWER OUTLET WITH ELECTRICAL CONTRACTOR. SEE DETAIL.
- ⑧ ROUTE 1/2" COLD WATER TO ICE MAKER SUPPLY BOX BEHIND APPLIANCE REQUIRING DOMESTIC COLD WATER SUPPLY. PROVIDE AND INSTALL SHUTOFF VALVE ON SUPPLY PIPING ABOVE THE CEILING. TYPICAL.

LEGEND	
COLD WATER PIPING	---
HOT WATER PIPING	---

Revision	Rev Date



1 Plumbing Roof
1/8" = 1'-0"

GENERAL NOTES:

- CONTRACTOR TO INSTALL PLUMBING ACCORDING TO THE 2018 INTERNATIONAL PLUMBING CODE AND LOCAL AUTHORITY HAVING JURISDICTION.
- SLOPE AND SUPPORT ALL PIPING PER CODE REQUIREMENTS. PROVIDE AND INSTALL UL LISTED FIRE STOP COLLARS AND FIRE CAULK ALL PLUMBING PENETRATIONS AT RATED WALL AND FLOOR ASSEMBLIES.
- NOTIFY THE ENGINEER 48 HOURS BEFORE THE WASTE AND VENT PIPING SYSTEM WILL BE PRESSURE TESTED ACCORDING TO 2018 INTERNATIONAL PLUMBING CODE.
- NOTIFY THE ENGINEER 48 HOURS BEFORE ANY PIPING ABOVE THE SLAB IN THE WALLS OR CEILINGS IS COVERED. FAILURE TO NOTIFY ENGINEER FOR INSPECTION WILL CAUSE ALL PIPING TO BE UNCOVERED AND PRESSURE TESTED IN THE PRESENCE OF THE ENGINEER.
- ALL BELOW GRADE SANITARY SEWER WASTE AND VENT PIPING TO BE SCHEDULE 80 PVC WITH SOLVENT WELD JOINTS. ALL ABOVE GRADE WASTE AND VENT TO BE SCHEDULE 40 PVC WITH SOLVENT JOINTS. INSTALL PIPING, JOINTS, AND FITTINGS PER MANUFACTURER'S RECOMMENDATIONS. WASTE PIPING SHOWN ON THIS DRAWING IS ROUTED BELOW THE FLOOR AND INSIDE THE WALLS TO FIXTURE ROUGH IN LOCATIONS.
- ALL VENT PIPING SHOWN IS IN THE WALL AND ABOVE CEILING EXCEPT WHERE OTHERWISE NOTED.
- ALL BELOW GRADE PIPE TRENCHES SHALL BE BACKFILLED WITH SELECT SANDY CLAY MATERIAL, AND STAMPED TO PROVIDE CONTINUOUS PIPE SUPPORT. SLOPE AND SUPPORT ALL PIPING ACCORDING TO THE INTERNATIONAL PLUMBING CODE.
- SLOPE AND SUPPORT ALL PIPING ACCORDING TO THE 2018 INTERNATIONAL PLUMBING CODE.
- ALL WASTE PIPING TO BE SLOPED AT 1/8" OR 1/4" PER FOOT AS REQUIRED FOR THE PIPE SIZE IN CONFORMANCE WITH THE 2018 INTERNATIONAL PLUMBING CODE.
- ALL PLUMBING ON THIS PROJECT WILL BE CONCEALED BELOW FLOOR, ABOVE CEILING, IN WALL, IN CHASE, OR ELSE AS PER ENGINEER.
- COORDINATE VENT STACK THRU ROOF TO BE MINIMUM 15 FEET FROM ANY FRESH AIR INTAKE.
- SUPPLY WATER PIPING TO BE HARD DRAWN TYPE 'L' COPPER TUBING WITH SOLDERED FITTINGS.
- ALL DOMESTIC WATER PIPING TO BE INSULATED WITH 1" PREFORMED FIBERGLASS PIPE INSULATION WITH ALL SERVICE JACKET. APPLY ADHESIVE LABELS ON PIPING ABOVE CEILING TO SHOWN CONTENTS AND FLOW. LABELS TO BE INSTALLED EVERY TWENTY FEET.
- PIPING TO BE SUPPORTED WITH CLEVIS TYPE HANGERS AT SPACING AS REQUIRED BY THE 2018 IPC. FOR DOMESTIC WATER PIPING, THE HANGERS SHALL BE LARGE ENOUGH FOR THE PIPE AND INSULATION TO PASS THROUGH. INSTALL SHEET METAL SADDLE AT ALL HANGER LOCATIONS AT BOTTOM OF PIPE.
- ROUGH IN PLUMBING CONNECTIONS FOR THE NEW FIXTURES ACCORDING TO THE MANUFACTURER'S RECOMMENDATIONS. ALL NEW SUPPLY WATER PIPING TO BE SOLDERED TYPE L COPPER.
- CONTRACTOR IS RESPONSIBLE FOR PROVIDING ALL NEW FLOOR PENETRATIONS FOR NEW SANITARY SEWER ROUGH IN AND FIRE STOPPING ALL WALL, CEILING, AND FLOOR PENETRATIONS OF FIRE RATED ASSEMBLIES. SEE ARCHITECTURAL PLANS FOR WALL RATINGS ON THIS PROJECT. CONTRACTOR TO CONSIDER ALL FLOOR PENETRATIONS AS RATED.
- CONTRACTOR IS RESPONSIBLE FOR ITEMS INCLUDING FIXTURE MOUNTING HEIGHTS, GRAB BARS, FAUCET HANDLES, SEATS, PIPING INSULATION, LAVATORY BARRIERS, AND ELSE REQUIRED TO ENSURE THE ACCESSIBLE FIXTURES ON THIS PROJECT MEET THE REQUIREMENTS OF THE ADA GUIDELINE. CONSULT ENGINEER OR ARCHITECT FOR INFORMATION AS REQUIRED.
- CONTRACTOR IS RESPONSIBLE FOR PROVIDING ALL NEW FLOOR PENETRATIONS FOR NEW SANITARY SEWER ROUGH IN AND FIRE STOPPING ALL WALL, CEILING, AND FLOOR PENETRATIONS OF FIRE RATED ASSEMBLIES. SEE ARCHITECTURAL PLANS FOR WALL RATINGS ON THIS PROJECT. CONTRACTOR TO CONSIDER ALL FLOOR PENETRATIONS AS RATED.
- PENETRATIONS THROUGH PARTITIONS AND FLOORS SHALL BE SLEEVED AND SEALED TO MAINTAIN INTEGRITY OF PARTITION AND FLOOR RATING.
- LICENSED GAS CONTRACTOR TO BE EXPERIENCED IN DESIGN AND INSTALLATION OF LP GAS PIPING SYSTEM PER NFPA 58, NFPA 54, AND INTERNATIONAL FUEL GAS CODE, CURRENT EDITIONS.
- ALL NATURAL GAS PIPING ON THIS PROJECT SHALL BE SCHEDULE 40 BLACK STEEL PIPE WITH THREADED FITTINGS. EXPOSED PIPING TO BE WIRE BRUSHED, CLEANED, PAINTED WITH TWO COATS OF RUST RESISTANT PRIMER, AND THEN PAINTED TO MATCH THE NEW GAS METER.
- VALVES TO BE BRONZE FULL PORT BALL VALVES WITH THREADED FITTINGS.
- METALLIC PIPE EXPOSED TO CORROSIVE ACTION, SUCH AS SOIL, CONDITION OR MOISTURE, SHALL BE PROTECTED. PROVIDE PROTECTIVE COATING OR WRAPPING APPROVED FOR APPLICATION. WIRE BRUSH AND CLEAN ALL EXPOSED PIPING. SPRAY PRIME AND FINISH PAINT TO MATCH COLOR OF THE ADJACENT SURFACE TO PIPE.
- PRIOR TO ACCEPTANCE AND INITIAL OPERATION, CONTRACTOR SHALL BE INSPECT AND PRESSURE TEST ALL PIPING INSTALLATION PER INTERNATIONAL FUEL GAS CODE.

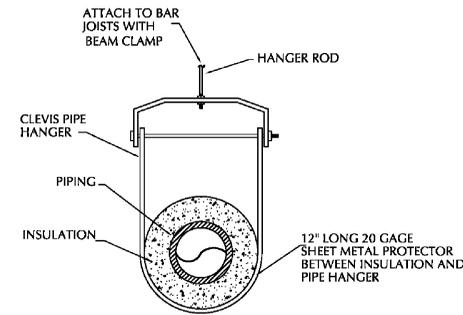
LEGEND	
COLD WATER PIPING	----
HOT WATER PIPING	----

NUMBERED NOTES:

- 1 ROUTE NEW NATURAL GAS PIPING UNDERGROUND FROM EXISTING PIPING TO SPECIFIED LOCATION. COORDINATE WITH CIVIL SITE PLAN AND OTHER UTILITIES AS REQUIRED. PROVIDE AND INSTALL NATURAL GAS METER, SHUTOFF VALVE, AND REGULATOR AS REQUIRED. CONSULT LOCAL UTILITY PROVIDER FOR SPECIFIC REQUIREMENTS. SIZE REGULATOR FOR ?? CFH @ 2 PSI PRESSURE (VERIFY WITH FINAL APPROVED EQUIPMENT). CONTINUE NATURAL GAS PIPING FROM METER AND ROUTE AS SHOWN. SLEEVE PIPE THROUGH EXTERIOR WALL AND SEAL ANNULAR VOID. RISE UP TO ABOVE CEILING LEVEL AND ROUTE AS SHOWN. PROVIDE DIRT LEG, UNION, AND PRESSURE REGULATOR AT EACH APPLIANCE. REDUCE THE NATURAL GAS PRESSURE TO THE APPLIANCE RATED PRESSURE REQUIREMENTS. SEE MANUFACTURER APPLIANCE INSTALLATION MANUAL FOR THE NATURAL GAS PRESSURE RATING AND APPLIANCE INSTALLATION INSTRUCTIONS. PROVIDE THREADED FITTINGS FOR 2-1/2" AND SMALLER PIPE. SLEEVES REQUIRED FOR ALL WALL AND FLOOR PENETRATIONS. SEAL AIR AND WATER TIGHT TO PREVENT WATER INTRUSION.
- 2 PROVIDE DIRECT VENT TYPE GAS WATER HEATER. INSTALL PER MANUFACTURER'S RECOMMENDATIONS. PROVIDE DIRECT VENT TYPE VENT KIT FOR INTAKE/ EXHAUST PIPING. SEE APPLIANCE DETAIL FOR ADDITIONAL REQUIREMENTS. ROUTE 1" GAS SUPPLY PIPING TO GAS WATER HEATER (OR PER MANUFACTURER). PROVIDE AND INSTALL VENTLESS GAS REGULATOR SIZED TO REGULATE PRESSURE FROM 2PSI TO 7 OUNCES OR PER MANUFACTURER'S RECOMMENDATIONS. REDUCE SIZE TO EQUIPMENT CONNECTION. PROVIDE AND INSTALL REQUIRED SHUT-OFF VALVES, PRESSURE RELIEF, EXPANSION TANK, DIRT LEG, GAS COCK, AND UNIONS PER MANUFACTURER'S RECOMMENDATIONS. ROUTE NATURAL GAS PIPING ABOVE CEILING LEVEL AND DOWN ALONG WALL TO WATER HEATER CONNECTION. SUPPORT PIPING ALONG WALL AND AS HIGH AS POSSIBLE TO THE CEILING. COORDINATE POWER OUTLET WITH ELECTRICAL CONTRACTOR. SEE DETAIL.
- 3 ROUTE 1 1/2" GAS SUPPLY PIPING TO OWNER PROVIDED KITCHEN EQUIPMENT. PROVIDE AND INSTALL VENTLESS GAS REGULATOR SIZED TO REGULATE PRESSURE FROM 2PSI TO 7 OUNCES, OR PER MANUFACTURER'S RECOMMENDATIONS. REDUCE SIZE TO EQUIPMENT CONNECTION. HARD PIPE GAS THROUGH APPLIANCE CASING. PROVIDE AND INSTALL UNION, GAS COCK, SHUT-OFF VALVE, DIRT LEG, AND/OR ELSE RECOMMENDED OR REQUIRED BY MANUFACTURER. COORDINATE WITH ENGINEER PRIOR TO INSTALLING FINAL NATURAL GAS PIPING SIZES TO ALLOW FOR VERIFICATION OF FINAL EQUIPMENT SELECTION AND CAPACITY. TYPICAL ALL LOCATIONS.
- 4 ROUTE 1 1/2" GAS SUPPLY PIPING TO ROOFTOP AIR HANDLER. PROVIDE AND INSTALL VENTLESS GAS REGULATOR SIZED TO REGULATE PRESSURE FROM 2PSI TO 7 OUNCES, OR PER MANUFACTURER'S RECOMMENDATIONS. REDUCE SIZE TO EQUIPMENT CONNECTION. HARD PIPE GAS THROUGH APPLIANCE CASING. PROVIDE AND INSTALL UNION, GAS COCK, SHUT-OFF VALVE, DIRT LEG, AND/OR ELSE RECOMMENDED OR REQUIRED BY MANUFACTURER. TYPICAL ALL LOCATIONS.

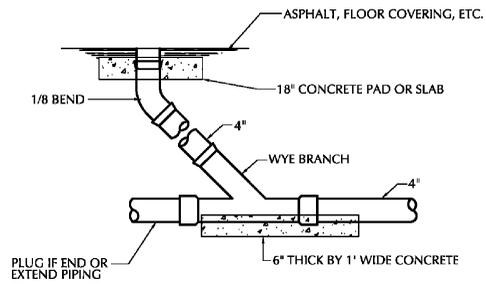
LEGEND	
NATURAL GAS PIPE	—NG—

Revision	Rev Date

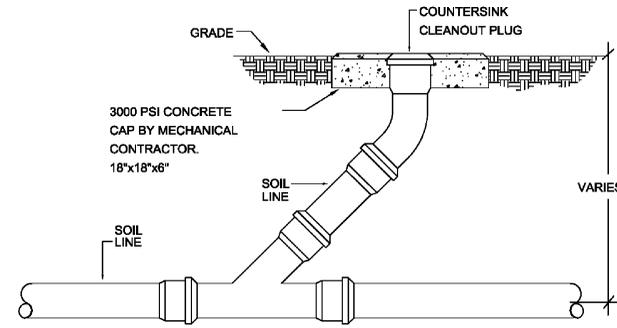


SUPPORT ALL PIPING ACCORDING TO THE IPC
INSULATE ALL PIPING ACCORDING TO THE SPECIFICATIONS
INSULATE ALL COLD PIPING WHICH WILL FORM CONDENSATE
ON THE OUTSIDE OF THE PIPE. SEE DRAWINGS AND SPECS.

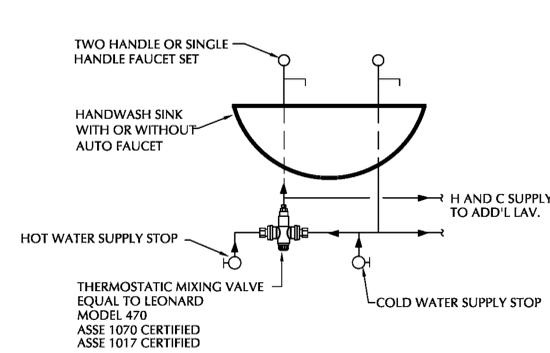
TYPICAL PIPE HANGER DETAIL



TYPICAL SANITARY SEWER CLEANOUT

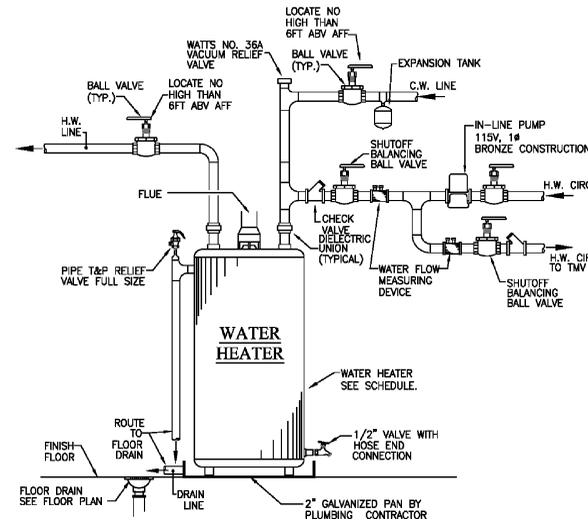


CLEANOUT DETAIL (FGCO)



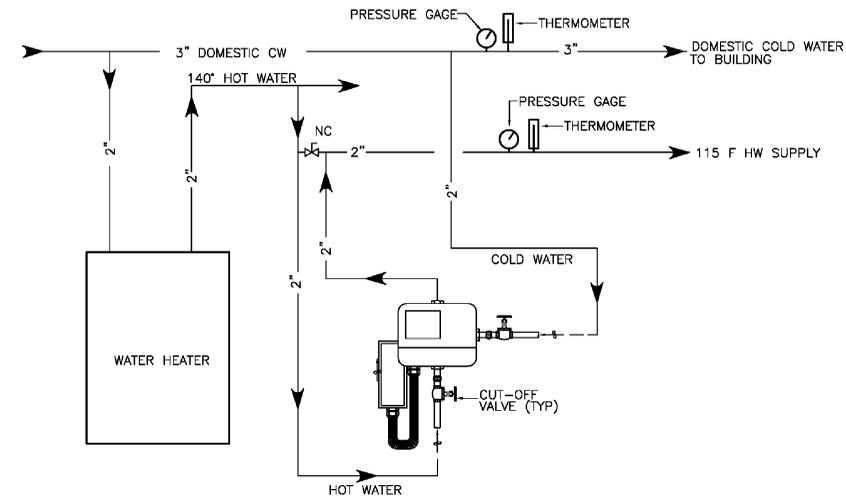
VALVE APPROXIMATELY 6"x4"
INSTALL PER MANUFACTURER'S RECOMMENDATIONS.
PROVIDE SUPPORT AS REQUIRED.
INSULATE ALL EXPOSED SUPPLY AND WASTE PIPING INCLUDING
MIXING VALVE UNDER LAVATORY TO MEET ADA GUIDELINE
REQUIREMENTS.
VALVE TO PROVIDE MAXIMUM 109 DEGREE F WATER TO
HANDWASH SINKS.

HANDWASH SINK MIXING VALVE DETAIL
NO SCALE



TYPICAL WATER HEATER DETAILS

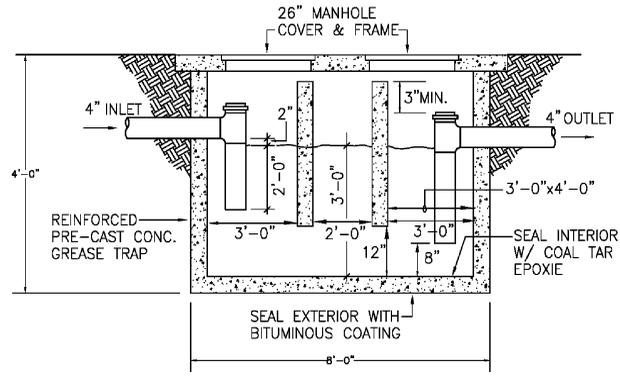
THE DIVISION 15 CONTRACTOR SHALL PROVIDE AND INSTALL 120V TO 24 V TRANSFORMERS, LOW VOLTAGE CONTROL WIRING, FOR MECHANICAL COMPONENTS SHOWN ON THE DRAWINGS AND IN THE CONTROLS SUBMITTALS. THE MECHANICAL DIVISION 15 CONTRACTOR WILL NOT BE RESPONSIBLE FOR INSTALLING ANY 120 VOLT POWER WIRING TO ANY CONTROLLERS. THAT RESPONSIBILITY IS THE ELECTRICAL DIVISION 16 CONTRACTOR.



