A Tenant Alteration for

HARVEY JOHNS STEAKHOUSE

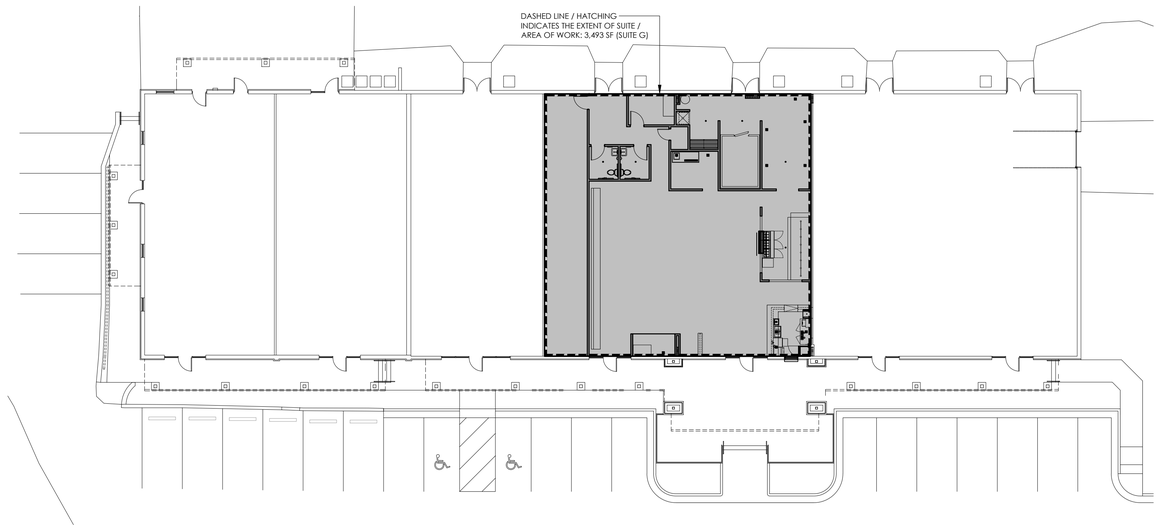
1501 N. Raleigh Street, Suite G
Angier, North Carolina

INDEX OF DRAWINGS

Architecture & Interiors
iS design PLLC
1111 Haynes Street, Suite 103
Raleigh, North Carolina 27604
Phone (919) 833-5400

Plumbing, Mechanical & Electrical
ALIGN engineering
PO Box 28313
Raleigh, North Carolina 27611
Phone (919) 275-1935

Food Service Consultant
MSH Consultant Group
300 Wendover Court
Durham, North Carolina 27713
Robert Herman - Principal Consultant
Phone (919) 768-3250



1 G-1 KEY PLAN
SCALE: NOT TO SCALE

Reviewed for Fire Code Compliance
Harnett County
Leslie Jackson
08/28/2023 11:52:01 AM

OCCUPANCY PLAN LEGEND

OCCUPANCY TYPE: ASSEMBLY (A-2)
USE: DINING & KITCHEN

KITCHEN LOAD: 2.87 (FACTOR OF 200 SF/PERSON)
574 SF

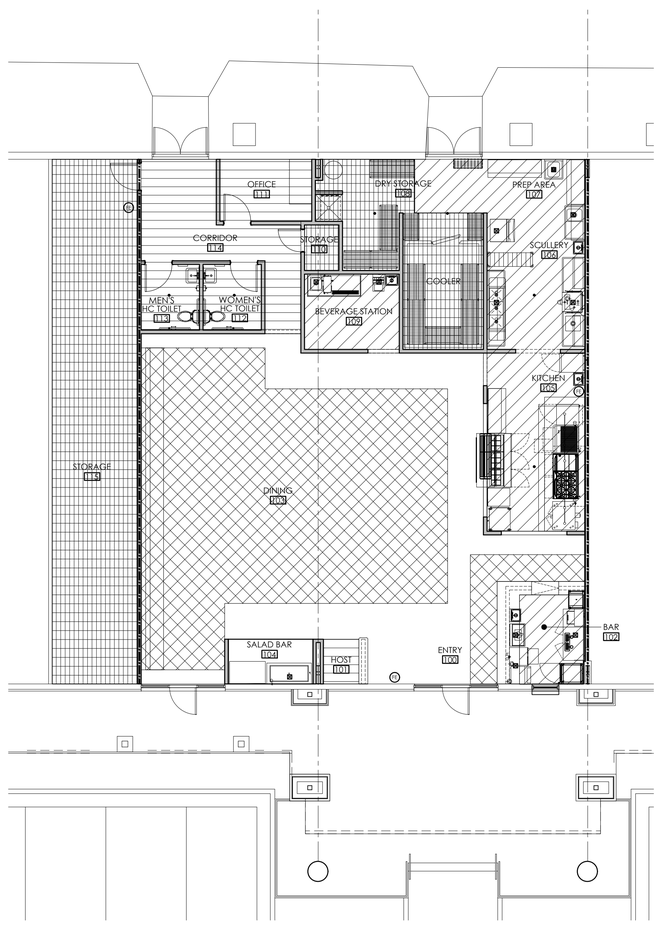
DINING/BAR SEATING LOAD: 68.53 (FACTOR OF 15 SF/PERSON)
1,028 SF

ADMIN / STAFF: 3.71 (FACTOR OF 100 SF/PERSON)
371 SF

OCCUPANCY TYPE: STORAGE (S-2)

USE: COOLER/FREEZER, DRY STORAGE
LOAD: .82 (FACTOR OF 300 SF/PERSON)
246 SF
USE: STORAGE ROOMS
LOAD: 1.9 (FACTOR OF 300 SF/PERSON)
580 SF

TOTAL OCCUPANTS: 78 (77.83)



2 G-1 OCCUPANCY PLAN
SCALE: 1/8"=1'-0"

DAVID VIRGIL SEARS, JR.
REGISTERED ARCHITECT
9987
CARY, N.C.
04.28.23
iS DESIGN, PLLC
ARCHITECTURAL CORPORATION
C-54070
RALEIGH, N.C.

A Tenant Alteration for
HARVEY JOHNS STEAKHOUSE
1501 N. Raleigh Street, Suite G
Angier, NC

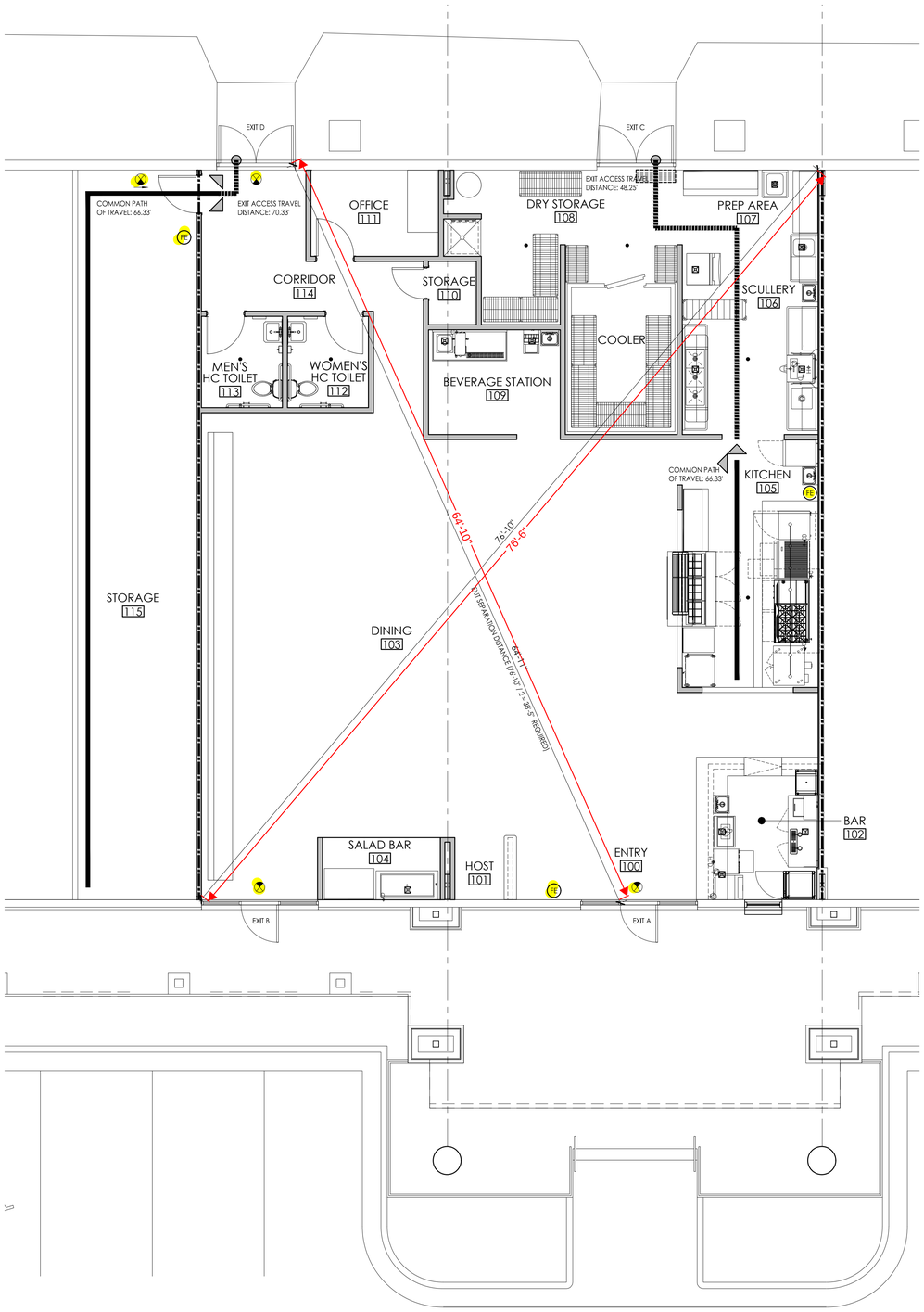
JOB #:
23C1CHARVEYJOHNS

DWG BY:	DVS
CHK BY:	DVS
DATE:	07/28/23
REV NO	DATE

N

TITLE SHEET / KEY PLAN / LIFE SAFETY PLAN

SHEET NUMBER
G-1



1 G-2 LIFE SAFETY PLAN

SCALE: 3/16"=1'-0"

SUITE G

EXIT A

66"	CLR. EXIT WIDTH
330	MAX. CALC. OCCUPANT LOAD
35	ACTUAL OCCUPANT LOAD

EXIT B

33"	CLR. EXIT WIDTH
165	MAX. CALC. OCCUPANT LOAD
35	ACTUAL OCCUPANT LOAD

EXIT C

66"	CLR. EXIT WIDTH
330	MAX. CALC. OCCUPANT LOAD
4	ACTUAL OCCUPANT LOAD

EXIT D

66"	CLR. EXIT WIDTH
330	MAX. CALC. OCCUPANT LOAD
4	ACTUAL OCCUPANT LOAD

TOTAL OCCUPANTS: 78

= INDICATES EXIT SIGN LOCATION

FE = INDICATES LOCATION OF FIRE EXTINGUISHERS. GC TO VERIFY FINAL LOCATIONS W/ FIRE MARHSAL

EXIT ACCESS TRAVEL DISTANCE

COMMON PATH OF TRAVEL TO POINT OF DECISION

= INDICATES EXISTING NON-RATED PARTITIONS

= INDICATES NEW 1 HOUR-RATED FIRE BARRIERS

i:design
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JOSHUA VIRGIL SEASE, JR. 9987 REGISTERED ARCHITECT CARY, N.C. 07.28.23

IS DESIGN PLLC ARCHITECTURAL COMPANY 54070 RALEIGH, N.C.

A Tenant Alteration for

HARVEY JOHNS STEAKHOUSE

1501 N. Raleigh Street, Suite G
Angier, NC

JOB #:
23C1C1HARVEYJOHNS

DWG BY:	DVS
CHK BY:	DVS
DATE:	07/28/23
REV NO	DATE

N

LIFE SAFETY PLAN

SHEET NUMBER

G-2

2018 APPENDIX B
BUILDING CODE SUMMARY FOR ALL COMMERCIAL PROJECTS
(EXCEPT 1 AND 2-FAMILY DWELLINGS AND TOWNHOUSES)
(Reproduce the following data on the building plans sheet 1 or 2)

Name of Project: A Tenant Alteration for Harvey Johns Steakhouse
Address: 1501 N. Raleigh Street, Suite G, Angier, NC Zip Code: 27501
Owner/Authorized Agent: David Sears, AIA Phone # (919) 833-5400
E-Mail mark@isdesignpllc.com
Owned By:
Code Enforcement Jurisdiction: Wake County

CONTACT:

DESIGNER	FIRM	NAME	LICENSE #	TELEPHONE #	E-MAIL
Architectural	iS design PLLC	David Sears, AIA	9987	(919)833.5400	david@isdesignpllc.com
Civil				( )	
Electrical	Align Engineering	Rick Copeland,Jr,PE	36841	(919) 275.1935	rick@ae-nc.com
Fire Alarm				( )	
Plumbing	Align Engineering	Rick Copeland,Jr,PE	36841	(919) 275.1935	rick@ae-nc.com
Mechanical	Align Engineering	Nathan Romblad,PE	37491	(919) 275.1935	nathan@ae-nc.com
Sprinkler-Standpipe				( )	
Structural				( )	
Retaining Walls >5' High				( )	
Other				( )	

("Other" should include firms and individuals such as truss, precast, pre-engineered, interior designers, etc.)

2018 NC BUILDING CODE:
☐ New Building ☐ Addition ☐ Phased Construction Shell/Core
☐ Shell/ Core ☐ 1st Time Interior Completion

2018 NC EXISTING BUILDING CODE:
☐ Prescriptive ☐ Repair ☐ Chapter 14 ☐ Alteration Level I ■ Alteration Level II
☐ Alteration Level III ☐ Historic Property ☐ Change of Use

CONSTRUCTED: (date) 1977 CURRENT OCCUPANCY(S) (Ch. 3): MERCANTILE & BUSINESS
RENOVATED: (date) 2021 PROPOSED OCCUPANCY(S) (Ch. 3): MERCANTILE, BUSINESS & ASSEMBLY (A-2)

OCCUPANCY CATEGORY (Table 1604.5):
Current: ☐ I ■ II ☐ III ☐ IV
Proposed: ☐ I ■ II ☐ III ☐ IV

BASIC BUILDING DATA
Construction Type: ☐ I-A ☐ I-B ☐ II-A ☐ II-B ☐ III-A ☐ III-B ☐ IV ☐ V-A ■ V-B
Sprinklers: ☐ YES ■ NO ☐ PARTIAL ☐ NFPA 13 ☐ NFPA 13R ☐ NFPA 13D

Standpipes: ■ NO ☐ YES CLASS: ☐ I ☐ II ☐ III ☐ Wet ☐ Dry
Primary Fire District: ☐ YES ■ NO **Flood Hazard Area:** ☐ YES ■ NO
Special Inspections Required: ☐ YES (CONTACT THE LOCAL INSPECTION JURISDICTION FOR REQUIRMENTS AND PROCEDURES)
■ NO

Gross Building Area Table

FLOOR	EXISTING (SQ FT)	NEW (SQ FT)	SUB-TOTAL
4th Floor			
3rd Floor			
2nd Floor			
Mezzanine			
1st Floor			
Ground Floor	12,567	0	12,567
Basement			
TOTAL	12,567	0	12,567

Area of Work 3,493 SF (TOTAL INCLUDING ALL DISCIPLINES)

ALLOWABLE AREA

Primary Occupancy Classification(s):
Assembly: ☐ A-1 ■ A-2 ☐ A-3 ☐ A-4 ☐ A-5
■ Business ☐ Educational Factory-Industrial: ☐ F-1 ☐ F-2
■ Mercantile Residential: ☐ R-1 ☐ R-2 ☐ R-3 ☐ R-4
High Hazard: ☐ H-1 ☐ H-2 ☐ H-3 ☐ H-4 ☐ H-5
Institutional: ☐ I-1 ☐ I-2 ☐ I-3 ☐ I-4
I-3 USE CONDITION: ☐ 1 ☐ 2 ☐ 3 ☐ 4 ☐ 5
Storage: ☐ S-1 ☐ S-2 ☐ High-piled
S-1 SPECIAL CONDITIONS: ☐ Repair Garage
S-2 SPECIAL CONDITIONS-- Parking Garage: ☐ Open ☐ Enclosed
☐ Utility and Miscellaneous

Accessory Occupancy Classification(s): Storage: 580 sf = 4.4%
Incidental Uses (Table 509):
Special Uses (Chapter 4 – List Code Sections):
Special Provisions: (Chapter 5 – List Code Sections):
Mixed Occupancy: ■ YES ☐ NO Separation: 1 HR (for A-2 only) Exception:
☐ NON-SEPARATED USE (508.3) ■ SEPARATED USE (508.4)

$$\frac{\text{Actual Area of Occupancy A}}{\text{Allowable Area of Occupancy A}} + \frac{\text{Actual Area of Occupancy B}}{\text{Allowable Area of Occupancy B}} \leq 1$$

_____ + _____ + ... = _____ ≤ 1.00

STORY NO.	DESCRIPTION AND USE	(A) BLDG AREA PER STORY (ACTUAL)	(B) TABLE 506.2[4] AREA	(C) AREA FOR FRONTAGE INCREASE[1,5]	(D) ALLOWABLE AREA PER STORY OR UNLIMITED[2,3]

EXISTING - NOT APPLICABLE

1 Frontage area increases from Section 506.2 are computed thus:
a. Perimeter which fronts a public way or open space having 20 feet minimum width = _______ (F)
b. Total Building Perimeter = ________ (P)
c. Ratio (F/P) = ___________ (F/P)
d. W = Minimum width of public way = ________ (W)
e. Percent of frontage increase If = 100 [F/P – 0.25] x W/30 = ________ (%)
2 Unlimited area applicable under conditions of Section 507.
3 Maximum Building Area = total number of stories in the building x D (maximum3 stories) (506.2).
4 The maximum area of open parking garages must comply with Table 406.5.4. The maximum area of air traffic control towers must comply with Table 412.3.1.
5 Frontage increase is based on the unsprinklered area value in Table 506.2.

ALLOWABLE HEIGHT

	ALLOWABLE	SHOWN ON PLANS	CODE REFERENCE
Building Height in Feet (Table 504.3)			
Building Height in Stories (Table 504.4)			

1 Provide code reference if the "Shown on Plans" quantity is not based on Table 504.3 or 504.4.

NOT APPLICABLE

FIRE PROTECTION REQUIREMENTS

BUILDING ELEMENT	FIRE SEPARATION DISTANCE (FEET)	RATING REQ'D	RATING PROVIDED (W/_____* REDUCTION)	DETAIL # AND SHEET #	DESIGN # FOR RATED ASSEMBLY	SHEET # FOR RATED PENETRATION	SHEET # FOR RATED JOINTS
Structural Frame, including columns, girders, trusses		0	0				
Bearing Walls							
Exterior							
North	N/A						
East	N/A						
West	N/A						
South	N/A						
Interior							
Nonbearing Walls and Partitions Exterior walls							
North	>30'	0	0				
East	>30'	N/A					
West	>30'	N/A					
South	>30'	0	0				
Interior walls and partitions		0	0				
Floor Construction Including supporting beams and joists		N/A					
Floor Ceiling Assembly		0	0				
Columns Supporting Floors		N/A					
Roof Construction, including supporting beams and joists		0	0				
Roof Ceiling Assembly		0	0				
Columns Supporting Roof		0	0				
Shaft Enclosures - Exit		N/A					
Shaft Enclosures - Other		N/A					
Corridor Separation		0	0				
Occupancy/Fire Barrier Separation		1	1	G-5,6,7 & G-8	U419,V497 CJ-D-0006		
Party/Fire Wall Separation		N/A					
Smoke Barrier Separation		N/A					
Smoke Partition		N/A					
Tenant/Dwelling Unit/ Sleeping Unit Separation		0	0				
Incidental Use Separation		N/A					

* Indicate section number permitting reduction

PERCENTAGE OF WALL OPENING CALCULATIONS

FIRE SEPARATION DISTANCE (FEET) FROM PROPERTY LINES	DEGREE OF OPENINGS PROTECTION (TABLE 705.8)	ALLOWABLE AREA (%)	ACTUAL SHOWN ON PLANS (%)

NOT APPLICABLE

LIFE SAFETY SYSTEM REQUIREMENTS

Emergency Lighting: ■ YES ☐ NO
Exit Signs: ■ YES ☐ NO
Fire Alarm: ☐ YES ■ NO
Smoke Detection Systems: ☐ YES ■ NO
Carbon Monoxide Detection: ☐ YES ■ NO

LIFE SAFETY PLAN REQUIREMENTS

Life Safety Plan Sheet #: G-2

- ■ Fire and/or smoke rated wall locations (Chapter 7)
- ☐ Assumed and real property line locations (if not on the site plan)
- ☐ Exterior wall opening area with respect to distance to assumed property lines (705.8)
- ■ Occupancy Use for each area as it relates to occupant load calculation (Table 1004.1.2)
- ■ Occupant loads for each area
- ■ Exit access travel distances (1017)
- ■ Exit Sign locations (1013)
- ■ Common path of travel distances (Tables 1006.2.1 & 1006.3.2(1))
- ☐ Dead end lengths (1020.4)
- ■ Clear exit widths for each exit door
- ■ Maximum calculated occupant load capacity each exit door can accommodate based on egress width (1005.3)
- ■ Actual occupant load for each exit door
- ☐ A separate schematic plan indicating where fire rated floor/ceiling and/or roof structure is provided for purposes of occupancy separation
- ☐ Location of doors with panic hardware (1010.1.10)
- ☐ Location of doors with delayed egress locks and the amount of delay (1010.1.9.7)
- ☐ Location of doors with electromagnetic egress locks (1010.1.9.9)
- ☐ Location of doors equipped with hold-open devices
- ☐ Location of emergency escape windows (1030)
- ☐ The square footage of each fire area (202)
- ☐ The square footage of each smoke compartment for Occupancy Classification I-2 (407.5)
- ☐ Note any code exceptions or table notes that may have been utilized regarding the items above

ACCESSIBLE DWELLING UNITS
(SECTION 1107)

TOTAL UNITS	ACCESSIBLE UNITS REQUIRED	ACCESSIBLE UNITS PROVIDED	TYPE A UNITS REQUIRED	TYPE A UNITS PROVIDED	TYPE B UNITS REQUIRED	TYPE B UNITS PROVIDED	TOTAL ACCESSIBLE UNITS PROVIDED

NOT APPLICABLE

ACCESSIBLE PARKING
(SECTION 1106)

LOT OR PARKING AREA	TOTAL # OF PARKING SPACES REQUIRED	TOTAL # OF PARKING SPACES PROVIDED	# OF ACCESSIBLE SPACES PROVIDED: REGULAR WITH 5' ACCESS AISLE	VAN SPACES WITH 132" ACCESS AISLE	VAN SPACES WITH 8' ACCESS AISLE	TOTAL # ACCESSIBLE PROVIDED
TOTAL						

NOT APPLICABLE

PLUMBING FIXTURE REQUIREMENTS
(TABLE 2902.1)

USE		WATERCLOSETS MALE	WATERCLOSETS FEMALE	WATERCLOSETS UNISEX	URINALS	LAVATORIES MALE	LAVATORIES FEMALE	LAVATORIES UNISEX	SHOWERS / TUBS	DRINKING FOUNTAINS REGULAR	DRINKING FOUNTAINS ACCESSIBLE
SPACE	EXIST'G										
	NEW	1	1		0	1	1				
	REQ'D	1	1		0	1	1			0	0

SPECIAL APPROVALS

Special approval: (Local Jurisdiction, Department of Insurance, OSC, DPI, DHHS, etc., describe below)

2018 APPENDIX B
BUILDING CODE SUMMARY FOR ALL COMMERCIAL PROJECTS
STRUCTURAL DESIGN
(PROVIDE ON THE STRUCTURAL SHEETS IF APPLICABLE)

DESIGN LOADS:

Importance Factors: Wind (IW) ☐ 1.0
Snow (IS) ☐ 0.8 ☐ 1.0 ☐ 1.1 ☐ 1.2
Seismic (IE) ☐ 1.0 ☐ 1.25 ☐ 1.5

Live Loads: Roof ________ psf
Mezzanine ________ psf
Floor ________ psf

Ground Snow Load: ________ psf

Wind Load: Basic Wind Speed ________ mph (ASCE-7)
Exposure Category ☐ B ☐ C ☐ D

SEISMIC DESIGN CATEGORY: ☐ A ☐ B ☐ C ☐ D

Provide the following Seismic Design Parameters:
Occupancy Category (Table 1604.5) ☐ I ☐ II ☐ III ☐ IV
Spectral Response Acceleration SS________ %g S1________ %g
Site Classification (ASCE 7) ☐ A ☐ B ☐ C ☐ D ☐ E ☐ F
Data Source: ☐ FIELD TEST ☐ PRESUMPTIVE ☐ HISTORICAL DATA

Basic structural system
☐ BEARING WALL ☐ DUAL W/ SPECIAL MOMENT FRAME`
☐ BUILDING FRAME ☐ DUAL W/ INTERMEDIATE R/C OR SPECIAL FRAME
☐ MOMENT FRAME ☐ INVERTED PENDULUM

Analysis Procedure:
☐ SIMPLIFIED
☐ EQUIVALENT LATERAL FORCE
☐ DYNAMIC

Architectural, Mechanical, Components anchored? ☐ YES ☐ NO

LATERAL DESIGN CONTROL: ☐ EARTHQUAKE ☐ WIND

SOIL BEARING CAPACITIES:
☐ FIELD TEST (Provide copy of test report) ________ psf
☐ PRESUMPTIVE BEARING CAPACITY ________ psf
Pile size, type, and capacity ________

NOT APPLICABLE

ENERGY SUMMARY

ENERGY REQUIREMENTS:
The following data shall be considered minimum and any special attribute required to meet the energy code shall also be provided. Each Designer shall furnish the required portions of the project information for the plan data sheet. If performance method, state the annual energy cost for the standard reference design vs annual energy cost for the proposed design.

Existing building envelope complies with code: ☐ YES (THE REMAINDER OF THIS SECTION IS NOT APPLICABLE)
☐ NO

Exempt Building: Provide code or statutory reference: ☐ YES
☐ NO

Climate Zone: ☐ 3A ☐ 4A ☐ 5A

Method of Compliance:
☐ ENERGY CODE: PERFORAMCE
☐ ENERGY CODE: PERSCRIPTIVE
☐ ASHRAE 90.1: PERFORMANCE
☐ ASHRAE 90.1: PERSCRIPTIVE
☐ OTHER: PERFORMANCE (If "Other" specify source here)________

NOT APPLICABLE

2018 APPENDIX B
BUILDING CODE SUMMARY FOR ALL COMMERCIAL PROJECTS
MECHANICAL DESIGN
(PROVIDE ON THE MECHANICAL SHEETS IF APPLICABLE)

MECHANICAL SUMMARY

MECHANICAL SYSTEMS, SERVICE SYSTEMS AND EQUIPMENT

Thermal Zone
winter dry bulb: ________
summer dry bulb: ________

Interior design conditions
winter dry bulb: ________
summer dry bulb: ________
relative humidity: ________

SEE MECHANICAL SHEETS

Building heating load: ________

Building cooling load: ________

Mechanical Spacing Conditioning System
Unitary
description of unit: ________
heating efficiency: ________
cooling efficiency: ________
size category of unit: ________
Boiler
Size category. If oversized, state reason.: ________
Chiller
Size category. If oversized, state reason.: ________

List equipment efficiencies: ________

2018 APPENDIX B
BUILDING CODE SUMMARY FOR ALL COMMERCIAL PROJECTS
ELECTRICAL DESIGN
(PROVIDE ON THE ELECTRICAL SHEETS IF APPLICABLE)

ELECTRICAL SUMMARY

ELECTRICAL SYSTEM AND EQUIPMENT

Method of Compliance:
☐ ENERGY CODE: PERFORAMCE
☐ ENERGY CODE: PERSCRIPTIVE
☐ ASHRAE 90.1: PERFORMANCE
☐ ASHRAE 90.1: PERSCRIPTIVE
☐ OTHER: PERFORMANCE

SEE ELECTRICAL SHEETS

Lighting schedule (each fixture type)
lamp type required in fixture
number of lamps in fixture
ballast type used in the fixture
number of ballasts in fixture
total wattage per fixture
total interior wattage specified vs. allowed (whole building or space by space)
total exterior wattage specified vs. allowed

Additional Efficiency Package Options
(When using the 2018 NCECC; not required for ASHRAE 90.1)
☐ C406.2 More Efficient HVAC Equipment Performance
☐ C406.3 Reduced Lighting Power Density
☐ C406.4 Enhanced Digital Lighting Controls
☐ C406.5 On-Site Renewable Energy
☐ C406.6 Dedicated Outdoor Air System
☐ C406.7 Reduced Energy Use in Service Water Heating

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DWG BY: DVS
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DATE: 07/28/23
REV NO DATE

BUILDING CODE SUMMARY

SHEET NUMBER
G-3

GENERAL NOTES:

The general conditions of the contract for construction, standard form of the American Institute of Architects, current edition, shall apply to all work in this contract, except as specifically modified below and/or by the agreement.

The general contractor is responsible for providing temporary services during the construction process. These services shall include but not be limited to water, toilet facilities, electrical power, a job telephone and fax machine, and proper ventilation.

The building owner and tenant require the submittal of partial lien wavers from each major subcontractor for the total amount submitted in their name and from the general contractor for the total amount submitted on each pay request at the time of submittal.

Prior to the site visit by the tenant and architect for a final punch list, the general contractor and all subcontractors should produce a single compiled punch list of all uncompleted work or touch up work left to be done under the contract. This list will be reviewed at this site visit and become part of the final punch list prepared by the tenant and architect.

The general contractor and all subcontractors are to maintain 1 set of construction drawings at the site, marked up with 'as-built' deviations or clarifications to the original documents. These are to be submitted to the architect with the final request for payment.

The general contractor shall notify the architect immediately of any discrepancies or omissions between the drawings, these notes, and field conditions before commencing with any work and request clarification prior to final bidding or pricing.

The general contractor shall exercise strict dust containment control over job to prevent dirt or dust from leaving the job site.

The general contractor shall properly protect the building management's and any adjoining property or work from damage and any damage to same caused by his work or workmen must be made good without delay.

The general contractor shall maintain a current and complete set of construction drawings on site during all phases of construction for use of all trades.

All required exits, ways of approach thereto, and ways of travel from the exit into the street shall continuously be maintained free from all obstructions and impediments for unobstructed egress in the case of fire or other emergency. All exit ways shall comply with the ADA and NCSBC codes.

During the entire period of construction, all existing exits, exit lighting, fire protective devices and alarms shall be continuously maintained and comply with ADA and NCSBC.

The general contractor shall provide and install fire extinguishers as required by federal occupational safety and health act (OSHA) and by local fire department regulations.

Insurance and bonding for the project shall be as directed by and to the satisfaction of the owner and tenant.

The general contractor shall see that all subcontractors receive complete sets of working drawings and assume full responsibility for coordination of work.

Openings in fire rated walls shall have fire dampers as required by local building codes.

All substitutions, i.e. "equals", must be submitted to architect for approval prior to substitution being made.

Refer all questions regarding dimensions to architect. Do not scale drawings.

Existing stair walls are of fire rated construction, patch and repair to meet NCSBC requirements.

The contractor shall apply for and obtain all permits, inspections, provisions etc., necessary for construction.

The contractor shall coordinate all work with building management regarding deliveries, elevator use, utility disruptions etc.

Contractor to maintain all life safety systems, including but not limited to, exit lights, smoke detectors, emergency lights, fire extinguishers, etc.

The contractor to coordinate delivery of all supplies, materials, devices etc. needed for the construction of this project. Notify the architect immediately of any availability problems that may delay the project completion.

The contractor must maintain all common areas to be free of debris, dust and construction materials.

All work to be performed in accordance with all relevant North North State Building Codes, ordinances and references.

Contractor guarantees that all materials and equipment provided and installed to be in good working condition and warranty all work for a minimum of one year after substantial completion.

Architectural power plans and lighting plans are shown for coordination purposes only. Discrepancies between the engineered drawings and the architectural drawings must be brought to the attention of the architect prior to final pricing /bidding.

Except as otherwise indicated, contractor to provide and pay for all materials, labor, services, fees, etc. Necessary to accomplish entirely, the work set forth in these contract documents.

Unless otherwise specified, all materials shall be new and both materials and workmanship shall be of quality with that expected for a class 'a' installation.

Owner and architect shall be notified immediately of any revisions to be incorporated in construction documents to comply with rules/regulations of any and all local governing authorities having jurisdiction over project.

Where more than one regulation applies, the more strict regulation shall govern.

Final cleaning at substantial completion shall include, but not be limited to, cleaning of all finished wood and glass surfaces, dusting of all finished surfaces and window treatments, cleaning of all floors, vacuuming of all carpeted areas, and the removal of any spots, stains, spills, etc. On any surface incurred during construction.

Where blocking is required in walls, verify w/ governing code editor if fire retardant treated wood is required based on construction type. Contractor shall coordinate setting/placement of these elements as required by local code/building or surrounding construction conditions.

Manufacturer's name, trademark, logos, etc shall not be visible to public

Patch and repair all disturbed surfaces to match existing

All dimensions are given to/from face of drywall to face of drywall unless noted otherwise. All clear dimensions are to hold. Contractor is not to scale drawings - dimensions are to govern.

DEMOLITION NOTES:

Contractor to use proper care in removal of all doors, lights, ceiling tile, window coverings, cabinetry, mechanical and electrical devices to be re-used.

The contractor will protect and store all items to be re-used. Unused items must be returned to building owner unless noted otherwise.

Contractor shall demolish existing partitions and various other elements as indicated on plan and coordinate the proper removal and termination of all related electrical service and all other appurtenances included therein.

All damaged existing areas to remain and existing areas affected by demolition or new construction work shown on drawings shall be patched as required to match immediate existing adjacent areas in materials, fire rating, finish and color

All fire proofing removed from columns and beams during the course of construction shall be replaced with the same material and rating as that which was removed.

Existing hidden conditions not covered by these documents must be brought to the attention of the architect and tenant immediately in order to warrant additional construction costs or time delays.

Properly repair cracks, holes and imperfections in existing walls and sand smooth prior to refinishing.

Properly clean, repair, sand and prepare existing surfaces to be refinished for the proposed new finishes

PRICING NOTES:

Contractor to provide separate line item prices for all upgrades.

Provide a unit cost for additional light fixtures, duplex electrical outlets, quad-plex electrical outlets, communications outlets, and floor boxes.

All changes to contract documents shall be by approved change order

The building owner, tenant, architect, and general contractor must approve any deviations from the contract documents.

FINISH NOTES:

All finishes to be installed according to manufacturer's instructions.

Coordinate all finish colors and styles w/ building owner, tenant and architect.

All drywall construction shall be properly prepared to receive specified finish materials. Drywall joints shall be taped/spackled in conventional manner. No horizontal drywall joints shall be accepted. Butted, untapped drywall joints are not acceptable. Full height gypsum board sheets shall be used throughout for full height construction. Taped joints, corners, "dimples" or screw head shall be spackled smooth and level with adjacent gypsum board surface.

All existing holes/cracks in slab and those resulting from the construction process shall be filled/repaired and the surface patched smooth and level with adjacent floor surface.

All interior walls are nominal 5" thick, 3-5/8" metal stud partitions with painted 5/8" gypsum board to ceiling with rubber cove base. Unless noted otherwise.

Floors are concrete with building standard carpet unless otherwise noted.

Spaces being surfaced shall be closed to traffic and other work during the surfacing process.

Upon completion the contractor, removing all spots of adhesive and surface stains and all scraps, shall clean all work. Cartons and containers shall be removed from the building site.

Ceiling heights vary- see plan.

The general contractor shall repair and/or replace any and all ceiling tiles, which are removed to facilitate above ceiling system installations and repairs.

All new door frames to be hollow metal (unless otherwise noted.) All new doors to be 3'-0" wide building standard unless otherwise noted. All existing hardware meeting ADA requirements shall be retained for reuse. New door hardware must meet building standards and ADA requirements. Coordinate return and storage of leftover building standard components with building owner.

Provide three silencers on all new doors (typical) unless weather-stripping is provided.

Provide doorstops on all doors for protection of adjacent surfaces. Provide the proper type as needed by individual door location.

Verify function of all existing doors. Repair or replace hinges, closers, lock, handles, weather-stripping etc. As needed and adjust door to latch and function properly.

All walls and ceilings shall be properly prepared, spackled, sanded, etc., to provide a smooth finish and surface ready for prime and paint.

All existing loose paint shall be removed and spackled.

The contractor shall examine all areas of construction after completion of work by all trades (including telephone installation, flooring, etc.) And indicate all necessary "touch-up" painting and/or patching.

It is the intent of the drawings that all exposed surfaces receive finishes as indicated on drawings and specifications unless specifically noted. Otherwise any surface that does not have a specific finish noted or are noted "to remain unfinished" shall be brought to the attention of the architect and finished per the architect's instructions.

The contractor shall be responsible for complying with all local VOC (volatile organic compounds) regulations for primers, paints, solvents, and adhesives.

Contractor is to coordinate keying requirements with tenant prior to ordering cylinders for locksets. Keying information shall include hierarchy of security and number of master keys.

All locksets shall be coded and/or keyed in accordance with the building requirements. Codes and/or keys are to be delivered to tenant properly tested and/or tagged. The number of master and passkeys shall be coordinated with building management.

ELECTRICAL NOTES:

Lighting to be building standard 2 x 4 or reuse/relocate existing as shown on plan (unless noted otherwise)

All light fixtures salvaged for reuse shall be thoroughly cleaned prior to reinstallation and re-lamped after re-installation.

The general contractor shall provide all sleeves and fireproofing at any penetrations in rated partitions as required by state and local codes.

The contractor shall remove all electrical switch plates, outlet plates, surface hardware, etc., prior to painting, protecting and replacing it when painting is complete.

FIRE PROTECTION SPECIALTIES:

Fire Extinguisher:
Provide 10 lb. Multi-Purpose Chemical A,B,C "Cosmic Extinguishers" by JL Industries or approved equal.

ACCESSIBILITY NOTES:

The completed project must meet NCSBC, ICC/ ANSI 117.1-2009, and ADA requirements.

Door closers shall be certified by the manufacturer to meet the requirements of the ADA and NCSBC. Installation and adjustments must also comply for operational criteria. For example, the force to open interior doors must not exceed 5 pounds and exterior doors must not exceed 8-1/2 pounds.

Door closers shall meet the NCSBC requirements for sweep period.

Installed floor finishes shall comply with the NCSBC and ADA for accessible surfaces including but not limited to attachment security, carpet pile height and type, and slip resistant characteristics.

All signage must comply with NCSBC and ADA standards for visibility and communication. The supplier must certify this compliance.

When applicable the cabinet supplier will provide break room sink that complies with the NCSBC and ADA for accessibility, clearances and counter height requirements. Coordinate with break room sink supplier to maintain under counter clearances.

All controls, devices, handles, latches, thresholds, transitions, and ramps shall comply with the NCSBC & the Americans w/ Disabilities act. Coordinate any discrepancies with tenant, building owner, and architect.

Abbreviations:

AFF	Above finished floor.
ADA	Americans w/ Disabilities Act incl. current amendments
BFF	Below finished floor
GWB	Gypsum wallboard
NCSBC	North Carolina state building code, current revision, including all volumes and references

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DAVID VIRGIL SEARS REGISTERED ARCHITECT 9887 CARY, N.C.
07.28.23
IS DESIGN PLLC ARCHITECTURAL COMPANY 54070 N.C. RALEIGH, N.C.

A Tenant Alteration for
HARVEY JOHNS STEAKHOUSE
1501 N. Raleigh Street, Suite G
Angier, NC

JOB #: 23C1C1HARVEYJOHNS

DWG BY: DVS
CHK BY: DVS
DATE: 07/28/23
REV NO DATE

GENERAL NOTES

SHEET NUMBER
G-4

FIRE-RESISTANCE DESIGN

Assembly Usage Disclaimer

BXUV - Fire Resistance Ratings - ANSI/UL 263 Certified for United States

BXUV7 - Fire Resistance Ratings - CAN/ULC-S101 Certified for Canada

See General Information for Fire-resistance Ratings - ANSI/UL 263 Certified for United States
Design Criteria and Allowable Variances

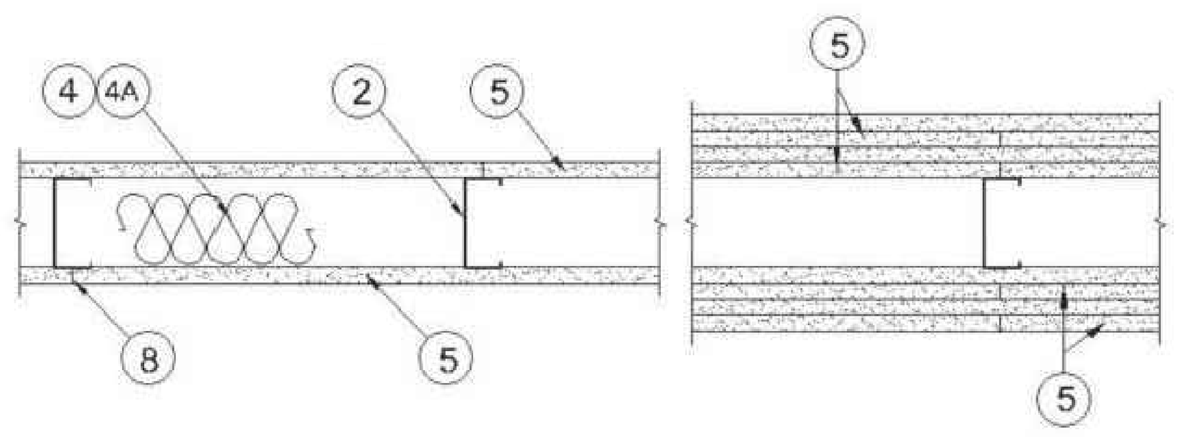
See General Information for Fire Resistance Ratings - CAN/ULC-S101 Certified for Canada
Design Criteria and Allowable Variances

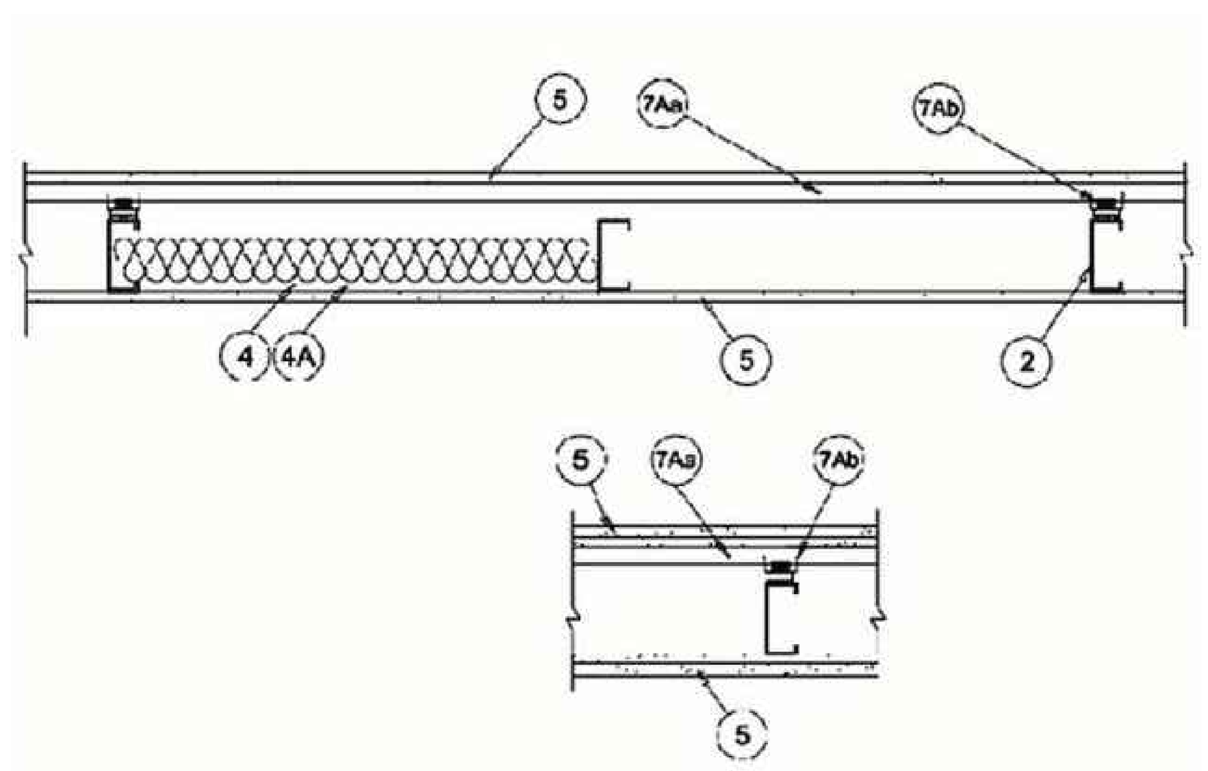
Design No. U419

September 13, 2019

Nonbearing Wall Ratings — 1, 2, 3 or 4 Hr (See Items 4 & 5 through 5K)

*** Indicates such products shall bear the UL or cUL Certification Mark for jurisdictions employing the UL or cUL Certification (such as Canada), respectively.**





1. **Floor and Ceiling Runners —** (Not Shown) — For use with Item 2 — Channel shaped, fabricated from min 25 MSG corrosion-protected steel, min depth to accommodate stud size, with min 1-1/4 in. long legs, attached to floor and ceiling with fasteners 24 in. OC max.

1A. **Framing Members* — Floor and Ceiling Runner —** Not Shown — In lieu of Item 1 — For use with Item 2B, proprietary channel shaped runners, 3-5/8 in. deep attached to floor and ceiling with fasteners 24 in. OC max.
CALIFORNIA EXPANDED METAL PRODUCTS CO — Viper25™ Track

CRACO MFG INC — SmartTrack25™

MARINO/WARE, DIV OF WARE INDUSTRIES INC — Viper25™ Track

FUSION BUILDING PRODUCTS — Viper25™ Track

IMPERIAL MANUFACTURING GROUP INC — Viper25™ Track

1B. **Framing Members* — Floor and Ceiling Runner —** Not Shown — In lieu of Item 1 — For use with Item 2C, proprietary channel shaped runners, 1-1/4 in. wide by 3-5/8 in. deep fabricated from min 0.018 in. thick galv steel, attached to floor and ceiling with fasteners spaced 24 in. OC max.
CALIFORNIA EXPANDED METAL PRODUCTS CO — Viper20™ Track

MARINO/WARE, DIV OF WARE INDUSTRIES INC — Viper20™ Track

FUSION BUILDING PRODUCTS — Viper20™ Track

IMPERIAL MANUFACTURING GROUP INC — Viper20™ Track

1C. **Framing Members* — Floor and Ceiling Runners —** (Not Shown) — In lieu of Item 1 — Channel shaped, attached to floor and ceiling with fasteners 24 in. OC. max.
ALLSTEEL & GYPSUM PRODUCTS INC — Type SUPREME D24/30EQD and Type SUPREME D20

CONSOLIDATED FABRICATORS CORP, BUILDING PRODUCTS DIV — Type SUPREME D24/30EQD and Type SUPREME D20

QUAIL RUN BUILDING MATERIALS INC — Type SUPREME D24/30EQD and Type SUPREME D20

SCAFCO STEEL STUD MANUFACTURING CO — Type SUPREME D24/30EQD and Type SUPREME D20

STEEL CONSTRUCTION SYSTEMS INC — Type SUPREME D24/30EQD and Type SUPREME D20

UNITED METAL PRODUCTS INC — Type SUPREME D24/30EQD and Type SUPREME D20

1D. **Floor and Ceiling Runners —** (Not Shown) — For use with Item 2A — Channel shaped, fabricated from min 20 MSG corrosion-protected or galv steel, min depth to accommodate stud size, with min 1 in. long legs, attached to floor and ceiling with fasteners spaced max 24 in. OC.

1E. **Framing Members* — Floor and Ceiling Runners —** (Not Shown, As an alternate to Item 1) — For use with Items 2E, 5F or 5G or 5I only, channel shaped, fabricated from min. 0.015 in. (min bare metal thickness) galvanized steel, attached to floor and ceiling with fasteners 24 in. OC. max.
CLARKDIETRICH BUILDING SYSTEMS — CD ProTRAK

DMFCWBS L L C — ProTRAK

MBA METAL FRAMING — ProTRAK

RAM SALES L L C — Ram ProTRAK

STEEL STRUCTURAL PRODUCTS L L C — Tri-S ProTRAK

1F. **Framing Members* — Floor and Ceiling Runner —** Not Shown — In lieu of Item 1 — For use with Item 2F, proprietary channel shaped runners, minimum width to accommodate stud size, with 1- 1/8 in. long legs fabricated from min 0.015 in. (min bare metal thickness) galv steel, attached to floor and ceiling with fasteners spaced 24 in. OC max.
SUPER STUD BUILDING PRODUCTS — The Edge

1G. **Framing Members* — Floor and Ceiling Runner —** For use with Item 2G, proprietary channel shaped runners, minimum width to accommodate stud size attached to floor and ceiling with fasteners 24 in. OC max.
STUDCO BUILDING SYSTEMS — CROCSTUD Track

1H. **Floor and Ceiling Runners —** (Not Shown) — Channel shaped, fabricated from min 0.02 in. galv steel, min width to accommodate stud size, with min 1 in. long legs, for use with studs specified below and fabricated from min 0.018 in. galv steel or thicker, attached to floor and ceiling with fasteners spaced max 24 in. OC.
MARINO/WARE, DIV OF WARE INDUSTRIES INC — Viper20™ Track VT100

FUSION BUILDING PRODUCTS — Viper20™ Track VT100

IMPERIAL MANUFACTURING GROUP INC — Viper20™ Track VT100

1I. **Framing Members* — Floor and Ceiling Runners —** (Not Shown, As an alternate to Item 1) — For use with Items 2H, channel shaped, fabricated from min. 0.015 in. (min bare metal thickness) galvanized steel, attached to floor and ceiling with fasteners 24 in. OC. max.
TELLING INDUSTRIES L L C — TRUE-TRACK™

1J. **Framing Members* — Floor and Ceiling Runner —** Not Shown — In lieu of Item 1 — For use with Item 2I, proprietary channel shaped runners, 3-5/8 in. deep attached to floor and ceiling with fasteners 24 in. OC max.
TELLING INDUSTRIES L L C — Viper25™ Track

1K. **Framing Members* — Floor and Ceiling Runner —** Not Shown — In lieu of Item 1 — For use with Item 2J, proprietary channel shaped runners, 1-1/4 in. wide by 3-5/8 in. deep fabricated from min 0.018 in. thick galv steel, attached to floor and ceiling with fasteners spaced 24 in. OC max.
TELLING INDUSTRIES L L C — Viper20™ Track

1L. **Framing Members* — Floor and Ceiling Runner —** Not Shown — In lieu of Item 1 — For use with Item 2N, proprietary channel shaped runners, 1-1/4 in. wide by min. 3-1/2 in. deep fabricated from min 0.018 in. thick galv steel, attached to floor and ceiling with fasteners spaced 24 in. OC max.
STEEL INVESTMENT GROUP L L C — AlphaTRAK

1M. **Framing Members* — Floor and Ceiling Runners —** Not Shown — As an alternate to Item 1 — For use with Item 2O, proprietary channel shaped runners, min width to accommodate stud size, galv steel, attached to floor and ceiling with fasteners spaced 24 in. OC max.
RONDO BUILDING SERVICES PTY LTD — Rondo Wall Track

1N. **Framing Members* — Floor and Ceiling Runners —** Not Shown — As an alternate to Item 1 — For use with Item 2P, proprietary channel shaped runners, min width to accommodate stud size, galv steel, attached to floor and ceiling with fasteners spaced 24 in. OC max.
OEG BUILDING MATERIALS — OEG Track

1O. **Framing Members* — Floor and Ceiling Runner —** Not Shown — In lieu of Item 1 — For use with Item 2Q, proprietary channel shaped runners, min width to accommodate stud size, fabricated from min. 25 MSG (0.018 in. min. bare metal thickness), attached to floor and ceiling with fasteners spaced 24 in. OC max.
CALIFORNIA EXPANDED METAL PRODUCTS CO — Viper X Track

2. **Steel Studs —** Channel shaped, fabricated from min 25 MSG corrosion-protected steel, min depth as indicated under Item 5, spaced a max of 24 in. OC. Studs to be cut 3/8 to 3/4 in. less than assembly height.

2A. **Steel Studs —** (As an alternate to Item 2, For use with Items 5B, 5E, 5H, 5J and 5K) — Channel shaped, fabricated from min 20 MSG corrosion-protected or galv steel, 3-1/2 in. min depth, spaced a max of 16 in. OC. Studs friction-fit into floor and ceiling runners. Studs to be cut 5/8 to 3/4 in. less than assembly height.

2B. **Framing Members* - Steel Studs —** (As an alternate to Item 2, For use with Items 5C, 5I or 5K) — Proprietary channel shaped studs, 3-5/8 in. deep spaced a max of 24 in. OC. Studs to be cut 3/4 in less than the assembly height and installed with a 1/2 in. gap between the end of the stud and track at the bottom of the wall. For direct attachment of gypsum board only.
CALIFORNIA EXPANDED METAL PRODUCTS CO — Viper25™

CRACO MFG INC — SmartStud25™

MARINO/WARE, DIV OF WARE INDUSTRIES INC — Viper25™

FUSION BUILDING PRODUCTS — Viper25™

IMPERIAL MANUFACTURING GROUP INC — Viper25™

2C. **Framing Members* — Steel Studs —** Not Shown — In lieu of Item 2 — proprietary channel shaped steel studs, min depth as indicated under Item 5, spaced a max if 24 in. OC, fabricated from min 0.018 in. thick galv steel. Studs cut 3/8 in. to 3/4 in. less in lengths than assembly heights.
CALIFORNIA EXPANDED METAL PRODUCTS CO — Viper20™

MARINO/WARE, DIV OF WARE INDUSTRIES INC — Viper20™

FUSION BUILDING PRODUCTS — Viper20™

IMPERIAL MANUFACTURING GROUP INC — Viper20™

2D. **Framing Members* — Steel Studs —** In lieu of Item 2 — Channel shaped studs, min depth as indicated under Item 5, spaced a max of 24 in. OC. Studs to be cut 3/4 in. less than assembly height.
ALLSTEEL & GYPSUM PRODUCTS INC — Type SUPREME D24/30EQD and Type SUPREME D20

CONSOLIDATED FABRICATORS CORP, BUILDING PRODUCTS DIV — Type SUPREME D24/30EQD and Type SUPREME D20

QUAIL RUN BUILDING MATERIALS INC — Type SUPREME D24/30EQD and Type SUPREME D20

SCAFCO STEEL STUD MANUFACTURING CO — Type SUPREME D24/30EQD and Type SUPREME D20

STEEL CONSTRUCTION SYSTEMS INC — Type SUPREME D24/30EQD and Type SUPREME D20

UNITED METAL PRODUCTS INC — Type SUPREME D24/30EQD and Type SUPREME D20

2E. **Framing Members* — Steel Studs —** (Not Shown, As an alternate to Item 2) — For use with Items 5F or 5G or 5I or 5K only, channel shaped studs, min depth as indicated under Item 5F, 5G or 5I, fabricated from min. 0.015 in. (min bare metal thickness) galvanized steel, spaced a max of 24 in. OC. Studs to be cut 3/4 in. less than assembly height.
CLARKDIETRICH BUILDING SYSTEMS — CD ProSTUD

DMFCWBS L L C — ProSTUD

MBA METAL FRAMING — ProSTUD

RAM SALES L L C — Ram ProSTUD

STEEL STRUCTURAL PRODUCTS L L C — Tri-S ProSTUD

2F. **Framing Members* — Steel Studs —** Not Shown — In lieu of Item 2 — proprietary channel shaped steel studs, minimum width indicated under Item 5, 1-1/4 in. deep fabricated from min 0.015 in. (min bare metal thickness) galvanized steel. Studs 3/8 in. to 3/4 in. less in lengths than assembly heights.
SUPER STUD BUILDING PRODUCTS — The Edge

2G. **Framing Members* — Steel Studs —** Not Shown — In lieu of Item 2 — proprietary channel shaped studs, minimum width indicated under Item 5, Studs to be cut 3/8 to 3/4 in less than the assembly height.
STUDCO BUILDING SYSTEMS — CROCSTUD

2H. **Framing Members* — Steel Studs —** (Not Shown, As an alternate to Item 2) — Fabricated from min. 0.015 in. (min bare metal thickness) galvanized steel,

spaced a max of 24 in. OC. Studs to be cut 3/4 in. less than assembly height.
TELLING INDUSTRIES L L C — TRUE-STUD™

2I. **Framing Members* — Steel Studs —** (As an alternate to Item 2, For use with Items 5C or 5L or 5K) — Proprietary channel shaped studs, 3-5/8 in. deep spaced a max of 24 in. OC. Studs to be cut 3/4 in less than the assembly height and installed with a 1/2 in. gap between the end of the stud and track at the bottom of the wall. For direct attachment of gypsum board only.
TELLING INDUSTRIES L L C — Viper25™

2J. **Framing Members* — Metal Studs —** Not Shown — In lieu of Item 2 — proprietary channel shaped steel studs, min depth as indicated under Item 5, spaced a max if 24 in. OC, fabricated from min 0.018 in. thick galv steel. Studs cut 3/8 in. to 3/4 in. less in lengths than assembly heights
TELLING INDUSTRIES L L C — Viper20™

2K. **Framing Members* — Steel Studs —** As an alternate to Item 2 — For use with Item 1, channel shaped studs, fabricated from min 25 MSG corrosion-protected steel, min depth as indicated under Item 5, spaced a max of 24 in. OC. Studs to be cut 3/8 to 3/4 in. less than assembly height.
EB METAL INC — NITROSTUD

2L. **Framing Members* — Steel Studs —** As an alternate to Item 2 — For use with Item 1, channel shaped studs, fabricated from min 25 MSG corrosion-protected steel, min depth as indicated under Item 5, spaced a max of 24 in. OC. Studs to be cut 3/8 to 3/4 in. less than assembly height.
OLMAR SUPPLY INC — PRIMESTUD

2M. **Framing Members* — Steel Studs —** As an alternate to Item 2 — For use with Item 1, channel shaped studs, fabricated from min 25 MSG corrosion-protected steel, min depth as indicated under Item 5, spaced a max of 24 in. OC. Studs to be cut 3/8 to 3/4 in. less than assembly height.
MARINO/WARE, DIV OF WARE INDUSTRIES INC — StudRite™

2N. **Framing Members*— Steel Studs —** As an alternate to Item 2 — proprietary channel shaped steel studs, min depth 3-1/2 in. and as indicated under Item 5, spaced a max of 24 in. OC, fabricated from min 0.018 in. thick galv steel. Studs cut 3/8 in. to 3/4 in. less in length than assembly height.
STEEL INVESTMENT GROUP L L C — AlphaSTUD

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9987
CARY, N.C.
07.28.23

IS DESIGN PLLC
ARCHITECTURAL COMPANY
54070
RALEIGH, N.C.

