FAMILY DOLLAR

603 E. WASHINGTON ST.
HAYTI, MO 63851
DEAL #802913

SITE OBSERVATION

THE SCOPE OF SERVICES FOR THIS PROJECT IS INCLUSIVE OF CONSTRUCTION DOCUMENTS AND PERMITTING. THE CLIENT HAS SELECTED NOT TO CONTRACT CASCO TO PROVIDE FOR CONSTRUCTION SITE SURVEILLANCE AND WILL BE PROVIDING FOR THAT PROFESSIONAL SERVICE BY OTHER MEANS.

SECURITY NOTES:

THIS PROJECT IS INDICATED IN AN AREA WITH A RISK FACTOR OF 1.

- STORE RECIEVES YALE SDA 16XL STANDALONE ALARM, AND HAGAR EXIT DEVICE
- DOUBLE DOOR WILL HAVE DUSTPROOF STRIKE, FLUSH BOLTS, AND ASTRAGAL

DRAWING INDEX AND DATES

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									●	CS2	NOTES AND ACCESSIBILITY DETAILS
									●	D1	DEMOLITION PLAN & DEMOLITION NOTES
									●	D1.1	DEMOLITION CEILING PLAN & DEMOLITION NOTES
									●	A1	FLOOR PLAN, WALL CONSTRUCTION TYPES AND ENLARGED OFFICE, TOILET PLANS
									●	A2	REFLECTED CEILING PLAN, LEGEND & NOTES, OFFICE ELEVATIONS & TOILET ELEVATIONS
									●	A2.1	SEISMIC CEILING SECTIONS, DETAILS, AND NOTES
									●	A3	EXTERIOR ELEVATION & INTERIOR ELEVATIONS
									●	A4	DETAILS, SECTIONS & SCHEDULES
									●	A4.1	DETAILS & SECTIONS
									●	E1	ELECTRICAL POWER PLAN
									●	E2	ELECTRICAL LIGHTING PLAN
								●	●	E3	ELECTRICAL RISER DIAGRAM AND PANEL SCHEDULES
									●	E4	ELECTRICAL PHONEBOARD AND OFFICE DETAILS
									●	E5	ELECTRICAL SPECIFICATIONS
								●	●	MP1	FLOOR PLAN HVAC/PLUMBING
								●	●	MP2	SCHEDULES AND DETAILS HVAC/PLUMBING
									●	MP3	SPECIFICATIONS HVAC/PLUMBING
									●	SA1.1	FIXTURE PLAN
									●	SA2.1	FIXTURE DETAILS
									●	SA2.2	FIXTURE DETAILS
									●	SA2.3	FREEZER/COOLER ANCHORAGE

FOR REFERENCE ONLY

	Sheet	Title
●	DS1	REACH-IN DETAILS & SPECIFICATIONS
●	LV-1	LOW VOLTAGE PLAN
●	LV-2	ELECTRICAL PAGING SYSTEM PLAN
●	EM1	ENERGY MANAGEMENT DRAWINGS
●	EM2	ENERGY MANAGEMENT DRAWINGS
●	EM3	ENERGY MANAGEMENT DRAWINGS
●	EM4	ENERGY MANAGEMENT DRAWINGS

ABBREVIATIONS

ACT	ACOUSTICAL CEILING TILE	FRP	FIBERGLASS REINFORCED PANEL	MTD	MOUNTED	UON	UNLESS OTHERWISE NOTED
ADA	AMERICAN DISABILITIES ACT	FIN	FINISH, FINISHED	MTL	METAL	VCT	VINYL COMPOSITION TILE
AFC	ABOVE FINISHED CEILING	FT	FOOT, FEET	NIC	NOT IN CONTRACT	VTR	VENT THROUGH ROOF
AFF	ABOVE FINISHED FLOOR	FTG	FOOTING	OC	ON CENTER	W	WIDE, WIDTH
ARCH	ARCHITECT,ARCHITECTURAL	FV	FIELD VERIFY	OPP	OPPOSITE	WD	WOOD
APPROX	APPROXIMATE	GA	GAGE	PEJ	PREFORMED EXPANSION JOINT	W/	WITH
BD	BOARD	GWB	GYPSUM WALL BOARD	PLAM	PLASTIC LAMINATE	WWF	WELDED WIRE FABRIC
BLDG	BUILDING	H	HIGH	PLYWD	PLYWOOD	&	AND
CLG	CEILING	HDW	HARDWARE	PR	PAIR	∠	ANGLE
CLR	CLEAR	HM	HOLLOW METAL	PSI	POUNDS PER SQUARE INCH	@	A
CMU	CONCRETE MASONRY UNIT	HGT	HEIGHT	PTD	PAINTED	C	CENTER LINE
COL	COLUMN	HOL	HOLLOW	RELO	RELOCATE	°	DEGREES
DF	DRINKING FOUNTAIN	HORIZ	HORIZONTALLY	REQD	REQUIRED	Ø, DIA	DIAMETER
DTL	DETAIL	HR	HOUR	SC	SOLID CORE	#	NUMBER
DWG	DRAWING	HVAC	HEATING, VENTILATION AND AIR CONDITIONING	SF	SQUARE FEET	±	PLUS OR MINUS
EA	EACH			SHT	SHEET		
EIFS	EXTERIOR INSULATION FINISH SYSTEM	JT	JOINT	SIM	SIMILAR		
ELEV	ELEVATION	L	LENGTH, LONG	STRUCT	STRUCTURAL		
EQ	EQUAL	LAM	LAMINATE	T	THICK, THICKNESS		
WXIST	EXISTING	LVT	LUXURY VINYL TILE	TG	TEMPERED GLASS		
EXITING	EXTINGUISHER	MAX	MAXIMUM	THRESH	THRESHOLD		
FE	FIRE EXTINGUISHER	MFG, MANUF	MANUFACTURE, MANUFACTURER	TYP	TYPICAL		
FR	FIRE RETARDANT	MIN	MINIMUM, MINUTE	UL	UNDERWRITERS LABORATORIES		

SYMBOLS

ELEVATION MARKER
ENLARGED DETAIL INDICATOR
WALL SECTION MARKER
INTERIOR ELEVATION MARKER
DEMOLITION NOTE
REVISION MARKER
DOOR NUMBER
ELEVATION DATUM
BREAK LINE
EXISTING DOOR
NEW DOOR
WALL CONSTRUCTION TYPE
WOOD TRIM
NEW WALL CONSTRUCTION
CMU
CONCRETE
GYPSUM WALL BOARD

PROJECT DIRECTORY

PROJECT MANAGERS: CASCO
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CONTACT: BOBBY MILLER

SIGN CONTRACTOR: EVERBRITE
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GREENFIELD, WI 53228
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CONTACT: ANNE DEBROUX

BUILDING DEPARTMENT: CITY OF HAYTI
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HAYTI, MO 63851
573-359-0632

FREEZER/COOLER VENDOR: ORIGIN RETAIL SOLUTIONS
12220 BIRMINGHAM HIGHWAY
BUILDING 90
MILTON, GA 30004
PHONE: (770) 374-9362
CONTACT: TONY O'CONNOR

BUILDING CODE SUMMARY

APPLICABLE BUILDING CODE:	INTERNATIONAL BUILDING CODE, 2015 EDITION
APPLICABLE PLUMBING CODE:	INTERNATIONAL PLUMBING CODE, 2015 EDITION
APPLICABLE MECHANICAL CODE:	INTERNATIONAL MECHANICAL CODE, 2015 EDITION
APPLICABLE ELECTRICAL CODE:	NATIONAL ELECTRICAL CODE, 2014 EDITION
APPLICABLE FIRE CODE:	INTERNATIONAL FIRE CODE, 2015 EDITION
APPLICABLE ENERGY CODE:	IECC, 2015 EDITION
APPLICABLE ACCESSIBILITY CODE:	2015 IBC, CHAPTER 11 AND ICC A117.1
TYPE OF CONSTRUCTION:	TYPE II B
USE GROUP:	M - MERCANTILE
NUMBER OF STORIES:	ONE (1)
SPRINKLERED:	NO
FIRE MONITORING REQUIRED:	NO
SEISMIC ZONE:	E

OCCUPANCY CALCULATIONS

TOTAL LEASE AREA: 12,966

AREA CALCULATIONS:

SALES:	10,502 SF
NON-SALES:	2,464 SF
TOTAL AREA:	12,966 SF

OCCUPANCY CALCULATIONS:

SALES	10,502 SF /	60 SF =	176 OCCUPANTS
NON-SALES	2,464 SF /	300 SF =	9 OCCUPANTS
TOTAL:			185 OCCUPANTS

EGRESS CALCULATIONS:

SALES AREA:	176 x 0.20 INCHES	=	35.2 INCHES
NON-SALES AREA:	9 x 0.20 INCHES	=	1.80 INCHES
TOTAL EGRESS WIDTH REQUIRED:		=	37.00 INCHES

EGRESS PROVIDED 99 INCHES > 37.00 INCHES REQUIRED THEREFORE OK

SCOPE OF WORK

1. TENANT FIT UP OF THE FORMER MERCANTILE SPACE.
2. ADDING NEW ADA COMPLIANT RESTROOMS.
3. ADDING ONE (1) NEW PANEL TO EXISTING ELECTRICAL PANELS.
4. ADDING NEW EMS SYSTEM.
5. INSTALLING NEW REACH-IN FREEZER/COOLERS.
6. BUILDING NEW WALL BETWEEN SALES & THE UNUSED SPACE.
7. BUILDING NEW OFFICE IN THE BACK NEAR THE RESTROOMS & EMPLOYEE AREA IN STOCKROOM.
8. REMOVING 1 GROUND MOUNTED UNIT, REUSING 1 GROUND MOUNTED UNIT & REPLACING 4 GROUND MOUNTED UNITS.
9. NEW MECHANICAL DUCTWORK.
10. NEW ELECTRICAL TO ALL NEW LIGHTS, RECEPTACLES, ETC.
11. NEW PLUMBING FOR NEW ADA RESTROOMS.
12. PAINTING WALLS.
13. POLISH CONCRETE FLOORS.
14. ADDING NEW CHECKOUTS & SALES FIXTURES.
15. REMOVING STOREFRONT DOOR & REPLACING WITH NEW GLAZING.
16. ADDING LANDING & RAMP AT SECONDARY EGRESS DOOR.

GENERAL NOTES

1. CONSTRUCTION SHALL COMPLY WITH ALL APPLICABLE LOCAL, STATE, AND NATIONAL CODES AND REGULATIONS. CONSTRUCTION SHALL ALSO COMPLY WITH LANDLORD'S CRITERIA (UNLESS PRECLUDED BY CODE).
2. ALL WOOD FRAMEWORK, WOOD BLOCKING AND PLYWOOD SHALL BE FIRE RETARDANT TREATED PER CODE.
3. ALL FINISH MATERIALS SHALL MEET FLAME SPREAD AND SMOKE DEVELOPMENT RATING CLASS C (OR CLASS 3).
4. WALL CONSTRUCTION BY THE TENANT'S CONTRACTOR IS SHOWN HATCHED.
5. THE CONTRACTOR SHALL FIELD VERIFY ALL DIMENSIONS AND EXISTING CONDITIONS PRIOR TO BID TO DETERMINE THE EXTENT OF WORK. THE CONTRACTOR SHALL NOTIFY THE ARCHITECT AND THE TENANT OF ANY DISCREPANCIES PRIOR TO BIDDING.
6. ALL MATERIALS INDICATED ARE NEW, UNLESS SPECIFICALLY NOTED AS EXISTING, AND SHALL BE PROVIDED AND INSTALLED BY THE CONTRACTOR . ITEMS INDICATED AS TENANT SUPPLIED SHALL BE INSTALLED BY THE CONTRACTOR PER TENANT'S REQUIREMENTS AND/OR MANUFACTURER'S PUBLISHED STANDARDS.
7. ALL EXISTING MATERIALS TO REMAIN WHICH ARE DAMAGED OR OTHERWISE DISTURBED BY THE CONTRACTOR'S OPERATIONS SHALL BE PATCHED OR REPAIRED TO MATCH THE EXISTING ADJACENT MATERIALS, SO THAT THE REPAIR IS IMPERCEPTIBLE.
8. DURING THE COURSE OF CONSTRUCTION, IF THE CONTRACTOR UNCOVERS ANY CODE VIOLATION KNOWN TO HIM OR ANY DISCREPANCY WITH THE DESIGN, CONTRACTOR SHALL NOTIFY THE ARCHITECT OF SUCH IMMEDIATELY.
9. CONTRACTOR SHALL ASSEMBLE AND INSTALL MATERIALS/ PRODUCTS IN STRICT ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDATIONS AND INDUSTRIAL/ASSOCIATION STANDARDS.
10. FIELD VERIFY AND/OR REPORT ASBESTOS-CONTAINING MATERIAL TO ARCHITECT AND TENANT UPON DISCOVERY.
11. SMOKE AND FIRE PARTITIONS SHALL BE CONSTRUCTED PER THE DESIGNATED UL DESIGN AND SHALL BE EXTENDED VERTICALLY TO THE BOTTOM OF THE STRUCTURE ABOVE. PROVIDE FIRE STOPS AND SEAL ALL PIPE AND CONDUIT PENETRATIONS WITH SEALANT THAT COMPLIES WITH THE MINIMUM FIRE RATED REQUIREMENTS FOR THE PARTITION. DUCT PENETRATIONS SHALL BE PROTECTED WITH SMOKE AND/OR FIRE DAMPERS.
12. ALL INTERIOR CONCRETE SHALL BE PORTLAND CEMENT BASED TO INCLUDE PATCHING, FLOATING/LEVELING OF FLOORS AND INFILLING.
13. FIRE WALLS, FIRE BARRIERS, FIRE PARTITIONS, SMOKE BARRIERS AND SMOKE PARTITIONS SHALL BE PERMANENTLY IDENTIFIED WITH SIGNS OR STENCILING. LETTERING SHALL BE NOT LESS THAN 3" IN HEIGHT LOCATED ABOVE AN ACCESSIBLE CEILING AND REPEATED IN INTERVALS NOT EXCEEDING 30' HORIZONTALLY ALONG THE WALL OR PARTITION. SUGGESTED WORDING SHALL BE " FIRE AND/OR SMOKE BARRIER-PROTECT ALL OPENINGS."
14. ANY DETAIL WHICH MAY BE INCOMPLETE OR LACKING IN THE PLANS OR SPECIFICATIONS SHALL NOT CONSTITUTE CLAIM FOR EXTRA COMPENSATION. SUCH DETAIL, IF REQUESTED BY THE CONTRACTOR, SHALL BE SUPPLIED BY THE ENGINEER/ARCHITECT AND SUBMITTED TO THE CONTRACTOR IN ADVANCE OF ITS REQUIREMENT ON THE JOB. THE TRUE INTENT OF THE PLANS AND SPECIFICATIONS IS TO PRODUCE A COMPLETE WORKING FACILITY AND INCOMPLETE DETAIL WILL NOT ABROGATE THIS INTENT.
15. THE CONTRACTOR SHALL PROVIDE ALL SHOP DRAWINGS (WITH THEIR STAMP OF APPROVAL) AS REQUIRED BY THE AUTHORITY HAVING JURISDICTION FOR APPROVAL BY THE ARCHITECT/ENGINEER OF RECORD.

NEW WORK NOTES

1. PROVIDE TENANT IDENTIFICATION SIGN AT REAR DOOR PER LANDLORD'S CRITERIA.
2. (4) 2A-10BC RATED FIRE EXTINGUISHERS TO BE TENANT SUPPLIED. SIMILAR TO JL INDUSTRIES MODEL COSMIC 5E. LOCATE EXTINGUISHERS AS SHOWN. PROVIDE WALL BRACKETS AND MOUNT CONTROLS AT 48" AFF MAX. PROVIDE "FIRE EXTINGUISHER" SIGNS ON WALL DIRECTLY ABOVE EACH UNIT. CONTRACTOR SHALL HAVE EXTINGUISHERS INSPECTED AND TAGGED. REFER TO G/A4.1 FOR ADDITIONAL INFORMATION.
3. THE CONTRACTOR SHALL VERIFY THAT TOILET ROOM(S), INCLUDING FIXTURES AND ACCESSORIES (BOTH EXISTING AND NEW) MEET ALL APPLICABLE LOCAL, STATE AND FEDERAL ACCESSIBILITY CODES AND LAWS.
4. PROVIDE EXTERIOR LIGHT ABOVE REAR DOOR, AS APPROVED BY LANDLORD, IF ONE DOES NOT EXIST WITHIN 10 FEET OF REAR DOOR.
5. PAINT ALL EXPOSED SURFACE MOUNTED CONDUIT TO MATCH ADJACENT WALL COLOR (IE WHITE OR YELLOW).
6. CONTRACTOR SHALL CAULK AROUND TOP AND BOTTOM EDGES OF COLUMN SURROUNDS TO AVOID INJURY. REFER TO DETAIL 4/CS2 FOR ADDITIONAL INFORMATION.
7. REPAIR AND CLEAN ALL EXISTING MATERIALS (IE STOREFRONT FRAMING AND GLAZING, WALLS, CEILING, ETC) TO REMAIN TO A LIKE NEW CONDITION.
8. NOTIFY FAMILY DOLLAR CONSTRUCTION PM AS TO THE CONDITION OF EXPOSED CONCRETE BLOCK WALL TO REMAIN ON THE SALES FLOOR. DOLLAR TREE WILL MAKE THE DETERMINATION AS TO WHETHER THE WALL'S CONDITION IS SUITABLE FOR PAINTING OR NEEDS TO BE FURRED OUT WITH METAL STUDS AND GWB.
9. CONTRACTOR SHALL INSTALL TENANT SUPPLIED FIXTURES TO INCLUDE BUT NOT LIMITED TO CART CORRAL, PERIMETER WALL GONDOLA, FLOOR GONDOLA, BALLOON CENTER, HANGING BALLOON CORRALS, HELIUM TANK CABINET (SALES FLOOR), HELIUM TANK BRACKETS (STOCKROOM, SEE DETAIL), GRAVITY CONVEYOR SYSTEM, AND MOBILE FIXTURES PER TENANT'S FIXTURE PLAN. CALIFORNIA PROJECTS ONLY, CONTRACTOR SHALL STRAP ALL FIXTURES AS PER THE SEISMIC DRAWINGS PROVIDED. CONTACT THE CONSTRUCTION PM IF FIXTURE/SEISMIC DRAWING WAS NOT MADE AVAILABLE TO YOU DURING YOUR BIDDING PROCESS.
10. DOORS AND FRAMES (OTHER THAN THOSE LISTED AS EXIST) ARE TENANT SUPPLIED FOR CONTRACTOR INSTALLATION. STOREFRONT DOORS (WHEN NOTED) SHALL BE SUPPLIED AND INSTALLED BY CONTRACTOR AS REQUIRED. AUTOMATIC DOORS (WHEN NOTED) WILL BE SUPPLIED AND INSTALLED BY TENANT'S VENDOR (CONTRACTOR IS RESPONSIBLE FOR ELECTRICAL CONNECTION).
11. CONTRACTOR SHALL REMOVE ANY EXISTING SIGNAGE THAT HAS PREVIOUS TENANT'S NAME (INTERIOR AND/OR EXTERIOR) ANY SIGNAGE THAT IS REQUIRED SHALL BE REPLACED IN LIKE KIND WITH DOLLAR TREE'S NAME.
12. CONTRACTOR SHALL VERIFY IF THERE IS AN EXISTING ACCESS PANEL TO TENANT'S SIGNAGE. IF ACCESS PANEL DOES NOT EXIST, INSTALL 2'-0" X 2'-0" ACCESS PANEL EITHER INSIDE AT DOLLAR TREE'S SPACE ABOVE THE CEILING (VERIFY FIRE RATINGS AND CODE REQUIREMENTS) OR IN THE EXTERIOR SOFFIT TO MATCH CANOPY CONSTRUCTION AS ALLOWED BY LANDLORD. CONFIRM WITH SIGN VENDOR FOR LOCATION PRIOR TO INSTALLING.
13. CONTRACTOR SHALL NOTIFY CONSTRUCTION PM OF ANY NECESSARY REPAIRS TO ROOF PRIOR TO PERFORMING ANY OR ALL WORK.
14. CONTRACTOR SHALL REMOVE AND DISPOSE OF ANY AND ALL PREVIOUS TENANT'S EXTERIOR SIGNAGE LEFT BEHIND. ALL EXISTING MATERIALS TO REMAIN WHICH ARE DAMAGED OR OTHERWISED DISTURBED BY REMOVAL OF PREVIOUS TENANT SIGNAGE SHALL BE PATCHED OR REPAIRED AND PAINTED TO MATCH EXISTING ADJACENT MATERIALS SO THAT THE REPAIR IS IMPERCEPTIBLE. CONTRACTORS SHALL NOT INCLUDE THIS SCOPE OF WORK IN THEIR BID AND WILL BE HANDLED VIA CHANGE ORDER AFTER SITE EVALUATION IS DONE BY WINNING BIDDER. CONTRACTOR SHALL FORWARD THE EVALUATION AND PRICE QUOTE TO THE CONSTRUCTION PM FOR APPROVAL PRIOR TO PERFORMING ANY AND ALL WORK.
15. CONTRACTOR SHALL INSTALL TENANT SUPPLIED INTERIOR GRAPHICS AND SIGNS TO INCLUDE BUT NOT LIMITED TO PERIMETER WALL GRAPHICS/SIGNAGE, HANGING GRAPHICS/SIGNAGE AND STOREFRONT WINDOW DECALS. CONTACT THE CONSTRUCTION PM FOR GRAPHIC/SIGNAGE DRAWINGS.
16. CONTRACTOR SHALL SEAL ALL EXTERIOR PENETRATIONS INCLUDING CRACKS, HOLES, GAPS, AND EXISTING PENETRATIONS. CONTRACTOR SHALL SELECT MATERIAL APPROPRIATE FOR CONDITION TO PROVIDE PERMANENT RODENT-PROOF INFILL (INSULATION SPRAY FOAM IS NOT AN ACCEPTABLE FINISHED MATERIAL.)
17. CONTRACTOR SHALL INSTALL NEW ENTRY "DECO RIB" CARPET TILE W/ TRANSITION STRIP. TRANSITION STRIP TO BE SECURED TO FLOOR W/ 3/16" X 1 3/4" TAPCON SCREWS.
18. CONTRACTOR SHALL POST ON BULLETIN BOARD IN OFFICE FINAL INSPECTIONS AND CERTIFICATE OF OCCUPANCY.
19. AT ROOF, FLASH NEW MECHANICAL EQUIPMENT CURBS IN ACCORDANCE WITH ROOFING MANUFACTURER'S RECOMMENDATIONS. REFER TO MECHANICAL AND/OR STRUCTURAL DRAWINGS FOR MORE INFORMATION. GENERAL CONTRACTOR SHALL COORDINATE WITH CONSTRUCTION PM PRIOR TO STARTING WORK & TO USE LANDLORD'S ROOFING CONTRACTOR AS NOT TO VOID LANDLORD ROOF WARRANTY.
20. ALL PLAQUE SIGNAGE INCLUDING BUT NOT LIMITED TO TOILET SIGNS, LADDER STORAGE SIGN, AND FLEX CONVEYOR SIGN SHALL BE ATTACHED TO MOUNTING SURFACE WITH CONSTRUCTION ADHESIVE.
21. PROVIDE NEW ALUMINUM AND GLASS STOREFRONT SYSTEM EQUAL TO KAWNEER TRIFAB VG 451 SERIES, STICK SYSTEM FABRICATION, MATCH EXISTING FINISH. PROVIDE TEMPERED 1" INSULATED LOW E GLAZING AS INDICATED. CONTRACTOR IS RESPONSIBLE FOR VERIFICATION OF ALL FIELD CONDITIONS, AND FOR ALL ACCESSORY PARTS AND HARDWARE REQUIRED. CONTRACTOR SHALL SUBMIT SHOP DRAWINGS TO THE LANDLORD FOR APPROVAL PRIOR TO CONSTRUCTION.

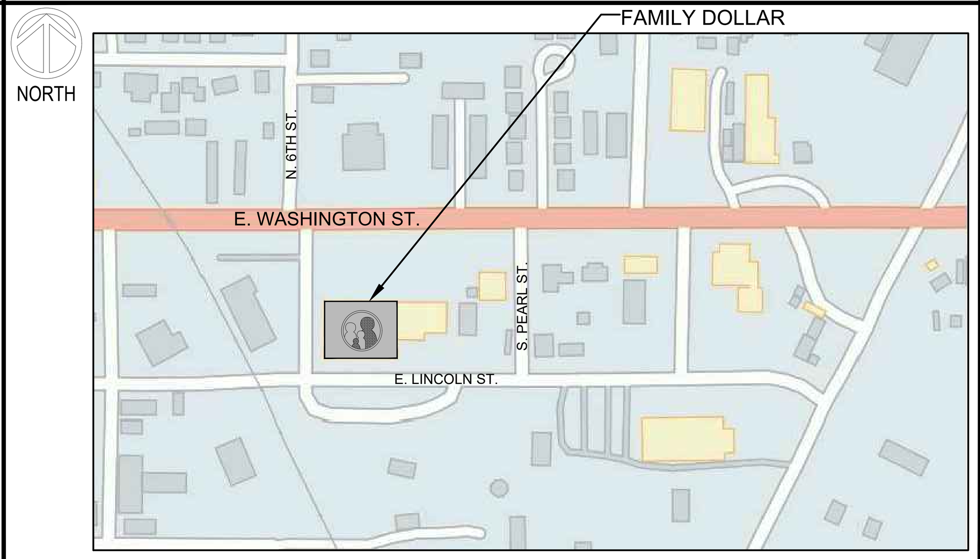
GENERAL SITE ACCESSIBILITY NOTES

1. THE EXTERIOR ROUTES OF TRAVEL AND ACCESSIBLE PARKING ARE EXISTING PRIOR TO THE OCCUPANCY OF THE NEW TENANT. ALL ACCESSIBILITY COMPLIANCE AND SITE PLANNING ISSUES OUTSIDE THE DOLLAR TREE/FAMILY DOLLAR SPACE SHALL BE THE RESPONSIBILITY OF THE PROPERTY OWNER, THEIR CONSULTANTS, PROPERTY MANAGERS, AND/OR ASSIGNED REPRESENTATIVES.
2. NO CHANGE OF OCCUPANCY OR EXTERIOR SITE MODIFICATION SHALL OCCUR WITHOUT PRIOR PERMITTING AND COMPLIANCE TO ABOVE MENTIONED CODE. REQUIRED SITE DEVELOPMENT OR COMPLIANCE TO ABOVE MENTIONED CODE SHALL BE SOLE RESPONSIBILITY OF LANDLORD AND/OR OWNER OF EXISTING BUILDING AND SITE.