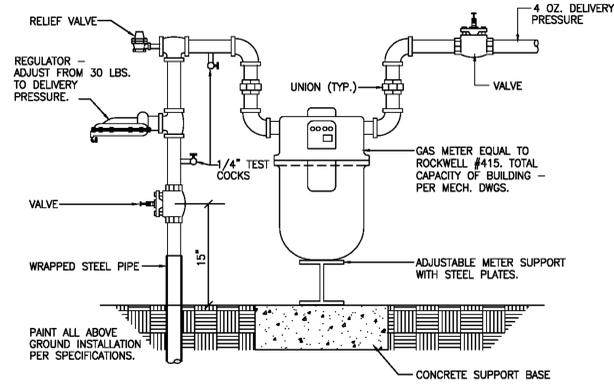
PROVIDE AND INSTALL THERMOSTATIC MIXING VALVE UNIT EQUAL TO POWERS MODEL INTLSTN LHS075VL - VALVE CAPABLE OF FLOW RANGE FROM 1 GPM TO 50 GPM HOT WATER WITH MAX PRESSURE DROP OF 5 PSI.
POWER: 115 V (AC) , 50 / 60 HZ, 20 VA
ACTUATOR LOAD: 24 V (DC), 0.55 A, 13 W

MANUFACTURER'S REPRESENTATIVE MUST INSPECT THE MIXING VALVE INSTALLATION AND PROVIDE INITIAL BALANCING AND OWNER TRAINING FOR VALVE OPERATION. CONTRACTOR MUST ASSIST IN START-UP AND PROVIDE ANY AND ALL ITEMS REQUESTED OR REQUIRED BY MANUFACTURER'S REPRESENTATIVE TO ENABLE SYSTEM TO OPERATE AS INTENDED.

TYPICAL THERMOSTATIC MIXING VALVE DETAIL
NO SCALE



1000 GALLON
GREASE TRAP DETAIL



GAS METER AND REGULATOR DETAIL

WATER HEATER SCHEDULE

MARK	MANUFACTURER	MODEL	STORAGE GAL	RECOVERY GPH	DISCHARGE TEMP	TEMP RISE	FUEL TYPE	INPUT	CHARACTERISTICS	REMARKS
WH-1	AO SMITH	BTR-197	100	193	120° F	80° F	GAS	199,000 BTUH	120V, 1 PH	COORDINATE ELECTRICAL WITH DIV. 16 CONTRACTOR.

PRODUCTS SHALL BE MADE IN USA PER 2CFR 200.322 ESSER GUIDELINES.

EXPANSION TANK SCHEDULE

MARK	MAKE	SYSTEM	SYSTEM DESIGN PARAMETERS				TANK SIZE	
			TEMP. RANGE	VOLUME	FILL PRESSURE	RELIEF	MODEL	GAL.
ET-1	WATTS	DOMESTIC HOT WATER	40-140 F	4.5 GAL	20	150	PLT-12	4.5

PRODUCTS SHALL BE MADE IN USA PER 2CFR 200.322 ESSER GUIDELINES.

PLUMBING FIXTURE SCHEDULE

TAG	FIXTURE TYPE	SUPPLY AND AIR CHAMBER FOR FIXTURE		TRIM REQM'TS.	WASTE/VENT REQM'TS.		MTG. HEIGHT (FLR. TO RIM)	LOCATION	REMARKS
		HW	CW		WASTE	VENT			
WC-1	FLOOR MOUNTED WATER CLOSET	-	1"	FLUSH VALVE STOP/SEAT	4"	2"	15"	TOILET	ELONGATED, TOP SPUD, FLOOR OUTLET, STANDARD, SIPHON ACTION, WHITE, CHINA, NOTE 1. FIXTURE EQUAL TO KOHLER K-4350, SLOAN FLUSH VALVE EQUAL TO ROYAL M# 111, CHROME PLATED, 1.6 GPF
WC-2	FLOOR MOUNTED WATER CLOSET	-	1"	FLUSH VALVE STOP/SEAT	4"	2"	17 1/2"	TOILET	ACCESSIBLE, ASME A112.19.2 A.D.A., ELONGATED, TOP SPUD, FLOOR OUTLET, STANDARD, SIPHON ACTION, WHITE, CHINA, NOTE 1. FIXTURE EQUAL TO KOHLER K-4368, SLOAN FLUSH VALVE EQUAL TO ROYAL M# 111, CHROME PLATED, 1.6 GPF
L-1	SINK	1/2"	1/2"	FAUCET, STOPS DRAIN	2"	2"	34"	AS SHOWN	ZURN MODEL #5340, 20" x 18" WALL MOUNTED LAV, VITREOUS CHINA, 4" CENTERS, FOR CONCEALED ARMS SUPPORT, WITH BACKSPASH, WITH CHICAGO FAUCET MODEL 895-317FCABCP W/ 1.5 GPM LAMINAR FLOW CONTROL FAUCET, GRID DRAIN, CAST BRASS P-TRAP, BRASS STOPS AND RIGID SUPPLIES, AND JR SMITH #0710 SERIES FLOOR MOUNTED CARRIER.
S-1	HANDWASH SINK	1/2"	1/2"	FAUCET, STOPS DRAIN	2"	2"	34"	AS SHOWN	WALL HUNG, STAINLESS, 4"CTRS, HANDWASH SINK, 18"D x 20"W. GOOSENECK FAUCET WITH 4" WRISTBLADE HANDLES, NSF.
S-2	3-COMP POT SINK	1/2"	1/2"	FAUCET, STOPS DRAIN	2"	2"	34"	AS SHOWN	3-COMPARTMENT, 300 SERIES STAINLESS STEEL, 8" CTR HOLE, TILE EDGE SPLASH, ROLLED EDGE, STAINLESS LEGS, NSF, 60" x 15". BACK SPLASH MOUNT FAUCET WITH WRISTBLADES HANDLES.
FFCO	FLOOR CLEANOUT	-	-	-	PER PIPE SIZE	-	-	AS SHOWN	JAY R SMITH MODEL #40215 FLOOR CLEANOUT WITH NICKEL BRONZE COVER AND GASKET SEAL BRONZE PLUG.
MS-1	MOPSINK	1/2"	1/2"	-	3"	2"	-	AS SHOWN	ACORN TERRAZZO-WARE MODEL #TNC-24-SH-SSC CORNER TYPE, FLOOR MOUNTED MOP SINK, DROP FRONT, STAINLESS STEEL CAP, WITH CHICAGO FAUCET MODEL 897-CP FAUCET WITH VACUUM BREAKER SPOUT, PAIL HOOK, AND WALL BRACKET.
TP-1	TRAP PRIMER	-	1/2"	-	-	-	-	AS SHOWN	JOSAM 88300 TRAP PRIMER VALVE AND DISTRIBUTION UNIT
HB-1	HOSE BIBB	-	3/4"	-	-	-	-	AS SHOWN	EQUAL TO WOODFORD MODEL B65 FREEZELESS RECESSED WALL HYDRANT.
IMB-1	ICE MAKER BOX	-	1/2"	-	-	-	-	AS SHOWN	RECESSED BOX IN WALL WITH 1/2" ANGLE STOP FIXTURE EQUAL TO WATER TITE M# W9700
FD-1	FLOOR DRAIN	-	1/2"	-	3"	2"	-	AS SHOWN	ZURN MODEL #ZB-415-B FLOOR DRAIN WITH ADJUSTABLE ROUND NICKEL BRONZE STRAINER.
FD-2	FLOOR DRAIN	-	1/2"	-	4"	2"	-	AS SHOWN	12" ROUND FLOOR DRAIN, BRONZE GRATE, EQUAL TO JR SMITH MODEL# 2230
FD-3	FLOOR DRAIN	-	1/2"	-	3"	2"	-	AS SHOWN	EQUAL TO ZURN M# ZB-415-A, ADJUSTABLE STRAINER HEAD

- NOTE:**
- TOILET SEATS TO BE AMERICAN STANDARD 5311.012 MOLDED (OR EQUAL), WHITE, WITH OPEN FRONT IN PUBLIC USE AREAS. SEATS TO BE SOLID PLASTIC W/STAINLESS HINGES.
 - ALL FIXTURES TO BE WHITE IN COLOR UNLESS OTHERWISE SPECIFICALLY NOTED.
 - CONTRACTOR TO PROVIDE AND INSTALL ALL SEATS, GRAB BARS, HAND HELD DEVICES, OFFSET MIXING VALVES, FAUCET HANDLES, INSULATION, AND ETC TO MEET REQUIREMENTS OF THE ADA ACCESSIBILITY GUIDELINE.
 - ALL EXPOSED PLUMBING TO BE CHROME PLATED BRASS. NO PLASTIC IS ACCEPTABLE.

ALL PLUMBING FIXTURES AND COMPONENTS INCLUDING, BUT NOT LIMITED TO, WATER CLOSETS, FLUSH VALVES, SINKS, FAUCETS, ETC. TO HAVE FINAL APPROVAL BY OWNER.

HVAC SYMBOLS & ABBREVIATIONS

ABBREVIATIONS

AD	ACCESS DOOR	EWT	ENTERING WATER TEMPERATURE	OPNG	OPENING
AHU	AIR HANDLING UNIT	EUH	ELECTRIC UNIT HEATER	P	PRESSURE
AI	ANALOG INPUT	EXH	EXHAUST	PAT	PREHEAT AIR TEMP
AO	ANALOG OUTPUT	FCU	FAN COIL UNIT	PSI	POUNDS PER SQUARE INCH
AFF	ABOVE FINISH FLOOR	FD	FIRE DAMPER	PTU	PACKAGED TERMINAL UNIT
AFG	ABOVE FINISH GRADE	FSD	FIRE/SMOKE DAMPER	QTY	QUANTITY
AFMD	AIR FLOW MEASURING DEVICE	FPM	FEET PER MINUTE	RAD	RETURN AIR DAMPER
ARCH	ARCHITECTURAL	FSTAT	FREEZESTAT	REQ'D	REQUIRED
BD	BACKDRAFT DAMPER	GPM	GALLONS PER MINUTE	R/A	RETURN AIR
BI	BINARY INPUT	GUH	GAS UNIT HEATER	RAT	RETURN AIR TEMP.
BO	BINARY OUTPUT	H	HUMIDISTAT	RPM	REVOLUTIONS PER MINUTE
BTUH	BRITISH THERMAL UNITS/HOUR	HWV	HEATING WATER VALVE	SA	SOUND ATTENUATOR
BYP	BYPASS	HWP	HOT WATER PUMP	S/A	SUPPLY AIR
CAT	COOLING AIR TEMP	KW	KILOWATT	SAT	SUPPLY AIR TEMP
CFM	CUBIC FEET PER MINUTE	LAT	LEAVING AIR TEMPERATURE	SD	SPLITTER DAMPER
CHP	CHILLED WATER PUMP	LF	LINEAR FEET	SF	SUPPLY FAN
CHWV	CHILLED WATER VALVE	LG	LONG	SP	STATIC PRESSURE
CLG	CEILING	LVG	LEAVING	S	SENSOR
DB	DRY BULB	LWT	LEAVING WATER TEMP	SS	STAINLESS STEEL
dF	DEGREES FAHRENHEIT	MAT	MIXED AIR TEMP	T	THERMOSTAT
DIFF	DIFFUSER	MAX	MAXIMUM	TSP	TOTAL STATIC PRESSURE
DN	DOWN	MBH	THOUSAND BTU/HR	TYP	TYPICAL
DWG	DRAWING	MBC	MODULAR BUILDING CONTROLLER	UH	UNIT HEATER
EA	EACH	M.D.	MOTORIZED DAMPER	VAV	VARIABLE AIR VOLUME
EAT	ENTERING AIR TEMPERATURE	MECH	MECHANICAL	VFD	VARIABLE FREQUENCY DRIVE
EF	EXHAUST FAN	MVD	MANUAL VOLUME DAMPER	VD	VOLUME DAMPER
ELEC	ELECTRICAL	NC	NORMALLY CLOSED	2W	TWO WAY
EL	ELEVATION	NO	NORMALLY OPEN	2WO	TWO WAY CORNER
EQ	EQUAL	O/A	OUTSIDE AIR	3W	THREE WAY
ESP	EXTERNAL STATIC PRESSURE	OAT	OUTDOOR AIR TEMP	4W	FOUR WAY
EPH	ELECTRIC WALL HEATER	OAD	OUTDOOR AIR DAMPER	WB	WET BULB
		OBD	OPOSED BLADE DAMPER	WFMD	WATER FLOW MEASURING DEVICE

PIPING SYMBOLS

	AUTOMATIC AIR VENT		GAS COCK
	BUTTERFLY VALVE		HOSE BIB W/ VACCUUM BREAKER
	BALANCING VALVE		HOT WATER HEATING RETURN
	BOTTOM CONNECTION BRANCH		HOT WATER HEATING SUPPLY
	CAPPED PIPE END		O.S.&Y. VALVE
	CHECK VALVE		PIPE RISE OR DROP
	COMBINATION SHUT-OFF/ BALANCING VALVE		RETURN LINE
	CONCENTRIC REDUCER		RISER DN
	CONDENSATE DRAIN		RISER UP
	CHILLED WATER RETURN		SLURRY LINE
	CHILLED WATER SUPPLY		SOLENOID VALVE
	CUT-OFF VALVE (ABOVE GRADE)		SIDE CONNECTION BRANCH
	CUT-OFF VALVE (BELOW GRADE)		TEE DOWN
	CUT-OFF VALVE (GATE VALVE WITH HOSE COUPLING)		TEE UP
	ECCENTRIC REDUCER		THERMOMETER
	ELBOW UP		THERMOMETER WELL
	ELBOW DOWN		TOP CONNECTION BRANCH
	FLEXIBLE PIPE CONNECTION		UNION
	FLOW IN DIRECTION OF ARROW		2-WAY AUTOMATIC CONTROL VALVE
	FUEL OIL RETURN		3-WAY AUTOMATIC CONTROL VALVE
	FUEL OIL SUPPLY		Y-TYPE STRAINER
	FUEL OIL VENT		Y-TYPE STRAINER
	GAUGE COCK		WATER FLOW MEASURING DEVICE (WFMD)

DUCTWORK SYMBOLS

SYMBOL	DESCRIPTION
	RISE IN DUCT, IN DIRECTION OF AIR FLOW
	DROP IN DUCT, IN DIRECTION OF AIR FLOW
	SUPPLY AIR DUCT, UP
	SUPPLY AIR DUCT, DN
	RETURN, EXHAUST, OR OUTSIDE AIR DUCT, UP
	RETURN, EXHAUST, OR OUTSIDE AIR DUCT, DN
	RETURN OR EXHAUST GRILLE, CEILING MTD.
	DIFFUSER SYMBOL 200 → CFM 4-WAY
	DIFFUSER SYMBOL 200 → CFM 2-WAY
	DUCTWORK
	VANED ELBOW (PROVIDE ALL SQUARE OR RECTANGULAR ELBOWS WITH VANES.)
	SPLITTER FURNISH MANUAL VOLUME DPR. IN EACH LEG OF ALL SPLITTERS.
	MANUAL VOLUME DAMPER
	FIRE DAMPER
	LINEAR SLOT DIFFUSER
	THERMOSTAT, HUMIDISTAT, SENSOR WALL THERMOSTAT MTD. 5'-0" AFF.
	INDICATES POINT OF CONNECTION BETWEEN NEW AND EXISTING APPURTENANCES.
	INDICATES POINT OF DISCONNECT BETWEEN NEW AND EXISTING APPURTENANCES.

A. INSTALLATION

ALL PIPING OR DUCTS IN FINISHED ROOMS OR SPACES SHALL BE CONCEALED IN FURRED CHASES OR ABOVE CEILINGS. PROVIDE ACCESS PANELS IN HARD CEILINGS ADJACENT TO OPERABLE MECHANICAL DEVICES INCLUDING DAMPERS, VALVES, CONTROLS, AND TERMINAL UNITS (IF NOT ACCESSIBLE THROUGH ATTIC). PANELS TO MAINTAIN SAME FIRE RATING AS CEILING SYSTEM AND HAVE HINGED AND LATCHED DOOR. PANELS TO BE MINIMUM 12"x12" AND MAXIMUM 24"x24" DEPENDING ON THE DEVICE TO BE ACCESSED.

THERMOSTATS SHALL BE LOCATED 5'-0" ABOVE FLOOR AND SHALL CLEAR ALL EQUIPMENT. THERMOSTATS LOCATED NEXT TO DOORS SHALL BE LOCATED ON LATCH SIDE OF DOOR, AND AT SAME LEVEL AS LIGHT SWITCH. COORDINATE WITH ARCHITECTURAL.

COORDINATE DIFFUSER, GRILLE, AND REGISTER LOCATIONS WITH LAY-IN CEILING GRID AND ARCHITECTURAL CEILING PLAN. EXACT LOCATION OF DEVICES IS NOT CRITICAL BUT SHOULD BE LOCATED WITHIN TWO FEET OF SPOT SHOWN ON DRAWINGS.

THE CONTRACTOR SHALL EXERCISE EXTREME CARE IN THE COORDINATION OF WORK OF ALL TRADES TO ASSURE PROPER INSTALLATION AND CLEARANCES. DRAWINGS ARE ESSENTIALLY DIAGRAMMATICAL AND THEREFORE CONTRACTOR SHOULD PLAN EXACT ROUTING OF DUCT AND PIPE BASED ON FIELD CONDITIONS. PROVIDE ADDITIONAL TRANSITIONS AND OFFSETS AS NECESSARY (AT NO ADDITIONAL COST TO OWNER) TO COMPLETE INSTALLATION AND MAINTAIN REQUIRED CEILING HEIGHTS.

ACCESS PANELS IN DUCTWORK AND NON-ACCESSIBLE CEILINGS SHALL BE PROVIDED FOR OPERATION AND MAINTENANCE OF ALL BOXES, COILS, VALVES, TRAPS, DAMPERS, CLEANOUTS, CONTROLS, ETC. PROVIDE MINIMUM 24"x24" CEILING ACCESS PANEL FOR VAV BOXES AND 12"x12" FOR DAMPERS. COORDINATE EXACT PLACEMENT OF ACCESS PANELS AND EQUIPMENT SO THAT REASONABLE MAINTENANCE SPACE IS AVAILABLE. NO ACCESS PANELS SHALL BE PROVIDED IN SECURE AREAS.

INSTALLATION OF ALL EQUIPMENT AND SYSTEMS SHALL BE IN ACCORDANCE WITH STANDARD DETAILS, SECTIONS, AND ELEVATIONS SHOWN ON THE DRAWINGS.

CONTRACTOR SHALL MAINTAIN A CLEAR SERVICE AREA AROUND ALL EQUIPMENT FOR MAINTENANCE SUCH AS, FILTER REMOVAL, MOTOR AND DRIVE ADJUSTMENTS, COIL AND TUBE CLEANING OR REMOVAL.

PROVIDE ALL DRAIN PIPING FROM MECHANICAL EQUIPMENT WITH 2" AIR GAP CONNECTION AT WASTE PIPE, FLOOR DRAIN, OR ETC.