A Tenant Alteration for
HARVEY JOHNS STEAKHOUSE
1501 N. Raleigh Street, Suite G
Angier, NC

JOB #:
23C1C1HARVEYJOHNS

DWG BY: DVS
CHK BY: DVS
DATE: 07/28/23
REV NO DATE

UL DETAILS

SHEET NUMBER

G-5

2O. **Framing Members* — Steel Studs —** As an alternate to Item 2 — proprietary channel shaped steel studs, min width as indicated under Item 5, galv steel. Studs to be cut 3/8 to 3/4 in. less in lengths than assembly height. Spaced 24 in. OC max.
RONDO BUILDING SERVICES PTY LTD — Rondo Lipped Wall Stud

2P. **Framing Members* — Steel Studs —** As an alternate to Item 2 — proprietary channel shaped steel studs, min width as indicated under Item 5, min 25 MSG galv steel. Studs to be cut 3/8 to 3/4 in. less in lengths than assembly height. Spaced 24 in. OC max.
OEG BUILDING MATERIALS — OEG Stud

2Q. **Framing Members* — Steel Studs —** Not Shown — In lieu of Item 2 — For use with Item 1O, proprietary channel shaped steel studs, min depth as indicated under Item 5, spaced a max of 24 in. OC, fabricated from min 25 MSG (0.018 in. min. bare metal thickness). Studs cut 3/8 in. to 3/4 in. less in lengths than assembly heights.
CALIFORNIA EXPANDED METAL PRODUCTS CO — Viper X

3. **Wood Structural Panel Sheathing —** (Optional, For use with Item 5 Only) — (Not Shown) — 4 ft wide, 7/16 in. thick oriented strand board (OSB) or 15/32 in. thick structural 1 sheathing (plywood) complying with DOC PS1 or PS2, or APA Standard PRP-108, manufactured with exterior glue, applied horizontally or vertically to the steel studs. Vertical joints centered on studs, and staggered one stud space from wallboard joints. Attached to studs with flat-head self-drilling tapping screws with a min. head diam. of 0.292 in. at maximum 6 in. OC. in the perimeter and 12 in. OC. in the field. When used, gypsum panels attached over OSB or plywood panels and fastener lengths for gypsum panels increased by min. 1/2 in.

4. **Batts and Blankets* —** (Required as indicated under Item 5) — Mineral wool batts, friction fitted between studs and runners. Min nom thickness as indicated under Item 5.

See **Batts and Blankets** (BKNV or BZJZ) Categories for names of Classified companies.

4A. **Batts and Blankets* —** (Optional) — Placed in stud cavities, any glass fiber or mineral wool insulation bearing the UL Classification Marking as to Surface Burning Characteristics and/or Fire Resistance.

See **Batts and Blankets** (BKNV or BZJZ) Categories for names of Classified companies.

4B. **Batts and Blankets* —** For use with Item 5K. Placed in stud cavities, any min. 3-1/2 in. thick glass fiber insulation bearing the UL Classification Marking as to Surface Burning Characteristics and/or Fire Resistance.

See **Batts and Blankets** (BKNV or BZJZ) Categories for names of Classified companies.

4C. **Fiber, Sprayed* —** (Optional) and as an alternate to Batts and Blankets (Item 4B) where insulation is required - Spray applied granulated mineral fiber material. The fiber is applied with adhesive at a minimum density of 4.0 pcf to completely fill the wall cavity in accordance with the application instructions supplied with the product. See **Fiber, Sprayed** (CCAZ).
AMERICAN ROCKWOOL MANUFACTURING, LLC — Type Rockwool Premium Plus

5. **Gypsum Board* —** Gypsum panels with beveled, square or tapered edges, applied vertically or horizontally. Vertical joints centered over studs and staggered one stud cavity on opposite sides of studs. Vertical joints in adjacent layers (multilayer systems) staggered one stud cavity. Horizontal joints need not be backed by steel framing. Horizontal edge joints and horizontal butt joints on opposite sides of studs need not be staggered. Horizontal edge joints and horizontal butt joints in adjacent layers (multilayer systems) staggered a min of 12 in. The thickness and number of layers for the 1 hr, 2 hr, 3 hr and 4 hr ratings are as follows:

Gypsum Board Protection on Each Side of Wall

Rating, Hr	Min Stud Depth, in. Items 2, 2C, 2D, 2F, 2G, 2O	No. of Layers & Thkns of Panel	Min Thkns of Insulation (Item 4)
1	3-1/2	1 layer, 5/8 in. thick	Optional
1	2-1/2	1 layer, 1/2 in. thick	1-1/2 in.
1	1-5/8	1 layer, 3/4 in. thick	Optional
2	1-5/8	2 layers, 1/2 in. thick	Optional
2	1-5/8	2 layers, 5/8 in. thick	Optional
2	3-1/2	1 layer, 3/4 in. thick	3 in.
3	1-5/8	3 layers, 1/2 in. thick	Optional
3	1-5/8	2 layers, 3/4 in. thick	Optional
3	1-5/8	3 layers, 5/8 in. thick	Optional
4	1-5/8	4 layers, 5/8 in. thick	Optional
4	1-5/8	4 layers, 1/2 in. thick	Optional
4	2-1/2	2 layers, 3/4 in. thick	2 in.

CGC INC — 1/2 in. thick Type C, IP-X2 or IPC-AR; WRC, 5/8 in. thick Type AR, C, IP-AR, IP-X1, IP-X2, IPC-AR, SCX, SHX, WRX or WRC; 3/4 in. thick Types IP-X3 or ULTRACODE

UNITED STATES GYPSUM CO — 1/2 in. thick Type C, IP-X2, IPC-AR or WRC; 5/8 in. thick Type SCX, SGX, SHX, WRX, IP-X1, AR, C, WRC, FRX-G, IP-AR, IP-X2, IPC-AR; 3/4 in. thick Types IP-X3 or ULTRACODE

USG BORAL DRYWALL SFZ LLC — 1/2 in. Type C; 5/8 in. Types C, SCX, SGX, ULTRACODE

USG MEXICO S A DE C V — 1/2 in. thick Type C, IP-X2, IPC-AR or WRC; 5/8 in. thick Type AR, C, IP-AR, IP-X1, IP-X2, IPC-AR, SCX, SHX, WRX, WRC or; 3/4 in. thick Types IP-X3 or ULTRACODE

When Item 7B, **Steel Framing Members***, is used, Nonbearing Wall Rating is limited to 1 Hr. Min. stud depth is 3-1/2 in., min. thickness of insulation (Item 4) is 3 in., and two layers of gypsum board panels (1/2 in. or 5/8 in. thick) shall be attached to furring channels as described in Item 6. One layer of gypsum board panels (1/2 in. or 5/8 in. thick) attached to opposite side of stud without furring channels as described in Item 6.

5A. **Gypsum Board* —** (As an alternate to Item 5) — 5/8 in. thick, 24 to 54 in. wide, applied horizontally as the outer layer to one side of the assembly. Secured as described in Item 6.
CGC INC — Type SHX.

UNITED STATES GYPSUM CO — Type FRX-G, SHX.

USG MEXICO S A DE C V — Type SHX.

5B. **Gypsum Board* —** (Not Shown) — As an alternate to Item 5 when used as the base layer on one or both sides of wall when 5/8 in or 3/4 in. thick products are specified. For direct attachment only to steel studs Item 2A, (not to be used with Item 3) — Nom 5/8 in. or 3/4 in. may be used as alternate to all 5/8 in. or 3/4 in. shown in Item 5, Wallboard Protection on Each Side of Wall table. Nom 5/8 in. or 3/4 in. thick lead backed gypsum panels with beveled, square or tapered edges, applied vertically. Vertical joints centered over studs and staggered min 1 stud cavity on opposite sides of studs. Gypsum board secured to 20 MSG steel studs Item 2A with 1-1/4 in. long Type S-12 steel screws spaced 8 in. OC at perimeter and 12 in. OC in the field. To be used with Lead Batten Strips (see Item 11) or Lead Discs or Tabs (see Item 12).
RAY-BAR ENGINEERING CORP — Type RB-LBG

5C. **Gypsum Board* —** (For Use With Item 2B) — Rating Limited to 1 Hour. 5/8 in. thick, 48 in. wide, Gypsum panels with beveled, square or tapered edges, applied vertically or horizontally. (Vertical Application) - The gypsum board is to be installed on each side of the studs with 1 in. long Type S coated steel screws spaced 8 in. OC starting 4 in. from the edge of the board at the vertical edges and 12 in. OC starting 6 in. from the edge of the board at the center of each board. Gypsum boards are to be secured to the top and bottom track with screws spaced 8 in. OC starting 4 in. from the board edge. Fasteners shall not penetrate through both the stud and the track at the same time. Vertical joints are to be centered over studs and staggered one stud cavity on opposite sides of studs. (Horizontal Application) - The gypsum board is to be installed on each side of the studs with 1 in. long Type S coated steel screws spaced 8 in. OC starting 4 in. from the edge of the board at the vertical edges and 12 in. OC starting 6 in. from the edge of the board at the center of each board. Gypsum boards are to be secured to the top and bottom track with screws spaced 8 in. OC starting 4 in. from the board edge. Fasteners shall not penetrate through both the stud and the track at the same time. All horizontal joints are to be backed as outlined under section VI of Volume 1 in the Fire Resistive Directory.
CGC INC — Type SCX.

UNITED STATES GYPSUM CO — Type SCX, SGX.

USG BORAL DRYWALL SFZ LLC — Type SCX

USG MEXICO S A DE C V — Type SCX

5D. **Gypsum Board* —** (As an alternate to Item 5) — 5/8 in. thick, 48 in. wide, applied vertically or horizontally. Secured as described in Item 6. For use with Items 1 and 2 only.
CGC INC — Type USGX

UNITED STATES GYPSUM CO — Type USGX

USG BORAL DRYWALL SFZ LLC — Type USGX

USG MEXICO S A DE C V — Type USGX

5E. **Gypsum Board* —** (Not Shown) — (As an alternate to Item 5 when used as the base layer on one or both sides of wall when 1/2 in. or 5/8 in thick products are specified, For direct attachment only to steel studs Item 2A, not to be used with Item 3). Nominal 5/8 in. thick lead backed gypsum panels with beveled, square or tapered edges, applied vertically. Vertical joints centered over studs and staggered min 1 stud cavity on opposite sides of studs. Wallboard secured to studs with 1-1/4 in. long Type S-12 (or No. 6 by 1-1/4 in. long bugle head fine driller) steel screws spaced 8 in. OC at perimeter and 12 in. OC in the field.
NEW ENGLAND LEAD BURNING CO INC, DBA NELCO — Nelco

5F. **Gypsum Board* —** (As an alternate to Item 5) — For use with Items 1E and 2E and limited to 1 Hour Rating only, Gypsum panels with beveled, square or tapered edges, applied vertically, and fastened to the steel studs with 1 in. long Type S screws spaced 8 in. OC along vertical and bottom edges and 12 in. OC in the field. Vertical joints centered over studs and staggered one stud cavity on opposite sides of studs. Steel stud depth shall be a minimum 3-5/8 in.
UNITED STATES GYPSUM CO — 5/8 in. thick Type SCX, SGX

USG BORAL DRYWALL SFZ LLC — 5/8 in. thick Type SCX, SGX

5G. **Gypsum Board* —** (As an alternate to Item 5) — For use with Items 1E and 2E only, Gypsum panels with beveled, square or tapered edges, applied vertically or horizontally, as specified in the table below and fastened to the steel studs as described in Item 6. Vertical joints centered over studs and staggered one stud cavity on opposite sides of studs. Vertical joints in adjacent layers (multilayer systems) staggered one stud cavity. Horizontal joints need not be backed by steel framing. Horizontal edge joints and horizontal butt joints on opposite sides of studs need not be staggered. Horizontal edge joints and horizontal butt joints in adjacent layers (multilayer systems) staggered a min of 12 in. The thickness and number of layers for the 2 hr, 3 hr and 4 hr ratings are as follows:

Gypsum Board Protection on Each Side of Wall

Rating, Hr	Min Stud Depth, in. Item 2E	No. of Layers & Thickness of Panel	Min Thkns of Insulation (Item 4)
2	1-5/8	2 layers, 1/2 in. thick	Optional
2	1-5/8	2 layers, 5/8 in. thick	Optional
3	1-5/8	3 layers, 1/2 in. thick	Optional
3	1-5/8	3 layers, 5/8 in. thick	Optional
4	1-5/8	4 layers, 5/8 in. thick	Optional
4	1-5/8	4 layers, 1/2 in. thick	Optional

CGC INC — 1/2 in. thick Type C, IP-X2 or IPC-AR;, 5/8 in. thick Type AR, C, IP-AR, IP-X1, IP-X2, IPC-AR, SCX, SHX, or; 3/4 in. thick Types IP-X3 or ULTRACODE

UNITED STATES GYPSUM CO — 1/2 in. thick Type C, IP-X2, IPC-AR or; 5/8 in. thick Type SCX, SGX, SHX, IP-X1, AR, C, , FRX-G, IP-AR, IP-X2, IPC-AR, ULIX; 3/4 in. thick Types IP-X3 or ULTRACODE

USG BORAL DRYWALL SFZ LLC — 1/2 in. Type C; 5/8 in. Types C, SCX, SGX, ULTRACODE

USG MEXICO S A DE C V — 1/2 in. thick Type C, IP-X2, IPC-AR or; 5/8 in. thick Type AR, C, IP-AR, IP-X1, IP-X2, IPC-AR, SCX, SHX, or; 3/4 in. thick Types IP-X3 or ULTRACODE

5H. **Gypsum Board* —** (Not Shown) — (As an alternate to Item 5 when used as the base layer on one or both sides of wall when 5/8 or 3/4 in thick products are specified. For direct attachment only to steel studs Item 2A, (not to be used with Item 3) - Nom 5/8 or 3/4 in. may be used as alternate to all 5/8 or 3/4 in. shown in Item 5, Wallboard Protection on Each Side of Wall table. Nom 5/8 or 3/4 in. thick lead backed gypsum panels with beveled, square or tapered edges, applied vertically. Vertical joints centered over 20 MSG steel studs and staggered min 1 stud cavity on opposite sides of studs. Wallboard secured to studs with 1-1/4 in. long Type S-12 steel screws spaced 8 in. OC at perimeter and 12 in. OC in the field. Gypsum board secured to 20 MSG steel studs Item 2B with 1-1/4 in. long Type S-12 steel screws spaced 8 in. OC at perimeter and 12 in. OC in the field. For Joint Compound see Item 5. To be used with Lead Batten Strips (see Item 11A) or Lead Discs (see Item 12A).
MAYCO INDUSTRIES INC — Type X-Ray Shielded Gypsum

5I. **Gypsum Board* —** (As an alternate to Item 5) — Nom. 5/8 in. thick gypsum panels with beveled, square or tapered edges installed as described in Item 5. Steel stud minimum depth shall be as indicated in Item 5.
CGC INC — Type ULX

UNITED STATES GYPSUM CO — Type ULX

USG MEXICO S A DE C V — Type ULX

5J. **Gypsum Board* —** (Not Shown) — (As an alternate to Item 5 when used as the base layer on one or both sides of wall when 1/2 in. or 5/8 in thick products are specified, For direct attachment only to steel studs Item 2A, not to be used with Item 3). Nom 5/8 in. thick lead backed gypsum panels with beveled, square or tapered edges, applied vertically. Vertical joints centered over studs and staggered min 1 stud cavity on opposite sides of studs. Wallboard secured to studs with 1-1/4 in. long Type S-12 steel screws gypsum panel steel screws spaced 8 in. OC at perimeter and 12 in. OC in the field. Lead batten strips required behind vertical joints of lead backed gypsum wallboard and optional at remaining stud locations. Lead batten strips, min 2 in. wide, max 8 ft long with a max thickness of 0.14 in. placed on the face of studs and attached to the stud with construction adhesive and two 1 in. long Type S-12 pan head steel screws, one at the top of the strip and one at the bottom of the strip. Lead discs, nominal 3/8 in. diam by max 0.085 in. thick. Compression fitted or adhered over the screw heads. Lead batten strips and discs to have a purity of 99.9% meeting the Federal specification QQ-L-201f, Grade "C".
RADIATION PROTECTION PRODUCTS INC — Type RPP - Lead Lined Drywall

5K. **Gypsum Board* —** (Not Shown) — (As an alternate to Item 5) — Nom. 5/8 in. thick gypsum panels with beveled, square or tapered edges, applied vertically or horizontally. Vertical joints centered over studs and staggered one stud cavity on opposite sides of studs. Vertical joints in adjacent layers (multilayer systems) staggered one stud cavity. Horizontal joints need not be backed by steel framing. Horizontal edge joints and horizontal butt joints on opposite sides of studs need not be staggered. Horizontal edge joints and horizontal butt joints in adjacent layers (multilayer systems) need not be staggered. The number of layers for the 1 hr, 2 hr, 3 hr and 4 hr ratings are as follows:

Gypsum Board Protection on Each Side of Wall

Rating, Hr	Min Stud Depth, in. Items 2 through 2O	No. of Layers & Thkns of Panel	Min Thkns of Insulation (Item 4B)
1	3-5/8	1 layer, 5/8 in. thick	3-1/2 in.
2	1-5/8	2 layers, 5/8 in. thick	Optional
3	1-5/8	3 layers, 5/8 in. thick	Optional
4	1-5/8	4 layers, 5/8 in. thick	Optional

UNITED STATES GYPSUM CO — 5/8 in. thick Type ULIX

6. **Fasteners —** (Not Shown) — For use with Items 2 and 2F - Type S or S-12 steel screws used to attach panels to studs (Item 2) or furring channels (Item 7). **Single layer systems:** 1 in. long for 1/2 and 5/8 in. thick panels or 1-1/4 in. long for 3/4 in. thick panels, spaced 8 in. OC when panels are applied horizontally, or 8 in. OC along vertical and bottom edges and 12 in. OC in the field when panels are applied vertically. **Two layer systems:** First layer- 1 in. long for 1/2 and 5/8 in. thick panels or 1-1/4 in. long for 3/4 in. thick panels, spaced 16 in. OC. Second layer- 1-5/8 in. long for 1/2 in., 5/8 in. thick panels or 2-1/4 in. long for 3/4 in. thick panels, spaced 16 in. OC with screws offset 8 in. from first layer.**Three-layer systems:** First layer- 1 in. long for 1/2 in., 5/8 in. thick panels, spaced 24 in. OC. Second layer- 1-5/8 in. long for 1/2 in., 5/8 in. thick panels, spaced 24 in. OC. Third layer- 2-1/4 in. long for 1/2 in., 5/8 in. thick panels or 2-5/8 in. long for 5/8 in. thick panels, spaced 12 in. OC. Screws offset min 6 in. from layer below. **Four-layer systems:** First layer- 1 in. long for 1/2 in., 5/8 in. thick panels, spaced 24 in. OC. Second layer- 1-5/8 in. long for 1/2 in., 5/8 in. thick panels, spaced 24 in. OC. Third layer- 2-1/4 in. long for 1/2 in. thick panels or 2-5/8 in. long for 5/8 in. thick panels, spaced 24 in. OC. Fourth layer- 2-5/8 in. long for 1/2 in. thick panels or 3 in. long for 5/8 in. thick panels, spaced 12 in. OC. Screws offset min 6 in. from layer below.

7. **Furring Channels —** (Optional, Not Shown, for single or double layer systems) — Resilient furring channels fabricated from min 25 MSG corrosion-protected steel, spaced vertically a max of 24 in. OC. Flange portion attached to each intersecting stud with 1/2 in. long Type S-12 steel screws. Not for use with Item 5A.

7A. **Framing Members* —** (Optional on one or both sides, not shown, for single or double layer systems) — As an alternate to Item 7, furring channels and Steel Framing Members as described below:

a. **Furring Channels —** Formed of No. 25 MSG galv steel. 2-9/16 in. or 2-23/32 in. wide by 7/8 in. deep, spaced max. 24 in. OC perpendicular to studs. Channels secured to studs as described in Item b. Gypsum board attached to furring channels as described in Item 6. Not for use with Item 5A.

b. **Steel Framing Members* —** Used to attach furring channels (Item 7Aa) to studs (Item 2). Clips spaced max. 48 in. OC. RSIC-1 and RSIC-1 (2.75) clips secured to studs with No. 8 x 1-1/2 in. minimum self-drilling, S-12 steel screw through the center grommet. RSIC-V and RSIC-V (2.75) clips secured to studs with No. 8 x 9/16 in. minimum self-drilling, S-12 steel screw through the center hole. Furring channels are friction fitted into clips. RSIC-1 and RSIC-V clips for use with 2-9/16 in. wide furring channels. RSIC-1 (2.75) and RSIC-V (2.75) clips for use with 2-23/32 in. wide furring channels.
PAC INTERNATIONAL L L C — Types RSIC-1, RSIC-V, RSIC-1 (2.75), RSIC-V (2.75).

7B. **Framing Members* —** (Optional, Not Shown) — As an alternate to Item 7, for single or double layer systems, furring channels and Steel Framing Members on only one side of studs as described below:

a. **Furring Channels —** Formed of No. 25 MSG galv steel, spaced 24 in. OC perpendicular to studs. Channels secured to studs as described in Item b. Batts and Blankets placed in stud cavity as described in Item 5. Two layers of gypsum board attached to furring channels as described in Item 5. Not for use with Item 5A.

b. **Steel Framing Members* —** Used to attach furring channels (Item 7Ba) to one side of studs (Item 2) only. Clips spaced 48 in. OC., and secured to studs with two No. 8 x 2-1/2 in. coarse drywall

A Tenant Alteration for
HARVEY JOHNS STEAKHOUSE
1501 N. Raleigh Street, Suite G
Angier, NC

JOB #: 23C1C1HARVEYJOHNS

DWG BY: DVS
CHK BY: DVS
DATE: 07/28/23
REV NO DATE

UL DETAILS

SHEET NUMBER
G-6

screws, one through the hole at each end of the clip. Furring channels are friction fitted into clips.
KINETICS NOISE CONTROL INC — Type Isomax

7C. **Framing Members* —** (Not Shown) — (Optional on one or both sides, not shown, for single or double layer systems) — As an alternate to Item 7, furring channels and Steel Framing Members as described below:

a. **Furring Channels —** Formed of No. 25 MSG galv steel. 2-3/8 in. wide by 7/8 in. deep, spaced max. 24 in. OC perpendicular to studs. Channels secured to studs as described in Item b. Gypsum board attached to furring channels as described in Item 6. Not for use with Item 5A.

b. **Steel Framing Members* —** Used to attach furring channels (Item 7Ca) to studs (Item 2). Clips spaced max. 48 in. OC. GENIECLIPS secured to studs with No. 8 x 1-1/2 in. minimum self-drilling, S-12 steel screw through the center grommet. Furring channels are friction fitted into clips.
PLITEQ INC — Type GENIECLIP

7D. **Steel Framing Members* —** (Optional on one or both sides, not shown, for single or double layer systems) — Furring channels and Steel Framing Members as described below:

a. **Furring Channels —** Formed of No. 25 MSG galv steel. Spaced 24 in. OC perpendicular to studs. Channels secured to studs as described in Item b. Ends of adjoining channels overlapped 6 in. and tied together with double strand of No. 18 AWG galvanized steel wire.. Gypsum board attached to furring channels as described in Item 6. Not for use with Item 5A.

b. **Steel Framing Members* —** Used to attach furring channels (Item 7Da) to studs. Clips spaced 48 in. OC., and secured to studs with 2 in. coarse drywall screw with 1 in. diam washer through the center hole. Furring channels are friction fitted into clips
STUDCO BUILDING SYSTEMS — RESILMOUNT Sound Isolation Clips - Type A237 or A237R

7E. **Steel Framing Members* —** (Optional on one or both sides, not shown, for single or double layer systems) — Furring channels and Steel Framing Members as described below:

a. **Furring Channels —** Formed of No. 25 MSG galv steel. Spaced 24 in. OC perpendicular to studs. Channels secured to studs as described in Item 7Eb. Ends of adjoining channels overlapped 6 in. and tied together with double strand of No. 18 AWG galvanized steel wire.. Gypsum board attached to furring channels as described in Item 6. Not for use with Item 5A and 5E.

b. **Steel Framing Members* —** Used to attach furring channels (Item 7Ea) to studs. Clips spaced 48 in. OC., and secured to studs with No. 8 x 2-1/2 in. coarse drywall screw through the center hole. Furring channels are friction fitted into clips.
REGUPOL AMERICA — Type SonusClip

7F. **Steel Framing Members* —** (Optional on one or both sides, not shown, for single or double layer systems) — Resilient channels and Steel Framing Members as described below:

a. **Resilient Channels —** Formed of No. 25 MSG galv steel, spaced 24 in. OC, and perpendicular to studs. Channels secured to studs as described in Item b. Ends of adjoining channels overlapped 6 in. and secured in place with two No. 8 15 x 1/2 in. Philips Modified Truss screws spaced 2-1/2 in. from the center of the overlap. Gypsum board attached to resilient channels as described in Item 5. Not for use with Item 5A and 5E.

b. **Steel Framing Members* —** Used to attach resilient channels (Item 7Fa) to studs. Clips spaced 48 in. OC., and secured to studs with No. 8 x 2-1/2 in. coarse drywall screw through the center hole. Resilient channels are secured to clips with one No. 10 x 1/2 in. pan-head self-drilling screw.
KEENE BUILDING PRODUCTS CO INC — Type RC+ Assurance Clip

7G. **Framing Members* —** (Optional on one or both sides, not shown, for single or double layer systems) — As an alternate to Item 7, furring channels and Steel Framing Members as described below:

a. **Furring Channels —** Formed of No. 25 MSG galv steel. 2-23/32 in. wide by 7/8 in. or 1-1/2 in. deep, spaced max. 24 in. OC perpendicular to studs. Channels secured to studs as described in Item b. Gypsum board attached to furring channels as described in Item 6. Not for use with Item 5A.

b. **Steel Framing Members* —** Used to attach furring channels (Item 7Ga) to studs (Item 2). Clips spaced max. 48 in. OC. Clips secured to studs with No. 8 x 1-1/2 in. minimum self-drilling, S-12 steel screw through the center hole. Furring channels are friction fitted into clips.
CLARKDIETRICH BUILDING SYSTEMS — Type ClarkDietrich Sound Clip

8. **Joint Tape and Compound —** Vinyl or casein, dry or premixed joint compound applied in two coats to joints and screw heads of outer layers. Paper tape, nom 2 in. wide, embedded in first layer of compound over all joints of outer layer panels. Paper tape and joint compound may be omitted when gypsum panels are supplied with a square edge.

9. **Siding, Brick or Stucco —** (Optional, Not Shown) — Aluminum, vinyl or steel siding, brick veneer or stucco, meeting the requirements of local code agencies, installed over gypsum panels. Brick veneer attached to studs with corrugated metal wall ties attached to each stud with steel screws, not more than each sixth course of brick.

10. **Caulking and Sealants* —** (Optional, Not Shown) — A bead of acoustical sealant applied around the partition perimeter for sound control.
UNITED STATES GYPSUM CO — Type AS

11. **Lead Batten Strips —** (Not Shown, For Use With Item 5B) — Lead batten strips, min 1-1/2 in. wide, max 10 ft long with a max thickness of 0.125 in. Strips placed on the interior face of studs and attached from the exterior face of the stud with two 1 in. long Type S-12 pan head steel screws, one at the top of the strip and one at the bottom of the strip. Lead batten strips to have a purity of 99.9% meeting the Federal specification QQ-L-201f, Grade "C". Lead batten strips required behind vertical joints of lead backed gypsum wallboard (Item 5B) and optional at remaining stud locations. Required behind vertical joints.

11A. **Lead Batten Strips —** (Not Shown, For Use With Item 5H) — Lead batten strips, 2 in. wide, max 10 ft long with a max thickness of 0.140 in. Strips placed on the face of studs and attached to the stud with two min. 1 in. long min. Type S-8 pan head steel screws, one at the top of the strip and one at the bottom of the strip or with one min. 1 in. long min. Type S-8 pan head steel screw at the top of the strip. Lead batten strips to have a purity of 99.5% meeting the Federal specification QQ-L-201f, Grades "B, C or D". Lead batten strips required behind vertical joints of lead backed gypsum wallboard and optional at remaining stud locations.

12. **Lead Discs or Tabs —** (Not Shown, For Use With Item 5B) — Used in lieu of or in addition to the lead batten strips (Item 11) or optional at other locations - Max 3/4 in. diam by max 0.125 in. thick lead discs compression fitted or adhered over steel screw heads or max 1/2 in. by 1-1/4 in. by max 0.125 in. thick lead tabs placed on gypsum boards (Item 5B) underneath screw locations prior to the installation of the screws. Lead discs or tabs to have a purity of 99.9% meeting the Federal specification QQ-L-201f, Grade "C".

12A. **Lead Discs —** (Not Shown, for use with Item 5H) — Max 5/16 in. diam by max 0.140 in. thick lead discs compression fitted or adhered over steel screw heads. Lead discs to have a purity of 99.5% meeting the Federal Specification QQ-L-201f, Grades "B, C or D".

13. **Lead Batten Strips —** (Not Shown, For Use With Item 5E) — Lead batten strips, 2 in. wide, max 10 ft long with a max thickness of 0.142 in. Strips placed on the face of studs and attached to the stud with two min. 1 in. long min. Type S-8 pan head steel screws, one at the top of the strip and one at the bottom of the strip or with one min. 1 in. long min. Type S-8 pan head steel screw at the top of the strip. Lead batten strips to have a purity of 99.9% meeting the Federal specification QQ-L-201f, Grade "C". Lead batten strips required behind vertical joints of lead backed gypsum wallboard (Item 5E) and optional at remaining stud locations.

14. **Lead Tabs —** (Not Shown, For Use With Item 5E) — 2 in. wide, 5 in. long with a max thickness of 0.142 in. Tabs friction-fit around front face of stud, the stud folded back flange, and the back face of the stud. Tabs required at each location where a screw (that secures the gypsum boards, Item 5E) will penetrate the steel stud. Lead tabs to have a purity of 99.9% meeting the Federal specification QQ-L-201f, Grade "C". Lead tabs may be held in place with standard adhesive tape if necessary.

15. **Barrier Mesh —** (Optional, Not Shown) - Attached to steel studs on one or both sides of the wall using Barrier Mesh Clips spaced at maximum 12 inches on center vertically, using a flat head type screw penetrating through the steel at least 3/8 of an inch. For Steel Studs less than 0.033 inches in thickness, use self-piercing screws. For Steel Studs equal to or greater than 0.033 inches in thickness, use steel drill screws (self-tapping). Gypsum Board (Item 5) to be installed directly over the Barrier Mesh using prescribed screw patterns with lengths increased by a minimum 1/8 in. Barrier Mesh may be installed with the long dimension of the diamond pattern positioned vertically or horizontally. Barrier Mesh joints may occur as butt joints at the framing members and secured using the Barrier Mesh Clips or occur in between framing members as overlapping joints secured using 18 SWG wire ties spaced a maximum 12 in. on center.
CLARKDIETRICH BUILDING SYSTEMS — Barrier Mesh, Barrier Mesh Clips

*** Indicates such products shall bear the UL or cUL Certification Mark for jurisdictions employing the UL or cUL Certification (such as Canada), respectively.**

Last Updated on 2019-09-13

Design/System/Construction/Assembly Usage Disclaimer

- Authorities Having Jurisdiction should be consulted in all cases as to the particular requirements covering the installation and use of UL Certified products, equipment, system, devices, and materials.
- Authorities Having Jurisdiction should be consulted before construction.
- Fire resistance assemblies and products are developed by the design submitter and have been investigated by UL for compliance with applicable requirements. The published information cannot always address every construction nuance encountered in the field.
- When field issues arise, it is recommended the first contact for assistance be the technical service staff provided by the product manufacturer noted for the design. Users of fire resistance assemblies are advised to consult the general Guide Information for each product category and each group of assemblies. The Guide Information includes specifics concerning alternate materials and alternate methods of construction.
- Only products which bear UL's Mark are considered Certified.

The appearance of a company's name or product in this database does not in itself assure that products so identified have been manufactured under UL's Follow-Up Service. Only those products bearing the UL Mark should be considered to be Certified and covered under UL's Follow-Up Service. Always look for the Mark on the product.

A Tenant Alteration for
HARVEY JOHNS STEAKHOUSE
1501 N. Raleigh Street, Suite G
Angier, NC

JOB #: 23C1C1HARVEYJOHNS

DWG BY: DVS
CHK BY: DVS
DATE: 07/28/23
REV NO DATE

UL DETAILS

SHEET NUMBER

G-7

UL Product iQ™

XHBO.CJ-D-0006 - Continuity Head-of-wall Joint Systems

Design/System/Construction/Assembly Usage Disclaimer

- Authorities Having Jurisdiction should be consulted in all cases as to the particular requirements covering the installation and use of UL Certified products, equipment, system, devices, and materials.
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- Only products which bear UL's Mark are considered Certified.

XHBO - Continuity Head-of-wall Joint Systems

See General Information for Continuity Head-of-wall Joint Systems

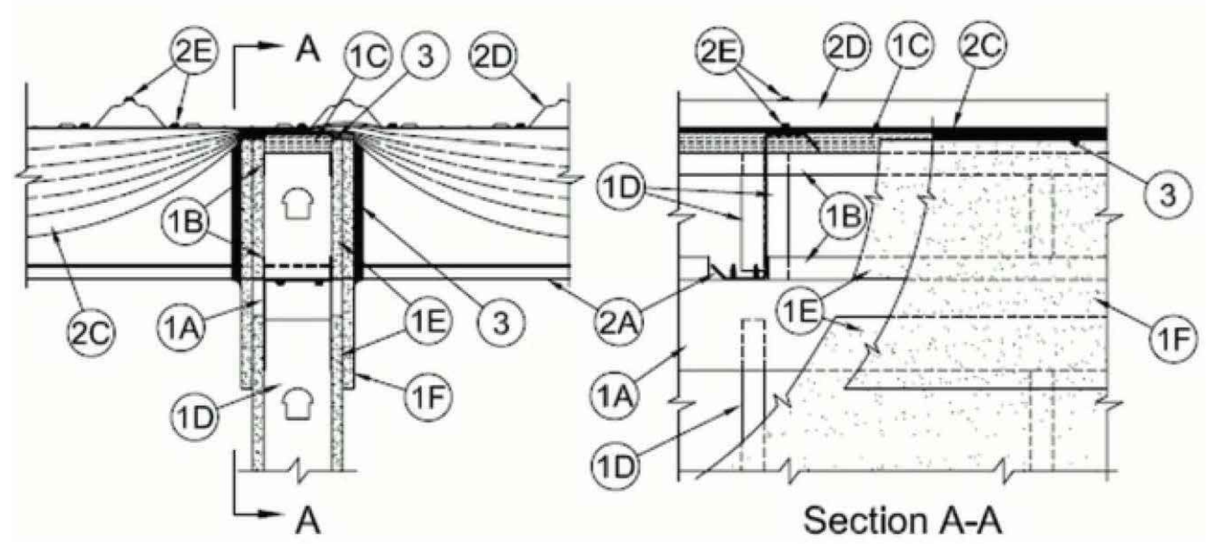
System No. CJ-D-0006

February 08, 2021

Joint Rating — 1 Hr

Nominal Joint Width — 2 in.

Class II or III Movement Capabilities — 100% Compression and Extension



1. **Wall Assembly —** The minimum 1 h fire rated gypsum board/steel stud wall assembly shall be constructed of the materials and in the manner specified in the individual U400, V400 or W400 Series Wall and Partition Design in the UL Fire Resistance Directory and shall include the following construction features:

A. **Ceiling Deflection Channel —** U-shaped channel formed from min 16 ga steel sized to accommodate steel studs (Item 1D) and provided with nom 5 in. (127 mm) flanges. Deflection channel installed perpendicular to purlins and secured to bottom flange of purlins with min No. 14 self-tapping, hex-head, plated steel or stainless steel screws.

B. **Steel Floor and Ceiling Runners —** Floor runner of the wall assembly and the floor and ceiling runners of the cripple wall above the wall assembly shall consist of min 1-1/4 in. (32 mm) deep min 25 ga galv steel channels sized to accommodate steel studs (Item 1D). Floor runner of cripple wall aligned with and screw-attached to top of ceiling deflection channel. Ceiling runner of cripple wall installed to compress insulation (Item 2C) to min thickness of 3/8 in. (10 mm) by wedging lengths of stud (Item 1D) between the runners. Steel studs of cripple wall attached to each side of purlin web and to floor and ceiling runners with steel screws.

C. **Batts and Blankets* - Packing Material —** Unfaced compressible mineral wool batt insulation having a nom 2 in. (51 mm) thickness before compression and a nom density of 4 pcf (64 kg/m^3). Strips of nom 2 in. (51 mm) thick batt cut to width of cripple wall ceiling runner and compressed min 50 percent in thickness between cripple wall ceiling runner and insulation (Item 2C). Compression of mineral wool batt packing material to result in compression of insulation (Item 2C) to nominal 3/8 in. (10 mm) thickness.
See **Batts and Blankets** (BZJZ) category in the UL Fire Resistance Directory or **Batts and Blankets** (BKNV) category in the UL Building Materials Directory for names of manufacturers.

D. **Studs —** Steel studs to be min 3-1/2 in. (89 mm) wide. Studs cut max 2 in. (51 mm) less in length than the wall assembly height beneath purlins with bottom nesting in and resting on the floor runner and with top nesting in ceiling deflection channel without attachment. Stud spacing not to exceed 24 in. (610 mm) O.C. Studs of cripple wall cut to length as required to compress packing material (Item 1C) and insulation (Item 2C) to min thicknesses of 1 in. (25 mm) and 3/8 in. (10 mm), respectively. Studs spaced max 24 in. (610 mm) OC.

E. **Gypsum Board* —** (CKNX) — Min 5/8 in. (16 mm) thick gypsum board sheets installed on each side of wall. Wall to be constructed as specified in the individual U400, V400 or W400 Series Design in the UL Fire Resistance Directory except that a max 2 in. (51 mm) wide gap shall be maintained between the gypsum board of the wall assembly below the purlin and the gypsum board of the cripple wall. Top edge of gypsum board of wall assembly to be max 2 in. (51 mm) below top of ceiling deflection channel. Bottom edge of gypsum board of cripple wall to be flush with top of ceiling deflection channel. Screws securing gypsum board to steel studs of wall assembly to be located 2-1/4 in. to 2-1/2 in. (57 to 64 mm) below flange of ceiling deflection channel. Screws securing gypsum board of cripple wall to be driven into studs and runners of cripple wall. No screws are to be driven into flanges of ceiling deflection channel.

F. **Gypsum Board* —** (CKNX) — Min 5/8 in. (16 mm) thick "rip strip" of gypsum board installed to cover first layer of gypsum board on cripple wall and to lap min 3 in. (76 mm) onto gypsum board of wall assembly on each side of wall. The "rip strip" of gypsum board is to be the same material used for the wall assembly and is to be secured to the studs and runners of the cripple wall. No screws are to be driven into flanges of ceiling deflection channel. Joints of "rip strip" to be offset from joints of gypsum board on wall assembly.

Max separation between top of wall assembly gypsum board and bottom of cripple wall gypsum board (at time of installation of joint system) is 2 in. (51 mm). The joint system is designed to accommodate a max 100 percent compression or extension from its installed width.

2. **Nonrated Horizontal Assembly —** The nonrated horizontal assembly shall be constructed of the materials and in the manner described in the individual Roof Deck Constructions (Guide TGKX) in the UL Roofing Materials and Systems Directory and shall include the following construction features:

A. **Purlin —** Min 16 ga coated steel. Max spacing as specified in the individual Roof Deck Construction.

B. **Lateral Bracing —** (Not Shown) - As required.

C. **Batts and Blankets* - Insulation —** Any faced compressible glass-fiber blanket insulation having a min 6 in. (152 mm) thickness before compression and a min density of 0.6 pcf (9.6 kg/m^3). Insulation draped over purlins prior to installation of panel clips (Item 2F) and/or metal roof deck panels (Item 2D). Side edges of the batts shall be butted or overlapped a max of 3 in. (76 mm).
See **Batts and Blankets** (BZJZ) category in the UL Fire Resistance Directory or **Batts and Blankets** (BKNV) category in the UL Building Materials Directory for names of manufacturers.

D. **Metal Roof Deck Panels* —** Min 26 ga coated steel. Panels continuous over two or more spans. Roof panel end laps, if required, centered over purlins with min 3 in. (76 mm) panel overlap as specified in the individual Roof Deck Construction. A line of tube sealant or tape sealant may be used at panel end and side laps.
See **Metal Roof Deck Panels** (TJPV) category in the UL Roofing Materials and Systems Directory for names of manufacturers.

E. **Fasteners —** Fasteners used for panel-to-purlin and panel-to-panel connections to be self-tapping, hex-head, plated steel or stainless steel screws with either an integral or a separate steel washer fitted with a compressible sealing washer. Fastener type, length, pilot hole diam and spacing to be as specified in the individual Roof Deck Construction.

F. **Roof Deck Fasteners* - Panel Clips —** (Not Shown) - Panel clips used for panel-to-purlin connections to be secured to purlin through insulation as specified in the individual Roof Deck Construction.
See **Roof Deck Fasteners** (TLSX) category in the UL Roofing Materials and Systems Directory for names of manufacturers.

G. **Thermal Spacer Blocks —** (Not Shown) - Expanded polystyrene strips cut to fit between panel clips (Item 2F) as specified in the individual Roof Deck Construction. Thermal spacer blocks, when used, are to be installed between insulation (Item 2C) and metal roof deck panels (Item 2D) over purlins.

3. **Fill, Void or Cavity Material* (XHHW) — Caulk —** Min 5/8 in. (16 mm) thickness of fill material installed to fill any gap between top of cripple wall gypsum board and insulation (Item 2C) on each side of the wall. Additional sealant installed to fill annular space between purlin and gypsum board "rip strip" (Item 1F) on both sides of wall. Additional nom 1/2 in. (13 mm) diam bead of sealant to be applied around perimeter of purlin at its interface with the "rip strip" on each side of the wall.
3M COMPANY 3M FIRE PROTECTION PRODUCTS — CP 25WB+ Caulk

*** Indicates such products shall bear the UL or cUL Certification Mark for jurisdictions employing the UL or cUL Certification (such as Canada), respectively.**

Last Updated on 2021-02-08

FIRE-RESISTANCE DESIGN

Assembly Usage Disclaimer

BXUV - Fire Resistance Ratings - ANSI/UL 263 Certified for United States

BXUV7 - Fire Resistance Ratings - CAN/ULC-S101 Certified for Canada

See General Information for Fire-resistance Ratings - ANSI/UL 263 Certified for United States Design Criteria and Allowable Variances

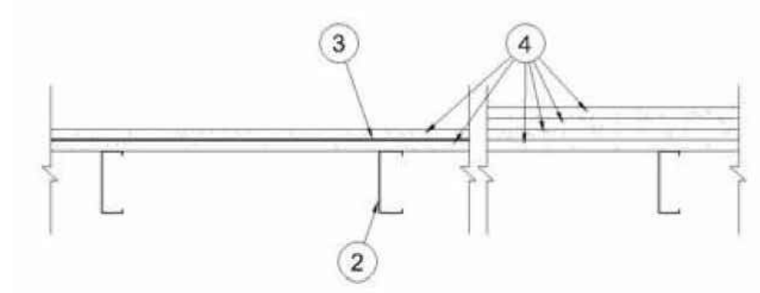
See General Information for Fire Resistance Ratings - CAN/ULC-S101 Certified for Canada Design Criteria and Allowable Variances

Design No. V497

July 09, 2019

Nonbearing Wall Rating - 1 or 2 Hr

*** Indicates such products shall bear the UL or cUL Certification Mark for jurisdictions employing the UL or cUL Certification (such as Canada), respectively.**



1. **Floor and Ceiling Runners** — (Not Shown) — Channel shaped, fabricated from min 25 MSG corrosion-protected steel, min width to accommodate stud size, with min 1-1/4 in. long legs, attached to floor and ceiling with fasteners 24 in. OC max.

1A. **Framing Members*— Floor and Ceiling Runners** — (Not Shown) — As an alternate to Item 1. For use with Item 2A, channel shaped, min width to

accommodate stud size, with min 1-1/4 in. long legs, attached to floor and ceiling with fasteners 24 in. OC max.
MARINO/WARE, DIV OF WARE INDUSTRIES INC — Viper25™ Track

2. **Steel Studs** — Channel shaped, fabricated from min 25 MSG corrosion-protected steel, min 3-5/8 in. wide, min 1-1/4 in. flanges, spaced a max of 24 in. OC. Studs to be cut 3/8 to 3/4 in. less than assembly height.

2A. **Steel Studs*** — Channel shaped, fabricated from min 25 MSG corrosion-protected steel, min 3-5/8 in. wide, min 1-1/4 in. flanges, spaced a max of 24 in. OC. Studs to be cut 3/8 to 3/4 in. less than assembly height.
MARINO/WARE, DIV OF WARE INDUSTRIES INC — Viper25™

3. **Laminating Compound** — For use with Item 4 - Used to bond outer layer wallboard to inner layer wallboard. Powder type mixed with water in accordance with instructions shown on bags. Applied to entire surface of base layer wallboard. Applied with notched trowel producing continuous beads about 1/4 in. wide and 1/4 in. high.

4. **Gypsum Board*** — 1 Hr Rating - Applied to one side of steel studs (Item 2). Two layers of 5/8 in. gypsum panels with beveled, square or tapered edges. Gypsum panels applied vertically with joints centered over studs. Base layer applied with 1 in. Type S screws spaced 24 in. oc. Face layer applied vertically with joints centered over studs and offset from base layer joints by one stud cavity. Face layer applied with 1-5/8 in. Type S screws spaced 12 in. oc starting with a 6 in. offset from the bottom of the gypsum panel.
NATIONAL GYPSUM CO — 5/8 in. thick Type eXP-C, FSL, FSW, FSK, FSW-3, FSW-5, FSW-G, FSK-G, FSW-6, FSW-8, FSW-C, FSMR-C, FSK-C, SoundBreak XP Type X Gypsum Board

4A. **Gypsum Board*** — (As an alternate to Items 3 and 4) – 1 Hr Rating - Applied to one side of steel studs (Item 2). Three layers of 5/8 in. gypsum panels with beveled, square or tapered edges. Gypsum panels applied vertically or horizontally with vertical joints centered over studs and staggered one stud cavity in adjacent layers. Horizontal edge joints and horizontal butt joints in adjacent layers staggered a minimum of 12 in. Horizontal joints need not be backed by steel framing. First layer applied with 1 in. Type S screws spaced 24 in. oc. Second layer applied vertically with joints centered over studs and offset from base layer joints by 24 in. Second layer applied with 1-5/8 in. Type S screws spaced 24 in. oc. Face layer applied vertically with joints centered over studs and offset from second layer joints by 24 in. Face layer applied with 2-1/4 in. Type S screws spaced 12 in. oc starting with a 6 in. offset from the bottom of the gypsum panel.
NATIONAL GYPSUM CO — 5/8 in. thick Type eXP-C, FSL, FSW, FSK, FSW-3, FSW-5, FSW-G, FSK-G, FSW-6, FSW-C, FSMR-C, FSK-C, SoundBreakXP Type X Gypsum Board

4B. **Gypsum Board*** — 1 Hr Rating - (As an alternate to Item 4A) - Nom. 5/16 in. thick gypsum panels applied vertically. Two layers of 5/16 in. for every single layer of 5/8 in. gypsum board described in Item 4A. Horizontal joints on the same side need not be staggered. Inner layer of each double 5/16 in. layer attached with fasteners, as described in item 4A, spaced 24 in. OC. Outer layer of each double 5/16 in. layer attached per Item 4A.
NATIONAL GYPSUM CO — Type FSW

4C. **Gypsum Board*** — **2 Hour Rating** — Applied to one side of steel studs (Item 2). Four layers of 5/8 in. gypsum panels with beveled, square or tapered edges. Gypsum panels applied vertically or horizontally with vertical joints centered over studs and staggered one stud cavity in adjacent layers. Horizontal edge joints and horizontal butt joints in adjacent layers staggered a minimum of 12 in. Horizontal joints need not be backed by steel framing. First layer applied with 1 in. Type S screws spaced 24 in. oc. Second layer applied with 1-5/8 in. Type S screws spaced 24 in. oc. Third layer applied with 2-1/2 in. Type S screws spaced 16 in. oc. Fourth layer applied with 3" Type S screws spaced 12 in. o.c.
NATIONAL GYPSUM CO — 5/8 in. thick Type eXP-C, FSL, FSW, FSK, FSW-3, FSW-5, FSW-G, FSK-G, FSW-6, FSW-C, FSMR-C, FSK-C, SoundBreakXP Type X Gypsum Board

5. **Joint Tape and Compound** — (Not Shown) - Joints covered with joint compound and paper tape. Paper tape, nom 2 in. wide, embedded in first layer of compound over all joints of outer panels.

*** Indicates such products shall bear the UL or cUL Certification Mark for jurisdictions employing the UL or cUL Certification (such as Canada), respectively.**

Last Updated on 2019-07-09

Design/System/Construction/Assembly Usage Disclaimer

- Authorities Having Jurisdiction should be consulted in all cases as to the particular requirements covering the installation and use of UL Certified products, equipment, system, devices, and materials.
- Authorities Having Jurisdiction should be consulted before construction.
- Fire resistance assemblies and products are developed by the design submitter and have been investigated by UL for compliance with applicable requirements. The published information cannot always address every construction nuance encountered in the field.
- When field issues arise, it is recommended the first contact for assistance be the technical service staff provided by the product manufacturer noted for the design. Users of fire resistance assemblies are advised to consult the general Guide Information for each product category and each group of assemblies. The Guide Information includes specifics concerning alternate materials and alternate methods of construction.

- Only products which bear UL's Mark are considered Certified.

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07.28.23
IS DESIGN PLLC ARCHITECTURAL COMPANY 54070 N.C. RALEIGH, N.C.

A Tenant Alteration for
HARVEY JOHNS STEAKHOUSE
1501 N. Raleigh Street, Suite G
Angier, NC

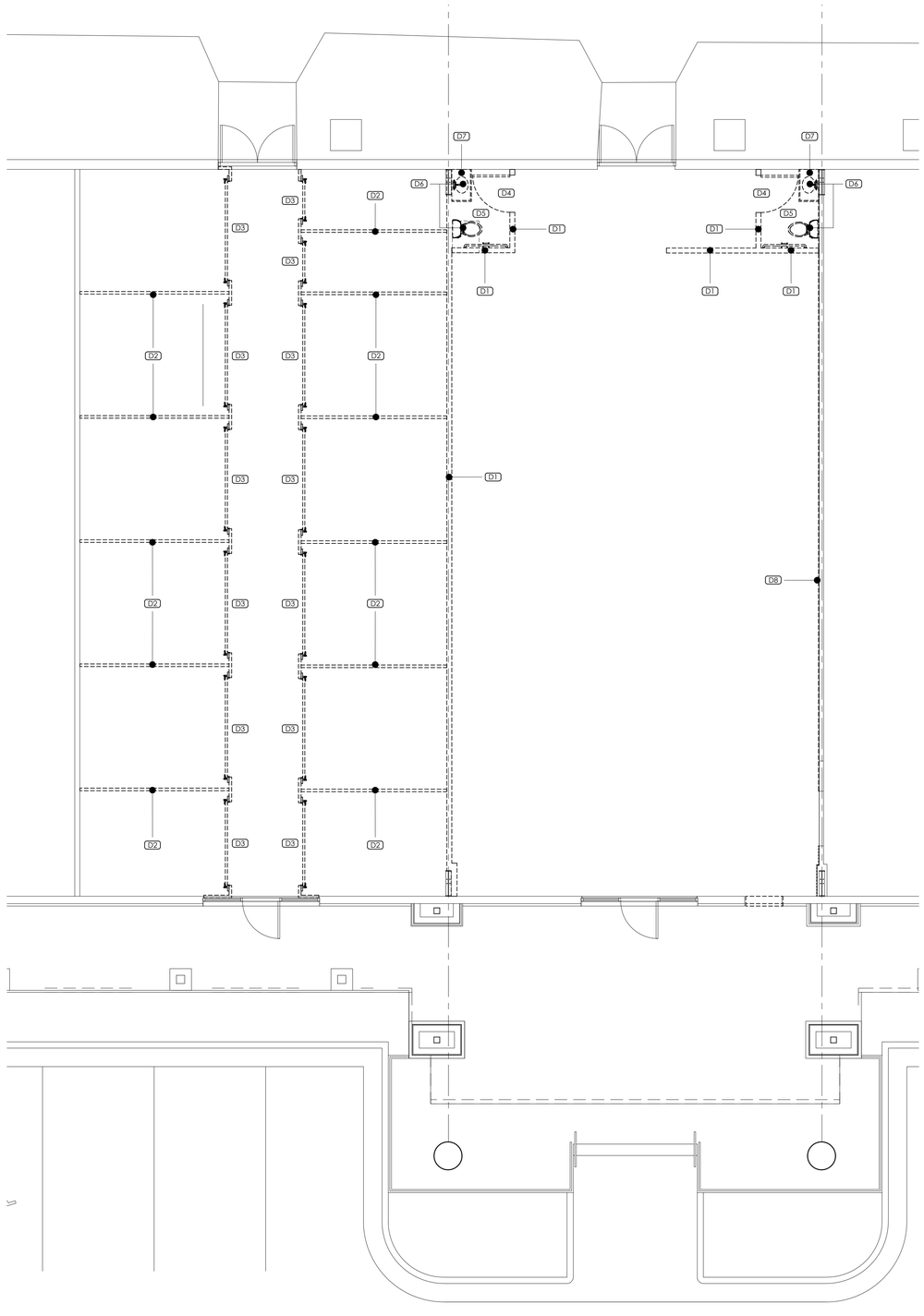
JOB #: 23C1C1HARVEYJOHNS

DWG BY: DVS
CHK BY: DVS
DATE: 07/28/23
REV NO DATE

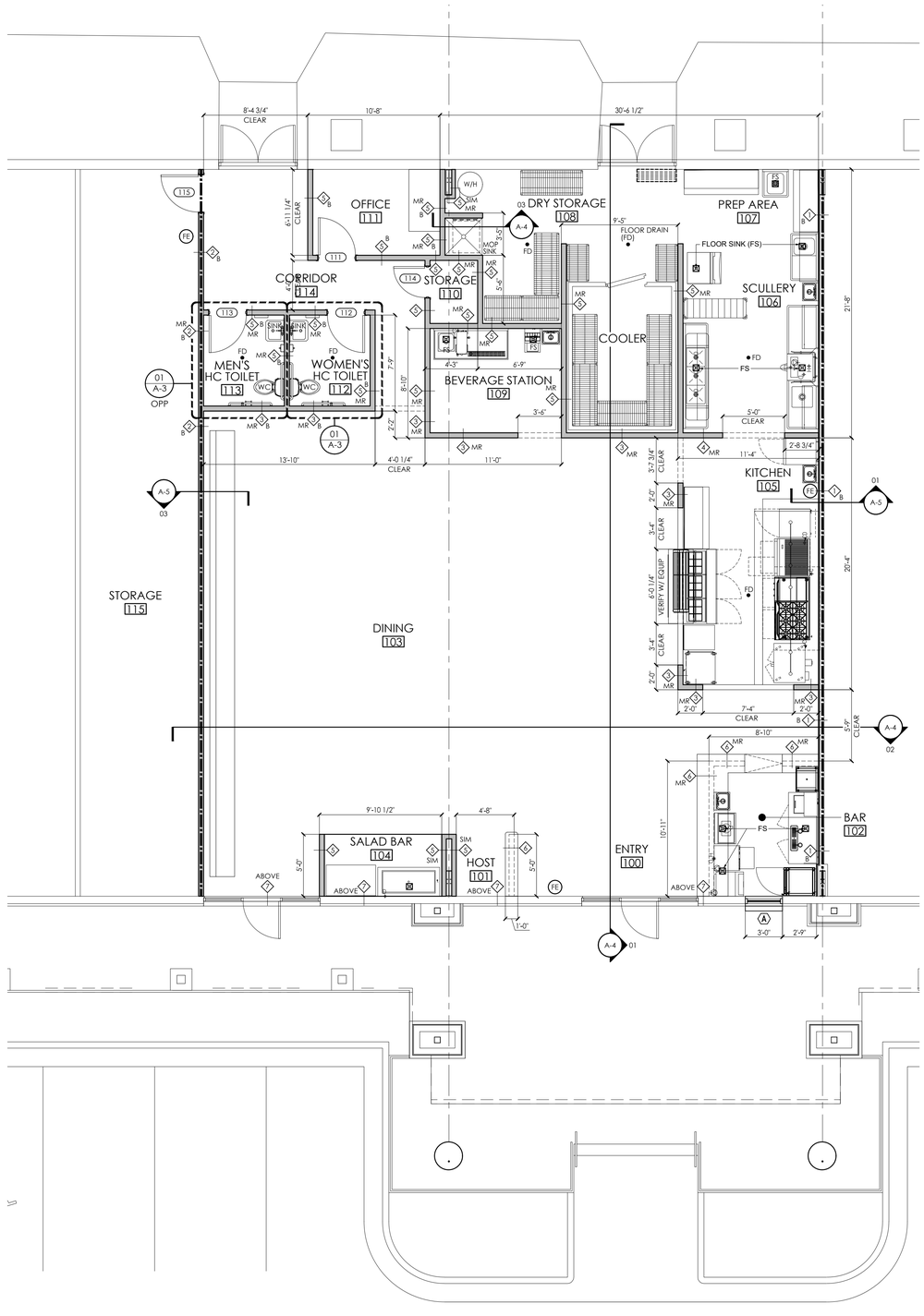
UL DETAILS

SHEET NUMBER

G-8



01 A-1 DEMOLITION PLAN
SCALE: 3/16"=1'-0"



02 A-1 FLOOR PLAN
SCALE: 3/16"=1'-0"

SYMBOLS LEGEND

- INDICATES EXISTING PARTITIONS TO BE REMOVED
- INDICATES EXISTING NON-RATED PARTITION
- 1 — 1 HOUR RATED FIRE BARRIER. PROVIDE (2) LAYERS 5/8" GYPSUM WB ON PROJECT SIDE OF THE EXISTING WALL STUD FRAMING. SEE DETAIL 01/A-5 FOR WALL CONSTRUCTION AND DETAIL 02/A-5 FOR HEAD OF WALL DETAIL. UL DESIGN V497.
- 2 — 1 HOUR RATE FIRE BARRIER. PROVIDE 5/8" GYPSUM WB ON EACH SIDE OF 3 5/8" METAL STUDS (20 GA.) @ 16" O.C. RUN WALL ASSEMBLY FROM THE FINISH FLOOR TO THE UNDERSIDE OF THE ROOFING ABOVE. SEE DETAIL 03/A-5. UL DESIGN U419.
- 3 — NON-RATED PARTITION. PROVIDE 5/8" GYPSUM WB ON EACH SIDE OF 3 5/8" METAL STUDS (20 GA.) @ 16" O.C. RUN WALL ASSEMBLY FROM THE FINISH FLOOR TO THE UNDERSIDE OF THE ROOFING ABOVE. SEE DETAIL 04/A-5.
- 4 — NON-RATED PARTITION. PROVIDE 5/8" GYPSUM WB ON EACH SIDE OF 3 5/8" METAL STUDS (25 GA.) @ 16" O.C. RUN WALL ASSEMBLY FROM THE FINISH FLOOR TO 10'-0" A.F.F. PROVIDE LATERAL BRACING TO STRUCTURE ABOVE AT 8'-0" O.C. MAX. SEE DETAIL 05/A-5.
- 5 — NON-RATED PARTITION. PROVIDE 5/8" GYPSUM WB ON EACH SIDE OF 3 5/8" METAL STUDS (25 GA.) @ 16" O.C. RUN WALL ASSEMBLY FROM THE FINISH FLOOR TO 9'-0" A.F.F. PROVIDE LATERAL BRACING TO STRUCTURE ABOVE AT 8'-0" O.C. MAX. SEE DETAIL 05/A-5. AT SIM CONDITION, PROVIDE GYPSUM WB ON FINISH SIDE ONLY.
- 6 — NON-RATED PARTITION. PROVIDE 5/8" GYPSUM WB ON EACH SIDE OF 3 5/8" METAL STUDS (25 GA.) @ 16" O.C. RUN WALL ASSEMBLY FROM THE FINISH FLOOR TO A HEIGHT SUCH THAT THE FINISHED COUNTERTOP IS AT 3'-6" A.F.F. FINISH THEME BY TENANT. INSTALL PONY WALL SUPPORT POST AT END. SEE DETAIL 05/A-3 & 06/A-5.
- 7 — NON-RATED PARTITION. PROVIDE 5/8" GYPSUM WB ON INTERIOR SIDE OF EXISTING EXTERIOR WALL FRAMING TO THE TOP OF EXPOSED WALL WHERE NOT CURRENTLY INSTALLED. PROVIDE R-19 BATT INSULATION IF NOT CURRENTLY INSTALLED.
- B — PROVIDE SOUND BATTS IN WALL STUD CAVITIES FOR SOUND ATTENUATION WHERE INDICATED
- MR — PROVIDE MOISTURE RESISTANT GYPSUM WB FOR WALLS WITHIN BAR 102, KITCHEN 105, SCULLERY 106, PREP AREA 107, DRY STORAGE 108, BEVERAGE STATION 109, WOMEN'S HC TOILET 112 & MEN'S HC TOILET 113.
- EXISTING DOOR TO REMAIN
- NEW DOOR AND FRAME (SEE DOOR SCHEDULE)
- EXISTING DOOR TO BE REMOVED
- FE — WALL MOUNTED FIRE EXISTINGUISHER
- EXISTING ELECTRICAL OUTLET TO REMAIN
- EXISTING DATA TO REMAIN
- EXISTING ELECTRICAL OUTLET TO BE REMOVED
- EXISTING DATA TO BE REMOVED
- NEW ELECTRICAL DUPLEX OUTLET
- NEW ELECTRICAL QUAD OUTLET
- NEW COMMUNICATIONS/DATA RECEPTACLE
- NEW EXTERIOR CARRIAGE LIGHT FIXTURE - OWNER PROVIDED/CONTRACTOR INSTALLED
- NEW INTERNALLY ILLUMINATED EXTERIOR MENU BOARD - OWNER PROVIDED/CONTRACTOR INSTALLED
- NEW FLY FAN ABOVE DOOR - OWNER PROVIDED/CONTRACTOR INSTALLED

DEMOLITION NOTES

- D1 — INDICATES PORTION OF EXISTING INTERIOR PARTITION TO BE REMOVED. REMOVE THE ENTIRE WALL ASSEMBLY AND ASSOCIATED ELECTRICAL COMPONENTS.
- D2 — INDICATES PORTION OF EXISTING INTERIOR STORAGE WALL DIVIDER PARTITIONS. COORDINATE WITH OWNER WHETHER TO SALVAGE FOR FUTURE USE.
- D3 — INDICATES PORTION OF EXISTING INTERIOR STORAGE ROOM ROLL UP DOOR. COORDINATE WITH OWNER WHETHER TO SALVAGE FOR FUTURE USE
- D4 — INDICATES EXISTING DOOR AND FRAME TO BE REMOVED AND DISCARDED.
- D5 — INDICATES EXISTING FLOORING AND WALL BASE TO BE REMOVED AND DISCARDED. PREP FLOOR TO RECEIVE FLOORING
- D6 — INDICATES EXISTING PLUMBING FIXTURE / ACCESSORIES TO BE REMOVED AND DISCARDED.
- D7 — INDICATES EXISTING M,ILLWORK TO BE REMOVED AND DISCARDED.
- D8 — INDICATES EXISTING GYSPUM WB TO BE REMOVED ON PROJECT SIDE OF EXISTING DEMISING WALL.

