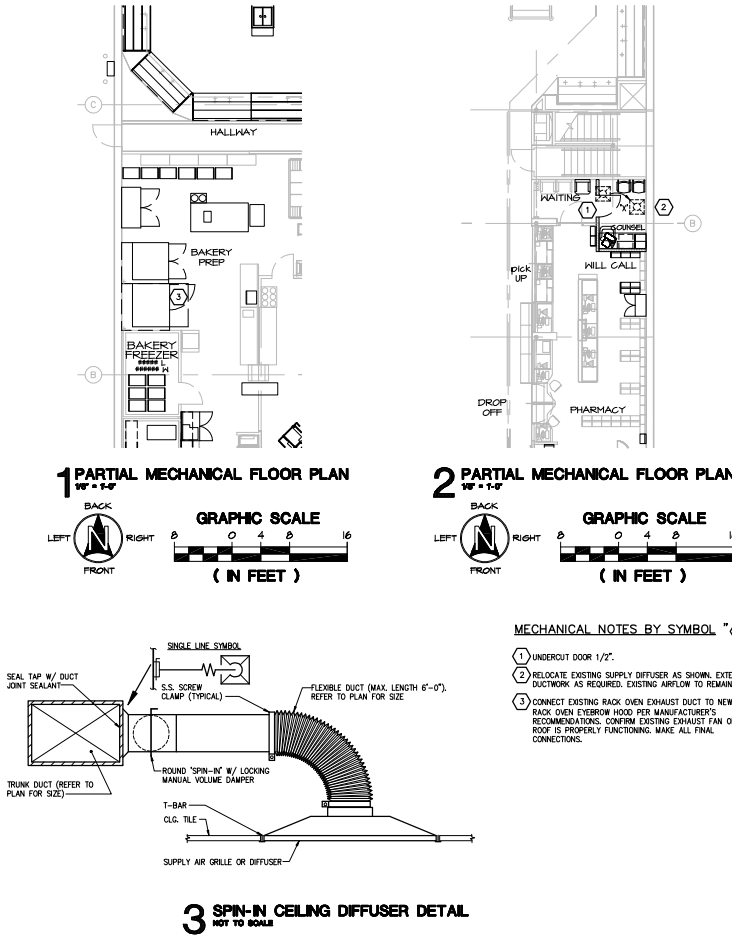
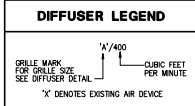