B. DUCTWORK

ALL DUCT RUNOUTS TO DIFFUSERS, RETURN AIR GRILLES, AND EXHAUST GRILLES SHALL BE COMPLETE WITH MANUAL VOLUME DAMPERS UNLESS NOTED OTHERWISE. LOCATE DAMPERS SO THEY ARE ACCESSIBLE FROM LAY-IN CEILING, ATTIC, OR ACCESS PANEL.

ROUND SUPPLY RUNOUTS TO DIFFUSERS SHALL BE HARD METAL. MAXIMUM 6'-0" OF FLEXIBLE DUCT MAY BE USED FOR FINAL CONNECTION TO DIFFUSER.

DUCT TRANSITIONS SHALL BE PROVIDED AS REQUIRED FROM ALL EQUIPMENT CONNECTIONS TO DUCT SIZES INDICATED ON DRAWINGS.

PROVIDE EASED INLET RECTANGULAR TO ROUND TAPS AT DUCT TAPS IF ROUND DUCT SIZE IS TOO LARGE FOR BELL MOUTH TAP TO TRUNK DUCT.

ALL EXTERIOR OPENINGS (INTAKE AND EXHAUST DUCTS, LOUVERS, FANS, ETC.) SHALL BE PROVIDED WITH BIRD SCREENING WHICH SHALL BE EASILY REMOVED FOR CLEANING AND ACCESS TO EQUIPMENT.

ALL DUCT SIZES INDICATE OUTSIDE DIMENSIONS OF SHEET METAL. NO ALLOWANCE FOR INSULATION IS SHOWN ON DRAWINGS.

PROVIDE HEMMED EDGES OVER RAW ENDS OF INSULATION AND SEAL WITH MASTIC FOR ALL LINED RETURN AIR DUCTS STUBBED INTO RETURN AIR PLENUMS.

ALL DUCT PLENUMS AND DUCTS (MINIMUM OF 5'-0" FROM LOUVER) CONNECTED TO EXTERIOR LOUVERS SHALL HAVE LIQUID TIGHT SEAMS AND LIQUID TIGHT CONNECTION TO LOUVER. SLOPE DOWN TO LOUVER AND ATTACH SO WATER WILL DRAIN TO OUTSIDE. PROVIDE 24"x24" (OR EQUIVALENT) ACCESS DOOR AT LOUVER IN EASILY ACCESSIBLE LOCATION FOR ACCESS TO LOUVER PLENUM AND LOUVER.

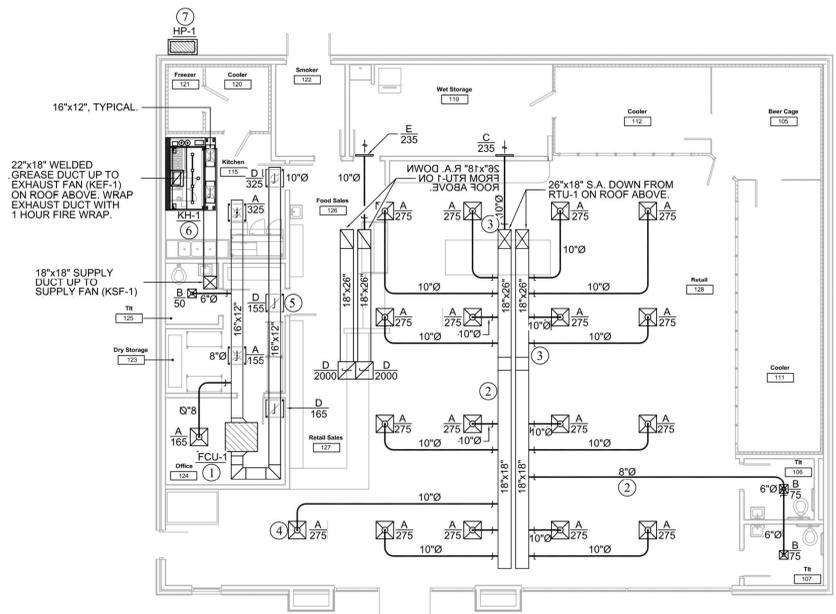
ALL RECTANGULAR DUCT SHALL BE GALVANIZED SHEET METAL WITH 2" EXTERIOR DUCT WRAP FIBERGLASS INSULATION. SEAL ALL DUCT JOINTS AND INSULATION JOINTS AIRTIGHT.

ALL ROUND BRANCH DUCTS SHALL BE GALVANIZED SHEET METAL WITH SAME INSULATION AS ABOVE. FLEXIBLE DUCTS OF NO MORE THAN 6 FEET MAY BE USED FOR DEVICE CONNECTIONS. ALL BRANCH DUCTS MUST HAVE STARTING COLLARS WITH INTEGRAL BALANCING DAMPERS.

SUPPORT ALL DUCT ACCORDING TO THE INTERNATIONAL MECHANICAL CODE AND SMACNA.

C. EQUIPMENT INSTALLATION

SAFE-OFF AIRTIGHT AROUND ALL COILS, SOUND TRAPS, FILTERS, ETC. WITH 16 GAGE GALVANIZED SHEET METAL SET IN NON-HARDENING FIRE RETARDANT MASTIC.



AIRFLOW	DUCT/NECK SIZE
0 - 100 CFM	6" ROUND
110 - 220 CFM	8" ROUND
225 - 400 CFM	10" ROUND
410 - 600 CFM	12" ROUND

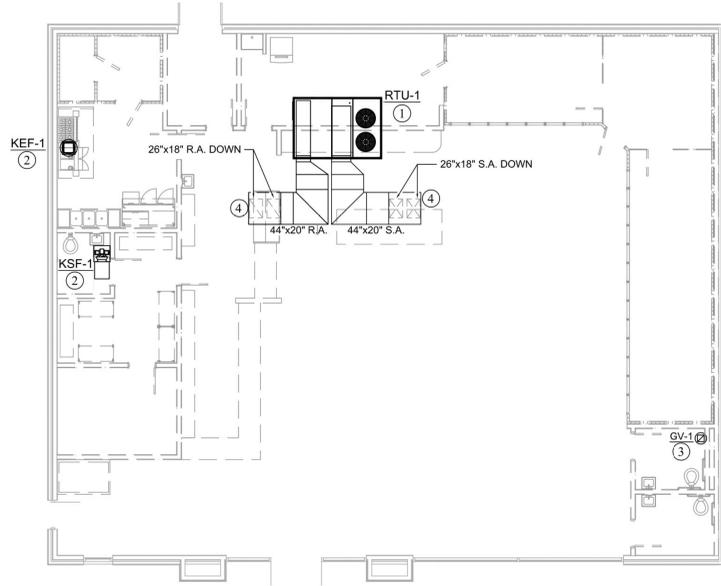
1 HVAC Plan
1/8" = 1'-0"

GENERAL NOTES:

- ALL CENTRAL AIR HANDLING UNITS SUPPLYING MORE THAN 2000 CFM AND/OR SERVING AN EXIT CORRIDOR SHALL HAVE SMOKE DETECTION TO INTERRUPT POWER. AHU SMOKE CONTROLS SHALL BE CONNECTED TO THE AUTOMATIC FIRE ALARM SYSTEM AS REQUIRED BY CODE.
- ALL INTERIOR DUCT TO BE INSULATED WITH 2" FIBERGLASS DUCT WRAP WITH FOIL BACK VAPOR BARRIER. SEAL ALL SEAMS AND LAPS WITH 2" HIGH PRESSURE FOIL TAPE. SEAL ALL DUCT JOINTS WITH MASTIC DUCT SEALANT.
- RECTANGULAR DUCT TO BE GALVANIZED SHEET METAL. LOW PRESSURE ROUND BRANCH DUCT TO BE SNAP LOCK GALVANIZED SHEET METAL TO WITHIN SIX FEET OF THE DIFFUSER CONNECTIONS WHERE FLEXIBLE DUCT MAY BE USED.
- ALL DUCT PENETRATING FIREWALLS SHALL BE EQUIPPED WITH DYNAMIC RATED FIRE DAMPERS. PROVIDE ACCESS PANELS AT EACH SIDE OF ALL FIRE DAMPER LOCATIONS. INSTALL ACCORDING TO MANUFACTURER'S RECOMMENDATIONS AND THE INTERNATIONAL MECHANICAL CODE.
- CONTRACTOR TO COORDINATE ALL ROOF LEVEL MECHANICAL WORK INCLUDING PENETRATIONS AND EQUIPMENT INSTALLATION WITH GENERAL CONTRACTOR.
- PROVIDE ACCESS PANELS IN DUCTS AT ALL FIRE AND FIRE/SMOKE DAMPERS WHERE APPLICABLE.
- COORDINATE HORIZONTAL ROUTE OF DUCT THROUGH EXTERIOR WALL WITH COLUMNS, WINDOWS, OVERHANGS, ETC.
- CONTRACTOR TO CONSULT ENGINEER WITH ALL QUESTIONS BEFORE PROCEEDING WITH WORK.
- COORDINATE WORK WITH OWNER. ALL WORK IN THE OCCUPIED SPACE TO BE COMPLETED AT OWNER'S CONVENIENCE.
- ALL WORK SHALL BE COMPLETED IN CONFORMANCE WITH THE 2018 INTERNATIONAL CODE SERIES.
- DUCT SIZES SHOWN MAY BE MODIFIED BY THE CONTRACTOR TO ACCOMMODATE CLEARANCE REQUIREMENTS AS LONG AS THE NET FREE AIRFLOW AREA IS NOT CHANGED. CONSULT ENGINEER FOR ASSISTANCE.
- RECTANGULAR DUCT DIMENSIONS SHOWN ARE INSIDE CLEAR. NO ALLOWANCE FOR INSULATION.
- MOUNT ALL DUCTWORK AS HIGH AS POSSIBLE. TRANSITION DUCT IN UPWARD DIRECTION TO MAINTAIN MAXIMUM CLEARANCE BETWEEN DUCT AND CEILING. COORDINATE ROUTING OF DUCT WITH BOTH PLUMBING TRADES, ELECTRICAL TRADES, AND STRUCTURE.
- THE DESIGN MECHANICAL ENGINEER WILL NOT BE RESPONSIBLE FOR THE RESULTS OF VALUE ENGINEERING BY THE CONTRACTOR/OWNER WHICH INVOLVES MODIFICATION OF THE MECHANICAL AND HVAC SYSTEMS AND THEIR CAPACITIES, ETC.
- PROVIDE REDUCERS, TRANSITIONS, AND FITTINGS AS REQUIRED FOR ALL CONNECTIONS AT EQUIPMENT AS SHOWN.
- PROVIDE REINFORCED CONCRETE BASE FOR ALL NEW EQUIPMENT AS SHOWN ON DRAWING. CHAMFER PAD EDGES AT 45 DEGREE ANGLE.
- ALL EQUIPMENT, LABOR, MATERIAL, AND COORDINATION TO COMPLETE THIS PROJECT PER THE DESIGN INTENT SHALL BE PROVIDED BY CONTRACTOR.
- COORDINATE INSTALLATION OF EQUIPMENT AND UTILITIES WITH CONDITIONS AT SITE. CONTRACTOR MAY MODIFY ROUTING OF DUCT AS REQUIRED BY SITE CONDITIONS. IF CHANGES IN SIZE ARE REQUIRED CONSULT ENGINEER.
- CONTRACTOR IS RESPONSIBLE FOR ALL WORK REQUIRED TO COMPLETE THE PROJECT IN AGREEMENT WITH THE DESIGN INTENT SHOWN ON THESE DRAWINGS. ANY DUCT DIMENSION SHOWN MAY BE MODIFIED BY CONTRACTOR FOR COORDINATION PURPOSES WHILE ENSURING THAT AIRFLOW AREA DOES NOT DECREASE.
- PROVIDE AABC OR NEBB TAB AGENT TO TEST, ADJUST, AND BALANCE THE AIR SYSTEMS MODIFIED ON THIS PROJECT TO WITHIN +/- 10%. PROVIDE COMPLETE TAB REPORT TO ENGINEER BEFORE SCHEDULING FINAL INSPECTION. COMPLETE FINAL BALANCING AND SUBMIT REPORT TO ENGINEER.
- THE MECHANICAL CONTRACTOR SHALL PROVIDE AND INSTALL 120V TO 24 V TRANSFORMERS AND LOW VOLTAGE CONTROL WIRING FOR MECHANICAL COMPONENTS SHOWN ON THE DRAWINGS AND IN THE CONTROLS SUBMITTALS. THE MECHANICAL CONTRACTOR WILL NOT BE RESPONSIBLE FOR INSTALLING ANY 120 VOLT POWER WIRING TO ANY CONTROLLERS. THAT RESPONSIBILITY IS THE ELECTRICAL CONTRACTOR.
- ALL BRANCH DUCT STARTING COLLARS SHOULD HAVE BALANCING DAMPERS, ABOVE SUSPENDED CEILINGS.
- MAXIMUM LENGTH OF FLEXIBLE DUCT IS SIX FEET. FLEXIBLE DUCT SHOULD NOT BE USED TO MAKE ABRUPT CHANGES IN DIRECTION OR FOR EXHAUST OR RETURN AIR.
- MINOR MODIFICATION OF DUCT SIZING AND ROUTING MAY BE REQUIRED DURING INSTALLATION. ANY CHANGES WHICH INCREASES/DECREASES AIRFLOW AREA BY GREATER THAN 10% SHOULD BE PREAPPROVED.
- ALL EQUIPMENT, LABOR, MATERIAL, AND COORDINATION TO COMPLETE THIS PROJECT PER THE DESIGN INTENT SHALL BE PROVIDED BY CONTRACTOR.

NUMBERED NOTES:

- 1 PROVIDE AND INSTALL HORIZONTAL FAN COIL UNIT MOUNTED ABOVE CEILING LEVEL AS SHOWN. ROUTE HORIZONTAL SUPPLY AND RETURN AIR DUCT FROM FCU AND SEAL AIR TIGHT. PROVIDE REFRIGERANT PIPING TO CORRESPONDING CONDENSING UNIT AND CONTROLS TO THERMOSTATS. SUPPORT FROM STRUCTURE ABOVE. SEE SHEET M.6 FOR FAN COIL UNIT DETAIL.
- 2 PROVIDE AND INSTALL NEW LOW PRESSURE SUPPLY DUCT SIZED AND ROUTED AS SHOWN WITH TRANSITIONS BY CONTRACTOR. HOLD DUCT AS HIGH AS POSSIBLE TO STRUCTURE AND CONSTRUCT/ROUTE IN A NEAT AND ORGANIZED MANNER.
- 3 PROVIDE AND INSTALL MANUAL BALANCING DAMPERS AT ALL BRANCH DUCT TAKE OFFS. ALL TYPICAL.
- 4 PROVIDE AND INSTALL NEW CEILING MOUNTED SUPPLY GRILLES IN LOCATIONS SHOWN. CONNECT TO NEW DUCT WITH TRANSITION AND FITTING AS REQUIRED. COORDINATE WITH ARCHITECTURAL CEILING LAYOUT AND ELECTRICAL LAYOUT. ALL TYPICAL.
- 5 PROVIDE AND INSTALL CUBE CORE RETURN AIR GRILLES WITH MANUAL VOLUME DAMPERS IN CEILING AT LOCATIONS SHOWN. SEE GRILLE SCHEDULE FOR SIZES. TYPICAL ALL LOCATIONS.
- 6 PROVIDE AND INSTALL STAINLESS STEEL KITCHEN HOOD. INCLUDE EXHAUST/SUPPLY FANS, CONTROL PANELS, LIGHTS, FILTERS, FIRE SUPPRESSION, GREASE CUP, TEMPERATURE SENSOR, ANY OTHER CODE REQUIRED COMPONENTS. ROUTE WELDED GREASE EXHAUST DUCT UP EXHAUST COLLAR UP TO UPBLAST GREASE VAPOR TYPE CENTRIFUGAL EXHAUST FAN AND SUPPLY DUCT FROM SUPPLY FAN DOWN TO SUPPLY PLENUM. TRANSITION DUCTS TO FANS AND HOODS AS REQUIRED. EXHAUST DUCT TO BE SEAMLESS, WELDED, 16 GAUGE, STAINLESS STEEL. GREASE DUCT, SUPPLY DUCT TO BE GALVANIZED DUCT EXTERNAL INSULATED. INSTALL PER MANUFACTURERS RECOMMENDATIONS, IMC 2018 AND LOCAL CODE. SLOPE EXHAUST DUCT 1/8" PER FOOT TOWARD HOOD.
- 7 PLACE CONDENSING UNIT AT LOCATION SHOWN. ROUTE NEW REFRIGERANT PIPING ABOVE GRADE TO EXTERIOR WALL AND TURN UP IN WALL TO ABOVE CEILING. ROUTE TO CORRESPONDING AIR HANDLER. INSULATE REFRIGERANT PIPING TO PREVENT CONDENSATION. SEAL PIPING PENETRATIONS WITH WATER PROOF CAULKING TO PREVENT WATER INTRUSION. SIZE AND INSTALL AS PER MANUFACTURER ACCORDING TO LENGTH AND ELEVATION. INSTALL CONDENSING UNITS ON 4" REINFORCED CONCRETE EQUIPMENT PAD.



SUPPLY AIR DIFFUSER	
AIRFLOW	DUCT/NECK SIZE
0 - 100 CFM	6" ROUND
110 - 220 CFM	8" ROUND
225 - 400 CFM	10" ROUND
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1 Mechanical Roof Plan
1/8" = 1'-0"

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CONTRACTOR TO COORDINATE ALL ROOF LEVEL MECHANICAL WORK INCLUDING PENETRATIONS AND EQUIPMENT INSTALLATION WITH GENERAL CONTRACTOR.

PROVIDE ACCESS PANELS IN DUCTS AT ALL FIRE AND FIRE/SMOKE DAMPERS WHERE APPLICABLE.

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PROVIDE AABC OR NEBB TAB AGENT TO TEST, ADJUST, AND BALANCE THE AIR SYSTEMS MODIFIED ON THIS PROJECT TO WITHIN +/- 10%. PROVIDE COMPLETE TAB REPORT TO ENGINEER BEFORE SCHEDULING FINAL INSPECTION. COMPLETE FINAL BALANCING AND SUBMIT REPORT TO ENGINEER.

THE MECHANICAL CONTRACTOR SHALL PROVIDE AND INSTALL 120V TO 24 V TRANSFORMERS AND LOW VOLTAGE CONTROL WIRING FOR MECHANICAL COMPONENTS SHOWN ON THE DRAWINGS AND IN THE CONTROLS SUBMITTALS. THE MECHANICAL CONTRACTOR WILL NOT BE RESPONSIBLE FOR INSTALLING ANY 120 VOLT POWER WIRING TO ANY CONTROLLERS. THAT RESPONSIBILITY IS THE ELECTRICAL CONTRACTOR.

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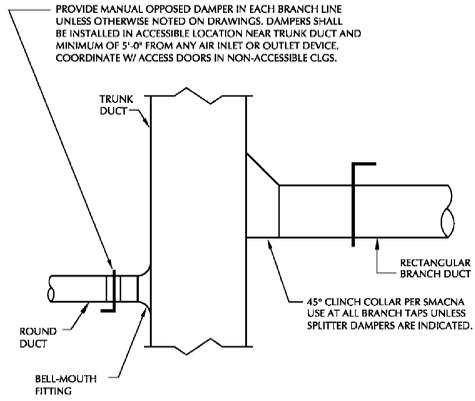
ALL EQUIPMENT, LABOR, MATERIAL, AND COORDINATION TO COMPLETE THIS PROJECT PER THE DESIGN INTENT SHALL BE PROVIDED BY CONTRACTOR.