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RALEIGH, N.C.

A Tenant Alteration for
HARVEY JOHNS STEAKHOUSE
1501 N. Raleigh Street, Suite G
Angier, NC

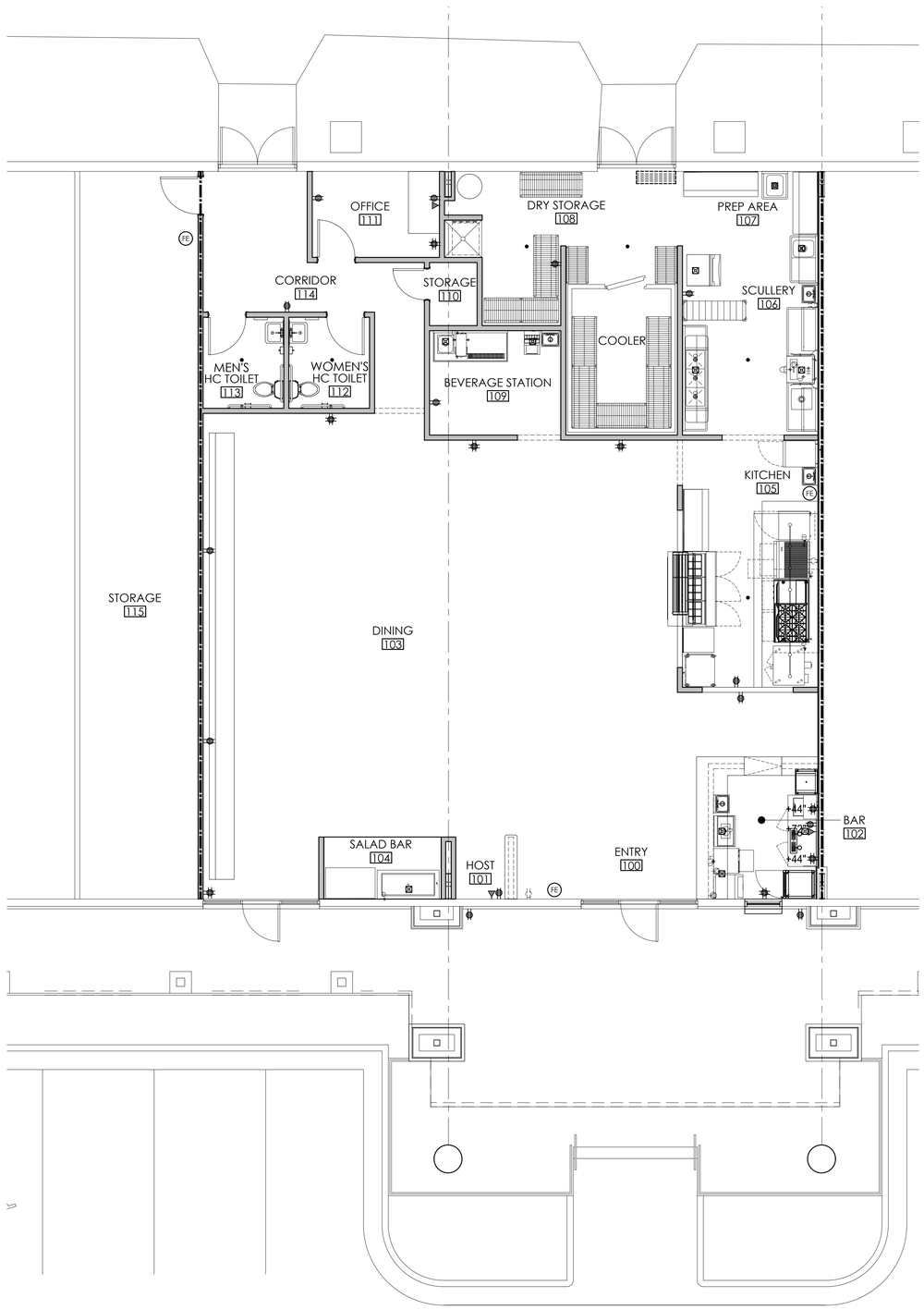
JOB #:
23HARVEYJOHNS

DWG BY: DVS
CHK BY: DVS
DATE: 07/28/23
REV NO DATE

N

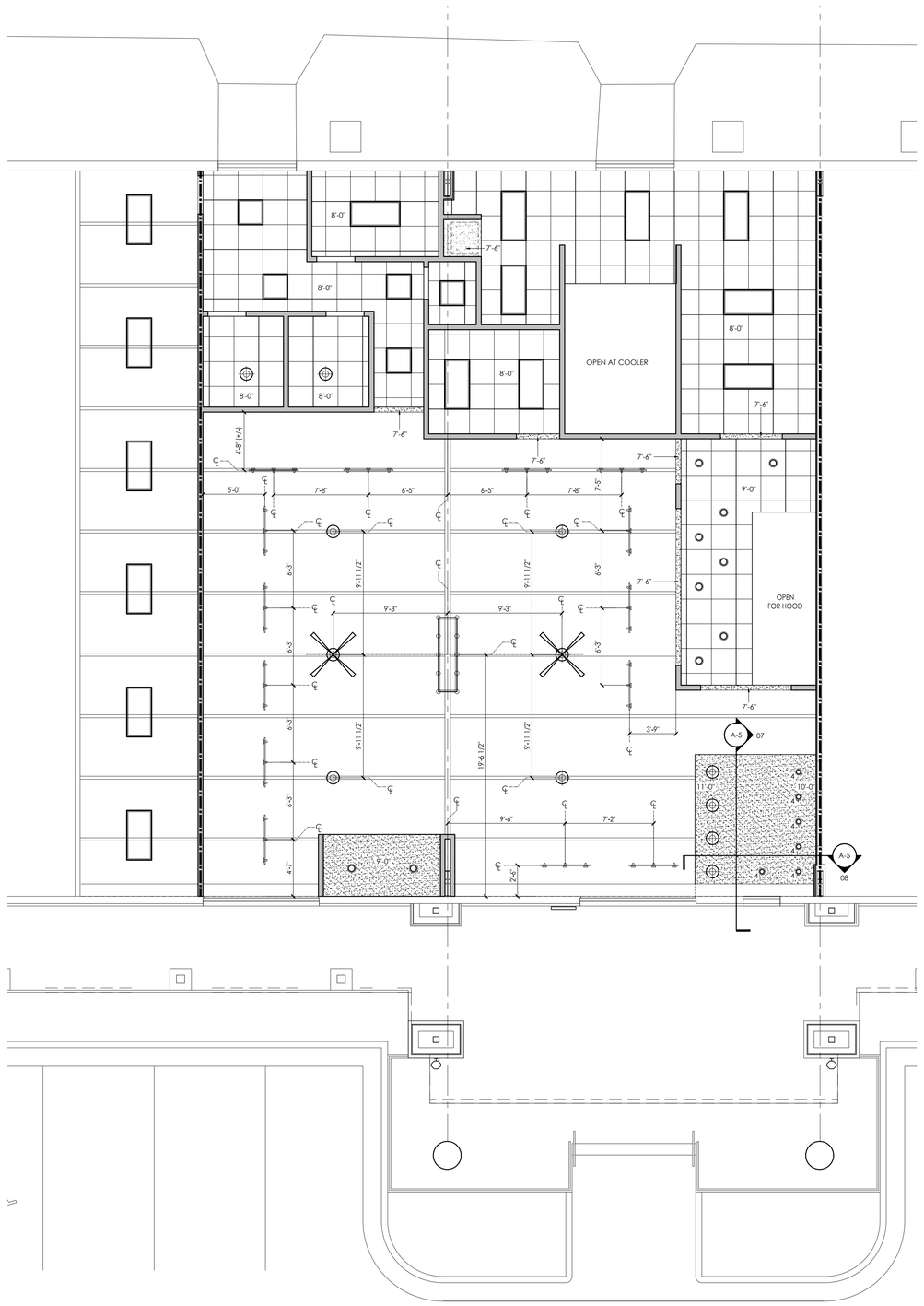
FLOOR PLANS

SHEET NUMBER
A-1



01 A-2 OUTLET FLOOR PLAN

SCALE: 3/16"=1'-0"



02 A-2 REFLECTED CEILING PLAN

SCALE: 3/16"=1'-0"

SYMBOLS LEGEND

- ===== INDICATES EXISTING PARTITIONS TO BE REMOVED
- INDICATES EXISTING NON-RATED PARTITION
- 1 — 1 HOUR RATED FIRE BARRIER. PROVIDE (2) LAYERS 5/8" GYPSUM WB ON PROJECT SIDE OF THE EXISTING WALL STUD FRAMING. SEE DETAIL 01/A-5 FOR WALL CONSTRUCTION AND DETAIL 02/A-5 FOR HEAD OF WALL DETAIL. UL DESIGN V497.
- 2 — 1 HOUR RATE FIRE BARRIER. PROVIDE 5/8" GYPSUM WB ON EACH SIDE OF 3 5/8" METAL STUDS (20 GA.) @ 16" O.C. RUN WALL ASSEMBLY FROM THE FINISH FLOOR TO THE UNDERSIDE OF THE ROOFING ABOVE. SEE DETAIL 03/A-5. UL DESIGN U419.
- 3 — NON-RATED PARTITION. PROVIDE 5/8" GYPSUM WB ON EACH SIDE OF 3 5/8" METAL STUDS (20 GA.) @ 16" O.C. RUN WALL ASSEMBLY FROM THE FINISH FLOOR TO THE UNDERSIDE OF THE ROOFING ABOVE. SEE DETAIL 04/A-5.
- 4 — NON-RATED PARTITION. PROVIDE 5/8" GYPSUM WB ON EACH SIDE OF 3 5/8" METAL STUDS (25 GA.) @ 16" O.C. RUN WALL ASSEMBLY FROM THE FINISH FLOOR TO 10'-0" A.F.F. PROVIDE LATERAL BRACING TO STRUCTURE ABOVE AT 8'-0" O.C. MAX. SEE DETAIL 05/A-5.
- 5 — NON-RATED PARTITION. PROVIDE 5/8" GYPSUM WB ON EACH SIDE OF 3 5/8" METAL STUDS (25 GA.) @ 16" O.C. RUN WALL ASSEMBLY FROM THE FINISH FLOOR TO 9'-0" A.F.F. PROVIDE LATERAL BRACING TO STRUCTURE ABOVE AT 8'-0" O.C. MAX. SEE DETAIL 05/A-5. AT SIM CONDITION, PROVIDE GYPSUM WB ON FINISH SIDE ONLY.
- 6 — NON-RATED PARTITION. PROVIDE 5/8" GYPSUM WB ON EACH SIDE OF 3 5/8" METAL STUDS (25 GA.) @ 16" O.C. RUN WALL ASSEMBLY FROM THE FINISH FLOOR TO A HEIGHT SUCH THAT THE FINISHED COUNTERTOP IS AT 3'-6" A.F.F. FINISH THEME BY OWNER. INSTALL PONY WALL SUPPORT POST AT END. SEE DETAIL 05/A-3 & 06/A-5.
- 7 — NON-RATED PARTITION. PROVIDE 5/8" GYPSUM WB ON INTERIOR SIDE OF EXISTING EXTERIOR WALL FRAMING TO THE TOP OF EXPOSED WALL WHERE NOT CURRENTLY INSTALLED. PROVIDE R-19 BATT INSULATION IF NOT CURRENTLY INSTALLED.
- B — PROVIDE SOUND BATTS IN WALL STUD CAVITIES FOR SOUND ATTENUATION WHERE INDICATED
- MR — PROVIDE MOISTURE RESISTANT GYPSUM WB FOR WALLS WITHIN BAR 102, KITCHEN 105, SCULLERY 106, PREP AREA 107, DRY STORAGE 108, BEVERAGE STATION 109, WOMEN'S HC TOILET 112 & MEN'S HC TOILET 113.
- EXISTING DOOR TO REMAIN
- NEW DOOR AND FRAME (SEE DOOR SCHEDULE)
- EXISTING DOOR TO BE REMOVED
- (FE) WALL MOUNTED FIRE EXISTINGUISHER
- EXISTING ELECTRICAL OUTLET TO REMAIN
- EXISTING DATA TO REMAIN
- EXISTING ELECTRICAL OUTLET TO BE REMOVED
- EXISTING DATA TO BE REMOVED
- NEW ELECTRICAL DUPLEX OUTLET
- NEW ELECTRICAL QUAD OUTLET
- NEW COMMUNICATIONS/DATA RECEPTACLE
- NEW EXTERIOR CARRIAGE LIGHT FIXTURE - OWNER PROVIDED/CONTRACTOR INSTALLED
- NEW INTERNALLY ILLUMINATED EXTERIOR MENU BOARD - OWNER PROVIDED/CONTRACTOR INSTALLED
- NEW FLY FAN ABOVE DOOR - OWNER PROVIDED/CONTRACTOR INSTALLED
- NEW 2X4 LAY-IN LED LIGHT FIXTURE
- NEW 2X2 LAY-IN LED LIGHT FIXTURE
- NEW 6" RECESSED CAN LIGHT
- 4 NEW 4" RECESSED CAN LIGHT
- NEW PENDANT LIGHT FIXTURE - OWNER PROVIDED/CONTRACTOR INSTALLED
- NEW CIELING FAN - OWNER PROVIDED/ CONTRACTOR INSTALLED
- NEW CHANDELIER LIGHT FIXTURE - OWNER PROVIDED/CONTRACTOR INSTALLED
- NEW TRACK LIGHT SYSTEM - OWNER PROVIDED/ CONTRACTOR INSTALLED
- NEW 2'X2 CEILING GRID & ACOUSTIC CEILING TILE - PROVIDE WASHABLE VINYL WRAPPED GYPSUM WB PANELS AT ROOMS 105, 06, 107 & 108
- NEW GYPSUM WB SOFFIT / CEILING

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DAVID VIRGIL SEARS, JR. REGISTERED ARCHITECT 9987 CARY, N.C. 07.28.23

IS DESIGN PLLC ARCHITECTURAL COMPANY 54070 RALEIGH, N.C.

A Tenant Alteration for HARVEY JOHNS STEAKHOUSE

1501 N. Raleigh Street, Suite G
Angier, NC

JOB #:
23HARVEYJOHNS

DWG BY: DVS
CHK BY: DVS
DATE: 07/28/23
REV NO DATE

N

REFLECTED CEILING PLAN & OUTLET PLAN

SHEET NUMBER

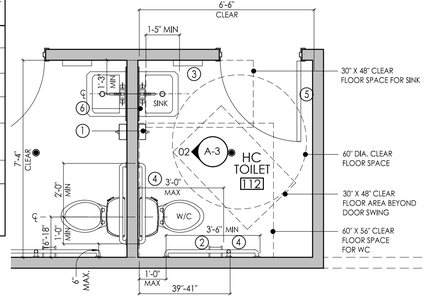
A-2

BATHROOM ACCESSORY SCHEDULE

ITEM	SYMBOL	SPECIFICATION/BASIS OF DESIGN	LOCATION/ QUANTITY	
			HC TOILET 112	HC TOILET 113
SURFACE-MOUNTED SOAP DISPENSER	1	OWNER PROVIDED/OWNER INSTALLED	1	1
TOILET PAPER DISPENSER	2	OWNER PROVIDED/OWNER INSTALLED	1	1
PAPER TOWEL DISPENSER	3	OWNER PROVIDED/OWNER INSTALLED	1	1
ADA GRAB BARS	4	BRUSHED STAINLESS STEEL	1 SET	1 SET
COAT HOOK	5	BRADLEY #915 SINGLE HOOK, SURFACE MOUNTED CLOTHES HOOK & DOOR BUMPER , CHROME-PLATED BRASS	1	1
MIRROR	6	24"X36" WELDED-FRAME MIRROR, BOBRICK B-290 2436	1	1

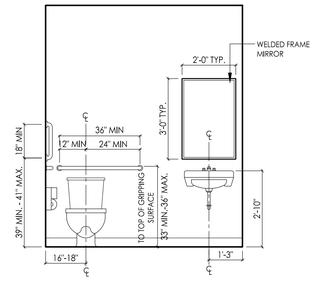
BATHROOM NOTES:

-NEW PLUMBING FIXTURES - SEE PLUMBING SPECS ON PLUMBING ENGINEERING PLANS



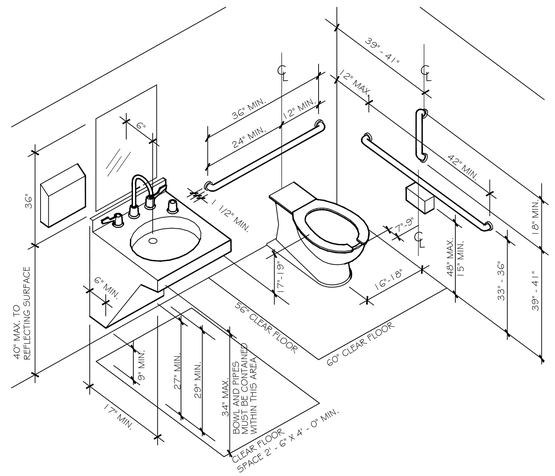
01 A-3 ENLARGED PLAN

SCALE: 3/8"=1'-0"



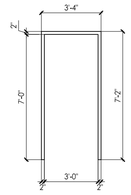
02 A-3 INTERIOR ELEVATION

SCALE: 3/8"=1'-0"



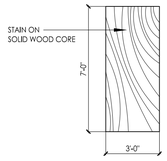
DOOR SCHEDULE

NO.	SIZE	MATERIAL	FRAME	FRAME ELEVATION	DOOR ELEVATION	DOOR FINISH	HARDWARE	FIRE RATING		REMARKS
								DOOR	GLASS	
111	3'-0" X 7'-0" X 1 3/4"	SOLID CORE WOOD	HOLLOW METAL	3	4	STAIN	LOCK SET, WALL STOP	N/A	N/A	
112	3'-0" X 7'-0" X 1 3/4"	SOLID CORE WOOD	HOLLOW METAL	3	4	STAIN	PRIVACY SET, WALL STOP	N/A	N/A	
113	3'-0" X 7'-0" X 1 3/4"	SOLID CORE WOOD	HOLLOW METAL	3	4	STAIN	PRIVACY SET, WALL STOP	N/A	N/A	
114	3'-0" X 7'-0" X 1 3/4"	SOLID CORE WOOD	HOLLOW METAL	3	4	STAIN	LOCK SET, WALL STOP	N/A	N/A	



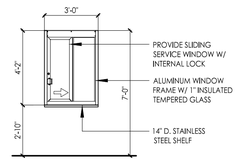
03

HOLLOW METAL FRAME



04

SOLID CORE WOOD



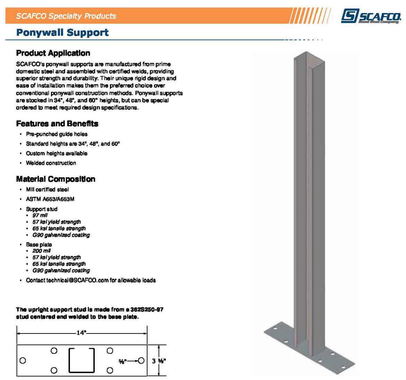
"A"

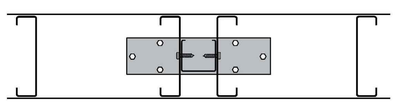
DOOR AND FRAME ELEVATIONS

A-3 SCALE: 1/4"=1'-0"

WINDOW ELEVATION

A-3 SCALE: 1/4"=1'-0"





05 A-3 PONY WALL SUPPORT DETAIL

SCALE: NOT TO SCALE

ROOM FINISH SCHEDULE

ROOM	ROOM NAME	FLOOR	BASE	CABINETRY	COUNTERTOPS	WALLS				CEILING
						NORTH	EAST	SOUTH	WEST	
100	ENTRY	EPOXY	TO BE SELECTED	-	-	PAINT 1	PAINT 1	-	PAINT 1	OPEN
101	HOST	EPOXY	TO BE SELECTED	-	-	PAINT 1	PAINT 1	-	PAINT 1	OPEN
102	BAR	EPOXY	TO BE SELECTED	-	-	PAINT 1	PAINT 1	PAINT 1	PAINT 1	PAINT (GWB)
103	DINING	EPOXY	TO BE SELECTED	-	-	PAINT 1	PAINT 1	PAINT 1	PAINT 1	OPEN
104	SALAD BAR	EPOXY	TO BE SELECTED	-	-	PAINT 1	PAINT 1	-	PAINT 1	PAINT (GWB)
105	KITCHEN	EPOXY	EPOXY	-	-	FRP PANELS	FRP PANELS	FRP PANELS	FRP PANELS	VINYL WRAPPED GWB
106	SCULLERY	EPOXY	EPOXY	-	-	FRP PANELS	FRP PANELS	FRP PANELS	FRP PANELS	VINYL WRAPPED GWB
107	PREP AREA	EPOXY	EPOXY	-	-	FRP PANELS	FRP PANELS	FRP PANELS	FRP PANELS	VINYL WRAPPED GWB
108	DRY STORAGE	EPOXY	EPOXY	-	-	FRP PANELS	FRP PANELS	FRP PANELS	FRP PANELS	VINYL WRAPPED GWB
109	BEVERAGE STATION	EPOXY	EPOXY	-	-	PAINT 1	PAINT 1	PAINT 1	PAINT 1	ACT 1
110	STORAGE	EPOXY	EPOXY	-	-	PAINT 1	PAINT 1	PAINT 1	PAINT 1	ACT 1
111	OFFICE	EPOXY	EPOXY	-	-	PAINT 1	PAINT 1	PAINT 1	PAINT 1	ACT 1
112	WOMEN'S HC TOILET	EPOXY	EPOXY	-	-	PAINT 2	PAINT 2	PAINT 2	PAINT 2	ACT 1
113	MEN'S HC TOILET	EPOXY	EPOXY	-	-	PAINT 2	PAINT 2	PAINT 2	PAINT 2	ACT 1
114	CORRIDOR	EPOXY	EPOXY	-	-	PAINT 1	PAINT 1	PAINT 1	PAINT 1	ACT 1
115	STORAGE	EPOXY	EPOXY	-	-	PAINT 1	PAINT 1	PAINT 1	PAINT 1	OPEN

GENERAL NOTE: GENERAL CONTRACTOR TO VERIFY ALL FINISHES WITH CLIENT PRIOR TO INSTALLATION

ROOM FINISH KEY

FLOOR

EPOXY FLOORING	EPOXY FLOORING - COLOR TO BE SELECTED

BASE

EPOXY	INTEGRATED COVE BASE UTILIZING FLOOR MATERIAL (EXISTING & NEW)

WALLS

PAINT 1	SATIN FINISH, COLOR TO BE SELECTED
PAINT 2	EPOXY PAINT, COLOR TO BE SELECTED
FRP PANELS	FIBERGLASS REINFORCED PLASTIC PANELS - COLOR "WHITE"

CEILING

ACT 1	ACOUSTICAL CEILING TILE - ARMSTRONG 24" X 24" "CORTEGA" ACOUSTICAL CEILING TILE IN STANDARD 15/16" WHITE GRID
VINYL WRAPPED GWB	ACOUSTICAL CEILING TILE - PROVIDE VINYL WRAPPED 24" X 24" X 5/8" GYPSUM WB CEILING PANELS IN STANDARD 15/16" WHITE GRID

WOOD DOORS

SCW	SPECIES AND STAIN TO BE SELECTED BY TENANT

DOOR HARDWARE — DOOR HARDWARE TO BE SELECTED BY TENANT, DOOR HARDWARE TO COMPLY WITH ANSI A117.1-2009

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DAVID VIRGIL SEASS, JR. 9987 REGISTERED ARCHITECT CARY, N.C. 07-28-23

IS DESIGN PLLC ARCHITECTURAL CORPORATION C-54070 RALEIGH, N.C.

A Tenant Alteration for HARVEY JOHNS STEAKHOUSE

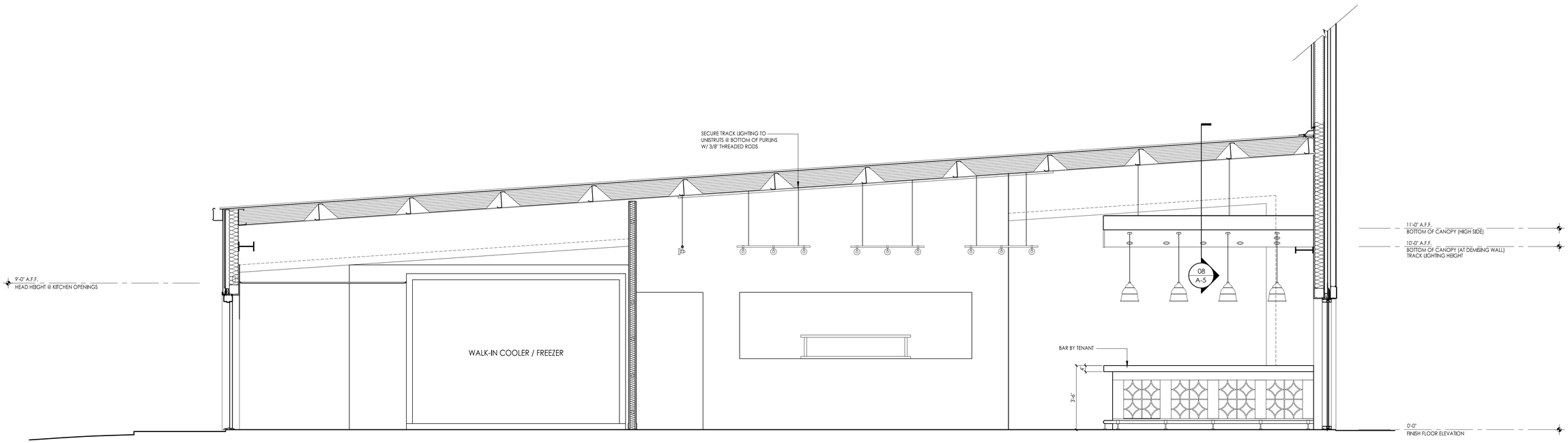
1501 N. Raleigh Street, Suite G
Angier, NC

JOB #:
23C1CHARVEYJOHNS

DWG BY: DVS
CHK BY: DVS
DATE: 07/28/23
REV NO DATE
HC TOILET DETAILS, DOOR & FINISH SCHEDULE

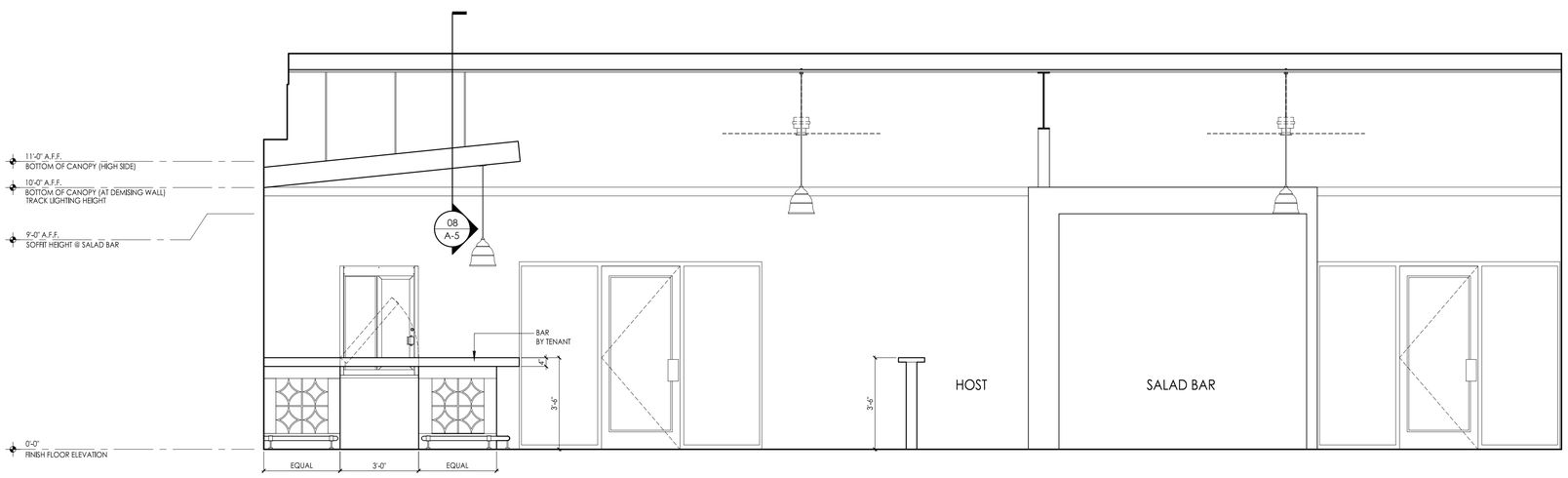
SHEET NUMBER

A-3



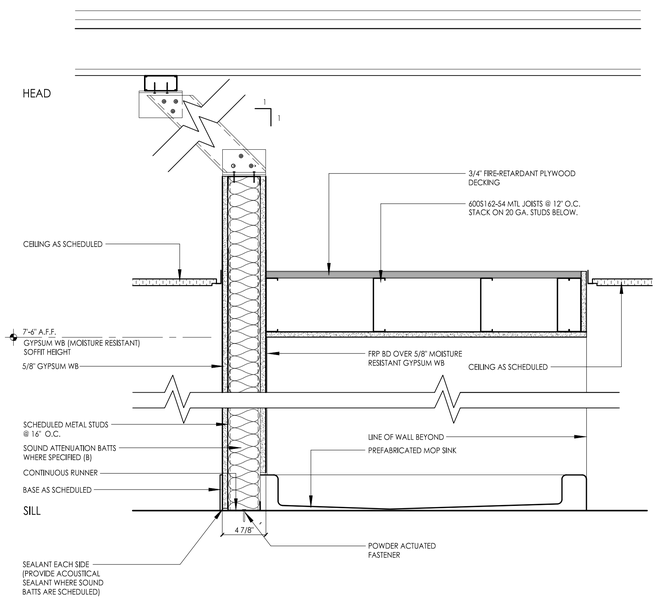
01 A-4 BUILDING SECTION / INTERIOR ELEVATIONS

SCALE: 3/8"=1'-0"



02 A-4 BUILDING SECTION / INTERIOR ELEVATIONS

SCALE: 3/8"=1'-0"



03 A-4 SECTION DETAIL

SCALE: 1 1/2"=1'-0"

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DAVID VIRGIL SEASS, JR. 9987 REGISTERED ARCHITECT CARY, N.C.
07-28-23

IS DESIGN, PLLC ARCHITECTURAL COMPANY 54070 CARY, N.C. RALEIGH, N.C.

HARVEY JOHNS STEAKHOUSE

A Tenant Alteration for
1501 N. Raleigh Street, Suite G
Angier, NC

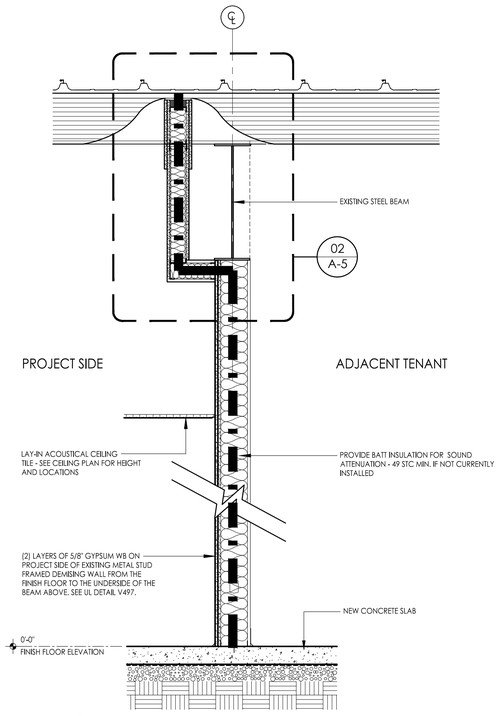
JOB #: 23C1CHARVEYJOHNS

DWG BY:	DVS
CHK BY:	DVS
DATE:	07/28/23
REV NO	DATE

BUILDING SECTIONS/ INTERIOR ELEVATIONS/DETAILS

SHEET NUMBER

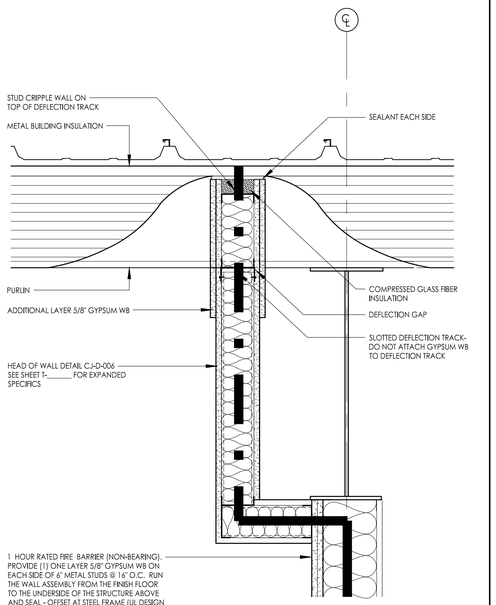
A-4



1 HOUR RATED FIRE PARTITION. PROVIDE (2) LAYERS 5/8" GYPSUM WB ON PROJECT SIDE OF THE EXISTING WALL STUD FRAMING. UL DESIGN V497.

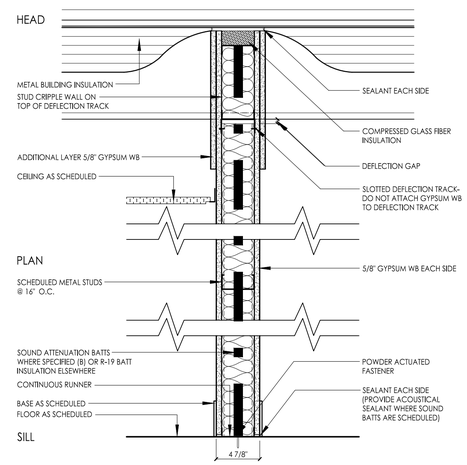
01 A-5 WALL SECTION

SCALE: 3/4"=1'-0"



02 A-5 SECTION DETAIL

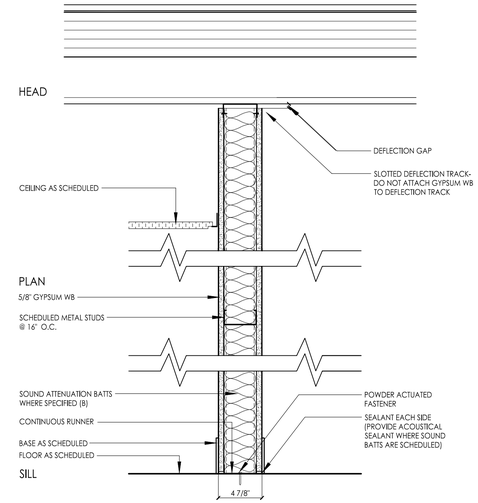
SCALE: 1 1/2"=1'-0"



2 1 HOUR RATE FIRE PARTITION. PROVIDE 5/8" GYPSUM WB ON EACH SIDE OF 3 5/8" METAL STUDS (20 GA.) @ 16" O.C. RUN WALL ASSEMBLY FROM THE FINISH FLOOR TO THE UNDERSIDE OF THE ROOFING ABOVE. UL DESIGN U419.

03 A-5 WALL SECTION

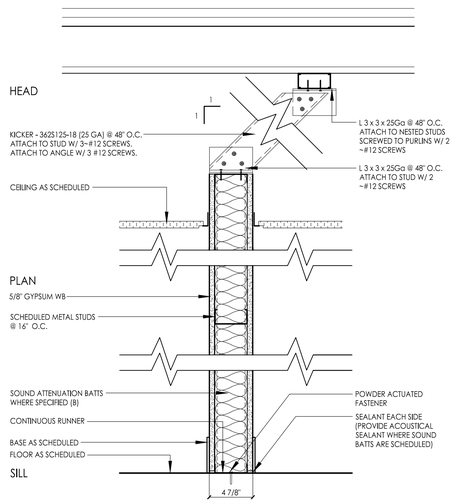
SCALE: 1 1/2"=1'-0"



3 NON-RATED PARTITION. PROVIDE 5/8" GYPSUM WB ON EACH SIDE OF 3 5/8" METAL STUDS (20 GA.) @ 16" O.C. RUN WALL ASSEMBLY FROM THE FINISH FLOOR TO THE UNDERSIDE OF THE ROOF STRUCTURE ABOVE.

04 A-5 WALL SECTION

SCALE: 1 1/2"=1'-0"

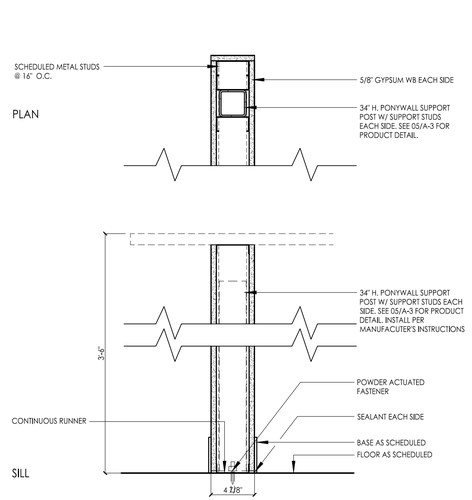


4 NON-RATED PARTITION. PROVIDE 5/8" GYPSUM WB ON EACH SIDE OF 3 5/8" METAL STUDS (25 GA.) @ 16" O.C. RUN WALL ASSEMBLY FROM THE FINISH FLOOR TO 10'-0" A.F.F. PROVIDE LATERAL BRACING TO STRUCTURE ABOVE AT 4'-0" O.C. MAX.

5 NON-RATED PARTITION. PROVIDE 5/8" GYPSUM WB ON EACH SIDE OF 3 5/8" METAL STUDS (25 GA.) @ 16" O.C. RUN WALL ASSEMBLY FROM THE FINISH FLOOR TO 9'-0" A.F.F. PROVIDE LATERAL BRACING TO STRUCTURE ABOVE AT 4'-0" O.C. MAX.

05 A-5 WALL SECTION

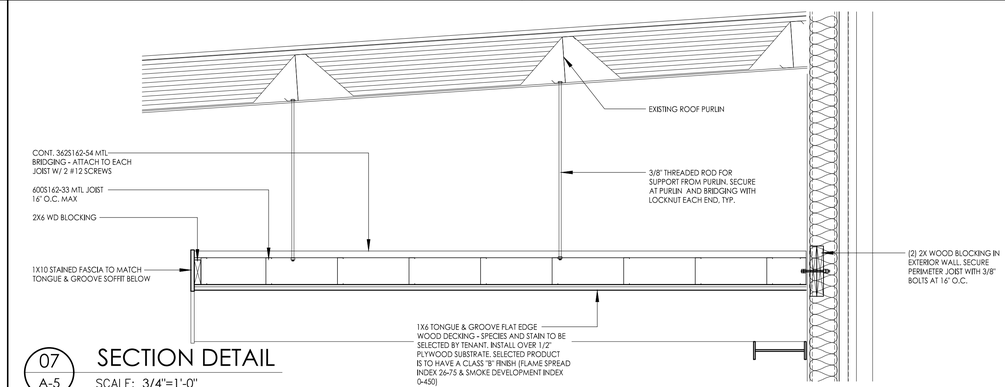
SCALE: 1 1/2"=1'-0"



6 NON-RATED PARTITION. PROVIDE 5/8" GYPSUM WB ON EACH SIDE OF 3 5/8" METAL STUDS (25 GA.) @ 16" O.C. RUN WALL ASSEMBLY FROM THE FINISH FLOOR TO A HEIGHT SUCH THAT THE FINISHED COUNTERTOP IS AT 3'-6" A.F.F.

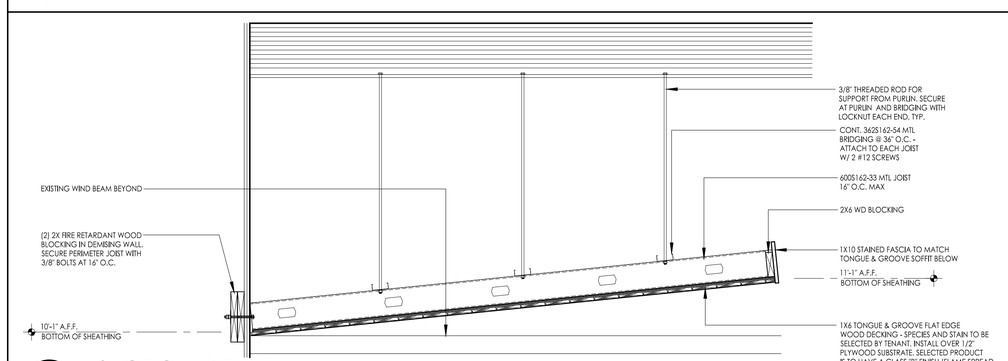
06 A-5 WALL SECTION

SCALE: 1 1/2"=1'-0"



07 A-5 SECTION DETAIL

SCALE: 3/4"=1'-0"



08 A-5 SECTION DETAIL

SCALE: 3/4"=1'-0"

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IS DESIGN PLLC ARCHITECTURAL CORPORATION C-54070 RALEIGH, N.C.

A Tenant Alteration for HARVEY JOHNS STEAKHOUSE

1501 N. Raleigh Street, Suite G
Angier, NC

JOB #: 23C1CHARVEYJOHNS

DWG BY: DVS
CHK BY: DVS
DATE: 07/28/23
REV NO DATE

DETAILS

SHEET NUMBER

A-5

GENERAL NOTES AND REQUIREMENTS.

1. Workmanship shall conform to NECA installation standards including NECA 1.
2. Installation shall comply with National Electrical Code (NEC/ NFPA 70), state building code, and all requirements of the local inspector (furnish inspection certificate). All work shall be by licensed electrical contractor.
3. The contractor shall refer to the architectural plans for floor plan dimensions and not scale these drawings. The location of all wall mounted devices, including mounting heights, shall be field verified with the architect prior to rough-in. Coordinate locations of all light fixtures with the reflected ceiling plans. Light fixtures installed in mechanical areas shall avoid mechanical piping, equipment, ductwork, etc.
4. Contractor shall comply with all requirements of the 2018 NC Building Code and Accessibility Code which are applicable to this project regardless of whether all details are indicated on plans. All receptacles, switches, and other electrical devices required to be ADA accessible shall be mounted per ANSI 117.1 sections 308 AND 309.
5. All electrical equipment shall be installed so that all code required and manufacturer recommended working/ servicing clearances are maintained. Installation shall fully comply with NEC 110.26 and NEC 408.18 for clearance requirements.
6. All wall outlet boxes, receptacles, switches, cover plates, etc. shall be commercial grade, standard or heavy duty except where specified. Verify color/ material for all devices and cover plates prior to order. Provide label for each device identifying the circuit serving the device. Verify if label should be on inside our outside face of cover plate with building management/ tenant. All 15 and 20 amp, 125V and 250V non-locking receptacles shall be listed as tamper resistant, per NEC 406.12, when installed in the following areas: dwelling units in areas specified by NEC 210.52 and 550.13, guest rooms and suites of hotels, child care facilities, preschool and elementary education facilities, and in patient rooms, bathrooms, playrooms and activity rooms of pediatric or similar facilities.
7. The electrical contractor shall coordinate any and all work with other trades involved in the project, prior to installation of electrical equipment, so as to avoid conflicts during construction and to allow for optimum maintenance and working space.
8. All branch circuits shall be in 3/4" minimum zinc-coated EMT, IMC, or RMC as permitted or required by the NEC. LFMC (or FMC as permitted) shall be used for final connections to equipment subject to vibration. A deduct price for MC cable may be offered for approval, where permitted by owner and NEC and conduits completely concealed from view. Schedule 40 PVC conduit may be used for underground feeders/ branch circuits or underground low voltage system conduits located below slab on grade or buried outside of the building, or in concrete block walls. PVC schedule 80 conduit may be used on the building exterior where permitted by code. Contractor shall include cost of painting all exposed conduits subject to public view. Conduit sizes noted on these plans are based on EMT conduit. Where other permitted raceway types are used, contractor shall adjust conduit sizes as necessary based on type of raceway used and allowable fill. Provide pull wire in all empty conduit. Junction box covers shall be permanently labeled and conduit shall be labeled every 10'.
9. All wire and conduit sizes are based on 75° C THHN/THWN copper conductors unless otherwise noted. All conductors, terminations & devices shall be rated for minimum 75°C. All conductor and conduit sizes are calculated based on installation of no more than 3 current carrying conductors per conduit, neutral(s) included. Unless otherwise noted, contractor shall not install more than 3 current carrying conductors per conduit with the following exception: up to 9 current carrying conductors may be used in a single raceway where permitted by the NEC when minimum #12 AWG (THHN 90°c) is used and when all included circuits are protected upstream by 20 amp overcurrent devices and no other derating conditions exist.
10. All conductors shall be copper type THHN, or XHHW, solid for #10 AWG or #12 AWG, and stranded for all larger sizes. Minimum conductor size shall be #12.
11. Conduits and cables shall be concealed wherever possible by either routing above ceiling, in interstitial spaces or running exposed in unfinished spaces where possible. Conduits may be run exposed in mechanical areas or other areas not subject to public view where approved by the owner. Wherever conduits or cables are approved to be exposed, conduits and cables shall be run parallel or perpendicular to structural elements and shall be run and bundled in groups, and the installation shall be neat and orderly. Even when exposed, conduits and cables shall be routed to minimize view from personnel. Seal all penetrations air tight around all conduits passing through walls or floors. Use appropriate penetration protection when conduit passes into or through rated assemblies.
12. Where branch circuit total length is greater than sixty five (65') feet from the panel, see voltage drop schedule for wire size adjustment.
13. All mounting heights indicated are given to the bottom of the device, unless noted otherwise.
14. Where used in these documents, the word "provide" shall mean to furnish and install the item or equipment as well as make the final connection required.
15. All light fixtures shall be supported independently of the suspended ceiling system.
16. The electrical contractor shall provide all necessary disconnects, switches, receptacles, etc. under the electrical bid and shall include all necessary circuits to and make final connections to the equipment furnish by all suppliers. Coordinate closely with other trades.
17. All breakers, disconnect switches, and fuses sizes, indicated for mechanical equipment, shall be verified with equipment supplier and mechanical contractor, before the purchase or installation of that equipment.
18. All disconnect switches are to be fusible type. Fuses shall be the appropriate type for the load served by Bussmann or equal. Unless unsuitable, fuses rated 1200A or higher shall be Class I, fast-acting, and shall have a clearing time of 0.07 seconds at the available fault current per NEC 240.67. Submit fuse trip curves along with available fault current at the service entrance for engineer verification prior to beginning work or ordering equipment. The contractor shall compare all installed equipment nameplate information with the electrical plans/ schedules and notify the engineer immediately of any discrepancies. The contractor shall coordinate all fuse sizes with actual installed equipment nameplate information prior to purchasing or installing fuses. Where the nameplate information does not indicate an overcurrent protection size or maximum ampacity rating, fuses shall be installed per the electrical plans assuming other equipment parameters are in agreement with nameplate data.
19. Provide grounding conductor for all circuits per NEC. Building ground shall meet all requirements of NEC 250.
20. Ground telephone equipment per NEC. If telephone service is not located within 20' of electrical service, then provide separate grounding electrode as required per NEC 800.
21. All multiwire branch circuits shall have multipole breakers as required by NEC 210.7.
22. All circuits 100 amp and larger shall be megger tested prior to energizing. All other circuits shall be tested for continuity prior to energizing.
23. The electrical contractor shall patch any wall, ceiling, or floor opening (or penetration) resulting from demolition or new work in existing areas. Any rated constructions or assemblies affected shall be patched, protected and refinished as necessary to maintain the original appearance as well as the rating.
24. The contractor is responsible for properly disposing of all waste materials, demo materials and other trash. This includes but is not limited to proper disposal of mercury containing lamps, batteries, recyclable materials.
25. Contractor shall provide engineer with shop drawings/ submittal data for lights, switchgear/ panels, floor boxes, fire alarm devices, and any other products deemed necessary for review. Provide these in editable pdf format via email through project manager, GC, architect or other proper channel. Expected review duration, and industry standard, is 2 weeks from date of receipt by engineer. All submissions should include and acknowledge this review duration unless otherwise specifically discussed and agreed upon in advance.
26. It is the sole responsibility of the contractor to coordinate w/ all other trades regarding voltages, loads, circuit breakers, etc. prior to beginning any work.
27. All switchgear/ panels shall be commercial grade from a reputable national manufacturer such as Square D, Eaton, Siemens and GE. Panels shall be rated as indicated on panel schedules/ electrical riser diagram. If discrepancies are found, contact engineer immediately.
28. Engineer has reserved the right to choose the software package(s) deemed most efficient to deliver these plans for permitting, bid, and construction. Engineer considers any other digital files created during this process as instruments of service, and as such remain the property of the engineer. The contractor should not assume that digital files in any format will be made available during bidding or after award other than PDFs. If digital files are requested, engineer reserves the right to selectively provide them when available and/or may request additional considerations for the time incurred to prepare them.
29. Contractor shall verify all areas that are used as a return plenum with mechanical contractor and provide plenum rated cable for all cables not run in metal conduit. PVC is not allowed in plenum space. This "cable" includes all telecommunications, fire alarm, or control wiring above ceiling.
30. Contractor shall comply with all applicable seismic requirements of the area.
31. All underground raceway entering the building, (i.e. through a foundation wall or through the floor) shall be sealed in accordance with NEC 225.27 and 300.5(F). raceway seals and sealants shall be approved and listed for the specific application and materials.
32. Contractor shall provide support bushings/conduit stops for vertical branch circuits and feeders where required per NEC 300.19(A).
33. Buildings equipped with a Bi-Directional Antenna system (BDA), contractor shall test the areas of construction before and after construction activities per NC Fire Code section 510.6.1 and possibly supplement the existing system to meet the requirements of NC Fire Code section 510.
34. Electrical boxes, conduit, and wiring shall not be recessed into or penetrate structural members. Boxes/conduits shall be surface mounted to structural member and/or recessed in stud wall where possible. Coordinate with architect.
35. All equipment associate with or connected to the electrical, fire alarm or data systems or otherwise included in the drawings/ scope of work shall be listed and labeled by a third party that is acceptable to the AHJ.
36. All non-locking type 125 volt, 15 and 20 amp receptacles that are controlled by an automatic control device or that incorporate control features that remove power from the outlet for the purpose of energy management or building automation shall be labeled per NEC 406.3(E).
37. All wiring for this assembly occupancy shall be per NEC 518.4

Electrical Abbreviations

A	above- indicates a device is to be mounted with the bottom of box 2" above back splash unless noted otherwise.
AFF	above finished floor
AG	combination of 'A' and 'GFCI' (above counter and ground fault circuit interrupter)
ARCH	architect
C	ceiling- indicates a device is to be mounted in flush ceiling tile.
EC	electrical contractor
EX	existing
EXT	exterior
FA	fire alarm
FURN	furniture
G	GFCI- indicates a device with integral ground fault circuit interrupter (GFCI) protection and/or protected by upstream GFCI outlet.
GFI/ GFIC	same as 'G'
HG	hospital grade
IG	device shall have isolated ground and will require isolated ground circuitry back to an isolated ground bar in panelboard.
JB	junction box
MC	MC cable (when referring to NEC, wiring methods, or wiring type)
MC	mechanical contractor (when not referring to NEC wiring methods or type
MECH	mechanical contractor
NTS	not to scale
OC	on center
PC	plumbing contractor
PLUMB	plumbing contractor
S	surface- indicates device is to be surface mounted.
TP	tamper proof device per NEC 406.12
W/	with
WP	indicates a device rated for exterior use and is weatherproof or weather resistant with an approved weatherproof in-use cover.

Voltage Drop Schedule

120 V branch circuits up to 8 amps (1.0 kVA)

Distance of run, in feet			Wire size
1'	-	120'	#12
121'	-	190'	#10
191'	-	300'	#8
301'	-	470'	#6

120 V branch circuits from 8 to 14 amps (1.7 kVA)

Distance of run, in feet			Wire size
1'	-	65'	#12
66'	-	110'	#10
111'	-	170'	#8
171'	-	270'	#6

277 V branch circuits up to 14 amps (3.9 kVA)

Distance of run, in feet			Wire size
1'	-	160'	#12
161'	-	250'	#10
251'	-	390'	#8
391'	-	620'	#6

Contractor shall upsize branch circuit conductors based on load and length as indicated in schedule above. Wire sizes indicated in general notes and schedules are minimum wire sizes and shall be adjusted for length.