KEY PLAN

SCALE: NONE

NORTH



CASCO
12 Sunnen Drive, Suite 100, St. Louis, MO 63143 T: 314.821.1100

revisions: mark | date | by | description

date	12/21/21
project	2101650
designed	JLB
drawn	JLB
checked	CMS

CASCO DIVERSIFIED CORPORATION
ARCHITECTURAL FIRM
LICENSE #000329
EXPIRES 12/31/23

PROFESSIONAL OF RECORD
Caron M. Stevenson
License No. A 006611
Expiration Date 12-31-22
PHONE: 314-821-1100

project: FAMILY DOLLAR
603 E. Washington Street, Hayti, MO 63851

drawing: NOTES AND LEGEND RESPONSIBILITY CHART AND KEY PLAN

CS1

ENVIRONMENTAL HEALTH NOTES

1. THIS FACILITY CARRIES ONLY 100 % PRE-PACKAGED FOOD TO INCLUDE THE FREEZER/COOLER PRODUCT.
2. THIS FACILITY IS A NON DINING FACILITY. NO DINING SEATING WILL BE PROVIDED TO CUSTOMERS.
3. THIS FACILITY DOES NOT PERFORM ANY TYPE OF FOOD PREPARATION WITHIN THE STORE FOR CUSTOMER CONSUMPTION AND/OR EMPLOYEE CONSUMPTION.
4. THIS FACILITY HAS NO FOOD EQUIPMENT WITHIN THE STORE.
5. THIS FACILITY WILL HAVE 3 TO 4 EMPLOYEES PER SHIFT MAXIMUM. ONE STORE MANAGER, ONE TO TWO CASHIERS AND ONE STOCKER.
6. EMPLOYEE LOCKERS- EASILY CLEANABLE LOCKERS WILL BE PROVIDED TO ALL EMPLOYEES, REFER TO FIXTURE PLAN FOR LOCATION.
7. MOP SINK- THIS FACILITY WILL BE SUPPLIED WITH A 24"x36" FLOOR MOUNTED MOP SINK WITH APPROVED VACUUM BREAKER FAUCET. WALLS SURROUNDING MOP SINK WILL HAVE FRP TO 8'-0" ABOVE FINISH FLOOR FOR EASY CLEANABLE SURFACE.
8. NSF, ANSI AND UL APPROVED- ALL EQUIPMENT WITHIN THIS FACILITY IS NSF, ANSI AND UL APPROVED, CUT SHEETS FOR EQUIPMENT AVAILABLE UPON REQUEST.
9. FINISH SCHEDULE- A FINISH SCHEDULE IS INCLUDED IN THIS SET OF CONSTRUCTION DOCUMENTS AND LOCATED ON SHEET A4 FOR YOUR USE.
10. QUESTIONS- EXAMINER PLEASE FEEL FREE TO CONTACT THE ARCHITECT AND ENGINEERS LISTED ON SHEET CS1 WITH ANY QUESTIONS OR ITEMS YOU NEED CLARIFICATION ON. ALSO YOU CAN CONTACT KEITH JOHNSON, DIRECTOR OF ARCHITECTURAL SERVICES FOR DOLLAR TREE STORES, INC AT 757-321-5435.

GENERAL NOTES

GENERAL

1. MATERIALS, EQUIPMENT, AND ASSEMBLIES SHOWN OR SPECIFIED ARE MINIMUM REQUIREMENTS OR PERFORMANCE STANDARDS. LOCAL JURISDICTIONS MAY REQUIRE PERFORMANCE STANDARDS BEYOND THOSE SHOWN OR SPECIFIED. FURTHERMORE, LOCAL JURISDICTIONS MAY PREVENT THE USE OF COMMONLY ACCEPTED MATERIALS. CONTRACTOR SHALL FAMILIARIZE HIMSELF WITH ALL LOCAL REQUIREMENTS FOR LICENSING, MATERIALS, AND PERFORMANCE STANDARDS, PRIOR TO SUBMITTING BID. ALL CONFLICTS BETWEEN THE CONTRACT DOCUMENTS AND LOCAL REQUIREMENTS SHALL BE BROUGHT TO THE OWNER'S ATTENTION AND RESOLVED, BY MUTUAL AGREEMENT, PRIOR TO SUBMISSION OF BID OR HIGHEST PRICED WORK. LOCAL REQUIREMENTS VERSUS SPECIFIED REQUIREMENTS SHALL BE INCLUDED IN THE BID.
2. THIS DESIGN CRITERIA IS PROVIDED FOR BUILDING OFFICIAL REVIEW CONVENIENCE ONLY AND IS NOT INTENDED FOR USE BY COMPONENT DESIGNERS OR MANUFACTURERS AS THEIR SOLE DESIGN CRITERIA WITHOUT VERIFICATION. EACH DESIGNER AND/OR MANUFACTURER MUST INDEPENDENTLY CONFIRM ALL CODE CRITERIA WITH WHICH HIS ELEMENTS OR COMPONENTS MUST COMPLY, INCLUDING BUT NOT LIMITED TO LOADING, APPLICATION, FUNCTIONALITY, ETC. PERFORMANCE CRITERIA PROVIDED ELSEWHERE BY A SPECIFIC DISCIPLINE SHOULD BE REGARDED AS THE MINIMUM STANDARDS ACCEPTABLE TO THE CLIENT. EACH SUPPLIER MUST EVALUATE THESE MINIMUMS AGAINST SPECIFIC INDUSTRY STANDARDS AS WELL AS CODES, LAWS, ORDINANCES, AND UNDERWRITER REQUIREMENTS GOVERNING HIS PRODUCT AS WELL AS OWNER INSURER REQUIREMENTS, AS APPLICABLE. THE MOST STRINGENT OF THESE CRITERIA SHALL GOVERN.

MOLD & MILDEW NOTES

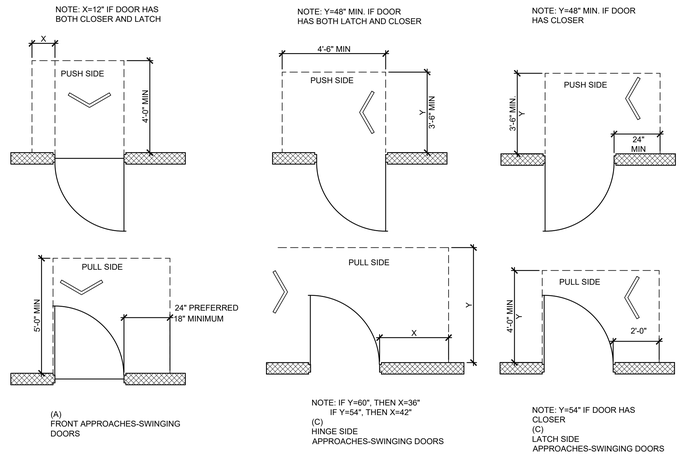
1. THE FOLLOWING REQUIREMENTS SHALL APPLY TO ALL NEW AND REMODEL CONSTRUCTION PROJECTS
2. IN THE EVENT THE CONTRACTOR DISCOVERS, AT ANY TIME DURING DEMOLITION, CONSTRUCTION, AND/OR REMODELING OPERATIONS, EXISTING CONDITIONS THAT COULD INCLUDE THE PRESENCE OF MOLD AND/OR MILDEW, THE CONTRACTOR SHALL IMMEDIATELY NOTIFY THE OWNER'S REPRESENTATIVE AND THE ARCHITECT/ENGINEER OF RECORD, IN WRITING, OF THE CONCERNS AND/OR SUSPICIONS.
3. CONCURRENTLY, THE CONTRACTOR SHALL BE RESPONSIBLE TO RETAIN A MOLD AND MILDEW CERTIFIED TESTING AGENCY TO PERFORM AN INVESTIGATION AND TESTING AS REQUIRED TO EVALUATE THE NATURE AND EXTENT OF THE PROBLEM. IF THE TESTING AGENCY CONFIRMS HAZARDS, THE CONTRACTOR SHALL BE RESPONSIBLE TO OBTAIN A MINIMUM OF TWO (2) BIDS FROM COMPANIES QUALIFIED AND LICENSED TO PERFORM ALL NECESSARY REMEDIATION WORK, COMPLYING WITH ALL LOCAL, STATE, AND FEDERAL ENVIRONMENTAL REGULATIONS, CODES, AND STATUTES.
4. ONCE DISCOVERY OR SUSPICION OF MOLD AND/OR MILDEW IS MADE, THE CONTRACTOR SHALL TAKE ALL REASONABLE AND PRACTICAL PRECAUTIONS TO PROTECT ALL CONSTRUCTION PERSONNEL AND THE PUBLIC FROM EXPOSURE TO MOLD AND/OR MILDEW, AND SUCH PRECAUTIONS SHALL REMAIN IN PLACE UNTIL SUCH TIME AS THE OWNER OR HEALTH AUTHORITY DIRECTS OTHERWISE. CONSTRUCTION OPERATIONS SHALL NOT BE STOPPED OR CURTAILED, EXCEPT IN THE AREA OF MOLD/MILDEW CONCERN, DUE TO THESE REQUIRED PRECAUTIONS.
5. THE CONTRACTOR SHALL MAKE ALL REASONABLE EFFORTS TO AVOID CONDITIONS FAVORABLE TO THE DEVELOPMENT OF MOLD AND MILDEW, ESPECIALLY IN VOIDS WHICH WILL BE CONCEALED AND NOT VENTILATED. IN ALL CASES, INTERIOR SPACES AND INTERIOR FINISHED CONSTRUCTION SHALL BE MAINTAINED IN DRY AND WELL-VENTILATED CONDITIONS.
6. THE CONTRACTOR SHALL COMPLY WITH FEDERAL ENVIRONMENTAL AND OSHA REGULATIONS AND ALL LOCAL AND STATE HEALTH DEPARTMENT REQUIREMENTS AND RECOMMENDATIONS REGARDING MOLD AND MILDEW.
7. ALL PENETRATIONS SHALL BE SEALED WATER-TIGHT TO PREVENT MOISTURE MIGRATION FROM ENTERING THE BUILDING OR WALL CAVITIES.
8. ALL CONDENSATE DRAIN PANS SHALL BE CLEANED AND KEPT FREE FROM DEBRIS UNTIL AND WHEN THE FACILITY IS TURNED OVER TO THE OWNER OR TENANT. ENSURE POSITIVE DRAINAGE AT ALL DRAIN PANS. ENSURE THAT ALL "COLD" SURFACES ARE INSULATED AND COVERED WITH A FULLY SEALED AND CONTINUOUS VAPOR BARRIER. ("COLD" SURFACES INCLUDE, BUT ARE NOT LIMITED TO, DOMESTIC COLD WATER PIPING, CHILLED WATER PIPING, INTERIOR RAIN LEADERS, OUTDOOR AIR INTAKES, AND DUCTWORK CARRYING AIR CONDITIONED SUPPLY AIR.)
9. ENSURE THAT THERE ARE NO WATER LEAKS IN CONCEALED PLUMBING CHASES. RETURN AIR PATHS AND PLENUMS SHALL BE KEPT DRY. ALL EXISTING SUPPLY AIR PATHS AND ALL EXISTING DUCTWORK TO BE RE-USED SHALL BE CLEANED AND TREATED AS REQUIRED TO REMOVE THE POTENTIAL FOR MOLD AND MILDEW. ALL DAMP AREAS SHALL BE DRIED THOROUGHLY PRIOR TO ENCLOSURE.

GENERAL FIRE PROTECTION NOTE

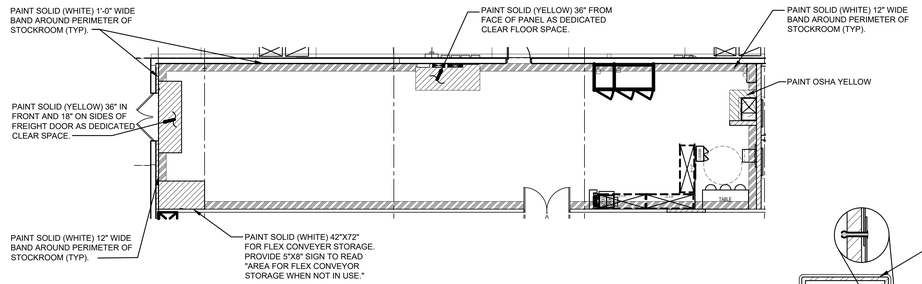
CONTRACTOR IS RESPONSIBLE FOR VERIFICATION OF LANDLORD'S AND FIRE MARSHAL'S FIRE ALARM REQUIREMENTS, SYSTEM DESIGN/BUILD, APPROVAL BY LANDLORD AND FIRE MARSHAL AND INSTALLATION USING FIRE ALARMS PANELS SPECIFIED BELOW. ARRANGE FOR CONNECTION AND MONITORING BY VECTOR SECURITY ONLY. YOU MUST PROVIDE ONE OF THE ALARM PANELS LISTED BELOW SO THAT ADT SECURITY CAN MONITOR THE SYSTEM:

A. SILENT KNIGHT 5700 - TO BE USED WHEN AHJ REQUIRES AN ADDRESSABLE PANEL.
B. DMP XR100 - TO BE USED AS A BA/FA COMBO PANEL.
C. BOSCH D7412GV2 - TO BE USED AS A BA/FA COMBO PANEL.
D. MIRTONE FS100 4RD - TO BE USED AS A STANDARD FA PANEL

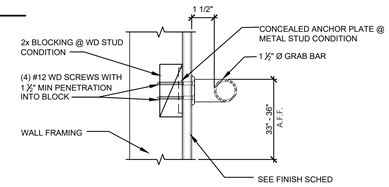
CONTACT ADT SECURITY AT 509-310-3643. ASK FOR THE DOLLAR TREE SUPPORT TEAM AT LEAST 7 DAYS PRIOR TO THE DATE YOU NEED THE PANEL DOWNLOADED SO WE CAN ASSIGN AN ACCOUNT MANAGER. YOU WILL NEED TO PROVIDE ZONE INFORMATION AND VERIFY CORRECT SIGNALS ARE BEING RECEIVED PRIOR TO INSPECTIONS BY THE FIRE MARSHAL. REFER TO NOTES IN SLM FOR ADDITIONAL IMPORTANT INFORMATION.



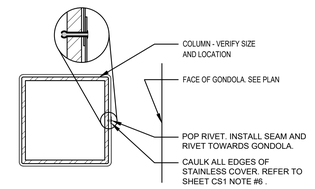
1 CS2 DIRECTION OF APPROACH
SCALE: 3/8" = 1'-0"

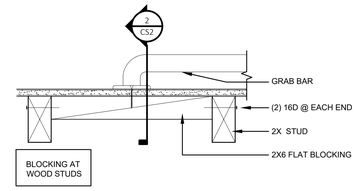


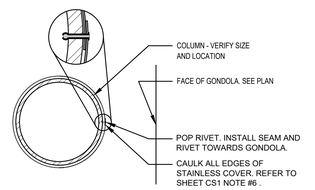
5 CS2 PARTIAL FLOORING PLAN
SCALE: 1/8" = 1'-0"

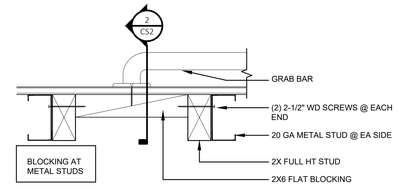


2 CS2 GRAB BAR SECTION
SCALE: 3" = 1'-0"



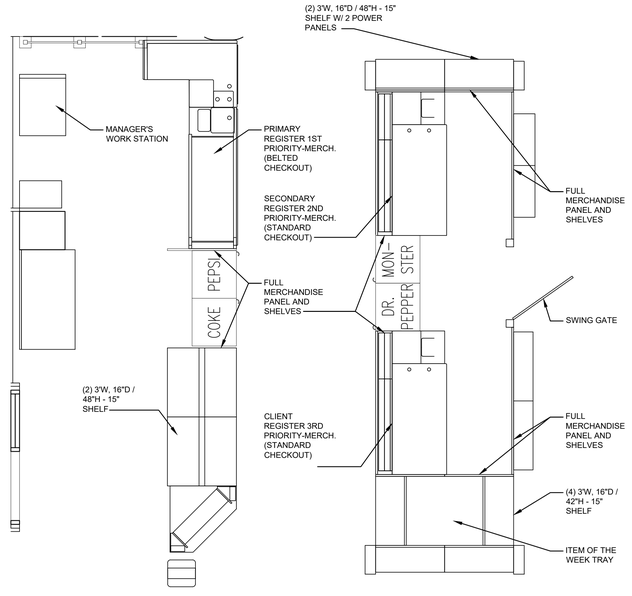






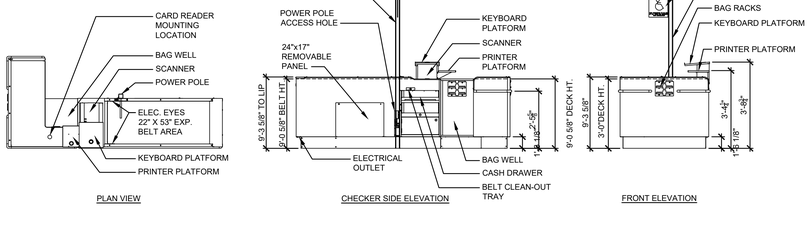
4 CS2 COLUMN DETAIL
SCALE: 3" = 1'-0"

3 CS2 GRAB BAR BLOCKING SECTION
SCALE: 3" = 1'-0"



6 CS2 TYPICAL CHECKOUT
SCALE: N.T.S.

NOTE:
1. CHECKOUTS ARE TENANT SUPPLIED.
2. CHECKOUT AISLES SHALL COMPLY WITH 2015 INTERNATIONAL BUILDING CODE SECTION 1109.11.2 (PROVIDE 2 when 5 or more)
3. PROVIDE SIGN DISPLAYING THE INTERNATIONAL SYMBOL OF ACCESSIBILITY IN BLUE AND WHITE ABOVE THE CHECKOUT AISLE IN THE SAME LOCATION AS THE CHECKOUT NUMBER OR TYPE OF CHECKOUT IDENTIFICATION.



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mark	date	description
revisions	by	

date	12/21/21
project	2101650
designed	JLB
drawn	JLB
checked	CMS

CASCO DIVERSIFIED CORPORATION
ARCHITECTURAL FIRM
LICENSE #000329
EXPIRES 12/31/23

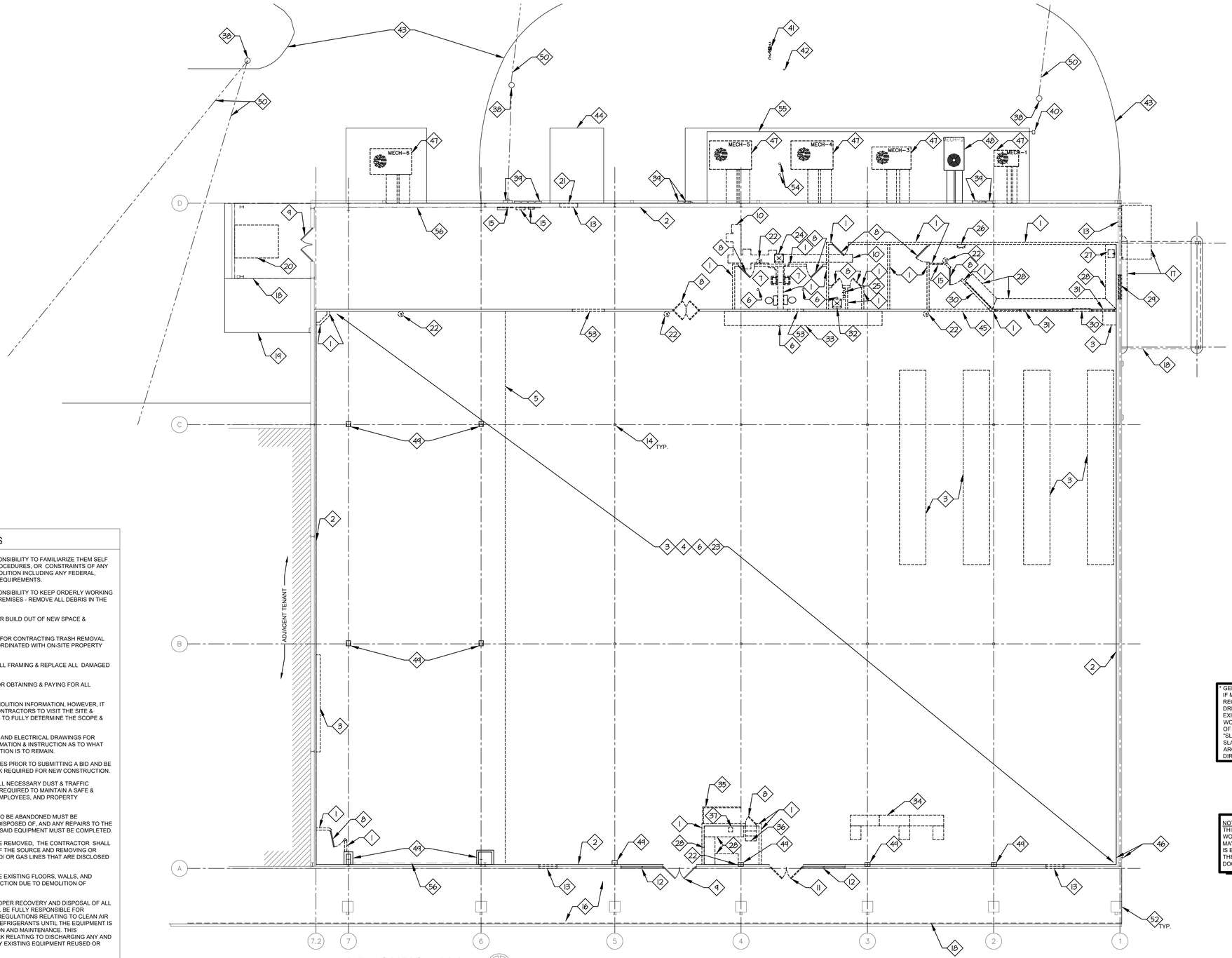
PROFESSIONAL OF RECORD

Caron M. Stevenson
License No. A 006611
Expiration Date 12-31-22

PHONE: 314-821-1100

project: FAMILY DOLLAR
603 E. Washington Street, Hayti, MO 63851
drawing: NOTES, AND ACCESSIBILITY DETAILS

CS2



1 D1 DEMOLITION PLAN

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

NORTH

GENERAL DEMOLITION NOTES

1. IT IS THE GENERAL CONTRACTOR'S RESPONSIBILITY TO FAMILIARIZE THEM SELF WITH ALL APPLICABLE CODES, RULES, PROCEDURES, OR CONSTRAINTS OF ANY KIND PRIOR TO COMMENCEMENT OF DEMOLITION INCLUDING ANY FEDERAL, STATE, CITY, MUNICIPAL, OR LANDLORD REQUIREMENTS.
2. IT IS THE GENERAL CONTRACTOR'S RESPONSIBILITY TO KEEP ORDERLY WORKING CONDITIONS WITHIN, AND AROUND THE PREMISES - REMOVE ALL DEBRIS IN THE APPROPRIATE MANNER.
3. SPACE IS TO BE BROOM CLEAN READY FOR BUILD OUT OF NEW SPACE & FINISHES.
4. GENERAL CONTRACTOR IS RESPONSIBLE FOR CONTRACTING TRASH REMOVAL SERVICE. TRASH REMOVAL MUST BE COORDINATED WITH ON-SITE PROPERTY MANAGEMENT.
5. CONTRACTOR TO PROTECT DEMISING WALL FRAMING & REPLACE ALL DAMAGED AREAS.
6. CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING & PAYING FOR ALL DEMOLITION PERMITS.
7. THIS DRAWING REFLECTS AVAILABLE DEMOLITION INFORMATION, HOWEVER, IT SHALL BE THE RESPONSIBILITY OF ALL CONTRACTORS TO VISIT THE SITE & REVIEW ALL CONSTRUCTION DOCUMENTS TO FULLY DETERMINE THE SCOPE & INTENT OF THE DEMOLITION ACTIVITY.
8. REFER TO ARCHITECTURAL, MECHANICAL AND ELECTRICAL DRAWINGS FOR ADDITIONAL SPECIFIC DEMOLITION INFORMATION & INSTRUCTION AS TO WHAT EXISTING EQUIPMENT AND/OR CONSTRUCTION IS TO REMAIN.
9. CONTRACTOR IS TO INSPECT THE PREMISES PRIOR TO SUBMITTING A BID AND BE RESPONSIBLE FOR ALL DEMOLITION WORK REQUIRED FOR NEW CONSTRUCTION.
10. GENERAL CONTRACTOR IS TO PROVIDE ALL NECESSARY DUST & TRAFFIC BARRIERS & TEMPORARY PARTITIONS AS REQUIRED TO MAINTAIN A SAFE & CLEAN ENVIRONMENT FOR THE PUBLIC, EMPLOYEES, AND PROPERTY THROUGHOUT THE PROJECT.
11. ANY EXISTING MECHANICAL EQUIPMENT TO BE ABANDONED MUST BE COMPLETELY REMOVED AND PROPERLY DISPOSED OF, AND ANY REPAIRS TO THE ROOFING SYSTEMS DUE TO REMOVAL OF SAID EQUIPMENT MUST BE COMPLETED.
12. IN ALL WALLS & FIXTURES THAT ARE TO BE REMOVED, THE CONTRACTOR SHALL BE RESPONSIBLE FOR DISCONNECTION OF THE SOURCE AND REMOVING OR CAPPING ANY ELECTRICAL, PLUMBING AND/ OR GAS LINES THAT ARE DISCLOSED AND NOT SCHEDULED FOR REUSE.
13. CONTRACTOR TO PATCH/REPAIR/REPLACE EXISTING FLOORS, WALLS, AND CEILINGS TO MATCH ADJACENT CONSTRUCTION DUE TO DEMOLITION OF FIXTURES, EQUIPMENT, AND ETC.
14. THE CONTRACTOR SHALL ADHERE TO PROPER RECOVERY AND DISPOSAL OF ALL REFRIGERANTS. THE CONTRACTOR SHALL BE FULLY RESPONSIBLE FOR COMPLIANCE WITH STATE AND FEDERAL REGULATIONS RELATING TO CLEAN AIR AND/OR VENTING OF CFC AND/OR HCFC REFRIGERANTS UNTIL THE EQUIPMENT IS TURNED OVER TO TENANT FOR OPERATION AND MAINTENANCE. THIS RESPONSIBILITY SHALL INCLUDE ALL WORK RELATING TO DISCHARGING ANY AND ALL HVAC REFRIGERANT SYSTEMS OF ANY EXISTING EQUIPMENT REUSED OR REMOVED.
15. G.C. SHALL PROVIDE ALL TEMPORARY SHORING, BRACING & PINNING OF WALLS REQUIRED TO MAINTAIN INTEGRITY OF WALL CONSTRUCTION DURING DEMOLITION & UNTIL WALL HAS BEEN COMPLETED.