FOR EXTERIOR DUCT, PROVIDE 2" RIGID EXTERIOR BOARD TYPE FIBERGLASS DUCT INSULATION WITH FSK VAPOR BARRIER. SEAL ALL SEAMS AND JOINTS TO BE AIR TIGHT. PROVIDE SECONDARY GALVANIZED METAL DUCT JACKET AROUND THE PERIMETER OF THE INSULATED AIR DISTRIBUTION DUCT. SEAL ALL JOINTS AND SEAMS WATER TIGHT.

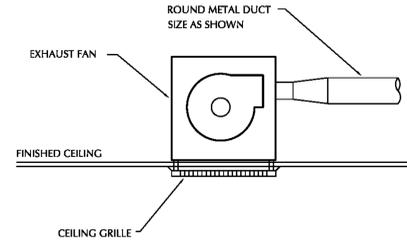
NUMBERED NOTES:

- 1 PROVIDE AND INSTALL NEW ROOFTOP AIR HANDLER AS SHOWN. PROVIDE MANUFACTURER'S REQUIRED CURB, DUCT CONNECTIONS, CONTROL CONNECTIONS, START UP, AND BALANCING OF THIS SYSTEM FOR FULLY FUNCTIONAL SYSTEM PERFORMING TO DESIGN REQUIREMENTS. ROOF PENETRATION(S), ROOF CURB, FLASHING, PATCHING, AND REPAIR OF ROOF BY CONTRACTOR.
- 2 PROVIDE AND INSTALL KITCHEN HOOD EXHAUST FAN / SUPPLY FAN FOR KITCHEN EQUIPMENT AS SHOWN. INSTALL PER MANUFACTURER'S INSTALLION REQUIREMENTS. COORDINATE INSTALLATION WITH GENERAL CONTRACTOR. BALANCE TO QUANTITY OF EXHAUST/MAKE-UP AIR PER SCHEDULE. FAN SUPPORTS, DUCT CONNECTIONS, ROOF PENETRATION, FLASHING, PATCHING, AND REPAIR OF ROOF BY CONTRACTOR.
- 3 PROVIDE AND INSTALL NEW GRAVITY VENTILATOR AS SHOWN. COORDINATE INSTALLATION WITH GENERAL CONTRACTOR. PROVIDE DUCT CONNECTIONS, ROOF PENETRATIONS, AND SUPPORTS AS REQUIRED. ALL TYPICAL.
- 4 PROVIDE AND INSTALL 44"x44" INSULATED DUCT PLENUM ON MANUFACTURER'S ROOF CURB. SEAL PLENUM AIR AND WATER TIGHT ON ALL FOUR SIDES AS REQUIRED. TAP 26"x18" CONNECTIONS INTO BOTTOM OF PLENUM WHERE INDICATED AND ROUTE AS SHOWN ON FIRST FLOOR PLAN. COORDINATE INSTALLATION WITH GENERAL CONTRACTOR. PROVIDE DUCT CONNECTIONS, ROOF PENETRATIONS, AND SUPPORTS AS REQUIRED. ALL TYPICAL.

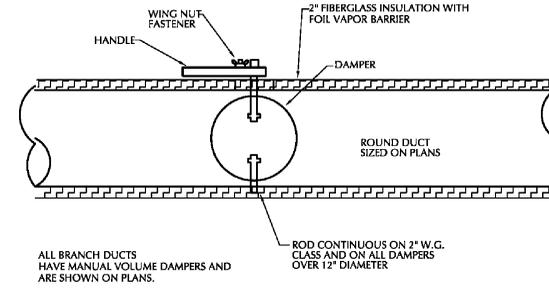
NOTE:
DAMPERS SHALL BE PROVIDED IN ALL BRANCH RUN-OUTS TO DIFFUSERS,
R.A. AND EXHAUST GRILLES, UNLESS SPECIFICALLY NOTED OTHERWISE ON DRAWINGS.
LOCATE DAMPERS SO THEY ARE ACCESSIBLE FROM LAY-IN CEILING OR ACCESS DOORS.



BRANCH DUCT TAP DETAIL

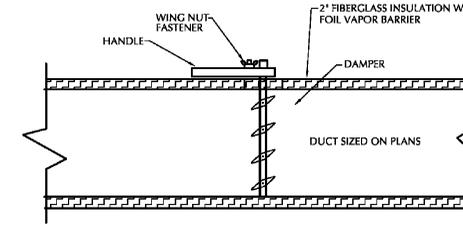


CEILING MOUNTED EXHAUST FAN



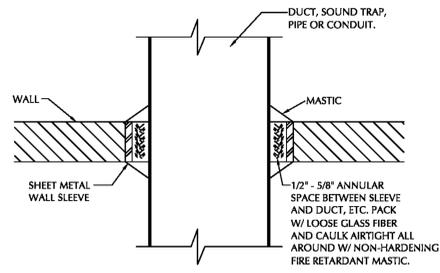
ALL BRANCH DUCTS HAVE MANUAL VOLUME DAMPERS AND ARE SHOWN ON PLANS.

ROUND DUCT MANUAL DAMPER

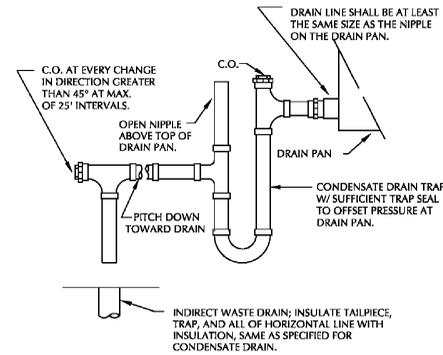


RECTANGULAR DUCT MANUAL DAMPER

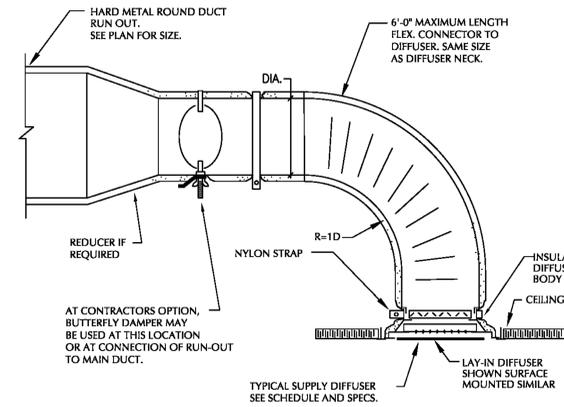
NOTE: THIS DETAIL APPLICABLE AT MECHANICAL ROOM WALL PENETRATIONS, SMOKE TIGHT WALLS, SOUND CONTROL PARTITIONS AND WHERE OTHERWISE INDICATED.



WALL PENETRATION DETAIL

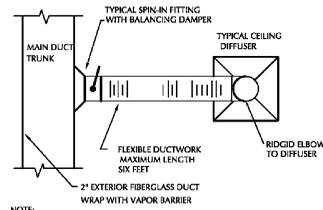


CONDENSATE DRAIN TRAP DETAIL



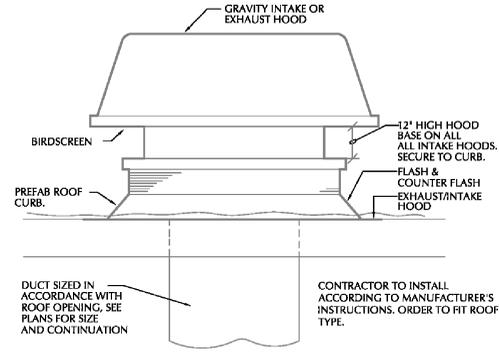
ALL CEILING AIR DEVICES ON THIS PROJECT TO HAVE CEILING RADIATION DAMPERS APPROVED FOR ARCHITECTURAL REQUIRED FIRE RATING.

TYPICAL DIFFUSER MOUNTING



- NOTE:
 1. NO BRANCH DUCTS WITHIN 18" OF END OF MAIN DUCT.
 2. MINIMUM 2" BETWEEN BRANCH TAKE OFF DUCTS.
 3. NO BRANCH DUCTS FROM MAIN DUCT TRANSITIONS.

TYPICAL ROUND BRANCH DUCT TAKE-OFF



ROOF MOUNTED GRAVITY EXHAUST/INTAKE VENTILATOR DETAIL

EXHAUST FAN SCHEDULE									
MARK	GREENHECK MODEL	CFM	MAX RPM	STATIC W.G.	DRIVE TYPE	MOUNTING	ELECTRICAL	REMARKS	
EF-1 THRU EF-3	SP-A90	75	878	25"	DIRECT	CEILING	115V, 14 WATT	CONTROLLED BY LIGHT SWITCH.	
PROVIDE ACCESSORIES AS SHOWN OR NOTED. PROVIDE WITH FACTORY MOUNTED DISCONNECT AT ALL FANS. BACKDRAFT DAMPERS, VIBRATION ISOLATION KIT, FLEXIBLE CONNECTIONS, FACTORY FAN SPEED CONTROL, WHITE ALUMINUM GRILLE, AND MOUNTING HARDWARE WITH ALL FANS. PRODUCTS SHALL BE MADE IN USA PER 2CFR 200.322 ESSER GUIDELINES.									

LOUVER SCHEDULE									
MARK	EQUAL TO RUSKIN MODEL	DUTY TYPE	SIZE	MOUNTING	COLOR	REQUIRED CFM	MATERIAL	REMARKS	
LV-1	ELF637SDX	EXHAUST AIR	12"x12"	EXTERIOR WALL SURFACE	TO MATCH	AS SHOWN	ALUMINUM	USED AS LOUVERED EXTERIOR WALL GRILLE INCLUDE 3/4" MESH SCREEN, FACTORY KYNAR FINISH, EXTENDED SILL CHANNEL FRAME.	

GRAVITY VENTILATOR SCHEDULE									
MARK	MAKE	MODEL	TYPE	FINISH	WIDTH	HEIGHT	FACE VELOCITY	P.D.	REMARKS
GV-1	COOK	12 PR	ROOF TOP GRAVITY VENTILATOR	ALUMINUM	20"	20"	500 FPM	0.05"	

GRILLE, REGISTER, DIFFUSER SCHEDULE									
MARK	EQUAL TO TITUS MODEL	DUTY TYPE	SIZE	MOUNTING	COLOR	REQUIRED CFM	MATERIAL	REMARKS	
A	TMS AA	SUPPLY	24"x24"	LAY-IN	WHITE	AS SHOWN	ALUMINUM	SUPPLY AIR DIFFUSER	
B	TMS AA	SUPPLY	12"x12"	LAY-IN	WHITE	AS SHOWN	ALUMINUM	SUPPLY AIR DIFFUSER	
C	300 FL	SUPPLY	18"x12"	WALL SURFACE	WHITE	AS SHOWN	ALUMINUM	LOUVERED INTERIOR SUPPLY AIR WALL GRILLE.	
D	50F	RETURN	24"x24"	LAY-IN	WHITE	AS SHOWN	ALUMINUM	CUBE CORE GRILLE	
E	350 FL	RETURN	18"x12"	WALL SURFACE	WHITE	AS SHOWN	ALUMINUM	LOUVERED INTERIOR RETURN AIR WALL GRILLE (3/4" BLADE SPACING)	

SUPPLY DIFFUSERS WILL HAVE ROUND NECK SIZES AS SHOWN ON DRAWING. NECK SIZE OF DIFFUSER SHOULD MATCH DUCT SIZE WHICH SERVES THAT DIFFUSER. FOR THE SURFACE MOUNTED SUPPLY DIFFUSERS, A PLASTER RING MAY BE USED. NOTE: MECHANICAL CONTRACTOR TO COORDINATE DIFFUSERS WITH CEILING TYPES.

HORIZONTAL FAN COIL UNIT SCHEDULE												
MARK	EQUAL TO LENNOX MOD.	TOTAL CFM	MAX O.A. CFM	COOLING			ELECTRICAL	ELECTRIC HEAT		RATED LOAD AMPS	OUTPUT (W)	REMARKS
				CAP	EA	DB/WB		LA	DB/WB			
FCU-1	MMDB024S4	695	70	24 MBH	80°/67°	55°/55°	208V/1PH	--	--	1.7	160	HORIZONTAL SPLIT SYSTEM, THREE SPEED MOTOR.

NOTES: EACH UNIT SHOULD BE EQUIPPED WITH THE APPROPRIATE SIZE EVAPORATOR COIL. VERIFY ELECTRICAL REQUIREMENTS PER MANUFACTURER'S RECOMMENDATIONS.

HEAT PUMP UNIT SCHEDULE									
MARK	EQUAL TO LENNOX MOD.	COOLING CAP. TOTAL BTU/H	TYPE HP/CU	HEATING CAPACITY	ELECTRICAL REQ.	MCA	MAX FUSE SIZE	REMARKS	
HP-1	MLB030S4M	24 MBH	HP	24 MBH	208/1PH	25.0	40 A	2-STAGE HEAT PUMP	

NOTES: INSTALL ACCORDING TO MANUFACTURER'S INSTALLATION REQUIREMENTS.

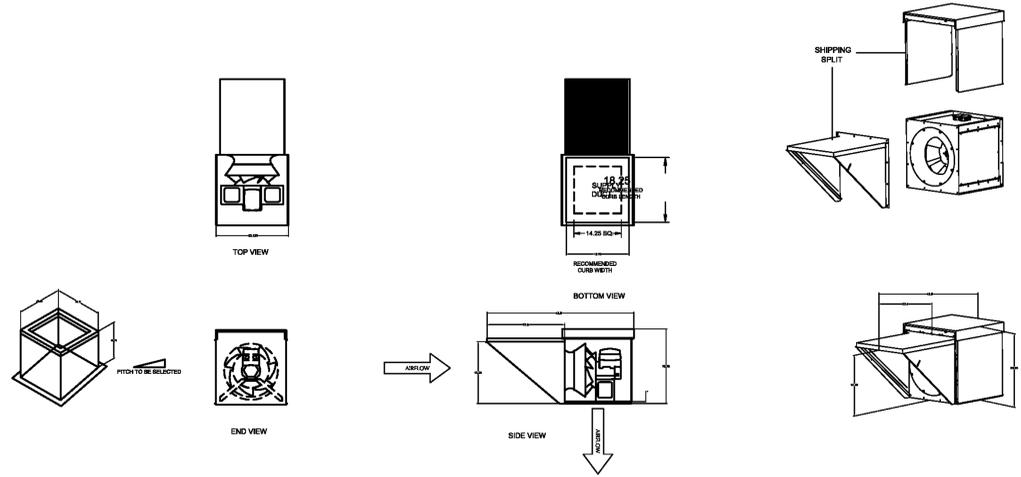
PACKAGED UNIT SCHEDULES															
MARK	MAKE	MODEL	FAN DATA			COOLING		GAS HEAT		COMPRESSORS	ELECTRICAL			PRE-FILTER	REMARKS
			CFM	OA	ESP	TOT BTUH	INPUT BTU	OUTPUT BTU	VOLTS		MCA	MOP			
RTU-1	LENNOX	LGT150H4EM1Y	5,000	1,000	0.5"	141,000	180,000	144,000	2	208/3PH	61.0	80	MERV 8	SEE NOTES INDICATED BELOW	

- NOTES:
 1.) UNIT SHALL BE SUPPLIED WITH MODULATING OA/RA DAMPER CONTROL FOR ECONOMIZER.
 2.) PROVIDE WITH MANUFACTURER'S ROOF CURB TO MATCH DUCT DROP ORIENTATION(S).
 3.) DIRECT DRIVE PLENUM FAN WITH EC MOTOR
 4.) HUMIDITROL HOT GAS REHEAT
 5.) CS7500 COLOR TOUCHSCREEN PROGRAMMABLE TSTAT
 6.) DUAL ENTHALPY ECONOMIZER WITH BARAMETRIC RELIEF
 7.) FACTORY 120V CONVENIENCE OUTLET
 8.) FACTORY DISCONNECT
 9.) SUPPLY AND RETURN SMOKE DETECTORS
 10.) CONDENSER HAIL GUARDS
 11.) WARRANTY: 1 YEAR UNIT PARTS, 5 YEAR COMPRESSOR PARTS.

Direct Drive Mixed Flow Filtered Roof Supply Fan

MARK INFORMATION		FAN INFORMATION					MOTOR INFORMATION					
QTY	MARK	MODEL	VOLUME (CFM)	TOTAL EXTERNAL SP (IN WG)	FAN RPM	OPERATING POWER (HP)	WEIGHT (LB.)	SIZE (HP)	V/C/P	ENCLOSURE	MOTOR RPM	WINDINGS
1	KSF-1	KSQ-12-M2	1,490	0.613	1,750	0.44	124	0.75	208/60/3	TF	1750	1

KSF-01 : SELECTED OPTIONS AND ACCESSORIES
 Horizontal Weatherhood Intake, Bottom (Curb Mounted) Discharge
 UL/cUL 705 Listed - "Power Ventilators"
 Switch, NEMA-3R, Toggle, Shipped Separate
 Damper Shipped Loose, WD-330-PB-14.25X14.25, Gravity Operated, Not Coated
 1" Aluminum Primary Filter

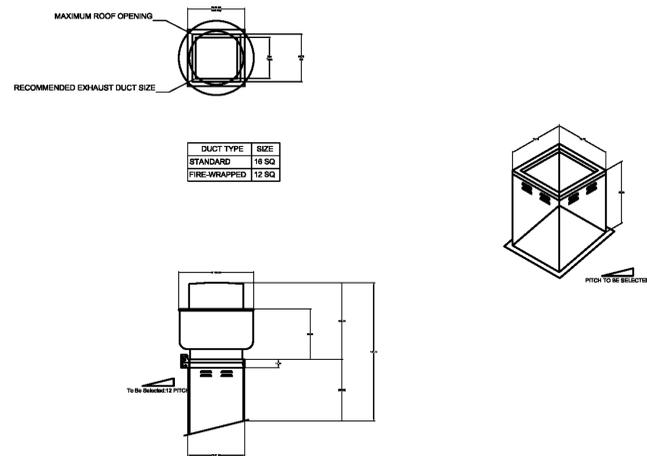


Direct Drive Upblast Centrifugal Roof Exhaust Fan

MARK INFORMATION		FAN INFORMATION					MOTOR INFORMATION						
QTY	MARK	MODEL	VOLUME (CFM)	TOTAL EXTERNAL SP (IN WG)	FAN RPM	OPERATING POWER (HP)	WEIGHT (LB.)	SIZE (HP)	V/C/P	ENCLOSURE	MOTOR RPM	WINDINGS	NEC FLA*
1	KEF-1	CUE-140-VG	1,862	0.994	1,462	0.6	122	1	208/60/3	TF	1725	1	4.6

*NEC FLA - Based on table 430.250 or 430.248 of National Electrical Code 2020. Actual motor FLA may vary for sizing thermal overload, consult factory"

KEF-01 : SELECTED OPTIONS AND ACCESSORIES
 Standard Curb Cap Size - 22 Square
 UL/cUL 705 Listed - "Power Ventilators"
 Switch, NEMA-1, Toggle, Shipped with Unit
 Hinge, Factory Installed
 Foam Curb Seal (Factory Applied)
 Birdscreen: Stainless Steel, nom. 85% Free Area