Renovation Notes:

1. See architectural drawings for the extent of renovations. Locations where an existing ceiling is being raised, or a new ceiling is being installed, the contractor shall include all costs associated with relocating existing devices and systems components necessary to accommodate the installation of the new ceiling. This shall also include relocating any equipment requiring access when a new or changed ceiling does not provide access (hard ceiling).
2. Contractor shall field verify existing conditions prior to bid.
3. Reconnect circuits as shown on plans. Devices/fixtures shown to remain shall remain connected to their existing circuit. If circuit is broken during demolition, device/fixture shall be reconnected to existing circuit as necessary for complete and working system. Portions of circuits or circuits in their entirety broken during demolitions shall be removed (conductors and conduit). If the entire circuit, remove conductors and conduit back to panel, turn breaker off and mark as spare.
4. Existing light fixtures shown without circuits or controls are existing to remain as circuited and/or controlled. Existing fixtures shown with new circuitry or controls shall be connected and/or controlled as indicated.
5. If existing panel serving existing to remain equipment is demolished or relocated, the existing to remain equipment shall be reconnected to relocated or new panel as required.
6. Clean all existing light fixtures to remain and replace defective parts as necessary for a complete and functional fixture (IE driver/ballast, battery, lens, etc). Relamp if necessary.
7. Test all existing emergency batteries in fixtures and/or in emergency battery units in the space. Replace defective batteries.
8. Mount all new switches, outlets, or other electrical devices flush in existing walls. Boxes and conduit shall be concealed

Electrical Legend

Symbols shown below are indicative of new devices. See Linetype Legend for distinction of existing and demolition devices.

Floor Plans

Home run to panel/ branch circuit connection- short cross line(s) represent phase conductor(s) (hot), long cross line(s) represent grounded conductor(s) (neutral), equipment grounding conductor (ground) required but not shown. minimum size per NEC requirements based on circuit breaker / schedule / voltage drop table.

All duplex and quad receptacles shall be NEMA 5-20R unless otherwise noted.

Duplex receptacle
Power receptacle
Quad receptacle
Isolated ground duplex receptacle
} 16" AFF or as otherwise noted

Telecommunications wall outlet - 16" AFF or as noted (run 3/4" EMT to accessible point above ceiling.) Provide pull wire. Outlet/devices, bushings, and cables provided by tenant/ cabling contractor.

TV — Television wall outlet - 16" AFF. Run RG6 in 3/4" EMT to telephone backboard or as indicated on plans.

AV — AV display wall box - confirm height prior to rough-in. Provide Legrand wall box (#EFSB2) with duplex power and separate AV compartment with 2" conduit to above accessible ceiling w/ bushing and pull string. Verify device plates with tenant/AV contractor.

Junction box w/ whip for power for furniture system. Verify exact location and requirements with system supplier prior to rough-in and connect as required.

Junction box adequately sized to accept 2" conduit for telecommunications for furniture system. Verify exact location and requirements with system supplier prior to rough-in. Stub 2" conduit to accessible point above ceiling with pull wire.

CR — Card reader- verify mounting height with tenant prior to beginning work. Stub 3/4" EMT to above ceiling with pull wire. Outlet/device and all low voltage wiring by tenant/security contractor. Coordinate with tenant/security contractor

Junction box above ceiling for furniture systems. Power poles provided by furniture manufacturer/vendor. Verify location & and requirements w/ furniture manufacturer/vendor prior to beginning work. Connect furniture systems as required.

Junction box

Telephone backboard - 4'x8'x3/4" fire-treated plywood. Pull #6 ground wire and terminate with 1/4" x 2" x 12" ground bar with holes every 1". Mount to backboard with stand-off insulators.

Electrical panel

Step-down transformer

Electrical disconnect

Motor rated switch

All lighting control switches shall be mounted at 44" AFF unless otherwise noted.

Single pole switch

Dimmer switch (slide type) appropriate for load served

Line voltage motion-sensing switch. Wattstopper #PW-301

3-way wall switch

4-way wall switch

Line voltage motion-sensing 0-10v dimmer switch. Wattstopper #PW-311

Line voltage dual relay motion-sensing switch. Wattstopper #PW-302. To be connected as double switch control.

Double switch (used when two switch legs are connected to each fixture for bi-level switching, step dimming or similar.)

S2 — Low voltage wall/ceiling mounted motion sensor. Wattstopper #DT-200. Mount on wall at 10' AFF where ceilings are not present or are over 10' AFF. Mount to ceiling where ceilings are 10' AFF or lower.

PP — 120/277V to 24V power pack. Wattstopper #BZ-150

S2 — Low voltage 360° ceiling mounted motion sensor. Wattstopper #DT-300

S4 — Low voltage 360° ceiling mounted motion sensor. Wattstopper #DT-305-3

DH — Low voltage 360° ceiling mounted daylighting sensor. Wattstopper #LS-301.

Overhead fixture unless otherwise noted. See fixture schedule

Downlight / pendant style fixture. See fixture schedule.

Slash or shading indicates fixture connected ahead of switch/controls and to operate as night lights (fixture will be on 24/7 unless otherwise noted)

Exit sign, faces and arrows as indicated. See fixture schedule.

Emergency wallpack fixture. See fixture schedule.

Combo emergency / exit fixture. See fixture schedule.

Wall sconce/ mount fixture. See fixture schedule.

Flood light/ track head style fixture. See fixture schedule.

Pole mounted fixture. See fixture schedule.

Detail Sheets

P — Electrical panelboard

200/3 — Main breaker or minimum ampacity

M — Meter in meter base

CT — CT cabinet

200/3 — Frame size/ number of poles

Fusible disconnect, frame and fuse size as indicated or noted.

150A — Fuse size

T1 — Transformer designation

75 KVA — Transformer size

Transformer, size and designation as indicated. Primary voltage as noted in panel schedule/ for primary feed. Secondary voltage as noted in panel schedule/ for load supplied.

Service ground

Linetypes

New device unless otherwise noted

Existing device to remain

Existing device to be demolished

New underslab or underground connection. Existing and demo underground noted with existing or demo linetype. New connections not specifically shown to be underground are not necessarily required to be run overhead unless noted as such.

Low voltage wiring

Examples of existing and demolition symbols using above linetypes.

Existing floor box to remain

Existing duplex receptacle to remain

Existing panel to remain

XR • — Existing light fixture to remain

Existing switch to remain

Existing light fixture to remain

Existing switch to remain

Existing duplex receptacle to be demolished

Existing panel to be demolished or relocated

XD • — Existing light fixture to be demolished or relocated

Existing switch to be demolished or relocated

See fire alarm legend for fire alarm symbols & specifications

See wall rating legend for wall types and symbols

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NC License № P-2398

NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 36841 RICHARD D. COPELAND JR.
7/28/23

A Tenant Alteration for
HARVEY JOHNS STEAKHOUSE
1501 N. Raleigh Street, Suite G
Angier, NC

JOB #: 23HARVEYJOHNS

DWG BY:
CHK BY:
DATE: 07/28/23
REV NO DATE

ELECTRICAL COVER SHEET

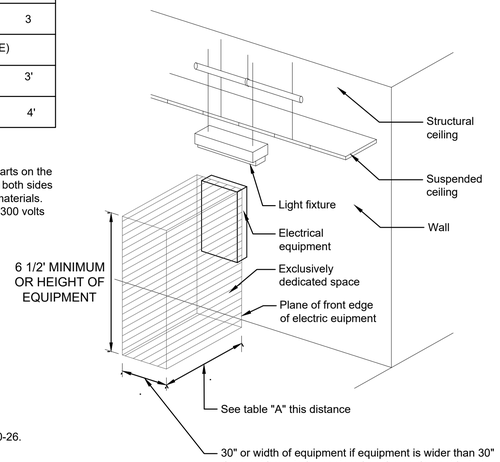
SHEET NUMBER

E-0

TABLE "A" WORKING CLEARANCES			
VOLTAGE TO GROUND	CONDITION: 1	2	3
(Normal)	(MINIMUM CLEAR DISTANCE)		
0-150	3'	3'	3'
151-600	3'	3 1/2'	4'

Where the "conditions" are as follows:

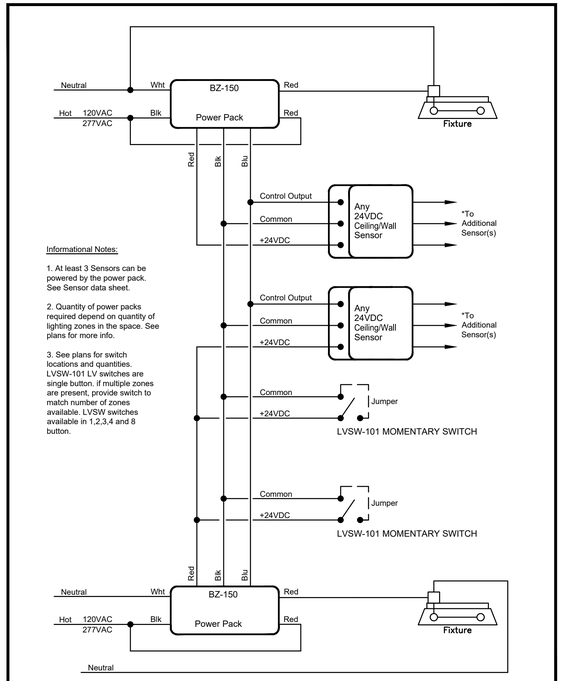
1. Exposed live parts on one side and no live or grounded parts on the other side of the working space, or exposed live parts on both sides effectively guarded by suitable wood or other insulating materials. insulated wire or insulated busbars operating at not over 300 volts shall not be considered live parts.
2. Exposed live parts on one side and grounded parts on the other side.
3. Exposed life parts on both sides of the work space (Not guarded as provided in condition 1) with the operator between.



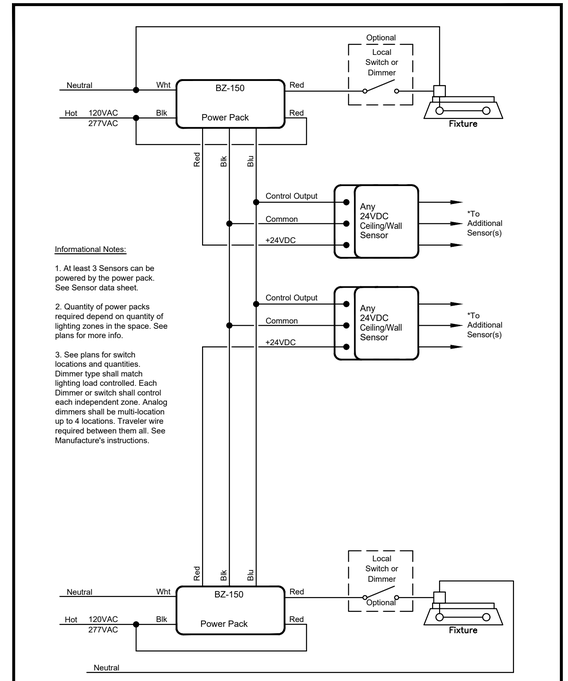
NOTES:
1. This figure illustrates the working space in front of electrical equipment required by NEC section 110-26.
2. This includes but is not limited to panel boards, safety switches, motor starters, junction boxes and other electrical equipment.

NEC Article 110.26 Working Clearance For Electrical Equipment

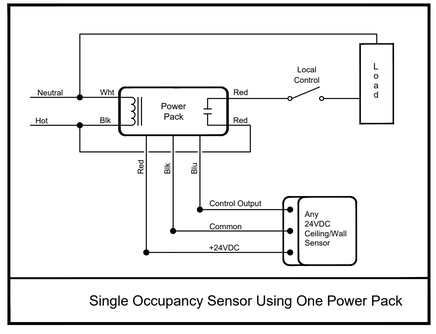
2 Scale: None



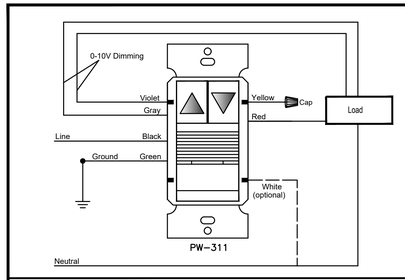
Non-Dimming Multiple Zone, Multiple Sensor and Multiple on/off switch control



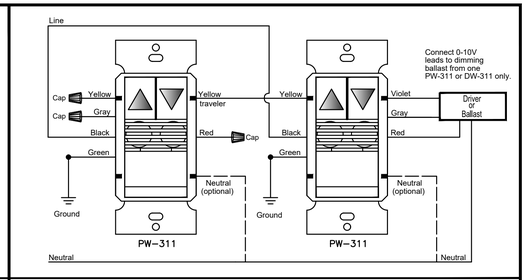
Multiple Zone, Mutiple Sensor and Multiple Dimming switch control



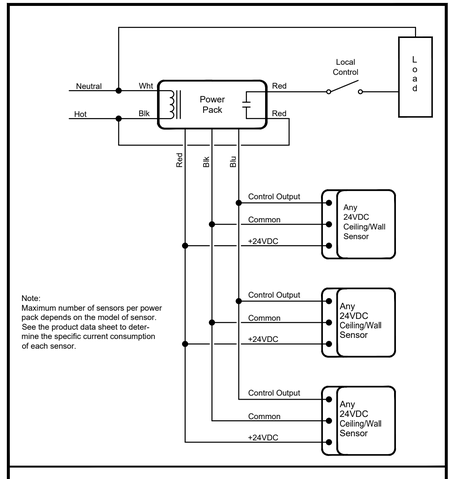
Single Occupancy Sensor Using One Power Pack



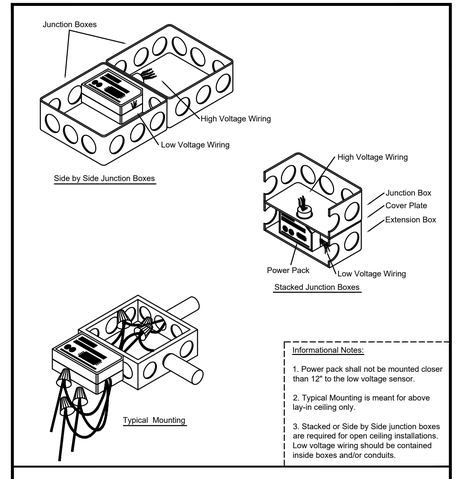
Typical PW-311 or DW-311 Wiring



Typical PW-311 or DW-311 Multi-way Wiring



Multiple Occupancy Sensors Using One Power Pack

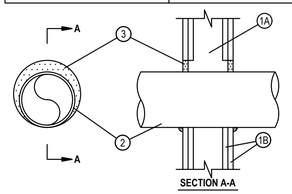


Power Pack Installation

System No. W-L-1054 — WL 1054

Classified by Underwriters Laboratories, Inc. to UL 1479 and CAN/ULC-S115

ANSI/UL1479 (ASTM E814)	CAN/ULC S115
F Ratings —1 and 2 Hr (See Items 1 and 3)	F Ratings — 1 and 2 Hr (See Items 1 and 3)
T Rating — 0 Hr	FT Rating — 0 Hr
L Rating (Without Movement) at Ambient — Less Than 1 CFM/sq ft	FH Ratings —1 and 2 Hr (See Items 1 and 3)
L Rating (Without Movement) at 400°F — Less Than 1 CFM/sq ft	FTH Rating — 0 Hr
M Rating (Movement) — See Table 1	FTH Rating — 0 Hr
	L Rating at Ambient — Less Than 5.1 L/s/m2
	L Rating at 204°C — Less Than 5.1 L/s/m2



1. Wall Assembly — The 1 or 2 hr fire-rated gypsum wallboard/stud wall assembly shall be constructed of the materials and in the manner specified in the individual U300 or U400 Series Wall and Partition Designs in the UL Fire Resistance Directory and shall include the following construction features:
   A. Studs — Wall framing may consist of either wood studs or steel channel studs. Wood studs to consist of nom 2 by 4 in. (51 by 102 mm) lumber spaced 16 in. (406 mm) OC. Steel studs to be min 2-1/2 in. (64 mm) wide and spaced max 24 in. (610 mm) OC. For M Rating, steel studs to be min 3-5/8 in. (92 mm) wide. When steel studs are used and the diam of opening exceeds the width of stud cavity, the opening shall be framed on all sides using lengths of steel stud installed between the vertical studs and screw-attached to the steel studs at each end. The framed opening in the wall shall be 4 to 6 in. (102 to 152 mm) wider and 4 to 6 in. (102 to 152 mm) higher than the diam of the penetrating item such that, when the penetrating item is installed in the opening, a 2 to 3 in. (51 to 76 mm) clearance is present between the penetrating item and the framing on all four sides.
   B. Gypsum Board* — 5/8 in. (16 mm) thick, 4 ft (122 cm) wide with square or tapered edges. The gypsum board type, thickness, number of layers, fastener type and sheet orientation shall be as specified in the individual U300 or U400 Series Design in the UL Fire Resistance Directory. Max diam of opening is 32-1/4 in. (819 mm) for steel stud walls. Max diam of opening is 14-1/2 in. (368 mm) for wood stud walls. The F and FH Ratings of the firestop system are equal to the fire rating of the wall assembly. The M Rating is applicable only to 1 hr rated walls.
2. Through-Penetrants — One metallic pipe, conduit or tubing to be installed either concentrically or eccentrically within the firestop system. The annular space shall be min 0 in. to max 2-1/4 in. (57 mm). Pipe may be installed with continuous point contact. Pipe, conduit or tubing to be rigidly supported on both sides of wall assembly. The following types and sizes of metallic pipes, conduits or tubing may be used:
   A. Steel Pipe — Nom 30 in. (762 mm) diam (or smaller) Schedule 10 (or heavier) steel pipe.
   B. Iron Pipe — Nom 30 in. (762 mm) diam (or smaller) cast or ductile iron pipe.
   C. Conduit — Nom 4 in. (102 mm) diam (or smaller) steel electrical metallic tubing or 6 in. (152 mm) . diam steel conduit.
   D. Copper Tubing — Nom 6 in. (152 mm) diam (or smaller) Type L (or heavier) copper tubing.
   E.Copper Pipe — Nom 6 in. (152 mm) diam (or smaller) regular (or heavier) copper pipe.
3. Fill, Void or Cavity Material* — Sealant — Min 5/8 in. (16 mm) thickness of fill material applied within the annulus, flush with both surfaces of wall. At the point or continuous contact locations between pipe and wall, a min 1/2 in. (13 mm) diam bead of fill material shall be applied at the pipe wall interface on both surfaces of wall.
   HILTI CONSTRUCTION CHEMICALS, DIV OF HILTI INC — FS-ONE MAX Intumescent Sealant

Movement Direction	Penetrant Item	Nominal Penetrant Diameter	Annular Space	Movement	Sealant Depth	F-Rating	L Rating with Movement
Y	2A, 2C*	2 in.	Max 2-1/4 in.	5%	5/8 in.	1 hr	N/A
Z	2A, 2C*	2 in.	2-1/4 in.	0.25 in.	5/8 in.	1 hr	N/A

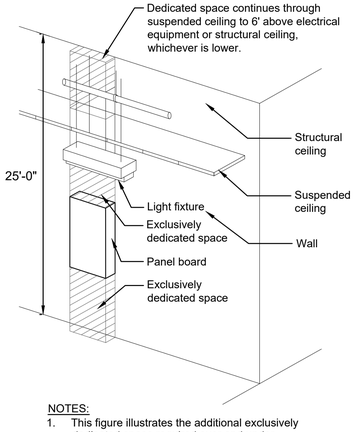
* Indicates such products shall bear the UL or cUL Certification Mark for jurisdictions employing the UL or cUL Certification (such as Canada), respectively.

HILTI Firestop Systems

Reproduced by HILTI, Inc. Courtesy of Underwriters Laboratories, Inc. January 21, 2020

Gypsum Framed Walls 1 or 2 Hour Penetration Firestop Metallic Pipe, Conduit, or Tubing

1 Scale: None



NOTES:
1. This figure illustrates the additional exclusively dedicated space required over and under panel boards for cables, raceways, etc. to and from panel boards required by NEC section 110-26.
2. No piping ductwork or equipment foreign to the electrical equipment or architectural appurtenances shall be permitted to be installed in, enter or pass through the dedicated spaces shown. For exceptions see NEC section 110-26(E).

NEC Article 110.26 (E) Dedicated Equipment Space For Electrical Equipment

3 Scale: None

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NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 36841 ENGINEER
RICHARD D. COPELAND
7/24/23

A Tenant Alteration for
HARVEY JOHNS STEAKHOUSE
1501 N. Raleigh Street, Suite G
Angier, NC

JOB #: 23HARVEYJOHNS

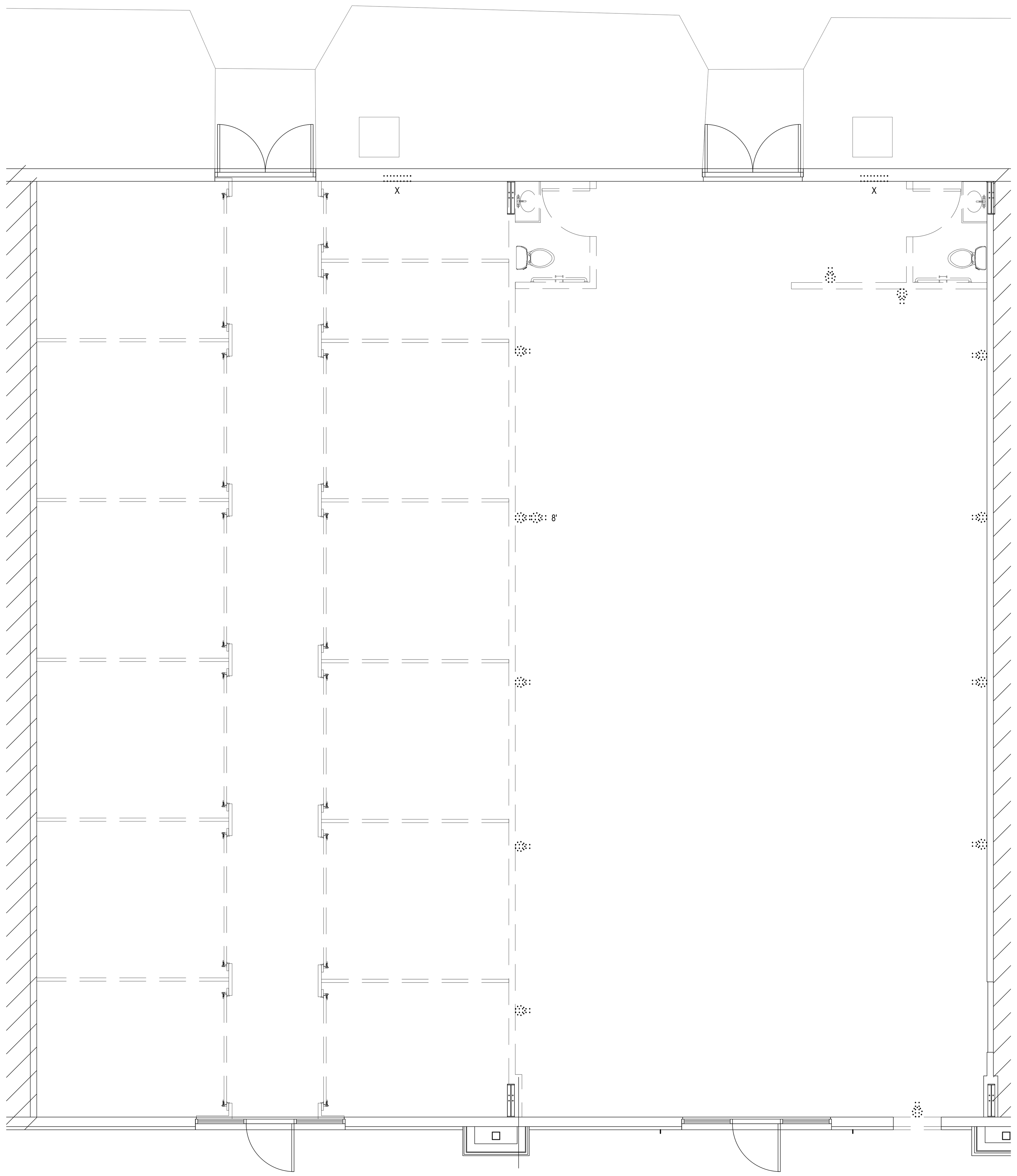
DWG BY:	
CHK BY:	
DATE:	07/28/23
REV NO	DATE

ELECTRICAL STANDARD DETAILS

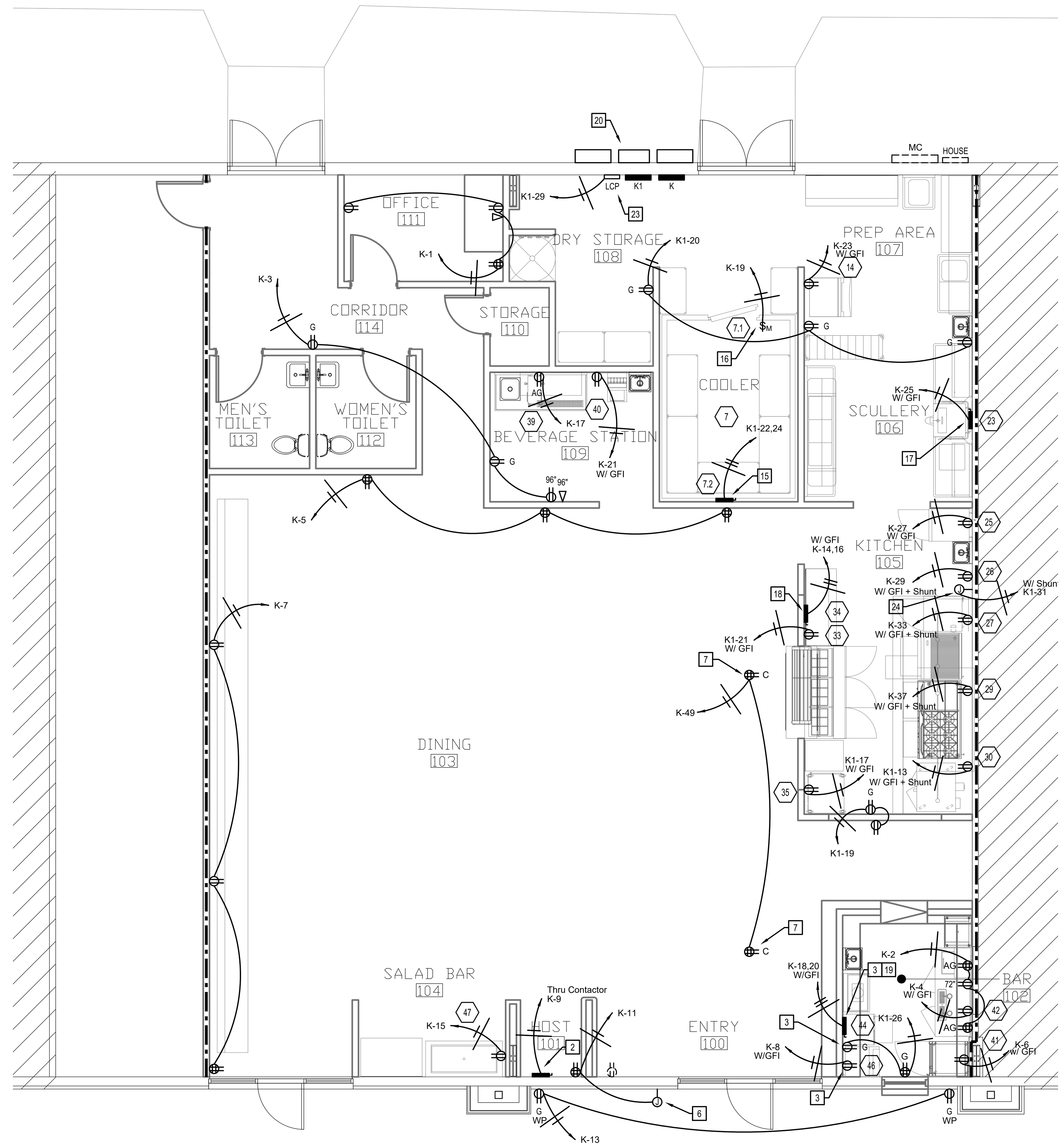
SHEET NUMBER

E-1

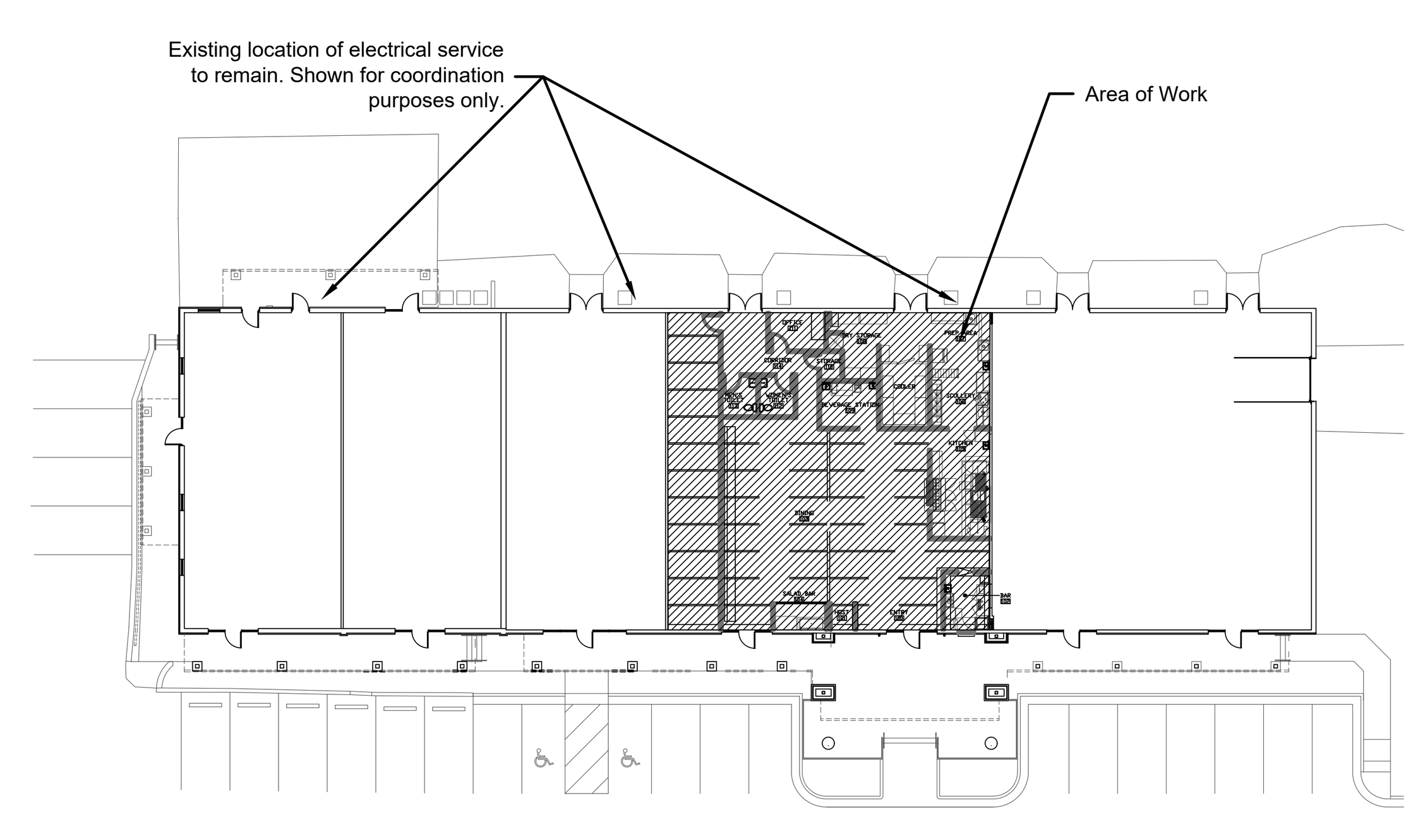
These drawings will be at the scale indicated when plotted at 24" x 36"



1 Floor Plan - Demolition Power
Scale: 3/16" = 1' - 0"



2 Floor Plan - Power
Scale: 3/16" = 1' - 0"



3 Key Plan
Scale: None

Sheet Notes:

1. All electrical boxes mounted in rated walls shall comply with all requirements of the 2018 NCSBC, section 714.3.2. All electrical boxes mounted in rated ceilings/horizontal assemblies shall comply with all requirements of the 2018 NCSBC, section 714.4.2. Devices shown in rated assemblies shall be flush with conduit concealed, unless otherwise indicated. Provide rated boxes, horizontal separation, putty pads, etc. as required for proper installation. Low voltage electrical devices mounted in rated assemblies shall be protected in accordance with the sections listed above as well.
2. Individual branch circuits are shown with a dedicated neutral unless otherwise noted. When multi-wire branch circuits are to be installed, provide multi-pole circuit breakers as required. NEC 210.7
3. See voltage drop schedule for wire sizing information for all branch circuits over 65' in length.
4. All receptacles within 6 feet from the outside edge of any sink shall be GFCI. NEC 210.8(B)(5). All GFCI trip-reset receptacles shall be readily accessible. NEC 210.8.

Plan Notes: (All notes not used on all sheets)

1. WP GFI receptacle on roof for maintenance. Connect as required. Coordinate exact locations with mechanical.
2. Provide lockable 30/1 disconnect fused at 20 amps up high on wall for sign circuit per NEC 600.5. Connect as required.
3. Mount device in millwork. Coordinate exact location and requirements with architect/millwork contractor prior to rough-in.
4. Connect exhaust fan controlled by switch as required. Coordinate with mechanical.
5. Connect gas water heater as required. Coordinate with plumbing.
6. Junction box for illuminated menu holder. Coordinate exact location and requirements with Owner prior to rough-in. Connect as required.
7. Ceiling mounted receptacles for decor. Coordinate exact location with Owner prior to rough-in. Connect as required.
8. Connect air handler as required. Coordinate with mechanical.
9. Connect heat pump as required. Coordinate with mechanical.
10. Connect hood controls and lighting circuit as required. Coordinate requirements with equipment supplier.
11. To hood supply fan, located on roof. Connect as required. Coordinate requirements with equipment supplier and mechanical contractor.
12. To hood exhaust fan, located on roof. Connect as required. Coordinate requirements with equipment supplier and mechanical contractor.
13. Provide receptacle for fly fan. Coordinate exact location with owner/mechanical contractor and connect as required.
14. To kitchen hood controller. Connect as required. Coordinate requirements and exact location with equipment supplier.
15. Connect walk-in condenser as required. Coordinate exact location and requirements with equipment supplier.
16. Connect walk-in lights, controls, and defrost (if applicable) Coordinate exact location and requirements with equipment supplier.
17. Connect dish machine as required. Coordinate exact location and requirements with equipment supplier.
18. Connect heat lamp as required. Coordinate exact location and requirements with equipment supplier.
19. Connect under counter glass washer as required. Coordinate exact location and requirements with equipment supplier.
20. New electrical service. See Riser Diagram.
21. Connect to circuit 'K1-5' with other WP GFI receptacle for maintenance as required.
22. Connect booster pump as required. Coordinate with plumbing.
23. Connect lighting control panel as required. Coordinate exact location with Owner before beginning work.
24. Junction box for gas solenoid valve. Coordinate location and requirements with mechanical. Connect as required.

Kitchen Notes:

1. See kitchen equipment shop drawings and kitchen equipment schedule for all device locations, mounting heights, etc. Verify all kitchen equipment requirements, locations, connection types, etc. with kitchen equipment supplier and/or kitchen equipment nameplates/manufacturers literature prior to rough-in. Do not install any kitchen equipment connections until approved kitchen equipment shop drawings have been received.
2. Coordinate all kitchen equipment connection requirements with equipment supplier. Provide cord and plug where necessary. All final connections between outlet, motor switch, junction box, or disconnect to equipment shall be by the electrical contractor. Connections to equipment shall provide the complete and working system to allow the equipment to operate as intended.
3. Seal any and all penetrations through walk-in cooler/freezer as required per NEC 300.7
4. All 120V and 208V receptacles in kitchen and food prep areas shall be GFCI protected per NEC 210.8.
5. All light fixtures mounted over food prep, cooking, serving areas shall have an approved lens.
6. Connect hood fire suppression system as required. Coordinate with equipment supplier.
7. Connect fire suppression system to gas solenoid and shunt trip breakers as required. Activation of the fire suppression system shall de-energize electrical equipment under hoods and close gas valve.

Demo Note:

The existing locations shown on demo plan to be removed or relocated are for reference only and shall be field verified by contractor prior to beginning work. Any items required to be removed or relocated shall be included in contractor's cost, whether shown on this plan or not. Unless noted otherwise, where a device or fixture is noted to be demolished, the work shall include removing all associated boxes, conduits, hangers, conductors, cables etc. and shall include any patch, repair, paint or refinishing necessary to restore the location to match the surroundings. The contractor may reuse any existing conductors, boxes etc. where they have been inspected and are determined to be acceptable to the owner and/or in like-new condition.

Wall Ratings and Types Legend

See architectural sheets for more information on ratings and additional rated constructions including structure where applicable. Protect all rated constructions as required.

Existing Wall to Remain
New Wall being Constructed
One Hour Fire Barrier
Existing Wall being Demolished

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919.275.1935
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NORTH CAROLINA PROFESSIONAL SEAL 36841 ENGINEER RICHARD D. COPELAND JR.
7/28/23

A Tenant Alteration for
HARVEY JOHNS STEAKHOUSE
1501 N. Raleigh Street, Suite G
Angier, NC

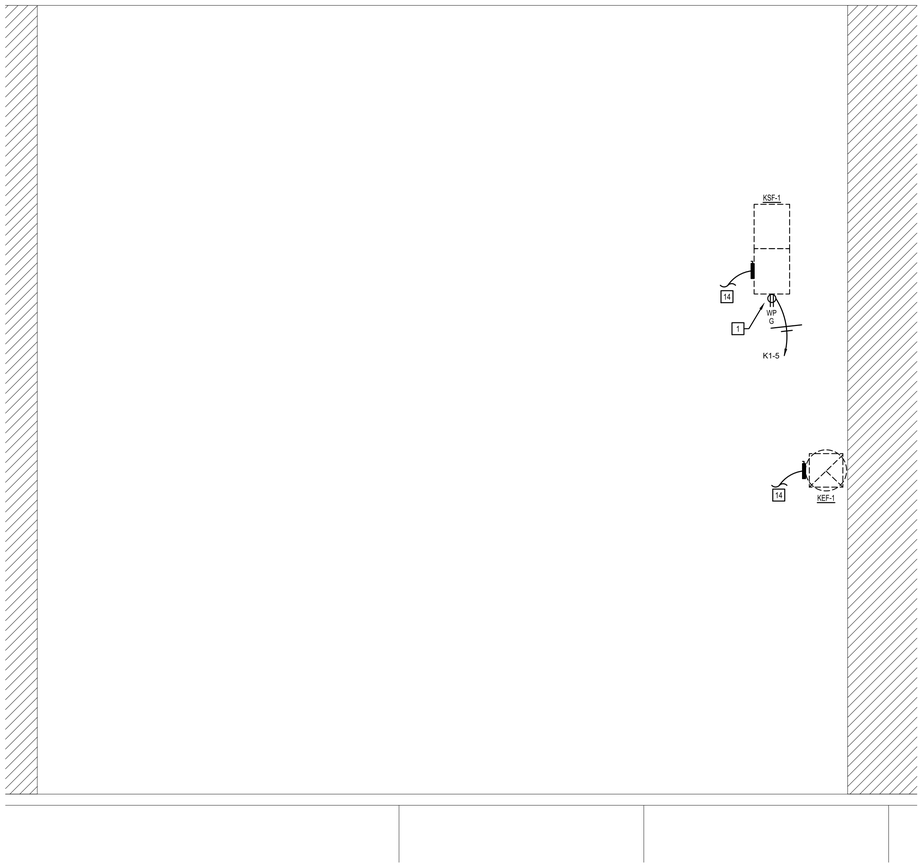
JOB #:
23HARVEYJOHNS

DWG BY:
CHK BY:
DATE: 07/28/23
REV NO DATE

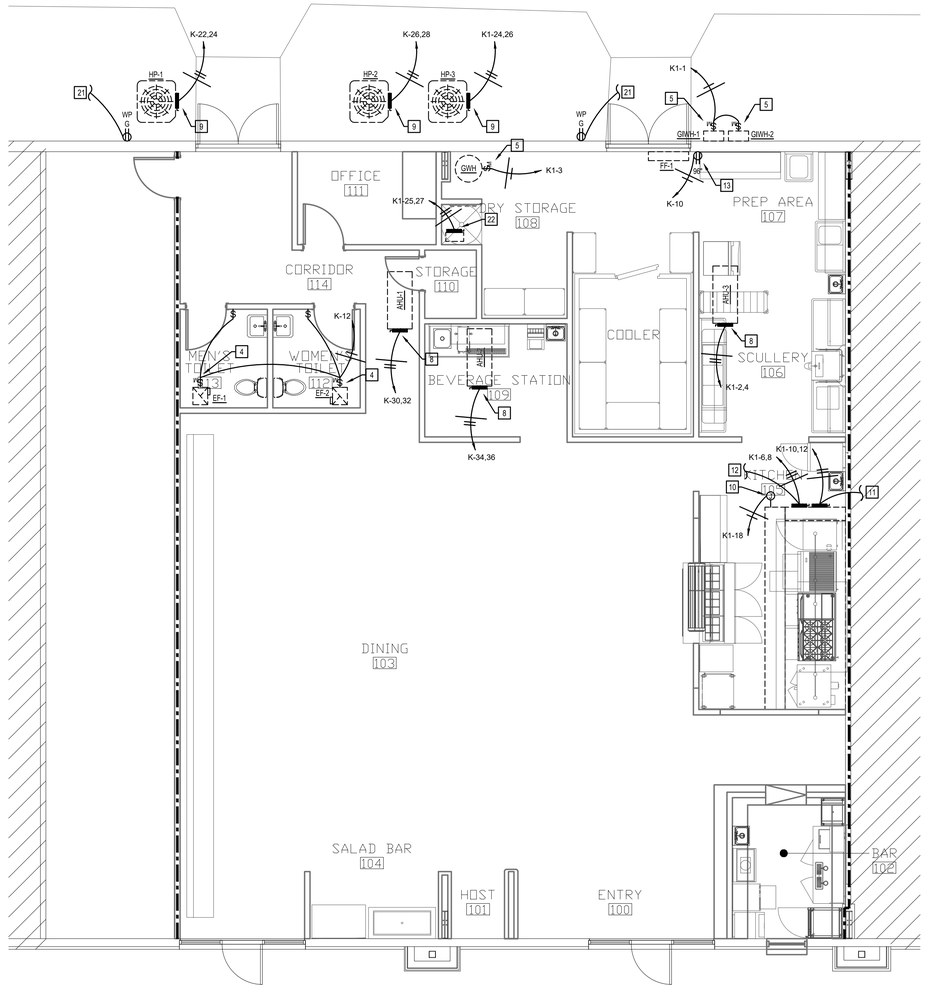
FLOOR PLAN - POWER

SHEET NUMBER
E-2

These drawings will be at the scale indicated when plotted at 24" x 36"



1 Roof Plan - Mechanical Connections
Scale: 3/16" = 1' - 0"



2 Floor Plan - Mechanical Connections
Scale: 3/16" = 1' - 0"

Sheet Notes:

1. All electrical boxes mounted in rated walls shall comply with all requirements of the 2018 NCSBC, section 714.3.2. All electrical boxes mounted in rated ceilings/horizontal assemblies shall comply with all requirements of the 2018 NCSBC, section 714.4.2. Devices shown in rated assemblies shall be flush with conduit concealed, unless otherwise indicated. Provide rated boxes, horizontal separation, putty pads, etc. as required for proper installation. Low voltage electrical devices mounted in rated assemblies shall be protected in accordance with the sections listed above as well.
2. Individual branch circuits are shown with a dedicated neutral unless otherwise noted. When multi-wire branch circuits are to be installed, provide multi-pole circuit breakers as required. NEC 210.7
3. See voltage drop schedule for wire sizing information for all branch circuits over 65' in length.
4. All receptacles within 6 feet from the outside edge of any sink shall be GFCI. NEC 210.8(B)(5). All GFCI trip-reset receptacles shall be readily accessible. NEC 210.8.

Plan Notes: (All notes not used on all sheets)

1. WP GFI receptacle on roof for maintenance. Connect as required. Coordinate exact locations with mechanical.
2. Provide lockable 30/1 disconnect fused at 20 amps up high on wall for sign circuit per NEC 600.5. Connect as required.
3. Mount device in millwork. Coordinate exact location and requirements with architect/millwork contractor prior to rough-in.
4. Connect exhaust fan controlled by switch as required. Coordinate with mechanical.
5. Connect gas water heater as required. Coordinate with plumbing.
6. Junction box for illuminated menu holder. Coordinate exact location and requirements with Owner prior to rough-in. Connect as required.
7. Ceiling mounted receptacles for decor. Coordinate exact location with Owner prior to rough-in. Connect as required.
8. Connect air handler as required. Coordinate with mechanical.
9. Connect heat pump as required. Coordinate with mechanical.
10. Connect hood controls and lighting circuit as required. Coordinate requirements with equipment supplier.
11. To hood supply fan, located on roof. Connect as required. Coordinate requirements with equipment supplier and mechanical contractor.
12. To hood exhaust fan, located on roof. Connect as required. Coordinate requirements with equipment supplier and mechanical contractor.
13. Provide receptacle for fly fan. Coordinate exact location with owner/mechanical contractor and connect as required.
14. To kitchen hood controller. Connect as required. Coordinate requirements and exact location with equipment supplier.
15. Connect walk-in condenser as required. Coordinate exact location and requirements with equipment supplier.
16. Connect walk-in lights, controls, and defrost (if applicable) Coordinate exact location and requirements with equipment supplier.
17. Connect dish machine as required. Coordinate exact location and requirements with equipment supplier.
18. Connect heat lamp as required. Coordinate exact location and requirements with equipment supplier.
19. Connect under counter glass washer as required. Coordinate exact location and requirements with equipment supplier.
20. New electrical service. See Riser Diagram.
21. Connect to circuit 'K1-5' with other WP GFI receptacle for maintenance as required.
22. Connect booster pump as required. Coordinate with plumbing.
23. Connect lighting control panel as required. Coordinate exact location with Owner before beginning work.
24. Junction box for gas solenoid valve. Coordinate location and requirements with mechanical. Connect as required.

Kitchen Notes:

1. See kitchen equipment shop drawings and kitchen equipment schedule for all device locations, mounting heights, etc. Verify all kitchen equipment requirements, locations, connection types, etc. with kitchen equipment supplier and/or kitchen equipment nameplates/manufacturers literature prior to rough-in. Do not install any kitchen equipment connections until approved kitchen equipment shop drawings have been received.
2. Coordinate all kitchen equipment connection requirements with equipment supplier. Provide cord and plug where necessary. All final connections between outlet, motor switch, junction box, or disconnect to equipment shall be by the electrical contractor. Connections to equipment shall provide the complete and working system to allow the equipment to operate as intended.
3. Seal any and all penetrations through walk-in cooler/freezer as required per NEC 300.7
4. All 120V and 208V receptacles in kitchen and food prep areas shall be GFCI protected per NEC 210.8.
5. All light fixtures mounted over food prep, cooking, serving areas shall have an approved lens.
6. Connect hood fire suppression system as required. Coordinate with equipment supplier.
7. Connect fire suppression system to gas solenoid and shunt trip breakers as required. Activation of the fire suppression system shall de-energize electrical equipment under hoods and close gas valve.

Wall Ratings and Types Legend

See architectural sheets for more information on ratings and additional rated constructions including structure where applicable. Protect all rated constructions as required.

- Existing Wall to Remain
- New Wall being Constructed
- One Hour Fire Barrier
- Existing Wall being Demolished

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NORTH CAROLINA PROFESSIONAL SEAL 36841 ENGINEER RICHARD D. COPELAND
7/28/23

A Tenant Alteration for
HARVEY JOHNS STEAKHOUSE
1501 N. Raleigh Street, Suite G
Angier, NC

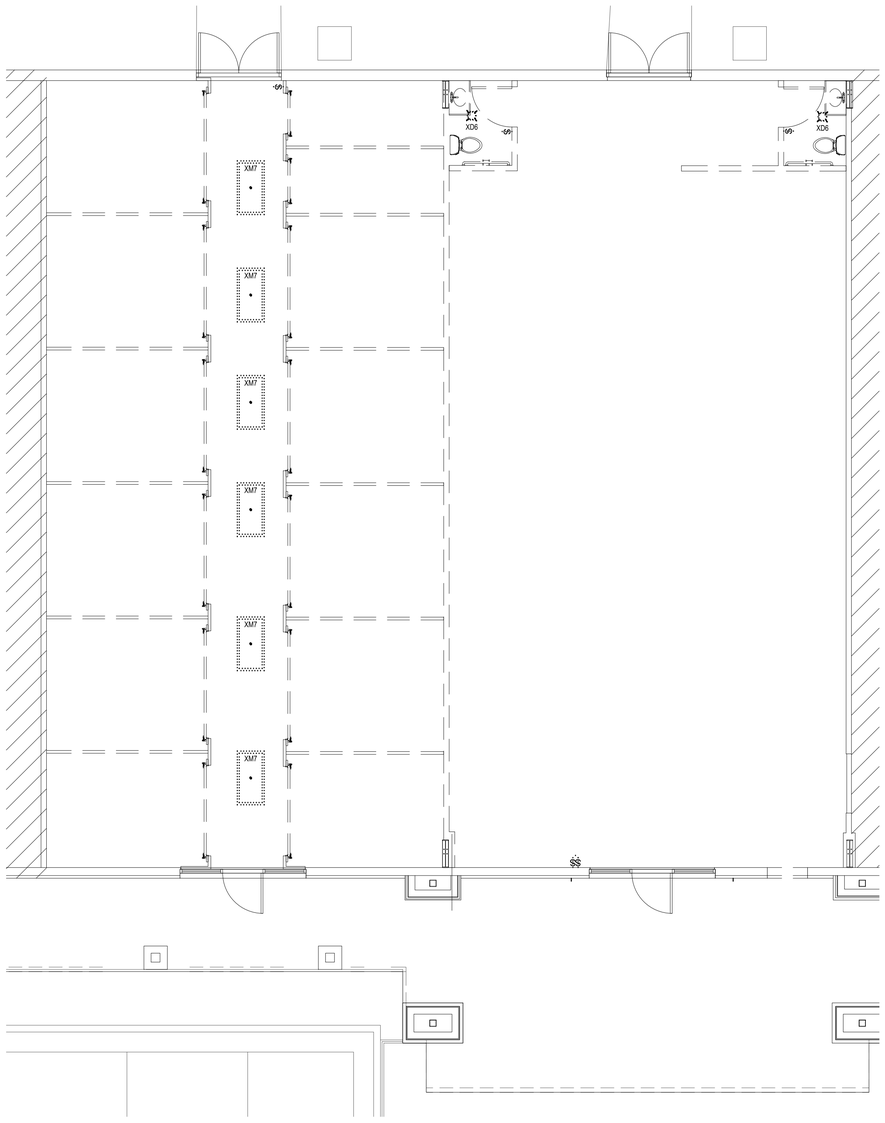
JOB #:
23HARVEYJOHNS

DWG BY:
CHK BY:
DATE: 07/28/23
REV NO DATE

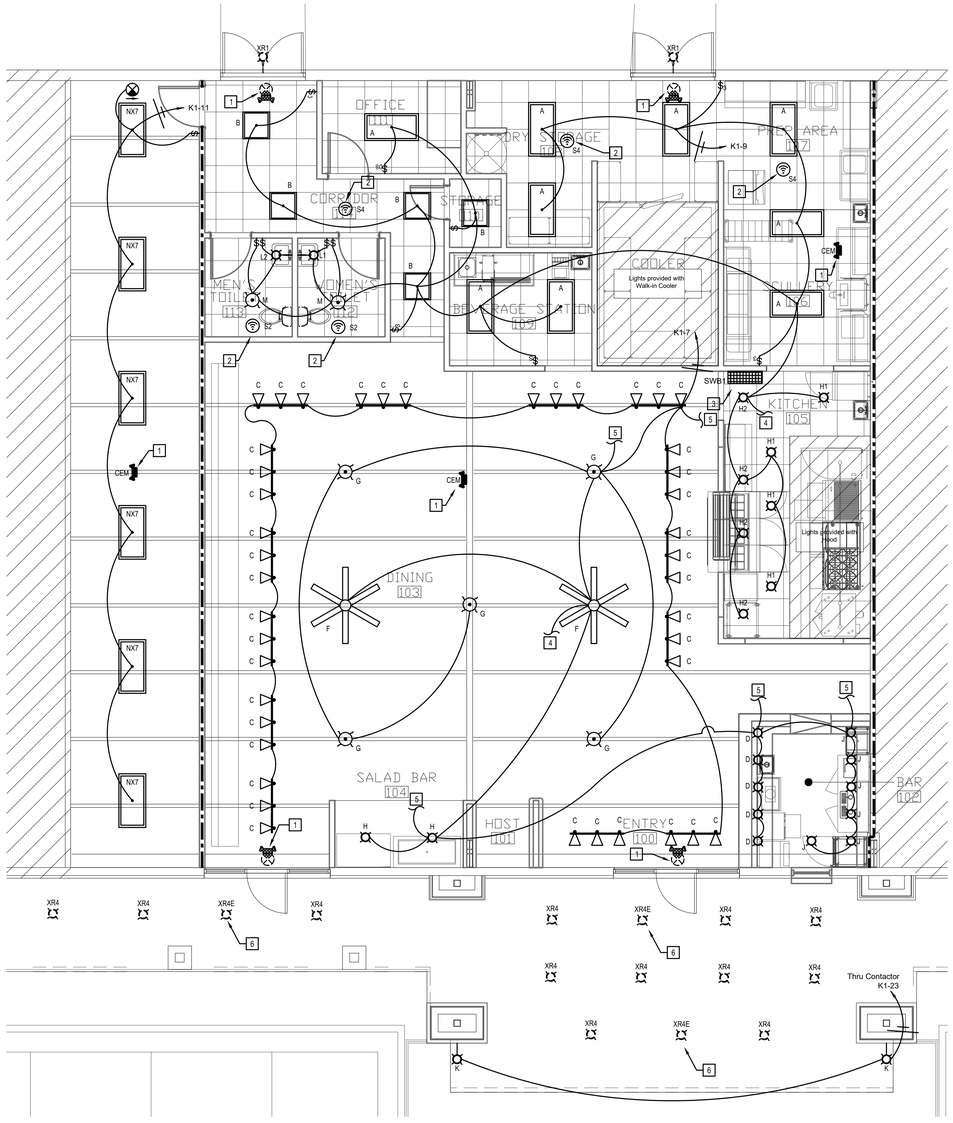
FLOOR PLAN - MECHANICAL CONNECTIONS

SHEET NUMBER
E-3

These drawings will be at the scale indicated when plotted at 24" x 36"



1 Floor Plan - Demolition Lighting
Scale: 3/16" = 1' - 0"



2 Floor Plan - Lighting
Scale: 3/16" = 1' - 0"

Sheet Notes:

1. All electrical boxes mounted in rated walls shall comply with all requirements of the 2018 NCSBC, section 714.3.2. All electrical boxes mounted in rated ceilings/horizontal assemblies shall comply with all requirements of the 2018 NCSBC, section 714.4.2. Devices shown in rated assemblies shall be flush with conduit concealed, unless otherwise indicated. Provide rated boxes, horizontal separation, putty pads, etc. as required for proper installation. Low voltage electrical devices mounted in rated assemblies shall be protected in accordance with the sections listed above as well.
2. Connect wall packs or other normally off emergency lights, exit signs and night lights ahead of local switches and/or controls. (total fixture unswitched). Where lights are not indicated as night lights, fixtures with emergency batteries shall be connected with the battery ahead of switch so that the emergency battery comes on only in the event of power loss. Fixture is normally controlled with the other lights under normal conditions.
3. See motion sensor details for specifications and wiring details.
4. Lighting controls including occupancy sensors, automatic time switches, automatic shut-off controls, or daylight/ occupant sensing automatic controls, the electrical contractor shall be responsible for testing the lighting controls per section C408.3 of the 2018 NC Energy Conservation Code. Ensure that control devices, components, and systems are calibrated, adjusted and operate in accordance with the approved plans and/or specifications. Sequences of operation shall be functionally tested to ensure they operate in accordance with the approved plans and/or specifications.
5. Individual branch circuits are shown with a dedicated neutral unless otherwise noted. When multi-wire branch circuits are to be installed, provide multi-pole circuit breakers as required. NEC 210.7
6. See voltage drop schedule for wire sizing information for all branch circuits over 65' in length.
7. Contractor may reuse existing emergency/ exit light, given that the device is in proper working order and it matches the established standard for the space. Replace chevrons and rotate as shown on plans.

Plan Notes:

1. Connect emergency and exit lights ahead of local switch/controls so that total fixture is unswitched. Connect as required.
2. Motion sensor to control all lights in this room. See motion sensor wiring diagrams. Provide required power packs to control all lights with override off switches as shown.
3. Switchbank 1 consist of 2 single pole and 6 dimmer switches. Provide engraved labeling for each switch and do not gang more than 8 switches together. Connect as required.
4. To Single Pole switch in Switchbank 1. Connect as required.
5. To Dimmer switch in Switchbank 1. Connect as required.
6. Confirm existing emergency light is connect such that it is illuminated upon loss of power.

Demo Note:

The existing locations shown on demo plan to be removed or relocated are for reference only and shall be field verified by contractor prior to beginning work. Any items required to be removed or relocated shall be included in contractor's cost, whether shown on this plan or not. Unless noted otherwise, where a device or fixture is noted to be demolished, the work shall include removing all associated boxes, conduits, hangers, conductors, cables etc. and shall include any patch, repair, paint or refinishing necessary to restore the location to match the surroundings. The contractor may reuse any existing conductors, boxes etc. where they have been inspected and are determined to be acceptable to the owner and/or in like-new condition.

Wall Ratings and Types Legend

See architectural sheets for more information on ratings and additional rated constructions including structure where applicable. Protect all rated constructions as required.