MECHANICAL SYMBOL LEGEND					
SINGLE LINE SYMBOL	DESCRIPTION	DOUBLE LINE SYMBOL	SINGLE LINE SYMBOL	DESCRIPTION	DOUBLE LINE SYMBOL
	2 1/2" SUPPLY AIR DIFFUSER 45° WITH FLEX CONN.			45° ELBOW	
	2 1/2" SUPPLY AIR DIFFUSER 90° WITH FLEX CONN.			90° STRAIGHT ELBOW	
	2 1/2" SUPPLY AIR DIFFUSER WITH DUCT FLEX CONN.			90° CONICAL TEE OR SPIN IN TAP	
	ROUND NECK CLOG DIFFUSER 4-WAY DIRECTIONAL THROW			45° BRANCH	
	1 1/2" SUPPLY AIR DIFFUSER 45°			SPLIT BRANCH TAKE-OFF WITH SQUARE ELBOW & SPLITTER DAMPER	
	1 1/2" SUPPLY AIR DIFFUSER 90°			SPLIT BRANCH TAKE-OFF WITH RADIUS ELBOW & SPLITTER DAMPER	
	ROUND SUPPLY AIR DIFFUSER			SPLIT BRANCH TAKE-OFF WITH RADIUS ELBOW & SPLITTER DAMPER	
	EXISTING 1 1/2" CEILING OR EXHAUST RETURN AIR GRILLE OR REGISTER			BRANCH TAKE-OFF WITH AIR EXTRACTOR	
	1 1/2" CEILING RETURN AIR OR EXHAUST GRILLE OR REGISTER			TEE WITH SPLITTER	
	EXISTING 2 1/2" CEILING OR EXHAUST RETURN AIR GRILLE OR REGISTER			LINED DUCTWORK	
	2 1/2" CEILING RETURN AIR OR EXHAUST GRILLE OR REGISTER			SIWALL SUPPLY GRILLE ON REGISTER WITH AIR EXTRACTOR	
	EXISTING 2 1/4" CEILING OR EXHAUST RETURN AIR GRILLE OR REGISTER			TURNING VANE RECTANGULAR DUCT	
	2 1/4" CEILING RETURN AIR OR EXHAUST GRILLE OR REGISTER			ROUND FLEXIBLE DUCT	
	EXISTING 1 1/2" CEILING OR EXHAUST RETURN AIR GRILLE OR REGISTER			FLUE OR ROUND EXHAUST DUCT	
	1 1/2" CEILING RETURN AIR OR EXHAUST GRILLE OR REGISTER			TAP	
	DOOR GRILLE			DAMPER	
	SUPPLY DUCT RISER			RETURN AIR OR TRANSFER AIR ARROW	
	RETURN, EXHAUST OR OUTSIDE AIR DUCT RISER			FLOW ARROW	
	OFFSET TO CHANGE ELEVATION AT 90° WHEN POSSIBLE ARROW SLOPES ON			EXISTING TO NEW CONNECTION	
	RECTANGULAR RADIUS ELBOW			FIRE AND SMOKE DAMPER	
	45° CONICAL TEE			SMOKE DAMPER	
	CONRICTING TRANSITION			FIRE DAMPER	
	SQUARE TO ROUND DUCT TRANSITION			CARBON DIOXIDE SENSOR	
	90° ELBOW DOWN (RECTANGULAR DUCT)			SMOKE DETECTOR	
	90° ELBOW UP (RECTANGULAR DUCT)			SENSOR	
	90° ELBOW DOWN (ROUND)			THERMOSTAT	
	90° ELBOW UP (ROUND)			HUMIDISTAT	
	OFFSET TO CHANGE ELEVATION AT 90° WHEN POSSIBLE ARROW SLOPES ON			ROOF MOUNTED EXHAUST FAN WITH EXHAUST DUCT	
	ROUND RADIUS ELBOW			BREAK	

ALL SYMBOLS ON THIS LIST ARE NOT NECESSARILY USED ON THIS JOB

CEILING DIFFUSER RUNOUT SIZING	
RUNOUT / NECK SIZE	CFM RANGE
6"	0 - 100 CFM
8"	101 - 240 CFM
10"	241 - 400 CFM
12"	401 - 600 CFM
14"	601 - 800 CFM



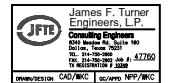
GENERAL MECHANICAL NOTES:

- ALL WORK SHALL BE ARRANGED IN A NEAT, WELL ORGANIZED MANNER. ALL WORK SHALL BE PARALLEL AND PERPENDICULAR TO THE PRIMARY LINES OF THE BUILDING, LOCATE ALL OPERATING AND CONTROL EQUIPMENT PROPERLY TO PROVIDE CLEAR AND/OR MANUFACTURERS CLEARANCES.
- ALL WORK SHALL BE IN STRICT ACCORDANCE WITH ALL APPLICABLE PORTIONS OF ALL NATIONAL, STATE, AND LOCAL CODES AND STANDARDS. WHERE THE CONTRACT DOCUMENTS ARE IN EXCESS OF CODE REQUIREMENTS, THE CONTRACT DOCUMENTS SHALL GOVERN. IN THE EVENT OF A CONFLICT BETWEEN THE CONTRACT DOCUMENTS AND APPLICABLE CODES, THE LATTER SHALL GOVERN.
- CG SHALL ENSURE THAT ALL LIGHTS, SPRINKLER HEADS, DIFFUSERS AND OTHER CEILING DEVICES ARE CENTERED IN CEILING TILES AND IN BETWEEN LIGHT FIXTURES.
- ALL DUCT SIZES ARE CLEAR WIDE DIMENSIONS.
- ALL DUCTWORK TO BE EXTERNALLY INSULATED PER SPECIFICATIONS UNLESS NOTED OTHERWISE ON THE PLANS.
- ALL EXPOSED DUCTWORK SHALL BE SUPPORTED BY ALL-THREAD ROD, SHALL BE INTERNALLY LINED AND SHALL BE PAINTED PER OWNER REQUIREMENTS.
- FURNISH AND INSTALL ALL ITEMS, INCLUDING EVERY ARTICLE, DEVICE OR ACCESSORY REASONABLY NECESSARY TO FACILITATE EACH SYSTEMS FUNCTIONING AS INDICATED BY THE DESIGN AND THE EQUIPMENT SPECIFIED ELEMENTS OF THE WORK SHALL INCLUDE, BUT ARE NOT LIMITED TO MATERIALS, LABOR, SUPERVISION, SUPPLIES, EQUIPMENT, TRANSPORTATION, HOISTING/ROCKING, STORAGE, UTILITIES AND ALL REQUIRED PERMITS AND LICENSES.
- UNIT LOCATIONS SHOWN ON PLAN ARE APPROXIMATE. COORDINATE EXACT LOCATION WITH STRUCTURAL PRIOR TO ROUGH-IN.
- CONTRACTOR SHALL COORDINATE ALL DUCTWORK SIZES AND ROUTING WITH STRUCTURE AND OTHER DISCIPLINES PRIOR TO PURCHASING, CONSTRUCTING, OR INSTALLING ANY DUCTWORK. CONTRACTOR SHALL PROVIDE DUCTWORK SHOP DRAWINGS TO ENGINEER/ARCHITECT FOR APPROVAL PRIOR TO CONSTRUCTION. UNLESS OTHERWISE SPECIFIED, CONTRACTOR ASSUMES ALL RESPONSIBILITY AND COST FOR ANY NECESSARY REWORK.
- ALL BRANCH DUCTS ARE TO BE THE SAME SIZE AS DIFFUSER NECK UNLESS OTHERWISE NOTED. SEE DIFFUSERS RUNOUT SIZING CHART.
- MAINTAIN ALL OUTSIDE AIR INTAKE OPENINGS MINIMUM 1'-0" FROM ALL MECHANICAL VENTS, PLUMBING VENTS, AND EXHAUST FANS.
- PROVIDE BALANCING DAMPERS TO SIZES AS SHOWN ON THE PLANS.
- ALL DUCTWORK SHALL BE CONSTRUCTED, SEALED AND SUPPORTED PER LATEST SMACNA AND ASHRAE RECOMMENDATIONS.
- PROVIDE ALL MECHANICAL EQUIPMENT WITH NEW LAMINATED IDENTIFICATION TAGS. LABEL TAGS AS SHOWN ON PLAN INCLUDING AREA SERVED.
- ALL GAS FIRED EQUIPMENT TO BE U.L. LISTED AND A.S.A. APPROVED.
- ALL EQUIPMENT SHALL BE ANCHORED TO THE BUILDING STRUCTURE. FLEX DUCT ALLOWED ONLY IN SUPPLY DUCTWORK IN AREAS WITH ACCESSIBLE CEILINGS AND ONLY IN THE LAST 6 FEET OF RUNOUTS. NO FLEX DUCTWORK ALLOWED IN RETURN AIR DUCTWORK.
- REFER TO PLUMBING PLANS FOR CONDENSATE ROUTING.
- EXCEPT AS REQUIRED BY IBC SECTIONS 602.2.1.1 THROUGH 602.2.1.6, MATERIALS WITH PLENUMS SHALL BE NONCOMBUSTIBLE OR SHALL HAVE A FLAME SPREAD INDEX OF NOT MORE THAN 25 AND A SMOKE DEVELOPED INDEX OF NOT MORE THAN 50 WHEN TESTED IN ACCORDANCE WITH ASTM-E-84 OR UL-723.