HOOD INFORMATION																
HOOD NO.	MARK	MODEL	HOOD DIMENSIONS (IN.)			HOOD CONSTR.	COOKING LOAD / DUTY RATING	TOTAL CFM	EXHAUST COLLAR(S)			SUPPLY		TOTAL WEIGHT LBS.	SECTION LOCATION	
			LENGTH	WIDTH	HEIGHT				WIDTH	LENGTH	DIA.	CFM	S.P.			MUA CFM
1	KH-1	GHEW-88-S	88	48	24	439 SS WHERE EXPOSED	HEAVY	1862	9	18	1862	0.494	1490		215.277	SINGLE

HOOD INFORMATION																
HOOD NO.	MARK	LIGHTING DETAILS				GREASE FILTRATION DETAILS				UTILITY CABINET(S)						
		FIXTURE TYPE	BULB / LAMP INFO	QTY	FOOT CANDLES	TYPE / MODEL	MATERIAL	QTY	SIZE (IN.)	LOCATION	FIRE SYSTEM	TYPE	SIZE	MODEL	CONTROLS	INTERFACE
1	KH-1	INCANDESCENT (GLOBE)	100W A19 (BULBS NOT INCL.)	4	45.69	SAFFLE	STAINLESS STEEL	3	18	LEFT	ANSUL R102	6	GKC			

SUPPLY PLENUM INFORMATION																				
HOOD NO.	MARK	POS.	TYPE	SIZE (IN.)			INSULATED	DAMPERS	LED LIGHT(S)	TOTAL SUPPLIED	TOTAL QTY	COLLARS								
				L	W	H						TYPE	MOUNTING	QTY	W	L	DIA.	CFM	VEL.	
1	KH-1	FRONT	ASP	100	14	4	NO	YES	NO	1490	0.02	MUA	FACTORY	2	12	30			745	298

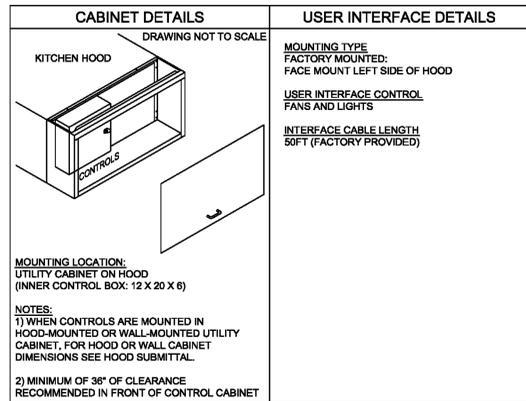
HOOD OPTIONS

UL 710 LISTED W/ OUT EXHAUST FIRE DAMPER - UL #MH11726
 BACK INTEGRAL AIR SPACE - 3 IN WIDE
 18 IN HIGH CEILING ENCLOSURES - FRONT LEFT RIGHT - FIELD INSTALLED
 FACTORY MOUNTED EXHAUST COLLAR(S)
 BACKSPASH 80.00 IN HIGH 100.00 IN LONG
 PERFORMANCE ENHANCING LIP (PEL) TECHNOLOGY
 STANDING SEAM CONSTRUCTION FOR SUPERIOR STRENGTH

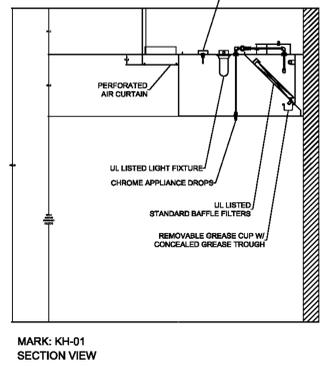
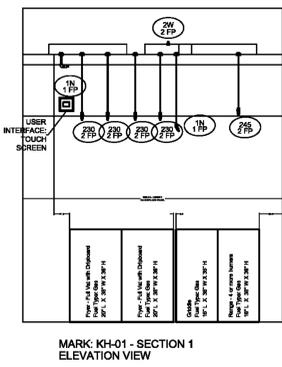
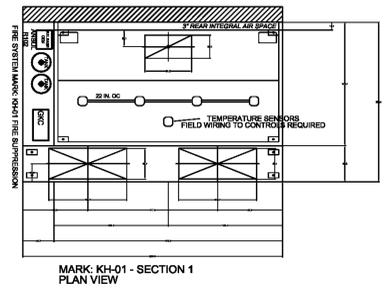
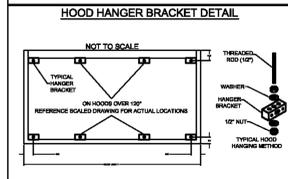
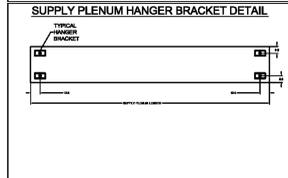
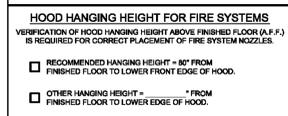
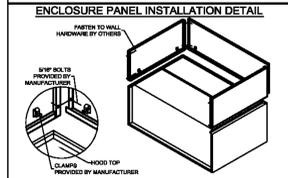
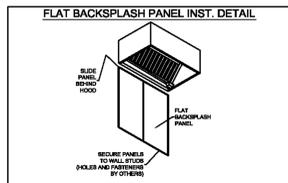
CONTROL INFORMATION																
MARK	ELECTRICAL CONTROL PACKAGE			USER INTERFACE			FANS CONTROLLED									
	MODEL	LOCATION	TYPE	LOCATION	FAN #	TYPE	FAN	FAN MARK	ZONE	CFM	MOTOR HP	MOTOR VOLT	CYCLE	MOTOR PHASE	MOTOR STARTER IN PANEL	VFD IN PANEL
KH-1 CONTROLS	GKC-CV-S-11-1-1-0	LEFT CABINET ON KH-01	FULL COLOR TOUCHSCREEN	HOOD - FACE MOUNT LEFT END OF KH-01 SECTION 1	1	EXHAUST	E1	KEF-01	1	1862	1	208	60	3	NO	NO
					2	SUPPLY	S1	KSF-01	1	1650	0.75	208	60	3	YES	NO

CONTROL FEATURES

HOOD LIGHT CONTROL
 TEMP SENSORS (FACTORY INSTALLED) - QTY. 1
 DRY FIRE CONTACTS - QTY. 2
 LIGHTS OFF DURING FIRE
 EXHAUST MAX DURING FIRE
 SUPPLY OFF DURING FIRE



ZONE CONFIGURATION							WIRING DIAGRAM CODE: #####					
ZONE #	ZONE	ROOM TEMP					JOB NAME					
1	Z1	PRESET					RBR - CALHOUN STATION 1-4					
HOOD CONFIGURATION							MODEL: GKC-CV-S-11-1-1-0					
							SERIAL NUMBER: W03NP					
							MARK: KH-01 CONTROLS					
							DOC NUMBER: ###					
							REV: ###					
HOOD CONFIGURATION							DEFAULT SETTINGS / PARAMETERS (SEE DEFAULT)					
HOOD #	HOOD	HOOD MARK	ZONE	EXHAUST	SUPPLY	MB-TEMP SENSORS	HCB					
1	H1	KH01 SECTION 1	Z1	E1	S1	TR1	NO					
FAN CONFIGURATION							PRO VERSION V4					
FAN #	TYPE	FAN	FAN MARK	ZONE	MIN CFM	MAX CFM	NOCKBUS VFD	VFD ADDRESS	MIN FREQ.	MAX FREQ.	MIN VDC	MAX VDC
1	EXHAUST	E1	KEF-01	Z1	-	1862	NO	-	-	-	-	10.0
2	SUPPLY	S1	KSF-01	Z1	-	1650	NO	-	-	-	-	10.0



SECTION 16000 ELECTRICAL

16001 SCOPE OF WORK

- 1. THE WORK DESCRIBED UNDER THIS SECTION OF THE SPECIFICATIONS INCLUDES FURNISHING ALL MATERIAL, LABOR, AND EQUIPMENT, EXCEPT AS FURNISHED UNDER OTHER SECTIONS OF THE SPECIFICATION TO INSTALL ALL ELECTRICAL WORK SHOWN IN THE DRAWINGS AND AS SPECIFIED AND REFERRED TO HEREIN.
2. CONTRACTOR SHALL FURNISH ALL LABOR, MATERIALS, AND EQUIPMENT, PAY ALL FEES AND COSTS THAT OBTAIN ALL PERMITS, APPROVALS, AND INSPECTIONS TO PROVIDE A COMPLETE ELECTRICAL INSTALLATION.
3. ALL ELECTRICAL EQUIPMENT AND THE RESULTANT INSTALLATION OF SUCH EQUIPMENT, DEVICES, ETC. SHALL BE IN STRICT COMPLIANCE WITH THE NATIONAL ELECTRIC CODE, NFPA 70, ALL APPLICABLE LOCAL, STATE, AND FEDERAL CODES AND THE STANDARD FOR ELECTRICAL SAFETY IN THE WORKPLACE, NFPA 70E.
4. CONTRACTOR SHALL TAKE RESPONSIBILITY FOR FIELD VERIFICATION OF ALL DIMENSIONS AND LOCATIONS OF EXISTING, RELOCATED, AND NEW EQUIPMENT, AND SHALL BE RESPONSIBLE FOR COORDINATION WITH THE WORK OF OTHER TRADES NECESSARY TO THE PROJECT.
5. THESE DRAWINGS ARE INTENDED TO OUTLINE THE SCOPE OF WORK REQUIRED TO PROVIDE A COMPLETE AND OPERABLE PROJECT. CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING ALL PERMITS, APPROVALS, AND INSPECTIONS TO PROVIDE A COMPLETED PROJECT. CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING ALL PERMITS, APPROVALS, AND INSPECTIONS TO PROVIDE A COMPLETED PROJECT. CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING ALL PERMITS, APPROVALS, AND INSPECTIONS TO PROVIDE A COMPLETED PROJECT.
6. CONTRACTOR SHALL NOTIFY CONSTRUCTION MANAGER IMMEDIATELY OF ANY CONFLICTS ARISING FROM DISCOVERED CONDITIONS AT ANY PHASE OF THE PROJECT.
7. AT ANY LOCATION WHERE EXCAVATION OR ASSOCIATED WORK CAUSES DAMAGE TO EXISTING UNDERGROUND UTILITIES, CONTRACTOR SHALL RESTORE THE DAMAGED SYSTEM TO LIKE-NUMBER STATE.
8. CONTRACTOR SHALL VERIFY ALL FINAL LOCATIONS OF ELECTRICAL EQUIPMENT PRIOR TO INSTALLATION WITH CONSTRUCTION MANAGER.
9. LOCATIONS OF OTHER EQUIPMENT SPECIFIED BY OTHER TRADES OR PROVIDED BY OWNER ARE APPROXIMATE. COORDINATE EXACT LOCATION IN FIELD PRIOR TO ROUGHING IN AND RIGGING CONDUIT.
10. SEE ARCHITECTURAL REFLECTED CEILING PLANS AND ELEVATIONS FOR EXACT LOCATIONS FOR LIGHT FIXTURES IN LAY-IN OR DRYWALL CEILING, AND ON INTERIOR OR EXTERIOR WALLS.
11. CONDUITS ARE NOT NECESSARILY SHOWN ON PLAN DRAWINGS FOR SAKE OF CLARITY. PROVIDE CONDUITS BETWEEN DEVICES AND TO PANELS PER REQUIREMENTS LISTED IN DIVISION 16 SPECIFICATIONS. INDICATE EXACT ROUTING OF CONDUIT ON PLAN DRAWINGS AS PART OF AS-BUILT DOCUMENTATION TO BE SUBMITTED AFTER FINAL COMPLETION.
12. GENERAL CONTRACTOR SHALL FIELD-VERIFY ALL EXISTING CONDITIONS PRIOR TO BEGINNING ANY WORK AND SHALL IMMEDIATELY NOTIFY THE ARCHITECT AND ENGINEER OF ANY DISCREPANCIES. FAILURE TO DO SO INDICATED THAT THE CONTRACTOR ACCEPTS THE CONDITIONS AS THEY EXIST, AND SHALL PERFORM THE WORK REQUIRED AS SHOWN AND SPECIFIED.
13. ELECTRICAL CONTRACTOR SHALL REVIEW MECHANICAL DRAWINGS AND SPECIFICATION TO OBTAIN LOCATIONS, WIRING REQUIREMENTS, CONTROL WIRING SCHEMES, INTERLOCK WIRING, AND THERMOSTAT LOCATIONS.
14. EQUIPMENT SHALL BE MOUNTED ON MATERIALS SUITABLE FOR THE ENVIRONMENT WHICH IT IS INSTALLED WITH THE APPROPRIATE NEMA ENCLOSURE RATING.
15. WORKING CLEARANCES FOR ELECTRICAL EQUIPMENT SHALL BE IN COMPLIANCE WITH ARTICLE 110 AND 408.
16. THE DEDICATED ELECTRICAL SPACE EXTENDING FROM THE FLOOR TO THE STRUCTURAL CEILING WITH THE WIDTH AND DEPTH OF THE PANELBOARD OR SWITCHBOARD, MUST BE CLEAR OF ALL PIPING, DUCTS, EQUIPMENT FOREIGN TO THE ELECTRICAL OR ARCHITECTURAL TRADES IN ACCORDANCE WITH NEC 110 & 408. COORDINATE INSTALLATION OF ELECTRICAL EQUIPMENT WITH OTHER TRADES PRIOR TO ROUGHING IN EQUIPMENT.
17. ELECTRICAL CONTRACTOR SHALL OBTAIN AND REVIEW THE MECHANICAL AND SPECIAL EQUIPMENT SUBMITTALS PRIOR TO SUBMITTING THE ELECTRICAL SUBMITTALS. ANY ELECTRICAL EQUIPMENT, CONDUIT, AND WIRE SIZE CHANGES RESULTING FROM THIS REVIEW SHALL ALSO BE SUBMITTED FOR APPROVAL.

01 EXAMINATION OF THE PREMISES

- 1. THE CONTRACTOR WILL BE HELD TO HAVE EXAMINED THE PREMISES AND SATISFIED HIMSELF AS TO THE EXISTING CONDITIONS UNDER WHICH HE WILL BE OBLIGATED TO OPERATE IN PERFORMING PART OF THE WORK OR THAT WHICH WILL IN ANY MANNER AFFECT THE WORK UNDER HIS CONTRACT.
2. PRIOR TO ORDERING ANY MATERIAL OR DOING ANY WORK, VERIFY THE DIMENSIONS AT THE SITE. CORRECTNESS OF DIMENSIONS WILL BE THIS CONTRACTOR'S RESPONSIBILITY. NO EXTRA CHARGES OR COMPENSATION WILL BE ALLOWED FOR DIFFERENCES BETWEEN ACTUAL DRAWINGS AND DIMENSIONS INDICATED ON THE DRAWINGS. IMMEDIATELY REPORT DIFFERENCES TO THE ARCHITECT AND DO NOT PROCEED WITH WORK UNTIL THE ARCHITECT REVDERS HIS DECISION.

02 REGULATIONS, PERMITS, AND INSPECTIONS

- 1. REGULATIONS: COMPLY WITH ALL APPLICABLE CODES, RULES, AND REGULATIONS. ALL MATERIALS, EQUIPMENT, AND WORK MUST COMPLY WITH THE LATEST ADOPTED CODE AND THE APPLICABLE MUNICIPAL AND LIFE SAFETY CODES.
2. PERMITS: OBTAIN AND PAY FOR ALL PERMITS, FEES, AND LICENSES REQUIRED TO PERFORM WORK DESCRIBED HEREIN.
3. INSPECTIONS: ALL WORK MUST BE INSPECTED AND APPROVED BY LOCAL AUTHORITIES. PRIOR TO FINAL APPROVAL, FURNISH THE ARCHITECT WITH CERTIFICATES OF INSPECTION AND APPROVALS BY THE LOCAL AUTHORITIES.

03 WORK LISTED ELSEWHERE

- 1. FURNISH AND INSTALL MOTOR CONTROLS UNLESS IN MOTOR CONTROL CENTER. FURNISH HOLE OUTTING IN PRE CAST STRUCTURAL CONCRETE.

04 EXISTING SERVICES AND REMODEL AREA

- 1. MAINTAIN ALL SERVICES, POWER, SOUND, TELEPHONE, ETC. TO EXISTING BUILDINGS OR AREAS. INTERRUPTIONS OF SERVICES REQUIRED FOR "OUT-OF-TOWN" CONNECTIONS OR NEW CABLES, ETC. SHALL BE DONE AT THE CONVENIENCE OF THE TENANT AND BE APPROVED IN WRITING BY THE TENANT PRIOR TO THE INTERRUPTION.
2. END SECTION SHALL BE PROVIDED WITH FULL CAPACITY THROUGH BUS FOR FUTURE EXTENSION TO FUTURE SECTIONS.

05 TEMPORARY POWER

- 1. PROVIDE TEMPORARY POWER AS REQUIRED BY THE GENERAL CONTRACTOR. THIS SERVICE SHALL BE MAINTAINED THROUGHOUT THE ENTIRE NUMBER AS THE WORK PROGRESSES.
2. PROVIDE OUTLETS AT CONVENIENT POINTS AND IN SUFFICIENT NUMBERS SO THAT NO EXPOSURE TO OVER 50 FEET LENGTH IS REQUIRED TO REACH ANY WORK POINT. MAINTAIN GENERAL LIGHTING IN CORRIDORS, STAIRS, BASEMENT AND OTHER AREAS NOT RECEIVING DAYLIGHT REQUIRED FOR SAFETY. REMOVE TEMPORARY WORK AS RAPIDLY AS REQUIRED FOR OR ALLOWED BY INSTALLATION OF PERMANENT WORK.

16420 SERVICE ENTRANCE EQUIPMENT

- 1. SERVICE ENTRANCE EQUIPMENT TO HAVE SHORT CIRCUIT RATING EQUAL TO OR GREATER THAN AVAILABLE FAULT CURRENT, AND MEET ALL REQUIREMENTS OF UL STANDARDS NO 891. OUTDOOR GEAR TO BE NEMA 3R. ALL SWITCHGEAR TO BE FREE STANDING, UNLESS OTHERWISE INDICATED, MOUNTED ON 4" CONCRETE PAD EXTENDING A MINIMUM OF 6" IN FRONT OF EQUIPMENT.
2. END SECTION SHALL BE PROVIDED WITH FULL CAPACITY THROUGH BUS FOR FUTURE EXTENSION TO FUTURE SECTIONS.

16430 SWITCHBOARDS

- 1. SWITCHBOARDS TO BE SQUARE D TYPE OMB OR EQUAL, FREE STANDING, 90" HIGH, MIN 14" DEEP WITH TYPE OMB SWITCHES. END SECTION WITH FULL CAPACITY THROUGH BUS FOR FUTURE SECTIONS. MOUNT ON 4" CONCRETE PAD EXTENDING MINIMUM OF 6" IN FRONT OF SWITCHBOARDS.

16471 SAFETY SWITCHES

- 1. SAFETY SWITCHES SHALL BE HEAVY DUTY TYPE WHERE OUTSIDE THE BUILDING, THE SWITCHES SHALL BE PAINTIGHT NEMA 3R. ALL SWITCHES SHALL BE LOCKABLE.