- Existing Wall to Remain
- New Wall being Constructed
- One Hour Fire Barrier
- Existing Wall being Demolished

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NORTH CAROLINA PROFESSIONAL SEAL 36841 ENGINEER
PRELIMINARY NOT FOR RECORDING OR CONSTRUCTION
7/24/23

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A Tenant Alteration for
HARVEY JOHNS STEAKHOUSE
1501 N. Raleigh Street, Suite G
Angier, NC

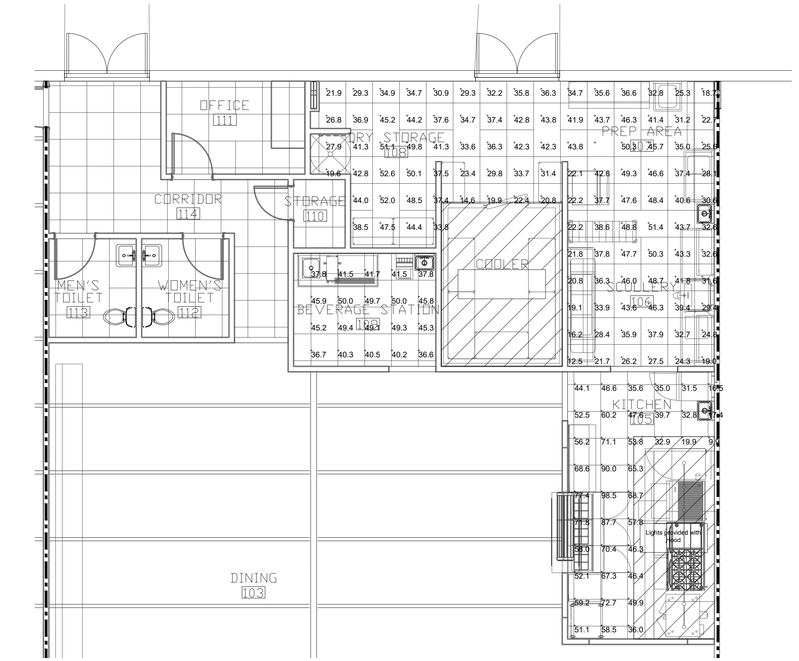
JOB #:
23HARVEYJOHNS

DWG BY:	
CHK BY:	
DATE:	07/28/23
REV NO	DATE

FLOOR PLAN - LIGHTING

SHEET NUMBER
E-4

These drawings will be at the scale indicated when plotted at 24" x 36"



1 Floor Plan - Lighting Photometrics
Scale: 3/16" = 1' - 0"

Wall Ratings and Types Legend	
See architectural sheets for more information on ratings and additional rated constructions including structure where applicable. Protect all rated constructions as required.	
Existing Wall to Remain	
New Wall being Constructed	
One Hour Fire Barrier	
Existing Wall being Demolished	

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PROFESSIONAL ENGINEER SEAL 36841 RICHARD D. COPELAND
7/28/23

This is not a certified drawing, but a copy of a certified drawing that has been unlocked. This drawing has been unlocked for the ease of use of the Contractor and is to be used only when accompanied with the actual certified document meeting the boards rule for electronic signatures

A Tenant Alteration for
HARVEY JOHNS STEAKHOUSE
1501 N. Raleigh Street, Suite G
Angier, NC

JOB #:
23HARVEYJOHNS

DWG BY:
CHK BY:
DATE: 07/28/23
REV NO DATE
FLOOR PLAN - LIGHTING PHOTOMETRICS

SHEET NUMBER
E-5

These drawings will be at the scale indicated when plotted at 24" x 36"

Demand Loads Panel K1

	Load Type	Load	
	Lights (@ 125%)	2.4	KVA
	Receptacles and Miscellaneous	5.0	KVA
	Kitchen Equipment (Calculated per NEC 220.54)	4.6	KVA
	Gas Water Heaters	1.0	KVA
	Air Handling Units	13.9	KVA
	Tracking Lighting (Calculated Per NEC 410.151(B))	4.2	KVA
	Fans	5.4	KVA
	Total:	36.5	KVA
	152.1 AMPS @ 240V/1Ø		

Panel: K1

Enclosure: Nema 1 **Mounting:** Surface
Voltage: 120/240 **Poles:** 42 **Phase:** 1 **Wires** 3
Main Type Main Lugs Only **Main Rating** 300 Amps **Fed From** Utility **Manufacture** Square D NQOB

Load Type	kVA	Breaker Size		ø		Breaker Size	kVA	Load Type
GWHs	0.5	20/1	1	A	2	60/2	6.9	AHU-3
GWH	0.5	20/1	3	B	4		7.0	
Roof WP/GFI Rec.	0.2	20/1	5	A	6	15/2	1.2	KEF-1
Lights	1.0	20/1	7	B	8		1.2	
Lights	0.7	20/1	9	A	10	20/1	-	Spare
Lights	0.6	20/1	11	B	12	20/2	1.5	KSF-1
Gas Convection Oven	0.9	20/1 (G)	13	A	14		1.5	
Shunt Trip	-	-	15	B	16	20/1	-	Spare
Heated Holding Cabinet	1.9	20/1 (G)	17	A	18	15/1	0.5	Hood Lts/Controls
Conv. Recs.	0.4	20/1	19	B	20	20/1	0.6	Kitchen Conv. Recs.
Refrigerator	0.7	20/1 (G)	21	A	22	20/2	1.6	Walk-In Cooler Condensor
Exterior Lights	0.1	20/1	23	B	24		1.5	
Booster Pump	1.2	20/2	25	A	26	20/1	0.4	Bar POS/Conv. Recs.
	1.2		27	B	28	-		Space
LCP	0.5	20/1	29	A	30	-		Space
Gas Solenoid Valve	0.5	20/1	31	B	32	-		Space
Space		-	33	A	34	-		Space
Space		-	35	B	36	-		Space
Space		-	37	A	38	-		Space
Space		-	39	B	40	-		Space
Space		-	41	A	42	-		Space

Demand Load Summary:

Lighting:	2.3 kVA	@ 125%	2.9 kVA	
Largest Motor:	kVA	@ 125%	kVA	
Gen Receptacles:	1.6 kVA	@ 100%	1.6 kVA	
Kitchen Equipment:	7.1 kVA	Diversified	4.6 kVA	
All Other:	23.8 kVA	@ 100%	23.8 kVA	
Phase A:	16.9 kVA	141.0 Amps		
Phase B:	16.0 kVA	133.1 Amps		
Total Panel Load:	32.9 kVA	137.0 Amps		

- [ ] UL SE rated
- [x] Separate Neutral Bar
- [x] Ground bar
- [ ] Feed thru lugs
- [ ] Existing Panel

1. All breakers shall be 10,000 AIC and series rated to 42,0000 AIC with fuse feeding this panel.
2. Kitchen equipment diversification taken per NEC 220.54.

Panel: K

Enclosure: Nema 1 **Mounting:** Surface
Voltage: 120/240 **Poles:** 42 **Phase:** 1 **Wires** 3
Main Type Main Lugs Only **Main Rating** 300 Amps **Fed From** Utility **Manufacture** Square D NQOB

Load Type	kVA	Breaker Size		ø		Breaker Size	kVA	Load Type
Office Recs.	0.8	20/1	1	A	2	20/1	1.0	Bar Conv./TV Recs.
Conv. Recs.	0.6	20/1	3	B	4	20/1	0.3	Beer Dispenser
Dining Recs.	1.2	20/1	5	A	6	20/1	0.3	Refrigerated Display Case
Dining Recs.	0.8	20/1	7	B	8	20/1	0.9	Ice Maker
Sign Circuit	0.5	20/1	9	A	10	20/1	0.4	Fly Fan
POS/Illuminate Menu	0.4	20/1	11	B	12	20/1	0.2	EF-1/EF-2
Exterior GFI Recs.	0.4	20/1	13	A	14	20/2 (G)	1.5	Heat Lamp
Cold Food Station	1.5	20/1	15	B	16		1.5	
Coffee Brewer	1.7	20/1	17	A	18	45/2	4.0	UC Glasswasher
Walk-In Cooler Lts./Door Heater	0.1	20/1	19	B	20		3.9	
Beverage Dispenser	0.1	20/1 (G)	21	A	22	50/2	3.8	HP-1
Ice Maker	1.2	20/1 (G)	23	B	24		3.9	
Warewasher	1.9	20/1 (G)	25	A	26	40/2	3.1	HP-2
Freezer	0.3	20/1 (G)	27	B	28		3.1	
UC Refrigerator	0.3	20/1 (G)	29	A	30	40/2	3.1	HP-3
Shunt Trip	-	-	31	B	32		3.1	
Refrigerator Shorty	1.0	20/1 (G)	33	A	34	60/2	7.0	AHU-1
Shunt Trip	-	-	35	B	36		6.9	
Gas Range	0.7	20/1 (G)	37	A	38	60/2	6.9	AHU-2
Shunt Trip	-	-	39	B	40		7.0	
Spare		20/1	41	A	42	-		Space

Demand Load Summary:

Lighting:	kVA	@ 125%	kVA	
Largest Motor:	kVA	@ 125%	kVA	
Gen Receptacles:	5.2 kVA	@ 100%	5.2 kVA	
Kitchen Equipment:	21.2 kVA	Diversified	13.8 kVA	
All Other:	49.0 kVA	@ 100%	49.0 kVA	
Phase A:	35.7 kVA	297.3 Amps		
Phase B:	32.3 kVA	269.2 Amps		
Total Panel Load:	68.0 kVA	283.3 Amps		

- [ ] UL SE rated
- [x] Separate Neutral Bar
- [x] Ground bar
- [ ] Feed thru lugs
- [ ] Existing Panel

1. All breakers shall be 10,000 AIC and series rated to 42,0000 AIC with fuse feeding this panel.
2. Kitchen equipment diversification taken per NEC 220.54.

Panel Schedule Notes (All Panels, All Sheets):

1. All panel directories shall be completed in accordance with NEC 408.4.
2. Values for demand loads include all code factors such as 125% for continuous loads, 125% largest motor, etc.
3. Breaker sizes shown in panel schedules for new equipment are for reference only, see equipment connection schedule for additional information. Where breaker / fuse size between schedules conflict, the equipment connection schedule shall take precedence. Contractor shall ultimately confirm breaker size with equipment provider
4. Circuit breakers used as overcurrent protection for HVAC equipment shall be "HACR" type.
5. Contractor shall provide identification for new feeders and any new branch circuits per NEC 200.6, 210.5, and 215.12.
6. Contractor shall label breakers feeding emergency and exit lighting per NEC 700.12(F).
7. Provide arc flash hazard warning labels as required on all panels affected by this work to comply with NEC 110.16.
8. Where circuit breakers or fuses are noted to be series rated, the equipment shall be listed per NEC 110.22 as applicable. Tested series combination systems, the placard shall state the following "Caution - Series Combination System Rated _____ Amperes. Identified Replacement Components Required." See NEC 110.22(b), for engineered series combination systems placarding language.
9. Contractor shall provide multipole breakers in place of all single pole breakers shown, when multiwire branch circuits are installed per NEC 210.4(B).
10. Breakers indicated as (G) shall have GFCI protection provided. 20/1(G) means a 20 amp single pole breaker with GFCI protection.

Electrical Riser Notes

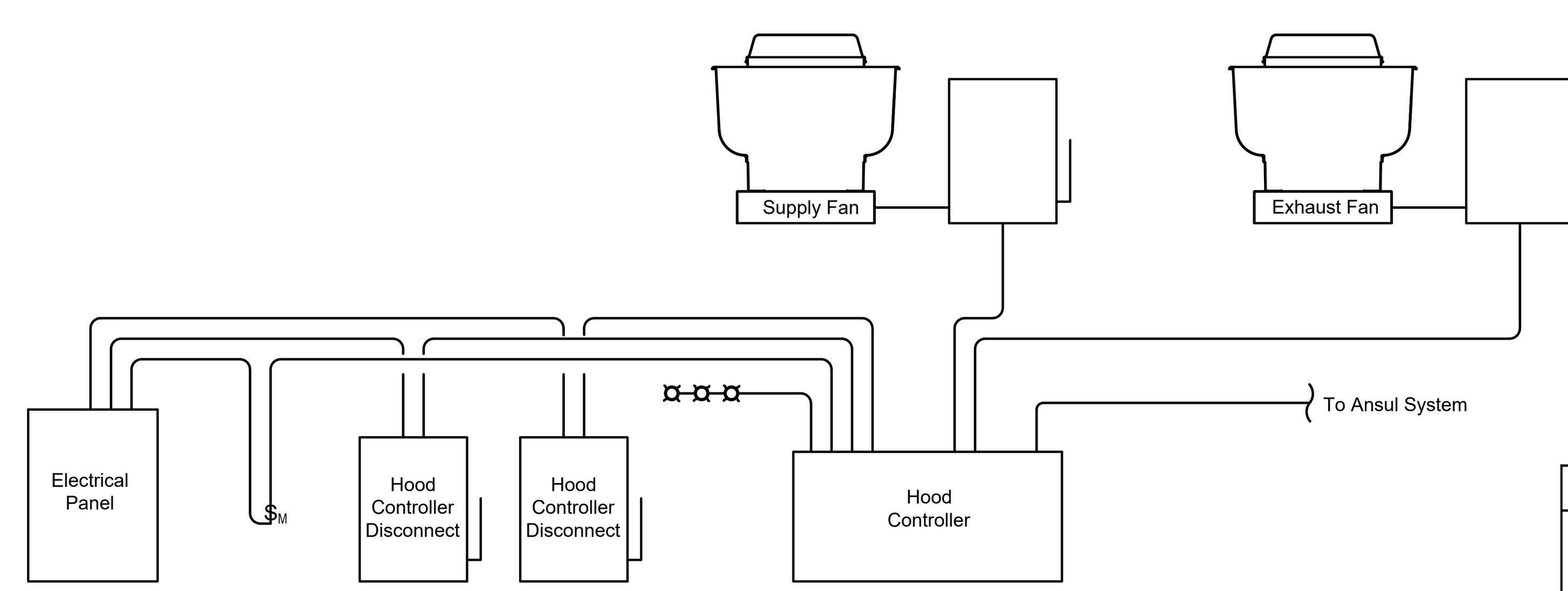
1. Grounds for all services shall be bonded together per NEC 250.58 and shall meet all requirements of NEC 250.104.
2. The design is based on an estimated fault current of 42,000. The contractor shall coordinate with the utility/ power company to confirm the available fault current at the transformer and service entrance conductor length. This information shall be submitted to engineer as part of the gear submittal, prior to beginning work.
3. The service equipment enclosure(s) shall be legibly marked in the field to indicate the available fault current prior to final inspection. NEC 110.24 The electrical contractor shall contact the power company and obtain the actual available fault current at the transformer. The contractor shall contact the engineer with this value,the verified length of conductors run from the transformer to the service enclosure, as well as the conductor type for the calculation of the available fault current. The resulting calculated value shall be placarded on the exterior of the service enclosure and shall read as follows:

   AVAILABLE FAULT CURRENT: ____________
   CALCULATED DATE: ____________

4. Provide plaques per NEC 230.2(E) and graphic key plans for each service and service disconnecting means for each building service. All disconnecting means for each service shall be grouped. Label each disconnecting means for each service as disconnect # _ of 2 for service number # _ of 3. Provide labeling and graphic key plan at main electrical panel (or panels) showing the location and identification of their disconnecting means.
5. Where circuit breakers or fuses are applied in compliance with the series combination ratings marked on the equipment by the manufacturer, the equipment enclosure(s) shall be legibly marked in the field to indicate the equipment has been applied with a series combination rating. The placard shall be readily visible and state the following "CAUTION -- SERIES COMBINATION SYSTEM RATED ____ AMPERES. IDENTIFIED REPLACEMENT COMPONENTS REQUIRED." NEC 110.22
6. Contractor shall meet all requirements of NEC 250.50 for service grounding. Connect to structural steel, rebar, metal water piping and any other available at the structured served. See service ground detail for more information.

Demand Loads Panel K

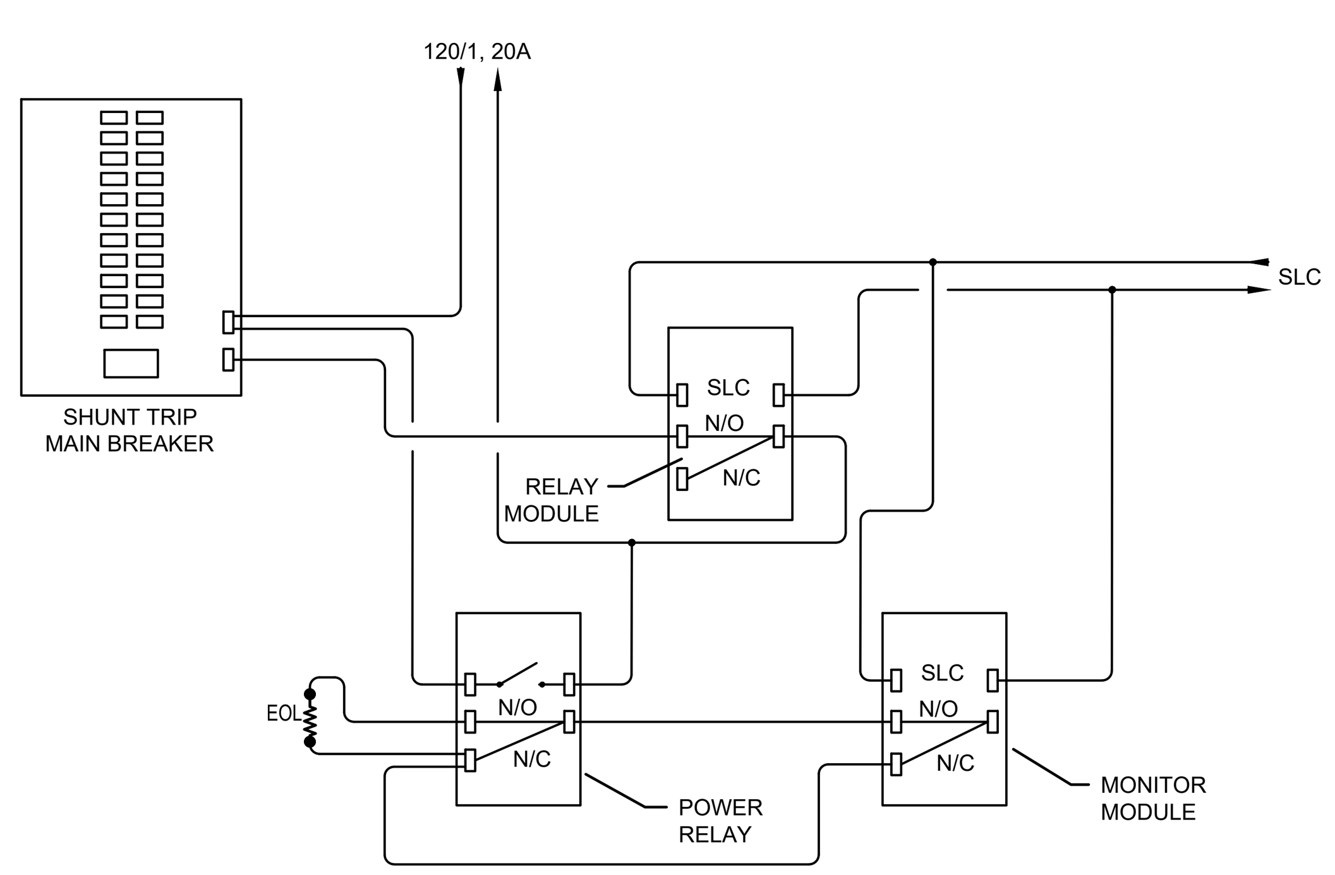
	Load Type	Load	
	Receptacles and Miscellaneous	5.6	KVA
	Heat Pumps (includes 125% factor for largest motor)	20.1	KVA
	Air Handling Units	27.8	KVA
	Fans	0.2	KVA
	Sign Circuit	0.5	KVA
	Kitchen Equipment (Calculate per NEC 220.54)	13.8	KVA
	Total:	68.0	KVA
	283.3 AMPS @ 240V/1Ø		



Hood Notes:

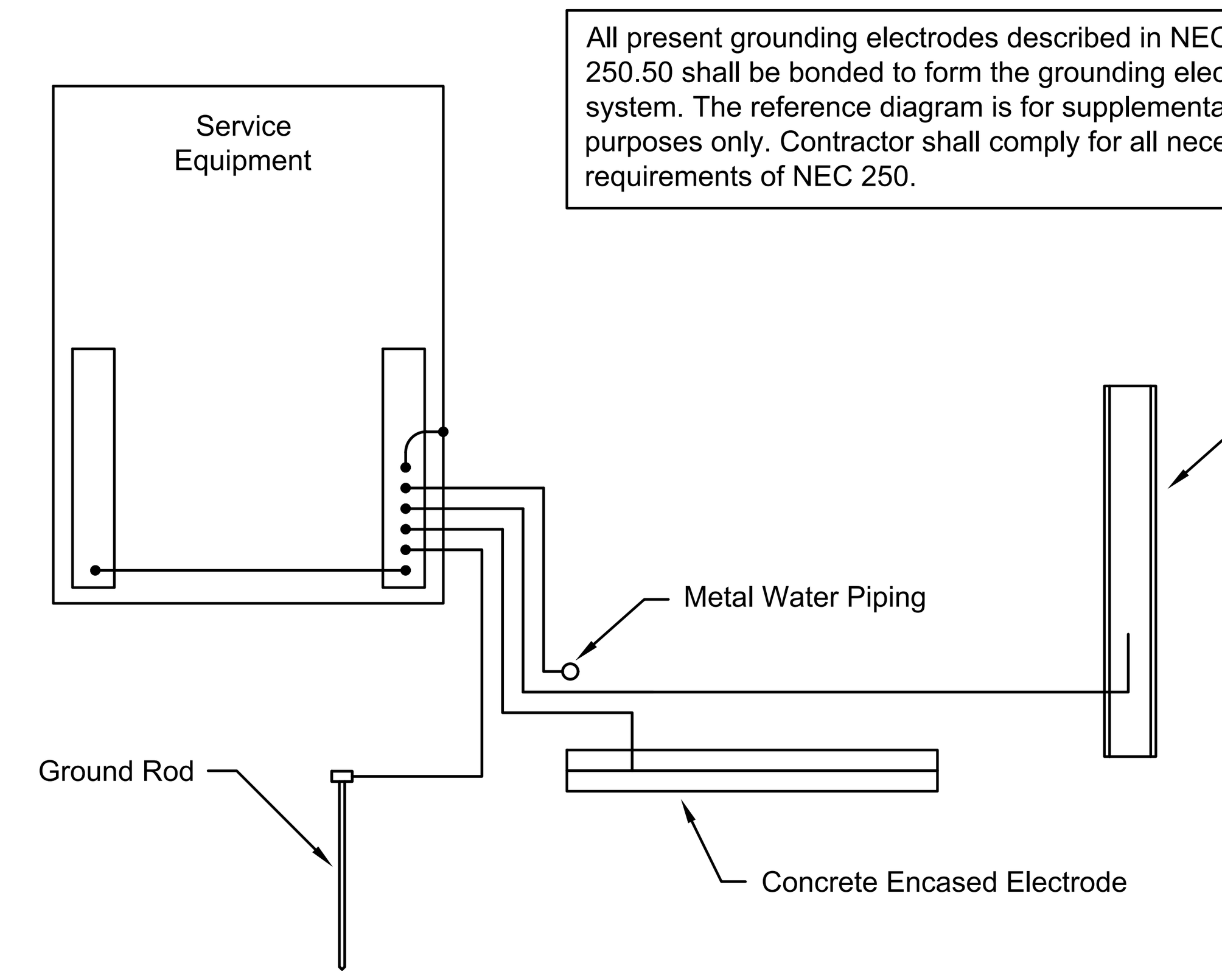
1. Refer to hood drawings by kitchen equipment vendor or hood supplier for exact location of components and wiring requirements.
2. See plans for locations for electrical panels, hood controller disconnects, switches, disconnects, etc. See equipment schedule for exact fan and controller disconnect, fuses, and wire sizing.

1 Hood Wiring Diagram
Scale: None

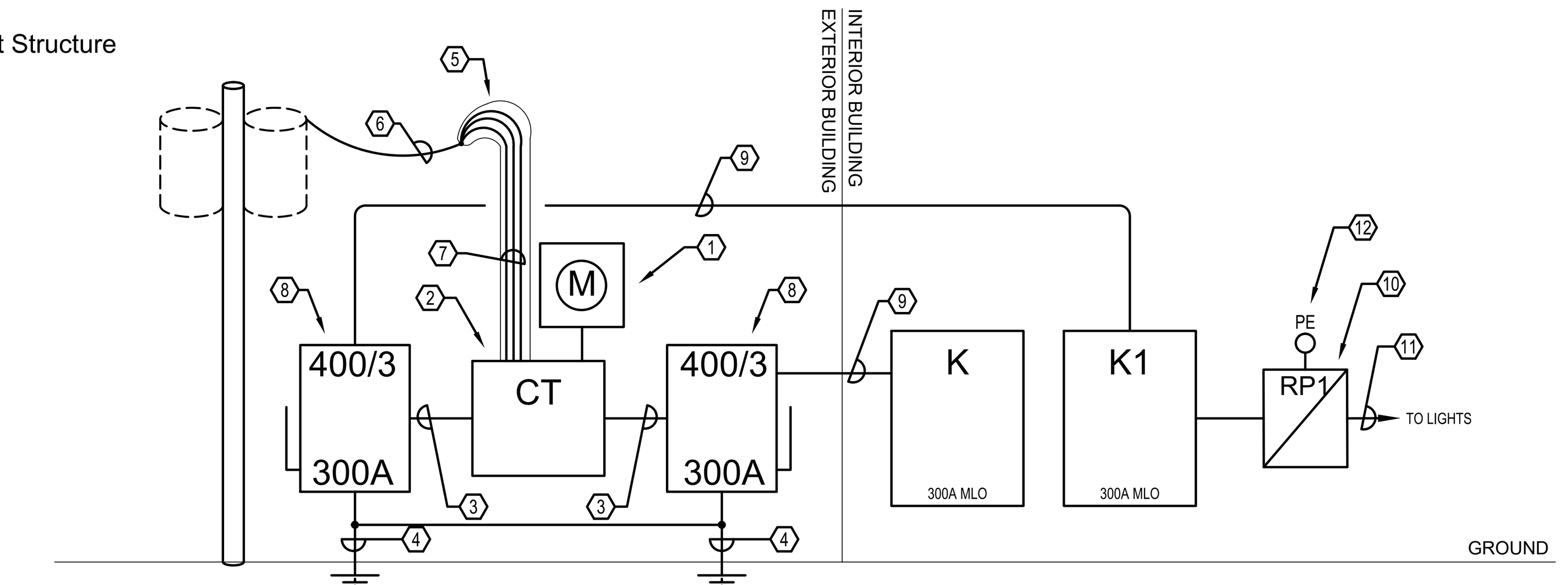


2 Shunt Trip Breaker Detail
Scale: NTS

All present grounding electrodes described in NEC 250.50 shall be bonded to form the grounding electrode system. The reference diagram is for supplemental purposes only. Contractor shall comply for all necessary requirements of NEC 250.



3 Grounding Electrode System Detail
Scale: None



Riser Key Notes:

1. Meter base by electrical contractor. Meter by power company. Coordinate requirements w/ power company.
2. CT cabinet by electrical contractor. CT's by power company. Coordinate requirements w/ power company.
3. 3-#350 KCM, in 3" conduit.
4. #3/0 service ground
5. New weather head, riser, strapping, etc. provided by electrician. New attachment point, if required, provided by electrician.
6. Conductors and conduit by power company.
7. 2 runs of 3-#350 KCM, in 3" conduit. Each run.
8. UL SE and NEMA 3R rated 400/3 disconnect switch for new service. Fuse switch at 300 amps with 42,000 AIC fuses. Coordinate requirements with power company.
9. 3-#350 KCM, # 4 ground, in 3" conduit.
10. Lighting relay panel. See lighting control system data riser diagram for specifications.
11. Circuits as specified on plans. All tenant lighting loads shall be connected thru lighting control system.
12. Photocell on roof facing north. Adjust sensitivity as required for proper operation.

4 Electrical Riser Diagram
Scale: None

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7/28/23

A Tenant Alteration for
HARVEY JOHNS STEAKHOUSE
1501 N. Raleigh Street, Suite G
Angier, NC

JOB #: 23HARVEYJOHNS

DWG BY:
CHK BY:
DATE: 07/28/23
REV NO DATE

ELECTRICAL DETAILS

SHEET NUMBER
E-6

Kitchen Equipment Connection Schedule

Tag	Callout	Furnished By	KVA	HP	Voltage	FLA	MCA	Disconnect Size	Provided By	Nema Configuration	Fuse/Breaker Size	Feeder Size	Ground Size	Conduit Size	Note
7	Walk-In Cooler														
7.1	Lights/Door Heater	Others	0.1	-	120/1	0.88	-	M	Electrical	1	20/1	2 - #12	#12	3/4"	-
7.2	Condensor	Others	3.1	-	240/1	12.9	-	30/2	Electrical	1	20/2	3 - #12	#12	3/4"	-
14	Ice Maker	Others	1.2	-	120/1	9.6	-	Nema 5-20R	Electrical	1	20/1	2 - #12	#12	3/4"	-
23	Warewasher	Others	1.9	-	120/1	16	-	30/1	Electrical	1	20/1	2 - #12	#12	3/4"	-
25	Freezer	Others	0.3	-	120/1	2.62	-	Nema 5-20R	Electrical	1	20/1	2 - #12	#12	3/4"	-
26	Undercounter Refrigerator	Others	0.3	-	120/1	2.2	-	Nema 5-20R	Electrical	1	20/1	2 - #12	#12	3/4"	-
27	Refrigerator - Shorty	Others	1.0	-	120/1	8	-	Nema 5-20R	Electrical	1	20/1	2 - #12	#12	3/4"	-
29	Gas Range	Others	0.7	-	120/1	5.9	-	Nema 5-20R	Electrical	1	20/1	2 - #12	#12	3/4"	-
30	Gas Convection Oven	Others	0.9	-	120/1	7.9	-	Nema 5-20R	Electrical	1	20/1	2 - #12	#12	3/4"	-
33	Refrigerator - Sandwich/Salad Prep	Others	0.7	-	120/1	6	-	Nema 5-20R	Electrical	1	20/1	2 - #12	#12	3/4"	-
34	Heat Lamp	Others	3.0	-	240/1	12.3	-	30/2	Electrical	1	20/2	3 - #12	#12	3/4"	-
35	Heated Holding Cabinet	Others	1.9	-	120/1	16	-	Nema 5-20R	Electrical	1	20/1	2 - #12	#12	3/4"	-
39	Coffee/Tea Brewer	Others	1.7	-	120/1	14	-	Nema 5-20R	Electrical	1	20/1	2 - #12	#12	3/4"	-
40	Beverage Dispenser	Others	0.1	-	120/1	1	-	Nema 5-20R	Electrical	1	20/1	2 - #12	#12	3/4"	-
41	Refrigerated Display Case	Others	0.3	-	120/1	2.7	-	Nema 5-20R	Electrical	1	20/1	2 - #12	#12	3/4"	-
42	Beer Dispenser	Others	0.3	-	120/1	2.8	-	Nema 5-20R	Electrical	1	20/1	2 - #12	#12	3/4"	-
44	Undercounter Glasswasher	Others	7.9	-	240/1	33	-	60/2	Electrical	1	45/2	3 - #8	#10	3/4"	-
46	Ice Maker	Others	0.9	-	120/1	7.2	-	Nema 5-20R	Electrical	1	20/1	2 - #12	#12	3/4"	-
47	Cold Food Station	Others	1.5	-	120/1	12.2	-	Nema 5-20R	Electrical	1	20/1	2 - #12	#12	3/4"	

Electrical contractor shall verify all requirements, mounting height, voltage, load, connection type, etc. with equipment supplier.

Light Fixture Schedule

Mark	Manufacturer	Fixture Description	Voltage	Driver Type	Lamp Type/Quantity	Total Wattage
XD6	Existing Fixture to be demolished	Square Recessed Light	120/1	Verify	Verify	Verify
XM7	Existing Fixture to be Relocated	2x4 Fluorescent Light	120/1	Verify	Verify	Verify
XR1	Existing Fixture to Remain	Exterior Wall mounted Light	120/1	Verify	Verify	Verify
XR4	Existing Fixture to Remain	Recessed Can light	120/1	Verify	Verify	Verify
XR4E	Same as 'XR4' with a battery	Recessed Can light	120/1	Verify	Verify	Verify
XR5	Existing Fixture to Remain	Exterior spot Light	120/1	Verify	Verify	Verify
NX7	New Location of Existing Fixture	2x4 Fluorescent Light	120/1	Verify	Verify	Verify
A	Elite #24-FPL1-LED-3000/4000/5000L-DIM10-MVOLT-30K-85	2x4 LED Light	120/1	1-LED Driver	3000 Lumen LED Light Engine	34
B	Elite #22-FPL1-LED-3000/4000/5000L-DIM10-MVOLT-30K-85	2x2 LED Light	120/1	1-LED Driver	3000 Lumen LED Light Engine	31
C	Furnished by Owner installed by GC	Track Lighting	120/1	N/A	1-8.5W LED	9
D	Furnished by Owner installed by GC	Pendant Light	120/1	N/A	1-8W LED	8
F	Furnished by Owner installed by GC	Ceiling Fan	120/1	N/A	N/A	67
G	Furnished by Owner installed by GC	Chandelier Light Fixture	120/1	N/A	8-4W LEDs	32
H	Elite #V60FCRU-2030K-F6060-*-SDM	6" Recessed Can	120/1	1-LED Driver	2000 Lumen LED Light Engine	26
H1	Elite #V60FCRU-1130K-F6060-*-SDM	6" Recessed Can	120/1	1-LED Driver	1100 Lumen LED Light Engine	15
H2	Elite #V60FCRU-1530K-F6060-*-SDM	6" Recessed Can	120/1	1-LED Driver	1500 Lumen LED Light Engine	22
J	Elite #HH4-LED-1500L-DIM10-MD-MVOLT-30K-90	4" Recessed Can	120/1	1-LED Driver	1500 Lumen LED Light Engine	18
K	Furnished by Owner installed by GC	Exterior Wall Sconce	120/1	N/A	3-4W LEDs	12
L1	Furnished by Owner installed by GC	Vanity Fixture	120/1	N/A	4-8W LEDs	32
L2	Furnished by Owner installed by GC	Vanity Fixture	120/1	N/A	3-8W LEDs	24
M	Furnished by Owner installed by GC	Bathroom Pendant	120/1	N/A	1-8W LED	8
EM	Isolite #BUG-3W-WH-SD	Emergency Wallpack (w/ Battery)	120/1			
⊗	Furnished by Owner installed by GC	Emergency Exit Light (w/ Battery)	120/1			
⊗	Furnished by Owner installed by GC	Emergency Exit Light (w/ Battery)	120/1			

General Notes:

1. All fixtures and components shall comply with NC Building Code, 2018 North Carolina Energy Conservation Code and shall be UL listed. All led drivers shall comply with NEMA 410.
2. All new, relocated, or reswitched fixtures that utilize ballasts shall be provided with a luminaire disconnect where required per NEC section 410.130(G). Use Ideal PowerPlug or equal inside fixture.
3. All fixtures noted as emergency shall have emergency illumination functionality as described below. Batteries must be rated for the environment in which they are installed, in all cases.
   - Interior linear led and fluorescent fixtures shall have 1,100 lumen (minimum) output, 90 minute battery. Led and fluorescent downlights shall have a 500 lumen (minimum) output, 90 minute battery. Otherwise fixture shall be provided with a full output inverter.
   - Exterior emergency fixtures shall have an integral exterior rated (0° F) or remotely mounted 1,100 lumen (minimum) output, 90 minute battery.
   - Test switches for emergency batteries/inverter shall be integral to the fixture/device served, unless otherwise noted.
   - Emergency fixtures shall operate at least one lamp where multiple emergency fixtures are to be installed in that area, and shall operate at least two lamps where the loss of a single lamp would leave the space in total darkness during emergency operation.
   - Where emergency lights provide emergency illumination in areas normally illuminated by metal halide fixtures (or similar) with restrike delay, the emergency battery shall be provided with a minimum 15 minute time delay to maintain battery illumination after the restoration of normal power.
   - Emergency lighting design is based on fixtures lumen outputs as described above. Contractor shall verify all existing emergency batteries to ensure lumen outputs are as indicated and shall replace any batteries rated less outlined above.
   - Emergency lighting units with dedicated emergency heads are spaced based on their unique output. If contractor selects an alternate fixture, they are responsible for ensuring an average of 1 fott candle is provided along the paths of egress for at least 90 minutes.
4. Lamp color temperature for new lamps shall match existing to remain lamps, and all lamp colors for different fixture types and sources shall be consistent throughout the space or area unless specifically noted otherwise. Contractor shall ensure that all interior and exterior lamps are the same color temperature.
5. Light fixtures indicated as dimmable shall be provide with all necessary components (driver, switch etc.) necessary to achieve 5% minimum dimming unless another specific minimum dimming level is noted.
6. Light fixtures noted as "specified by others" shall be included in the contractor's cost. The contractor shall either verify the allowance amount or specification with the architect, prior to pricing. Verify that the cost of light fixtures noted as "furnished by others" can be excluded from the contractor's price but the contractor should price installation of furnished fixtures. Verify rough-in requirements for all fixtures prior to beginning work. Unless specifically noted otherwise, the contractor is responsible for including the installation of and connection to all fixtures in their price.

Equipment Connection Schedule

Tag	Callout	Furnished By	kVA	HP	Voltage	FLA	MCA	Disconnect Size	Provided By	Nema Configuration	Fuse/Breaker Size	Feeder Size	Ground Size	Conduit Size
AHU-1	Air Handler	Mechanical	13.9	-	240/1	-	58.0	60/2	Elec	1	60/2	3-#6	1-#10	1"
AHU-2	Air Handler	Mechanical	13.9	-	240/1	-	58.0	60/2	Elec	1	60/2	3-#6	1-#10	1"
AHU-3	Air Handler	Mechanical	13.9	-	240/1	-	58.0	60/2	Elec	1	60/2	3-#6	1-#10	1"
HP-1	Heat Pump	Mechanical	7.7	-	240/1	-	32.0	60/2	Elec	3R	50/2	3-#8	1-#10	3/4"
HP-2	Heat Pump	Mechanical	6.2	-	240/1	-	26.0	60/2	Elec	3R	40/2	3-#8	1-#10	3/4"
HP-3	Heat Pump	Mechanical	6.2	-	240/1	-	26.0	60/2	Elec	3R	40/2	3-#8	1-#10	3/4"
EF-1	Exhaust Fan	Mechanical	0.1	-	120/1	0.8	-	S_M	Elec	1	15/1	2-#12	1-#12	3/4"
EF-2	Exhaust Fan	Mechanical	0.1	-	120/1	0.8	-	S_M	Elec	1	15/1	2-#12	1-#12	3/4"
Hood														
KSF-1	Kitchen Supply Fan	Others	3.0	-	240/1	-	12.5	30/2	Elec	3R	20/2	2-#12	1-#12	3/4"
KEF-1	Kitchen Exhaust Fan	Others	2.4	-	240/1	10.0	-	30/2	Elec	3R	15/2	2-#12	1-#12	3/4"
-	Lights/Controls	Others	0.5	-	120/1	4.2	-	S_M	Elec	1	20/1	2-#12	1-#12	3/4"
FF-1	Fly Fan	Others	0.4	-	120/1	3.2	-	5-20R	Elec	1	20/1	2-#12	1-#12	3/4"
GWH	Gas Water Heater	Plumbing	0.5	-	120/1	4.0	-	S_M	Elec	1	20/1	2-#12	1-#12	3/4"
GIWH-1	Gas Instant. Water Heater	Plumbing	0.5	-	120/1	4.0	-	S_M	Elec	3R	20/1	2-#12	1-#12	3/4"
GIWH-2	Gas Instant. Water Heater	Plumbing	0.5	-	120/1	4.0	-	S_M	Elec	3R	20/1	2-#12	1-#12	3/4"
-	Booster Pump	Plumbing	2.4		208/1	11.6		30/2	Elec	1	20/2	3-#12	1-#12	3/4"

Breaker sizes for all equipment sized at MOCP where applicable.

All disconnects for equipment shall be of fusible type and shall be fused as indicated.

Energy Code Section C406 Compliance:

This project is complying with section C406 for the energy code under the provisions of C406.2 (Reduced lighting power density). The remaining provisions are therefore not required and have not been included in this design.

Electrical System and Equipment: Energy Code Compliance

Compliance Method: Prescriptive

Total Interior Wattage Specified vs Allowed: **2321 vs 3434**

See Light Fixtures Schedule for interior fixture lamp type, quantity, driver, total fixture wattage and additional information.

Engineer Statement:

To the best of my belief, understanding, and knowledge; the design of electrical system of this building complies with the NC State Building Code and the 2018 NC Energy Conservation Code.

Name: Richard D. Copeland, Jr. PE

Electrical System and Equipment: Energy Code Compliance

Compliance Method: Prescriptive

Total Exterior Wattage Calculation per table C405.5.1(2)
Specified vs Allowed: 1124 vs 1200

Base Site Allowance Zone 3 750 W

Building Entraces and Exits:

Main Entries 30 W/LF for 9 LF of door width
Other Doors 20 W/LF for 9 LF of door width

See Light Fixtures Schedule for fixture lamp type, quantity, driver, total fixture wattage and additional information.

Engineer Statement:

To the best of my belief, understanding, and knowledge; the design of electrical system of this building complies with the NC State Building Code and the 2018 NC Energy Conservation Code.

Name: Richard D. Copeland, Jr. PE

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NORTH CAROLINA PROFESSIONAL SEAL 36841 ENGINEER RICHARD D. COPELAND JR.
7/28/23

A Tenant Alteration for
HARVEY JOHNS STEAKHOUSE
1501 N. Raleigh Street, Suite G
Angier, NC

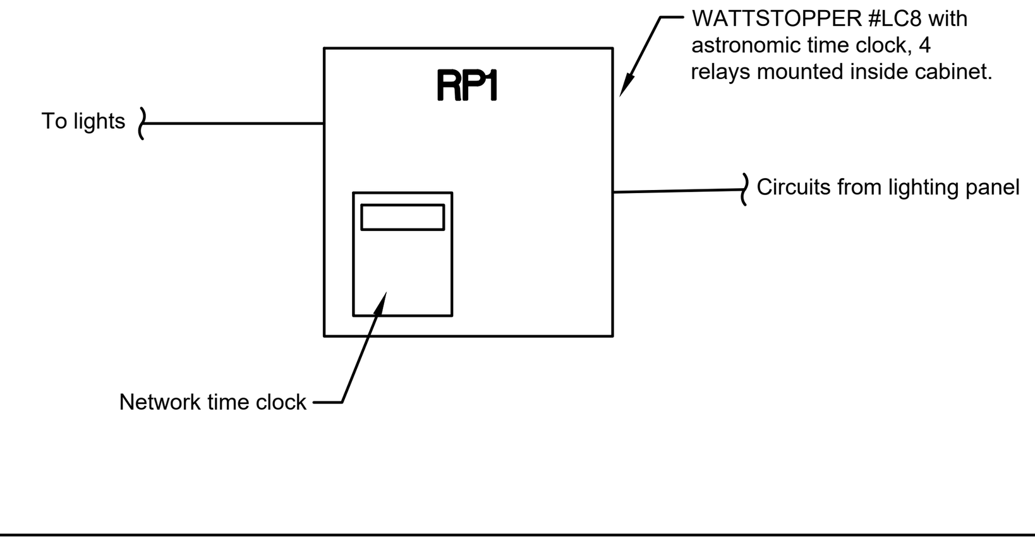
JOB #: 23HARVEYJOHNS

DWG BY:
CHK BY:
DATE: 07/28/23
REV NO DATE

ELECTRICAL DETAILS

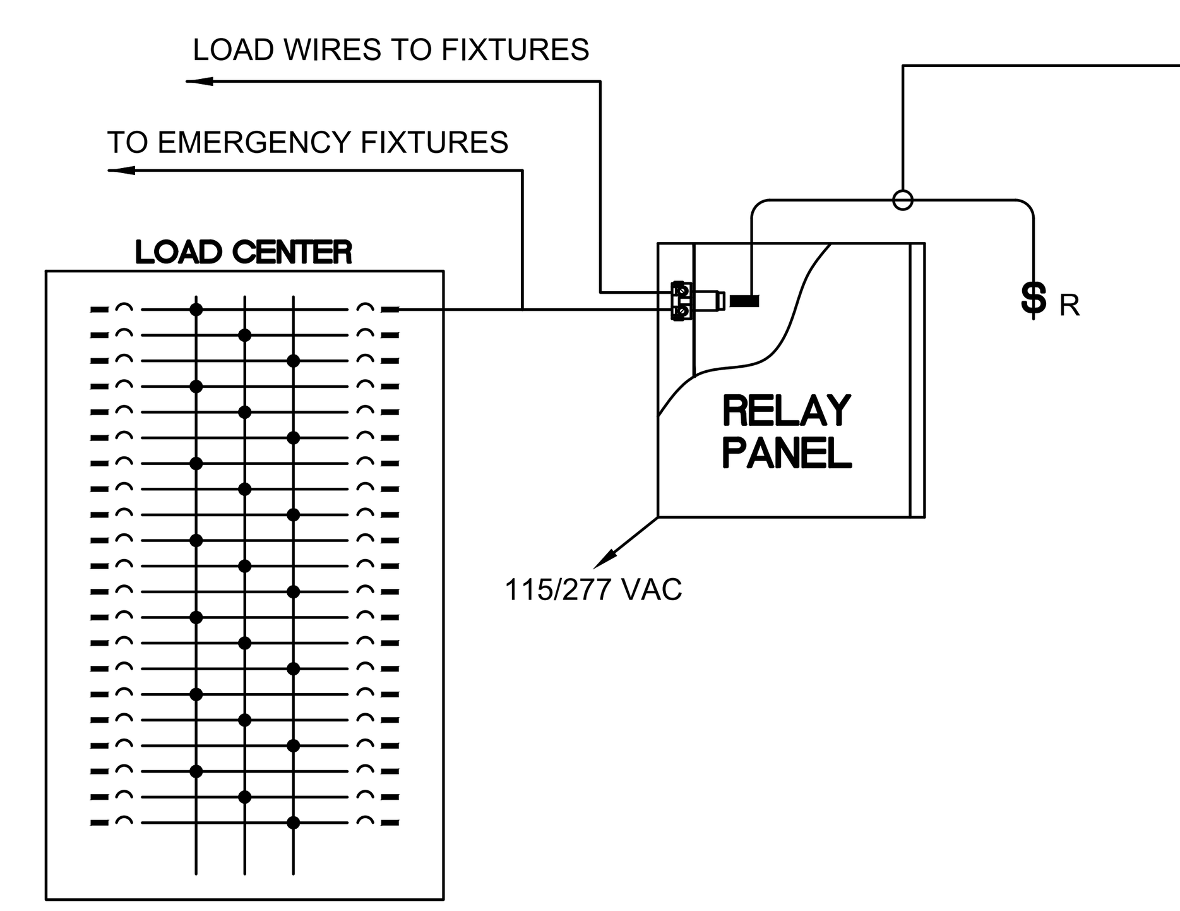
SHEET NUMBER
E-7

These drawings will be at the scale indicated when plotted at 24" x 36"



1 Lighting Control System Data Riser Detail
Scale: None

TYPICAL RELAY PANEL CONNECTIONS



Low Voltage Override Switch:

3/#20 Wire for Standard

4/#20 Wire for Pilot Switch

Typical standard switch - WATTSTOPPER #LVSW-101-x or approved equal. Switch controls one lighting zone. multi-button switches may be utilized - WATTSTOPPER LVSW SERIES 102,103,104, OR 108. Each button shall control one zone.

Provide engraved labeling indicating zone controlled. Provide wall cover plates as needed.

The control panel is to allow the lights to come on in the morning and turn off all lights after work hours at preset times designated by the tenant. This timeframe would typically be from 7am to 7pm for a normal business. Should the space be occupied before or after regular business hours, the tenant can override the control panel by means of the low voltage override switches located throughout the space.

The override switch allows the lights to come on for no more than 2 hours to comply with section 505.2.2.2.1 of the 2018 North Carolina Energy Conservation Code. Each override switch shall control no more than 5,000 square feet of space. Five minutes prior to the lights cutting off, the control panel will cause the lights to briefly turn off and turn back on, letting anyone in the space know that the lights will be turning off shortly and that they will need to press the override switch to keep them on.

Lighting Control System Description

1. The Lighting Control System shall consist of any of the following components: relay panels, Dataline wiring, front end equipment, switches, sensors, and remote override devices. All equipment to be UL certified to meet UL 916.

The lighting control system is a networked system that communicates via RS485. The system must be able to communicate with fully digital centralized relay panels, small distributed relay panels (Available with 0-10Volt dimming outputs), Fully distributed fixture level control by bus connected relays or dimmers, smart breaker panels, digital switches, photocells, various interfaces and operational software. The intent of the specification is to integrate all lighting control into one system. Distributed lighting control shall be provided using networked micro relay panels. Lighting control system shall include all hardware and software. Software shall be resident within the lighting control system. System shall provide local access to all programming functions at the master LCP. Remote access to all programming functions via dial up modem and through any standard computer workstation is permissible in addition to but shall not replace local access at the control panel. Where specified on plans, Lighting control system shall have the capability to be remotely controlled via the internet or building wide Ethernet LAN. Desktop computers are provided by others.

2. The relay panels shall be suitable for mounting in electrical closets and mounted in accordance with national and local electrical codes. The relays will control individual circuits or branch circuits as indicated in the Relay Panel Schedules. All power wiring will be identified at the relay by its controlling circuit breaker and branch letter.

3. Low voltage switches, occupancy sensors, and/or photocells shall be mounted in the spaces as indicated on the Reflected Ceiling Plans. Low voltage wiring from the switches and sensors to the relay panel shall be plenum rated as required by the National Electrical Code and local standards. All wiring shall be compatible with and per LCP manufacturer's specification.

4. Control electronics in the low voltage section shall be capable of driving 2 to 48 relays as specified on plans, control any individual or group of relays, provide individual relay overrides, provide a master override for each panel, store all programming in non-volatile memory, after power is restored return system to the correct state for time of day, provide programmable dual blink warn timers for each relay or zone of relays, and be able to control Normally Open Latching (NOL) or Normally Closed Latching (NCL) relays.

5. Each relay panel shall use UL Listed 30 Amp @ 277VAC Ballast and HID and 20 Amp Tungsten at 120 Vac. 347V Ballast and HID at 20 amps Latching Relay wit 18,000A SCCR at 277Vac. Relays shall be individually replaceable.

6. A Digital Time Clock (DTC) shall control and program the entire lighting control system and supply all time functions and accept modem (RS232) inputs. DTC shall be capable of up to 32 schedules. Each schedule shall consist of one set of On and Off times per day for each day of the week and for each of two holiday lists. The schedules shall apply to any individual relay or group of relays.

The DTC shall be capable of controlling digital devices at up to 127 addresses on a single bus and capable of interfacing digitally with other buses using manufacturer supplied interface cards.

The DTC shall accept control locally using built in button prompts and use of an 8 line 21-space display or from a computer or modem via an on-board RS 232 port. All commands shall be in plain English. The DTC shall be run from non-volatile memory so that all system programming is retained indefinitely and time of day is battery backed up.

DTC shall provide system wide timed overrides. Any relay, group or zone that is overridden ON, before or after hours, shall automatically be swept OFF by the DTC a maximum of 2 hours later.

7. Where specified on plans, system shall come with a pre-Installed modem that allows for remote programming from any location using a PC and free remote control software.

8. All low voltage switches shall be digital and communicate via RS 485. Contact closure style switches, except as specified for connection to the micro relay panel programmable contact closure inputs, shall not be acceptable. The programming for a digital switch shall reside in the switch itself, via double EPROM memory. Any digital switch button function shall be able to be changed locally (at the DTC or a PC) or remotely, via modem, Internet or Ethernet.

Each digital low voltage switch shall be a device that sits on the lighting control system bus. Digital switch shall connect to the system bus using the same cable and connection method required for relay panels. Each button shall be capable of being programmed for On only, Off only, Mix (Some on some off), On/Off (toggle), Raise (Dim up) and Lower (Dim down). Further each button shall be able to be enabled or disabled over the bus. An audible alarm shall be available on all switches that can be programmed to beep on button push or with warning light blinks.

9. Relay Panels will be capable of following standard features: Scheduled ON/OFF, Astronomical Time of Day, Flick Warning, True after hours Time Delay, Telephone overrides, Pulse ON/OFF, common area scenario. Panels will log every relay change by time and initiator for troubleshooting and operational reports.

10. System shall be capable of warning of an impending off sweep by flashing lights Off/On once or twice (programmable) by relay or by zone prior to the lights being turned off. The warning interval times between the flash and the final lights off signal shall be definable for each zone. Additionally an audible signal shall be able to be programmed that gives a mild note on the first flash and a more insistent signal on the second one. Occupant shall be able to override any scheduled Off sweep using local wall switches within the occupied space. Occupant override time shall be locally and remotely programmable and not exceed 2 hours.

11. All components shall be supplied as necessary to ensure the overall operation of the system. Components may include networking devices, dataline power supply, dataline interface portal, and system software.

12. Where specified on plans, a dry contact input interface card that provides 14 programmable dry contact closure inputs shall be provided. Use shielded cable to connect input devices to interface card on runs over 200ft.

13. Where specified on plans, a BACnet interface capability shall be provided that will allow the BAS vendor to interface to the lighting control system, offering individual relay status and control, as well as group control. Relay panel shall retain responsibility of local overrides per switch input.

14. Where specified on plans, a DMX interface capability shall be provided to allow a DMX system to interface with the lighting control panel

15. Where specified on plans, provide photocell package compatible with LCP. Photocells to be mounted in location indicated on the plans. Photocells used for exterior lights shall provide multiple trip points from 1 roof mounted unit. All trip points shall be able to be changed remotely via Internet or dial up modem. Photocells requiring manual trip point adjustment are not acceptable. Photocell used for interior lighting control shall have multiple settings such as start-point, mid-point, off-point, fade-up, fade-down, etc. All settings shall be remotely accessible and adjustable. Systems providing local adjustment only (at the photocell) are not acceptable. Photocells to be certified to comply with the current energy code covering this project at time of submittal of plans for building permit.

16. Manufacturer shall provide a factory authorized technician to confirm proper installation and operation of all system components.

17. Manufacturer shall provide factory authorized application engineer to train owner personnel in the operation and programming of the lighting control system.

18. Manufacturer shall provide system documentation including: a) System 1-line showing all panels, number and type of switches and sensors, dataline, programmable system switches, front end material, b) Drawings for each panel showing hardware configuration and numbering, c) Panel wiring schedules, and d) Typical wiring diagrams for each component. Provide a point-to-point wiring diagram for the entire lighting control system. Diagram must indicate exact mounting location of each system device. Diagram shall indicate the loads controlled by each relay and the identification number for that relay, placement of switches and location of photocell. Original to be given to owner, copies placed inside the door of each LCP.

19. Lighting schedule shall be determined by owner and be programmed by the system installer and shall comply with section 505.2.2.2 of the 2018 North Carolina Energy Conservation Code.

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7/28/23

A Tenant Alteration for
HARVEY JOHNS STEAKHOUSE
1501 N. Raleigh Street, Suite G
Angier, NC

JOB #:
23HARVEYJOHNS

DWG BY:
CHK BY:
DATE: 07/28/23
REV NO DATE

ELECTRICAL DETAILS

SHEET NUMBER
E-8

Ventilation Calculations

Unit Identification	Space Classification	Floor Area (SF)	People per 1000 SF	Total People	OA CFM per Person	OA CFM per SF	Zone Air Dist. Eff.	OA Required CFM	OA Design CFM	Exhaust CFM per SF	Exhaust CFM Required	Exhaust CFM Design	Remarks
AHU-1, AHU-2, AHU-3	Dining	1525	70	80	7.5	0.18	1.0	875	1140	-	-	-	1,2
	Bar	112	100	6	7.5	0.18	1.0	66		-	-	-	1,2
	Office	72	5	1	5	0.06	1.0	10		-	-	-	1
	Storage	20	NA	NA	NA	0.12	1.0	3		-	-	-	1
	Corridor	164	NA	NA	NA	0.06	1.0	10		-	-	-	1
KEF-1	Kitchen	724	-	-	-	-	-	-	-	0.7	507	4000	1

1. Per 2018 NC Mechanical Code, Table 403.3.1.1.
2. Total people is based upon occupancy values provided by architect/tenant.