- PROVIDE SLEEVES AND FLASHINGS REQUIRED FOR PIPING AND DUCTWORK PENETRATIONS. PROVIDE ESCUTCHEON PLATES FOR ALL PIPING PENETRATING FINISHED WALLS AND CEILINGS.
- FIELD VERIFICATION OF EXISTING CONDITIONS SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR. THE CONTRACTOR SHALL NOTIFY THE ARCHITECT/ENGINEER OF ANY DISCREPANCIES FOUND PRIOR TO SUBMISSION OF BID. THE CONTRACTOR SHALL TAKE NOTE THAT THE DRAWINGS ARE SCHEMATIC IN NATURE AND INDICATE THE APPROXIMATE LOCATIONS OF THE MECHANICAL AND PLUMBING SYSTEMS. LOCATE ALL ITEMS BY ON-THE-JOB MEASUREMENTS. COOPERATE WITH OTHER TRADES TO ENSURE PROPER FIT AND ACCESS TO ALL ITEMS.
- PROVIDE FIRE AND/OR SMOKE DAMPERS IN ALL DUCT PENETRATIONS OF RATED WALLS WHETHER OR NOT SHOWN ON PLANS.
- CONTRACTOR SHALL NOT BE GRANTED FOR MISUNDERSTANDING OF THE SCOPE OR AMOUNT OF WORK TO BE PERFORMED. TENDER OF A PROPOSAL CONVEYS FULL CONTRACTOR AGREEMENT OF THE TERMS AND CONDITIONS SPECIFIED AND/OR INDICATED, SCHEDULED, OR IMPLIED ON THE CONTRACT DOCUMENTS, AND/OR REQUIRED BY THE NATURE OF THIS WORK.
- THE GENERAL CONTRACTOR AND ALL SUBCONTRACTORS SHALL COORDINATE THE INSTALLATION OF DUCTWORK, PIPING, CONDUIT, CABLE, ETC., INSTALLATION WITH THE LIGHTING FIXTURES, SPECIAL CEILING CONSTRUCTION, AIR DISTRIBUTION EQUIPMENT AND THE STRUCTURE. PROVIDE ADDITIONAL RISERS AND OFFSETS AS REQUIRED. IF, AFTER INSTALLATION, NEW DUCTWORK, PIPING, CONDUIT, OR CABLE IS FOUND TO BE IN CONFLICT WITH THE ARCHITECTURE, STRUCTURE, OR OTHER TRADE WORK OR WHICH IS OTHER EXISTING OR SHOWN ON THE CONTRACT DOCUMENT, THE DUCTWORK, CONDUIT, OR CABLE SHALL BE RELOCATED WITHOUT ADDITIONAL COST TO THE OWNER.
- THE CONTRACTOR SHALL PROTECT THE WORK, EQUIPMENT, AND MATERIALS FROM DAMAGE BY HIS WORK OR HIS PERSONNEL, AND SHALL CORRECT ALL DAMAGE THIS CAUSED WITHOUT ADDITIONAL COST TO THE OWNER. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ALL WORK, MATERIALS, AND EQUIPMENT DATED, FINAL ACCEPTANCE BY THE OWNER. PROTECT ALL WORK AGAINST THEFT, INJURY, OR DAMAGE AND CAREFULLY STORE MATERIAL AND EQUIPMENT REMOVED ON SITE WHICH IS NOT IMMEDIATELY REINSTALLED. THE CONTRACTOR SHALL CLOSE OPEN ENDS OF WORK WITH TEMPORARY COVERS OR PLUGS DURING CONSTRUCTION TO PREVENT THE ENTRY OF DUST, DEBRIS, AND OBSTRUCTING MATERIAL. THE CONTRACTOR SHALL PROTECT ALL EQUIPMENT AND MATERIALS FROM DAMAGE DUE TO WATER, SPILL-IN, FREEZING, CONSTRUCTION DEBRIS, ETC. IN A MANNER ACCEPTABLE TO THE ENGINEER AND/OR OWNER.

ALL EXISTING DUCTWORK, AIR DEVICES, AND MECHANICAL EQUIPMENT TO REMAIN UNLESS NOTED OTHERWISE.



Issue Date: 02.12.2019
 RFP OWNER REVIEW SET: 02.12.2019
 ISSUE FOR PERMIT / BID: 02.26.2019



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KROGER FOOD STORE #521 W.I.W. REMODEL

2109 HARDWOOD DR. BEDFORD, TX 76021
 Project Number: 18152
 Date Plotted:
 Drawn By:
 Checked By:
 File Name:

M1.1
 HVAC PLAN AND DETAILS
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