16471 PANELS

- 1. PANEL TYPE AS INDICATED ON THE DRAWING. NEW FLUSH PANELS TO HAVE 3 (3/4") EMPTY CONDUITS STUBBED INTO ACCESSIBLE CEILING SPACE.
2. PROVIDE A GROUND BUS IN ALL PANELS INCLUDING EXISTING PANELS WHEN WORK IS DONE OR LOADS ADDED. CHECK ALL BREAKERS. REPLACE DEFECTIVE BREAKERS IN AFOREMENTIONED PANELS.
3. VERIFY THE INTERRUPTING CAPACITY OF ALL BREAKERS WITH REQUIREMENTS INDICATED ON THE DRAWINGS. BREAKER EXISTING BREAKERS NOT MEETING REQUIRED A.I.C. RATING.
4. HOME RUN CIRCUITRY SHALL BE IN
5. INDIVIDUAL CONDUITS FROM THE LOAD TO THE PANEL. DO NOT USE WIRING OUTLERS TO CONSOLIDATE WIRING. CONDUITS SHALL BE LIMITED TO 3 CURRENT CARRYING CIRCUITS UNLESS INDICATED OTHERWISE.

16461 DRY-TYPE TRANSFORMERS

- 1. SHALL BE EQUAL TO SQUARE D, 150 DEGREE TEMPERATURE RISE, SERIES 7410/7411. CLEARANCE ALL AROUND PER MANUFACTURERS RECOMMENDATION. PROVIDE ISOLATION PADS.

16500 LIGHTING FIXTURES

- 1. FLUORESCENT FIXTURES SHALL BE FURNISHED WITH UL LISTED HIGH POWER FACTOR BALLAST. CONTRACTOR SHALL VERIFY CEILING CONSTRUCTION BEFORE ORDERING RECESSED UNITS SHALL PROVIDE PLASTER OR DRY WALL FRAMES AS REQUIRED.
2. RECESSED INCADESCENT FIXTURES AND FLOURESCENT DOWN LIGHTS SHALL BE LISTED FOR USE IN INSULATED CEILING SPACES, AND SHALL HAVE ANY REQUIRED FEED THRU BOXES.
3. LAMPS FOR INCANDESCENT FIXTURES SHALL BE 1000 HOUR INSIDE FROSTED 130 VOLT, NOT EXCEEDING THE WATTAJE FOR WHICH THE FIXTURE IS LABELED AND SHALL BE OF THE TYPE RECOMMENDED BY THE FIXTURE MANUFACTURER. LAMPS SHALL BE OF THE SAME MANUFACTURER AS THE FLOURESCENT.
4. ALL FIXTURES SHALL BE PROPERLY SUPPORTED FROM THE CEILING STRUCTURE, NOT FROM DRYWALL BOARD OR PLASTER. SURFACE OR PENDENT MOUNT FIXTURES SHALL BE BOLTED TOGETHER FOR PROPER ALIGNMENT AND BONDING.
5. ALL FLUORESCENT FIXTURES RECESSED IN THE CEILING OR IN A GRID CEILING SHALL BE PROVIDED WITH EARTHQUAKE CLIPS AS REQUIRED BY CODE.

16195 NAMEPLATES

- 1. PROVIDE CONTRAST PLASTIC EMBOSSED TAPE, ADHESIVE BAKED NAMEPLATES FOR ALL STARTERS AND DISCONNECT SWITCHES.
2. PROVIDE LAMWOOD NAMEPLATES FOR ALL DISTRIBUTION SWITCHES, BREAKERS, LIGHTING, AND POWER PANELS/INDICATING ITEMS SERVED. SIZE OF LETTERS SHALL BE A MINIMUM OF 3/16" HIGH

16120 WIRE

- 1. ALL WIRE AND CABLE SHALL BE NEW, 600VOLT INSULATED, OF TYPES SPECIFIED BELOW. ALL WIRE AND CABLE SHALL BEAR THE UNDERWRITER'S LABEL, AND SHALL BE BROUGHT TO THE JOB IN UNBROKEN PACKAGES. WIRE SHALL BE COLOR CODED PER THE NEC.
2. BRANCH CIRCUIT WIRING SHALL BE MINIMUM #12 AWG COPPER.
3. WIRE AND CABLE #4 AWG AND SMALLER SHALL BE THW OR THHN/THWN.
4. WIRE AND CABLE LARGER THAN #4 AWG SHALL BE XHHW.
5. ALL AIR CONDITIONING FEEDERS SHALL BE TYPE XHHW.
6. ALL WIRING IN PANELBOARDS, SWITCHBOARDS, AND OUTLERS SHALL BE NEATLY ARRANGED. WIRE SHALL BE HELD BUNDLED BY TY-WRAPPS. WIRES SHALL BE CONNECTED TO CIRCUIT BREAKERS, SWITCHES, AND OTHER DEVICES PERPENDICULAR TO TERMINAL LUGS.
7. ALL WIRING IN MANHOLES, PULL BOXES, OR JUNCTION BOXES OVER 12" IN LENGTH SHALL BE BUNDLED IN A NEAT AND WORKMANLIKE MANNER.
8. AFTER COMPLETION OF UNDERGROUND SPACES AND SPLICES IN WORKING CLEARANCE WITH SCOTCHLOK #82 COATING OR EQUAL TO MOISTURE PROOF CABLES.
9. LEAVE NO LESS THAN 6" OF WIRE AT EACH OUTLET FOR CONNECTION TO LIGHTING FIXTURES, SWITCHES, RECEPTACLES AND OTHER PIECES OF EQUIPMENT, WHERE WIRES FEED THROUGH AN OUTLET OR JUNCTION BOX, NEATLY TUCK 6" LOOP IN BOTTOM OF BOX.
10. LIGHTING AND POWER CIRCUITS SHALL BE IDENTIFIED BY PANEL LETTER AND CIRCUIT NUMBER WITH BRADY WRAP AROUND CLOTH WIRE MARKERS AT ALL TERMINATIONS AND JUNCTIONS.
11. ALL BRANCH CIRCUIT AND FEEDER CONDUCTORS SHALL BE COLOR CODED AS FOLLOWS:
11.1. FOR ALL 120V TO GROUND CKTS:
11.1.1. PHASE CONDUCTORS: BLACK, RED, BLUE
11.1.2. NEUTRAL - WHITE
11.2. FOR ALL 277V TO GROUND CKTS:
11.2.1. PHASE CONDUCTORS: BROWN, ORANGE, YELLOW
11.2.2. NEUTRAL CONDUCTORS: GRAY
11.3. LARGE FEEDER CONDUCTORS SHALL BE COLOR CODED BY COLORED TAPE WRAPPED AROUND THE CONDUCTOR AT EACH PULL BOX, TERMINATION POINT AND SPLICE.
12. ALL CONNECTIONS TO CIRCUIT BREAKERS AND SWITCHES AND ALL JOINTS IN WIRES SHALL BE MAKE AS NOTED:
12.1. CONNECTIONS TO CIRCUIT BREAKERS AND SWITCHES: #12 WIRE SHALL BE FORMED AROUND BINDING POST OR SCREW. #10 AND #8 WIRE - BUCHANAN, "TERMEND" OR APPROVED EQUAL, LOCKING TORQUE LUG. #6 WIRE OR LARGER - BURNDY "QUICK-LOK" TYPE OR A OR APPROVED EQUAL, RING OR FLANGE SOLDERLESS LUG.
12.2. FIXTURE CONNECTION: CIRCUIT CONNECTIONS TO FIXTURE WIRE SHALL BE MADE WITH PRESSURE TYPE SOLDERLESS CONNECTORS. BUCHANAN, SCOTCHLOK OR WING NUT OR APPROVED EQUAL, COMPLETE WITH INSULATOR AND SECURITY RING.
12.3. JOINTS IN WIRES: #6 WIRE AND LARGER - BURNDY OR APPROVED EQUAL, #8 OR SMALLER - BUCHANAN, SCOTCHLOK, WING NUT, OR INSULATOR PRESSURE TYPE SOLDERLESS CONNECTORS COMPLETE WITH INSULATOR AND SECURITY RING.
13. CONTROL WIRING AND ALL OTHER STANDARD WIRING TO SCREW CONNECTIONS SHALL BE PROVIDED WITH T&B STA-KON TERMINALS.
14. SOLID CONDUCTORS SHALL LOUD TIGHTLY AND COMPLETELY AROUND TERMINAL UNLESS ON ALL WIRING DEVICES.
15. UNSOLDERED SOLDERLESS CONNECTORS TO BE INSULATED AS FOLLOWS: TAPE WITH A COVERING OF RUBBER TAPE EQUAL IN THICKNESS TO THE INSULATION. THIS SHALL BE FOLLOWED WITH AN OTHER COVERING OF FRICITION TAPE IN TWO LAYERS. ONE COAT OF WATERPROOF PAINT SHALL BE APPLIED WHEN SUBJECT TO MOISTURE.
16. WIRE AND CABLE TO BE PULLED INTO CONDUITS WITHOUT STRAIN. USE POWDERED SOAPSTONE, MINERALGOL, OR OTHER APPROVED LUBRICANT.
17. WIRE SHALL NOT BE RE PULLED IF SAME HAS BEEN PULLED OUT OF A CONDUIT RUN. NO CONDUCTOR SHALL BE PULLED INTO CONDUIT UNLESS CONDUIT SYSTEM IS COMPLETE, INCLUDING JUNCTION BOXES, PULL BOXES, ETC. WITHOUT PERMISSION OF ARCHITECT.

16110 CONDUIT

- 1. IN GENERAL, ELECTRICAL METALLIC TUBING SHALL BE USED FOR ALL WIRING EXCEPT IN OR UNDER CONCRETE, EARTH, OR FILL. ELECTRICAL METALLIC TUBING MAY BE USED IN FURRED SPACES, WOOD FRAME WALL WHERE CONDUITS DO NOT EXCEED 2 1/2" IN SIZE. BRICK, BLOCK, TILE, AND CONCRETE WALLS ARE NOT CONSIDERED HOLLOW AND RIGID CONDUIT SHALL BE PROVIDED FOR THESE AREA.
2. RIGID STEEL CONDUITS OR INTERMEDIATE METAL CONDUITS SHALL BE USED IN CONCRETE SLABS, IN SOLID GROUTED CELLS OR CONCRETE MASONRY WALLS, BRICK, OR TILE WALLS, FOR ALL EXPOSED CONDUIT OUTSIDE OF THE BUILDING, AND FOR CONDUITS EXCEEDING 2 1/2" IN SIZE. IN ADDITION ALL WIRING IN OR UNDER CONCRETE, EARTH, OR FILL SHALL BE RIGID GALVANIZED OR SHERARDIZED STEEL RIGID CONDUIT UNDER CONCRETE, IN EARTH, OR FILL SHALL BE COATED WITH POLYETHYLENE TAPE, SCOTCH NO 50 OR APPROVED EQUAL, SPIRAL WRAPPED 1/2" LAPPED ON AN OVERALL THICKNESS OF NOT LESS THAN 15 MILS.
3. USE FLEXIBLE METAL CONDUITS FOR RECESSED FIXTURES, MOTOR, TRANSFORMER, AND OTHER EQUIPMENT SUBJECT TO MOVEMENT. USE LOCK TIGHT TYPE WHERE EXTERIOR OR SUBJECT TO LIQUID SPRAY OR DRIPPING.
4. UL LISTED SCHEDULE 80 PVC CONDUIT MAY BE USED FOR UNDERGROUND RUNS. EXPANSION JOINTS AT 75 FEET ON CENTER OR AS REQUIRED BY MFG. ALL BENDS SHALL BE MANUFACTURED.
5. NON-METALLIC CONDUIT INSTALLED BELOW CONCRETE FLOORS MAY BE INSTALLED IN THE FILL. HOWEVER, A PORTION OF THE CONCRETE FILL MATERIAL MUST BE PLACED AROUND THE CONDUIT FOR RIGID SUPPORT. NON-METALLIC CONDUIT OUTSIDE THE FILL SHALL BE BURED A MINIMUM OF 18" BELOW GRADE. NON-METALLIC CONDUIT SHALL BE PROVIDED WITH CODE SIZE COPPER BOND WIRE INSIDE THE CONDUIT FOR ELECTRICAL CONTINUITY, AND SHALL BE INSTALLED IN ACCORDANCE TO NEC ARTICLE 250. WRAPPED RIGID STEEL ELBOWS SHALL BE USED FOR RISERS ON PVC CONDUIT RUNS AND SHALL BE GROUNDED.
6. CONDUIT PLACED IN A CONCRETE SLAB SHALL BE LARGER THAN 3/4" TRADE SIZE DIAMETER AND CONDUIT SMALLER THAN 3/4" SHALL BE USED FOR UNDERGROUND CIRCUITS. CONDUIT SHALL HAVE MINIMUM 1" CONCRETE COVER. NOT CONDUIT SHALL BE IMBEDDED IN A SLAB THAT IS LESS THAN 3-1/2" THICK, EXCEPT FOR LOCAL OFFSETS. NO CONDUIT SHALL BE PLACED BETWEEN THE REINFORCING STEEL AND THE BOTTOM OF THE SLAB.
7. ALL CONDUIT UNDER CONCRETE DRIVES OR ANY LOCATION WHERE SUBJECT TO DAMAGE BY HEAVY EQUIPMENT SHALL BE INSTALLED A

MINIMUM OF 24" BELOW GRADE OR 18" BELOW GRADE ENCASED IN A 3" THICK CONCRETE ENVELOPMENT.

- 6. TRENDING, BACKFILL, AND CONCRETE WORK FOR ELECTRICAL WORK SHALL BE DONE UNDER THIS SECTION AND AS REQUIRED BY LOCAL AND/OR BUILDING AUTHORITIES AND REGULATING AGENCIES.
9. THE CONTRACTOR SHALL PROVIDE ALL NECESSARY SLEEVES AND CHASES REQUIRED WHERE CONDUITS PASS THROUGH FLOORS OR WALLS, AND SHALL SEE ALL OPENING AND FINISH TO MATCH ADJACENT SURFACES. WHERE EXPOSED CONDUITS PASS THROUGH WALLS, FLOORS, OR CEILING, SCOTCHLOK SERVICES SHALL BE PROVIDED.
10. ALL NECESSARY SERVICES AND BLOCKOUTS SHALL BE PROVIDED.
11. ALL EMPTY CONDUITS SHALL BE PROVIDED WITH A PULL WIRE.
12. RIGID CONDUIT FITTINGS
12.1. PROVIDE DOUBLE LOCKNUTS AND BUSHINGS EXCEPT AT THREADED HULSS.
13. EMT OR FLEX FITTINGS
13.1. FOR EMT OR MALLEABLE IRON, COMPRESSION, AND SET SCREW (DOUBLE SET SCREW), FOR FLEXIBLE CONDUIT, COMPRESSION OR CLAMP TYPE CONNECTOR SHALL HAVE INSULATED THREADS.
14. MC CABLE
14.1. METAL CLAD CABLE MAY BE USED IN LEU OF EMT CONDUIT AND WIRE FOR BRANCH CIRCUIT WIRING IF ACCEPTABLE TO AUTHORITIES.

16140 WIRING DEVICES

- 1. WHEN SURFACE WEATHERPROOF MOUNTING IS REQUIRED, RECEPTACLES SHALL BE MOUNTED IN AN FS CONDUIT BOX.
2. ELEVATION OF EACH RECEPTACLE SHALL BE FLOOR PLUS 18" TO CENTER UNLESS OTHERWISE NOTED.
3. ALL SWITCHES SHALL BE OF THE SAME MANUFACTURER AS THE THE RECEPTACLES FURNISHED.
4. COVERPLATES FOR THERMOSTATS, SWITCHES, AND OUTLETS SHALL GENERALLY BE PLASTIC, WITH COLOR AS SELECTED BY THE ARCHITECT.
16130 BOXES
1. BOXES IN EXPOSED OR WET LOCATIONS SHALL BE CAST STEEL CONDUIT BODIES. IN CONCEALED LOCATIONS, THEY SHALL BE SHEET STEEL BOXES WITH GALVANIZED OR SHERARDIZED FINISH, NEOPRENE GASKETED, SLOTTED BOXES.
2. SHEET STEEL BOXES SHALL BE STANDARD ONE-PIECE KNOCKOUT BOXES. WIRE OUTLETS ARE INSTALLED IN CONCRETE SLABS. BOXES SHALL BE CONCRETE CAST TYPE BOXES. BOXES SHALL NOT BE LESS THAN 4" IN DIAMETER AND 1-1/2" DEEP. OUTLET BOXES SET IN CONCRETE SHALL BE SET TO HAVE FINAL OPENING FLUSH WITH FINISH SURFACE.
3. CAST-METAL CONDUIT BODIES SHALL BE CROUSE-HINDS CONDUITS, APPLETON UNILETS, OR APPROVED EQUIVALENT. BOXES SHALL BE ARRANGED WITH THREADED CONNECTORS FOR RIGID CONDUIT. ALL CONDUIT BODIES SHALL HAVE SUITABLE COVERS, WHICH SHALL BE PROVIDED WITH GASKET FOR EXTERIOR AND MOST LOCATIONS.
4. POWER / PHONE FLOOR OUTLETS SHALL BE STEEL CITY #664 WITH #664CST COVER (VERIFY COLOR), #664-BP PHONE PLATE, #664-SP RECEPTACLE PLATE AND 20A DUPLEX RECEPTACLE. PHONE COMPARTMENT TO HAVE 3/4" E.C. TO CEILING SPACE VIA FLOOR WALL.
5. OUTLETS SET IN FURRED CEILING AND STUD WALLS SHALL BE ANCHORED TO THE CEILING OR WALL STRUCTURE WITH SUITABLE STEEL STRAPS.
6. OUTLET BOXES SHALL BE USED ALL PULL AND JUNCTION BOXES WHEREVER POSSIBLE AND WHERE REQUIRED. BOXES IN PLASTERED WALLS OR CONCRETE BLOCK WALLS IN FINISHED AREAS AND CEILING SHALL HAVE TWO GANG RINGS AND BLANK WALL PLATE. OTHER BOXES SHALL HAVE BLANK COVERS.
7. WHERE OTHER THAN OUTLET BOXES ARE REQUIRED, PULL AND JUNCTION BOXES SHALL BE CONSTRUCTED OF GALVANIZED STEEL CONFORMING TO CODE REQUIREMENTS. EXTERIOR BOXES SHALL BE OF WEATHERPROOF CONSTRUCTION AND SHALL BE PROVIDED WITH NEOPRENE COVER GASKETS. BOXES SHALL BE RIGIDLY ATTACHED TO THE STRUCTURE, INDEPENDENT OF ANY CONDUIT SUPPORT.