Mechanical Notes and Specifications

General Requirements:

1. The heating and air conditioning contractor (the contractor) shall provide all specified and miscellaneous material and labor as required for a complete and operating system as described by these plans and specifications.
2. All equipment and materials shall be installed in accordance with all local, state, and national codes and recommendations of the manufacturers. If there is a conflict in the above requirements, the more stringent shall be used.
3. The contractor shall obtain and pay for all permits, fees, and inspections necessary to complete their work under this contract.
4. Prior to bidding, the contractor shall visit the site to familiarize themself with existing conditions and resolve any conflicts between existing conditions and these plans with the engineer.
5. All ductwork and equipment shown on these drawings is strictly diagrammatic. All ductwork sizes shown are free area sizes. It shall be the responsibility of the contractor to ensure that items furnished under this contract will fit in the space available. The contractor shall make necessary field measurements to ascertain space requirements, including those for connections, and shall provide such sizes and shapes of equipment that are the true intent and meaning of these drawings and specifications. Any conflicts shall be resolved with the engineer.
6. Prior to construction, the contractor shall coordinate their work with all other trades. All drawings indicate the general arrangement desired. The exact locations and details of construction may be such that variances are required. The drawings do not show all bends, offsets, and fittings that may be required for the complete execution of this contract. Such variances and contingencies shall be allowed for in the contractor's bid and shall be accomplished without additional cost to the owner. Prior to ordering equipment, the contractor shall prepare coordination drawings showing how their equipment is to be located in the space indicated. This drawing shall show the new and existing work of all other trades. The contractor shall contact the other contractors involved for dimensions, locations, and required clearances of the equipment they intend to provide for this job. The aforementioned coordination drawings shall be submitted to the engineer for approval.
7. Do not scale these drawings. Refer to the architectural plans for dimensions.
8. All equipment shall be located and installed to provide maximum space for maintenance and service.
9. All materials used shall be new and free of defects. Where trade names are mentioned, they are given as a reference to the quality of the apparatus required. All materials and equipment shall bear the UL label or equivalent where applicable. Other makes may be used if approved in writing by the engineer. Provide a complete list of materials and equipment proposed for use in this contract to the engineer within ten days following the award of contract. If such list is not submitted, the contractor shall supply the materials and equipment specified or as directed by the engineer. The contractor shall provide digital copies of submittals to the engineer for review and approval prior to ordering equipment.
10. Workmanship shall be first-class and performed by experienced and skilled craftsmen.
11. Coordinate exact location of all diffusers/grilles with lights, sprinkler heads, and other ceiling mounted devices. See the reflected ceiling plan.
12. Upon completion of the work, a certified test and balance shall be performed in accordance with "AABC" requirements. Furnish a final copy of all testing, adjusting, and balancing reports as a part of the operating and maintenance manuals. Indicate deficiencies preventing proper testing, adjusting, and balancing of systems and equipment to achieve specified performance. Adjust air handling systems to within plus or minus 10 percent of design. Adjust total air to all air outlets and inlets to within plus 10 percent and minus 5 percent of design to space. Adjust individual outlets and inlets in space to within plus or minus 10 percent of design. Final air balance of space outside air intake versus exhaust when all air handling units, fans, and hoods are operating simultaneously shall be zero to plus 10% of "Air Balance" calculation in order to provide positive pressurization of space. Adjust air handling and distribution systems to obtain required or design supply, return, and exhaust air quantities. Measure air quantities at air inlets and outlets. Vary total system air quantities by adjustment of fan speeds. Provide sheave drive changes to vary fan speed if required. Vary branch air quantities by damper regulation. Measure static air pressure conditions on air supply units, including filter and coil pressure drops, and total pressure across fan. Make allowances for 50 percent loading of filters. Adjust outside air automatic dampers, outside air, return air, and exhaust dampers for design conditions. At modulating damper locations, take measurements and balance at extreme conditions.
13. As applicable, the contractor shall verify the operation of all existing mechanical equipment in the area of work. All measurements shall be recorded necessary to ascertain the proper operation of the equipment including, but not limited to, amperage, gpm flow, inlet and outlet temperatures, airflow, and inlet and outlet static pressures. Any deficiency in the rated output of the equipment shall be reported to the engineer. In any case, said report shall be submitted to the engineer upon request.
14. All equipment shall be provided with permanent labels for identification. All pipe shall be labeled to indicate pipe function and direction of flow. Provide valve tags for all valves. Coordinate nomenclature and numbering with owner prior to installation.
15. The contractor shall furnish a bound set of operating and maintenance instructions for all equipment to the owner upon completion of project.
16. The contractor shall, at the completion of the work, clean, polish, and/or wash all exposed items of materials, equipment, and fixtures in their contract to leave such items bright and clean. The contractor shall keep the premises clear of debris from their work during construction and leave the area and building clean at completion of the contract.
17. Mechanical and electrical equipment shall operate without objectionable noise or vibration, as determined by the engineer. If such objectionable noise or vibration should be produced and transmitted to occupied portions of the building, the contractor shall make the necessary changes to correct the noise or vibration without additional cost to the owner.
18. The contractor shall provide a complete 1-year warranty on all labor and materials under this contract. Refrigeration compressors provided under this contract shall carry the manufacturer's published 5-year non-prorated warranty.
19. The electrical contractor shall be responsible for all power connections to the equipment provided under this contract.
20. The mechanical contractor shall be responsible for all control wiring for their equipment.
21. Outside air intakes shall be located a minimum of 10 feet from all exhaust discharge and plumbing vents.
22. Replace all filters just prior to acceptance by the owner.
23. Contractors and sub-contractors shall carefully review the construction documents. Information regarding the complete work is dispersed throughout the document set and cannot be accurately determined without reference to the complete document sets.
24. Route refrigerant lines from outdoor condensing units in the most direct path to the air handler. Insulate with foam insulation. Provide long line refrigeration kit as required.
25. Provide an auxiliary drain pan for any air conditioning equipment. Provide the auxiliary drain pan with a float switch that stops the fan upon accumulation of condensate in the pan. Locate all equipment above the ceiling so that adequate slope is provided for all drain lines. If a condensate pump is specified, extend the auxiliary drain pan under the condensate pump. Condensate drain lines in return air plenums shall be made of type 'K' copper pipe. Insulate drain lines to prevent sweating. Route condensate drains as directed on plans.

Materials and Equipment:

Ductwork:

- All sheet metal ductwork, unless otherwise specified, shall be constructed of galvanized steel sheets in accordance with SMACNA gages and standards. Duct shall be constructed for 1" static pressure and sealed to SMACNA Classification "B". Insulate all ductwork, unless otherwise noted, with foil-faced 1 psf density fiberglass duct wrap. Insulation R-value shall be per the 2018 NC Energy Conservation Code. For packaged equipment, line the supply and return duct to five feet beyond first elbow downstream of the discharge and intake of the unit. Duct liner shall be 1" thick, 1.5 pound density acoustical liner.

Flexible Duct:

- Shall be insulated, sound attenuating, low velocity type, and shall comply with NFPA 90A and 90B. Flexible duct shall bear the UL Class 1 air duct label as tested under UL 181. Flexible duct shall be factory-formed, composed of spiral wound corrosion resistant wire bonded to an inner fabric liner. Duct shall be factory insulated with a foil vapor barrier jacket. Insulation R-value shall be per 2018 NC Energy Conservation Code.
- The installation of flex duct shall conform to the requirements of Chapter 3 of the SMACNA HVAC Duct Construction Standards, (latest edition). Bends in flexible duct shall not be less than two duct diameters centerline radius and bends shall not begin within three inches of a sheet metal connection. Duct shall not be compressed. Support duct from the structure at intervals not to exceed ten feet. Maximum permissible sag is 1/2 inch per foot of spacing between supports. Hanger or saddle material in contact with the duct shall be wide enough so that it does not reduce the internal diameter of the duct when the supported section rests on the support and in no case shall be less than 1" wide.

Duct Elbows:

- Use full-radius elbows or square bends with turning vanes.

System Balancing:

- Provide locking quadrant type manual volume damper at each flexible duct runout. Provide splitter dampers at supply tees and extractors at all supply air branches. Provide balancing dampers in all ducts where required for system balancing as shown or as required.

Air Distribution:

- Provide all grilles, registers, and diffusers per the schedule on the drawings. Provide support from the structure for each diffuser and damper installed in a lay-in ceiling. Linear slot diffusers shall be constructed so that each slot may be independently configured to insure a full 180° air control pattern. The contractor shall coordinate finish styles and colors with the architect prior to ordering equipment. The backs of all air distribution shall be insulated from unconditioned space.

Fire Dampers:

- The contractor shall provide fire dampers at all duct penetrations of rated walls as indicated on the drawings or where required by the authority having jurisdiction. Fire dampers shall be UL labeled, Style "B" curtain type, and dynamically rated with integral factory sleeve. Blades shall be located out of the airstream for minimum airflow restriction. Installation shall be in accordance with the SMACNA Fire, Smoke and Radiation Damper Installation Guide for HVAC, (latest edition). Provide suitable access door for testing and servicing damper mechanism. Prior to completion of job, the contractor shall test each damper for proper operation and make adjustments as necessary.

Flexible Duct Connections:

- Furnish and install flexible duct connectors on supply and return connections of all air handling units.

Escutcheons:

- Furnish and install escutcheons in all places where piping or mechanical equipment penetrates a finished wall or ceiling in an exposed location.

Smoke Detectors:

- The Mechanical Contractor shall provide smoke detectors per the 2018 NC Mechanical Code, Section 606.2.1. Smoke detectors shall be UL listed for duct installation and be located in the return airstream to shut down the supply air fan upon activation. The system shall be wired so that the fan immediately shuts down upon a signal from the detector and bypasses any built-in time delays. The mechanical contractor shall furnish, install, and wire all smoke detectors per the manufacturer's recommendations. The smoke detectors shall be capable of interconnectability for multi-fan shut down and shall be wired so that activation of any detector will shut down all supply air fans on the project. Each detector shall be provided with a visible and audible signal located to indicate general location of smoke origins per the NC Mechanical Code, Section 606. Each detector shall also be provided with a trouble signal and shall be labeled.

Access Panels:

- The Mechanical Contractor shall provide access panels as required for access to valves, dampers, controls, or any other item installed under this contract where such item is concealed behind construction which renders the item inaccessible for service or adjustment. Said access panels or doors shall be fire rated as necessary to maintain the integrity of the construction wherein the panel or door is installed.

HVAC Equipment:

- All equipment shall bear the UL, CSA, met or other accredited testing laboratory label where appropriate. All equipment shall conform to the type, size, rating, and performance of that listed on the drawings under this contract. Submit shop drawings per the specifications.

Control Wiring:

- All control wiring shall be run in a metallic raceway. Raceway shall be routed parallel and perpendicular with the building structure. The metallic raceway may be omitted where plenum-rated cable is installed above an accessible ceiling within the building envelope. There shall be no splices in the control system wiring other than at terminal blocks. Wire nuts and crimp splices are not permitted.

Gas Piping:

- All gas piping shall be installed by the mechanical contractor. Gas pipe shall be Schedule 40 black steel. provide all valves, fittings, and controls as required by local, state, and national codes or by manufacturer's written recommendations for a complete and operational system.

Refrigerant Piping:

- All refrigerant piping shall be copper, sized per HVAC equipment manufacturer's recommendations. all piping shall be insulated per 2018 NC Energy Conservation Code. All insulated piping exposed to weather shall be coated with Armaflex "WB" finish or equivalent. Piping installed subject to being damaged shall be provided with UV-resistant PVC jacket.

Drawing Legend

Symbol	Description
	Ceiling Supply Diffuser
	Sidewall Supply Diffuser
	Ceiling Return Grille
	Ceiling Exhaust Grille
	Sidewall Return/Exhaust Grille
WxH	Rectangular Duct (W = Width, H = Height)
D"Ø	Round Duct (D = Diameter)
	Existing Duct, Diffuser/Grille, or Equipment
	Existing Duct, Diffuser/Grille, or Equipment to be Demolished
	Duct Tap with Transition from Hard to Flexible Duct
	Manual Volume Damper
	Rectangular Duct Turns Down
	Rectangular Duct Turns Up
	Round Duct Turns Down
	Round Duct Turns Up
	Connect to Existing
SD	Duct Mounted Smoke Detector
SA1 / 200	Diffuser Tag Diffuser Type / CFM
G	Gas Piping
	Piping Elbow Turns Down
	Piping Elbow Turns Up
	Gas Shutoff Valve
	Medium Pressure Gas Regulator
	Gas Solenoid Valve
T	Wall Mounted Thermostat
S	Wall Mounted Temperature Sensor
P	Hood Fire Suppression Pull Station

Marks

AHU	Air Handling Unit
EF	Exhaust Fan
FF	Air Curtain Fly Fan
GWH	Gas Water Heater
H	Heat Pump
KEF	Kitchen Exhaust Fan
KH	Kitchen Hood
KSF	Kitchen Supply Fan
V	Gravity Ventilator

Air Balance

Equipment Mark	Supply	Exhaust	Net	Remarks
KH-1	3200	4000	-800	1
EF-1	0	70	-70	1
EF-2	0	70	-70	1
AHU-1	490	0	+490	1
AHU-2	395	0	+395	1
AHU-3	255	0	+255	1
Total	4340	4140	+200	

1. Refer to "Mechanical Notes and Specifications" for air balancing tolerances.

Rooftop Equipment Structural Notes:

1. The Structural Engineer shall be responsible for verifying that existing building structure can accommodate the weight of the new and existing rooftop equipment. The Mechanical Contractor shall be responsible for providing a dimensioned equipment location plan along with final weights to the General Contractor. All coordination and verification shall take place prior to ordering equipment. Refer to the structural drawings for exact unit locations and bracing. All bracing and structural support shall be provided by the General Contractor.

Additional Efficiency Compliance:

This project is complying with Section C406 of the 2018 NC Energy Conservation Code under the provisions of Section C406.1, Option 2. The remaining provisions are therefore not required and have not been included in this design.

Statement of System Commissioning:

An onsite system installation compliance review shall be conducted by a registered design professional prior to final inspection and issuance of the Certificate of Occupancy. The mechanical contractor shall make appropriate personnel available during the design professional's onsite inspection to assist with review, as well as additional equipment and controls testing. The contractor shall schedule the onsite inspection with the design professional a minimum of one week prior to the visit. At the time of the visit the mechanical contractor shall provide the following for review by the local AHJ and design professional:

1. Completed test and balance report.
2. Copy of all operation and maintenance manuals.
3. Documentation that the equipment installer has followed the manufacturer's recommendations for startup and testing of all equipment.

Mechanical Systems and Equipment:

Method of Compliance: Prescriptive

Climate Zone: 4A

Exterior Design Conditions:
- Winter Dry Bulb: 16°F
- Summer Dry Bulb: 93°F

Interior Design Conditions:
- Winter Dry Bulb: 70°F
- Summer Dry Bulb: 75°F
- Relative Humidity: 50%

Calculated Space Loads:
- Heating Load: 70,200 BTUH
- Cooling Load: 164,000 BTUH

Space Conditioning System:
- Unitary: The space is served by three new split-system heat pumps with auxiliary electric heat for conditioning and space ventilation.
- Boiler: Not applicable to this project.
- Chiller: Not applicable to this project.

Equipment Efficiencies:
Refer to mechanical schedules within drawings for efficiencies.

Equipment Schedules with Motors:
Multi-speed motors are used on this project and are included in the efficiency rating of the equipment. See drawings for efficiencies.

Designer Statement:
To the best of my knowledge and belief, the design of this project complies with the mechanical system and equipment requirements of the 2018 NC Mechanical Code.

HVAC Sequence of Operation:

1. The mechanical contractor shall provide a training session with the owner prior to the completion of the project. The contractor shall discuss the general operation of the system, location of all control devices, and necessary routine maintenance. The sequence of operation shall be discussed in depth.
2. The split-system heat pumps, AHU/HP-1, AHU/HP-2, and AHU/HP-3 shall be controlled by individual wall-mounted thermostats with remote sensors. The systems shall stage on cooling and heating as required to satisfy the space temperature setpoint.
3. Kitchen Hood #1 shall be interlocked with KEF-1, KSF-1, and the supply fan for AHU-1, AHU-2, & AHU-3, and operated by a hood mounted switch.

Kitchen Hood Notes:

1. All work associated with the kitchen exhaust hoods shall be the responsibility of the Mechanical Contractor.
2. Kitchen hood and grease duct shall comply with NFPA 96, NC State Building Codes and the local authority having jurisdiction. Kitchen hoods shall be tested in accordance with UL 710 and listed, labeled, and installed per Section 506 of the 2018 NC Mechanical Code.
3. All grease duct shall be 16 gage welded steel or 18 gage stainless steel and shall be made liquid tight.
4. Slope grease duct at 1/4" per foot towards the hood or towards an approved grease reservoir. Where horizontal ducts exceed 75 feet in length, the slope shall not be less than 1" per foot.
5. Grease duct velocity shall not be less than 500 fpm.
6. Maintain minimum of 18" clearance between a Type 1 hood and combustible materials. Clearances may be reduced if all requirements of Section 507.9 of the 2018 NC Mechanical Code are met.
7. Maintain a minimum of 18" clearance between grease duct and combustible materials. Clearances may be reduced if grease duct is provided with a listed, rated enclosure installed in accordance with Section 304.1 of the 2018 NC Mechanical Code. Rated enclosure material shall be "3M Fire Barrier Duct Wrap 615+" listed and approved for 2 hour fire resistance or equivalent. Install wrap per manufacturer's instructions. See detail. As an alternate, UL listed pre-manufactured round double-wall grease duct with 0" clearance, may be utilized.
8. Provide cleanouts at each change in direction not accessible from the duct inlet or the discharge. Provide cleanouts at a minimum of every 20'.
9. Cleanouts shall be constructed of metal of equal or greater thickness than that of the ducts, provided with a substantial method of latching to make them grease-tight. Cleanouts shall be designed so that they may be opened without tools and shall be labeled "Access Panel - Do Not Obstruct".
10. Ductwork shall be supported per SMACNA Standards and at every change in direction. Supports shall not penetrate ductwork or plenum.
11. If rated enclosure is required, provide rated access doors equal in fire resistance to that of the enclosure to gain access to the cleanouts.
12. Exhaust fans shall discharge a minimum of 40 inches above the roof and 10 feet from any intake.
13. Fire suppression system shall have a Automan release assembly which activates extinguishing system, shuts down heating/cooling equipment, and fuel supplies to equipment under the hood.
14. Provide remote manual pull station for fire suppression system. Installation and location of pull station shall comply with all requirements of Section 509.1 of the 2018 NC Mechanical Code and the local authority having jurisdiction.
15. A performance test shall be conducted upon completion and before final approval of the kitchen hood ventilation system. The test shall verify the rate of airflow and proper operation and shall be conducted in accordance with Section 507.16.1 of the 2018 NC Mechanical Code and the local authority having jurisdiction.

General Notes:

1. The contractor shall comply with all requirements of the 2018 NC Mechanical Code with regards to all mechanical work.
2. The Mechanical Contractor shall coordinate the installation of all equipment, piping, and ductwork under this contract with the building structure. Contractor shall make adjustments where necessary without additional cost to owner.
3. Coordinate all supply, return, and exhaust grille locations with architectural reflected ceiling plan.
4. Where ducts and/or equipment are shown crossing, the larger duct or equipment shall take precedence. The contractor must provide transitions so that the smaller of the ducts is routed up and over the top of larger ducts. Ducts that are required to be sloped at a given rate take precedence over all others.
5. All roof mounted equipment shall be located a minimum of 6 feet from the roof edge. Coordinate all roof work with owner prior to construction.
6. Verify that all new thermostat locations are acceptable to owner/tenant prior to construction.
7. Insulate all new supply air ductwork with exterior duct wrap.
8. The existing building is less than 16'-0" in height. No permanent means of roof access is required.

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NC License № P-2398

A Tenant Alteration for
HARVEY JOHNS STEAKHOUSE
1501 N. Raleigh Street, Suite G
Angier, NC

JOB #: 23HARVEYJOHNS

DWG BY:
CHK BY:
DATE: 07/28/23
REV NO DATE

MECHANICAL COVER SHEET

SHEET NUMBER
M-1

Roof Ventilator Schedule

Mark	Manufacturer	Model	Size	Service	Airflow (CFM)	Throat Area (Sq. Ft.)	Max. P.D. (in. W.G.)	Damper Type	Weight (LBS)	Remarks
V-1	Loren Cook	PR	8	Exhaust	140	0.394	0.1	None	30	1
V-2	Loren Cook	PR	12	Intake	490	0.852	0.1	Barometric	40	1,2
V-3	Loren Cook	PR	12	Intake	395	0.852	0.1	Barometric	40	1,2
V-4	Loren Cook	PR	8	Intake	255	0.394	0.1	Barometric	30	1,2

1. Ventilator shall be spun aluminum construction. Provide with roof curb and birdscreen.
2. Provide barometric damper with counterbalance.

Air Distribution Schedule

Mark	Manufacturer	Model	Description	Panel Size	Type	Neck Size	Remarks
SA1	Titus	TMS	Steel, High Performance, Full Face, Stamped Square, 4-Way	24x24	Lay-In	6"Ø	1,5
SA2	Titus	TMS	Steel, High Performance, Full Face, Stamped Square, 4-Way	24x24	Lay-In	8"Ø	1,5
SB1	Titus	TMS-AA	Aluminum, High Performance, Full Face, Stamped Square, 4-Way	24x24	Lay-In	6"Ø	1,5
SB2	Titus	TMS-AA	Aluminum, High Performance, Full Face, Stamped Square, 4-Way	24x24	Lay-In	8"Ø	1,5
SC1	Titus	PAR-AA	Aluminum, Perforated, Duct Collar, No Deflectors	24x24	Lay-In	10"Ø	1,5
SD1	Titus	ML-39	Linear Slot, Accessory Insulated Plenum, Ice Tong Controller, 2 - 1" Slots	24" Long	Surface Mount	8"Ø	1,3
SE1	Titus	300RS	Steel, Double Deflection, Short Front Blades, 3/4" Blade Spacing	NA	Duct Mount	14x6	1,4
RA1	Titus	PAR	Steel, Perforated, Duct Collar	24x24	Lay-In	10"Ø	1,5
RA2	Titus	PAR	Steel, Perforated, Duct Collar	24x24	Lay-In	14"Ø	1,5
RB1	Titus	PAR-AA	Aluminum, Perforated, Duct Collar	24x24	Lay-In	14"Ø	1,5
RC1	Titus	350RL	Steel, 35° Deflection, 3/4" Blade Spacing, Parallel to Long Dimension	NA	Surface Mount	30x16	1,2,4

1. Verify all ceiling and wall types with architectural plans. Coordinate color with Architect.
2. Provide with square-to-round transition as required.
3. Provide with concealed mounting frame and flanged end caps.
4. All wall or duct mounted diffusers/grilles shall be painted to match surrounding surface. Coordinate painting with General Contractor.
5. Provide diffuser/grille with foil faced back pan insulation.

Split System Heat Pump Schedule

Mark	Manufacturer	Tonnage	Model	Cooling (MBH)	Heating (MBH)	Minimum SEER/SEER2	Minimum HSPF/HSPF2	Volt/Ph	MCA	MOCP	Weight (LBS)	Remarks
HP-1	Trane	5.0	4TWR4060N1	54.5	52.0	15.0/14.3	8.8/7.5	230/1	32.0	50	251	1,2,3,4,5
HP-2	Trane	4.0	4TWR4048N1	46.5	44.0	15.0/14.3	8.8/7.5	230/1	26.0	40	250	1,2,3,4,5
HP-3	Trane	4.0	4TWR4048N1	46.5	44.0	15.0/14.3	8.8/7.5	230/1	26.0	40	250	1,2,3,4,5

1. Cooling capacity based on indoor entering air condition of 80°F dry bulb, 67°F wet bulb and outdoor air condition of 95°F dry bulb. Heating capacity based on indoor entering air condition of 70°F dry bulb and outdoor air condition of 47°F dry bulb.
2. Standard unit features shall include filter drier, front seating service valves, internal pressure relief valve, internal thermal overload, suction line accumulator, high pressure switch, and loss of charge switch.
3. Accessory unit features shall include: compressor start assist, crankcase heater, thermostatic expansion valve, and time delay relay.
4. Provide unit with all accessories required for low ambient control to 0°F including evaporator freeze thermostat, isolation relay and low ambient pressure switch.
5. Refrigerant lines shall be sized and approved by the equipment manufacturer based upon field measured piping lengths. Mechanical contractor shall provide lengths, bends, and routing to manufacturer for proper pipe sizing. Provide all of the manufacturer's recommended components. Piping shall be sized so that maximum capacity loss due to line length is 3%. All piping shall be hard copper pipe.

Split System Air Handling Unit Schedule

Mark	Manufacturer	Model	SA (CFM)	OA (CFM)	ESP (In. W.G.)	Fan (HP)	Heat (KW)	Heat Stages	Volt/Ph	MCA	MOCP	Weight (LBS)	Remarks
AHU-1	Trane	TEM4A0C60	1750	490	0.5	3/4	9.6	1	230/1	58.0	60	138	1,2,3,4
AHU-2	Trane	TEM4A0C48	1400	395	0.5	3/4	9.6	1	230/1	58.0	60	138	1,2,3,4
AHU-3	Trane	TEM4A0C48	1600	255	0.5	3/4	9.6	1	230/1	58.0	60	138	1,2,3,4

1. Provide air handling unit with factory installed electric heater, filter rack, disconnect switch, and single point wiring connection.
2. Provide unit with manufacturer's touchscreen display, 7-day programmable thermostat with dehumidification sequence and remote wireless tempreature sensor to allow central location in back office for thermostat installation.
3. Provide unit with auxiliary drain pan and float switch.
4. Fan shall shut down upon smoke alarm. Mechanical contractor shall provide duct mounted smoke detector. Controls, including audible and visible alarms, shall be provided by the mechanical contractor.

Fan Schedule

Mark	Manufacturer	Model	Service	Type	Airflow (CFM)	ESP (in. W.G.)	Motor Size	RPM	Drive	Volt/Ph	Weight (LBS)	Remarks
FF-1	Awoco	FM1509SA1	Kitchen Service Door	Air Curtain	1177	-	300 W	-	Direct	120/1	42	1,6
EF-1	Loren Cook	GC-146	Restroom	Ceiling Cabinet	70	0.25	35 W	900	Direct	120/1	12	2,3
EF-2	Loren Cook	GC-146	Restroom	Ceiling Cabinet	70	0.25	35 W	900	Direct	120/1	12	2,3
KEF-1	Accurex	XCUBE-180-15	KH-1: Exhaust	Refer to "Kitchen Hood Details" drawings for additional information								4,5
KSF-1	Accurex	SKSFB-112-H15-01	KH-1: Supply	Refer to "Kitchen Hood Details" drawings for additional information								4,5

1. Fan to be controlled by magnetic-switch and necessary accessories of automatic On/Off operation when door is Open/Closed. Switch shall be furnished by Owner and installed by Mechanical Contractor. All power wiring by Electrical Contractor.
2. Provide fan with fan speed controller, backdraft damper, polystyrene grille, and hanging isolator kit to support fan from structure.
3. Fan to be controlled by wall switch provided by Electrical Contractor.
4. Fan to be furnished by Kitchen Equipment Vendor and installed by Mechanical Contractor. See "Kitchen Hood Details" drawings for additional information and specifications.
5. Fan shall be provided with manufacturer's roof curb suitable for use on existing standing seam metal roof.
6. Fan to be furnished by Tenant/Owner and installed by Mechanical Contractor.

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SEAL 37491
PROFESSIONAL ENGINEER
NATHAN R. ROMBLAD
7/28/23

A Tenant Alteration for
HARVEY JOHNS STEAKHOUSE
1501 N. Raleigh Street, Suite G
Angier, NC

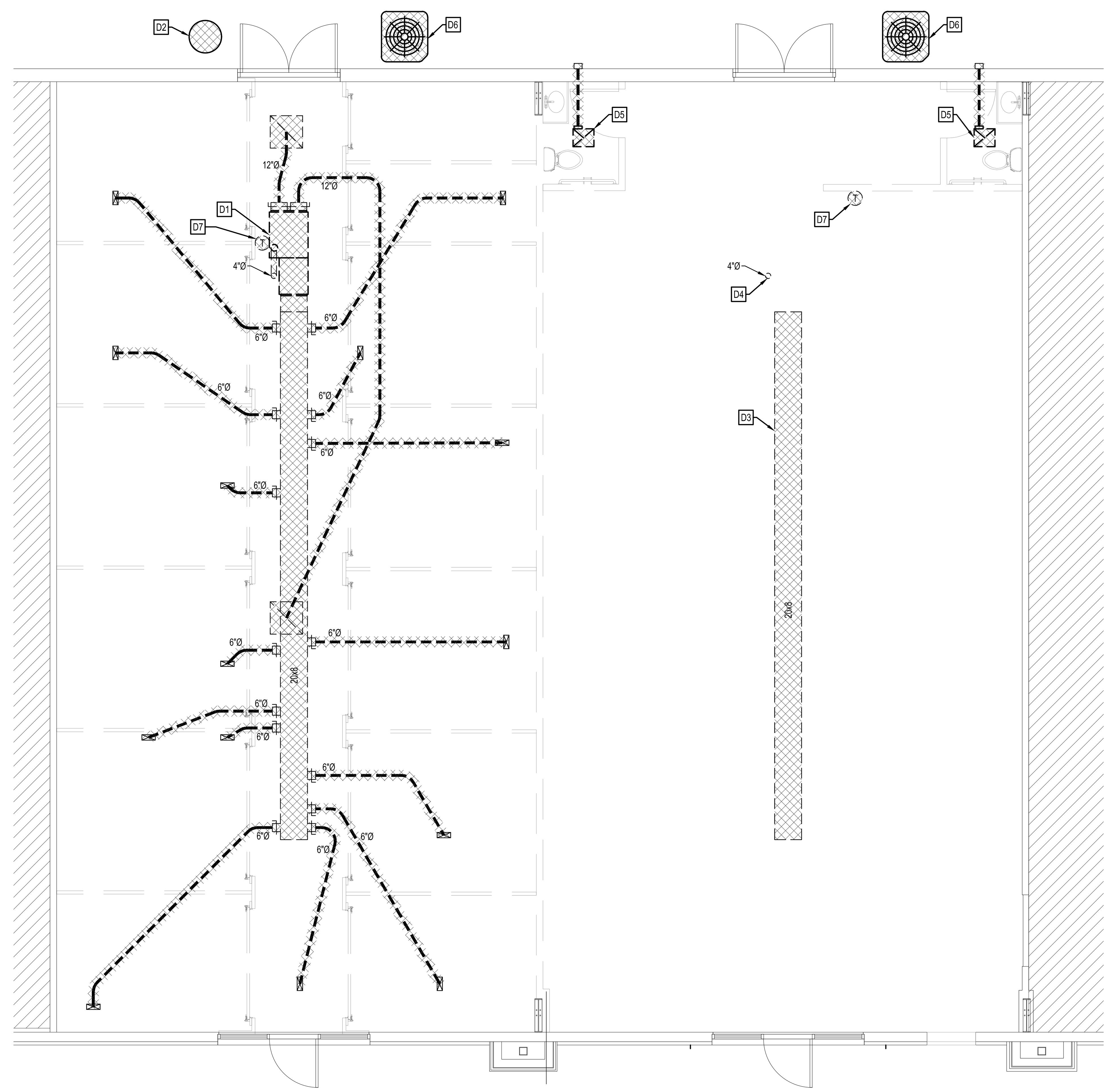
JOB #: 23HARVEYJOHNS

DWG BY:
CHK BY:
DATE: 07/28/23
REV NO DATE

MECHANICAL SCHEDULES

SHEET NUMBER
M-2

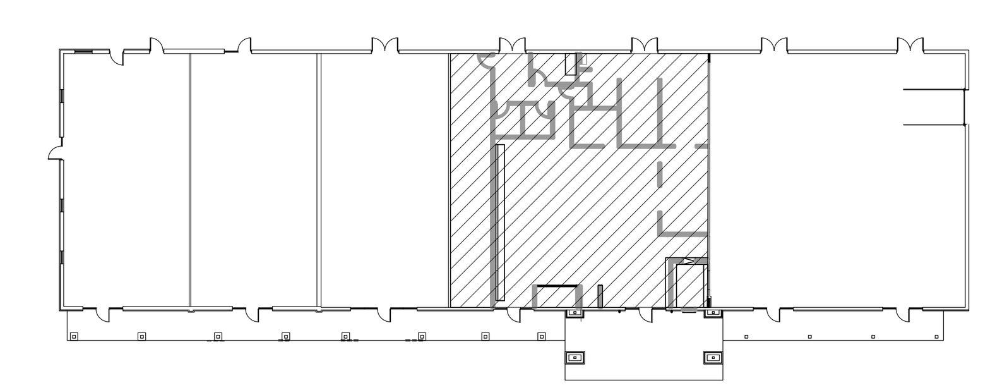
These drawings will be at the scale indicated when plotted at 24" x 36"



1 Floor Plan - Mechanical Demolition
Scale: 3/16" = 1' - 0"

D# Demolition Plan Notes:

1. Demolish gas furnace and all associated ductwork, diffusers, propane piping, and flue duct through roof. Coordinate patching of any remaining openings in walls/roof with the general contractor.
2. Coordinate removal of the propane tanks with the propane supplier.
3. Demolish abandoned ductwork.
4. Demolish flue duct through roof. Coordinate patching of remaining opening in roof with the general contractor.
5. Demolish ceiling mounted exhaust fan, duct, and wall cap. Coordinate patching of remaining opening in wall with the general contractor.
6. Demolish condensing unit.
7. Demolish thermostat.



2 Key Plan
Scale: None

N

Wall Ratings and Types Legend

See architectural sheets for more information on ratings and additional rated constructions including structure where applicable. Protect all rated constructions as required.

- Existing Wall to Remain
- New Wall being Constructed
- One Hour Fire Barrier
- Existing Wall being Demolished

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NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 37491 NATHAN R. ROMBLAD 7/28/23

A Tenant Alteration for
HARVEY JOHNS STEAKHOUSE
1501 N. Raleigh Street, Suite G
Angier, NC

JOB #: 23HARVEYJOHNS

DWG BY:
CHK BY:
DATE: 07/28/23
REV NO DATE

FLOOR PLAN - MECHANICAL DEMOLITION

SHEET NUMBER
M-3

These drawings will be at the scale indicated when plotted at 24" x 36"

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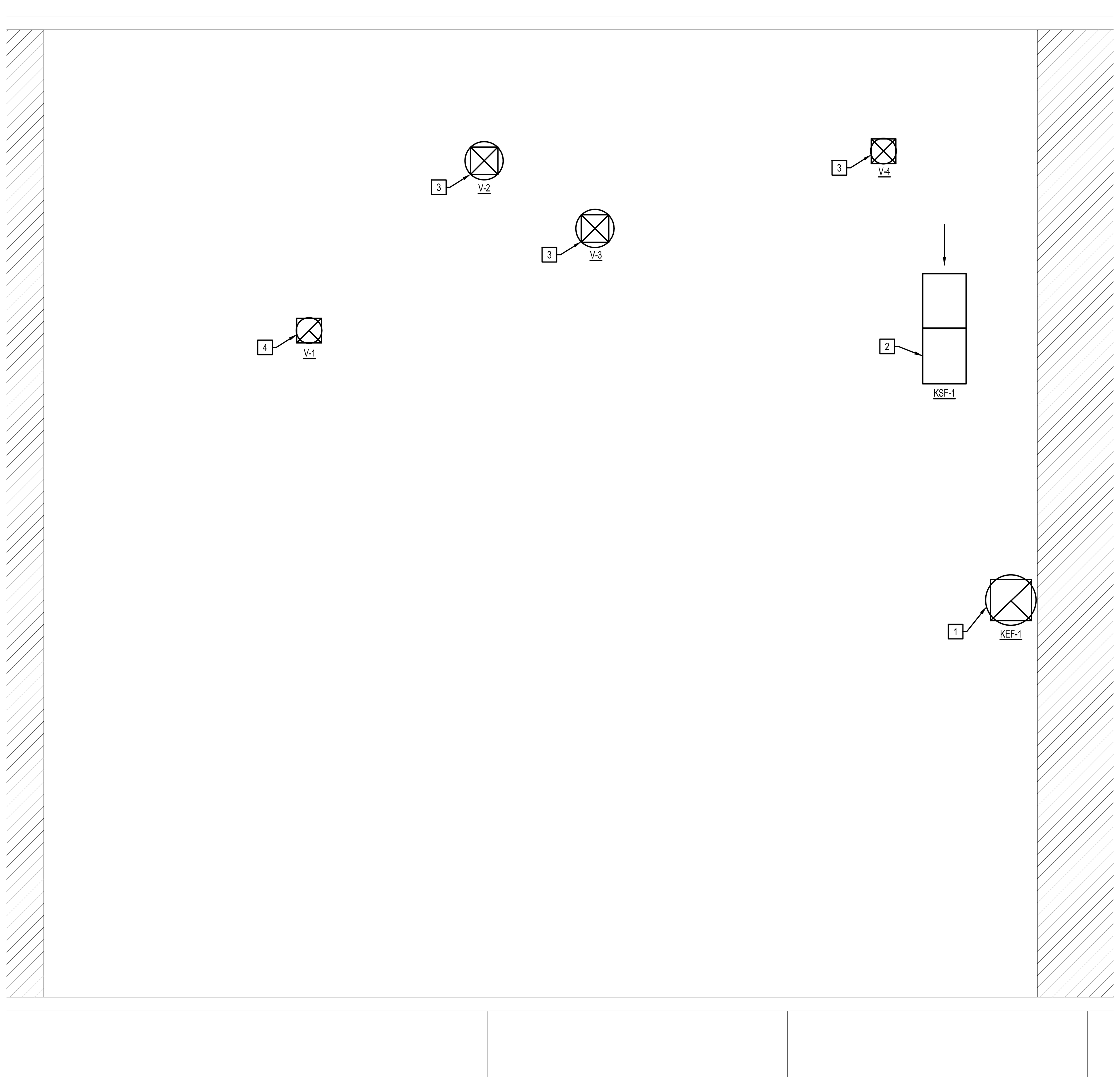
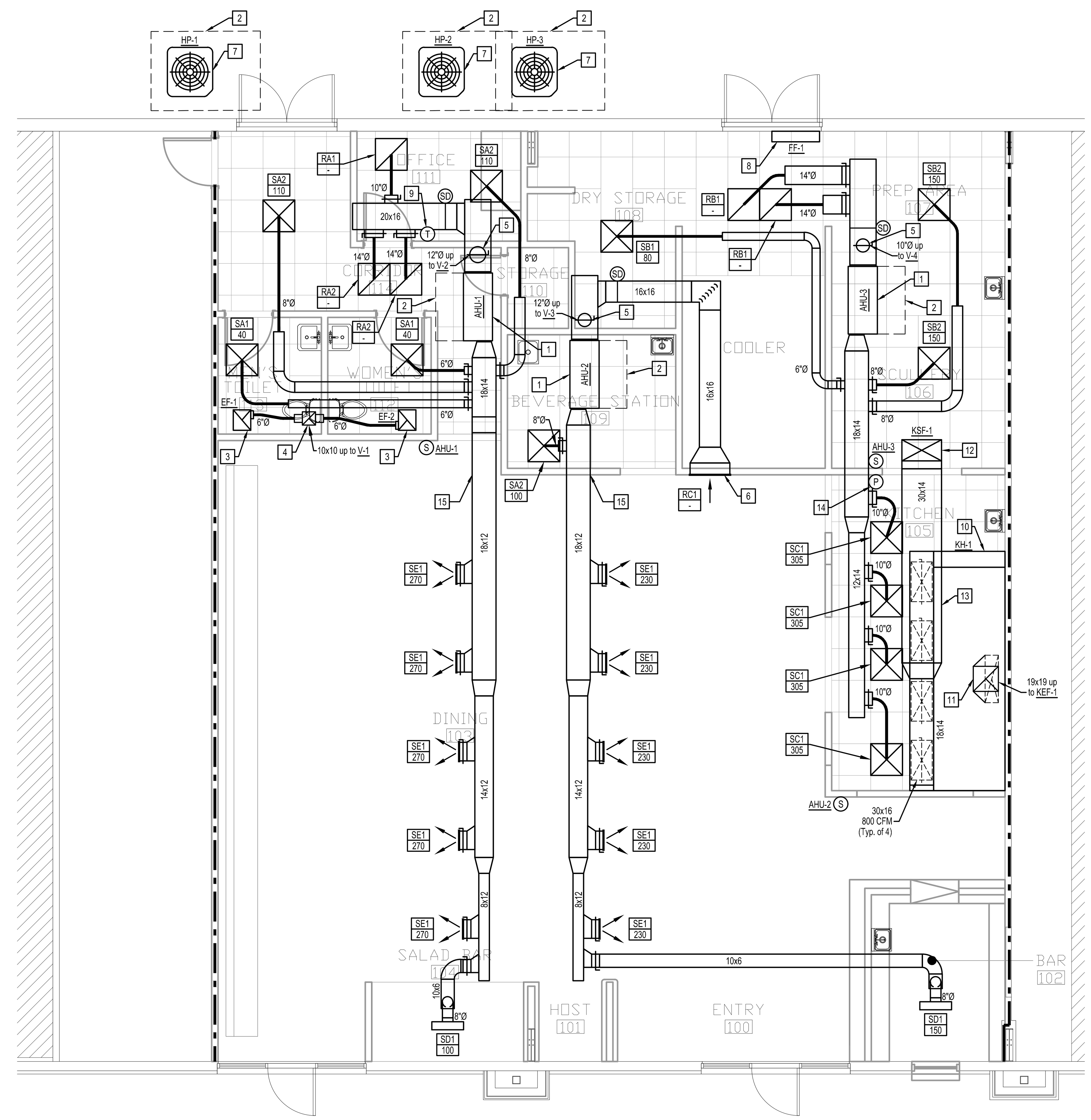
NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 37491 NATHAN R. ROMBLAD 7/28/23



1 Roof Plan - Mechanical
Scale: 3/16" = 1' - 0"



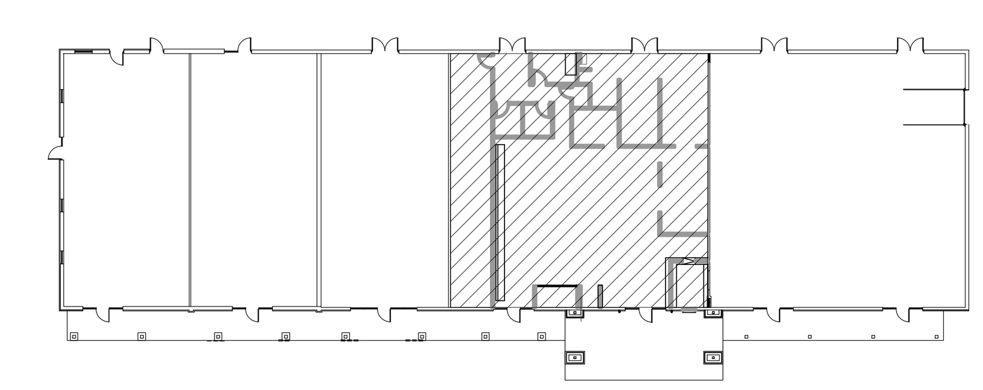
2 Floor Plan - Mechanical
Scale: 3/16" = 1' - 0"

Roof Plan Notes:

1. Install roof mounted kitchen exhaust fan per manufacturer's installation instructions and clearances. Maintain 6' from roof edge. Maintain 10' from all outside air intakes. Refer to "Kitchen Hood Details" sheets for additional information.
2. Install roof mounted kitchen makeup air fan per manufacturer's installation instructions and clearances. Maintain 6' from roof edge. Maintain 10' from all exhaust and plumbing vent discharge locations. Refer to "Kitchen Hood Details" sheets for additional information.
3. Install roof mounted intake ventilator per manufacturer's installation instructions and clearances. Maintain 10' from all exhaust and plumbing vent discharge locations. Refer to "Roof Mounted Ventilator Detail" for additional information.
4. Install roof mounted exhaust ventilator per manufacturer's installation instructions and clearances. Maintain 10' from all outside air intake locations. Refer to "Roof Mounted Ventilator Detail" for additional information.

Floor Plan Notes:

1. Install air handling unit above ceiling per manufacturer's installation instructions and clearances. Provide return duct the same size as the unit connection. Unit shall be suspended from structure above. Gravity drain condensate to landscaping at rear of building. Refer to "Air Handling Unit Hanging Detail" for additional information.
2. Manufacturer's recommended service clearances.
3. Install ceiling mounted exhaust fan per manufacturer's installation instructions and clearances.
4. Route common exhaust duct up to roof mounted gravity ventilator. Transition duct to ventilator connection as required.
5. Route outside air duct with manual balancing damper from top of return duct up through roof, sized as indicated, to roof mounted gravity intake ventilator. Transition duct to ventilator connection as required.
6. Install grille high in wall to the deck with louvers facing upward to prevent line of sight into duct. Coordinate painting of grille with General Contractor to match wall.
7. Install heat pump on concrete housekeeping pad per manufacturer's installation instructions and clearances. Route refrigerant piping down exterior wall with vinyl/metal shroud to prevent damage. Refer to "Heat Pump Mounting Detail" for additional information.
8. Install air curtain above door per manufacturer's installation instructions and clearances. Adjacent door shall remain locked.
9. Install adjustable thermostats for AHUs 1-3 within Office, coordinate the exact location with the general contractor. Align thermostats vertically on wall. Thermostats are to be connected to associated air handling unit temperature sensors.
10. Install kitchen hood per manufacturer's installation instructions and clearances. Coordinate hanging of hood with General Contractor. Refer to "Kitchen Hood Details" sheets for additional information.
11. Route grease duct up from exhaust collar on hood, sized as indicated, and connect to roof mounted fan. Transition to fan connection as required. All grease ducts shall be 16 gauge welded steel rectangular duct with two layers of fire wrap insulation. Refer to "Grease Duct Fabrication Detail" for additional information.
12. Route kitchen hood makeup air supply duct down from roof mounted kitchen supply fan. Size duct as indicated and transition to fan connection as required.
13. Route kitchen hood makeup air supply duct over hood connections as indicated. Provide duct tap with opposed blade balancing damper off bottom of duct, the same size as each hood connection. Balance airflows as indicated.
14. Install wall mounted pull station for kitchen hood fire suppression system. Coordinate exact location with General Contractor and AHJ.
15. Install duct tight to underside of structural purlins where duct penetrates wall. Both exposed ducts shall be installed at the same height. Continue duct level through dining room. All exposed duct and diffusers shall be painted by General Contractor. All duct mounted diffusers shall be provided with tapered tap and manual balancing damper.



3 Key Plan
Scale: None

Wall Ratings and Types Legend

See architectural sheets for more information on ratings and additional rated constructions including structure where applicable. Protect all rated constructions as required.

Existing Wall to Remain
New Wall being Constructed
One Hour Fire Barrier
Existing Wall being Demolished

This is not a certified drawing, but a copy of a certified drawing that has been unlocked. This document has been unlocked for the ease of use of the AHJ, contractor, etc. and was originally accompanied with the actual certified document meeting the boards rule for electronic signatures

A Tenant Alteration for
HARVEY JOHNS STEAKHOUSE
1501 N. Raleigh Street, Suite G
Angier, NC

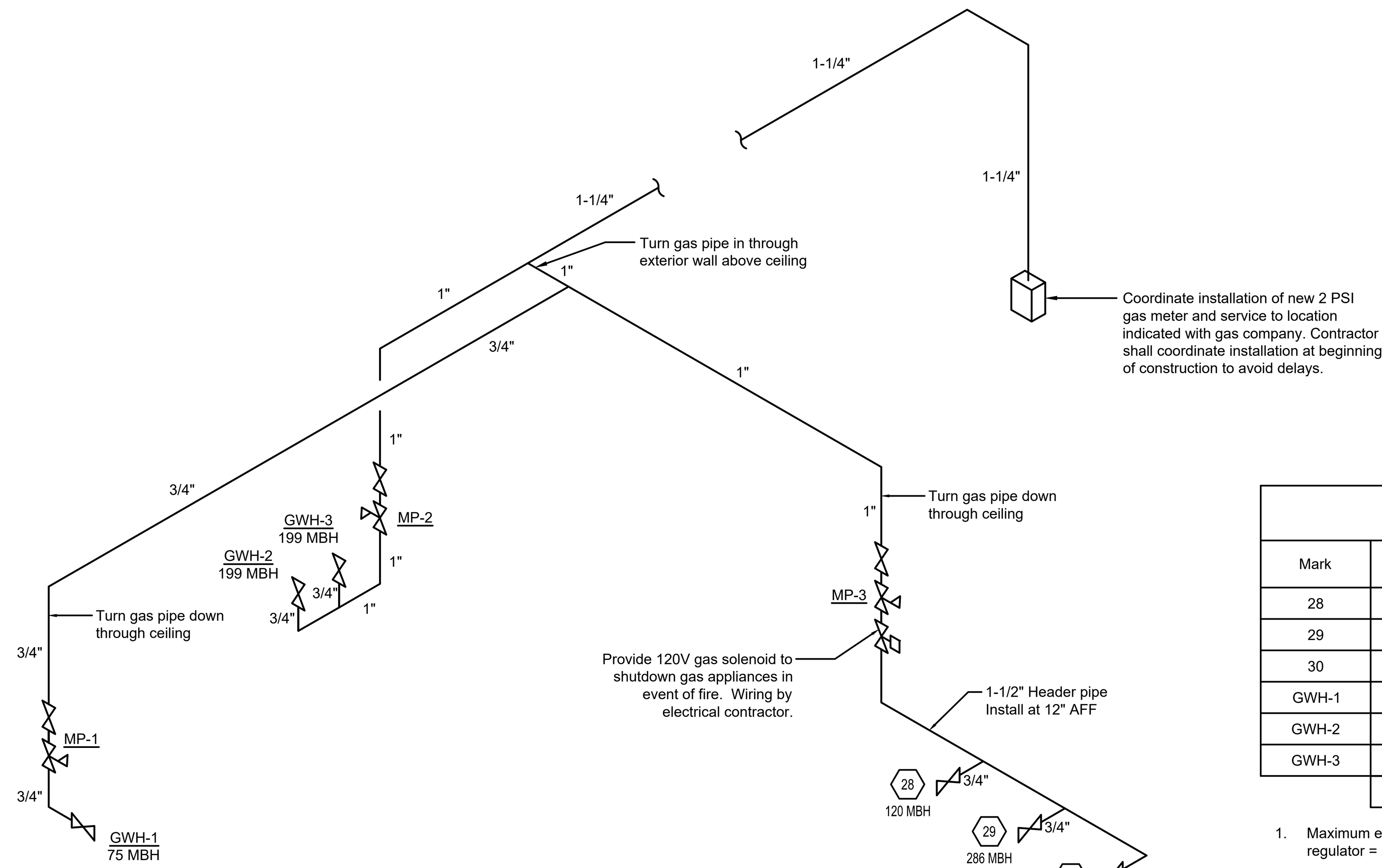
JOB #:
23HARVEYJOHNS

DWG BY:
CHK BY:
DATE: 07/28/23
REV NO DATE

FLOOR & ROOF PLAN - MECHANICAL

SHEET NUMBER
M-4

These drawings will be at the scale indicated when plotted at 24" x 36"

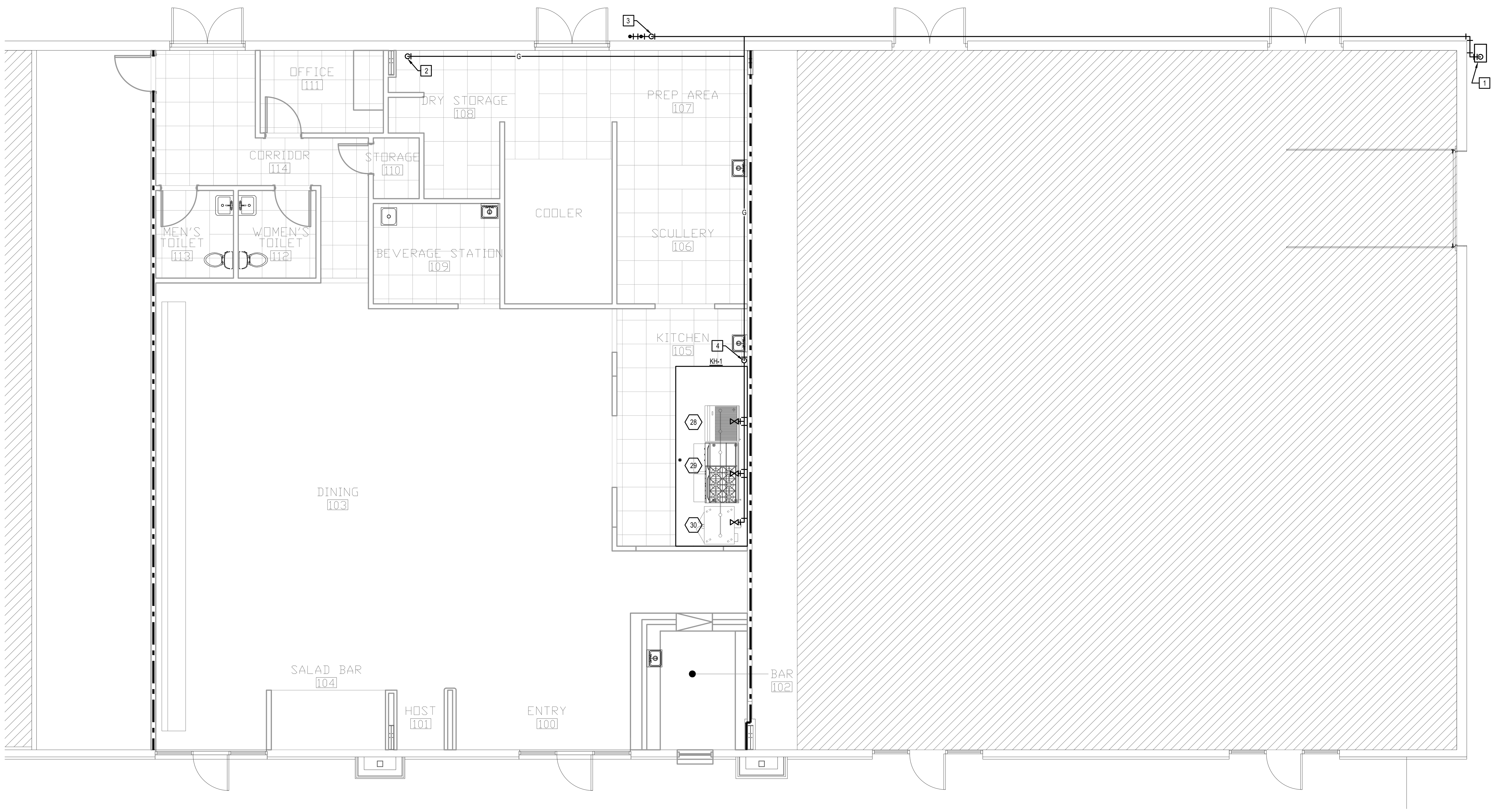


3 2 PSI Gas Riser
Scale: None

Gas Connected Load

Mark	Equipment Type	BTUH Input	Remarks
28	Charbroiler	120,000	1,2
29	Range	286,000	1,2
30	Convection Oven	108,000	1,2
GWH-1	Water Heater	75,000	1,2
GWH-2	Water Heater	199,000	1,2
GWH-3	Water Heater	199,000	1,2
	Total	987,000	

1. Maximum equivalent length from the gas meter to the most remote MP regulator = 150'.
2. Maximum length from any MP regulator to the equipment served = 20'. Transition pipe to equipment inlet as required.



1 Natural Gas Floor Plan - Mechanical
Scale: 3/16" = 1' - 0"

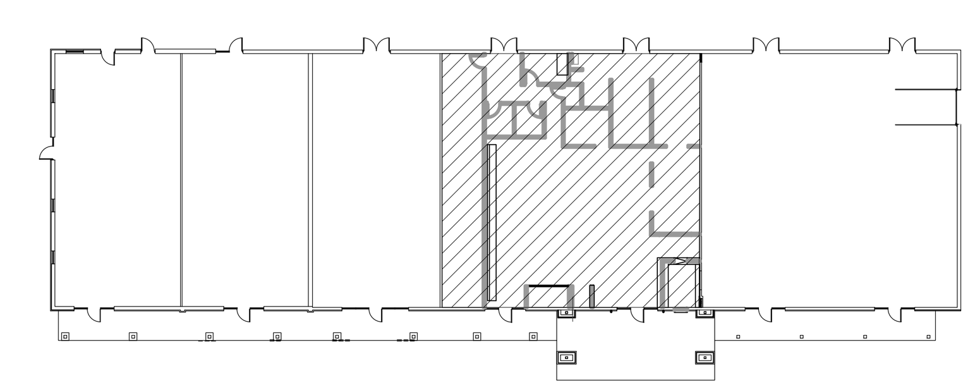
2 PSI Gas Service Notes:

Gas piping sizes upstream of medium pressure (MP) regulators are based on an initial pressure of 2 PSI, a pressure drop of 1 PSI, 0.6 specific gravity gas and Schedule 40 pipe. Sizes are based on Table 402.4(5) of the 2018 NC Fuel Gas Code. Gas piping sizes downstream of MP regulators are based on a low pressure system (< 2 psi), a pressure drop of 0.5" water column, 0.6 specific gravity gas and Schedule 40 pipe. Sizes are based on Table 402.4(2) of the 2018 NC Fuel Gas Code.

1. All gas piping shall be installed per the requirements of the 2018 NC Fuel Gas Code and NFPA 54.
2. Provide manual shutoff valve for each piece of gas equipment.
3. Contractor shall verify gas requirements for each piece of equipment prior to installing gas piping. Confirm equipment with owner.
4. Gas piping shall be Schedule 40 ASTM A53 or A120, T&C. Where exposed to weather, paint to prevent corrosion.
5. Contractor to verify meter location and maximum line lengths prior to installation. If conditions vary from those shown on the drawings, contact engineer for line sizing.
6. A listed shutoff valve shall be installed immediately ahead of each MP regulator.
7. MP regulators must be installed and vented in accordance with Section 410 of the 2018 NC fuel gas code. Where MP regulators are specified to be installed indoors, vent limited devices shall be utilized to eliminate requirement for venting to outdoors.
8. A test tee fitting shall be installed between the MP regulator and its upstream shutoff valve. A separate test tee fitting shall be installed not less than 10 pipe diameters downstream of the MP regulator outlet. Provide test tee fittings for all new and existing MP regulators.

Natural Gas Plan Notes:

1. Coordinate installation of new 2 PSI gas meter and new gas service with gas company at beginning of construction. Route gas pipe up exterior wall and high along rear of building and turn in to building high above ceiling where indicated. Support pipe from wall as required. All exterior gas piping shall be painted to prevent corrosion. Refer to "2 PSI Gas Riser" for all pipe sizing and additional information.
2. Continue gas pipe down through ceiling to water heater. Provide shut off valve and vent limiting medium pressure regulator in vertical portion of pipe just below ceiling. Provide shut off valve prior to connection of water heater. Combustion air and venting of water heater shall be provided by the plumbing contractor. Refer to "2 PSI Gas Riser" for all pipe sizing and additional information.
3. Route gas pipe down exterior wall to water heaters mounted on wall. Provide shut off valve medium pressure regulator in vertical portion of pipe. Route pipe just below water heaters and provide shut off valve prior to connection of each water heater. Refer to "2 PSI Gas Riser" for all pipe sizing and additional information.
4. Continue gas pipe down through ceiling to kitchen equipment below. Provide shut off valve, vent limiting medium pressure regulator, and electric gas solenoid in vertical portion of pipe just below ceiling. Gas solenoid shall shut off natural gas supply in the event the kitchen hood fire suppression system is activated. Continue gas pipe down wall and route pipe along wall behind kitchen equipment at 12" AFF. Support pipe from wall as required. Provide tap(s) and shutoff valve(s) for kitchen equipment as indicated. Coordinate exact locations of kitchen equipment with kitchen equipment vendor and General Contractor.



2 Key Plan
Scale: None

Wall Ratings and Types Legend

See architectural sheets for more information on ratings and additional rated constructions including structure where applicable. Protect all rated constructions as required.

Existing Wall to Remain
New Wall being Constructed
One Hour Fire Barrier
Existing Wall being Demolished

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NC License № P-2398

NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 37491 NATHAN R. ROMBLAD 7/28/23

A Tenant Alteration for
HARVEY JOHNS STEAKHOUSE
1501 N. Raleigh Street, Suite G
Angier, NC

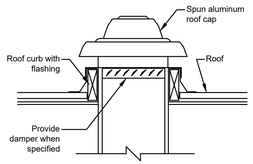
JOB #: 23HARVEYJOHNS

DWG BY:
CHK BY:
DATE: 07/28/23
REV NO DATE

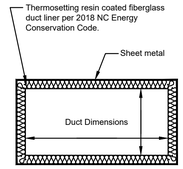
FLOOR PLAN - MECHANICAL NATURAL GAS

SHEET NUMBER
M-5

These drawings will be at the scale indicated when plotted at 24" x 36"

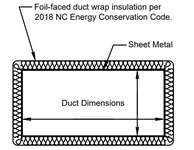


1 Roof Mounted Ventilator Detail
Scale: None



Notes:
- All duct dimensions shown on these drawings are inside clear.
- Provide a minimum of R-6 insulation when duct is located in unconditioned space.
- Provide a minimum of R-8 insulation when duct is located outside the building envelope.