DEMOLITION KEY NOTES

1. DEMOLISH EXISTING MTL. STUD AND GWB PARTITIONS COMPLETE (SHOWN DASHED, TYP.) VERIFY THAT THESE WALLS ARE NOT BEARING WALLS PRIOR TO DEMOLITION. NOTIFY ARCHITECT IMMEDIATELY.
2. EXISTING DEMISING WALL TO REMAIN.
3. REMOVE EXISTING FIXTURES AND FINISHES COMPLETE.
4. REMOVE ANY ITEMS ATTACHED TO PERIMETER WALLS, KNEE WALL(S), & FURRED COLUMNS. EXISTING PERIMETER FURRING AND GYP. BD. SHALL REMAIN. REPAIR & RESTORE TO LIKE NEW CONDITION PREPARE FOR APPLICATION OF NEW FINISHES.
5. TRANSITION OF CARPET AND VCT FLOORING. FLOORING CONTRACTOR (TENANT HIRED) SHALL REMOVE ALL EXISTING CARPET AND VCT COMPLETE. GC SHALL NOT INCLUDE IN BID.
6. CAP ALL UNUSED DRAINS & CLEANOUTS 6" BELOW CONC. FLOOR. PATCH AND REPAIR CONCRETE SLAB AS REQUIRED.
7. DEMOLISH ALL RESTROOM FIXTURES AND ACCESSORIES COMPLETE. CAP ALL UNUSED STUB-UPS 6" BELOW CONC. FLOOR. PATCH AND REPAIR CONCRETE SLAB AS REQUIRED.
8. DEMOLISH INTERIOR DOOR AND FRAME COMPLETE
9. EXISTING DOORS TO REMAIN.
10. REMOVE PORTION OF EXISTING FLOOR SLAB IN THIS AREA FOR INSTALLATION OF NEW PLUMBING LINES. REFER TO A1 AND PLUMBING DRAWINGS FOR LOCATION OF RESTROOMS AND ADDITIONAL INFORMATION. PATCH AND REPAIR SLAB AS REQUIRED AFTER PLUMBING LINE ARE INSTALLED.
11. EXISTING STOREFRONT DOOR TO BE REMOVED COMPLETE. PREPARE OPENING FOR INSTALLATION OF NEW STOREFRONT SYSTEM.
12. EXISTING ALUM./GLASS STOREFRONT TO REMAIN.
13. REMOVE PORTION OF EXTERIOR WALLS FOR ROUGH OPENING FOR NEW HOLLOW METAL DOORS. WHEN OPENING IS AT THE METAL PANEL, REMOVE EXISTING METAL WALL PANEL FOR INSTALLATION OF THE NEW DOOR OPENING AND REINSTALL METAL WALL PANEL WHEN COMPLETED. COORDINATE LOCATIONS WITH A1.
14. EXISTING T.S. COLUMNS TO REMAIN.
15. EXISTING ELECTRIC PANELS/EQUIP. TO BE REMOVED COMPLETE. REFER TO ELECTRICAL DRAWINGS FOR ADDITIONAL INFORMATION.
16. EXISTING CONCRETE SIDEWALK TO REMAIN.
17. REMOVE PORTION OF EXISTING CONCRETE CURB AND ASPHALT COMPLETE AS REQUIRED FOR NEW CONCRETE PAD, RAMP, AND LANDING. PREPARE SURFACE FOR NEW WORK AND PATCH/REPAIR ASPHALT AS REQUIRED.
18. EXISTING CANOPY ABOVE TO REMAIN.
19. EXISTING CONCRETE RAMP TO REMAIN. REPAIR AS REQUIRED.
20. EXISTING LOADING LIFT TO BE REMOVED COMPLETE.
21. REWORK CONDUIT AND GAS PIPING AS REQUIRED AT THE LOCATION OF THE NEW DOOR OPENING. MODIFY DOWNSPOUTS AS REQUIRED IF THEY CONFLICT WITH NEW DOOR OPENING.
22. EXISTING SECURITY PAD AND HVAC SENSORS TO BE REMOVED COMPLETE.
23. REMOVE CONDUIT AND PIPING THAT PROTRUDES THROUGH FLOOR COMPLETE AND TO 6" BELOW FINISHED FLOOR. PATCH AND FILL, PREPARE FLOOR FOR NEW FINISH.
24. EXISTING ELECTRICAL WATER COOLER TO BE REMOVED COMPLETE.
25. EXISTING WATER BACKFLOW TO BE REMOVED AND RELOCATED. CAP UNUSED STUB-UPS 6" BELOW CONC. FLOOR.
26. EXISTING EMERGENCY LIGHT TO BE REMOVED COMPLETE.
27. EXISTING SINK TO BE REMOVED COMPLETE. CAP ALL UNUSED STUB-UPS 6" BELOW CONC. FLOOR.
28. EXISTING COUNTER TO BE REMOVED COMPLETE.
29. EXISTING DRIVE-THRU WINDOW TO BE REMOVED COMPLETE. PREPARE OPENING FOR INFILL WALL. PATCH AND REPAIR AS REQUIRED.
30. EXISTING COILING OVERHEAD WINDOW SHUTTERS TO BE REMOVED COMPLETE.
31. EXISTING GLAZING AND KNEEWALL TO BE REMOVED COMPLETE.
32. EXISTING MOP SINK TO BE REMOVED COMPLETE.
33. EXISTING REACH-IN COOLERS TO BE REMOVED COMPLETE.
34. EXISTING CHECK OUT CABINETS AND WIRING TO BE REMOVED COMPLETE.
35. EXISTING CART RAILING TO BE REMOVED COMPLETE.
36. EXISTING ELEVATED CONCRETE/WOOD PLATFORM AND STAIRS TO BE REMOVED COMPLETE.
37. EXISTING SAFE TO BE REMOVED FROM ELEVATED FLOOR COMPLETE.
38. EXISTING TELEPHONE POLES TO REMAIN.
39. EXISTING ELECTRICAL EQUIPMENT TO REMAIN. REFER TO ELECTRICAL DRAWINGS FOR ADDITIONAL INFORMATION.
40. EXISTING GAS PIPE AND METER TO REMAIN.
41. EXISTING WATER METER AND VAULT TO REMAIN.
42. EXISTING YARD HYDRANT TO REMAIN.
43. EXISTING PAVEMENT TO REMAIN.
44. EXISTING CONCRETE PAD TO REMAIN.
45. REMOVE EXISTING SOFFIT COMPLETE.
46. EXISTING WATER HYDRANT AND INTERIOR PVC WATER LINE AT 6" ABOVE CEILING TO REMAIN.
47. EXISTING RTU AND CURB TO BE REMOVED COMPLETE. REFER TO MECHANICAL DRAWINGS FOR ADDITIONAL INFORMATION.
48. EXISTING RTU TO REMAIN.
49. EXISTING COLUMNS AND ENCLOSURES TO REMAIN. PATCH AND REPAIR AS REQUIRED.
50. EXISTING POWER LINES. VERIFY THAT HEIGHT OF THE POWER LINES WILL NOT INTERFERE WITH DELIVERY TRUCKS.
51. EXISTING RTU TO REMAIN.
52. EXISTING CMU COLUMNS TO REMAIN.
53. REMOVE PORTION OF EXISTING MTL. STUD AND GWB PARTITIONS FOR OPENING FOR NEW ELIASON DOOR AND CASED OPENING. COORDINATE LOCATION WITH A1.
54. EXISTING SEWER CLEAN OUTS TO REMAIN.
55. EXISTING GROUND MOUNTED GAS LINE TO REMAIN.
56. EXISTING CROSS BRACING TO REMAIN.

* GENERAL CONTRACTOR NOTE:
IF MODIFICATION TO THE EXISTING CONCRETE SLAB CONSTRUCTION IS REQUIRED IN ANY WAY, INCLUDING BUT NOT LIMITED TO CUTTING, DRILLING, OR ROUTING, THE GENERAL CONTRACTOR SHALL OBSERVE EXISTING CONCRETE SLAB(S) THROUGHOUT THE PLANNED AREA OF WORK AND SUBMIT EVIDENCE TO THE PROJECT ARCHITECT/ENGINEER OF RECORD ILLUSTRATING THE TYPE(S) OF SLAB CONSTRUCTION, I.E. "SLAB ON GRADE," "REINFORCED STRUCTURAL CONCRETE," ETC. THE SLAB CONSTRUCTION SHALL NOT BE MODIFIED UNTIL THE ARCHITECT/ENGINEER OF RECORD PROVIDES RESPECTIVE WRITTEN DIRECTION.

NOTE:
THIS DRAWING SET IS TO BE VIEWED AS A WHOLE. ALL WORK PERTAINING TO A SPECIFIC CONTRACTOR MAY OR MAY NOT BE SHOWN ON SPECIFIC DRAWINGS SECTIONS. IT IS EACH SUBCONTRACTOR'S RESPONSIBILITY TO PREPARE THEIR BID FROM A COMPLETE SET OF CONSTRUTCTION DOCUMENTS.

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revisions | mark | date | by | description

date 12/21/21
project 2101650
designed JLB
drawn JLB
checked CMS

CASCO DIVERSIFIED CORPORATION
ARCHITECTURAL FIRM
LICENSE #000329
EXPIRES 12/31/23

PROFESSIONAL OF RECORD

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project FAMILY DOLLAR
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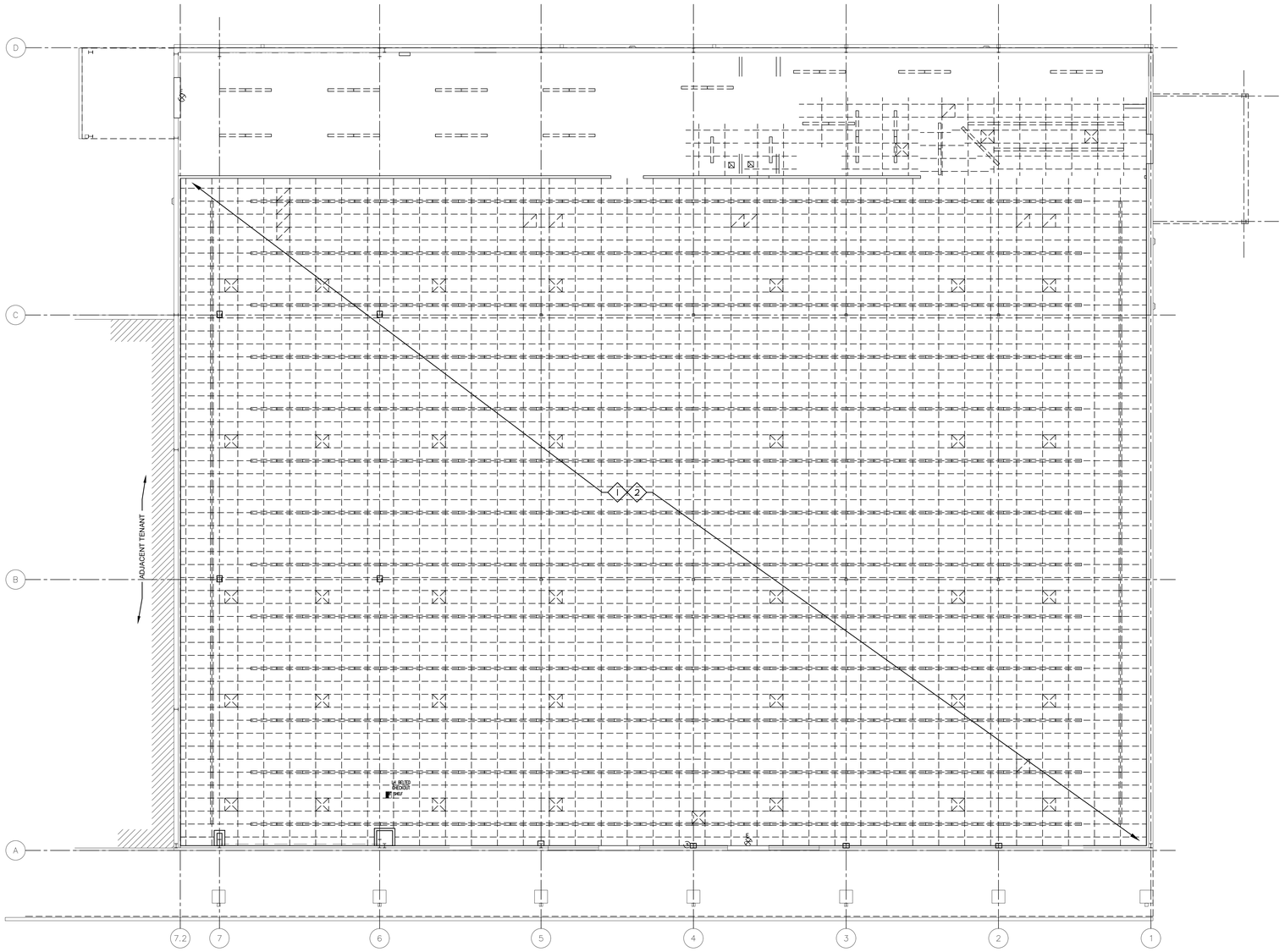
drawing DEMOLITION PLAN AND DEMOLITION NOTES

D1



1 / D1.1 REFLECTED CEILING DEMOLTION PLAN

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

NORTH

GENERAL DEMOLITION NOTES

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2. IT IS THE GENERAL CONTRACTOR'S RESPONSIBILITY TO KEEP ORDERLY WORKING CONDITIONS WITHIN, AND AROUND THE PREMISES - REMOVE ALL DEBRIS IN THE APPROPRIATE MANNER.
3. SPACE IS TO BE BROOM CLEAN READY FOR BUILD OUT OF NEW SPACE & FINISHES.
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5. CONTRACTOR TO PROTECT DEMISING WALL FRAMING & REPLACE ALL DAMAGED AREAS.
6. CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING & PAYING FOR ALL DEMOLITION PERMITS.
7. THIS DRAWING REFLECTS AVAILABLE DEMOLITION INFORMATION, HOWEVER, IT SHALL BE THE RESPONSIBILITY OF ALL CONTRACTORS TO VISIT THE SITE & REVIEW ALL CONSTRUCTION DOCUMENTS TO FULLY DETERMINE THE SCOPE & INTENT OF THE DEMOLITION ACTIVITY.
8. REFER TO ARCHITECTURAL, MECHANICAL AND ELECTRICAL DRAWINGS FOR ADDITIONAL SPECIFIC DEMOLITION INFORMATION & INSTRUCTION AS TO WHAT EXISTING EQUIPMENT AND/OR CONSTRUCTION IS TO REMAIN.
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11. ANY EXISTING MECHANICAL EQUIPMENT TO BE ABANDONED MUST BE COMPLETELY REMOVED AND PROPERLY DISPOSED OF. AND ANY REPAIRS TO THE ROOFING SYSTEMS DUE TO REMOVAL OF SAID EQUIPMENT MUST BE COMPLETED.
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15. G.C. SHALL PROVIDE ALL TEMPORARY SHORING, BRACING & PINNING OF WALLS REQUIRED TO MAINTAIN INTEGRITY OF WALL CONSTRUCTION DURING DEMOLITION & UNTIL WALL HAS BEEN COMPLETED.

DEMOLITION KEY NOTES

1. DEMOLISH CEILING GRID, TILE, LIGHTS (BACK TO SOURCE), AND ALL OTHER RELATED CEILING ITEMS COMPLETE (I.E. DIFFUSERS, SPEAKERS, EMERG. LIGHTS, DUCTWORK, ETC.) REFER TO ELECTRICAL/MECHANICAL DRAWINGS FOR ADDITIONAL INFORMATION. ALL DUCT PENETRATIONS THROUGH THE METAL WALL PANELS TO BE FRAMED WITH LIGHT GAUGE METAL STUDS. SEE MECHANICAL DRAWINGS FOR DUCT SIZES.
2. EXISTING BATT INSULATION ON TOP OF THE CEILING TO BE REMOVED COMPLETE.

NOTE:
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PHONE 314-821-1100

project FAMILY DOLLAR
603 E. Washington Street, Hayti, MO 63851
drawing DEMOLITION CEILING PLAN AND DEMOLITION NOTES

D1.1

WALL CONSTRUCTION TYPES

7 EXTERIOR WALL: EXISTING PEMB WALL WITH CMU VENEER ON THE FACADE AND METAL STUDS WITH GWB ON THE INTERIOR SIDE TO 6" ABOVE ABOVE CEILING. PATCH AND REPAIR TO LIKE NEW CONDITION. REFER TO SHEET A3 FOR GONDOLA LOCATION IF REQUIRED IN THE SALES AREA. REFER TO SECTION 7/A4 FOR GONDOLA ATTACHMENT IF REQUIRED IN THE SALES AREA. FINISH PER FINISH SCHEDULE, SHEET A4.

2 PARTITION WALL: NEW 6" (20 GAUGE) METAL STUDS @ 16" O.C. WITH 5/8" GWB (WR GWB @ PLUMBING FIXTURES) ON EACH SIDE TO ROOF DECK. REFER TO DETAIL 6/A4 FOR ADDITIONAL INFORMATION. REFER TO SHEET A3 FOR GONDOLA LOCATION IF REQUIRED IN THE SALES AREA. REFER TO SECTION 7/A4 FOR GONDOLA ATTACHMENT IF REQUIRED IN THE SALES AREA. FINISH PER FINISH SCHEDULE, SHEET A4.

3 PARTITION WALL: NEW 3 5/8" (20 GAUGE) METAL STUDS @ 16" O.C. WITH ONE LAYER OF 5/8" GWB (WR GWB @ PLUMBING FIXTURES) ON EACH SIDE TO FINISHED CEILING. REFER TO DETAIL 1/A4 FOR ADDITIONAL REQUIREMENTS. FINISH PER FINISH SCHEDULE, SHEET A4.

4 PARTITION WALL: NEW 6" (20 GAUGE) METAL STUDS @ 16" O.C. WITH ONE LAYER OF 5/8" GWB (WR GWB @ PLUMBING FIXTURES) ON EACH SIDE TO 6" A.F.C. BRACE WALL TO STRUCTURE AS REQUIRED. FINISH PER FINISH SCHEDULE, SHEET A4.

5 PARTITION WALL: NEW 3 5/8" (20 GAUGE) METAL STUDS @ 16" O.C. WITH 5/8" GWB (WR GWB @ PLUMBING FIXTURES) ON EACH SIDE TO ROOF DECK. FINISH PER FINISH SCHEDULE, SHEET A4.

6 EXTERIOR WALL & STOREFRONT BUMP-OUTS: EXISTING METAL STUD WALL WITH GWB ON INTERIOR SIDE TO 6" AFC. PATCH AND REPAIR TO LIKE NEW CONDITION. SEE DETAIL 8/A4 FOR ADDITIONAL REQUIREMENTS. REFER TO SHEET A3 FOR GONDOLA ATTACHMENT IF REQUIRED IN THE SALES AREA. REFER TO SECTION 7/A4 FOR GONDOLA ATTACHMENT IF REQUIRED IN THE SALES AREA. FINISH PER FINISH SCHEDULE, SHEET A4.

7 EXTERIOR WALL: NEW 3 5/8" (20 GAUGE) METAL STUDS @ 16" O.C. WITH ONE LAYER OF 5/8" GWB ON THE INTERIOR SIDE TO ROOF DECK. FINISH PER FINISH SCHEDULE, SHEET A4.

8 EXISTING WALL: EXISTING PEMB WALL. PATCH AND REPAIR TO LIKE NEW CONDITION. FINISH PER FINISH SCHEDULE, SHEET A4.

9 INFILL PARTITION: NEW 3 5/8" (20 GAUGE) METAL STUDS @ 16" OC WITH ONE LAYER 5/8" GWB ON BOTH SIDES TO THE UNDERSIDE OF THE DOOR OPENING. ALIGN WITH ADJACENT SURFACES. REFER TO DETAIL 6/A4 FOR ADDITIONAL INFORMATION. REFER TO SHEET A3 FOR GONDOLA LOCATION IF REQUIRED IN THE SALES AREA. REFER TO SECTION 7/A4 FOR GONDOLA ATTACHMENT IF REQUIRED IN THE SALES AREA. FINISH PER FINISH SCHEDULE, SHEET A4.

10 PARTITION WALL: EXISTING 3 5/8" METAL STUDS WITH EXISTING GWB EACH SIDE TO DECK. PATCH AND REPAIR TO LIKE NEW CONDITION. REFER TO DETAIL 6/A4 FOR ADDITIONAL INFORMATION. REFER TO SHEET A3 FOR GONDOLA LOCATION IF REQUIRED IN THE SALES AREA. REFER TO SECTION 7/A4 FOR GONDOLA ATTACHMENT IF REQUIRED IN THE SALES AREA. FINISH PER FINISH SCHEDULE, SHEET A4.

11 PARTITION WALL: NEW 6" (20 GAUGE) @ 16" OC WITH ONE LAYER 5/8" GWB (WR GWB @ PLUMBING FIXTURES) ON EACH SIDE TO 10'-0" A.F.F. BRACE WALL TO STRUCTURE AS REQUIRED. FINISH PER FINISH SCHEDULE, SHEET A4.

12 INFILL EXTERIOR WALL: INFILL OPENING TO MATCH ADJACENT WALL. ALIGN INTERIOR AND EXTERIOR SURFACES.

13 PARTITION WALL: NEW 2 1/2" (20 GAUGE) METAL STUDS @ 16" O.C. WITH ONE LAYER OF 5/8" GWB (WR GWB @ PLUMBING FIXTURES) ON ONE SIDE TO FINISHED CEILING. REFER TO DETAIL 1/A4 FOR ADDITIONAL REQUIREMENTS. FINISH PER FINISH SCHEDULE, SHEET A4.

14 INTERIOR WALL ABOVE: INTERIOR METAL STUDS AND GWB WITH BATT INSULTION (R-13) TO INFILL OPENING FROM TOP OF EXISTING WALL TO STRUCTURE ABOVE TO MATCH EXISTING CONSTRUCTION OF WALL BELOW TO CLOSE OFF EXPOSED OPENING AT THE CANOPY AND STOREFRONT WALL. FACE OF INTERIOR WALL TO ALIGN. FINISH PER FINISH SCHEDULE, SHEET A4.

SCOPE OF WORK REFLECTED IN THESE DRAWINGS, BY THE TENANT, IS INTERIOR WORK ONLY. ALL EXTERIOR MODIFICATION, IF REQUIRED, IS THE RESPONSIBILITY OF THE LANDLORD.

NOTE:
ALL ACCESSIBILITY COMPLIANCE AND SITE PLANNING ISSUES OUTSIDE THE FAMILY DOLLAR LEASED PREMISES SHALL BE THE RESPONSIBILITY OF THE PROPERTY OWNER, THEIR CONSULTANTS, PROPERTY MANAGERS, AND/OR ASSIGNED REPRESENTATIVES. (SEE CS1)

NOTE:
VERIFY LOCATION OF CHECKOUTS, REACH-IN F/C & WALK-IN F/C WITH FIXTURE PLAN. IF THERE IS ANY CONFLICTS WITH LOCATIONS OF CHECKOUTS, CONTACT CONSTRUCTION PROJECT MANAGER FOR DIRECTION.

NOTE:
CONTRACTOR SHALL VERIFY WITH CPM ANY PROPOSED CUSTOM INTERIOR WINDOW GRAPHICS/FILM PRIOR TO BUILDING INFILL WALL AT STOREFRONT.

NOTE:
INTERIOR DOORS TO BE INSTALLED SO THAT HINGE SIDE OF DOOR IS 4" OFF CORNER, U.N.O.

NOTE:
FIELD DETERMINE WALL CONDITION FOR DIAGONAL CROSS BRACING OR GIRTS IN LOCATION OF ALL NEW DOOR OPENINGS. CONTACT ARCHITECT IF DOOR OPENING INTERFERES WITH ANY EXISTING CROSS BRACING OR GIRTS.

NOTE:
MODIFY EXISTING DUCTWORK OPENINGS AS REQUIRED FOR NEW HVAC UNITS AND DUCTWORK AT EXISTING LOCATIONS. PATCH AND REPAIR AS REQUIRED.

FAMILY DOLLAR

GENERAL INFORMATION:

SHOPPING CENTER:	HAYTI, MO
TOTAL SQUARE FOOTAGE:	18,631 SF
CITY:	HAYTI
STATE:	MO
CEILING HEIGHT (SALES AREA):	11'-8" A.F.F.
SPRINKLERED:	NO

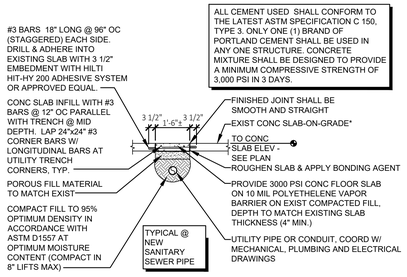
SQUARE FOOTAGES

FAMILY DOLLAR TOTAL SF:	12,966	SF	
SALES FLOOR AREA:	10,502	SF	
NON-SALES AREA:	2,464	SF	19.0%
USABLE STOCKROOM:	1,232	SF	9.5%
USABLE SALES FLOOR	10,293		

DECK HEIGHT: 13'-3"±

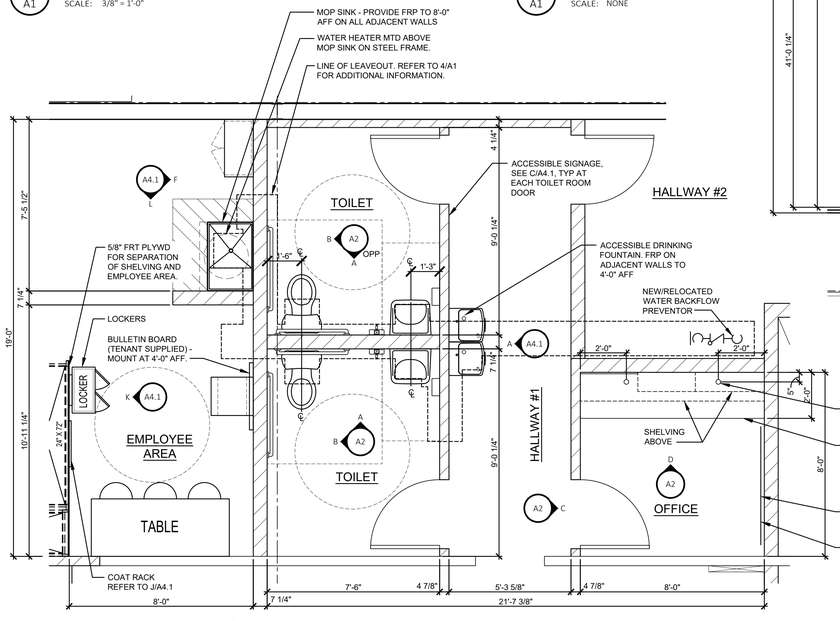
* GENERAL CONTRACTOR NOTE:
IF MODIFICATION TO THE EXISTING CONCRETE SLAB CONSTRUCTION IS REQUIRED IN ANY WAY, INCLUDING BUT NOT LIMITED TO CUTTING, DRILLING, OR ROUTING, THE GENERAL CONTRACTOR SHALL OBSERVE EXISTING CONCRETE SLAB(S) THROUGHOUT THE PLANNED AREA OF WORK AND SUBMIT EVIDENCE TO THE PROJECT ARCHITECT/ENGINEER OF RECORD ILLUSTRATING THE TYPE(S) OF SLAB CONSTRUCTION, I.E. "SLAB ON GRADE," "REINFORCED STRUCTURAL CONCRETE," ETC. THE SLAB CONSTRUCTION SHALL NOT BE MODIFIED UNTIL THE ARCHITECT/ENGINEER OF RECORD PROVIDES RESPECTIVE WRITTEN DIRECTION.

ALL CEMENT USED SHALL CONFORM TO THE LATEST ASTM SPECIFICATION C 150, TYPE 3. ONLY ONE (1) BRAND OF PORTLAND CEMENT SHALL BE USED IN ANY ONE STRUCTURE. CONCRETE MIXTURE SHALL BE DESIGNED TO PROVIDE A MINIMUM COMPRESSIVE STRENGTH OF 3,000 PSI IN 3 DAYS.