16130 BOXES

- 35. GROUNDING:
35.1. THE NEUTRAL CONDUCTORS AND ALL OTHER EXPOSED NON-CURRENT CARRYING METAL PARTS AS REQUIRED BY CODE SHALL BE GROUNDED. GROUNDING BUSHING SHALL BE USED AS REQUIRED AND SHALL BE O.Z. INSULATED TYPE BL OR APPROVED EQUAL. NO GROUNDING SHALL BE MADE TO GAS PIPING. WHERE EQUIPMENT OR DEVICES ARE SERVED BY NON-METALLIC CONDUITS, ENCLOSURES SHALL BE GROUNDED BY MEANS OF A CODE SIZE BARE OR GREEN INSULATED EQUIPMENT GROUND WIRE INSTALLED IN THE DUCT WITH THE CONDUITS. GROUNDING CONDUITS SHALL BE BONDED SECURELY IN EACH CABINET TERMINATING THE GROUND WIRE. COPPER JUMPERS SHALL BRIDGE FLEXIBLE CONDUIT AND BE INSTALLED IN THE CONDUIT. ALL SERVICE GROUNDING SHALL BE IN ACCORDANCE WITH THE UFGG GROUND.
37. ALL EMT, FLEXIBLE CONDUIT, MC CABLE, OR PVC CONDUIT SHALL BE PROVIDED WITH AND INSULATED GREEN GROUND WIRE.
COMMUNICATIONS:
1. PROVIDE EMPTY CONDUIT OR DUCT WITH "LET-LINE" OR EQUAL POLYPROPYLENE PULL LINE AND TERMINAL MOUNTING BOARD AS SHOWN ON DRAWINGS.
2. USE LARGE RADIUS RIGID GALVANIZED STEEL CONDUIT FOR BENDS AND OFFSETS IN DUCT RUNS.
3. ALL CONDUIT RUNS TO TELEPHONE OUTLET BOXES SHALL BE A MINIMUM OF 3/4" AND HAVE A MAXIMUM OF TWO 90 DEGREE BENDS BETWEEN PULL BOXES.
4. TELEPHONE TERMINAL BOARDS SHALL BE 3/4" FR PLYWOOD, GRADE CC PLUS SIZE AS INDICATED ON DRAWINGS. TELEPHONE TERMINAL CABINETS SHALL HAVE THE DOOR FASTENED TO THE TRIM WITH CONCEALED HINGES AND BE PROVIDED WITH FLUSH TYPE COMBINATION LOCKS. ALL LOCKS KEYS TO MATCH LIGHTING PANELS, CABINETS AND TRIM SHALL BE FACTORY PAINTED WITH TWO FINISH COATS.
5. PROVIDE ALL NECESSARY MATERIAL AND LABOR REQUIRED BY THE TELEPHONE COMPANY FOR DELIVERING SERVICE TO THE TELEPHONE TERMINAL BOARD. ALL CONDUIT, TRENDING AND BACKFILL SHALL BE PROVIDED BY THE ELECTRICAL CONTRACTOR IN ACCORDANCE WITH THE TELEPHONE COMPANY STANDARDS.
DATA:
1. ALL CONDUIT RUNS TO THE DATA OUTLET BOX SHALL BE A MINIMUM OF 3/4" AND HAVE A MAXIMUM OF TWO 90 DEGREE BENDS BETWEEN PULL BOXES.
2. ALL DATA OUTLETS ARE TO HAVE WALL PLATES TO MATCH THE DEVICE PLATE.
DRAINAGE:
1. GUARANTEE ALL MATERIAL, EQUIPMENT, AND WORKMANSHIP FOR ALL SECTIONS UNDER THIS DIVISION IN WRITING TO BE FREE FROM DEFECT OF MATERIAL AND WORKMANSHIP FOR ONE YEAR FROM THE DATE OF FINAL ACCEPTANCE. REPLACE WITHOUT CHARGE, ANY MATERIAL OR EQUIPMENT PROVEING DEFECTIVE DURING THIS PERIOD. THE GUARANTEE SHALL INCLUDE PERFORMANCE OF THE EQUIPMENT UNDER ALL CONDITIONS OF LOAD, INSTALLING ANY ADDITIONAL ITEMS OF CONTROL AND/OR PROTECTIVE DEVICES AS NOTED.
GENERAL ELECTRICAL NOTES (NOTES APPLY WHETHER KEY TO PLAN OR NOT)
2. LIGHTING:
2.1. SEE ARCHITECTURAL PLANS AND REFLECTED CEILING PLAN FOR LOCATION OF ALL LIGHT FIXTURES INCLUDING UNDERGROUND EXITS UNLESS OTHERWISE SPECIFIED. VERIFY THAT NO EXIT SIGN OBSTRUCTS A DOOR SWING OR HEADROOM PRIOR TO INSTALLING. VERIFY CEILING OR WALL WIRING.
3. EMERGENCY LIGHTING:
3.1. UNLESS INDICATED OTHERWISE, FLUORESCENT FIXTURES INDICATED AS EMERGENCY LIGHTS SHALL HAVE A 1 LAMP EMERGENCY LIGHTING AND FLUORESCENT BALLAST PACK (0 VOLT) FURNISHED WITH A FIXTURE. EMERGENCY LIGHTS/EXIT LIGHTS SHALL BE CIRCULATED TO AN UNSWITCHED LIGHTING CIRCUIT WHEN A NIGHT LIGHT CIRCUIT IS NOT PROVIDED.
3.2. EXIT SIGNS SHALL HAVE AN INTEGRAL EMERGENCY BATTERY. THEY SHALL BE BATTER-LESS FOR 90 MIN. SERIES UNBROKEN EXIT UNLESS OTHERWISE SPECIFIED. VERIFY THAT NO EXIT SIGN OBSTRUCTS A DOOR SWING OR HEADROOM PRIOR TO INSTALLING. VERIFY CEILING OR WALL WIRING.
4. POWER:
4.1. WITHIN THE AREA OF THIS PROJECT AND SCOPE OF WORK, ANY DUPLEX RECEPTACLE WITHIN (8) SIX FEET OF A SINK SHALL BE A GROUND FAULT INTERRUPTING RECEPTACLE.
4.2. ALL DUPLEX RECEPTACLES WITH ISOLATED GROUND SHALL HAVE A MINIMUM #12 GREEN GROUND WIRE RUN TO PANEL GROUND BUS.
4.3. IN ANY PATIENT CARE AREA, A #10 GREEN BOND WIRE SHALL BE RUN WITH ALL RECEPTACLE CIRCUITS. PEDIATRIC CARE AREAS SHALL HAVE TAMPERPROOF RECEPTACLES.
4.4. ANY 15A OR 20A, 120 VOLT LIGHTING OR OUTLET BRANCH CIRCUIT WITH AN OVERALL LENGTH OF 100 FEET OR LONGER SHALL BE #10 WIRE FOR FULL LENGTH OF CIRCUIT EXCEPT AS NOTED OTHER-WISE.
4.5. PROVIDE WP, DUPLEX OUTLET WITHIN 25 FEET OF ANY EXTERIOR HVAC UNIT.
4.6. ANY 15A OR 20A 125V RECEPTACLES IN COMMERCIAL GARAGES SHALL BE MOUNTED A MINIMUM OF 18" ABOVE FINISH FLOOR.
4.7. OUTLETS ON OPPOSITE SIDES OF FIRE RATED WALLS SHALL BE SEPARATED BY A MINIMUM HORIZONTAL DISTANCE OF 24".

HANGERS / INSERTS

- 1. FURNISH AND INSTALL ALL UNISTRUT, HANGERS, SUPPORTS, ETC. REQUIRED FOR WORK UNDER THIS DIVISION. SUPPORT CONDUIT FROM BUILDING STRUCTURE, NOT FROM CEILING SUPPORTS. BRANCH CIRCUIT CONDUITS 3/4" AND SMALLER MAY BE RUN FROM CEILING SUPPORTS USING SPRING STEEL CLIPS.
CONCRETE, EXCAVATION, FILL, BACKFILL
1. FURNISH ALL CONCRETE, EXCAVATION, FILL, BACKFILL, AND STEEL REQUIRED FOR THIS WORK UNLESS SPECIFICALLY NOTED OTHERWISE.
2. ALL CONCRETE, FILL, BACKFILL, STEEL, ETC. WHERE REQUIRED SHALL BE IN STRICT ACCORDANCE WITH SPECIFICATIONS SETUP IN OTHER DIVISIONS OF THE SPECIFICATION.

FINAL LOCATION OF SURFACE FEATURES

- 1. SHALL BE ACCOMPLISHED IN THE FIELD, SUBJECT TO THE APPROVALS OF THE ARCHITECT. THE LOCATION OF ALL SWITCHES, FIXTURES, PANELS, ETC. AND THEIR PROXIMITY AND RELATIONSHIP TO ALL VISIBLE FEATURES OF EQUIPMENT FURNISHED BY OTHER TRADES, SHALL BE MADE KNOWN TO THE ARCHITECT. IN CASE OF CONFLICT BETWEEN TRADES, OR BETWEEN A TRADE AND THE ARCHITECT, THE DECISION OF THE ARCHITECT SHALL BE FINAL AND HIS INSTRUCTIONS IN THESE MATTERS SHALL BE FOLLOWED BY ALL CONCERNED.
PAINTING:
1. ALL EXPOSED ELECTRICAL EQUIPMENT, CONDUIT, FLUSH PANEL FRONTS, TRANSFORMER SWITCHES, SWITCHBOARDS, PANELS, AND SIMILAR ITEMS SHALL BE PAINTED AS SPECIFIED UNDER THE PAINTING SECTION OF THESE SPECIFICATIONS.
2. CLEANING UP PREMISES
3. AT ALL TIMES KEEP THE PREMISES FREE FROM ACCUMULATION OF WASTER MATERIAL OR RUBBISH CAUSED BY EMPLOYEES. METAL FLOOR PANS SHALL BE PROVIDED FOR ALL PORTABLE MACHINES AND EQUIPMENT AND SHALL BE USED AT ALL TIMES TO PREVENT CONCRETE FLOORS BECOMING OIL SOAKED. UPON COMPLETION OF THE JOB, REMOVE ALL DEBRIS, CLEAN ALL SURFACE PLATES, FIXTURES, PANELS, TRAYS AND IN GENERAL, LEAVE THE PREMISES IN A CLEAN AND TIDY CONDITION.

ACCEPTABLE MANUFACTURERS

- 1. THE FOLLOWING IS A LIST OF MANUFACTURERS WHOSE SPECIFICATION GRADE EQUIPMENT IS ACCEPTABLE AS TO MANUFACTURER, SUBSTITUTIONS SHALL NOT CAUSE OR CONTRIBUTE TO CHANGES UNLESS THESE CHANGES ARE APPROVED BY THE ARCHITECT PRIOR TO SUBSTITUTION.
2. ITEMS: CAREFUL CHECKING MUST BE MADE TO VERIFY THAT THE EQUIPMENT WILL MEET ALL CAPACITIES, REQUIREMENTS, SPACE ALLOCATIONS, AND THAT THE WEIGHTS ARE NOT EXCESSIVE.
3. POWER DISTRIBUTION EQUIPMENT: SQUARE D.
4. WIRE AND CABLE: GENERAL CABLE, ANACONDA, CAPITOL, CIRCLE AWG, GENERAL, ELEC, OKONITE, ROME, SIMPLEX, KAISER.
5. LOCAL WIRE-WIRES, RECEPTACLES, PILOT LIGHTS, HUBBELL, PASS AND SEYMOUR, SERRA, BRYANT, CIRCLE F, GENERAL, ELEC, HUBBELL, RUSSELL & STOLL, ARROW-HART.
6. DEVICE PLATES: HUBBELL, SLATER, PASS AND SEYMOUR, SIERRA, BRYANT, ARROW-HART, LEVISON.
7. LAMPS: GENERAL ELECTRIC, PHILLIPS, PENNSYLVANIA.
8. CONDUIT: TRIANGLE, NATIONAL ELECTRIC CO., JONES-MCLAUGHLIN, REPUBLIC.
9. FITTINGS: THOMAS AND BETTS, APPLETON, CROUSE-HINDS.
10. CAST OUTLET BOXES: CROUSE-HINDS, APPLETON.
11. BALLAST: ADVANCE, GENERAL ELEC, JEFFERSON, WESTINGHOUSE, PENNSYLVANIA UNIVERSAL.
12. FLOOR BOXES: HUBBELL, LEW STEEL CITY.
13. OUTLET BOXES: RACO, STEEL CITY, SLATER.
14. SHOP DRAWINGS:
15. ALL DATA SHALL BE SUBMITTED AT ONE TIME, BOUND, AND INDEXED IN AN ORDERLY MANNER. PRIOR TO STARTING THE WORK, SUBMIT TO THE ARCHITECT FOR APPROVAL, SIX (6) SETS OF SHOP DRAWINGS OF SERVICE ENTRANCE SECTION, SWITCHBOARDS, PANELBOARDS, LIGHTING FIXTURES, TRANSFORMERS, GENERATORS AND ALL EQUIPMENT FABRICATED.
16. FINAL INSPECTION AND TEST:
17. FURNISH ALL WIRES, CABLES, CONNECTIONS AND APPARATUS

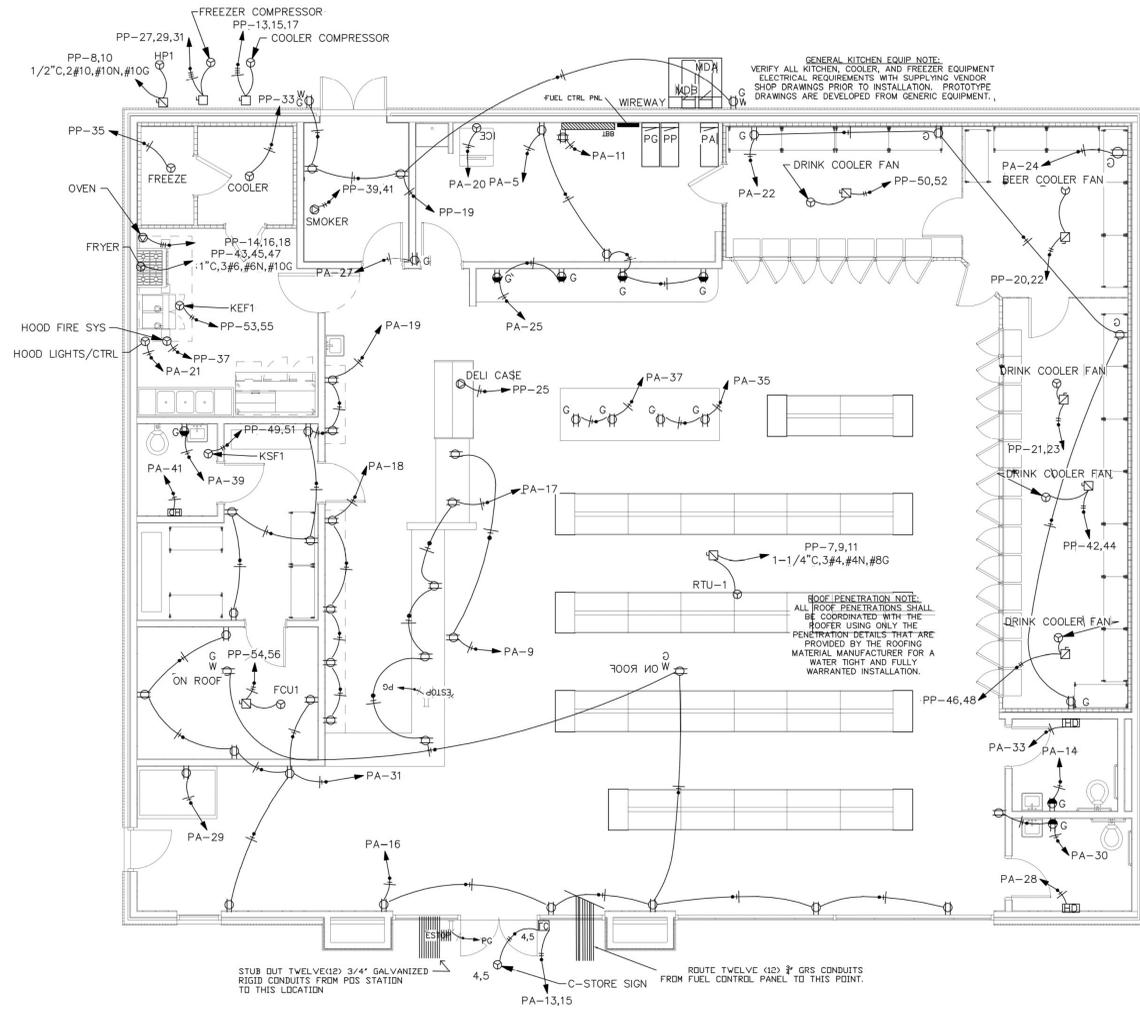
NECESSARY FOR MAKING TEST.

- 22. TEST SYSTEM FOR SHORTS AND GROUNDS. FAULTY WIRING SHALL BE REMOVED AND REPLACED. ANY DEVICE, APPARATUS, OR FIXTURE INSTALLED SHOWING UNSUBSTANDARD PERFORMANCE SHALL BE REMOVED AND REPLACED AS DIRECTED BY THE ARCHITECT.
23. INSURE ALL SYSTEM NEUTRALS IN THE PRESENCE OF THE ENGINEER TO WEDGER THE NEUTRAL IS NOT GROUNDED WITHIN THE SYSTEM. TEST SHALL BE MADE AFTER ALL BRANCH WIRING IS INSTALLED AND CONDUCTED.
24. TEST ALL GROUND FAULT RELAYS IN THE PRESENCE OF THE ENGINEER, SET RELAY FOR TIME AND CURRENT RATING IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATION.
25. ALL EQUIPMENT RATED 1,000 AMPS OR MORE OR ABOVE ITS SHALL BE TESTED FOR INSULATION BREAKDOWN. THE APPLICATION OF A 60HZ ALTERNATING POTENTIAL OF 1,000 PLUS TWICE THE RATED VOLTAGE OF THE DEVICE TEST SHALL BE PERFORMED IN THE PRESENCE OF THE ENGINEER.
26. HIGH POTENTIAL TESTING:
27. THE HIGH POTENTIAL TEST SHALL BE MADE BY AN INDEPENDENT COMPANY HIRED BY THE ELECTRICAL CONTRACTOR. COPIES OF THE REPORT CERTIFIED BY A REGISTERED ENGINEER, SHALL BE FORWARDED TO THE ARCHITECT WITHIN TWO (2) WEEKS AFTER THE TEST ARE PERFORMED.
28. TEST SHALL BE PERFORMED IN THE PRESENCE OF THE OWNER'S REPRESENTATIVE. THE "H-POT" TEST VOLTAGE AND WIRE SHALL BE DETERMINED WITH AND DETERMINED BY THE OWNER'S REPRESENTATIVE. WHICHEVER OTHER CABLE OR DEVICES, OTHER THAN THAT INSTALLED BY THE ELECTRICAL CONTRACTOR UNDER HIS CONTRACT, IS TO BE INCLUDED IN THE TEST PROCEDURE, THE CONTRACTOR SHALL NOTIFY THE OWNER'S REPRESENTATIVE, IN WRITING, HIS INTENTIONS TO PERFORM THE H-POT TEST, INCLUDING TIME AND DATE AND TESTING AGENCY.
29. IN GENERAL, TEST SHALL BE CONDUCTED AS FOLLOWS:
30. MAXIMUM DC VOLTAGES 52.8KV.
31. BUILD-UP TIME TO TEST VOLTAGE - ONE (1) MINUTE IN 10KV DC STEPS WITH RECORDED MILLI-AMP READINGS AT 10, 30 AND 45 SECONDS.
32. HOLDING TIME AT TEST VOLTAGE - FIVE (5) MINUTES, WITH RECORDED MILLI-AMPS READING AT THE END OF EACH MINUTE.
33. "DECAY TIME" SHALL BE RECORDED WITH SHUT-OFF AT APPROXIMATELY 1-1/2 MIN.
34. THE "H-POT" TEST SHALL NOT BE MADE UNTO ANY PORTION OF AN ENERGIZED DEVICE, SUFFICIENT TIME LAG SHALL BE ALLOWED IN THE ORIGINAL REQUEST FOR THE OWNER TO SET UP A DEFINITE PERIOD OF TESTING IN ANY PORTION OF THE OWNER'S DISTRIBUTION SYSTEM IS INVOLVED.