3 Exposed Duct Fabrication Detail
Scale: None



Notes:
- All duct dimensions shown on these drawings are inside clear.
- Provide a minimum of R-6 insulation when duct is located in unconditioned space.
- Provide a minimum of R-8 insulation when duct is located outside the building envelope.

6 Concealed Supply, Return, & Outside Air Duct Fabrication Detail
Scale: None

System No. W-L-1054 — WL 1054

CLASSIFIED c UL us
Classified by Underwriters Laboratories, Inc. to UL 1479 and CAN/ULC-S115

ANSI/UL1479 (ASTM E814)	CAN/ULC S115
F Ratings —1 and 2 Hr (See Items 1 and 3)	F Ratings — 1 and 2 Hr (See Items 1 and 3)
T Rating — 0 Hr	FT Rating — 0 Hr
L Rating (Without Movement) at Ambient — Less Than 1 CFM/sq ft	FH Ratings —1 and 2 Hr (See Items 1 and 3)
L Rating (Without Movement) at 400°F — Less Than 1 CFM/sq ft	FTH Rating — 0 Hr
M Rating (Movement) — See Table 1	FTH Rating — 0 Hr
	L Rating at Ambient — Less Than 5.1 L/s/m2
	L Rating at 204°C — Less Than 5.1 L/s/m2

SECTION A-A

1. Wall Assembly — The 1 or 2 hr fire-rated gypsum wallboard/stud wall assembly shall be constructed of the materials and in the manner specified in the individual U300 or U400 Series Wall and Partition Designs in the UL Fire Resistance Directory and shall include the following construction features:
   A. Studs — Wall framing may consist of either wood studs or steel channel studs. Wood studs to consist of nom 2 by 4 in. (51 by 102 mm) lumber spaced 16 in. (406 mm) OC. Steel studs to be min 2-1/2 in. (64 mm) wide and spaced max 24 in. (610 mm) OC. For M Rating, steel studs to be min 3-5/8 in. (92 mm) wide. When steel studs are used and the diam of opening exceeds the width of stud cavity, the opening shall be framed on all sides using lengths of steel stud installed between the vertical studs and screw-attached to the steel studs at each end. The framed opening in the wall shall be 4 to 6 in. (102 to 152 mm) wider and 4 to 6 in. (102 to 152 mm) higher than the diam of the penetrating item such that, when the penetrating item is installed in the opening, a 2 to 3 in. (51 to 76 mm) clearance is present between the penetrating item and the framing on all four sides.
   B. Gypsum Board* — 5/8 in. (16 mm) thick, 4 ft (122 cm) wide with square or tapered edges. The gypsum board type, thickness, number of layers, fastener type and sheet orientation shall be as specified in the individual U300 or U400 Series Design in the UL Fire Resistance Directory. Max diam of opening is 32-1/4 in. (819 mm) for steel stud walls. Max diam of opening is 14-1/2 in. (368 mm) for wood stud walls. The F and FH Ratings of the firestop system are equal to the fire rating of the wall assembly. The M Rating is applicable only to 1 hr rated walls.
2. Through-Penetrants — One metallic pipe, conduit or tubing to be installed either concentrically or eccentrically within the firestop system. The annular space shall be min 0 in. to max 2-1/4 in. (57 mm). Pipe may be installed with continuous point contact. Pipe, conduit or tubing to be rigidly supported on both sides of wall assembly. The following types and sizes of metallic pipes, conduits or tubing may be used:
   A. Steel Pipe — Nom 30 in. (762 mm) diam (or smaller) Schedule 10 (or heavier) steel pipe.
   B. Iron Pipe — Nom 30 in. (762 mm) diam (or smaller) cast or ductile iron pipe.
   C. Conduit — Nom 4 in. (102 mm) diam (or smaller) steel electrical metallic tubing or 6 in. (152 mm) . diam steel conduit.
   D. Copper Tubing — Nom 6 in. (152 mm) diam (or smaller) Type L (or heavier) copper tubing.
   E. Copper Pipe — Nom 6 in. (152 mm) diam (or smaller) regular (or heavier) copper pipe.
3. Fill, Void or Cavity Material* — Sealant — Min 5/8 in. (16 mm) thickness of fill material applied within the annulus, flush with both surfaces of wall. At the point or continuous contact locations between pipe and wall, a min 1/2 in. (13 mm) diam bead of fill material shall be applied at the pipe wall interface on both surfaces of wall.
   HILTI CONSTRUCTION CHEMICALS, DIV OF HILTI INC — FS-ONE MAX Intumescent Sealant

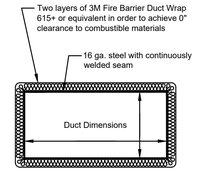
Movement Direction	Penetrant Item	Nominal Penetrant Diameter	Annular Space	Movement	Sealant Depth	F-Rating	L Rating with Movement
Y	2A, 2C*	2 in.	Max 2-1/4 in.	5%	5/8 in.	1 hr	N/A
Z	2A, 2C*	2 in.	2-1/4 in.	0.25 in.	5/8 in.	1 hr	N/A

* Indicates such products shall bear the UL or cUL Certification Mark for jurisdictions employing the UL or cUL Certification (such as Canada), respectively.

Hilti Firestop Systems

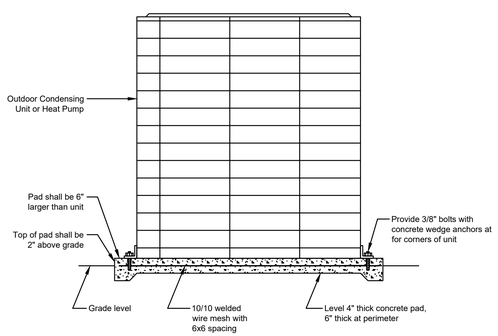
Reproduced by HILTI, Inc. Courtesy of Underwriters Laboratories, Inc. January 21, 2020

2 Gypsum Framed Walls 1 or 2 Hour Penetration Firestop Metallic Pipe, Conduit, or Tubing
Scale: None

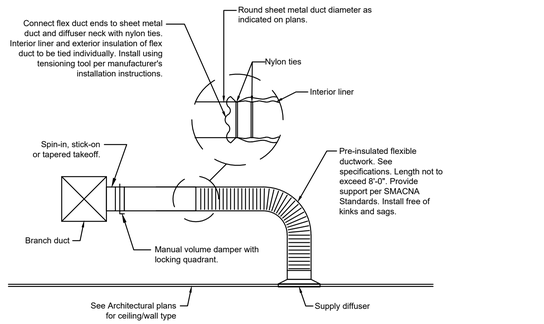


Notes:
- All duct dimensions shown on these drawings are inside clear.
- Refer to manufacturer's installation instructions for joint lapping, banding, supports, hanging, etc.
- Slope duct per 2018 NC Mechanical Code, Section 506.3.7.
- Provide duct cleanouts per 2018 NC Mechanical Code, Section 506.3.8 and 506.3.9.
- Where UL compliant, factory-built grease duct is utilized, installation shall be in accordance with the 2018 NC Mechanical Code, Section 506 and the manufacturer's installation instructions.

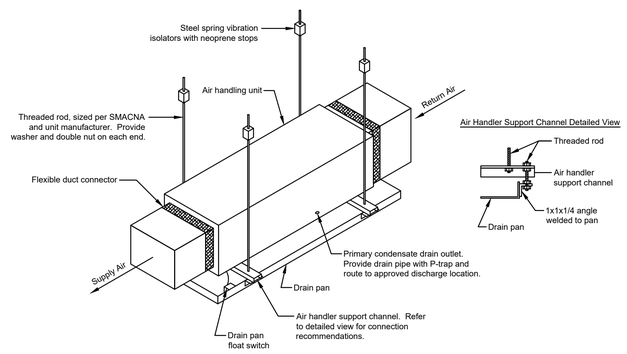
4 Grease Duct Fabrication Detail
Scale: None



5 Heat Pump Mounting Detail
Scale: None



7 Flexible Duct Installation Detail
Scale: None



8 Air Handling Unit Hanging Detail
Scale: None

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NORTH CAROLINA PROFESSIONAL SEAL 37491 ENGINEER NATHAN R. ROMBOLD
7/28/23

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1501 N. Raleigh Street, Suite G
Angier, NC

JOB #: 23HARVEYJOHNS

DWG BY:
CHK BY:
DATE: 07/28/23
REV NO DATE

MECHANICAL DETAILS

SHEET NUMBER
M-6

These drawings will be at the scale indicated when plotted at 24" x 36"

HOOD INFORMATION

HOOD NO.	MARK	MODEL	HOOD DIMENSIONS (IN.)			HOOD CONSTR.	COOKING LOAD / DUTY RATING	EXHAUST						SUPPLY		TOTAL WEIGHT LBS.	SECTION LOCATION
			LENGTH	WIDTH	HEIGHT			TOTAL CFM	COLLAR(S) WIDTH	LENGTH	DIA.	CFM	S.P.	MUA CFM	AC CFM		
1	KH1	XBEW-168-S	168	54	24	430 SS WHERE EXPOSED	HEAVY	4000	10	36		4000	0.515	3200		394 22	SINGLE

HOOD INFORMATION

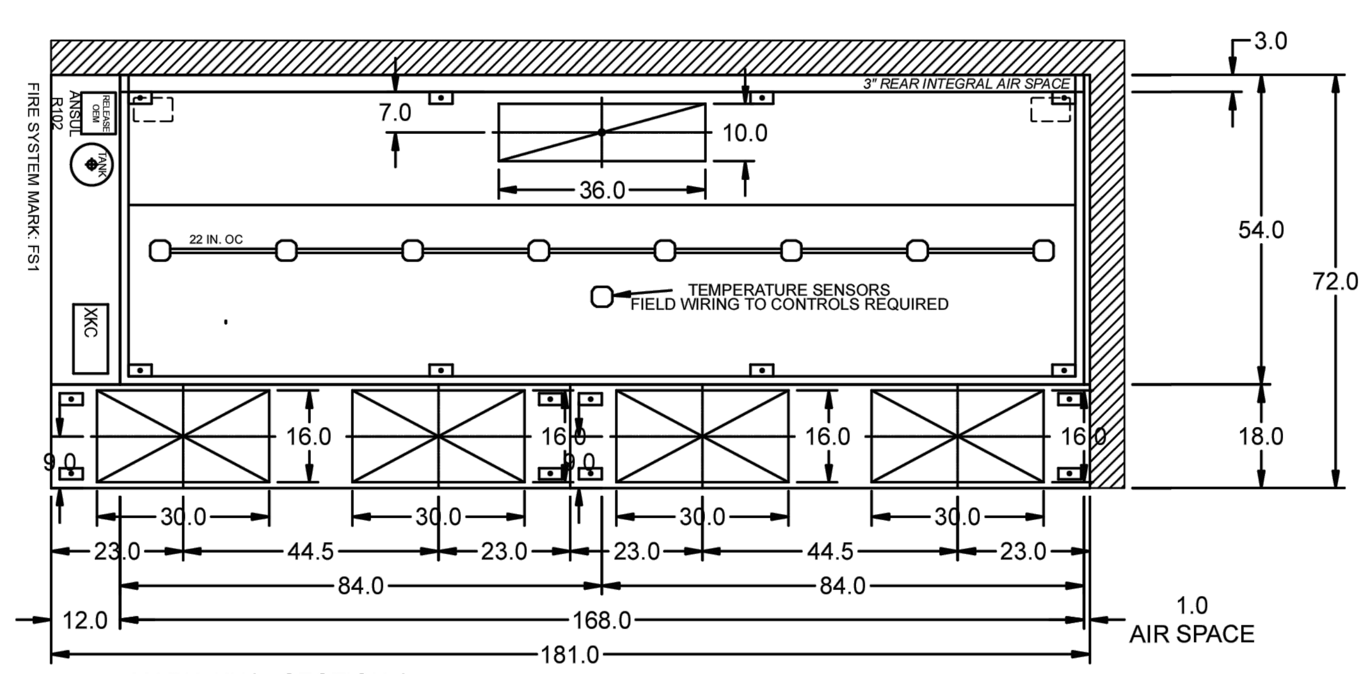
HOOD NO.	MARK	LIGHTING DETAILS			GREASE FILTRATION DETAILS				UTILITY CABINET(S)				
		FIXTURE TYPE BULB / LAMP INFO	QTY	FOOT CANDLES	TYPE / MODEL MATERIAL	QTY	SIZE (IN.) L	H	LOCATION	FIRE SYSTEM TYPE	SIZE	CONTROLS MODEL	INTERFACE
1	KH1	INCANDESCENT (GLOBE) 100W A19 (BULBS NOT INCL.)	8	53.81	BAFFLE STAINLESS STEEL	8	16	20	LEFT	ANSUL R102	3	XKC	TOUCHSCREEN
						2	20						

SUPPLY PLENUM INFORMATION

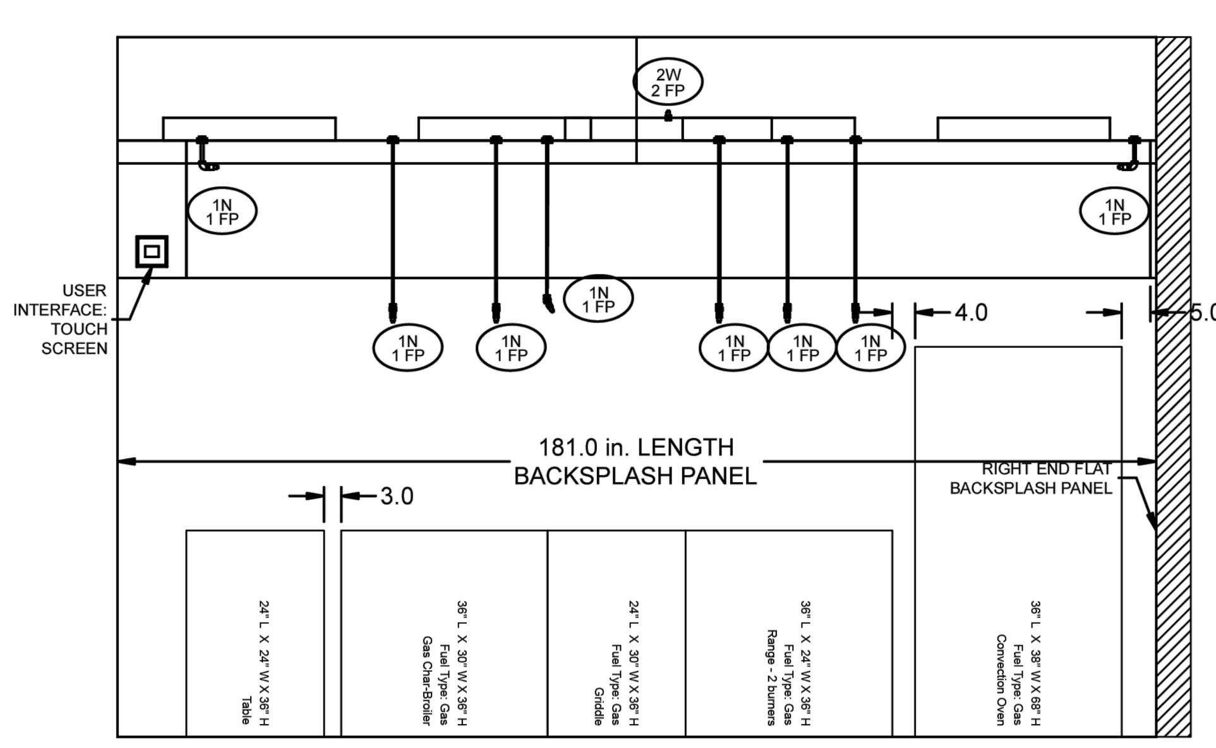
HOOD NO.	MARK	POS.	TYPE	SIZE (IN.) L	W	H	INSULATED	DAMPER(S)	LED LIGHT(S) SUPPLIED	QTY	TOTAL CFM	TOTAL S.P.	COLLARS TYPE	MOUNTING	QTY	W	L	DIA.	CFM	VEL.
1	KH1	FRONT	ASP	90.5	18	4	NO	YES	NO		1600	0.01	MUA	FACTORY	2	16	30		800	240
1	KH1	FRONT	ASP	90.5	18	4	NO	YES	NO		1600	0.01	MUA	FACTORY	2	16	30		800	240

HOOD OPTIONS

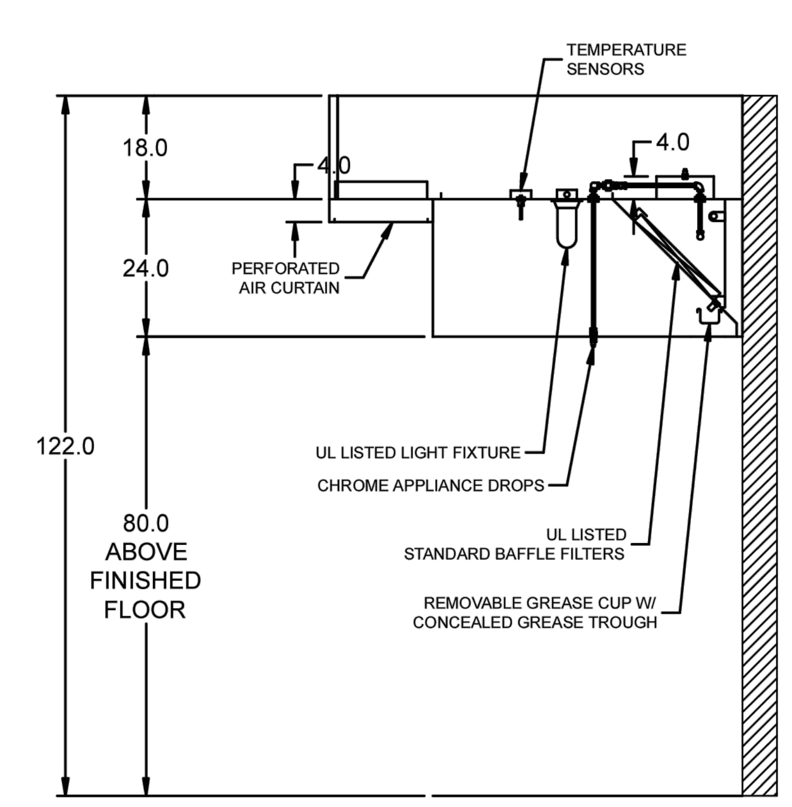
UL 710 LISTED W/ OUT EXHAUST FIRE DAMPER - UL #R25625
BACK INTEGRAL AIR SPACE - 3 IN WIDE
RIGHT NON-INTEGRAL AIR SPACE - 1 IN THICK - ZERO CLEARANCE
18 IN HIGH CEILING ENCLOSURES - FRONT LEFT - FIELD INSTALLED
FACTORY MOUNTED EXHAUST COLLAR(S)
BACKSPLASH 80.00 IN HIGH 181.00 IN LONG
RIGHT SIDESPLASH 80.00 IN HIGH 54.00 IN LONG
PERFORMANCE ENHANCING LIP (PEL) TECHNOLOGY
STANDING SEAM CONSTRUCTION FOR SUPERIOR STRENGTH



MARK: KH1 - SECTION 1
PLAN VIEW

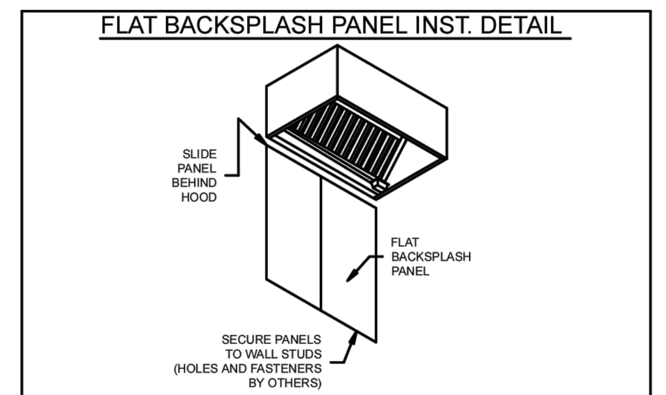


MARK: KH1 - SECTION 1
ELEVATION VIEW

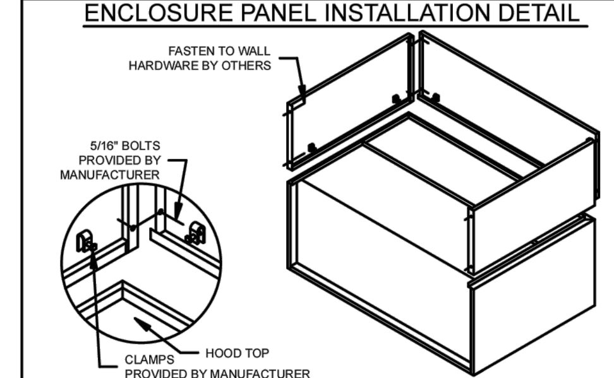


MARK: KH1
SECTION VIEW

FLAT BACKSPLASH PANEL INST. DETAIL

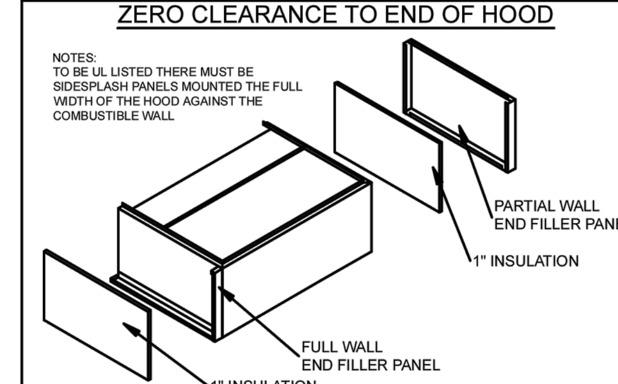


ENCLOSURE PANEL INSTALLATION DETAIL



ZERO CLEARANCE TO END OF HOOD

NOTES:
TO BE UL LISTED THERE MUST BE SIDESPLASH PANELS MOUNTED THE FULL WIDTH OF THE HOOD AGAINST THE COMBUSTIBLE WALL



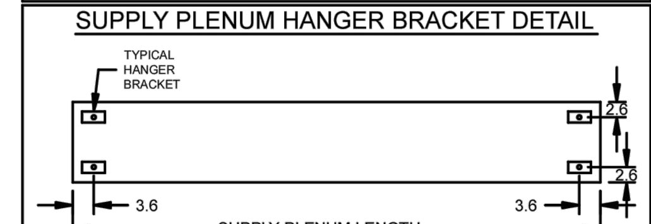
HOOD HANGING HEIGHT FOR FIRE SYSTEMS

VERIFICATION OF HOOD HANGING HEIGHT ABOVE FINISHED FLOOR (A.F.F.) IS REQUIRED FOR CORRECT PLACEMENT OF FIRE SYSTEM NOZZLES.

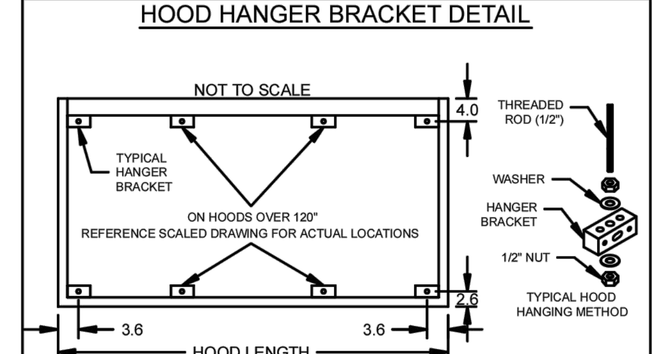
☐ RECOMMENDED HANGING HEIGHT = 80" FROM FINISHED FLOOR TO LOWER FRONT EDGE OF HOOD.

☐ OTHER HANGING HEIGHT = __________" FROM FINISHED FLOOR TO LOWER EDGE OF HOOD.

SUPPLY PLENUM HANGER BRACKET DETAIL



HOOD HANGER BRACKET DETAIL



PROJECT 6/23/2023 HARVEY JOHN'S STEAKHOUSE
MARK KH1

CONSTRUCTION COMPLIES WITH NFPA 96

ACCUREX COASTAL CAROLINAS
MIKE NOWAK
MIKE.NOWAK@ACCUREX.COM
(910)398-7429

ACCUREX

1 Kitchen Hood Details
Scale: None

Scope Note:

The Kitchen Equipment Supplier shall furnish the kitchen hoods, hood exhaust and supply fans, Ansul system, and controls. The mechanical contractor shall be responsible for installing all equipment and providing all connecting ductwork.

iS design
ARCHITECTURE + INTERIORS
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SEAL 37491
ENGINEER
NATHAN R. ROMBLAD
7/28/23

This is not a certified drawing, but a copy of a certified drawing that has been unlocked. This document has been unlocked for the ease of use of the AHJ, contractor, etc. and was originally accompanied with the actual certified document meeting the boards rule for electronic signatures

A Tenant Alteration for
HARVEY JOHNS STEAKHOUSE
1501 N. Raleigh Street, Suite G
Angier, NC

JOB #:
23HARVEYJOHNS

DWG BY:
CHK BY:
DATE: 07/28/23
REV NO DATE

KITCHEN HOOD DETAILS

SHEET NUMBER
M-7

These drawings will be at the scale indicated when plotted at 24" x 36"

FIRE SYSTEM INFORMATION

MARK	MODEL	LOCATION	FLOW POINTS		SUPPLY LINE	DETECTION	MARK(S) PROTECTED BY FIRE SYSTEM
			HOODS	PCU			
FS1	ANSUL R-102 WET CHEMICAL	CABINET – LEFT END OF KH1	10 UTILIZED 11 AVAILABLE		CONTINUOUS	FUSIBLE LINK	KH1 SECTION 1

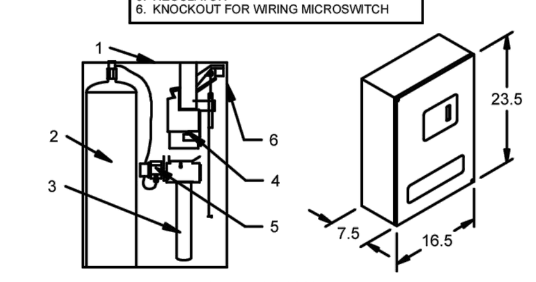
FIRE SYSTEM OPTIONS AND ACCESSORIES

- FULL INSTALLATION (INCLUDES PRE-PIPED HOOD(S) WITH DETECTION AND FACTORY COORDINATED INSTALL)
- CHROME SLEEVES FOR FACTORY PROVIDED APPLIANCES DROPS - INCLUDED
- METAL BLOW-OFF CAPS - INCLUDED
- GAS VALVE - INCLUDED - MECHANICAL SHUTOFF VALVE, 2", (ANSUL) - PART# ANSULMECHSHUTOFFVALVE200
- HOOD SUPPRESSION TANK - INCLUDED - 3 GAL. - [(1) 3.0 TANK(S)]
- REMOTE PULL STATION - STANDARD - FIELD INSTALLATION AT SINGLE POINT OF EGRESS

ANSUL R102 (WET CHEMICAL) FIRE PROTECTION SYSTEM - MODEL FSSC

CONTROL PANEL

1. STAINLESS STEEL ENCLOSURE
2. AGENT STORAGE TANK
3. EXPELLENT GAS CARTRIDGE
4. ANSUL AUTOMAN RELEASE
5. REGULATOR
6. KNOCKOUT FOR WIRING MICROSWITCH



NOT TO SCALE

NOTES:

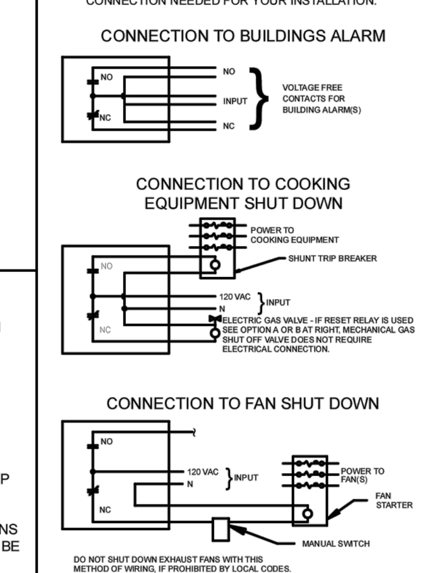
WET CHEMICAL FIRE PROTECTION SYSTEM TO BE ANSUL R-102, DESIGNED IN COMPLIANCE WITH UL 300 REQUIREMENTS.
-VERIFICATION OF ALL COOKING EQUIPMENT MAKE, MODEL AND LOCATION REQUIRED FOR ALL FIRE PROTECTION SYSTEMS.
-ALL FIRE SYSTEM PIPING IS STANDARDLY TO THE RIGHT END OF THE HOOD UNLESS A WALL IS LOCATED ON THE RIGHT END.
-ANSUL AUTOMAN RELEASE TO BE LOCATED WITHIN 60" OF HOOD.

THE BASIC FIRE SYSTEM WILL INCLUDE THE FOLLOWING:
-GAS SHUT-OFF VALVE, IF REQUIRED, TO BE SUPPLIED BY MANUFACTURER (UP TO 2" DIAMETER AS STANDARD), AND INSTALLED BY A LICENSED PLUMBER.
-MICRO SWITCH TO BE SUPPLIED BY MANUFACTURER FOR CONNECTION TO, BUT NOT LIMITED TO, BUILDING ALARM SYSTEM(S), EXHAUST AND SUPPLY FANS AND ELECTRICAL POWER SHUT DOWN. FIELD WIRING AND CONNECTIONS TO BE PERFORMED BY A LICENSED ELECTRICIAN.

THE BASIC FIRE SYSTEM DOES NOT INCLUDE THE FOLLOWING:
-FULL DUMP TEST OTHER THAN WHT IS SPECIFIED PER THE INSTALLATION MANUAL, OR TO SATISFY A STATE OR LOCAL CODE. PERMIT AND TESTING FEES ARE NOT INCLUDED UNLESS NOTED UNDER THE EQUIPMENT SCHEDULE FOR THE FIRE SYSTEM.
-MORE THEN TWO TRIPS TO THE JOBSITE OR SPECIAL TRANSPORTATION, OR OVERNIGHT LODGING REQUIREMENTS IN REMOTE AREAS. NORMAL TRAVEL DISTANCE IS FIRST 50 MI. (80.5 KM) FROM OFFICE.
- SPECIAL CLASSES OR ADDITIONAL LABOR FOR ACCESS TO SECURITY SENSITIVE AREAS.
-INSTALLATION OF GAS SHUT-OFF VALVE.
-SPECIAL DRAWINGS REQUIRED TO SATISFY STATE OR LOCAL CODE. PLAN EXAMINATION FEES, PE OR FS APPROVAL STAMP.
-UNION LABOR, GOVERNMENT LABOR, OR PREVAILING WAGES REQUIRED FOR FINAL FIELD HOOK-UP.
-ANY AND ALL ELECTRICAL COMPONENTS/CONNECTIONS REQUIRED TO SHUT DOWN FANS, SHUT OFF DEVICE FOR ELECTRIC COOKING EQUIPMENT (SHUNT TRIP BREAKER), OR ACTIVATE AN ALARM SYSTEM, ETC.
-ANY DISMANTLING OR REASSEMBLY REQUIRED TO GAIN ACCESS TO THE FIRE SUPPRESSION PIPING LOCATED ON THE TOP OF THE HOOD.
-ROUGH-IN HIDDEN CONDUIT FOR REMOTE PULL STATION OR GAS VALVE (FLUSH MOUNTED PULL STATION).
-INSTALLATION OF MORE THAN (1) REMOTE PULL STATIONS OR DISTANCES GREATER THAN 20 FT (6.1M.)
-PARTS OR LABOR REQUIRED TO CORRECT PIPING DUE TO COOKING EQUIPMENT CHANGES OR DEVIATION FROM PLANS. OR ANY CHARGES FOR MISSING OR ADDITIONAL PARTS OTHER THEN THOSE INDICATED ON THE FIRE SUPPRESSION DETAIL.

WIRING DIAGRAMS W/DPDT MICRO SWITCH

DPDT SWITCHES PROVIDED BY MANUFACTURER MAY BE WIRED PER TYPICAL EXAMPLES SHOWN. VERIFY WITH LOCAL CODES AND EQUIPMENT SUPPLIED AS THE CONNECTION NEEDED FOR YOUR INSTALLATION.



DO NOT SHUT DOWN EXHAUST FANS WITH THIS METHOD OF WIRING, IF PROHIBITED BY LOCAL CODES.

NOTES:
1. ――――― DENOTES FIELD INSTALLATION.
2. ━━━━━ DENOTES FACTORY INSTALLATION.
3. DO NOT USE BLACK WIRE ON SNAP-ACTION SWITCH IN NORMAL INSTALLATION. BLACK WIRE TO BE USED ONLY FOR EXTRANEOUS ALARM, LIGHT CIRCUITS, ETC.

HARVEY JOHN'S STEAKHOUSE

PROJECT 6/23/2023

FS1

MARK

ACCUREX COASTAL CAROLINAS
MIKE NOWAK
MIKE.NOWAK@ACCUREX.COM
(910)398-7429

ACCUREX

1 Kitchen Hood Details
Scale: None

Scope Note:

The Kitchen Equipment Supplier shall furnish the kitchen hoods, hood exhaust and supply fans, Ansul system, and controls. The mechanical contractor shall be responsible for installing all equipment and providing all connecting ductwork.

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ALIGN engineering
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NC License № P-2398

NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 37491 NATHAN R. ROMBLAD 7/28/23

This is not a certified drawing, but a copy of a certified drawing that has been unlocked. This document has been unlocked for the ease of use of the AHJ, contractor, etc. and was originally accompanied with the actual certified document meeting the boards rule for electronic signatures

A Tenant Alteration for
HARVEY JOHNS STEAKHOUSE
1501 N. Raleigh Street, Suite G
Angier, NC

JOB #: 23HARVEYJOHNS

DWG BY:
CHK BY:
DATE: 07/28/23
REV NO DATE

KITCHEN HOOD DETAILS

SHEET NUMBER
M-8

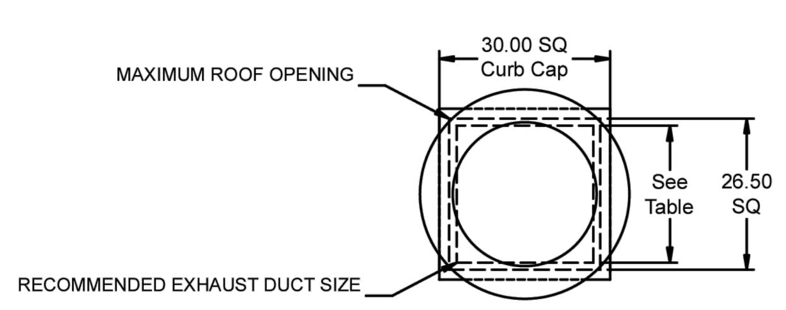
These drawings will be at the scale indicated when plotted at 24" x 36"

Belt 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	KEF1	XCUBE-180-15	4,000	0.855	1,278	1.36	134	1.5	208/60/1	OP	1725	1	11

*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"

KEF1 : SELECTED OPTIONS AND ACCESSORIES
One piece fully welded windband
Tapered bushing wheel hub
Breather tube outlet area min. 4.4 sq. in. (sizes 99-480)
Min. windband material thickness: 0.051" aluminum (060-240), 0.064" aluminum (240HP, 240XP), 0.080" aluminum (sizes 300-480)
Standard Curb Cap Size - 30 Square
UL/cUL 705 Listed - Supplement SC - "Power Ventilators for Restaurant Exh. Appliances" (Formerly UL 762)
Switch, NEMA-3R, Toggle, Shipped with Unit
Hinge, Factory Installed
High Temp Curb Seal Rated for Continuous Duty at 1500 F (Factory Attached)
Grease Trap (PN 475538)
Heat Baffle (Attached)



DUCT TYPE	SIZE
STANDARD	24 SQ
FIRE-WRAPPED	16 SQ

DUCT DIMENSIONS ARE LARGEST POSSIBLE DUCT TO FIT THROUGH CURB.
CONSULT SYSTEM DESIGN ENGINEER FOR RECOMMENDED DUCT SIZE.

OVERALL HEIGHT MAY BE GREATER DEPENDING ON
MOTOR, ADAPTER, AND/OR HINGE BASE.

PROJECT
7/19/2023
HARVEY JOHN'S STEAKHOUSE

MARK
KEF1

CONSTRUCTION COMPLIES WITH NFPA 96

ACCUREX COASTAL CAROLINAS
MIKE NOWAK
MIKE.NOWAK@ACCUREX.COM
(910)398-7429

ACCUREX

1 Kitchen Hood Details
Scale: None

Scope Note:

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SEAL 37491
ENGINEER
NATHAN R. ROMBLAD
7/28/23

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1501 N. Raleigh Street, Suite G
Angier, NC

JOB #:
23HARVEYJOHNS

DWG BY:
CHK BY:
DATE: 07/28/23
REV NO DATE

KITCHEN
HOOD DETAILS

SHEET NUMBER
M-9

These drawings will be at the scale indicated when plotted at 24" x 36"

EQUIPMENT SCHEDULE

Non-Tempered Make-Up Air Unit — **Mark: KSF1**

Qty	Accurex Model	Volume	External SP	Total SP	MCA	MOP	Weight	SCCR
1	XKSFB-112-H15-01	3,600 CFM	0.46 in. wg	0.581 in. wg	13.8	20	237 lb	NA

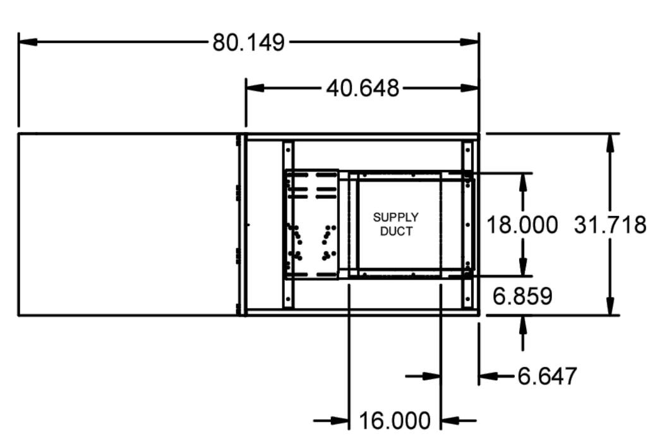
Motor Information

Size	V/C/P	Enclosure	Motor with Shaft Gounding	Motor RPM	Operating Power
1 1/2 hp	208/60/1	ODP	No	1725	1.24 hp

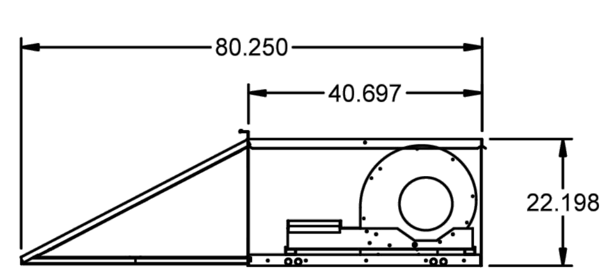
Outlet Sound Power By Octave Band								LwA	dBA	Sones
62.5	125	250	500	1000	2000	4000	8000			
89.2	*83.5*	*75.1*	*75.4*	*71.2*	*69.8*	*67*	*59.4*	*78*	*67*	*14.9*

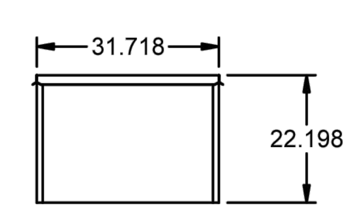
- *LwA - A weighted sound power level based on ANSI S1.4*
- *dBA - A weighted sound pressure level base on 11.f dB attenuation per octabe band at 5.0 ft.*
- *Noise Criteria (NC) based on an average attenuation of 11.5 dB per octabe band at 5.0 ft.*

OPTIONS AND ACCESSORIES
Air Flow Arrangement: Outdoor Air Only
Weatherhood: Aluminum Mesh, 16x20x1 - (4)
Outdoor Air Intake Position: End
Discharge Position: Bottom
Coating: Galvanized
Insulation: None
Access Side: Right-Hand
Unit Warranty: 18 Months (std.)



PLAN VIEW





ELEVATION VIEW

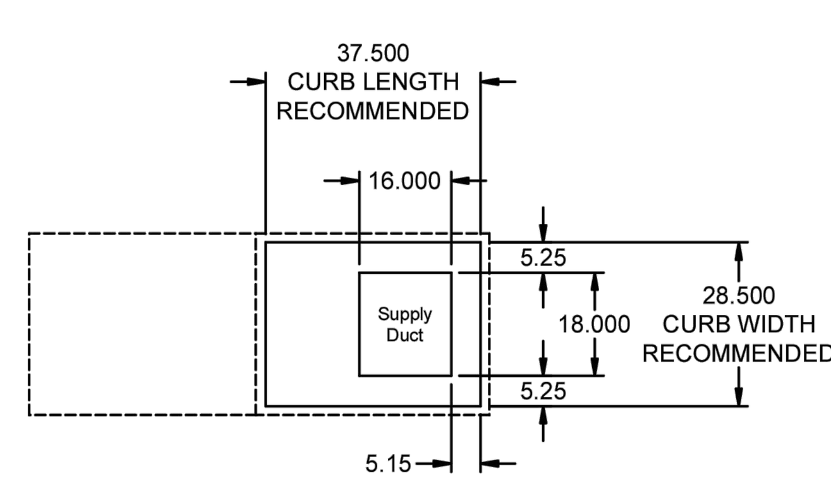
END VIEW

NOTE: Roof Opening Requirements:

Minimum Roof Opening: The minimum roof opening size is the illustrated duct diameter plus 0.25 in. on all sides.
For example: If the duct size is 14 x 14 in. square, the minimum roof opening size is 14.5 x 14.5 in. square.

Maximum Roof Opening: There must be a minimum perimeter of 1.75 in. between the roof opening and the roof curb.
For example: If the roof curb is 75 x 30 in. square, the maximum roof opening is 71.5 x 26.5 in. inches square.

NOTE: The weatherhood and filter sections of the make-up air unit are not supported by the curb.
This is by design, in order to help alleviate water infiltration issues.



FOOTPRINT

PROJECT
7/19/2023
HARVEY JOHN'S STEAKHOUSE
MARK
KSF1

ACCUREX COASTAL CAROLINAS
MIKE NOWAK
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ACCUREX

1 Kitchen Hood Details
Scale: None

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SEAL 37491 ENGINEER NATHAN R. ROMBLAD 7/28/23

A Tenant Alteration for
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1501 N. Raleigh Street, Suite G
Angier, NC

JOB #: 23HARVEYJOHNS

DWG BY:
CHK BY:
DATE: 07/28/23
REV NO DATE

KITCHEN HOOD DETAILS

SHEET NUMBER
M-10

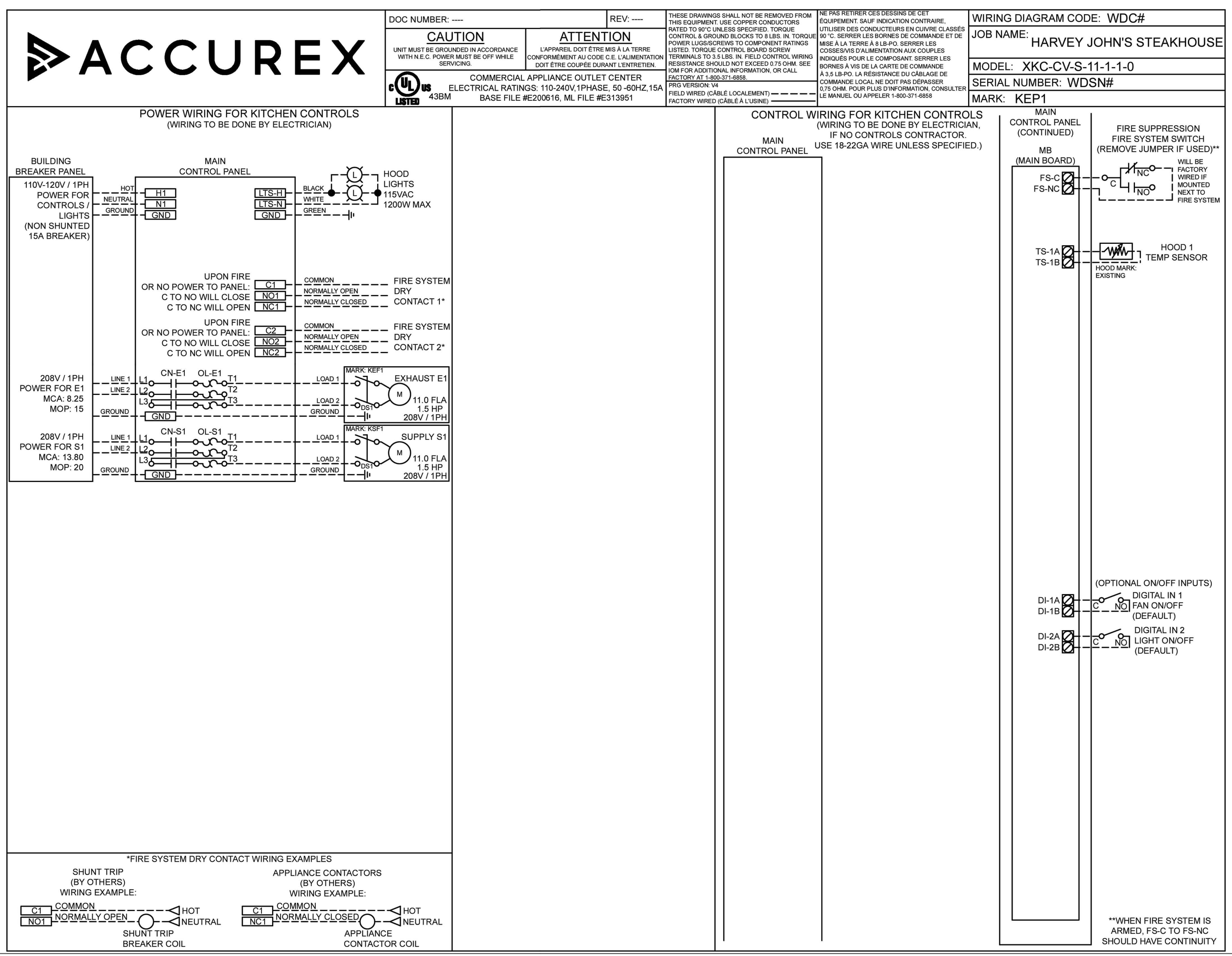
Scope Note:

The Kitchen Equipment Supplier shall furnish the kitchen hoods, hood exhaust and supply fans, Ansul system, and controls. The mechanical contractor shall be responsible for installing all equipment and providing all connecting ductwork.

CONTROL INFORMATION

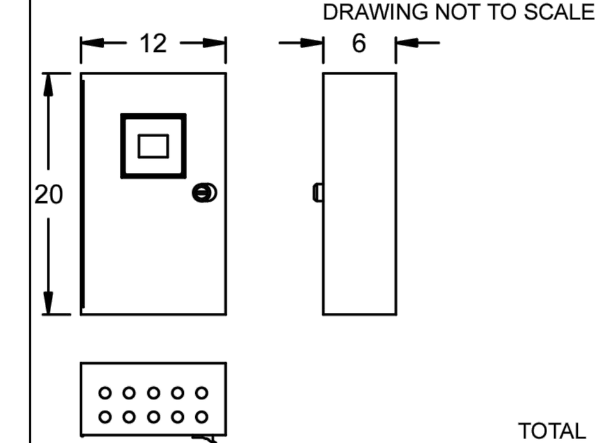
MARK	ELECTRICAL CONTROL PACKAGE		USER INTERFACE		FANS CONTROLLED											
	MODEL	LOCATION	TYPE	LOCATION	FAN #	TYPE	FAN	FAN MARK	ZONE	CFM	MOTOR HP	MOTOR VOLT	CYCLE	MOTOR PHASE	MOTOR STARTER IN PANEL	VFD IN PANEL
KEP1	XKC-CV-S-11-1-1-0	SHIP LOOSE ENCLOSURE	FULL COLOR TOUCHSCREEN	FACE MOUNT ON CONTROL PACKAGE	1	EXHAUST	E1	KEF1	1	4000	1.5	208	60	1	YES	NO
					2	SUPPLY	S1	KSF1	1	3600	1.5	208	60	1	YES	NO

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



CABINET DETAILS

DRAWING NOT TO SCALE



TOTAL WEIGHT: 25 LBS

MOUNTING LOCATION:
SHIP LOOSE ENCLOSURE

NOTES:
1) WHEN CONTROLS ARE MOUNTED IN HOOD-MOUNTED OR WALL-MOUNTED UTILITY CABINET, FOR HOOD OR WALL CABINET DIMENSIONS SEE HOOD SUBMITTAL.

2) MINIMUM OF 36" OF CLEARANCE RECOMMENDED IN FRONT OF CONTROL CABINET

USER INTERFACE DETAILS

MOUNTING TYPE
FACTORY MOUNTED:
FACE MOUNT ON CONTROL PACKAGE

USER INTERFACE CONTROL
FANS AND LIGHTS

INTERFACE CABLE LENGTH
4FT (FACTORY PROVIDED)

ZONE CONFIGURATION

ZONE #	ZONE	ROOM TEMP
1	Z1	PRESET

HOOD CONFIGURATION

HOOD #	HOOD	HOOD MARK	ZONE	EXHAUST	SUPPLY	MB-TEMP SENSORS	HCB
1	H1	EXISTING	Z1	E1	S1	TS1	NO

WIRING DIAGRAM CODE: WDC#
JOB NAME: HARVEY JOHN'S STEAKHOUSE
MODEL: XKC-CV-S-11-1-1-0
SERIAL NUMBER: WDSN#
MARK: KEP1
DOC NUMBER: ---- REV: ----

DEFAULT SETTINGS / PARAMÈTRES PAR DÉFAUT

FACTORY SETTINGS
TYPE: CV
CONFIGURATION: STANDARD
ZONES: 1
HOODS: 1
SUMPS: 0
EXHAUST FANS: 1
SUPPLY FANS: 1
MB ROOM SENSOR: NO
MB TEMP SENSORS: 1
HIGH TEMP FAULT: NO
FREEZE PROTECTION: YES
GAS RESET: NO
FAN PROVING: NO
BMS: NONE

ZONE SETTINGS
SEE ZONE CONFIGURATION IN TABLE ON LEFT

HOOD SETTINGS
SEE HOOD CONFIGURATION IN TABLE ON LEFT

EXHAUST FAN SETTINGS
SEE FAN CONFIGURATION IN TABLE ON LEFT

SUPPLY FAN SETTINGS
SEE FAN CONFIGURATION IN TABLE ON LEFT

SENSOR SETTINGS
SEE HOOD CONFIGURATION IN TABLE ON LEFT

USER INTERFACE SETTINGS (MB)
FAN & LIGHT BUTTONS: SHOW BOTH (SEPERATE)

USER INTERFACE SETTINGS (HCB)
NA

GENERAL SETTINGS
TIME ZONE: CENTRAL DAYLIGHT (DEFAULT)

FIRE/FAULT SETTINGS
EXHAUST DURING FIRE: MAX
SUPPLY DURING FIRE: OFF
LIGHTS DURING FIRE: OFF

BMS SETTINGS
NA

PRG VERSION: V4

FAN CONFIGURATION

FAN #	TYPE	FAN	FAN MARK	ZONE	MIN CFM	MAX CFM	MODBUS VFD	VFD ADDRESS	MIN FREQ.	MAX FREQ.	MIN VDC	MAX VDC
1	EXHAUST	E1	KEF1	Z1	-	4000	NO	-	-	-	-	10.0
2	SUPPLY	S1	KSF1	Z1	-	3600	NO	-	-	-	-	10.0

PROJECT 7/19/2023
HARVEY JOHN'S STEAKHOUSE
MARK KEP1

ACCUREX COASTAL CAROLINAS
MIKE NOVAK
MIKE.NOVAK@ACCUREX.COM
(910)398-7429

ACCUREX

1 Kitchen Hood Details
Scale: None

Scope Note:

The Kitchen Equipment Supplier shall furnish the kitchen hoods, hood exhaust and supply fans, Ansul system, and controls. The mechanical contractor shall be responsible for installing all equipment and providing all connecting ductwork.

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A Tenant Alteration for
HARVEY JOHNS STEAKHOUSE
1501 N. Raleigh Street, Suite G
Angier, NC

JOB #: 23HARVEYJOHNS

DWG BY:
CHK BY:
DATE: 07/28/23
REV NO DATE

KITCHEN HOOD DETAILS

SHEET NUMBER
M-11

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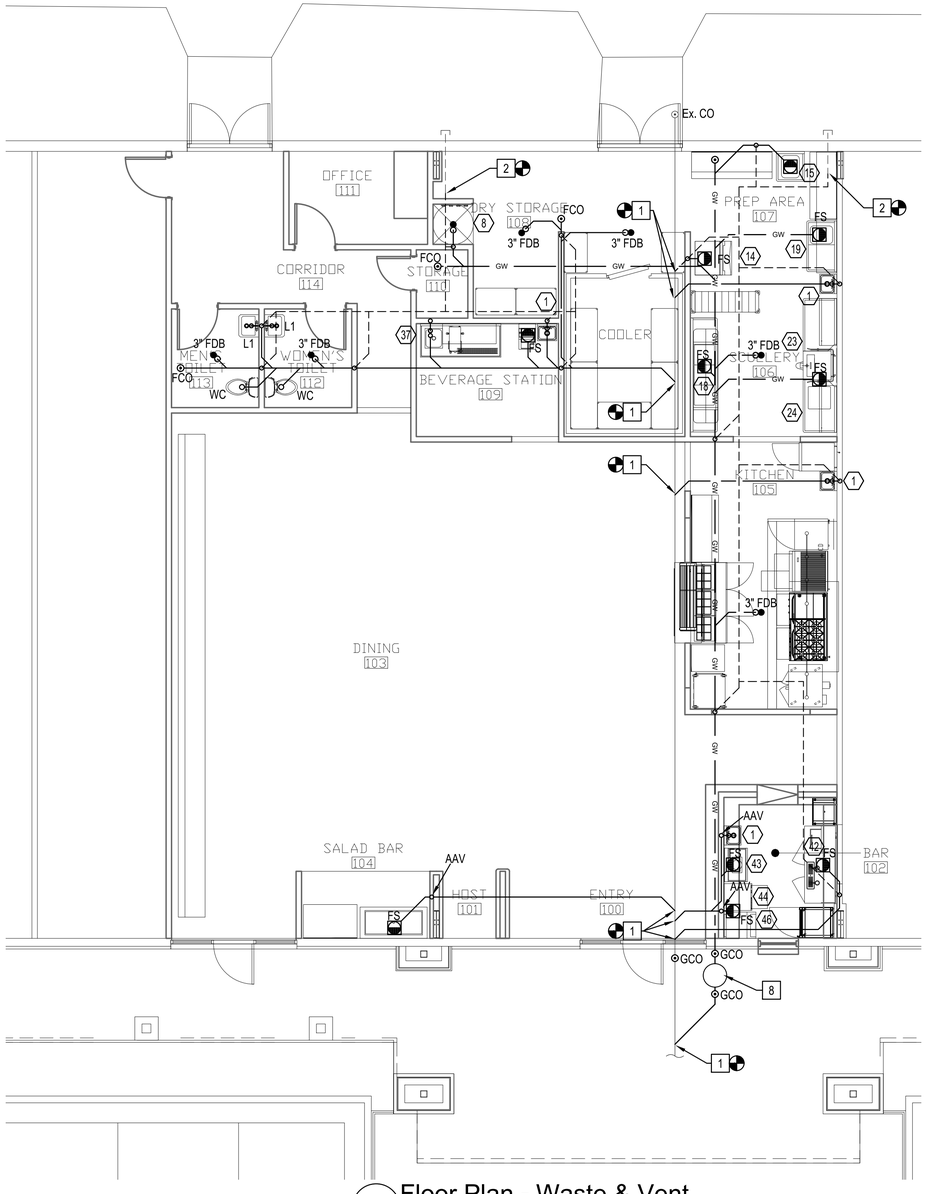
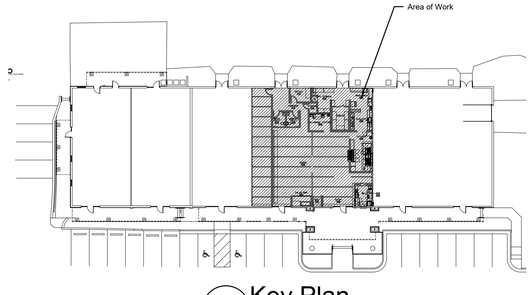


1 Floor Plan - Waste & Vent

Scale: 3/16" = 1' - 0"



2 Key Plan

Scale: None

Demolition Note:

The existing locations shown on the demolition plan to be removed or relocated are for reference only and shall be field verified by contractor prior to beginning work. Any items required to be relocated or removed shall be included in contractor's cost, whether shown on this plan or not. Unless noted otherwise, where a fixture or device is noted to be demolished, the work shall include removing all associated piping, fittings, hangers, insulation etc. and shall include all patch, repair, paint or refinishing necessary to restore the location to match the surroundings. The contractor may reuse any existing piping, fittings, valves etc. where they have been inspected and are determined to be acceptable to the owner and/or are in like-new condition.

Renovation Notes:

1. Contractor shall visit site to verify existing conditions.
2. See architectural for scope of demolition work. Cap and/or plug all waste/vent lines installed during shell that will not be used for fitup. Confirm all capped piping will be concealed and/or will not conflict with new layout. Ensure that all waste lines being removed are plugged such that no sewer or gases will escape sanitary system.
3. Contractor shall camera the existing under slab sewer piping prior to cutting concrete. Engineer shall be contacted if the existing lines are not in the location shown on plans or are not in proper working order.
4. All new piping shall be concealed in walls, above ceiling, or below slab where possible. Otherwise, contractor shall run water lines as close to structure as possible and coordinate routing with other trades.
5. Any slab cutting for plumbing access requires soil compaction, vapor barrier and embedded #4 rebar dowels no less than 18" on center.
6. Contractor shall reconnect any existing fixtures/piping to remain where the existing piping or surrounding area is affected by the new or demolition work by other trades.