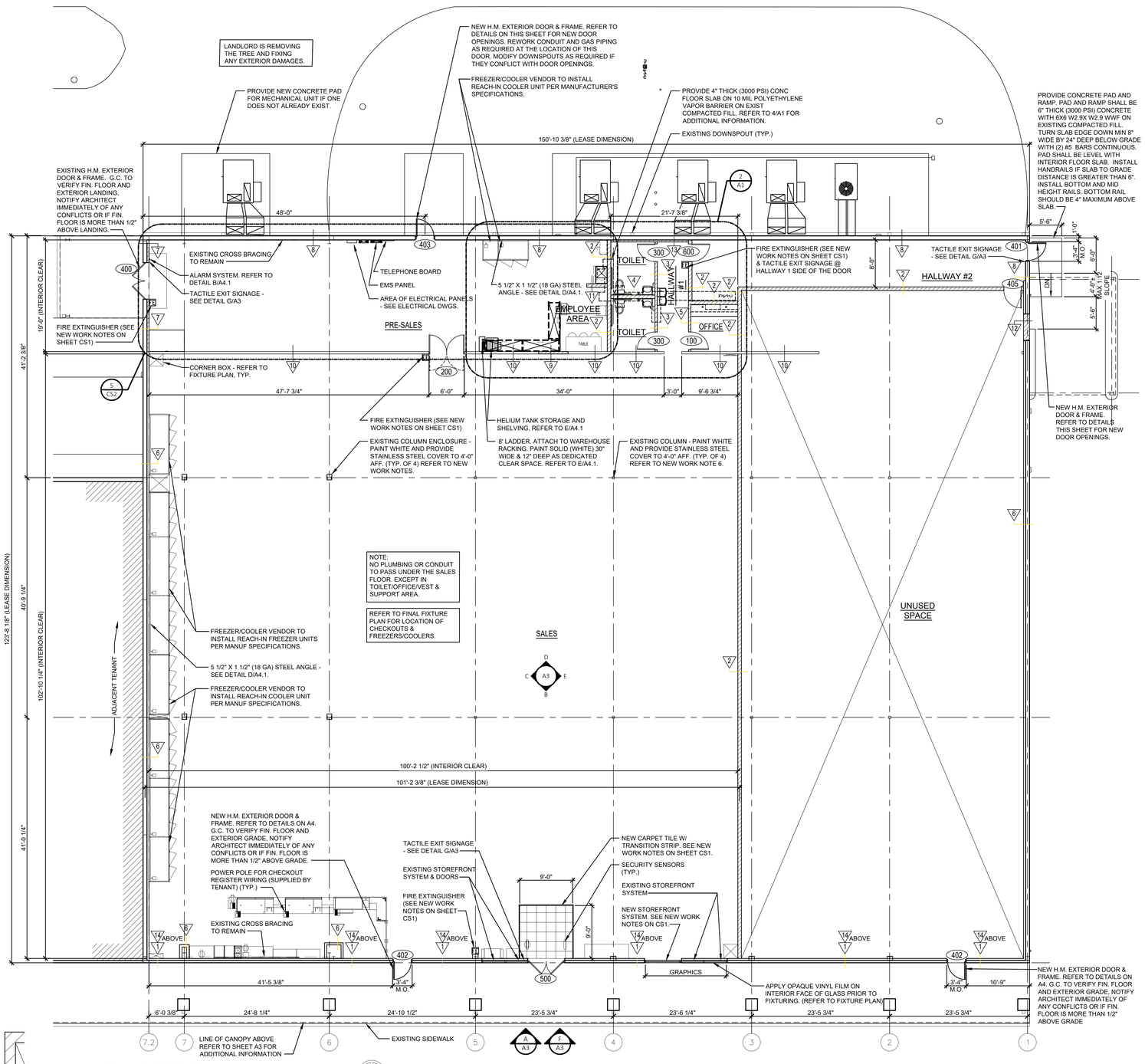


4 A1 SLAB INFILL DETAIL
SCALE: 3/8" = 1'-0"

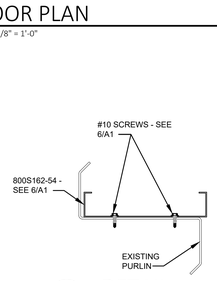
3 A1 NOT USED
SCALE: NONE



2 A1 ENLARGED PLANS
SCALE: 3/8" = 1'-0"

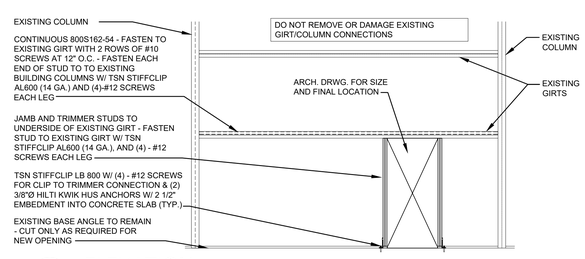


1 A1 FLOOR PLAN
SCALE: 1/8" = 1'-0"



6 A1 TRIMMER STUD TO GIRT DTL
SCALE: 3" = 1'-0"

5 A1 DETAIL
SCALE: 3" = 1'-0"



7 A1 ELEVATION
SCALE: 1/4" = 1'-0"

CASCO
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mark	date	description
		by

date	12/21/21
project	2101650
designed	JLB
drawn	JLB
checked	CMS

CASCO DIVERSIFIED CORPORATION
ARCHITECTURAL FIRM
LICENSE #000329
EXPIRES 12/31/23

PROFESSIONAL OF RECORD

Caron M. Stevenson
License No. A 006611
Expiration Date 12-31-22

PHONE: 314-821-1100

project: FAMILY DOLLAR
603 E. Washington Street, Hayti, MO 63851
drawing: FLOOR PLAN, WALL CONSTRUCTION TYPES AND ENGLARGED OFFICE, TOILET, AND EMPLOYEE AREA PLANS

A1

REFLECTED CEILING LEGEND

- NEW 2'-0"X4'-0" ACOUSTICAL CEILING TILE AND GRID- SEE FINISH NOTE 4.
- NEW GWB - PAINT WHITE UNLESS OTHERWISE NOTED.
- NEW 8'-0" STRIP LED LIGHT FIXTURE WITH LAMPS ON NIGHT LIGHT CIRCUIT. SURFACE MOUNT TO GWB, ACT CEILING OR PER DETAIL NOTED. (NL)
- NEW 8'-0" STRIP LED LIGHT FIXTURE. SURFACE MOUNT TO GWB, ACT CEILING OR PER DETAIL NOTED.
- NEW 8'-0" STRIP LED LIGHT FIXTURE WITH LAMPS ON EMERGENCY LIGHT CIRCUIT WITH BATTERY PACK. SURFACE MOUNT TO GWB, ACT CEILING OR PER DETAIL NOTED. FOR FIXTURES WITH 2 LAMPS, THE EMERGENCY BATTERY PACK WILL ONLY OPERATE 1 OF THE LAMPS. (EM)
- NEW 4'-0" STRIP LED LIGHT FIXTURE WITH LAMPS ON NIGHT LIGHT CIRCUIT. SURFACE MOUNT TO TO GWB, ACT CEILING OR PER DETAIL NOTED. (NL)
- NEW 4'-0" STRIP LED LIGHT FIXTURE. SURFACE MOUNT TO ACT, GWB CEILING OR PER DETAIL NOTED.
- NEW 4'-0" STRIP LED LIGHT FIXTURE WITH LAMPS ON EMERGENCY LIGHT CIRCUIT WITH BATTERY PACK. SURFACE MOUNT TO TO GWB, ACT CEILING OR PER DETAIL NOTED. (EM)
- EXIST 4'-0" STRIP LIGHT FIXTURE. SURFACE MOUNT TO GWB, ACT CEILING OR PER DETAIL NOTED.
- EXIST 8'-0" STRIP LIGHT FIXTURE. SURFACE MOUNT TO GWB, ACT CEILING OR PER DETAIL NOTED.
- NEW 8'-0" LED STRIP LIGHT WITH INTEGRAL BATTERY UNIT. SURFACE MOUNT TO GWB, ACT CEILING OR PER DETAIL NOTED. EMERGENCY LIGHT - WIRE BATTERY INVERTER TO HOT WIRE. FOR FIXTURES WITH 2 LAMPS, THE INTEGRAL BATTERY WILL ONLY OPERATE 1 OF THE LAMPS. (EM)
- NEW 4'-0" STRIP LED LIGHT WITH INTEGRAL BATTERY UNIT. SURFACE MOUNT TO TO GWB, ACT CEILING OR PER DETAIL NOTED. EMERGENCY LIGHT - WIRE BATTERY INVERTER TO HOT WIRE. (EM)
- CEILING OCCUPANCY SENSOR MODEL CMR-PDT-2P
- EXIT LIGHT
- SECURITY CAMERA DOME (SCD)
- SECURITY CAMERA DOME MTD ON WALL @ 10'-0" AFF.
- VENTILATION FAN
- CEILING HEIGHT ABOVE FINISH FLOOR
- DIFFUSER
- RETURN AIR GRILLE
- POWER POLE
- CONCENTRIC DIFFUSER/RETURN
- MIRROR PANEL
- EXTERIOR EMERGENCY LIGHT AND BATTERY BACKUP.
- INTERIOR EMERGENCY LIGHT AND BATTERY BACKUP.
- SECURITY MONITOR

NOTE: ALL CONDUIT SHALL BE INSTALLED INSIDE WALL TO EXTEND 6" ABOVE SALES FLOOR CEILING. ALL CONDUIT STUBS SHALL BE FINISHED WITH CONNECTOR/BUSHING AND HAVE PULL STRINGS INSTALLED. ALL CONDUIT SHALL BE 3/4" UNLESS OTHERWISE NOTED. ALL CONDUIT & BOXES ARE DIMENSIONED TO CENTERLINE. CONTRACTOR SHALL LABEL TOP OF CONDUIT TO MATCH LABELS ON JACKS/JUNCTIONS BELOW.

NOTE: CONTRACTOR SHALL LABEL ALL PHONE JACKS/JUNCTIONS AS PER ELEVATION.

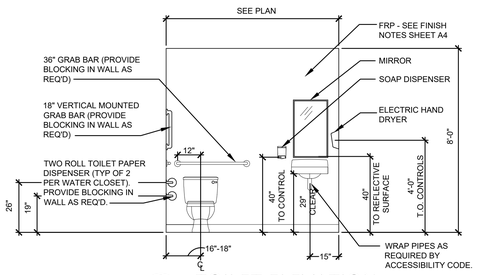
NOTE: ALL LOW-VOLTAGE FACEPLATES AND LOW-VOLTAGE WIRING WILL BE PROVIDED AND INSTALLED BY TENANT'S DATA CONTRACTOR.

NOTE:

TOILET ACCESSORIES ARE TENANT SUPPLIED - INCLUDING GRAB BARS, TOILET PAPER DISPENSER, MIRROR AND HAND DRYER.

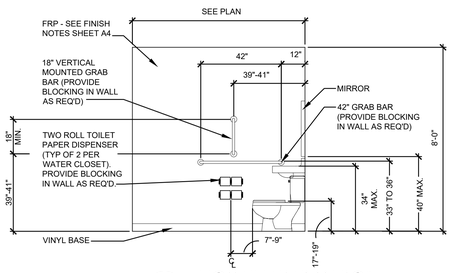
THE ELECTRIC HAND DRYER WILL NOT EXTEND MORE THAN 4" FROM THE WALL ON WHICH IT IS MOUNTED UNLESS IT HAS A LEADING EDGE AT OR BELOW 27" ABOVE FINISHED FLOOR.

FLUSH CONTROLS SHALL BE LOCATED ON THE OPEN SIDE OF THE WATER CLOSET.



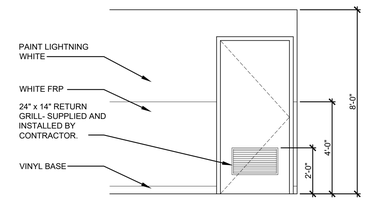
A A2 TOILET ELEVATION

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



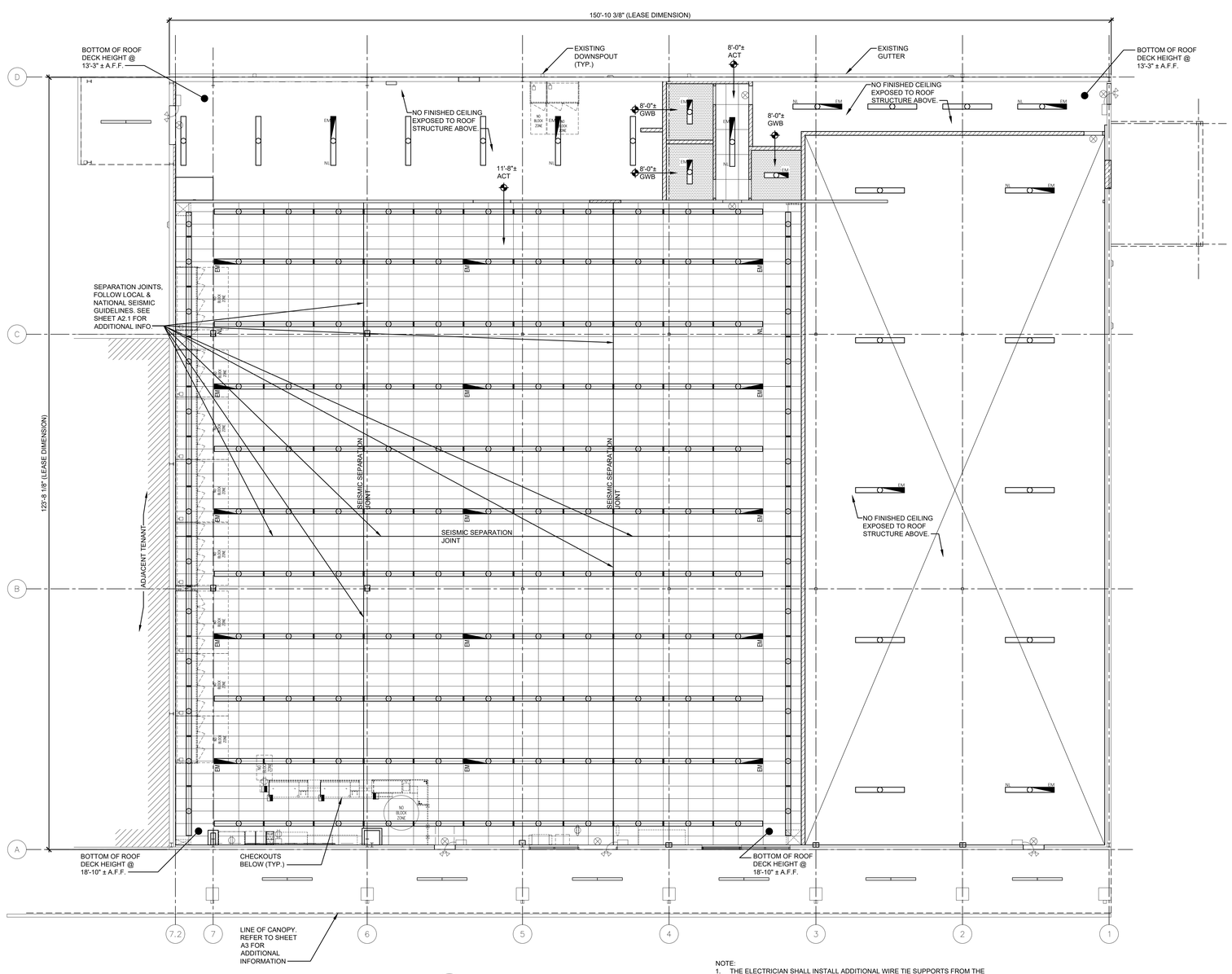
B A2 TOILET ELEVATION

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



C A2 OFFICE ELEVATION

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

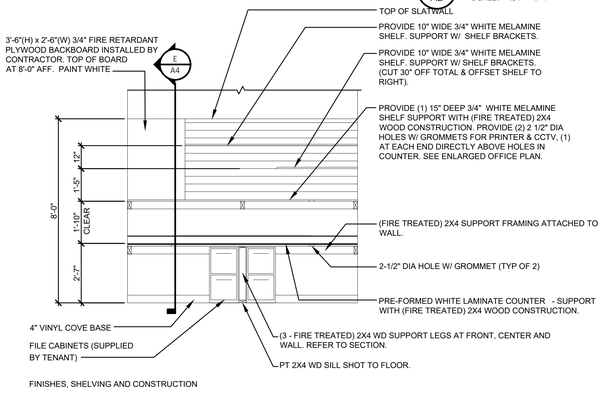


1 A2 REFLECTED CEILING PLAN

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

NORTH

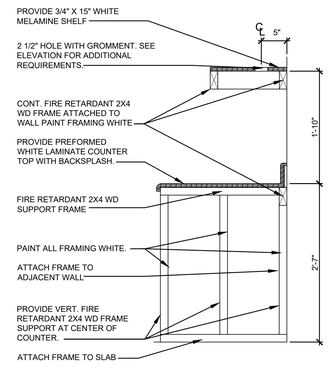
NOTE:
1. THE ELECTRICIAN SHALL INSTALL ADDITIONAL WIRE TIE SUPPORTS FROM THE CEILING GRID TO THE STRUCTURE ABOVE FOR SUPPORT OF THE LIGHT FIXTURES CLIPPED ON THE GRID.
2. LIGHT FIXTURES ARE SUPPLIED BY TENANT FOR CONTRACTOR'S INSTALLATION.
3. MOUNT LIGHTS AT 10'-0" A.F.F. IN STOCKROOM.
4. FOR SEISMIC CEILING DETAILS, REFER TO SHEET A2.1
5. REFER TO SHEET A2.1 FOR A TYPICAL SEISMIC SEPARATION JOINT. 2,500 SF MAXIMUM AREA.



FINISHES, SHELVING AND CONSTRUCTION

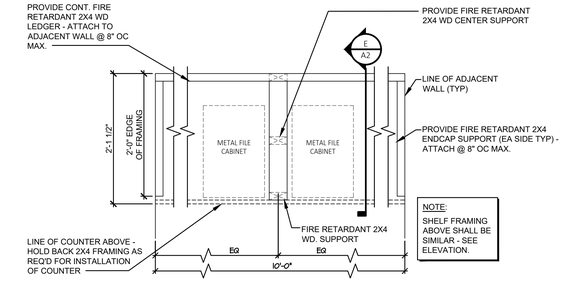
D A2 OFFICE ELEVATION

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



E A2 OFFICE SECTION

SCALE: 1" = 1'-0"



F A2 OFFICE SECTION

SCALE: 1" = 1'-0"

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mark	date	revisions	by
		description	

date 12/21/21
project 2101650
designed JLB
drawn JLB
checked CMS

CASCO DIVERSIFIED CORPORATION
ARCHITECTURAL FIRM
LICENSE #000329
EXPIRES 12/31/23

PROFESSIONAL OF RECORD

Caron M. Stevenson
License No. A 006611
Expiration Date 12-31-22

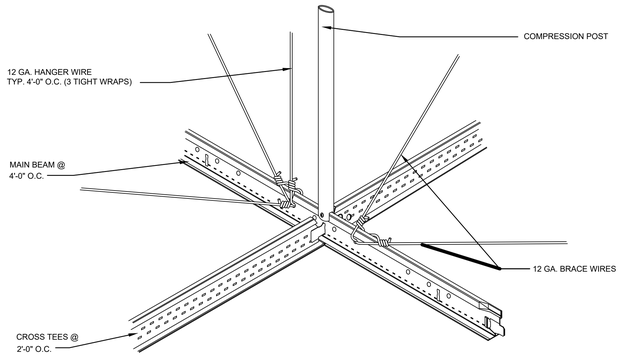
PHONE: 314-821-1100

project **FAMILY DOLLAR**

603 E. Washington Street, Hayti, MO 63851

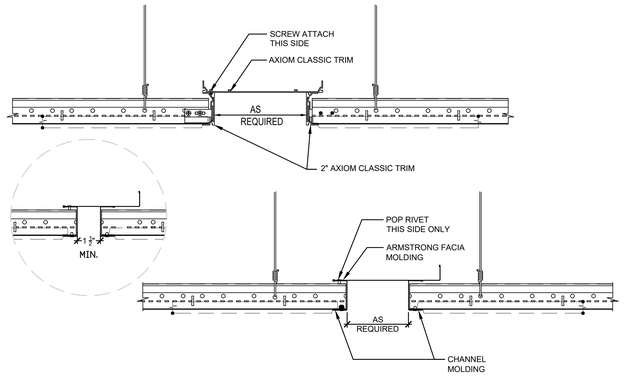
drawing REFLECTED CEILING PLAN, LEGEND AND NOTES, OFFICE ELEVATIONS & TOILET ELEVATIONS

A2



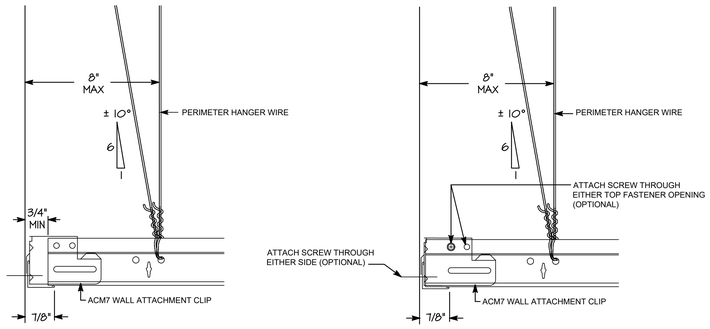
1 A2.1 SUSPENDED CEILING DETAIL

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



3 A2.1 ACCEPTABLE SEISMIC SEPARATION JOINTS

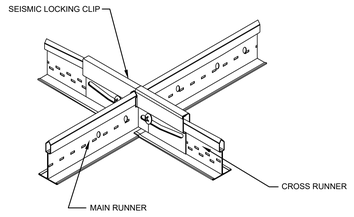
SCALE: 1/8" = 1'-0"



"FLOATING WALL" "TIGHT WALL"

2 A2.1 TYPICAL PERIMETER WALL MOLDING DETAIL

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



1. METAL SUSPENSION SYSTEM AND INSTALLATION FOR ACOUSTICAL TILE AND LAY-IN PANEL CEILINGS SHALL CONFORM TO THE REQUIREMENTS OF ALL LOCAL AND NATIONAL SEISMIC CODES.

4 A2.1 SUSPENDED CEILING DETAIL

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

NOTE:
CONTRACTOR SHALL INSTALL SEISMIC BRACING AS SHOWN. ANY DEVIATION FROM DESIGN TO 'EQUAL' SYSTEM SHALL REQUIRE PRIOR APPROVAL OF FAMILY DOLLAR CONSTRUCTION PM, ARCHITECT, AND CODE COMPLIANCE JURISDICTION. REQUEST FOR DEVIATION SHALL BE SUBMITTED IN FORM OF SHOP DRAWINGS WITH ALL ACCOMPANYING SPECIFICAITON SHEETS. CONTRACTOR SHALL DETERMINE AND COMPLY WITH ALL REQUIRED INSPECTIONS AND APPROVAL OF CEILING SYSTEM APPLICATION.

PREFERRED SEISMIC CEILING BRACING SYSTEM MANUFACTURER SHALL BE ARMSTRONG.

1. BRACING OF SUSPENDED CEILINGS SHALL COMPLY WITH ALL LOCAL AND NATIONAL SEISMIC CODES TO RESIST LATERAL LOADS PER APPROPRIATE SEISMIC ZONE.
   - A. A HEAVY DUTY T-BAR GRID SYSTEM SHALL BE USED.
   - B. THE WIDTH OF THE PERIMETER SUPPORTING CLOSURE ANGLE SHALL BE NOT LESS THAN 2". IN EACH ORTHOGONAL HORIZONTAL DIRECTION, ONE END OF THE CEILING GRID SHALL BE ATTACHED TO THE CLOSURE ANGLE. THE OTHER END IN EACH HORIZONTAL DIRECTION SHALL HAVE A 3/4" CLEARANCE FROM THE WALL AND SHALL REST UPON AND BE FREE TO SLIDE ON THE 2" CLOSURE ANGLE. THE MAIN AND CROSS RUNNERS SHALL BE TIED TOGETHER TO PREVENT TWISTING.
   - C. PROVIDE NO. 12 GAUGE VERTICAL SUPPORT WIRES ON THE MAIN AND CROSS RUNNERS A MAXIMUM DISTANCE OF 8" FROM THE WALL. ADDITIONAL VERTICAL SUPPORT WIRES ARE NEEDED IN THE FOLLOWING LOCATIONS:
     1. 4' ON CENTER SPACING ALONG THE MAIN RUNNER.
     2. LIGHT FIXTURES MUST BE POSITIVELY ATTACHED TO THE CEILING GRID WITH AN ATTACHMENT CAPABLE OF CARRYING 100% OF THE WEIGHT OF THE LIGHT FIXTURE. LIGHT FIXTURES WEIGHING UP TO 56 POUNDS REQUIRE TWO VERTICAL SUPPORT WIRES. THESE WIRES MAY BE SLACK. LIGHT FIXTURES WEIGHING MORE THAN 56 POUNDS SHALL REQUIRE INDEPENDENT SUPPORT FROM THE SHELL BUILDING STRUCTURE ABOVE THE CEILING.
     3. MECHANICAL AIR TERMINALS WEIGHING LESS THAN 20 POUNDS SHALL BE POSITIVELY ATTACHED TO THE CEILING GRID. AIR TERMINALS WEIGHING 20 POUNDS BUT NOT MORE THAN 56 POUNDS SHALL BE SECURED TO THE SHELL BUILDING STRUCTURE ABOVE THE CEILING IN ADDITION TO ATTACHING THE AIR TERMINAL TO THE CEILING GRID. THESE TWO NO. 12 GAUGE WIRES MAY BE SLACK. AIR TERMINALS WEIGHING MORE THAN 56 POUNDS SHALL REQUIRE INDEPENDENT SUPPORT FORM THE SHELL BUILDING STRUCTURE ABOVE THE CEILING.
   - D. SPRINKLER HEADS AND OTHER PENETRATIONS OF THE SUSPENDED CEILING SHALL HAVE A 2" OVERSIZE RING, SLEEVE, OR ADAPTOR TO ALLOW 1" HORIZONTAL MOVEMENT IN ALL DIRECTIONS.
   - E. ALL PARTITIONS GREATER THAN 6' IN HEIGHT SHALL BE INDEPENDENTLY BRACED TO THE BUILDING SHELL STRUCTURE. PARTITIONS MAY NOT BE SUPPORTED BY THE BRACED SUSPENDED CEILING ALONE.
   - F. IN ADDITION TO ITEMS A THROUGH E ABOVE, SUSPENDED CEILINGS EXCEEDING 1,000 SQ. FT. IN AREA REQUIRE FOUR NO. 12 GAUGE SPLAY WIRES AND A RIGID VERTICAL COMPRESSION POST EVERY 12 FT. ON CENTER STARTING A MAXIMUM OF 6 FT. FROM EACH WALL. THE SPLAY WIRES SHALL BE SECURED TO THE MAIN RUNNER WITHIN 2 INCHES OF THE CROSS RUNNER INTERSECTION AND SPLAYED 90 DEGREES FROM EACH OTHER AT AN ANGLE NOT EXCEEDING 45 DEGREES FROM THE PLANE OF THE CEILING.
   - G. IN ADDITION TO ITEMS A THROUGH F ABOVE, SUSPENDED CEILINGS EXCEEDING 2,500 SQ. FT. SHALL HAVE A SEPARATION JOINT. REFER TO SHEET A2 FOR LOCATIONS.
   - H. BRACING WIRES TO BE ATTACHED A MAXIMUM OF 45° TO THE PLANE OF THE CEILING AND PARALLEL TO THE COMPONENTS AT THE BRACING POINT. BRACE WIRES TO BE TAUT AND TIED BOTH ENDS WITH THREE TIGHT WRAPS.

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mark	date	description

date	12/21/21
project	2101650
designed	JLB
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checked	CMS

CASCO DIVERSIFIED CORPORATION
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PROFESSIONAL OF RECORD

Caron M. Stevenson
License No. A-006611
Expiration Date 12-31-22

PHONE: 314-821-1100

project: FAMILY DOLLAR
603 E. Washington Street, Hayti, MO 63851

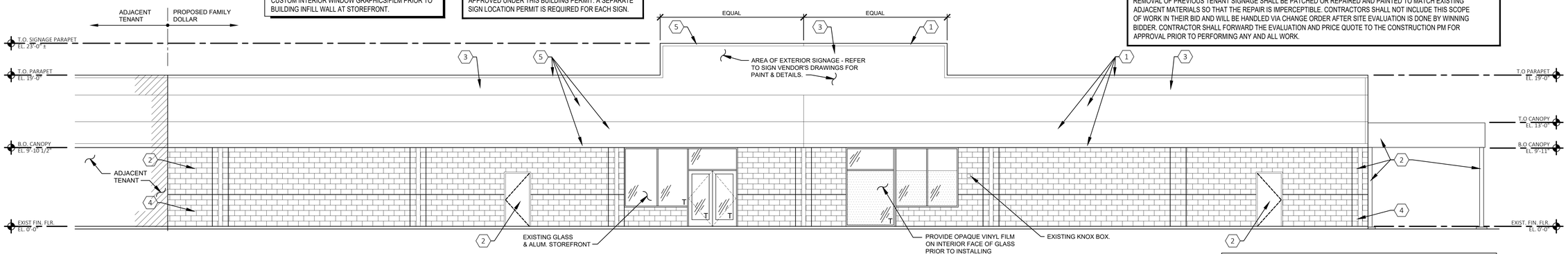
drawing: SEISMIC CEILING SECTIONS, DETAILS & NOTES

A2.1

CONTRACTOR SHALL VERIFY WITH FAMILY DOLLAR CONSTRUCTION PROJECT MANAGER ANY PROPOSED CUSTOM INTERIOR WINDOW GRAPHICS/FILM PRIOR TO BUILDING INFILL WALL AT STOREFRONT.

NOTE:
SIGNS, LOCATION, NUMBER AND SIZE ARE NOT APPROVED UNDER THIS BUILDING PERMIT. A SEPARATE SIGN LOCATION PERMIT IS REQUIRED FOR EACH SIGN.

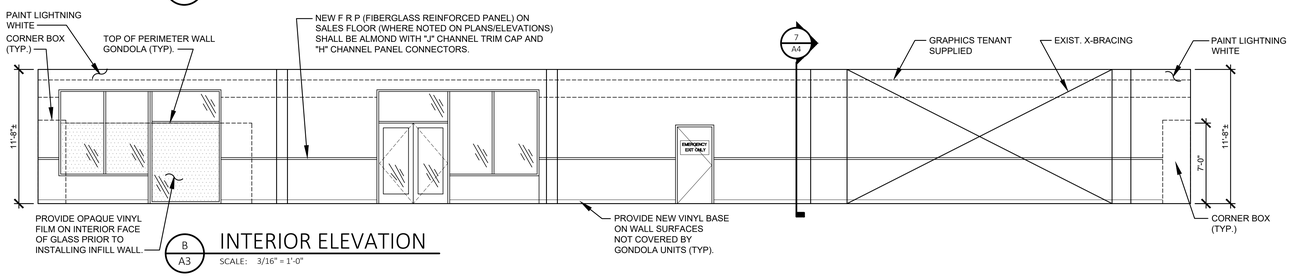
NOTES: CONTRACTOR SHALL REMOVE AND DISPOSE OF ANY AND ALL PREVIOUS TENANT'S EXTERIOR SIGNAGE LEFT BEHIND. ALL EXISTING MATERIALS TO REMAIN WHICH ARE DAMAGED OR OTHERWISE DISTURBED BY REMOVAL OF PREVIOUS TENANT SIGNAGE SHALL BE PATCHED OR REPAIRED AND PAINTED TO MATCH EXISTING ADJACENT MATERIALS SO THAT THE REPAIR IS IMPERCEPTIBLE. CONTRACTORS SHALL NOT INCLUDE THIS SCOPE OF WORK IN THEIR BID AND WILL BE HANDLED VIA CHANGE ORDER AFTER SITE EVALUATION IS DONE BY WINNING BIDDER. CONTRACTOR SHALL FORWARD THE EVALUATION AND PRICE QUOTE TO THE CONSTRUCTION PM FOR APPROVAL PRIOR TO PERFORMING ANY AND ALL WORK.