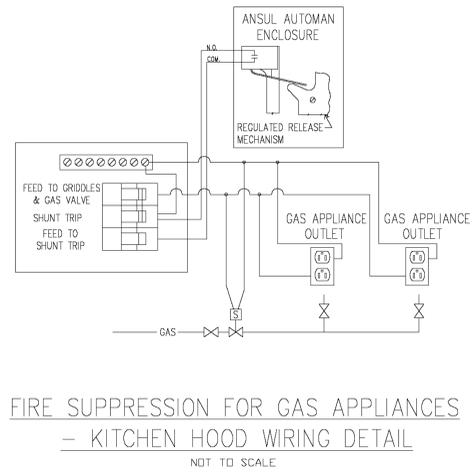
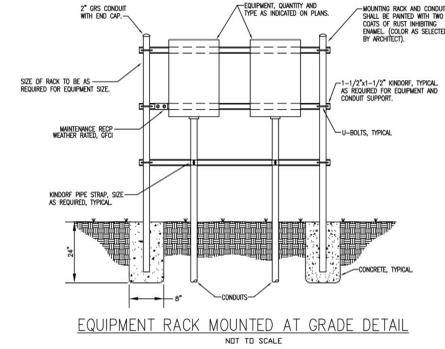
- 35. GROUNDING:
35.1. THE NEUTRAL CONDUCTORS AND ALL OTHER EXPOSED NON-CURRENT CARRYING METAL PARTS AS REQUIRED BY CODE SHALL BE GROUNDED. GROUNDING BUSHING SHALL BE USED AS REQUIRED AND SHALL BE O.Z. INSULATED TYPE BL OR APPROVED EQUAL. NO GROUNDING SHALL BE MADE TO GAS PIPING. WHERE EQUIPMENT OR DEVICES ARE SERVED BY NON-METALLIC CONDUITS, ENCLOSURES SHALL BE GROUNDED BY MEANS OF A CODE SIZE BARE OR GREEN INSULATED EQUIPMENT GROUND WIRE INSTALLED IN THE DUCT WITH THE CONDUITS. GROUNDING CONDUITS SHALL BE BONDED SECURELY IN EACH CABINET TERMINATING THE GROUND WIRE. COPPER JUMPERS SHALL BRIDGE FLEXIBLE CONDUIT AND BE INSTALLED IN THE CONDUIT. ALL SERVICE GROUNDING SHALL BE IN ACCORDANCE WITH THE UFGG GROUND.
37. ALL EMT, FLEXIBLE CONDUIT, MC CABLE, OR PVC CONDUIT SHALL BE PROVIDED WITH AND INSULATED GREEN GROUND WIRE.
COMMUNICATIONS:
1. PROVIDE EMPTY CONDUIT OR DUCT WITH "LET-LINE" OR EQUAL POLYPROPYLENE PULL LINE AND TERMINAL MOUNTING BOARD AS SHOWN ON DRAWINGS.
2. USE LARGE RADIUS RIGID GALVANIZED STEEL CONDUIT FOR BENDS AND OFFSETS IN DUCT RUNS.
3. ALL CONDUIT RUNS TO TELEPHONE OUTLET BOXES SHALL BE A MINIMUM OF 3/4" AND HAVE A MAXIMUM OF TWO 90 DEGREE BENDS BETWEEN PULL BOXES.
4. TELEPHONE TERMINAL BOARDS SHALL BE 3/4" FR PLYWOOD, GRADE CC PLUS SIZE AS INDICATED ON DRAWINGS. TELEPHONE TERMINAL CABINETS SHALL HAVE THE DOOR FASTENED TO THE TRIM WITH CONCEALED HINGES AND BE PROVIDED WITH FLUSH TYPE COMBINATION LOCKS. ALL LOCKS KEYS TO MATCH LIGHTING PANELS, CABINETS AND TRIM SHALL BE FACTORY PAINTED WITH TWO FINISH COATS.
5. PROVIDE ALL NECESSARY MATERIAL AND LABOR REQUIRED BY THE TELEPHONE COMPANY FOR DELIVERING SERVICE TO THE TELEPHONE TERMINAL BOARD. ALL CONDUIT, TRENDING AND BACKFILL SHALL BE PROVIDED BY THE ELECTRICAL CONTRACTOR IN ACCORDANCE WITH THE TELEPHONE COMPANY STANDARDS.
DATA:
1. ALL CONDUIT RUNS TO THE DATA OUTLET BOX SHALL BE A MINIMUM OF 3/4" AND HAVE A MAXIMUM OF TWO 90 DEGREE BENDS BETWEEN PULL BOXES.
2. ALL DATA OUTLETS ARE TO HAVE WALL PLATES TO MATCH THE DEVICE PLATE.
DRAINAGE:
1. GUARANTEE ALL MATERIAL, EQUIPMENT, AND WORKMANSHIP FOR ALL SECTIONS UNDER THIS DIVISION IN WRITING TO BE FREE FROM DEFECT OF MATERIAL AND WORKMANSHIP FOR ONE YEAR FROM THE DATE OF FINAL ACCEPTANCE. REPLACE WITHOUT CHARGE, ANY MATERIAL OR EQUIPMENT PROVEING DEFECTIVE DURING THIS PERIOD. THE GUARANTEE SHALL INCLUDE PERFORMANCE OF THE EQUIPMENT UNDER ALL CONDITIONS OF LOAD, INSTALLING ANY ADDITIONAL ITEMS OF CONTROL AND/OR PROTECTIVE DEVICES AS NOTED.
GENERAL ELECTRICAL NOTES (NOTES APPLY WHETHER KEY TO PLAN OR NOT)
2. LIGHTING:
2.1. SEE ARCHITECTURAL PLANS AND REFLECTED CEILING PLAN FOR LOCATION OF ALL LIGHT FIXTURES INCLUDING UNDERGROUND EXITS UNLESS OTHERWISE SPECIFIED. VERIFY THAT NO EXIT SIGN OBSTRUCTS A DOOR SWING OR HEADROOM PRIOR TO INSTALLING. VERIFY CEILING OR WALL WIRING.
3. EMERGENCY LIGHTING:
3.1. UNLESS INDICATED OTHERWISE, FLUORESCENT FIXTURES INDICATED AS EMERGENCY LIGHTS SHALL HAVE A 1 LAMP EMERGENCY LIGHTING AND FLUORESCENT BALLAST PACK (0 VOLT) FURNISHED WITH A FIXTURE. EMERGENCY LIGHTS/EXIT LIGHTS SHALL BE CIRCULATED TO AN UNSWITCHED LIGHTING CIRCUIT WHEN A NIGHT LIGHT CIRCUIT IS NOT PROVIDED.
3.2. EXIT SIGNS SHALL HAVE AN INTEGRAL EMERGENCY BATTERY. THEY SHALL BE BATTER-LESS FOR 90 MIN. SERIES UNBROKEN EXIT UNLESS OTHERWISE SPECIFIED. VERIFY THAT NO EXIT SIGN OBSTRUCTS A DOOR SWING OR HEADROOM PRIOR TO INSTALLING. VERIFY CEILING OR WALL WIRING.
4. POWER:
4.1. WITHIN THE AREA OF THIS PROJECT AND SCOPE OF WORK, ANY DUPLEX RECEPTACLE WITHIN (8) SIX FEET OF A SINK SHALL BE A GROUND FAULT INTERRUPTING RECEPTACLE.
4.2. ALL DUPLEX RECEPTACLES WITH ISOLATED GROUND SHALL HAVE A MINIMUM #12 GREEN GROUND WIRE RUN TO PANEL GROUND BUS.
4.3. IN ANY PATIENT CARE AREA, A #10 GREEN BOND WIRE SHALL BE RUN WITH ALL RECEPTACLE CIRCUITS. PEDIATRIC CARE AREAS SHALL HAVE TAMPERPROOF RECEPTACLES.
4.4. ANY 15A OR 20A, 120 VOLT LIGHTING OR OUTLET BRANCH CIRCUIT WITH AN OVERALL LENGTH OF 100 FEET OR LONGER SHALL BE #10 WIRE FOR FULL LENGTH OF CIRCUIT EXCEPT AS NOTED OTHER-WISE.
4.5. PROVIDE WP, DUPLEX OUTLET WITHIN 25 FEET OF ANY EXTERIOR HVAC UNIT.
4.6. ANY 15A OR 20A 125V RECEPTACLES IN COMMERCIAL GARAGES SHALL BE MOUNTED A MINIMUM OF 18" ABOVE FINISH FLOOR.
4.7. OUTLETS ON OPPOSITE SIDES OF FIRE RATED WALLS SHALL BE SEPARATED BY A MINIMUM HORIZONTAL DISTANCE OF 24".

EQUIPMENT (RELATED ELECTRICAL WORK)

- 5.1. EQUIPMENT AS REFERRED TO IN THESE NOTES SHALL MEAN ANY HEATING, VENTILATING OR AIR CONDITIONING EQUIPMENT, INCLUDING EQUIPMENT, FOOD SERVICE EQUIPMENT, SHOP EQUIPMENT, MEDICAL EQUIPMENT, LAUNDRY EQUIPMENT, OFFICE EQUIPMENT, MODULAR FURNITURE SYSTEMS, SPECIALTY EQUIPMENT, TENANT OR OWNER FURNISHED EQUIPMENT, OR ANY OTHER EQUIPMENT, SPECIAL OR OTHERWISE THAT IS REFERENCED ON ANY CONTRACT DOCUMENTS FOR THIS PROJECT.
5.2. A COMPLETE SET OF CONTRACT DOCUMENTS SHALL BE OBTAINED AND REVIEWED BY THE ELECTRICAL CONTRACTOR FOR THE PURPOSES OF STUDYING THE ARCHITECTURAL, HVAC, PLUMBING, FOOD SERVICE, SPECIALTY SYSTEMS DRAWINGS, ETC. THIS SHALL INCLUDE ANY DRAWINGS PREPARED BY VENDORS, SUCH AS KITCHEN EQUIPMENT DRAWINGS, RADIOLOGY EQUIPMENT DRAWINGS, OR MODULAR FURNITURE DRAWINGS, ETC. THE INTENT IS TO DISCOVER ANY WORK THAT IS TO BE DONE BY THE ELECTRICAL CONTRACTOR WHICH MAY NOT BE SHOWN ON THE ELECTRICAL DRAWINGS.
5.3. IF ANY EQUIPMENT REQUIRES ELECTRICAL POWER IT SHALL BE PROVIDED, INCLUDING ALL CIRCUITRY, OVER CURRENT DEVICES, GROUNDING, RECEPTABLES, HARD WIRING, RIGID-IN, ETC. ALL SUCH WORK SHALL BE DONE BY THE ELECTRICAL CONTRACTOR UNLESS SPECIFIED OTHERWISE IN THESE CONTRACT DOCUMENTS, AND WHETHER OR NOT IT IS INDICATED IN THE ELECTRICAL DOCUMENTS.
5.4. PRIOR TO BID, ANY CONFLICT BETWEEN THE ELECTRICAL DOCUMENTS AND ANY OTHER CONTRACT-RELATED DOCUMENTS SHALL BE REPORTED TO THE ELECTRICAL ENGINEER. CONFLICT SHALL BE RESOLVED PRIOR TO BID.
5.5. FOR EACH ITEM OF EQUIPMENT, VERIFY THE ELECTRICAL CHARACTERISTICS, INCLUDING LOAD, VOLTAGE, AND PHASE; LOAD BALANCING ON PHASES, AND GROUNDING REQUIREMENTS, ETC.
5.6. VERIFY RIGID-IN LOCATION, AND FINAL CONNECTION REQUIREMENTS. PROVIDE THE PROPER RECEPTABLES TO MATCH THE CORD CAP FURNISHED WITH THE EQUIPMENT, OR PROVIDE THE APPROPRIATE HARD WIRING.
5.7. PROVIDE ANY INDICATED OR REQUIRED OVERCURRENT PROTECTION WITH RECORDED MILLI-AMP READINGS AT 10, 30 AND 45



1 Power Plan
3/16" = 1'-0"



Dhunna Gas Station - Centreville

Project No. 20240825001 Date 6/21/2024

494 MS-24, Centreville, MS
New Construction

Construction Documents

Revision Rev Date

Electrical Power & Aux.

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Callout	Symbol	Nema	Volts	Details	Notes
Counter Gfci		5-20r	120v 1p 2w	G, Gnd	Mounted 2" Above Counter with Backsplash, Without Backsplash Mounted 45" Aft Where Not Counter is Present Unless Noted Otherwise on Architect Details.
Gfci		5-15r	120v 1p 2w	G, Gnd	Mount At 18" Aft, Hubbell Gfr15 (15a) Or Gfr20 (20a) W/Plate or Equivalent
Hand			120v 1p 2w	Gnd	Excel Dryer Hand Dryer or As Specified by Architect
Quad		5-15r	120v 1p 2w	Gnd	Two Reqs Mount At 18" Aft, Hubbell Dn25dowtr (15a) Or Dn20dowtr (20a) W/Plate or Equivalent
Standard		5-15r	120v 1p 2w	Gnd	Mount At 18" Aft, Hubbell Dn25dowtr (15a) Or Dn20dowtr (20a) W/Plate or Equivalent
WP		5-15r	120v 1p 2w	W, G, Gnd	Mount 24" Aft in A UI Approved Weatherproof Enclosure That Maintains Weatherproof Rating While a Plug is Inserted.

1. If a 5-15r is the Only Receptacle on The Circuit Then Upgrade Receptacle to 5-20r
2. Receptacle Color to be Specified by Architect.
3. Receptacle Color and Light Switch Colors Are to Match.

CALLOUT	SYMBOL	NOTE 1	NOTE 2	NOTE 3
TDB		2 x 4" x 3/4" FLYWOOD PAINTED TWO COATS BLUE ENAMEL.	PROVIDE ONE #6(G) 1/2" CONDUIT CONNECTED TO THE BUILDING SERVICE GROUND.	ROUTE ONE 3" CONDUIT FROM BACKBOARD TO PROPERTY LINE AS DIRECTED BY LOCAL TELEPHONE SERVICE. VENDOR FOR TELEPHONE SERVICE TO MANAGE INSTALL. PULL STRINGS/WIRE IN CONDUIT.

WIREWAY ROOM MOUNTING SURFACE FED FROM UTIL TRANS NOTE

PP ROOM MOUNTING SURFACE FED FROM MDB NOTE

PA ROOM MOUNTING SURFACE FED FROM PP NOTE

LA ROOM MOUNTING SURFACE FED FROM MDA NOTE

PG ROOM MOUNTING SURFACE FED FROM PP NOTE

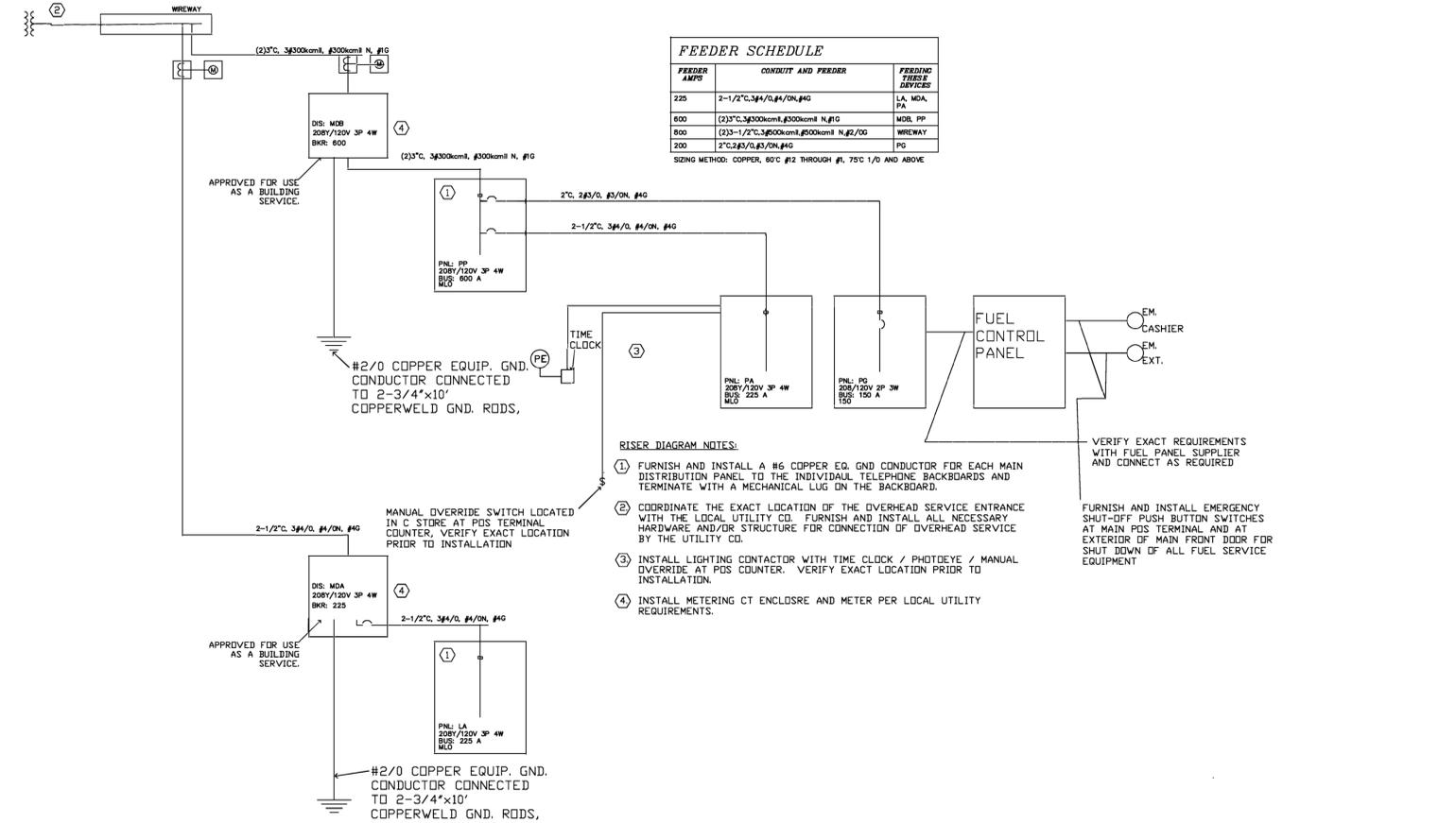
FAULT CURRENT SCHEDULE

FAULT CURRENT SCHEDULE (continued)

FAULT CURRENT SCHEDULE (continued)

VOLTAGE DROP SCHEDULE

POLE MOUNTED UTILITY TRANS: UTIL TRANS



FEEDER SCHEDULE

- RISER DIAGRAM NOTES: 1. FURNISH AND INSTALL A #6 COPPER EQ. GND CONDUCTOR FOR EACH MAIN DISTRIBUTION PANEL... 2. COORDINATE THE EXACT LOCATION OF THE OVERHEAD SERVICE ENTRANCE WITH THE LOCAL UTILITY CO... 3. INSTALL LIGHTING CONTACTOR WITH TIME CLOCK / PHOTOEYE / MANUAL OVERRIDE AT PDS COUNTER... 4. INSTALL METERING CT ENCLOSURE AND METER PER LOCAL UTILITY REQUIREMENTS.

VERIFY EXACT REQUIREMENTS WITH FUEL PANEL SUPPLIER AND CONNECT AS REQUIRED

FURNISH AND INSTALL EMERGENCY SHUT-OFF PUSH BUTTON SWITCHES AT MAIN PDS TERMINAL AND AT EXTERIOR OF MAIN FRONT DOOR FOR SHUT DOWN OF ALL FUEL SERVICE EQUIPMENT