General Notes:

1. Existing building water piping is copper. Contractor shall provide Type L annealed copper piping with 95/5 solder joints.
2. Existing building S,W, & V are PVC. Contractor shall provide PVC Schedule 40 DWV (conforming to ASTM D2665) fittings for S,W, & V indicated on plans.
3. Contractor may run 3" waste pipe at 1/8" slope where 2 1/2" or smaller would be acceptable for the DFUs but not allow for the proper code required 1/4" sloping and fit in the given space.
4. Contractor shall include all fittings, extensions, etc necessary to connect all plumbing equipment (including equipment furnished by others).

Plan Notes: (All notes not used on all sheets)

1. Extend and connect to existing waste as indicated.
2. Extend and connect to existing vent as indicated.
3. Provide new master tempering valve, Watts # LFN170 up high on wall. Provide check valve on the 140°F hot water and the cold water incoming supplies. Hot water exiting mixing valve to be set at 120°F.
4. Provide Trap Primer for floor drain, hub drain, and/or floor sink. Provide distribution box as necessary.
5. Route CW & HW down wall and below slab to half height wall at bar.
6. Route Type 'K' soft copper below slab.
7. Provide 2 new gas instantaneous hot water heaters. Plumbing Contractor shall provide piping, offsets, and fittings required for the installation; and a complete and working system. Water heater and all piping must be installed to meet ADA clearance requirements. See riser diagram and "Gas Tankless Water Heater Detail" for additional information.
8. New Trapzilla TZ-600, rated for 75 GPM, with a grease retention of 635 pounds. See interceptor details for more information. Provide extension collar if necessary for invert. Foot traffic rated.
9. Provide new gas tank type water heater on stand, with safety pan, and expansion tank. Mounted on stand such that drain pan is above edge of mop sink. Safety pan shall discharge into mop sink, indirect. See riser diagram and "Gas Tank Type Water Heater Detail" for additional information.
10. Install Hyfab eMVPjr-1LX21 booster pump on platform above mop sink to increase water pressure to 70 psi. Coordinate exact location and mounting with general contractor and other trades. Install pump per manufacturer's installation instructions and clearances.
11. Route new 1" water line up within wall and continue through ceiling space to booster pump above mop sink.
12. Continue new 1" water line across site to existing water meter and connect 1" line to existing 3/4" water meter.

Wall Ratings and Types Legend

See architectural sheets for more information on ratings and additional rated constructions including structure where applicable. Protect all rated constructions as required.

- Existing Wall to Remain
- New Wall being Constructed
- One Hour Fire Barrier
- Existing Wall being Demolished

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PROFESSIONAL ENGINEER SEAL 36841 — RICHARD D. COPELAND — 7/28/23

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A Tenant Alteration for
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1501 N. Raleigh Street, Suite G
Angier, NC

JOB #:
23HARVEYJOHNS

DWG BY:	
CHK BY:	
DATE:	07/28/23
REV NO	DATE

FLOOR PLAN - WASTE & VENT

SHEET NUMBER

P1.1

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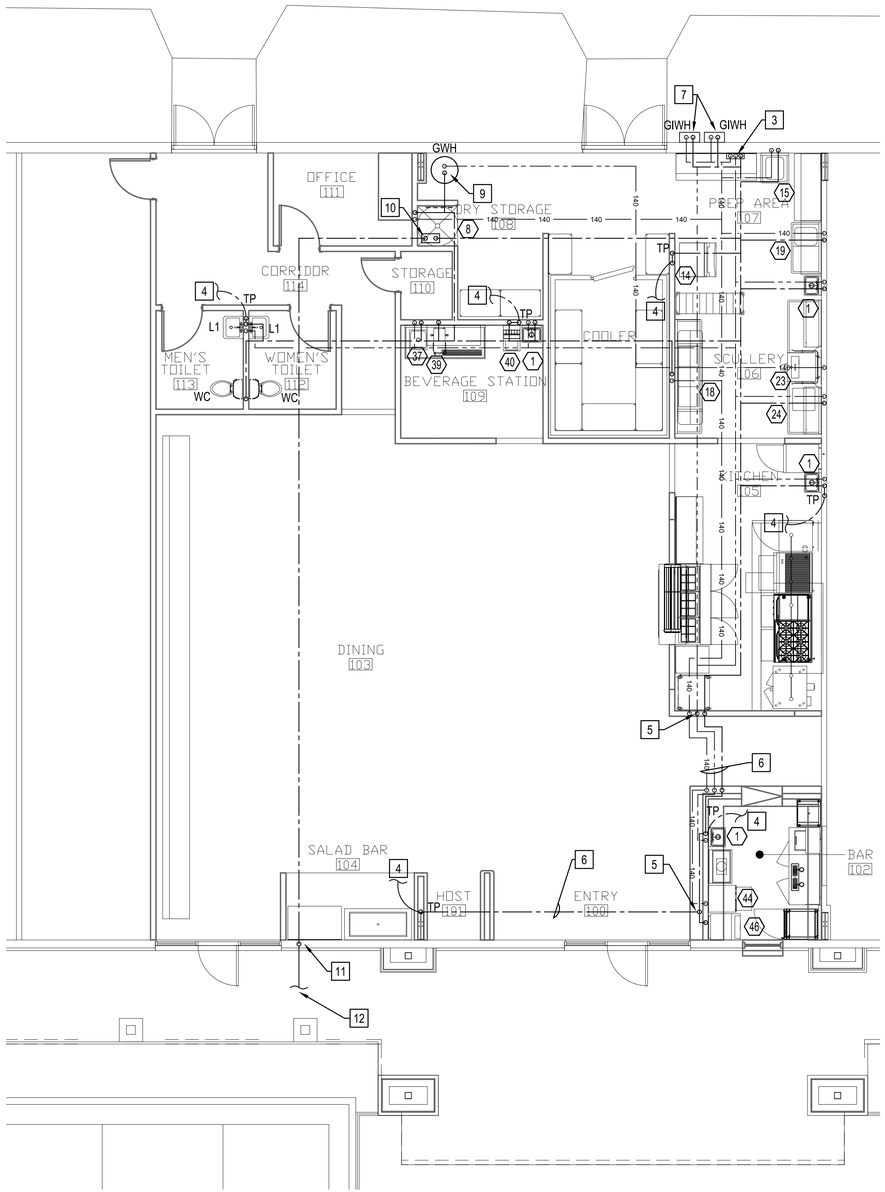

1 Floor Plan - Water
Scale: 3/16" = 1' - 0"

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- New Wall being Constructed
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RICHARD D. COPELAND
NORTH CAROLINA
PROFESSIONAL
SEAL
36841
ENGINEER
7/24/23

A Tenant Alteration for
HARVEY JOHNS STEAKHOUSE
1501 N. Raleigh Street, Suite G
Angier, NC

JOB #:
23HARVEYJOHNS

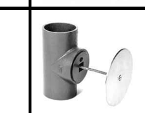
DWG BY:	
CHK BY:	
DATE: 07/28/23	
REV NO	DATE

FLOOR PLAN - WATER

SHEET NUMBER
P1.2

These drawings will be at the scale indicated when plotted at 24" x 36"

Plumbing Fixtures, Equipment, & Accessories

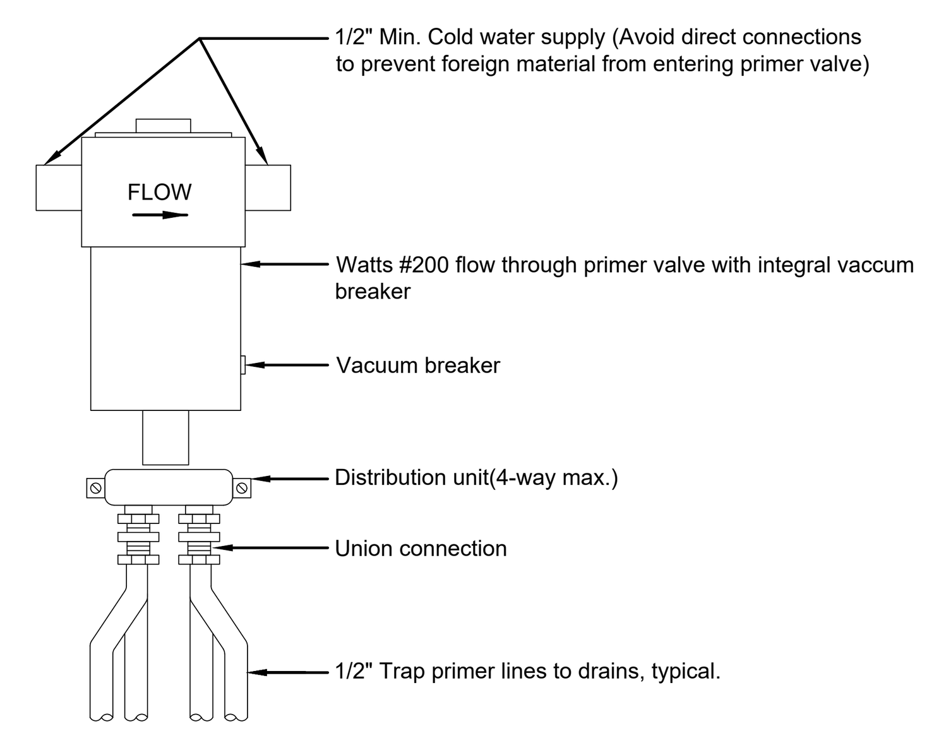
Tag	Description		Fixture Specification	Water Line & Connection Size CW	HW	W
WC	Water Closet, Tank Type, Floor Mounted ADA		Toilet: Toto Eco Drake CST744EL, 1.28 GPF, Colonial White, Vitreous china, chrome side trip lever, 12" rough-in. 16 1/2" tall without seat. Seat: Bemis #7850TDG, heavy duty, antimicrobial elongated seat with open front. Valve: McGuire #LFB02. Provide flexible 3/8" supply line between angle stop and fixture.	1/2"	-	4"
L1	Lavatory Wall Hung ADA		Lavatory Basin: Toto #LT307, Vitreous china, top of rim at 34" AFF for ADA Faucet: Delta #15769LF-SP, single hole faucet, 1.2 GPM flow rate. Trap & Suppliers: McGuire #8902, 17 gauge 1 1/4" x 1 1/2" P-trap and nipple. McGuire #LFB02 angle supply stops. Mount P-trap such that ADA clearance requirements are maintained. Accessories: Truebro 82192 Lav Guard 2 molded insulation # 101-EZ, 3 piece interlocking trap assembly and 2 piece interlocking hot water angle valve assembly, with nylon type fasteners.	1/2"	1/2"	2"
WCO	Wall Clean Out		Zurn #Z1446 wall cleanout tee, dura-coated cast iron body, gas and watertight ABS tapered thread plug, and round, smooth stanless steel wall access cover with securing screw.	-	-	see plans
FCO	Floor Clean Out		Zurn Z1400 'Leveltrol' adjustable floor clean out, cast iron with gas and watertight ABS tapered thread plug, and round, polished nickel bronze top that is adjustable to final finished grade.	-	-	see plans
FDB	Floor Drain		Zurn #Z415B floor drain. Dura-Coated cast iron body with bottom outlet, combination invertible membrane clamp and adjustable collar with seepage slots and type "B" polished nickel bronze, light duty heel proof strainer. Connect to trap primer as required.	-	-	see plans
FDI	Floor Drain		Zurn #Z415I floor drain. Dura-Coated cast iron body with bottom outlet, combination invertible membrane clamp and adjustable collar with seepage slots and type "I" polished nickel bronze, light duty heel proof strainer. Connect to trap primer as required.	-	-	see plans
FS	Floor Sink		Plastic Oddities PFS400H 14"x14" PVC floor sink with 4" outlet. Provide half plastic grate as well as secondary strainer	-	-	4"
TP	Trap Primer		Watts #200 Flow through trap primer	1/2"	-	-
SA	Shock Absorber		Watts series #15M2 water hammer arrestor, sized to match associated line. Shock absorber shall meet all requirements ASSE 1010, ANSI A1 12.261M as well as the 2018 NCSBC and the 2018 NCSPC, section 604.9	see plans	see plans	-
VB	Vacuum Breaker		Watts #SD-3 vacuum breaker, sized to match associated line. Vacuum breaker shall meet all requirements ASSE 1022, as well as the 2018 NCSBC and the 2018 NCSPC, section 608.16.1.	-	-	-

The intention of the depicted images above are to show the general appearance of the fixtures being specified. Exact representation is not necessarily shown nor are accessories for models or some variation of the model. The fixture specification should take precedent over the photo.

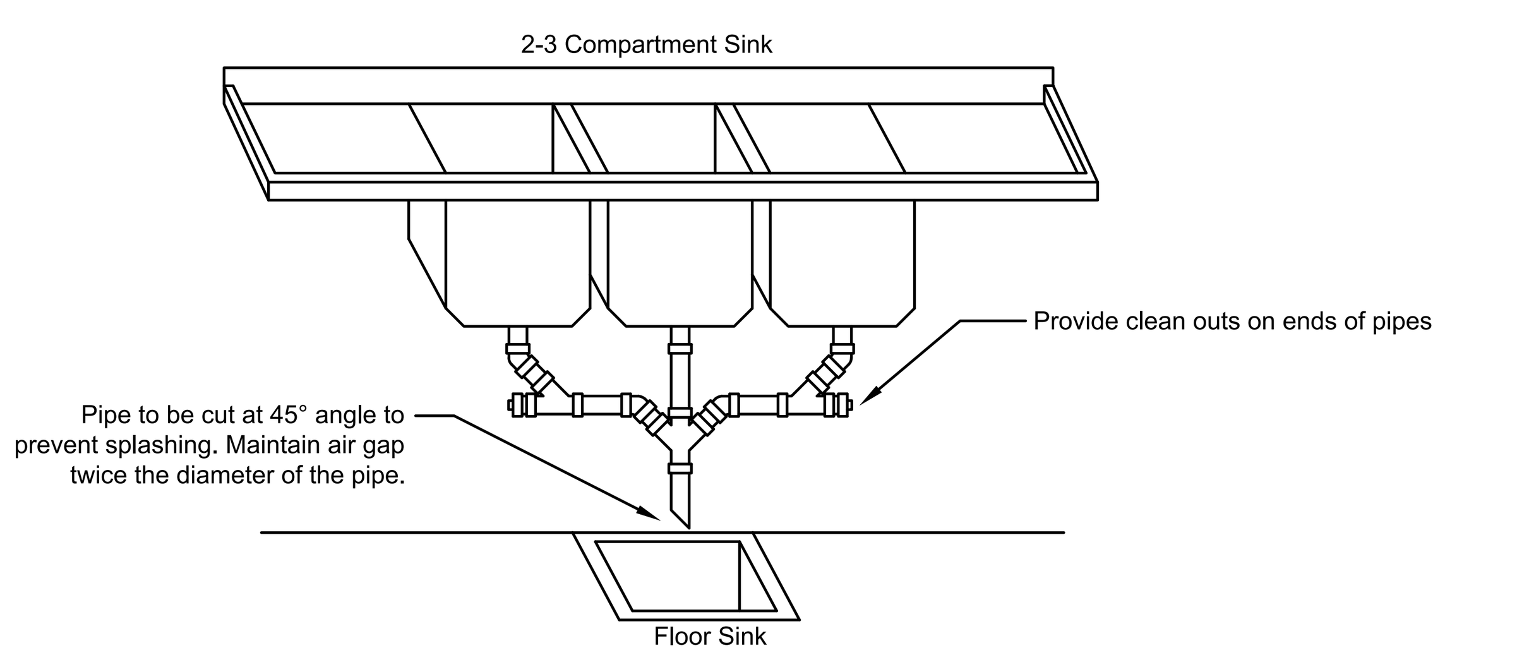
Kitchen Equipment, Fixtures, & Accessories

Tag	Description	Equipment/Fixture Details	Furnished By:	Water Line & Connection Size CW	HW	W
1	Hand Sink	1/2" cold water and 1/2" hot water located at 16" AFF. 1 1/2" direct drain, Mount rim per ADA	Tenant/Owner	1/2"	1/2"	1 1/2"
8	Mop Sink	1/2" cold water and 1/2" hot water located at 36" AFF. 3" direct drain	Tenant/Owner	1/2"	1/2"	3"
14	Ice Maker	1/2" cold water located at 16" AFF. 1 1/2" drain to floor sink (indirect connection)	Tenant/Owner	1/2"	-	1 1/2"
15	Prep SInk	1/2" cold water and 1/2" hot water located at 16" AFF. 1 1/2" indirect drain to floor sink, Mount rim per ADA	Tenant/Owner	1/2"	1/2"	1 1/2"
18	3 Compartment Sink	1/2" cold water and 1/2" hot water located at 16" AFF. 1 1/2" drain to floor sink (indirect connection), Mount rim per ADA	Tenant/Owner	1/2"	1/2"	1 1/2"
19	Prep SInk	1/2" cold water and 1/2" hot water located at 16" AFF. 1 1/2" indirect drain to floor sink, Mount rim per ADA	Tenant/Owner	1/2"	1/2"	1 1/2"
23	Dishwasher	1/2" hot water located at 16" AFF. , deployed in water box, see plumbing schedule. 2" drain or hose from unit to floor sink (indirect connection)	Tenant/Owner	-	1/2"	2"
24	Pre Rinse	1/2" cold water and 1/2" hot water located at 16" AFF. 1 1/2" drain to floor sink (indirect connection), Mount rim per ADA	Tenant/Owner	1/2"	1/2"	1 1/2"
37	Hand Sink	1/2" cold water and 1/2" hot water located at 16" AFF. 1 1/2" direct drain, Mount rim per ADA	Tenant/Owner	1/2"	1/2"	1 1/2"
39	Coffee Maker	1/2" cold water located at 16" AFF.	Tenant/Owner	1/2"	-	-
40	Soda Dispenser	1/2" cold water located at 16" AFF.	Tenant/Owner	1/2"	-	-
43	Ice Bin	1 1/2" drain to floor sink (indirect connection)	Tenant/Owner	-	-	1 1/2"
42	Beer Dispenser	1 1/2" drain to floor sink (indirect connection)	Tenant/Owner	-	-	1 1/2"
44	Glass Washer	1/2" cold water and 1/2" hot water located at 16" AFF. 1" drain to floor sink (indirect connection)	Tenant/Owner	-	1/2"	1"
46	Ice Maker	1/2" cold water located at 16" AFF. 1 1/2" drain to floor sink (indirect connection)	Tenant/Owner	1/2"	-	1 1/2"

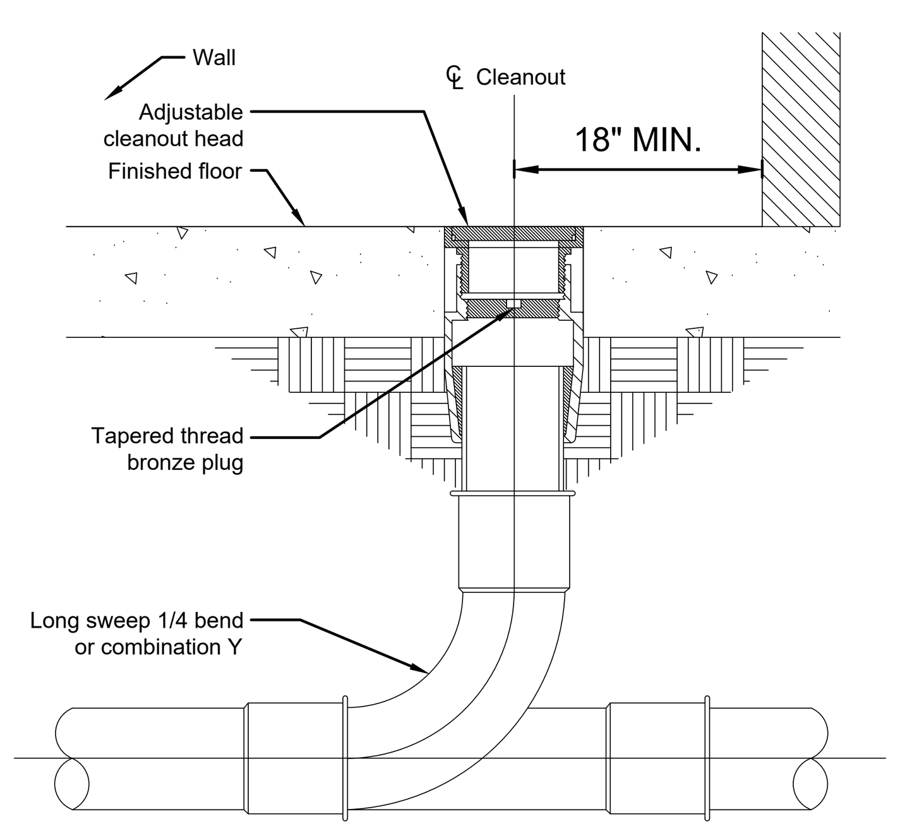
Coordinate exact requirements and locations with equipment vendor/supplier and owner.



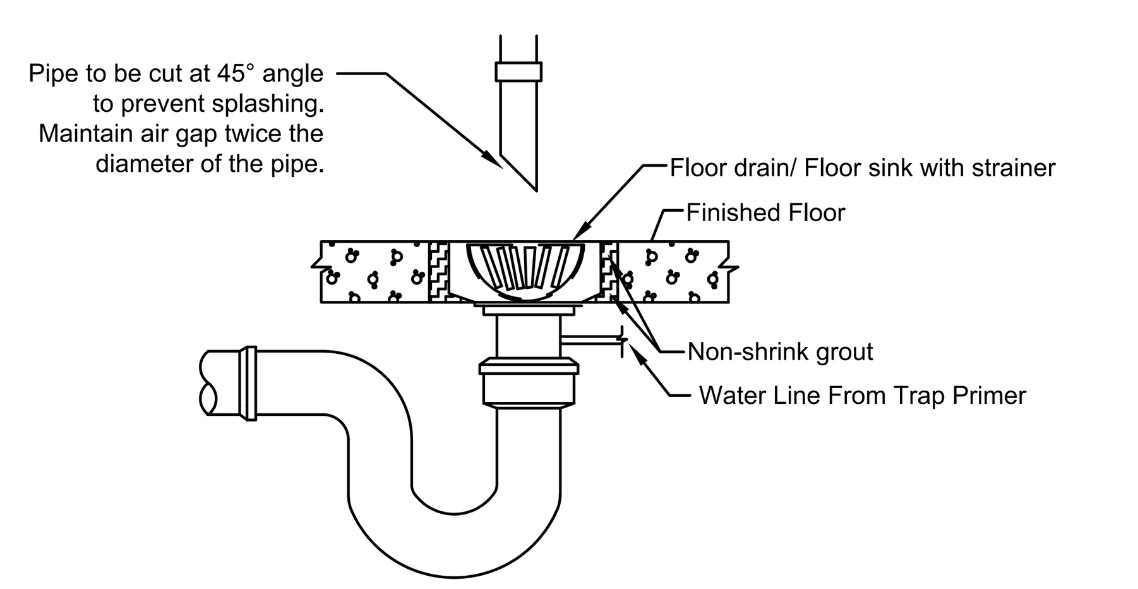
1 Trap Primer Detail
Scale: None



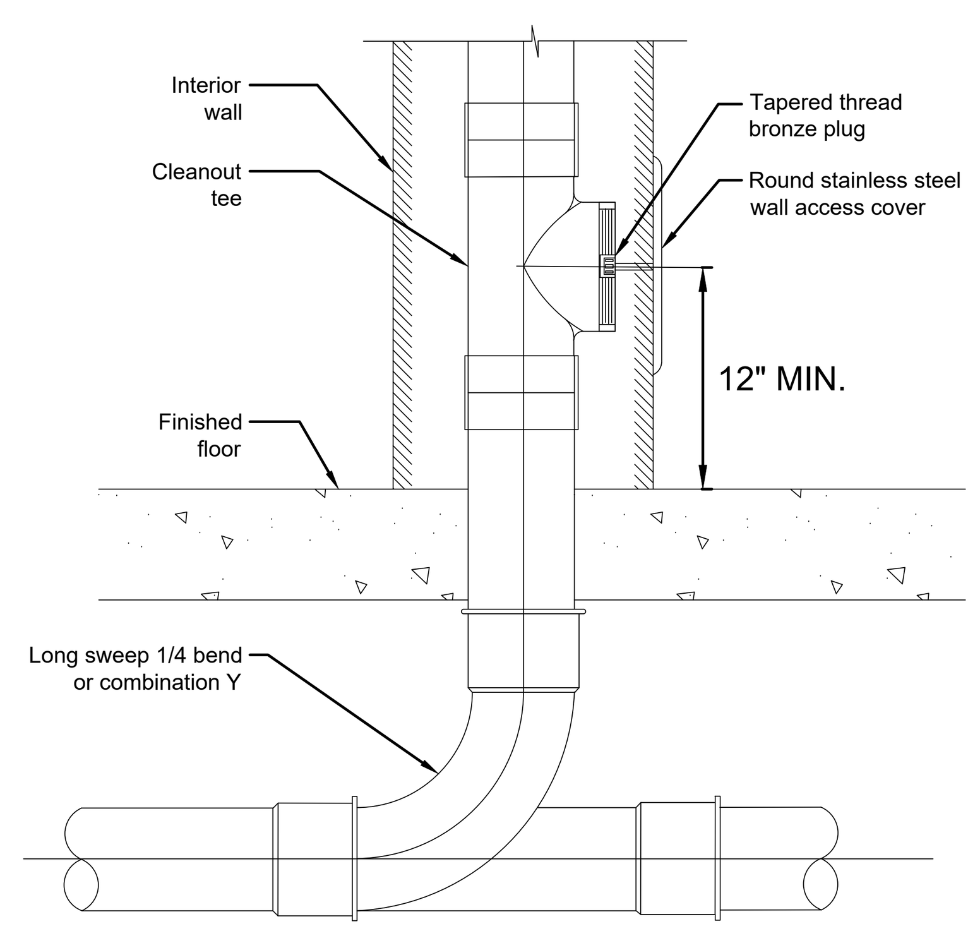
3 Multi Compartment Sink Detail
Scale: None



5 Floor Cleanout with Sweep Bend or Combination Detail
Scale: None



4 Floor Drain/Sink Detail
Scale: None



2 Wall Cleanout with Sweep Bend or Combinationy Detail
Scale: None

Plumbing Legend and Abbreviations

Symbol	Description
GW	Grease Waste Piping 'GW'
	Sanitary Sewer Piping 'W'
	Existing Sanitary Sewer Piping 'EX W'
	Vent Piping 'V'
	Existing Vent Piping 'EX V'
	Cold Water Piping 'CW'
	Existing Cold Water Piping 'EX CW'
	Hot Water Piping 'HW'
140	Hot Water Piping 140°F 'HW'
	Existing Hot Water Piping 'EX HW'
	Hot Water Return Piping 'HWR'
	Existing Hot Water Return Piping 'EX HWR'
SD	Roof Drain / Storm Piping
A	Compressed Air Piping
RO	RO water piping
CO2	CO2 piping (by others)
	Check Valve
	Ball Valve
	Pressure Reducing Valve 'PRV'
	Gate Valve 'GV'
	Tee Turns Up
	Tee from Below
	Ell Turns Up
	Ell Turns Down
	Capped Line
	Connect to Existing
ETR	Existing to Remain
EWH	Electric Water Heater
GWH	Gas Water Heater
IWH	Instantaneous Water Heater
RP	Recirculation Pump
VTR	Vent Through Roof
AAV	Air Admittance Valve
RD	Primary Roof Drain
SRD	Secondary Roof Drain

Plumbing Specifications:

1. These plans are diagrammatic only. Contractor shall provide all necessary offsets, elbows, tees, etc for a complete working system.
2. Contractor shall obtain and pay all fees related to permitting, inspections, taps, etc. Coordinate with GC to confirm none of these costs are covered by them.
3. All work shall be coordinated with all other trades prior to installation. Contractor shall coordinate routing of all piping with existing and new conditions and shall provide any necessary rerouting, offsets, etc. required for a completely coordinated and working system.
4. The plumbing system shall be installed in accordance with 2018 NC plumbing code and local AHJ requirements.
5. New portion of the domestic water system shall be purged of damaging matter and disinfected in accordance with 2018 NC Plumbing code. Remove dirt and debris as work progresses. Submit third-party witness reports of purging and disinfecting activities.
6. All plumbing systems shall be tested as required per 2018 NC Plumbing Code.
7. All piping systems shall be strapped and supported as required by 2018 NC Plumbing Code & the manufacturer's recommendations.
8. Plumbing contractor shall provide cleanouts in compliance with IPC section 708, as well as the following locations:
   - as indicated on plans
   - at the base of the waste stack
   - at every two 90° turns or every four 45° turns
   - on all horizontal waste line, no further than 100 feet apart
9. Plumbing fixtures with automatic or quick-closing valves and kitchen equipment shall have a shock arrestors, piston type water hammer arrestor, sized according to manufacturer's recommendations & PDI standards.
10. All overhead domestic water piping (above slab) shall be type "L" copper with 95/5 lead free solder. All below grade water piping shall be type "K" soft copper. Each complying with ASTM B-88. All piping shall have manufacturers name and the applicable standard to which it was made clearly labeled on each length. Contractor shall use brazed joints on all piping 1 1/2" and larger.
11. Water piping shall be insulated with closed cell (Armacell) type insulation with a smoke density rating not exceeding 50 and a flame density rating not exceeding 25. Thickness for cold water piping insulation shall be 1/2" thick, thickness for hot water & return piping insulation shall be 1" thick.
12. Branch lines and base of risers shall have, shut-off valves. All domestic water ball valves shall be a brass body, full port, with a chrome plated ball, Teflon seals, 600 WOG, for sizes 1/2" thru 3". Sizes above 3" shall be a bronze gate valve, NRS, solid disc, cutoff valve, screw-over bonnet, 400 WOG. Provide valve handle extensions if necessary due to insulation.
13. Storm, waste & vent piping, underground, shall be PVC Schedule 40 DWV with piping and fittings conforming to ASTM D-2665.
14. The backflow prevention device shall be installed as required per local AHJ. Purge water piping before setting backflow preventer.
15. Sanitary sewer piping shown is below slab or within walls unless otherwise noted. Sanitary vent piping shown is within wall and above ceiling unless otherwise noted.
16. Domestic water piping shown on drawing is above ceiling or within walls unless otherwise noted.
17. The plumbing contractor shall coordinate all underslab plumbing piping with all structural foundations and footings and all underslab plumbing piping elevation inverts with site utility.
18. All piping penetrations thru new or existing walls and/or floors shall be sealed to equal the rating of the new or existing wall or floor.
19. All vent thru the roof penetrations shall be coordinated with the general contractor. Plumbing contractor shall provide all flashing material required for vent thru roof. Vents thru the roof shall be located a minimum of 10'-0" away from all fresh air intakes.
20. Contractor shall coordinate any plumbing work requiring shutdown with the owner 72 hours in advance. If other users will be affected, coordinate with owner/building management at the beginning of the project to find a workable solution.
21. Plumbing contractor shall provide shop drawings to the engineer for review and approval prior to beginning work.

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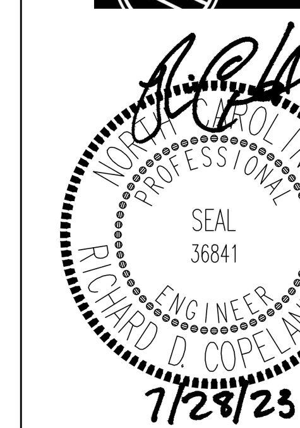


A Tenant Alteration for
HARVEY JOHNS STEAKHOUSE
1501 N. Raleigh Street, Suite G
Angier, NC

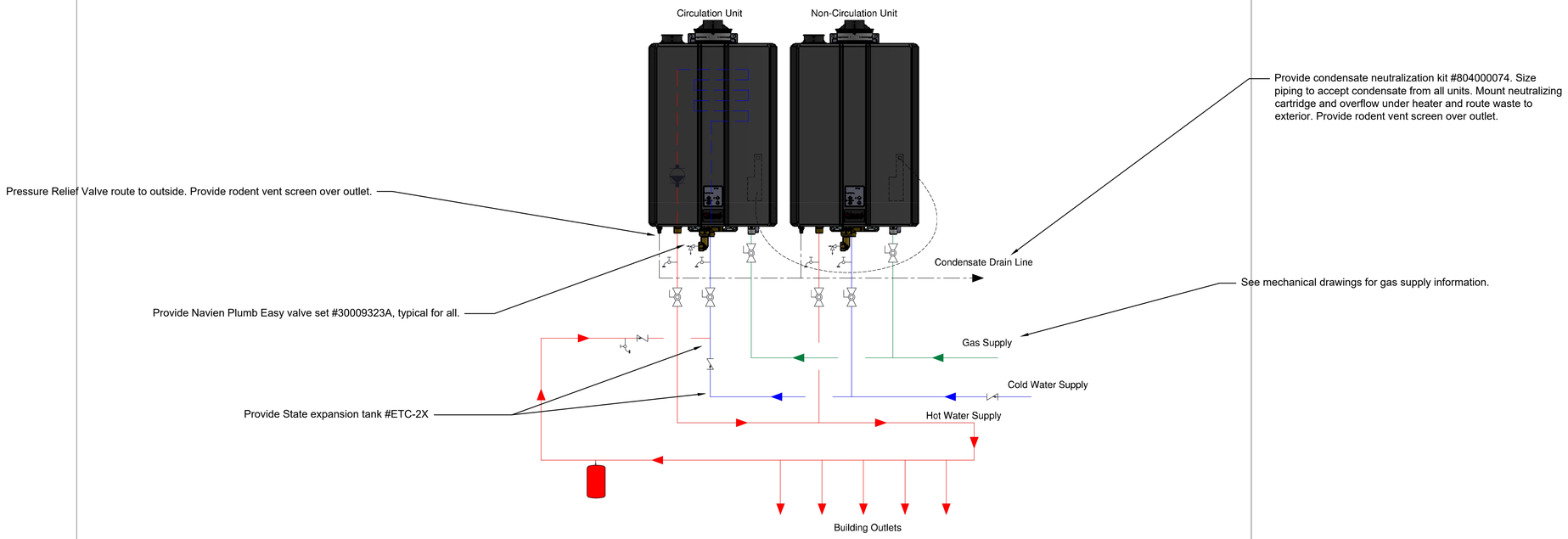
JOB #: 23HARVEYJOHNS

DWG BY:
CHK BY:
DATE: 07/28/23
REV NO DATE

PLUMBING DETAILS

SHEET NUMBER
P2.1

These drawings will be at the scale indicated when plotted at 24" x 36"



Two Rinnai Sensei gas water heaters, models #CU199e and CUR199e for outdoor wall mounting. Provide with the following: internal recirculation pump for one unit, overheat prevention, and pressure relief valve. Units shall be capable of providing 18 GPM @ 80°F rise with default temperature setting of 140°F. Each heater has a minimum gas input of 15 MBH and a maximum of 199 MBH. Coordinate all requirements with and install per manufacturer's instructions.

1 Gas Tankless Water Heater Detail With Hot Water Recirculation Loop

Scale: NTS

Plumbing Line Sizing Table

Fixture Type	Occupancy	Quantity	Drainage Fixture Units		Water Supply Fixture Units			
			Each	Total	CW	HW	CW & HW	Total
Water Closet (Tank Type)	Public	2	4	8	2	-	2	4
Lavatory	Private	7	1	7	0.5	0.5	0.7	4.9
Mop Sink	Public	1	2	2	2.25	2.25	3	3
Break Sink	Private	3	2	6	1.5	1.5	2	6
Dishwasher (Residential Style)	Private	2	2	4		1.4	1.4	2.8
Bath Tub	Private	0	2	0	1	1	1.4	0
Shower	Public	0	2	0	3	3	4	0
Floor Drain		3	2	6	-	-	-	-
				Total DFUs	33			
				Total WFSUs	20.7			
				GPM				
				Total GPM	19.9	from table E103.3(3)		
		Minumum Building Drain Size			4"			
		Minimum Water Line Size			1"			
		* buidling drain and water meter are existing						

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NORTH CAROLINA PROFESSIONAL SEAL 36841 ENGINEER RICHARD D. COPELAND
7/28/23

A Tenant Alteration for
HARVEY JOHNS STEAKHOUSE
1501 N. Raleigh Street, Suite G
Angier, NC

JOB #:
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P2.2

These drawings will be at the scale indicated when plotted at 24" x 36"

SIZING TOOL - Harvey John's Steak House

Sink Compartments (Length x Width x Height)

Sink #1:
3 Compartment 18" x 24" x 18"
Sink #2:
1 Compartment 24" x 24" x 14"
Sink #3:
1 Compartment 24" x 24" x 14"

Flowrate

Type of Fixture	# of Fixtures	GPM
Sink Compartments	3	64.05
Floor Drains/Floor Sinks	0	0
Mop Sink	1	3.75
Hand Sink	0	0
Pre-Rinse Sink	1	3.75
Dishwasher	1	2
Required Flowrate		**73.55**

Grease Output

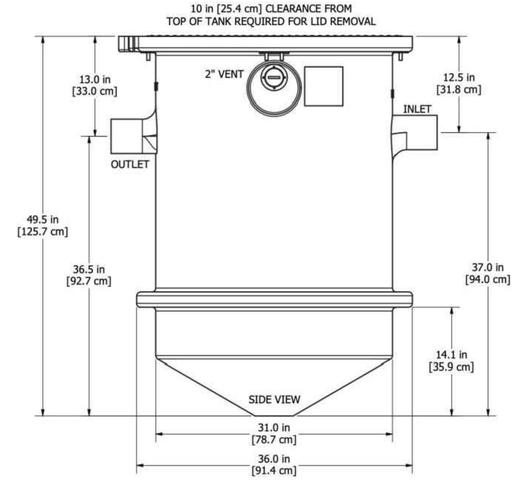
Field		Field	
Restaurant Type	Bar Grill	Fryer	No
Plates	Silverware	Pump Outs	30 Days
Customers per Day	120 to 200 per Day		
Capacity			**33.6 lb**

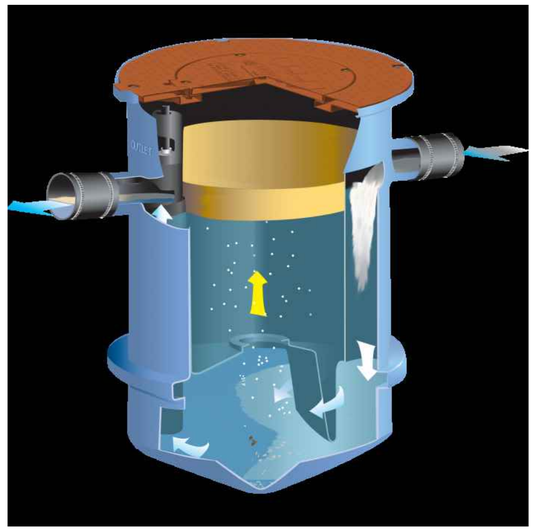
Other Requirements

Requirement		Requirement	
Model Position	In-Ground	Pipe Size	4"
99% Efficiency?	No	Drain Time	2 Minute(s)

1 / 2

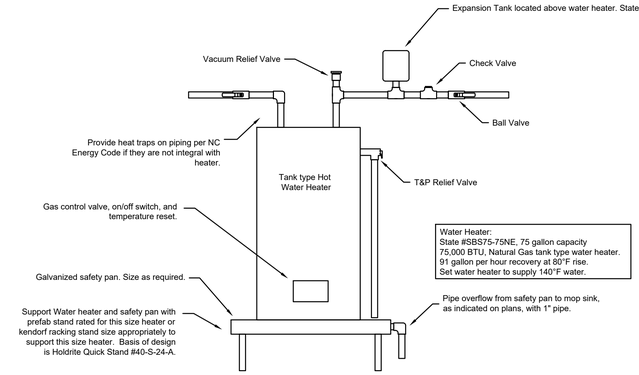
Tankless Water Heater Sizing Calculator			
Developed by the Plan Review Unit of the Environmental Health Section NC Division of Public Health			
Enter the quantity of each piece of equipment listed below. For other equipment enter the description and gallon per minute (GPM) value. Find dishmachine GPM on the "Dishmachine Specs" sheet below or on the manufacturer's spec sheet			
Establishment Name:			
Address:			
Equipment	Quantity		GPM Calculated
Handwashing sink	5	.5 GPM each	2.5
Warewashing sink	1	2 GPM each	2
Prep sink	2	1 GPM each	2
Service sink	1	1 GPM each	1
Other equipment	Description	GPM value	
Other equipment	Glasswasher	1	1
Other equipment			0
Other equipment			0
Dishmachine Brand	Dishmachine Model	Dishmachine GPM	
			0
Pre-rinse Quantity	1	2 GPM each	2
Total Gallons per Minute (GPM) Needed:			10.5





4 Grease Trap Section Details
Scale: NTS

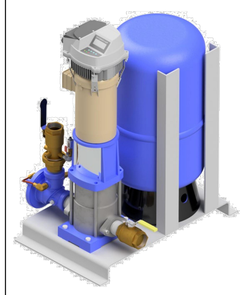
Gas Water heater Venting
Provide combustion air intake from roof with a 3" 180° return termination on top of the intake. Provide exhaust from unit to the roof with a 3" straight tee termination on top of the exhaust. Maintain 10' clear from any building intake or opening. Maintain a minimum of 3' horizontally and 12" vertically between the intake and exhaust. Protect, seal and properly flash each roof penetration. Combustion and exhaust can be combined. Coordinate exact requirements with equipment supplier.



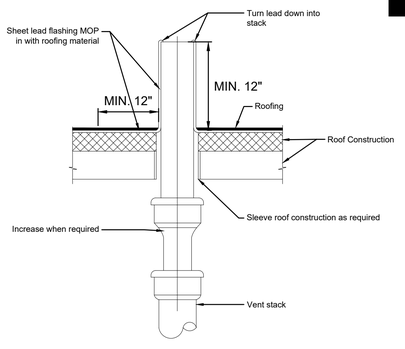
1 Gas Tank Type Water Heater Mounting Detail
Scale: None

eMVPjr

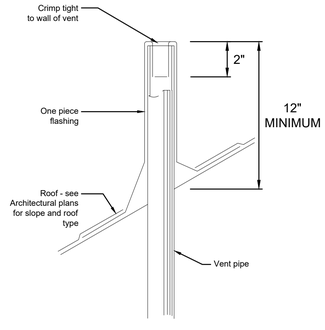
Variable Speed Pressure Boosters



2 Booster Pump
Scale: None



5 Vent Through Flat Roof Detail
Scale: None



3 Vent Through Sloped Roof Detail
Scale: None

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NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 36841 RICHARD D. COPELAND
7/24/23

A Tenant Alteration for
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JOB #:
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DWG BY:
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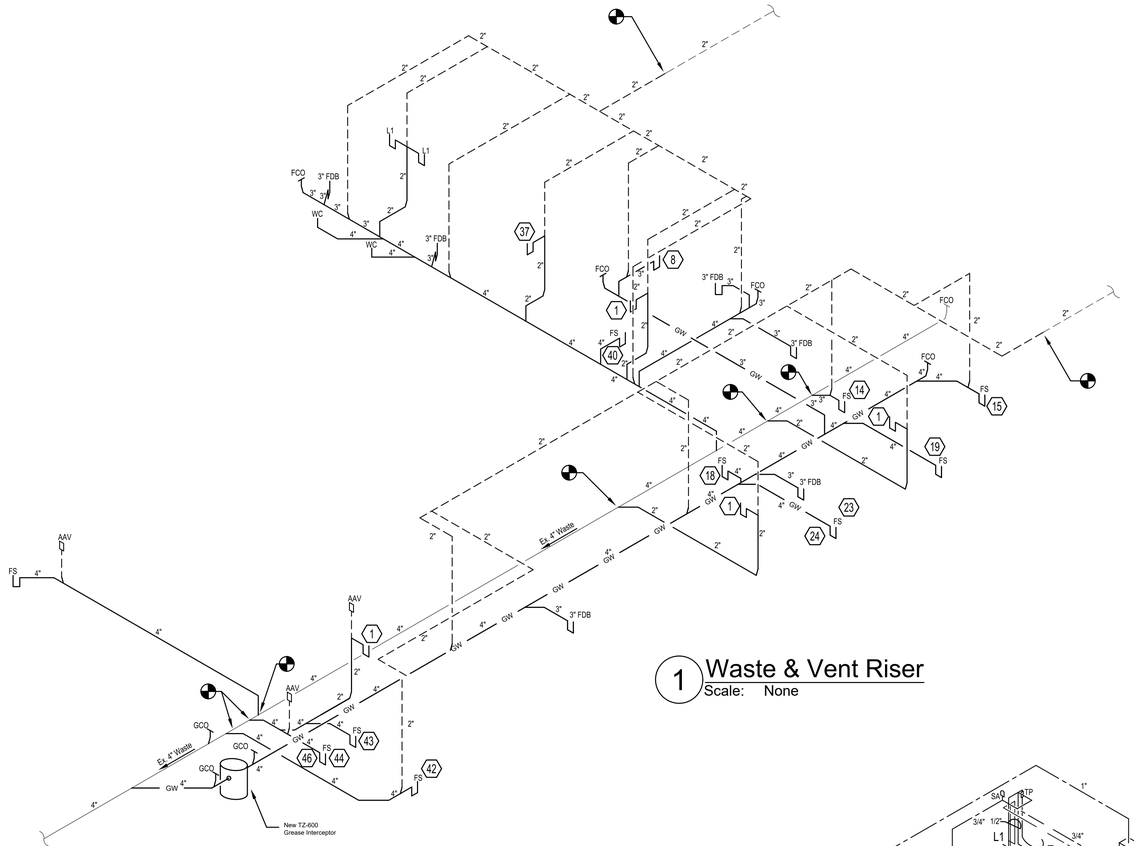
REV NO DATE

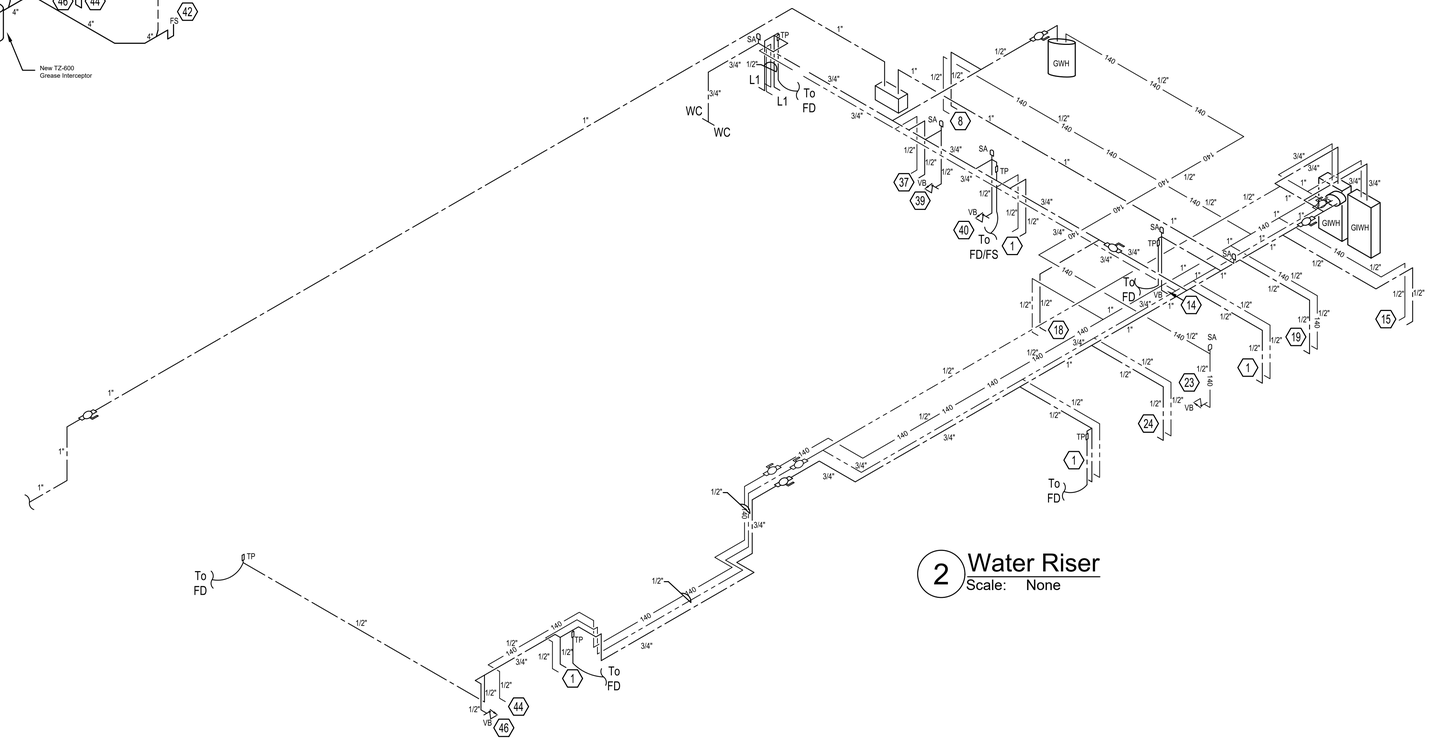
PLUMBING DETAILS

SHEET NUMBER
P2.3

These drawings will be at the scale indicated when plotted at 24" x 36"



1 Waste & Vent Riser
Scale: None



2 Water Riser
Scale: None

These drawings will be at the scale indicated when plotted at 24" x 36"

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DWG BY:	
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PLUMBING RISERS

SHEET NUMBER

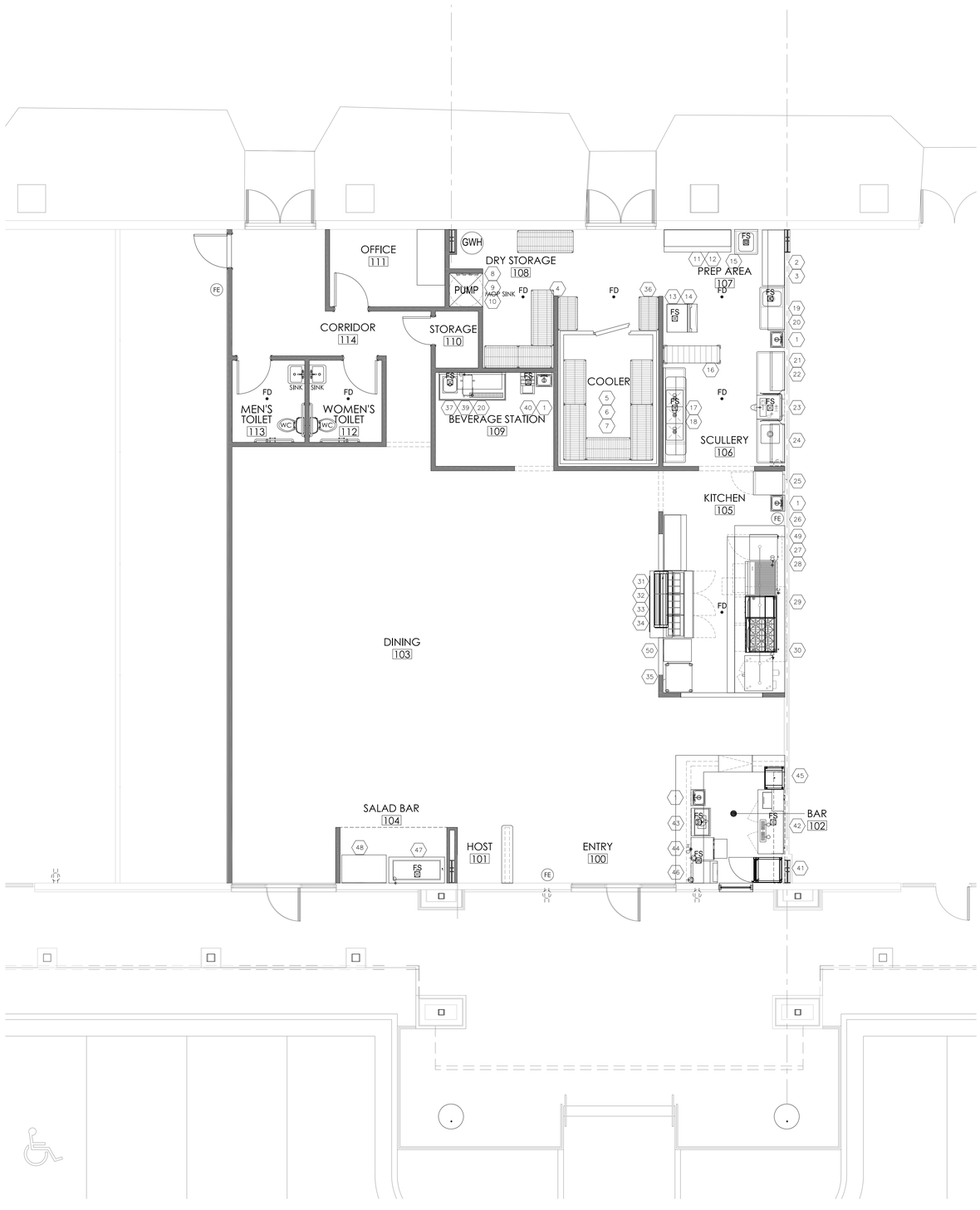
P2.4

EQUIPMENT SCHEDULE

Item No	Qty	Equipment Category	Manufacturer	Model Number	Equipment Remarks
1	3	Hand Sink, Wall Mount	Advance Tabco	7-PS-66	New
2	2	Table, Work, 16 gauge, Back Splash w/ Undershelf	Advance Tabco	FAG-245	Used
3	2	Shelf, Wall Mount	Advance Tabco	WS-18-60	New
4	3	Shelving Unit, Starter, Metal, Wire	Metro	EZ2448NK3-4	New
5	2	Shelving Unit, Starter, Metal, Wire	Metro	EZ2460NK3-4	New
6	1	Shelving Unit, Starter, Metal, Wire	Metro	EZ2436NK3-4	New
7	1	Walk-In Cooler	TBD	TBD	8' x 10'
8	1	Mop Sink	Fiat	3636	New - Faucet required
9	1	Mop Holder	Eagle Group/Metal Masters	321561	New
10	1	Hot Water Heater	TBD	TBD	New - Above Mop Sink
11	1	Table, Work, 16 gauge, BS w/ US	Advance Tabco	FAG-246	Used
12	1	Shelf, Wall Mount	Advance Tabco	WS-18-72	New
13	1	Bin, Ice	Atosa USA	CYR400P	New - Leased
14	1	Ice Maker w/o Bin	Atosa USA	YR450-AP-161	New - Leased
15	1	Sink, NSF, 1 comp, 16 gauge	Advance Tabco	93-1-24	Used
16	1	Shelving Unit, Mobile, Plastic	Metro	5X367PG4	New
17	1	Pot Rack, Ceiling Mount	Advance Tabco	SC-84	Used
18	1	Sink, NSF, 3 comp, 16 gauge	Advance Tabco	FC-3-1818-24RL	Used - Requires Faucet & Pre-Rinse
19	1	Sink, NSF, 1 comp, 16 gauge	Advance Tabco	93-1-24-24R	New - Faucet required
20	2	Shelf, Wall Mount	Advance Tabco	WS-18-48	New
21	2	Dishtable, Sorting Shelf	Advance Tabco	DT-6R-12	New
22	1	Dishtable, Straight, 16 gauge	Advance Tabco	DTC-S60-48L	New
23	1	Warewasher, Door Type, Low Temp	CMA Dishmachines	AH	New - Leased
24	1	Dishtable, Straight, 16 gauge	Advance Tabco	DTS-S60-48R	New - Requires pre-rinse.
25	1	Freezer, Reach-In	Avantco	A-19F-HC	Used
26	1	Refrigerator, Undercounter	Turbo Air	TUR-28SD-N	Used
27	1	Refrigerator, Shorty	Southbend	20036SB	Used
28	1	Broiler, Under-Fired, Gas, Counter	Southbend	HDC-36	Used
29	1	Range, Restaurant, Gas	Southbend	S60DD-2RR	Used
30	1	Oven, Convection, Gas	Southbend	BGS/22SC	New
31	2	Check Minder	Advance Tabco	CM-60	New
32	1	Shelf, Pass-Thru w/Overshelf	Advance Tabco	PA-24-72-2	New
33	1	Refrigerator, Sandwich/Salad Prep	Delfield	4472NP-18	Used
34	1	Heat Lamp/Infrared Strip	Nemco Food Equipment	6150-60-DL-208	New
35	1	Cabinet, Holding	Metro	C569-DS	Used
36	1	Rack, Syrup Tank & Bag-N-Box	Eagle Group/Metal Masters	2B2136C	New - by Pepsi
37	1	Hand Sink, Wall Mount	Advance Tabco	7-PS-20	New
38	1	Table, Enclosed Base, Open Front	Advance Tabco	EB-SS-304M	New
39	1	Coffee/Tea Brewer	Bunn-O-Matic	52200.0100	New - Leased
40	1	Dispenser, Beverage	Lancer	ICD 2200 STD	New - by Pepsi. Include conversion stand.
41	1	Display Case, Refrigerated	Turbo Air	TGM-23SDW-N6	Used
42	1	Beer, Dispenser	Atosa USA	MKC90GR	New
43	1	Underbar Ice Chest	Advance Tabco	CRI-12-30-7	New - by Pepsi
44	1	Glasswasher, Undercounter	CMA Dishmachines	CMA-181GW	New - Leased
45	1	Underbar Glass Rack	Advance Tabco	CRCR-24	New
46	1	Ice Maker w/ Bin	Atosa USA	YR280-AP-161	New
47	1	Buffet/Cafeteria, Cold Food Station	Vollrath	37066	Used
48	1	Table, Millwork	Custom	Custom	By owner
49	1	Shelf, Wall Mount	Advance Tabco	WS-18-36	Used
50	1	Table, Work, 16 gauge, BS w/ US	Advance Tabco	FAG-302	New

1 FS-100 FOOD SERVICE EQUIPMENT SCHEDULE

SCALE: NTS



2 FS-100 FOOD SERVICE PLAN

SCALE: 3/16"=1'-0"

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MSHConsultant Group
Food Service Consultant Design & Planning

STEAKHOUSE

A Tenant Alteration for
HARVEY JOHNS
1501 N. Raleigh Street, Suite G
Angier, NC

JOB #:
23HARVEYJOHNS

DWG BY:	RBH
CHK BY:	RBH
DATE:	07/27/23
REV NO	DATE

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FOOD SERVICE & EQUIPMENT PLAN

SHEET NUMBER

FS-100