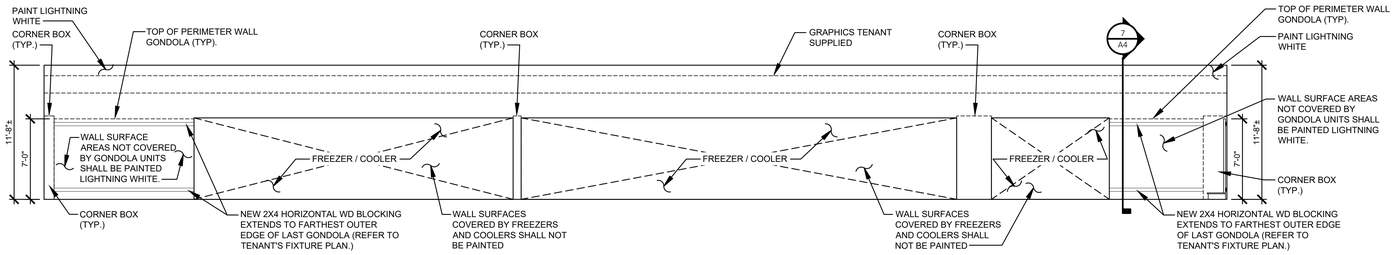
A A3 EXTERIOR ELEVATION
SCALE: 3/16" = 1'-0"

PAINT FACADE PER COLORS NOTED: CONTACT FAMILY DOLLAR CONSTRUCTION PM PRIOR TO PAINTING. GC SHALL COORDINATE PAINT COLOR & LOCATION W/ FINAL SIGN RENDERING.

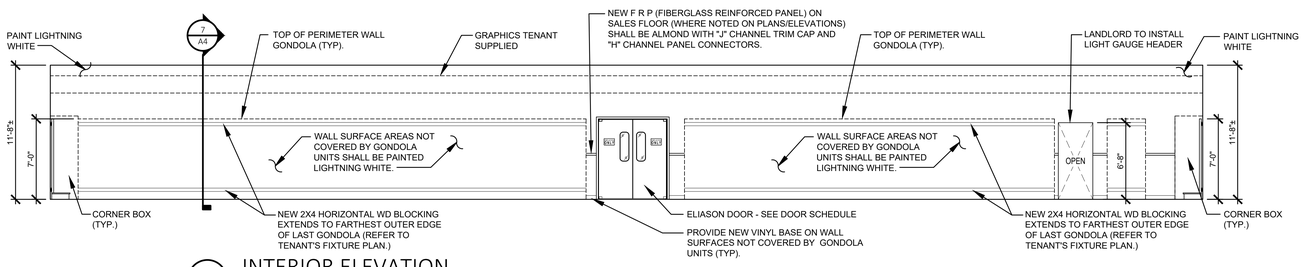
1. PAINT: SHERWIN WILLIAMS "SAFETY RED" SW#4081- SATIN FINISH
2. PAINT: SHERWIN WILLIAMS "BALANCED BEIGE" SW#7037 - SATIN FINISH
3. PAINT: SHERWIN WILLIAMS "AESTHETIC WHITE" SW#7035 - SATIN FINISH
4. PAINT: SHERWIN WILLIAMS "VIRTUAL TAUPE" SW#7039 - SATIN FINISH
5. PAINT: SHERWIN WILLIAMS "ENVY" SW#6925 - SATIN FINISH



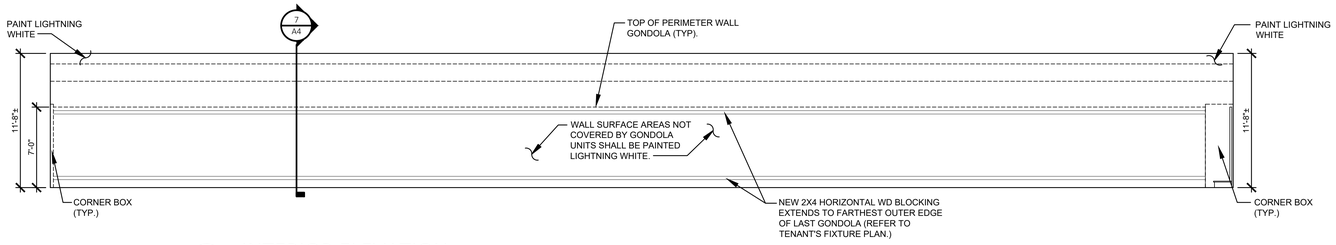
B A3 INTERIOR ELEVATION
SCALE: 3/16" = 1'-0"



C A3 INTERIOR ELEVATION
SCALE: 3/16" = 1'-0"



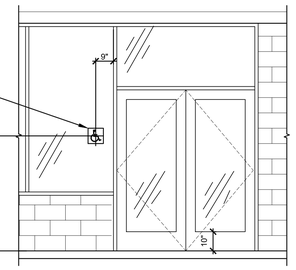
D A3 INTERIOR ELEVATION
SCALE: 3/16" = 1'-0"



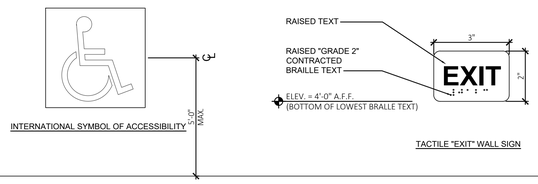
E A3 INTERIOR ELEVATION
SCALE: 3/16" = 1'-0"

CONTRACTOR SHALL INSTALL TENANT SUPPLIED 6"x 6" INTERNATIONAL SYMBOL OF ACCESSIBILITY DECAL ON STOREFRONT GLAZING. DECAL SHALL BE MOUNTED AT THE MAIN ENTRANCE STOREFRONT DOOR (DO NOT MOUNT NEXT TO EXIT DOORS).

NOTE: IF HARD SURFACE EXIST NEXT TO STOREFRONT ENTRANCE DOOR, CONTRACTOR SHALL SUPPLY AND INSTALL BACKER FOR DECAL TO ADHERE TO AND ATTACH TO HARD SURFACE AS REQUIRED.



F A3 INTERNATIONAL SYMBOL OF ACCESSIBILITY AT STOREFRONT ENTRANCE
SCALE: 1/4" = 1'-0"



GENERAL NOTES:

1. SIGNS SHALL COMPLY WITH & CONFORM TO IBC 2009 / ANSI ICC-A117.1 STANDARDS FOR ACCESSIBLE DESIGN OR BY LOCAL ACCESSIBILITY GUIDELINES WHICHEVER IS MORE STRINGENT.
2. ALL ENTRANCES THAT ARE ACCESSIBLE AND USABLE BY PERSONS WITH DISABILITIES SHALL BE IDENTIFIED WITH A MINIMUM OF ONE "INTERNATIONAL SYMBOL OF ACCESSIBILITY".
3. ACCESSIBLE SIGNS TO BE INSTALLED ON THE LATCH SIDE OF THE DOOR, OR IF NO SPACE ON THE NEAREST WALL PREFERABLY ON THE RIGHT. ALL SIGNS MUST BE A DISTINCTLY DIFFERENT FROM IT'S MOUNTING SURFACE IN COLOR/ CONTRAST.
4. GENERAL CONTRACTOR TO PROVIDE TACTILE "EXIT" SIGNS AT ALL GRADE LEVEL EXIT DOORS. UNLESS OTHERWISE REQUIRED BY LOCAL AUTHORITY, INSTALL PER ADA COMPLIANT ON THE WALL ADJACENT TO THE LATCH SIDE OF THE DOOR WITH CONTRASTING AND RAISED PICTOGRAPH, SANS SERIF LETTERING AND GRADE 2 BRAILLE.

G A3 ACCESSIBLE SIGNAGE
SCALE: N.T.S.

CASCO
12 Sunmen Drives, Suite 100, St. Louis, MO 63143 T: 314.821.1100

mark	date	revisions
		description
		by

date	12/21/21
project	2101650
designed	JLB
drawn	JLB
checked	CMS

CASCO DIVERSIFIED CORPORATION
ARCHITECTURAL FIRM
LICENSE #000329
EXPIRES 12/31/23

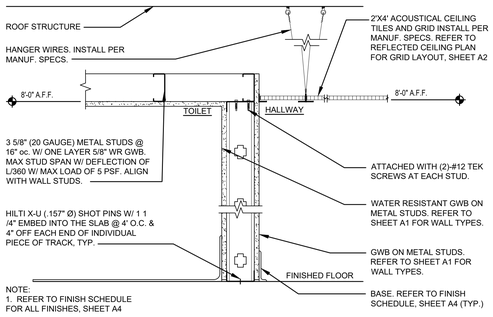
PROFESSIONAL OF RECORD

Caron M. Stevenson
License No. A-006611
Expiration Date 12-31-22

PHONE: 314-821-1100

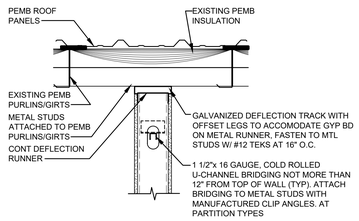
project: FAMILY DOLLAR
603 E. Washington Street, Hayti, MO 63851
drawing: EXTERIOR ELEVATION & INTERIOR ELEVATIONS

A3



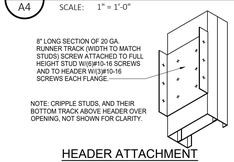
1 A4 CEILING DETAIL @ TOILET/HALLWAY

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

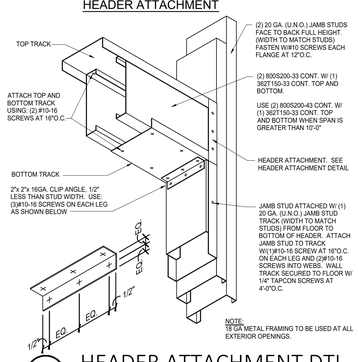


2 A4 DEFLECTION TRACK ROOF CONNECTION DETAIL

SCALE: 1" = 1'-0"

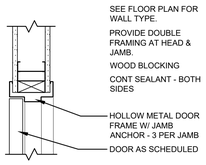


HEADER ATTACHMENT



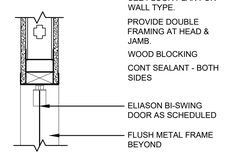
3 A4 HEADER ATTACHMENT DTL

SCALE: NTS



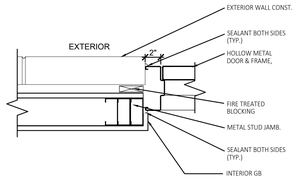
4 A4 HEAD / JAMB DTL

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



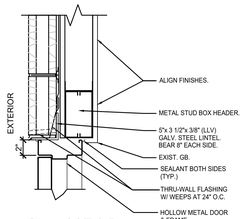
5 A4 HEAD / JAMB DTL

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



9 A4 JAMB

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

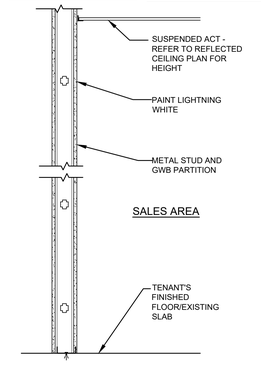


10 A4 HEAD

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

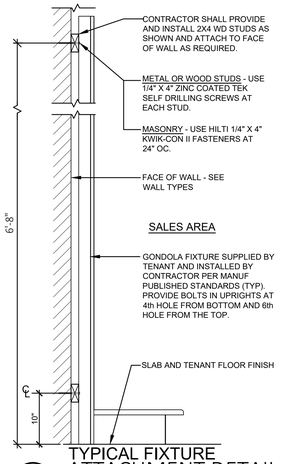
NOTE: REFER TO 2/A4 FOR BALANCE OF WALL

NOTE: ATTACH GONDOLA FIXTURE UNITS PER MANUF INSTRUCTIONS.



6 A4 WALL SECTION

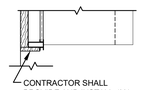
SCALE: 1" = 1'-0"



TYPICAL FIXTURE ATTACHMENT DETAIL

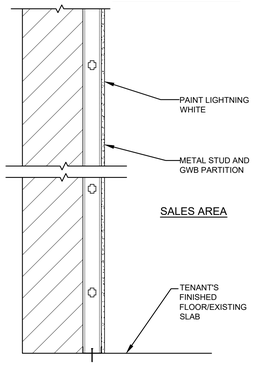
7 A4

SCALE: 1" = 1'-0"



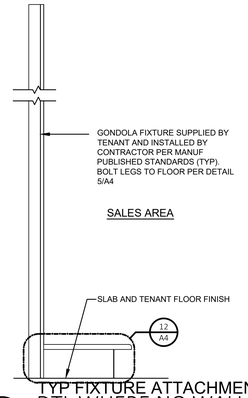
PLAN VIEW

NOTE: REFER TO TYPICAL FITURE ATTACHMENT DETAIL



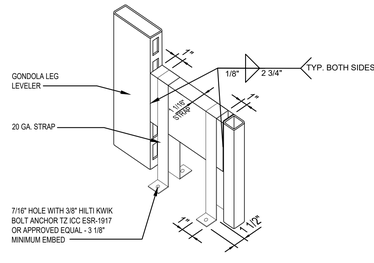
8 A4 WALL SECTION

SCALE: 1" = 1'-0"



11 A4 TYP FIXTURE ATTACHMENT DTL WHERE NO WALL EXISTS

SCALE: 1" = 1'-0"



12 A4 TYPICAL GONDOLA ANCHORAGE DETAIL

SCALE: N.T.S.

ROOM FINISH SCHEDULE

SPACE NAME	FLOOR		BASE	WALLS		CEILING	NOTES
	MATERIAL	FINISH		MATERIAL	FINISH		
SALES	EXIST CONC	ENTRY CARPET TILE POLISHED CONC	4" VINYL	GWB	PT-1 FRP TO 4'-0" AFF	ACT	1, 3, 4, 5, 7, 11, 12
PRE-SALES	EXIST CONC	SEALED CONC 12" PT @ PERIMETER, COLOR PT-8	4" VINYL	GWB	-	-	3, 6, 10, 14
OFFICE	EXIST CONC	POLISHED CONC	4" VINYL	GWB	PT-3	GWB PT-3	3, 7, 8, 13
TOILET 1	EXIST CONC	SHEET VINYL	6" SHEET VINYL	WR GWB	FRP	WR GWB PT-3	2, 5, 8, 9
TOILET 2	EXIST CONC	SHEET VINYL	6" SHEET VINYL	WR GWB	FRP	WR GWB PT-3	2, 5, 8, 9
HALLWAY 1	EXIST CONC	POLISHED CONC	4" VINYL	GWB	PT-3	ACT	3, 4, 5, 7
EMPLOYEE AREA	EXIST CONC	SEALED CONC 12" PT @ PERIMETER, COLOR PT-8	4" VINYL	GWB	-	-	3, 6, 10
HALLWAY 2	EXIST CONC	SEALED CONC	4" VINYL	GWB	PT-3	-	3, 4, 5, 7

PAINT FINISHES/SPECS

TAG	MANUF/COLOR	FINSH	COATS	BASE PRODUCT
PT-1	BENJAMIN MOORE "FD BM #2019-70 - LIGHTINING WHITE"	EGGSHELL	2	BENJAMIN MOORE SUPER HIDE ZERO VOC LATEX - 357
PT-2	BENJAMIN MOORE "FD BM #2019-70 - LIGHTINING WHITE"	SEMI-GLOSS ENAMEL	2	BENJAMIN MOORE SUPER HIDE ZERO VOC LATEX - 358
PT-3	BENJAMIN MOORE "BM FD WHITE"	SEMI-GLOSS ENAMEL	2	BENJAMIN MOORE SUPER HIDE ZERO VOC LATEX - 358
PT-7	BENJAMIN MOORE "BM FD BLACK"	SEMI-GLOSS	2	TOUGH SHIELD ACRYLIC GLOSS - TY 43
PT-8	BENJAMIN MOORE "BM FD WHITE"	SEMI-GLOSS	2	TOUGH SHIELD ACRYLIC GLOSS - TY 43

FINISH NOTES

1. CARPET TILE: MANUFACTURED BY INTERFACE FLOORING SYSTEMS, TENANT SUPPLIED/CONTRACTOR INSTALLED. INSTALL TILES QUARTER TURNED AND PER TENANT'S CRITERIA.
   ENTRY TILE: DECO RIB, STYLE #678609900
   TENANT'S CONTRACTOR SHALL PREPARE FLOOR SURFACE AND COORDINATE CARPET INSTALLATION W/ CARPET INSTALLER.
2. TOILET ROOM COVE BASE: 6" H FLASH COVE BASE WITH MATCHING TERMINATION STRIP ADHERED TO FRP.
3. VINYL COVE BASE: 4" H TOPSET COVE VINYL - ARMSTRONG BLACK. VINYL BASE ON EXPOSED AREAS ONLY. VINYL BASE ONLY ON EXPOSED WALLS IN SALES AREA (NOT BEHIND GONDOLAS AND FREEZERS/COOLERS).
   VINYL COVE BASE TO BE INSTALLED IN PRE-SALES AT MOP SINK AND CABINET ONLY.
4. PROVIDE 2'-0" X 4'-0" CEILING TILE EQUAL TO ARMSTRONG "CORTEGA" MINABOARD #769, WHITE, IN A WHITE METAL GRID. (IN AREAS W/ SIGNIFICANT AIR PRESSURE DIFFERENTIALS PROVIDE RETENTION CLIPS TO RETAIN PANELS IN PLACE.) REFER TO SHEET A2 FOR HEIGHT.
5. FRP (FIBERGLASS REINFORCED PANEL) - GLASBORD #85 - WHITE W/ PEBBLED EMBOSSED FINISH, BY CRANE COMPOSITES OR EQUAL. IN TOILET ROOMS FROM FLOOR TO 8'-0" AFF, SHALL BE WHITE IN COLOR. FRP TO 8'-0" AFF IN PRESALES BEHIND MOP SINK & UTILITY CABINET ONLY. FRP AT SALES/HALLWAY TO 4'-0" AFF (WHERE NOTED ON ELEVS) SHALL BE ALMOND COLOR AND FINISHED WITH "J" CHANNEL TRIM CAP AND "H" CHANNEL PANEL CONNECTIONS.
6. EXISTING CONCRETE FLOOR TO REMAIN, PATCH & REPAIR, AS REQUIRED, TO PROVIDE A SMOOTH SURFACE. APPLY CLEAR ACRYLIC SEALER BY MASTERKURE, CC 300SB, OR FDS APPROVED SUBSTITUTE.
7. POLISH CONCRETE FLOOR PER MANUFACTURER SPECIFICATIONS BY TENANT VENDOR. COORDINATE WITH TENANT.
8. HOLLOW METAL DOORS AND FRAMES TO BE PRIMED AND PAINTED IN FIELD WITH 1 COAT PRIMER AND 2 COATS COLOR TO MATCH WALL SURFACE OF DOOR FACING.
9. SHEET VINYL: ARMSTRONG CONNECTION CORLON "PORCELAIN" #88724, OR EQUAL.
10. PAINT 12" W BAND ON FLOOR AROUND PERIMETER OF PRE-SALES & EMPLOYEE AREA. TWO COATS, PT-8. PAINT BAND PRIOR TO PAINTING ANY YELLOW AT REQUIRED FLOOR CLEAR SPACE AREA.
11. EXPOSED STEEL COLUMNS TO BE PAINTED PT-2. ROUND COLUMNS DO NOT GET VINYL BASE.
12. SALES AREA TO RECEIVE LEVEL 4 FINISH. PROVIDE FINISH TO 1'-0" BEHIND FREEZERS/COOLERS AND GONDOLAS. TO FF EVERYWHERE ELSE. CONTRACTOR SHALL ALLOW 72 HOUR CURE TIME.
13. SLATWALL: 3/4" SLATWALL W/ WHITE MELAMINE FINISH. SEE MANUFACTURER'S DRAWINGS FOR INSTALLATION DETAILS. SLATWALL PROVIDED BY TENANT, INSTALLED BY TENANT GC.
14. DO NOT USE SEAL CHEMS SPEC HARDENER (OR EQUAL) AT CONCRETE FLOORS IN PRE-SALES THAT WILL RECEIVE CLEAR ACRYLIC SEALER.

DOOR SCHEDULE (ALL DOORS, FRAMES EXISTING U.N.O.)

NO.	TYPE	DOOR				DETAILS			FR	HDW	NOTES
		W	H	T	MATERIAL	HEAD	JAMB	SILL			
100	-	3'-0"	6'-8"	1 3/4"	SC WOOD	4/A4	4/A4	-	-	100C	2, 3, 11, 13
200	-	PR 3'-0"	7'-0"	.063"	ALUM/ACRYLIC	5/A4	5/A4	-	-	200A	5, 9, 11, 14
300	-	3'-0"	6'-8"	1 3/4"	SC WOOD	4/A4	4/A4	-	-	300C	2, 3, 8, 11, 12
400	-	PR 3'-0"	7'-0"	1 3/4"	HM	EXIST	EXIST	EXIST	-	400A	1, 2, 3, 4, 10
401	-	3'-0"	7'-0"	1 3/4"	HM	7/A1	7/A1	-	-	400B	2, 3, 4, 10
402	-	3'-0"	7'-0"	1 3/4"	HM	10/A4	9/A4	-	-	400B	2, 3, 4, 10
403	-	3'-0"	7'-0"	1 3/4"	HM	7/A1	7/A1	-	-	600A	3, 4, 15
500	-	PR 3'-0"	7'-0"	1 3/4"	ALUM/GLASS	EXIST	EXIST	EXIST	-	500A	1, 2, 4, 5, 6, 7
600	-	3'-0"	7'-0"	1 3/4"	HM	4/A4	4/A4	-	-	600B	2, 3, 10, 11

DOOR NOTES

1. EXTERIOR DOORS, FRAMES, CASED OPENINGS, AND HARDWARE MATERIAL ARE EXISTING. PROVIDE AND INSTALL ANY MISSING ITEMS PER DOOR NOTES, HARDWARE NOTES AND LISTED HARDWARE.
2. DOOR TO MEET ADA DOOR OPENING PRESSURE GUIDELINES, MAX 5 LBS (INTERIOR DOORS) AND 10-15 LBS (EXTERIOR DOORS).
3. PAINT DOORS AND FRAMES W/ WHITE SEMI-GLOSS ENAMEL AT ALL INTERIOR SURFACES. EXTERIOR DOORS SHALL MATCH EXISTING BUILDING COLOR AT ADJACENT EXTERIOR SURFACES.
4. CONTRACTOR TO PROVIDE AND INSTALL DOOR SWEEP ON ALL EXTERIOR DOORS TO PREVENT WATER, WIND AND DEBRIS INFILTRATION.
5. ELIASON DOOR: GC IS RESPONSIBLE FOR INSTALLING ELIASON DOOR AND HARDWARE. PREVENT METAL ON METAL CONTACT. ELIASON DOORS TO BE FACTORY FINSHED PER DOOR SCHEDULE.
6. PROVIDE NYLON WASHER/GROMMETS AT THE DOOR HANDLES AND CRASH BARS TO PREVENT METAL ON METAL CONTACT.
7. PROVIDE A SIGN POSTED ON THE EGRESS SIDE, ON OR ADJACENT TO THE DOOR STATING: "THIS DOOR TO REMAIN UNLOCKED WHEN BUILDING IS OCCUPIED." THE SIGN SHALL BE IN LETTERS 1" HIGH ON A CONTRASTING BACKGROUND.
8. INSTALL TENANT SUPPLIED SIGNAGE PER DETAIL C/A4.1.
9. INSTALL TENANT SUPPLIED SIGNAGE THAT READS "EMPLOYEES ONLY."
10. PROVIDE SIGNAGE THAT READS "EMERGENCY EXIT ONLY".
11. NEW DOORS - SUPPLIED BY TENANT W/ PRE-INSTALLED BRUSH ALUM COVER PLATE ON SALES SIDE OF THE DOOR.
    EXISTING DOORS - INSTALL ALUM COVER PLATE (SUPPLIED BY TENANT) ON EXISTING DOORS TO REMAIN.
12. MOUNT TENANT SUPPLIED COAT HOOK AT 48" AFF ON BACK SIDE OF DOOR.
13. DOOR TO RECEIVE 24"x14" RETURN GRILLE.
14. REINFORCE JAMBS W/ WOOD BLOCKING.
15. PROVIDE SIGNAGE THAT READS "NOT AN EXIT".

HARDWARE NOTES

1. THRESHOLDS AT EGRESS DOORS SHALL BE NO MORE THAN 1/2" (MAX) HEIGHT AFF.
2. ALL DOOR HANDLES, PULLS, LATCHES, LOCKS AND OTHER OPERATING DEVICES SHALL BE INSTALLED 34" (MIN) TO 48" (MAX) AFF AND SHALL BE "SINGLE-HANDED" OPERABLE WITHOUT USE OF KEY OR SPECIAL KNOWLEDGE.
3. WHERE EGRESS DOORS ARE USED IN PAIRS, THE UNLATCHING OF THE LEAF SHALL NOT REQUIRE MORE THAN ONE (1) OPERATION AS MENTIONED IN GENERAL HARDWARE NOTE #2 ABOVE.
4. CONTROLS AND OPERATING MECHANISMS SHALL BE LEVER-TYPE (OR EQUAL) PROVIDING OPERATION WITH ONE HAND AND NOT REQUIRE TIGHT GRASPING, PINCHING, OR TWISTING OF THE WRIST. THE FORCE REQUIRED TO ACTIVATE CONTROLS OF INTERIOR HINGED DOORS SHALL BE NO GREATER THAN 5 POUNDS (22.2 N).
5. DOORS EQUIPPED WITH CLOSERS SHALL BE ADJUSTED SO THAT THE SWEEP PERIOD FROM AN OPEN POSITION OF 70 DEGREES WILL TAKE AT LEAST 3 SECONDS TO MOVE TO A POINT 3" FROM THE LATCH, MEASURED FROM THE LEADING EDGE OF THE DOOR.
6. NOT USED.
7. ALL DOOR HARDWARE SHALL COMPLY WITH CURRENT ACCESSIBLITY GUIDELINES (ANSI 117.1, ADA GUIDELINES, ETC.).

HARDWARE

HDW # 100C
1 1/2 PAIR HINGES: STANDARD WEIGHT, NON-REMOVABLE PINS
1 MECHANICAL PUSH BUTTON LOCKSET W/ LEVER HANDLE
1 CLOSER
1 PEEP HOLE @ 4'-3" AFF (TENANT SUPPLIED/TENANT GC INSTALL)
1 FLOOR STOP

HDW # 200A (BY ELIASON DOOR, ELIASON EAST SWING DOOR SYSTEM, MODEL: LWP-3)

HDW # 300C
1 1/2 PAIR HINGES: STANDARD WEIGHT
1 PRIVACY SET WITH LEVER HANDLE
1 CLOSER
FLOOR/WALL STOP

HDW # 400A
3 PAIR HINGES: 4 1/2" HEAVY WEIGHT, NON-REMOVABLE PINS
1 NON-ALARMED, NON-KEYED PANIC BAR DEVICE
2 FLUSH BOLTS (ON INACTIVE LEAF)
1 DUST PROOF STRIKE
1 ALUM THRESHOLD (1/2" MAX HEIGHT)
2 DOOR SWEEPS
1 WEATHER STRIP
1 RAIN DRIP
1 ASTRAGAL
1 PEEP HOLE @ 4'-3" AFF (TENANT SUPPLIED/TENANT GC INSTALL)
STAND ALONE ALARM-REFER TO B/A4.1 (TENANT SUPPLIED/TENANT GC INSTALL)
2 OVERHEAD HOLDERS/STOPS (TENANT SUPPLIED/TENANT GC INSTALL)

HDW # 400B
1 1/2 PAIR HINGES: 4 1/2" HEAVY WEIGHT, NON-REMOVABLE PINS
1 NON-ALARMED, NON-KEYED PANIC BAR DEVICE
CLOSER
1 ALUM THRESHOLD (1/2" MAX HEIGHT)
1 SWEEP
1 WEATHER STRIP
1 RAIN DRIP
STAND ALONE ALARM-REFER TO B/A4.1 (TENANT SUPPLIED/TENANT GC INSTALL)

HDW # 500A
HINGES PER STOREFRONT MANUFACTURER
1 ALUM THRESHOLD (1/2" MAX HEIGHT)
2 PUSH PLATES & BAR
2 PULL HANDLES
COMMERCIAL GRADE DEADLOCK W/THUMB TURN ON SALES SIDE
2 CLOSERS W/ STOP ARM
KABA CYLINDER (TENANT SUPPLIED, TENANT GC INSTALL)

CONTRACTOR SHALL VERIFY THAT EXISTING CLOSER DOES NOT HAVE HOLD-OPEN FEATURE. REPLACE WITH NEW CLOSER AS REQUIRED.

HDW # 600A
1 1/2 PAIR HINGES: 4 1/2" HEAVY WEIGHT, NON-REMOVABLE PINS
1 DOUBLE-CYLINDER DEADBOLT LOCK
1 ALUM THRESHOLD (1/2" MAX HEIGHT)
1 SWEEP
1 WEATHER STRIP
1 RAIN DRIP

HDW # 600B
1 1/2 PAIR HINGES: 4 1/2" HEAVY WEIGHT, NON-REMOVABLE PINS
1 NON-ALARMED, NON-KEYED PANIC BAR DEVICE
CLOSER
1 PUSH PLATE & PULL HANDLE
STAND ALONE ALARM-REFER TO B/A4.1 (TENANT SUPPLIED/TENANT GC INSTALL)

CASCO
12 Sunmen Drive, Suite 100, St. Louis, MO 63143 T.: 314.821.1100

mark	date	by	description
revisions			

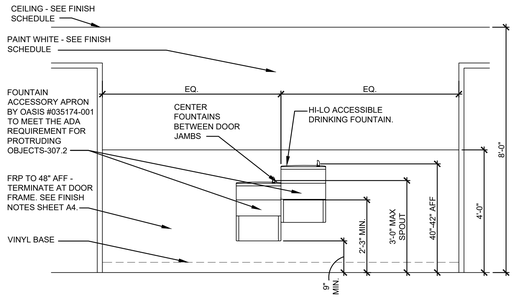
date	project	designed	drawn	checked
12/21/21	2101650	JLB	JLB	CMS

CASCO DIVERSIFIED CORPORATION
ARCHITECTURAL FIRM LICENSE #00003229
EXPIRES 12/31/23

PROFESSIONAL OF RECORD
Caron M. Stevenson
License No. A 006611
Expiration Date 12-31-22
PHONE: 314-821-1100

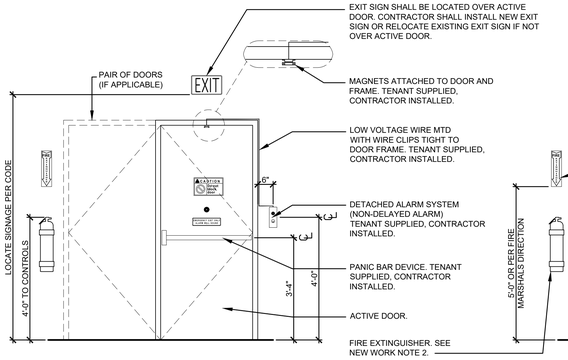
project: FAMILY DOLLAR
603 E. Washington Street, Hayti, MO 63851
drawing: DETAILS, SECTIONS & SCHEDULES

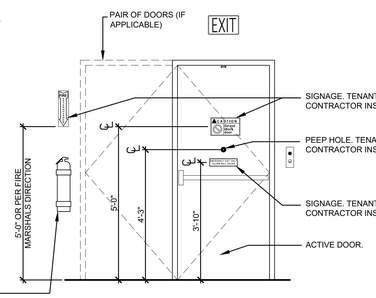
A4



A A4.1 WATER FOUNTAIN ELEVATION

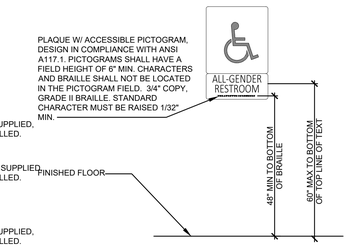
SCALE: 1/2" = 1'-0"





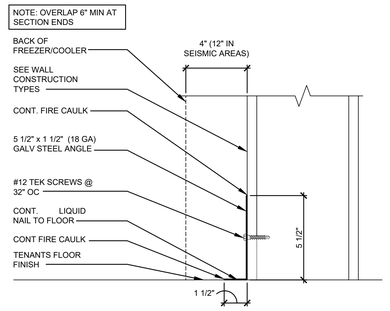
B A4.1 FREIGHT DOOR ELEVATION

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



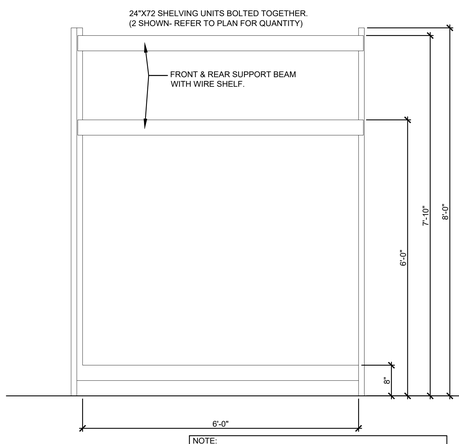
C A4.1 ACCESSIBLE TOILET ROOM SIGNAGE

SCALE: N.T.S.

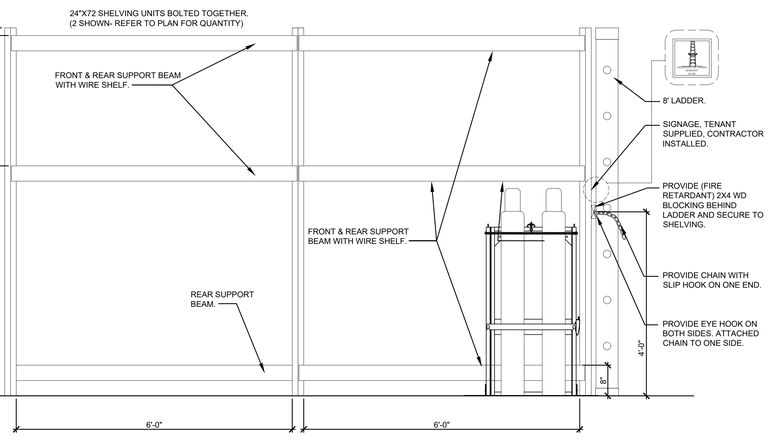


D A4.1 RODENT ANGLE DETAIL

SCALE: 3" = 1'-0"

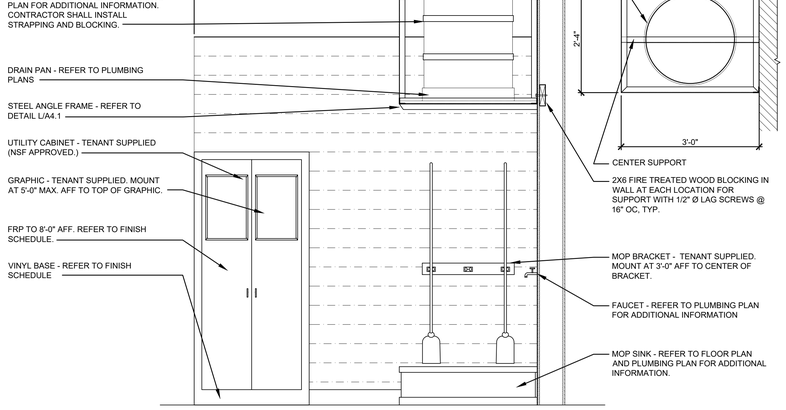


NOTE:
1. REFER TO PLAN FOR QUANTITY AND SIZE.
2. TENANT SUPPLIED, CONTRACTOR INSTALLED.
3. SECURE TO FLOOR PER MANUFACTURE'S SPECIFICATIONS.



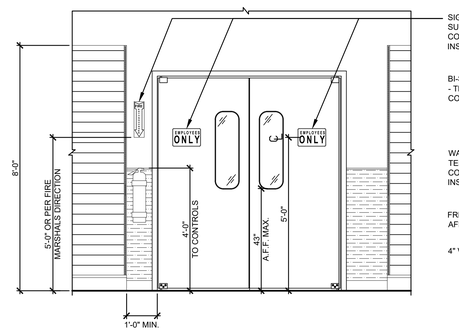
E A4.1 STOCKROOM SHELVING BRACKET INSTALLATION

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



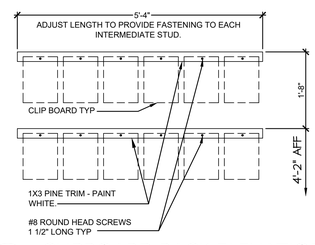
F A4.1 MOP SINK & UTILITY CABINET ELEVATION

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



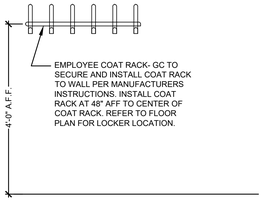
G A4.1 SALES/STOCKROOM DOOR ELEVATION

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



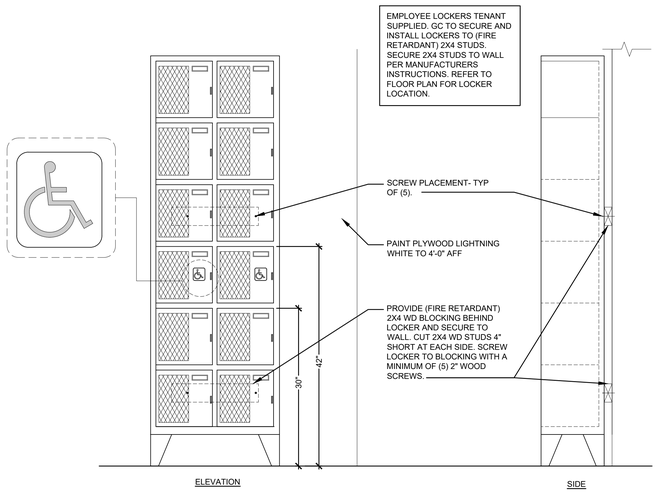
H A4.1 CLIPBOARD RACK ELEVATION

SCALE: N.T.S.



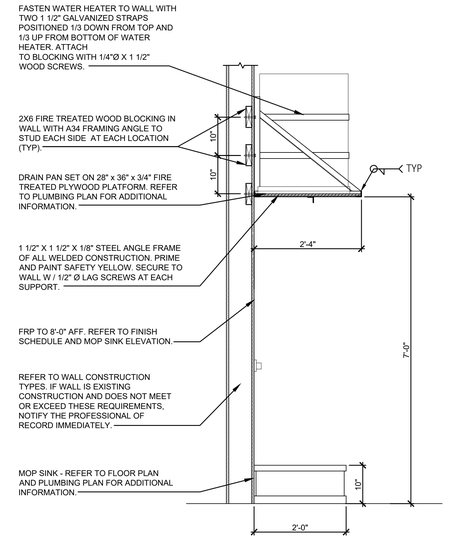
J A4.1 ELEVATION EMPLOYEE COAT RACK

SCALE: N.T.S.



K A4.1 LOCKER ELEVATION

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



L A4.1 WATER HEATER MOUNTING DETAIL

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

CASCO
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mark	date	description
		by

date	12/21/21
project	2101650
designed	JLB
drawn	JLB
checked	CMS

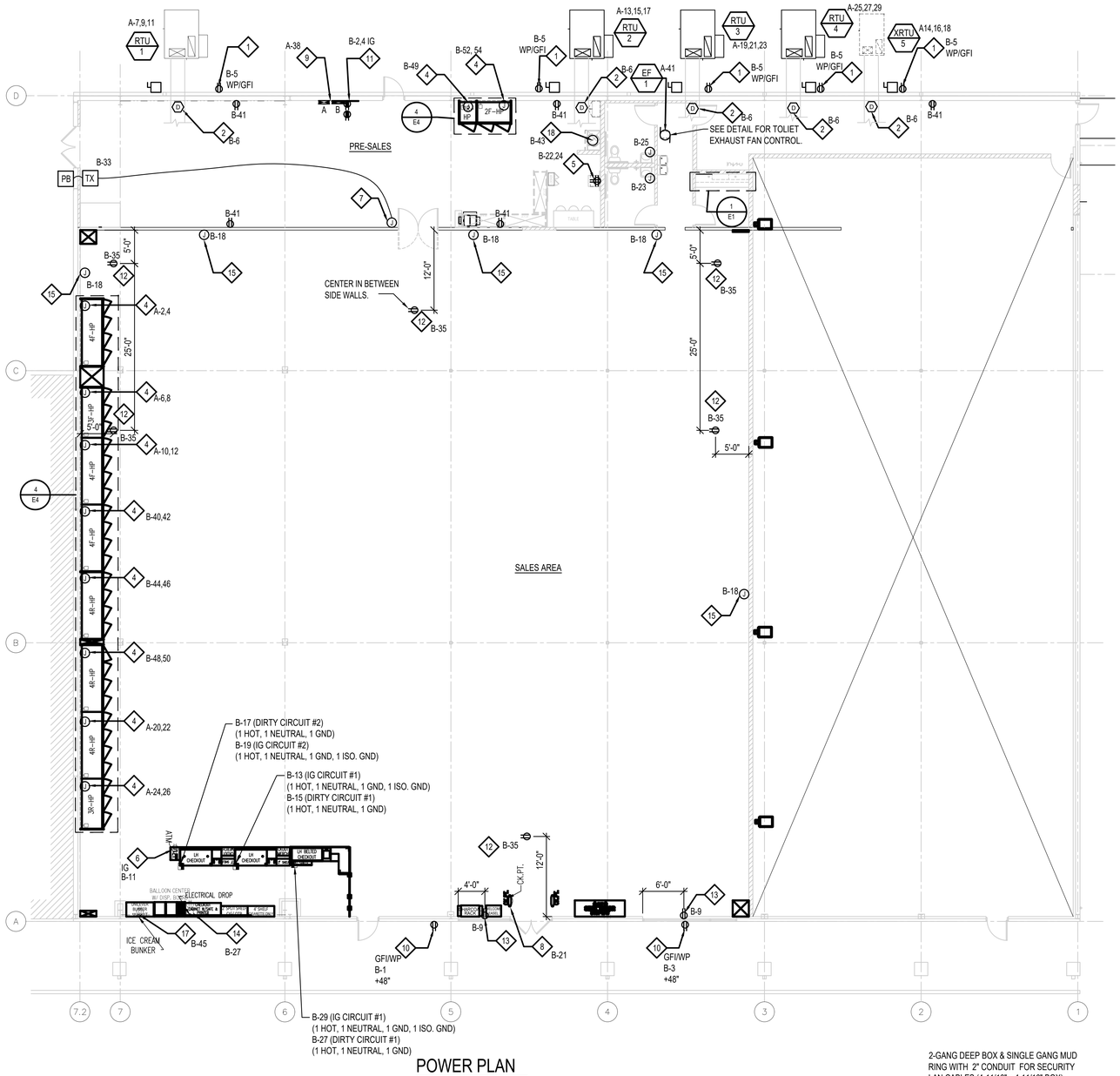
CASCO DIVERSIFIED CORPORATION
ARCHITECTURAL FIRM
LICENSE #000329
EXPIRES 12/31/23

PROFESSIONAL OF RECORD

Caron M. Stevenson
License No. A 006611
Expiration Date 12-31-22
PHONE: 314-821-1100

project: FAMILY DOLLAR
603 E. Washington Street, Hayti, MO 63851
drawing: DETAILS & SECTIONS

A4.1



POWER PLAN

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

CONTRACTOR SHALL REFER TO FINAL FIXTURE PLAN FOR KIOSK PLACEMENT (APP STATION), ATM MACHINE PLACEMENT, FREEZER/COOLER PLACEMENT, CHECKOUT PLACEMENT, AND ANY OTHER FIXTURE THAT REQUIRES POWER PRIOR TO INSTALLING ELECTRICAL & DATA.

CHECKOUT STATIONS POWER/DATA NOTES:

1. D&P POWER POLES ARE BEING FURNISHED WITH CHECKOUT COUNTERS. POWER POLES SHALL BE INSTALLED BY G.C. AND WIRED BY E.C. COORDINATE WITH GC PRIOR TO BEGINNING CONSTRUCTION.
2. FIELD VERIFY LOCATION OF ALL JUNCTION BOXES WITH GC, TENANT PROJECT MANAGER AND TENANT "FINAL" SITE SPECIFIC FIXTURE PLAN PRIOR TO BEGINNING ROUGH-IN. JUNCTION BOXES SHALL BE LOCATED BETWEEN PAIRS OF POWER POLES.
3. LABEL ALL JUNCTION BOXES WITH CIRCUIT NUMBER AND DESCRIPTION AS SHOWN IN PANEL SCHEDULE.
4. ALL DIRTY AND ISOLATED GROUND (IG) CIRCUITS SHALL HAVE DEDICATED NEUTRALS. DO NOT SHARE NEUTRALS.
5. REFER TO DETAIL FOR POWER DROPS.

WIRE SIZE AND CONDUIT SIZE PER LENGTH OF RUN

DISTANCE	WIRE SIZE	CONDUIT SIZE
< 60'	#12	3/4"
60' - 95'	#10	1"
95' - 150'	#8	1 1/4"
150' - 230'	#6	1 1/2"

PER THE VOLTAGE DROP CALCULATIONS BELOW, THIS ALLOWS FOR <3% VOLTAGE DROP ON 20A CIRCUITS WITH LOADS UP TO 15A.

ELECTRICAL ABBREVIATIONS

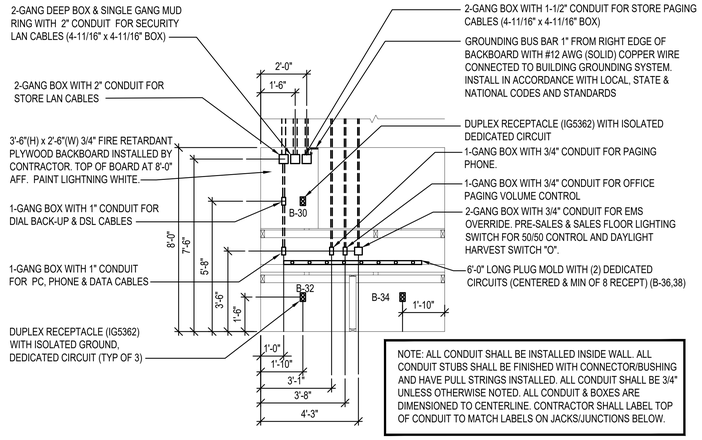
18"	DIMENSION INDICATES HEIGHT ABOVE FINISHED FLOOR AT WHICH CENTER OF DEVICE IS TO BE MOUNTED.
AFF	ABOVE FINISHED FLOOR.
AFG	ABOVE FINISHED GRADE.
EC	ELECTRICAL CONTRACTOR.
FPN	FUSE PER EQUIPMENT NAMEPLATE REQUIREMENTS.
GC	GENERAL CONTRACTOR.
MC	MECHANICAL CONTRACTOR.
PC	PLUMBING CONTRACTOR.
WP	INDICATES DEVICE TO HAVE WEATHERPROOF COVER.
UON	UNLESS OTHERWISE NOTED.
FACP	FIRE ALARM CONTROL PANEL.
NAV	NATIONAL ACCOUNT VENDOR
T-24	TITLE 24 CALIFORNIA LIGHTING CONTROL.

POWER PLAN KEYED NOTES

1. ROOF TOP UNITS: UNITS ARE FURNISHED WITH FACTORY INSTALLED WP SERVICE DISCONNECT SWITCH & GFCI RECEPTACLE. CONTRACTOR SHALL MAKE FINAL CONNECTIONS TO SERVICE DISCONNECT SWITCH AND GFCI RECEPTACLE.
2. SMOKE DETECTOR: SMOKE DETECTOR FURNISHED WITH SUPPLIED UNITS. CONTRACTOR SHALL CONNECT POWER AND VERIFY PROPER OPERATIONS. SEE DETAIL.
3. ISOLATED GROUND RECEPTACLE: PROVIDE DEDICATED ISOLATED GROUND RECEPTACLE WITH ISOLATED GROUNDING CONDUCTOR. RECEPTACLE SHALL BE "ORANGE" WITH WHITE COVER PLATE. SEE DETAIL.
4. FREEZER/COOLER: PROVIDE AND INSTALL A 4X4 JUNCT6ION BOX AT 100" A.F.F. TO BOX OF BOX. PROVIDE 15' LONG WHIP FROM JUNCTION BOX FOR CONNECTION TO EQUIPMENT. FIELD VERIFY EXACT LOCATION WITH STORE SPECIFIC FIXTURE PLAN AND TENANT PROJECT MANAGER PRIOR TO ELECTRICAL ROUGH-IN.
5. QUAD OUTLET: MOUNTED +18" A.F.F. COORDINATE FINAL LOCATION WITH FIXTURE PLAN. PROVIDE DEDICATED CIRCUIT FOR EACH DUPLEX OUTLET.
6. ATM RECEPTACLE: PROVIDE DEDICATED FLUSH MOUNTED RECEPTACLE IN WALL AT 18" AFF. FOR ATM.
7. PAGING: PROVIDE SINGLE GANG JUNCTION BOX MOUNTED NEXT TO STOCK ROOM DOOR FOR PAGING PHONE. EC SHALL MOUNT JUNCTION BOX IN WALL AT 48" AFF WITH 3/4" CONDUIT WITH PULL STRING UP IN WALL TO 6" ABOVE SALES FLOOR CEILING. PAGING SYSTEM SHALL BE PROVIDE BY FD VENDOR.
8. EAS: PROVIDE DEDICATED CIRCUIT TO FLUSH MOUNTED IG RECEPTACLE IN WALL 6" AT 11'-6", EXCEPT IF CEILING IS REQUIRED. IF CEILING IS INSTALLED MOUNT6" BELOW GRID. RECEPTACLE SHALL BE MOUNTED DIRECTLY ABOVE DOOR MULLION CLOSEST TO CHECKOUT STATIONS. CONFIRM SIDE TO MOUNT WITH FD SITE SPECIFIC FIXTURE PLAN PRIOR TO BEGINNING CONSTRUCTION. EAS SHALL BE FURNISHED AND INSTALLED BY EAS VENDER.
9. EMS LIGHTING CONTROL PANEL: LOCATED NEXT TO ELECTRICAL PANELS. LIGHTING CONTROL PANEL SHALL BE FURNISHED AND INSTALLED BY ENERGY MANAGEMENT SYSTEM CONTRACTOR. SEE DETAIL AND SHEET V-1 FOR DETAILS.
10. EXTERIOR RECEPTACLES: SHALL BE GFI PROTECTED BY CIRCUIT BREAKER, WEATHERPROOF AND RECESSED IN WALL 18" AFF WITH FACE FLUSH WITH EXTERIOR WALL. PROVIDE WITH "IN-USE" COVERS. DO NOT LOCATED RECEPTACLE ADJACENT TO HANDICAP ACCESS AREAS/RAMP.
11. TELEPHONE BOARD: PROVIDE (2) TWO DEDICATED ISOLATED GROUND RECEPTACLES WITH ISOLATED GROUNDING CONDUCTOR BACK TO SERVICE GROUND. RECEPTACLES SHALL BE SURFACE MOUNTED AT COMMUNICATION BOARD. SEE COMMUNICATION BOARD DETAIL FOR MOUNTING LOCATIONS AND INSTRUCTIONS ON USING STENCIL FOR LOCATING RECEPTACLES. RECEPTACLES SHALL BE "ORANGE" WITH WHITE COVER PLATES.
12. CEILING OUTLET: DUPLEX OUTLET FLUSH MOUNTED IN CEILING TILE.
13. SHOW WINDOW RECEPTACLES: PROVIDE SHOW WINDOW RECEPTACLES ABOVE WINDOW AND LOCATED PER NEC ARTICLE 210.62. WHERE NO BULKHEAD EXIST ABOVE WINDOW LOCATE ON CEILING WITHIN 18" OF WINDOW. DEVICE AND COVER PLATE SHALL BE WHITE.
14. PRINTER: PROVIDE AND INSTALL RECEPTACLE. COORDINATE FINAL LOCATION OF RECEPTACLE WITH FAMILY DOLLAR PROJECT MANAGER PRIOR TO ROUGH-IN.
15. SALES AREA J-BOX: MOUNT ON FLOOR APPROX. 50' APART ON WALL AND MAKE MC CONNECTION TO DUPLEX RECEPTACLE INSTALLED IN FIXTURE KICK PLATE..
16. WATER VENDING RECEPTACLES: CONTACT TENANT'S CONSTRUCTION PROJECT MANAGER TO DETERMINE IF USING "WARM WEATHER" OR "COLD WEATHER" WATER VENDING MACHINE AND EXACT LOCATION PRIOR TO INSTALLATION. LOCATE WATER VENDING MACHINE ELECTRICAL CONNECTIONS ON SAME SIDE OF STORE AS RESTROOMS. FIELD VERIFY EXACT LOCATION WITH FAMILY DOLLAR STORE CONSTRUCTION REPRESENTATIVE PRIOR TO INSTALLATION.
    - A. "WARM WEATHER" - PROVIDE TWO (2) DEDICATED, WP, GFI RECEPTACLES MOUNTED AT 4'-0" AFF. FOR FUTURE WATER VENDING MACHINE. RECESSED IN WALL WITH FACE FLUSH WITH WALL. PROVIDE WITH "IN-USE" COVERS.
    - B. "COLD WEATHER" - PROVIDE TWO (2) DEDICATED CIRCUITS TO J-BOX ON INTERIOR WALL FOR FUTURE WATER VENDING MACHINE. INTERIOR J-BOX PROVIDED BY WATER VENDING MACHINE MANUFACTURER. MOUNT AT MIN. OF 7'-6" AFF. PROVIDE WP 2 GANG BOX AT 4'-0" AFF. RECESSED IN EXTERIOR WALL WITH 1/2" C. TO INTERIOR MOUNTED J-BOX. REFER TO INSTALLATION SPECIFICATIONS FROM WATER VENDING MACHINE MANUFACTURER FOR EXACT PLACEMENT OF ALL UTILITIES. THE FIRST CIRCUIT IS FOR NORMAL POWER AND THE SECOND CIRCUITS IS FOR COLD WEATHER CABINET HEATER.
17. ICE CREAM COOLER: PROVIDE AND INSTALL RECEPTACLE FLUSH IN WALL 18" A.F.F.
18. WATER HEATER: ON SHELF. 120V, 2000 W. SEE DWG MP-2 FOR LOCATION AND INFORMATION.

ELECTRICAL SYMBOL LEGEND

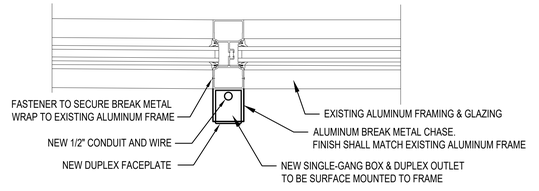
- BRANCH CIRCUIT CONCEALED IN FLOOR, WALL OR CEILING.
- ARROWHEAD INDICATES HOMERUN CONDUIT TO PANEL NOTED.
- INDICATES HOT LEG AND NEUTRAL OF CIRCUIT TO BE CARRIED OVER TO NEXT DEVICE. SEE PLANS FOR CONTROL SCHEME.
- (J) JUNCTION BOX WALL OR CEILING MOUNTED.
- $ SINGLE POLE SWITCH, 20A, 120/277 VOLT, NOT GREATER THAN 46" A.F.F. TO CENTER. 'M' INDICATES 120V, 20A MOTOR RATED TOGGLE SWITCH. 'D' INDICATES DIMMER CONTROL. 'K' INDICATES KEYED SWITCH.
- OS WALL MOUNTED OCCUPANCY SENSOR WITH OVERRIDE, MOUNTED AT 46" AFF TO CENTER. PROVIDE MODEL #WSD-WH.
- OS CEILING MOUNTED OCCUPANCY SENSOR AND POWER PACK FOR LIGHTING CONTROL.
- PC PHOTO SENSOR LIGHTING CONTROL T-24 APPROVED.
- PP POWER PACK FOR 0-10V CONTROL, T-24 APPROVED.
- POWER POLE FURNISHED WITH CHECKOUT, INSTALLED BY EC. SEE DETAIL.
- DUPLEX RECEPTACLE, 20 AMP, 120 VOLT, 18" A.F.F. TO CENTER, UNLESS OTHERWISE SPECIFIED. "GFI" INDICATES GROUND FAULT CIRCUIT INTERRUPTER TYPE "WP" INDICATES WEATHERPROOF WITH "IN-USE" COVER. "IG" INDICATES ISOLATED GROUND RECEPTACLE WITH ISOLATED GROUND WIRE AND DEDICATED NEUTRAL. SEE DETAIL.
- QUADRUPLEX RECEPTACLE, AS ABOVE, 18" A.F.F., UNLESS OTHERWISE SPECIFIED.
- 208V RECEPTACLE, SEE PLANS FOR NEMA CONFIGURATION.
- PB WEATHERPROOF PUSH BUTTON FOR DOORBELL SYSTEM MOUNTED 46" A.F.G. TO CENTER. EDWARDS MODEL #690-W WITH EDWARDS MODEL #147-1 MOUNTING PLATE.
- (8) DOOR CHIME FOR DOORBELL SYSTEM MOUNTED 11'-0" A.F.F. OR 1'-0" BELOW CEILING CONNECT TO DOOR CHIME TRANSFORMER. EDWARDS MODEL #338-G5 (24VAC, 12VA)
- TX LOW VOLTAGE STEP DOWN TRANSFORMER FOR DOORBELL SYSTEM. EDWARDS MODEL #592 PROVIDE WITH EDWARDS MODEL #593 TRANSFORMER MOUNTING PLATE.
- TELEPHONE OUTLET, 18" A.F.F. TO CENTER OR AT HEIGHT INDICATED ON PLANS. PROVIDE SINGLE GANG DATA BOX WITH 3/4" CONDUIT WITH PULL STRING TO ABOVE LAY-IN CEILING OR TO 12' A.F.F. IN AREAS WITH NO CEILING. CAT5E CABLING AND COVER PLATE SHALL BE INSTALLED BY TENANT LOW VOLTAGE CONTRACTOR.
- DATA OUTLET, 18" A.F.F. TO CENTER OR AT HEIGHT INDICATED ON PLANS. PROVIDE SINGLE GANG DATA BOX WITH 3/4" CONDUIT WITH PULL STRING TO ABOVE LAY-IN CEILING OR TO 12' A.F.F. IN AREAS WITH NO CEILING. CAT5E CABLING AND COVER PLATE SHALL BE INSTALLED BY TENANT LOW VOLTAGE CONTRACTOR.
- 30/3/FPN GENERAL DUTY FUSIBLE/NON-FUSIBLE DISCONNECT SWITCH, NUMBERS INDICATE FRAME SIZE, NUMBER OF POLES AND FUSING. PROVIDE NEMA 1 ENCLOSURE INSIDE. PROVIDE NEMA 3 ENCLOSURE FOR ALL SWITCHES LOCATED OUTSIDE. "FPN" INDICATES FUSE PER EQUIPMENT NAMEPLATE. "NF" INDICATES NON-FUSED. SERVICE DISCONNECT, SHALL BE HEAVY DUTY NEMA 3R FUSIBLE.
- 208Y/120V PANEL, SURFACE OR RECESS MOUNTED, SEE SCHEDULE FOR DETAILS.
- MOTORIZED EQUIPMENT FURNISHED AND INSTALLED BY MECHANICAL CONTRACTOR, WIRED BY ELECTRICAL CONTRACTOR. PROVIDE DISCONNECTING MEANS AS REQUIRED.
- WH WATER HEATER, FURNISHED AND INSTALLED BY PLUMBING CONTRACTOR, WIRED BY ELECTRICAL CONTRACTOR. PROVIDE DISCONNECTING MEANS AS REQUIRED.
- SURFACE MOUNTED OR SUSPENDED LED STRIP FIXTURE. SEE LUMINAIRE SCHEDULE.
- WALL MOUNTED LIGHTING FIXTURE, SEE LUMINAIRE SCHEDULE.
- SURFACE, RECESSED OR PENDANT MOUNTED LIGHTING FIXTURE, SEE LUMINAIRE SCHEDULE.
- M ELECTRIC UTILITY METER.
- D DUCT SMOKE DETECTOR, CONNECT TO CIRCUIT AS SHOWN. COORDINATE INSTALLATION RESPONSIBILITIES WITH ALL CONTRACTORS. SEE DETAIL E4.
- AV DUCT SMOKE DETECTOR AUDIO/VISUAL DEVICE. COORDINATE INSTALLATION RESPONSIBILITIES WITH ALL CONTRACTORS. SEE DETAIL E4.
- RT DUCT SMOKE DETECTOR REMOTE TEST STATION MOUNTED AT COMMUNICATION BOARD. COORDINATE INSTALLATION RESPONSIBILITIES WITH ALL CONTRACTORS. SEE DETAIL SHEET E4.



NOTE: ALL CONDUIT SHALL BE INSTALLED INSIDE WALL. ALL CONDUIT STUBS SHALL BE FINISHED WITH CONNECTOR/BUSHING AND HAVE PULL STRINGS INSTALLED. ALL CONDUIT SHALL BE 3/4" UNLESS OTHERWISE NOTED. ALL CONDUIT & BOXES ARE DIMENSIONED TO CENTERLINE. CONTRACTOR SHALL LABEL TOP OF CONDUIT TO MATCH LABELS ON JACKS/JUNCTIONS BELOW.

1/E1 ENLARGED OFFICE ELEVATION POWER PLAN

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



2/E1 STOREFRONT CONDUIT CONCEALMENT DETAIL

SCALE: N.T.S.

CASCO
12 Summers Drive, Suite 100, St. Louis, MO 63143 T: 314.821.1100

mark	date	description	by

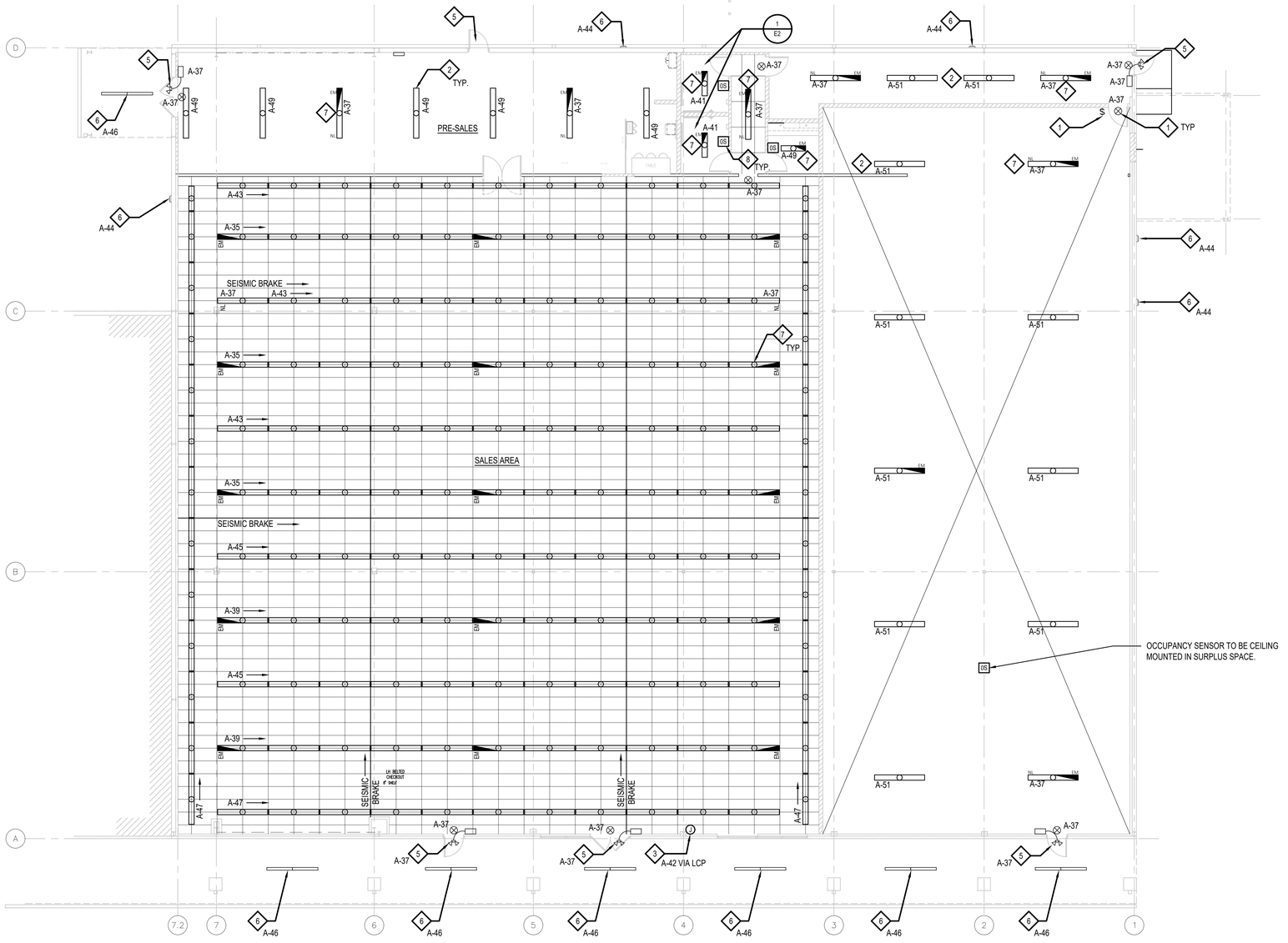
date	12/21/21
project	2101650
designed	DAM
drawn	DAM
checked	HJA

CASCO DIVERSIFIED CORPORATION
ENGINEERING FIRM
LICENSE #000613
EXPIRES 12/31/21

PROFESSIONAL OF RECORD
Harry J Auman
License No. E16827
Expiration Date 12/31/22
PHONE: 314-821-1100

project: FAMILY DOLLAR
603 E. Washington Street, Hayti, MO 63851
drawing: ELECTRICAL POWER PLAN

E1



LUMINAIRE SCHEDULE

FIX. SYM.	LIGHT DESCRIPTION	VOLTS	LAMPS QTY. - WATTS TYPE.		MOUNTING	LTG. FIXT. SCHEDULE NOTES
	EMERGENCY LIGHT	120/277	(2) ADJUSTABLE HEADS WITH (3) LEDR-16 MR LAMPS EACH. 3.5 VA TOTAL		WALL OR CEILING SURFACE	EMERGENCY LIGHT WITH BATTERY. MOUNT AT +10'-0" OR ON CEILING.
	MOUNT REMOTE EMERGENCY LIGHTS OUTSIDE ABOVE EXIT DOORS W/ BATTERY UNIT INSIDE BLDG.	120/277	FURNISHED W/ FIXTURE TIME DELAY RELAY. 3 VA; 12 LED EACH HEAD.		EXTERIOR WALL	EXTERIOR EMERGENCY LIGHT WITH BATTERY MOUNT AT 10'-0".
	EXIT LIGHT SINGLE OR DOUBLE FACE	120/277	LED LAMP ARRAY FURNISHED W/ FIXTURE. 3VA		CEILING MOUNT	L.E.D. SINGLE/DOUBLE FACE EXIT SIGN W/EMERG. BAT.
	8'-0" STRIP LIGHT	120/277	2-18W LED	FURNISHED W/ FIXTURE	CEILING SURFACE	INTERIOR/ EXTERIOR STRIP. 4 WIRE HARNESS.
	4'-0" STRIP LIGHT	120/277	1-18W LED	FURNISHED W/ FIXTURE	CEILING SURFACE	INTERIOR/ EXTERIOR STRIP. 4 WIRE HARNESS.
NL	8'-0" STRIP LIGHT NIGHT LIGHT	120/277	2-18W LED	FURNISHED W/ FIXTURE	CEILING SURFACE	INTR./ EXTR. STRIP W/EMERG. WIRED TO UNSWITCHED CIRCUIT. 4 WIRE HARNESS.
EM	8'-0" STRIP LIGHT WITH INTEGRAL BATTERY UNIT	120/277	2-18W LED	FURNISHED W/ FIXTURE	CEILING SURFACE	EMERGENCY LIGHT LUMEN LEVEL IS 1875. WIRE BATTERY INVERTER TO HOT WIRE. CONTROLLED BY EMS UNLESS NL.
EM	4'-0" STRIP LIGHT WITH INTEGRAL BATTERY UNIT	120/277	1-18W LED	FURNISHED W/ FIXTURE	CEILING SURFACE	EMERGENCY LIGHT LUMEN LEVEL IS 1875. WIRE BATTERY INVERTER TO HOT WIRE. CONTROLLED BY EMS UNLESS NL.
NL	4'-0" STRIP LIGHT NIGHT LIGHT	120/277	1-18W LED	FURNISHED W/ FIXTURE	CEILING SURFACE	INTR./ EXTR. STRIP W/EMERG. WIRED TO UNSWITCH CIRCUIT. 4 WIRE HARNESS.
	DOWN LIGHT	120/277	LED	W/CLEAR REFLECTOR	RECESSED	U.L. LISTED FOR DAMP LOCATIONS
	WALL PACK NIGHT SKY COMPLIANT	120/277	40W LED	FURNISHED W/ FIXTURE	WALL MOUNTED OVER DOOR	U.L. LISTED FOR WET LOCATION SWITCH. MOUNTED AT +10'-0"

LIGHTING FIXTURE GENERAL NOTES:

A. DESIGNATED FIXTURE SHALL HAVE 48" LED T8 LAMPS WITH 4 WIRE HARNESS AND DISCONNECT.
B. CUT INSULATION (WHEN BATT TYPE IS USED) OR PROVIDE SHIELD AROUND FIXTURE (WHEN BLOWN-IN TYPE IS USED) TO KEEP INSULATION A MINIMUM OF 3" AWAY FROM RECESSED FIXTURE.
C. ATTACH FIXTURE TO T-BAR PER NEC 410-36 WHERE APPLICABLE. PROVIDE "CADDY" CLIP #CAD-IDS WHERE REQUIRED BY LOCAL AUTHORITY AND SEISMIC INSTALLATION REQUIREMENTS.
D. FIXTURE PROVIDED WITH DUAL VOLTAGE 120/277V POWER SUPPLY.
E. CONNECTED TO REMOTE BATTERY INVERTER FOR FULL LUMEN OUTPUT DURATION OF 90 MINUTE MINIMUM. EMERGENCY (EM) LIGHT SHALL BE CONNECTED AHEAD OF SWITCHES, CONTACTORS, ETC.
F. NIGHT LIGHT (NL) FIXTURE SHALL REMAIN ON DURING NON-BUSINESS WORKING HOURS.
G. WITH NO FINISHED CEILING, LIGHT FIXTURES IN THE SALES AREA SHALL BE SUSPENDED @ 12'-0" A.F.F. AND LIGHT FIXTURES IN THE PRESALES AREA SHALL BE SUSPENDED @ 10'-0" A.F.F.
H. EXTERIOR FIXTURES SHALL BE SUITABLE FOR WET/DAMP LOCATION AND COLD WEATHER OPERATION.

GENERAL NOTES

A. LIGHTING CIRCUIT HOMERUNS MAYBE RUN IN A COMMON CONDUIT TO THE EMS PANEL. PROVIDE APPROPRIATELY SIZED CONDUIT AND JUNCTION BOXES. PROVIDE DEDICATED NEUTRAL FOR EACH LIGHTING CIRCUIT. DEDICATED NEUTRAL SHALL BE INSTALLED FOR BRANCH WIRING WHERE DRIVER AND/OR BALLAST THD (TOTAL HARMONIC DISTORTION) EXCEEDS 10% OR WHERE UNKNOWN.

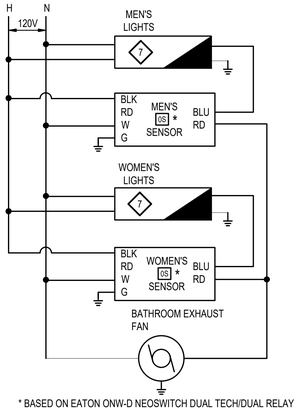
LIGHTING PLAN KEYED NOTES

1. EXIT SIGNS/EMERGENCY BATTERY PACKS: CONNECT TO THE LINE SIDE OF LOCAL SWITCHING AND CONTACTOR OR CONNECT TO DESIGNATED NIGHT LIGHT CIRCUIT. IN PRE-SALES INSTALL WALL MOUNTED TYPE ON WALL CENTERED 1'-0" ABOVE THE DOOR OPENING. IN SALES AREA, MOUNT ON CEILING 1'-0" FROM THE WALL.
2. PRE-SALES LIGHTING: CONTRACTOR SHALL SUSPEND LIGHTING IN THIS AREA FROM THE BOTTOM OF EXISTING STRUCTURE. SUSPEND LIGHTING AT 10'-0" CLEAR AFF. PROVIDE MISCELLANEOUS MATERIALS AS REQUIRED. FIXTURES SHALL BE SEISMICALLY RESTRAINED WHERE REQUIRED BY LOCAL CODE AUTHORITY.
3. SIGNS: PROVIDE ROUGH IN FOR TENANT STOREFRONT SIGN(S) AND AWING WHERE APPLICABLE. FINAL CONNECTIONS WILL BE FURNISHED AND INSTALLED BY TENANT'S SIGN CONTRACTOR. FURNISH AND INSTALL JUNCTION BOXES W/6' WHIP ON WALL ABOVE ACCESSIBLE CEILING. CONTRACTOR SHALL COORDINATE FINAL JUNCTION BOX LOCATION WITH SIGN VENDOR. JUNCTION BOXES NEED TO BE WITHIN 5 FEET OF SIGN FOR SIGN VENDOR TO MAKE FINAL ELECTRICAL CONNECTION.

   IF STORE HAS ADDITIONAL SIDE OR REAR SIGNAGE THE CONTRACTOR SHALL COORDINATE WITH THE SIGN VENDOR FOR ANY ADDITIONAL EXTERIOR SIGNAGE AND THE ASSOCIATED ELECTRICAL REQUIREMENTS. AFTER THE ELECTRICAL DESIGN IS COMPLETE, IT MAY BE DETERMINED THAT CERTAIN SITES REQUIRE SIDE OR REAR SIGNAGE.
4. WALL PACKS: INSTALL WALL PACK FIXTURE ABOVE EXTERIOR DOORS AT ±10'-0", COORDINATE EXACT MOUNTING HEIGHT AND LOCATION FIXTURE SHALL BE NIGHT SKY COMPLIANT.
5. EMERGENCY FIXTURE: MOUNT EMERGENCY FIXTURE ABOVE DOOR APPROXIMATELY ±10'-0". COORDINATE WITH EXISTING CONDITIONS AWNINGS AND/OR SIGNAGE. LOCATE REMOTE BATTERY ABOVE CEILING.
6. EXISTING BUILDING LIGHTING: LIGHTING TO REMAIN CONTRACTOR SHALL VERIFY IF LIGHTING IS CONTROLLED FROM EXISTING PANELS BEING REMOVED OR FROM LANDLORD HOUSE PANEL. IF FROM PANEL BEING REMOVED, FURNISH AND INSTALL NEW CIRCUIT FROM PANEL INDICATED VIA LIGHTING CONTACTOR TO EXISTING LIGHTING.
7. UNIT BATTERY INVERTER: FIXTURE EQUIPPED WITH 90 MINUTE INTEGRAL BATTERY INVERTER. CONNECT TO UN-SWITCHED HOT UNLESS INDICATED AS NL.
8. OCCUPANCY SENSORS: INSTALL OCCUPANCY SENSOR ON WALL NEXT TO DOOR. SEE DETAIL 2/E1 FOR CONNECTION OF RESTROOM LIGHTING AND EXHAUST FAN.
9. EXISTING LIGHTING: CLEAN, REPAIR AND MODIFY FIXTURE INTERNAL WIRING AS NEEDED FOR LED RETROFIT LAMPS. EMERGENCY LIGHT FIXTURES SHALL BE CONNECTED TO REMOTE BATTERY INVERTER.
10. EXTERIOR SITE LIGHTING: CONTRACTOR SHALL RECONNECT EXISTING SITE LIGHTING AS REQUIRED TO A SPARE CIRCUIT IN PANEL A OR B.
11. DIMMING CONTROL: PROVIDE 0-12V CONTROL DIMMING CIRCUITS FOR CALIFORNIA T-24; LOCATE IN CASH WRAP AREA WHEN REQUIRED AND LOCATE AS DIRECTED BY TENANT.
12. LIGHTING CONTROL: INSTALL LIGHTING CONTROL SWITCH NEXT TO DOOR.

LIGHTING CONTROLS PER ENERGY CODE

1. OCCUPANCY SENSOR CONTROLLED "WORK" LIGHTING ZONE, SEE MOTION DETECTORS ON SHEET V1.
   1.1. PARTIAL SALES AREA CONTROLLED BY OCCUPANCY SENSORS
   1.2. FULL PRE-SALES AREA CONTROLLED BY OCCUPANCY SENSORS
2. AUTOMATIC SHUT-OFF CONTROL FOR "SALES" LIGHTING ZONE, SEE MOTION DETECTORS ON SHEET V1.
   2.1. 15 MINUTES AFTER STORE CLOSING SIGNAL FROM VENSTAR WILL AUTOMATICALLY TURN OFF THE "SALES" LIGHTING ZONE.
   2.2. OVER-RIDE SWITCHES NO OVER-RIDE SWITCHES ARE REQUIRED SINCE MOTION SENSORS CONTROL ADEQUATE LIGHTING.
3. EXCEPTION TO LIGHTING REDUCTION THE PRE-SALES AREA IS LESS THAN 0.6 WATTS /SF AND WILL BE CONTROLLED WITH A SINGLE SWITCH.
4. MANUAL CONTROLS MANUAL SWITCHES PROVIDED FOR SALES AND PRE-SALES
5. OCCUPANCY SENSORS AND EMS MOTION SENSORS ON THE SALES FLOOR WILL TURN ON WORK LIGHT UPON ENTRY. THIS WILL ILLUMINATE 30 TO 50% EVERY OTHER ROW AND THE PRESALES AREA.



* BASED ON EATON ONW-D NEOSWITCH DUAL TECH/DUAL RELAY

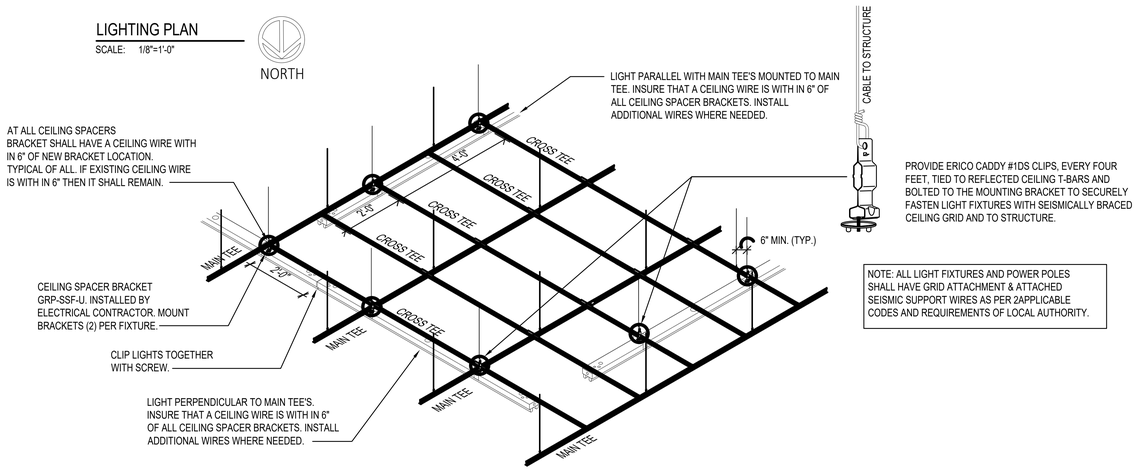
MAY LOAD 800VA LIGHTING AND 1/4 HP MOTOR

SET FOR AUTOMATIC "ON" WITH 10 MINUTE DURATION

1/E2 SCHEMATIC DIAGRAM: BATHROOM OCCUPANCY SENSOR
SCALE: NONE

LIGHTING PLAN
SCALE: 1/8"=1'-0"

NORTH



NOTE: ALL LIGHT FIXTURES AND POWER POLES SHALL HAVE GRID ATTACHMENT & ATTACHED SEISMIC SUPPORT WIRES AS PER 2APPLICABLE CODES AND REQUIREMENTS OF LOCAL AUTHORITY.

2/E2 LIGHT FIXTURE CEILING SPACER AND HANGING WIRE INSTALLATION
SCALE: NONE

NOTE: PROVIDE LATERAL BRACING FOR EACH CONTINUOUS ROW AT A MINIMUM OF TOW LOCATIONS EVERY FIFTY FEET.

CASCO
12 Sunmen Drive, Suite 100, St. Louis, MO 63143 T: 314.821.1100

mark	date	description
		by
		revisions

date	12/21/21
project	2101650
designed	DAM
drawn	DAM
checked	HJA

CASCO DIVERSIFIED CORPORATION
ENGINEERING FIRM
LICENSE #000613
EXPIRES 12/31/21

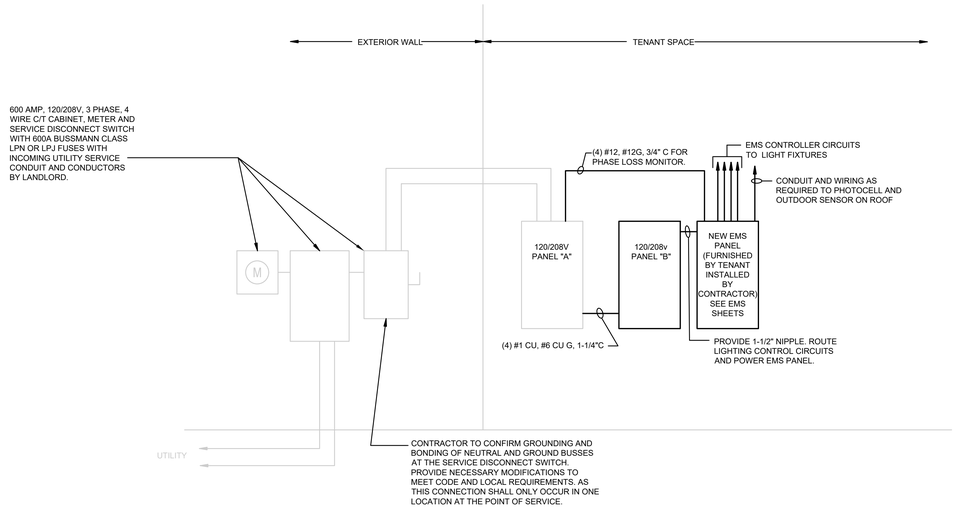
PROFESSIONAL OF RECORD

Harry J Auman
License No. E16827
Expiration Date 12/31/22

PHONE: 314-821-1100

project FAMILY DOLLAR
603 E. Washington Street, Hayti, MO 63851
drawing ELECTRICAL LIGHTING PLAN

E2



ELECTRICAL RISER DIAGRAM

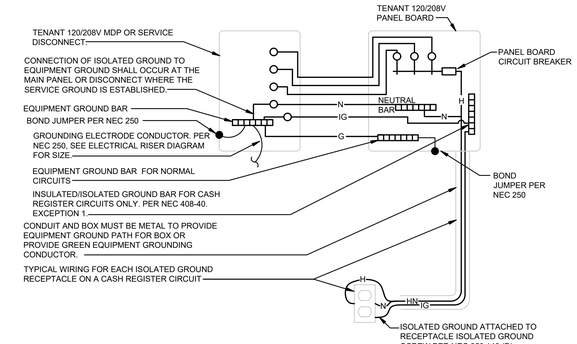
SCALE: N.T.S.

RISER DIAGRAM NOTES

A. ALL CONDUCTOR SIZES BASED ON COPPER, 75° C LUGS.
B. PROVIDE COMPLETE GROUNDING ELECTRODE SYSTEM. PROVIDE GROUNDING ELECTRODE CONDUCTOR AT SERVICE ENTRANCE OVERCURRENT PROTECTION DEVICE, AND BOND TO COLD WATER PIPING, METAL FRAME OF BUILDING, AND TO (3) 3/4"x10'0" COPPER GROUND RODS. WHERE GROUNDING CONDUCTOR AND BONDING ARE EXISTING, VERIFY CODE COMPLIANCE.
C. ELECTRICAL CONTRACTOR SHALL PROVIDE METER BASE AND CT CABINET TO UTILITY SPECIFICATIONS.REUSE EXISTING WHERE APPLICABLE PER UTILITY REQUIREMENTS, VERIFY SYSTEM VOLTAGE AND PHASE RELATIONSHIPS PRIOR TO COMMENCING WORK.
D. FIELD COORDINATE ALL ELECTRICAL SERVICE REQUIREMENTS WITH LOCAL UTILITY COMPANY PRIOR TO PROJECT START UP. ALL WORK MUST CONFORM TO ALL LOCAL UTILITY RULES AND REGULATIONS.
E. ONLY U.L. LISTED EQUIPMENT SHALL BE USED.
F. ALL DEVICES ARE 3 POLE U.N.O.
G. ALL NEW COMPONENTS SHOWN ON THE RISER DIAGRAM MAY BE "SERIES COMBINATION RATED SYSTEM" ADEQUATE FOR THE MAXIMUM FAULT CURRENT AVAILABLE AT THE POINT OF APPLICATION, INCORPORATING THE CURRENT LIMITING DEVICE AS SPECIFIED. INDICATE SERIES COMBINATION RATING ON PANEL BOARDS AND INCLUDE A COPY OF ALL LABELING, INCLUDING RESPECTIVE U.L. LISTING.
H. ALUMINUM SERVICE FEEDERS, SIZED PER NEC, MAY BE RUN FROM THE TRANSFORMER TO ELECTRICAL SERVICE ONLY. TENANT WILL NOT ACCEPT/ALLOW ALUMINUM FEEDERS RUN FROM SERVICE PANEL TO INTERIOR ELECTRICAL PANELS OR EQUIPMENT.
I. CONTRACTOR SHALL PROVIDE LABELS PER NEC 110.21 THROUGH 110.24

RISER LEGEND

- HIDDEN LINE TYPE INDICATES EXISTING EQUIPMENT TO BE REMOVED.
- LIGHT WEIGHT LINE TYPE INDICATES EQUIPMENT PROVIDED BY LANDLORD OR EXISTING TO REMAIN.
- CONTINUOUS HEAVY LINE TYPE INDICATES NEW EQUIPMENT TO BE INSTALLED



CASH REGISTER GROUNDING DIAGRAM

NO SCALE 120/208V SERVICE

CASH REGISTER AND COMPUTER GROUNDING DIAGRAM NOTES

A. FURNISH AND INSTALL AN INSULATED, ISOLATED GROUND BAR IN PANEL. INSTALL AN INSULATED "ISOLATED" GROUND WIRE IN EACH BRANCH CIRCUIT "HOMERUN" TO PANEL BOARD. CONNECT GROUND WIRE FOR CASH REGISTER AND COMPUTER CIRCUITS TO ISOLATED GROUND BAR IN PANEL BOARD AND DIRECTLY TO ISOLATED GROUND LUG/SCREW ON ISOLATED GROUND RECEPTACLES.
B. DO NOT CONNECT "ISOLATED" GROUND WIRE TO RACEWAY OR BOX. CONDUIT AND BOX SHALL BE METAL AND METAL-TO-METAL CONNECTORS SHALL BE USED (NO FLEX CONDUIT) TO ESTABLISH GROUND PATH FOR BOX AND RACEWAY.
C. CASH REGISTER DATA SYSTEM CABLE SHALL BE FURNISHED AND INSTALLED BY OTHERS. FURNISH AND INSTALL JUNCTION BOX IN OFFICE AND 2" CONDUIT WITH PULL WIRE TO SALES AREA CEILING CAVITY.
D. DO NOT RUN CASH REGISTER CIRCUITS IN CONDUIT WITH OTHER CIRCUITS.

MOUNT: SURFACE 120/208 3-PHASE, 4W — PANEL A — CAPACITY: 600A — INT CAP: EXISTING
LOCATION: BACK OF BLDG. — LUGS: MLO — DEMAND LOAD: 404A — AV. FAULT:

NOTES	CKT	LTG	REC	HVAC	MISC	NP	DESCRIPTION	AMP	POLE	F	AMP	POLE	DESCRIPTION	LTG	REC	HVAC	MISC	NP	CKT	NOTES
	1	0.0	4.3	0.0	9.2	0.0	PANEL B			A	30	2	4-DR-RI-FRZ				3.1		2	B
	3	0.0	3.4	0.0	10.6	0.0		125	3	B							3.1		4	
	5	0.0	6.3	0.0	8.3	0.0				C							2.6		6	B
	7			6.6			RTU 1			A	30	2	3-DR-RI-FRZ				2.6		8	
	9			6.6				70	3	B							3.1		10	B
	11			6.6						C			4-DR-RI-FRZ				3.1		12	
	13			5.4			RTU 2			A						7.2			14	
	15			5.4				50	3	B	30	3	XRTU 5			7.2			16	
	17			5.4						C						7.2			18	
	19			4.9			RTU 3			A	20	2	4-DR-RI-CLR				1.7		20	B
	21			4.9				50	3	B							1.7		22	
	23			4.9						C	20	2	3-DR-RI-CLR				1.7		24	B
	25			5.1			RTU 4			A							1.7		26	
	27			5.1				50	3	B	20	1	SPARE						28	
	29			5.1						C	20	1	SPARE						30	
	31						SPARE	20		A	3		PHASE LOSS MONITOR						32	A
	33						SPARE	20	1	B	20	3	SPARE						34	
E/G	35	1.2					SALES AREA LTG	20	1	C									36	
A	37	0.9					NL/EMERG LTG	20	1	A	20	1	EMS				0.5		38	A
E/G	39	1.2					SALES AREA LTG	20	1	B	20	1	SPARE						40	
	41	0.2		0.7			RESTROOM LTG/EF1	20	1	C	20	1	BUILDING SIGN				1.2		42	F
D/G	43	1.1					SALES AREA LTG	20	1	A	20	1	WALL PACK	0.4					44	F
D/G	45	0.8					SALES AREA LTG	20	1	B	20	1	EXTERIOR LTG	0.3					46	F
D/G	47	1.3					SALES AREA LTG	20	1	C	20	1	SPARE						48	
E	49	0.4					PRE-SALES LTG	20	1	A	20	1	SPARE						50	
	51	0.2					SURPLUS SPACE LTG	20	1	B	20	1	SPARE						52	
	53						SPARE	20	1	C	20	1	SPARE						54	

PHASE BALANCE			LOAD TYPE	CONNECTED	DEMAND	DEMAND FORMULA	TOTAL LOAD	
			LIGHTING	8.0 KVA	10.0 KVA	LOAD X 125% NEC 210.19 CONTINUOUS	CONNECTED	DEMAND
F	LOAD	%	RECEPTACLE	14.0 KVA	12.0 KVA	10KVA + 50% REMAINDER NEC 220.44	163.2 KVA	145.6KVA
A	48.9 KVA	33%	HVAC	87.9 KVA	70.3 KVA	LOAD X 80% (USED MCA IN CALCULATION)	452.9A	404.1A
B	48.3 KVA	33%	MISC	53.3 KVA	53.3 KVA	LOAD X 100% NEC 210.19 NON-CONT.	FILENAME:	
C	50.4 KVA	34%	NP	0.0 KVA	0.0 KVA	0 NONCOINCIDENTAL LOADS NEC 220.60	2101650 LOAD.xlsm	

NOTE
A = PROVIDE HANDLE LOCKING HARDWARE TO LOCK CIRCUIT ON AND ALLOW CIRCUIT BREAKER TO TRIP.
B = PROVIDE HANDLE LOCKING HARDWARE TO LOCK CIRCUIT OFF OR PROVIDE LOCAL DISCONNECT PER CODE.
C = REQUIRES ISOLATED GROUND CIRCUIT/RECEPTACLES.
D = CONTROLLED VIA CUSTOMER LIGHTING CONTROL PANEL.
E = CONTROLLED VIA EMPLOYEE LIGHTING CONTROL PANEL.
F = CONTROLLED VIA LIGHTING CONTROL.
G = CONTROLLED MANUALLY FROM OFFICE MULTI PUSH BUTTON LIGHTING CONTROL STATION FOR EMS OVERRIDE.
H = CONNECT TO DUSK ON TIME CLOCK OFF.

MOUNT: SURFACE 120/208 3-PHASE, 4W — PANEL B — CAPACITY: 125A — INT CAP: 65KA
LOCATION: BACK OF BLDG. — LUGS: MLO — DEMAND LOAD: 109A — AV. FAULT: 26.5KA

NOTES	CKT	LTG	REC	HVAC	MISC	NP	DESCRIPTION	AMP	POLE	F	AMP	POLE	DESCRIPTION	LTG	REC	HVAC	MISC	NP	CKT	NOTES
	1		0.8				EXT REC	20	1	A	20	1	PHONE BOARD IG		0.2				2	A
	3		0.8				EXT REC	20	1	B	20	1	PHONE BOARD IG		0.2				4	A
	5		0.4				RTU REC	20	1	C	20	1	DUCT DISTOR		0.4				6	A
	7						SPARE	20	1	A	20	1	SPARE						8	
	9		0.8				SHOW WINDOW REC	20	1	B	20	1	SPARE						10	
C	11		0.2				ATM STAION	20	1	C	20	1	SPARE						12	
C	13		0.7				CHECKOUT IG	20	1	A	20	1	SPARE						14	
	15		0.4				CHECKOUT	20	1	B	20	1	SPARE						16	
	17		0.4				CHECKOUT	20	1	C	20	1	J-BOX SALES AREA		1.3				18	
C	19		0.7				CHECKOUT IG	20	1	A	20	1	SPARE						20	
C	21		0.2				EAS REC	20	1	B	20	1	QUAD REC		0.2				22	
B	23				1.0		HAND DRYER	20	1	C	20	1	QUAD REC		0.2				24	
B	25				1.0		HAND DRYER	20	1	A	20	1	SPARE						26	
	27		0.4				PRINTER	20	1	B	20	1	1-DR-RI-CLR			1.8			28	B
	29		0.4				CHECKOUT	20	1	C	20	1	OFFICE REC IG		0.4				30	C
C	31		0.7				CHECKOUT IG	20	1	A	20	1	OFFICE REC IG		0.4				32	C
	33				0.2		DOOR BELL	20	1	B	20	1	OFFICE REC IG		0.4				34	C
A	35		0.2				SECURITY CAM REC	20	1	C	20	1	OFFICE PLUGMOLD		0.8				36	
	37						SPARE	20	1	A	20	1	OFFICE PLUGMOLD		0.8				38	
	39						SPARE	20	1	B	30	2	4-DR-RI-FRZ				3.1		40	B
	41		1.6				PRE-SALES REC	20	1	C							3.1		42	
B	43				2.0		WATER HEATER	30	1	A	20	2	4-DR-RI-CLR				1.7		44	B
B	45				1.3		ICE CREAM BUNKER	20	1	B							1.7		46	
	47						SPARE	20	1	C	20	2	4-DR-RI-CLR				1.7		48	B
B	49				1.8		1-DR-RI-CLR	20	1	A							1.7		50	
	51						SPARE	20	1	B	30	2	2-DR-RI-FRZ				2.5		52	B
	53						SPARE	20	1	C							2.5		54	

PHASE BALANCE			LOAD TYPE	CONNECTED	DEMAND	DEMAND FORMULA	TOTAL LOAD	
			LIGHTING	0.0 KVA	0.0 KVA	LOAD X 125% NEC 210.19 CONTINUOUS	CONNECTED	DEMAND
F	LOAD	%	RECEPTACLE	14.0 KVA	12.0 KVA	10KVA + 50% REMAINDER NEC 220.44	41.1 KVA	39.1KVA
A	12.5 KVA	30%	HVAC	0.0 KVA	0.0 KVA	LOAD X 80% (USED MCA IN CALCULATION)	114.2A	108.6A
B	14.0 KVA	34%	MISC	27.1 KVA	27.1 KVA	LOAD X 100% NEC 210.19 NON-CONT.	FILENAME:	
C	14.6 KVA	36%	NP	0.0 KVA	0.0 KVA	0 NONCOINCIDENTAL LOADS NEC 220.60	2101650 LOAD.xlsm	

NOE:
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B = PROVIDE HANDLE LOCKING HARDWARE TO LOCK CIRCUIT OFF OR PROVIDE LOCAL DISCONNECT PER CODE.
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D = CONTROLLED VIA CUSTOMER LIGHTING CONTROL PANEL.
E = CONTROLLED VIA EMPLOYEE LIGHTING CONTROL PANEL.
F = CONTROLLED VIA LIGHTING CONTROL.
G = CONTROLLED MANUALLY FROM OFFICE MULTI PUSH BUTTON LIGHTING CONTROL STATION FOR EMS OVERRIDE.
H = CONNECT TO DUSK ON TIME CLOCK OFF.
J = NEW BREAKER TO MATCH EXISTING AIC RATING AND MANUFACTURER

EQUIPMENT SCHEDULE

FILE: 2101650 LOAD.xlsm

PLAN MARK	EQUIPMENT SERVED	LOAD	VOLT/ PHASE	DISC BY	MCA	MOCPD	FEEDER
4-DR-RI-FRZ	REACH-IN 4-DR FREEZER	6.20KVA	208/120 /1	A	29.8A	30A	(3)#10,#10G 1/2"C
3-DR-RI-FRZ	REACH-IN 3-DR FREEZER	5.18KVA	208/120 /1	A	24.9A	30A	(3)#10,#10G 1/2"C
2-DR-RI-FRZ	REACH-IN 2-DR FREEZER	5.01KVA	208/120 /1	B	24.1A	30A	(3)#10,#10G 1/2"C
4-DR-RI-CLR	REACH-IN 4-DR COOLER	3.45KVA	208/120 /1	A	16.6A	20A	(3)#12,#12G 1/2"C
3-DR-RI-CLR	REACH-IN 3-DR COOLER	3.43KVA	208/120 /1	A	16.5A	20A	(3)#12,#12G 1/2"C
1-DR-RI-CLR	REACH-IN 1-DR COOLER	1.75KVA	120/1	B	14.6A	20A	(2)#12,#12G 1/2"C

EQUIPMENT SCHEDULE

FILE: 2101650 LOAD.xlsm

PLAN MARK	EQUIPMENT SERVED	LOAD	VOLT/ PHASE	FED BY	MCA	MOCPD	FEEDER	REMARKS
RTU 1	ROOF TOP UNIT	19.67KVA	208/3	A	54.6A	70A	(3)#4,#8G 1"C	
RTU 2	ROOF TOP UNIT	16.07KVA	208/3	A	44.6A	50A	(3)#6,#8G 3/4"C	
RTU 3	ROOF TOP UNIT	14.55KVA	208/3	A	40.4A	50A	(3)#6,#8G 3/4"C	
RTU 4	ROOF TOP UNIT	15.28KVA	208/3	A	42.4A	50A	(3)#6,#8G 3/4"C	
WATER HEATER	WATER HEATER	2.00KVA	120/1	B	16.7A	30A	(2)#10,#10G 1/2"C	

UT. XFRM FAULT CALC	2101650 LOAD.xlsm	
SERVICE ENTRANCE		CALCULATION
VOLTAGE (L-L):	208V	I-FLA=[RATED KVA * 1000]/ [V-LL*SQRT(PHASE)]
PHASE (PH):	3	
AMPS:	600A	I-FLA= 625A
FULL LOAD KVA:	216KVA	
TRANSFORMER:	225KVA	M=100/%Z= 89.3
IMPEDANCE (%Z):	1.1%Z	I-SC=I-FLA*M= 56 KA

CALCULATION IS BASED ON ESTIMATED TRANSFORMER SIZE WITH %Z FROM BUSSMANN SPD. CONTRACTOR SHALL CONTACT UTILITY AND VERIFY I-SC AVAILABLE AT SECONDARY OF TRANSFORMER. CONTACT ENGINEER FOR RE-CALCULATION IF LARGER THAN CALCULATED.

DISC FEEDER FAULT CALC	2101650 LOAD.xlsm	
STARTING I-SC:	57 KA	IMPEDANCE BASED ON 3 SINGLE
VOLTAGE (L-L):	208V	CONDUCTORS IN NON-MAGNETIC
PHASE (PH):	3	CONDUIT (WORSE CASE)
FEEDER SIZE:	350	CALCULATION
FEEDER MATERIAL:	CU	f=[SQRT(PHASE)*L*IS-C]/ [Q*C*V-LL]
PARALLEL SETS (Q):	2 SETS	
FEEDER LENGTH (L):	40FT	f= 0.419
FEET PER OHMS (C):	22,737 FT/OHMS	M=1/(1+f)= 0.705
		I-SC=I-SC*M= 40 KA

NOTE: CALCULATION BASED ON BUSSMANN SPD

MOTOR LOAD FAULT CALC	2101650 LOAD.xlsm	
STARTING I-SC:	56 KA	CALCULATION
MOTOR LOAD (KVA):	88KVA	I-SC[ML]=I-ML*6= 1,464A
MOTOR LOAD (A):	244A	I-SC=I-SC+I-SC(ML)= 57 KA

NOTE: CALCULATION FOR MDP WITH MOTOR CONTRIBUTION.

B FEEDER FAULT CALC	2101650 LOAD.xlsm	
STARTING I-SC:	38 KA	IMPEDANCE BASED ON 3 SINGLE
VOLTAGE (L-L):	208V	CONDUCTORS IN NON-MAGNETIC
PHASE (PH):	3	CONDUIT (WORSE CASE)
FEEDER SIZE:	1	CALCULATION
FEEDER MATERIAL:	CU	f=[SQRT(PHASE)*L*IS-C]/ [Q*C*V-LL]
PARALLEL SETS (Q):	1 SETS	
FEEDER LENGTH (L):	10FT	f= 0.417
FEET PER OHMS (C):	7.493 FT/OHMS	M=1/(1+f)= 0.706
		I-SC=I-SC*M= 26 KA

NOTE: CALCULATION BASED ON BUSSMANN SPD

CASCO
12 Sunmen Drive, Suite 100, St. Louis, MO 63143 T: 314.821.1100

OWNER CHANGES			
KSG		by	description
01/19/22		date	
		mark	revisions

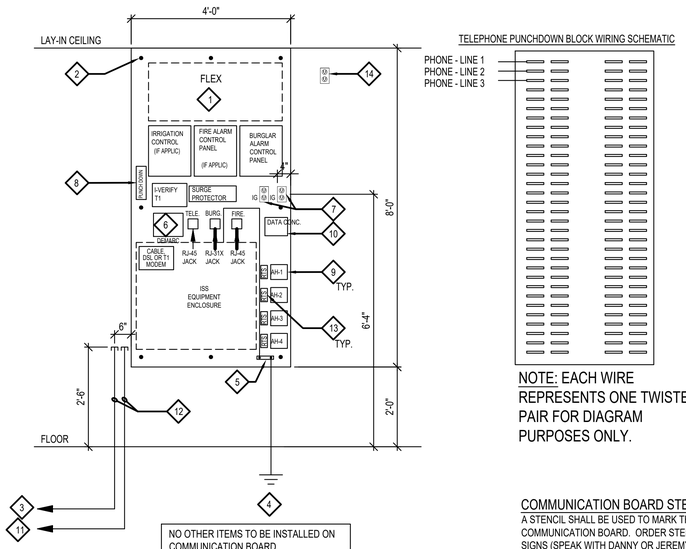
12/21/21		DAM	HJA
2101650		DAM	
date	project	designed	drawn checked

CASCO DIVERSIFIED CORPORATION
ENGINEERING FIRM
LICENSE #000613
EXPIRES 12/31/23

PROFESSIONAL OF RECORD
Harry J Auman
License No. E16827
Expiration Date 12/31/22
PHONE: 314-821-1100

project: FAMILY DOLLAR
603 E. Washington Street, Hayti, MO 63851
drawing: ELECTRICAL RISER DIAGRAM AND PANEL SCHEDULES

E3



NOTE: EACH WIRE REPRESENTS ONE TWISTED PAIR FOR DIAGRAM PURPOSES ONLY.

NO OTHER ITEMS TO BE INSTALLED ON COMMUNICATION BOARD

ALL WIRING ON COMMUNICATION BOARD IS TO BE SURFACE MOUNTED

1/E4 COMMUNICATION BOARD DIAGRAM
SCALE: NONE

COMMUNICATION BOARD STENCILING NOTE:

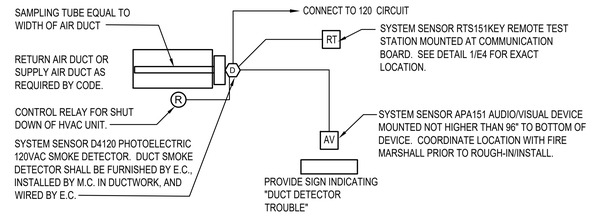
A STENCIL SHALL BE USED TO MARK THE LOCATIONS OF EQUIPMENT ON THE COMMUNICATION BOARD. ORDER STENCIL DIRECTLY FROM LAKE AREA SIGNS (SPEAK WITH DANNY OR JEREMY AT 337-625-4179) USING ORDER FORM. THE STENCIL COST IS $25.00 PLUS SHIPPING AND IS TO BE PAID BY CONTRACTOR USING A CREDIT CARD. THERE IS A 10 BUSINESS DAY LEAD TIME. THE STENCIL TRANSFER TAKES LESS THAN 15 MINUTES. RED OR BLACK SPRAY PAINT SHOULD BE USED. IT TAKES LESS THAN 1/2 CAN OF PAINT PER STENCIL. THE STENCIL SHOULD BE APPLIED PRIOR TO MOUNTING THE BOARD ON THE WALL TO MAKE SURE THE ANCHORS ARE NOT PLACED IN SPACES MARKED FOR EQUIPMENT. A PHOTO OF THE INSTALLED COMMUNICATION BOARD ALONG WITH THE UL CLASSIFICATION STAMP AND TRANSFERRED STENCIL PRIOR TO ANY EQUIPMENT INSTALLED SHALL BE SENT TO YOUR FAMILY DOLLAR PROJECT MANAGER, NO DEVIATIONS TO THE LAYOUT WILL BE ACCEPTED BY FAMILY DOLLAR. IT IS RESPONSIBILITY OF CONTRACTOR TO ENSURE THAT ALL SUBCONTRACTORS ADHERE TO THIS.

GENERAL NOTES: COMMUNICATION SYSTEM

1. ALL PHONE AND DATA LINES SHALL BE RUN BY FD'S LOW VOLTAGE VENDOR. INSTALLATION SHALL COMPLY WITH ALL CITY & STATE CODES. CONTRACTOR SHALL BE RESPONSIBLE FOR PROVIDING CONDUIT WITH PULL STRING FOR ALL PHONE AND DATA LINES WHERE REQUIRED BY CODE.
2. TELEPHONE CONDUIT, TELEPHONE SERVICE (THREE (3) LINES OPERATIONAL), DMARC AND PUNCHDOWN BLOCK SHOULD BE EXISTING AS PROVIDED AS PART OF SHELL BUILDING. CONTRACTOR SHALL VERIFY THAT THREE (3) PHONE LINES ARE OPERATIONAL AND NOTIFY FD PROJECT MANAGER IF NOT EXISTING OR ANY OTHER ISSUES AFFECTING INSTALLATION OF COMMUNICATION BOARD/EQUIPMENT.
3. DATA CONDUIT SHOULD BE EXISTING AS PROVIDED AS PART OF SHELL BUILDING. CONTRACTOR SHALL VERIFY EXISTING DATA CONDUIT AND NOTIFY FD PROJECT MANAGER IF NOT EXISTING OR ANY OTHER ISSUES AFFECTING INSTALLATION OF COMMUNICATION BOARD/EQUIPMENT.
4. CONTRACTOR SHALL INSTALL FIRE RETARDANT PLYWOOD COMMUNICATION BACKBOARD, GROUND BAR, TELEPHONE PUNCHDOWN BLOCK & DUPLEX RECEPTACLES A MINIMUM OF 6 WEEKS PRIOR TO DELIVERY DATE OF STORE TURNOVER TO FDS.
5. CONTRACTOR SHALL INSTALL COMMUNICATION BACKBOARD AND RECEPTACLE POWER PRIOR TO TELEPHONE AND DATA INSTALLATION DATE. PER FCC REQUIREMENTS PERMANENT POWER IS REQUIRED PRIOR TO TELEPHONES BEING INSTALLED.
6. CONTRACTOR SHALL PROVIDE ONSITE CONTACT AVAILABLE TO PROVIDE ACCESS TO TELEPHONE AND DATA COMPANIES. (TELEPHONE AND DATA COMPANIES REQUIRE SOMEONE ONSITE ON THE DAY OF INSTALL)
7. CONTRACTOR SHALL PROVIDE ONSITE CONTACT TO PROVIDE PROBLEM RESOLUTION FOR ALL ISSUES PERTAINING TO PHONE/DATA FACILITIES, I.E. CONDUIT PLACEMENT, PULL STRING, BUILDING PENETRATION, SITE ACCESS, ETC.
8. FAMILY DOLLAR CONTACT INFO: DEPLOYMENT CENTRAL 1-866-625-0177 (AVAILABLE 8AM-4PM EST MON-FRI). EMAIL: NEWSTORECONSTRUCTIONSTDT@FAMILYDOLLAR.COM.

COMMUNICATION BOARD KEYED NOTES:

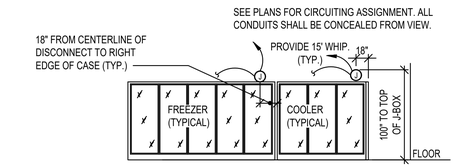
1. CONTRACTOR SHALL PROVIDE 4'x8'x3/4" COMMUNICATION BOARD MADE OF FIRE RETARDANT PLYWOOD, WITH A UL CLASSIFICATION STAMP THAT MEETS OR EXCEEDS THE REQUIREMENTS FOR CLASS I OR CLASS A FLAMESPREAD RATING (IBC 2012 SECTION 2303.2). BOARD SHALL NOT TO BE PAINTED EXCEPT FOR STENCIL TRANSFER. MOUNT BOARD WITH BRACING AND FASTENERS RATED TO SUPPORT UP TO 225 LBS OF WEIGHT. COMMUNICATION BOARD SHALL BE MOUNTED VERTICALLY. HORIZONTALLY MOUNTED COMMUNICATION BOARD WILL NOT BE ACCEPTED.
2. 1/4" METAL ANCHOR BOLTS. TYPICAL 8 PLACES.
3. FIELD VERIFY EXISTING 2" CONDUIT, SCHEDULE 40 PVC, WITH INCOMING TELEPHONE SERVICE HAS BEEN PROVIDED AS PART OF SHELL BUILDING. CONTRACTOR SHALL NOTIFY FD PROJECT MANAGER IF NOT EXISTING OR ANY OTHER ISSUES AFFECTING INSTALLATION OF COMMUNICATION BOARD/EQUIPMENT.
4. CONTRACTOR SHALL PROVIDE #6 CU GROUND TO SERVICE GROUND BAR AS REQUIRED FOR GROUNDING OF COMMUNICATION EQUIPMENT. PROVIDE 10' LOOP OF #6 GROUND WIRE TERMINATED WITH LUG.
5. CONTRACTOR SHALL PROVIDE GROUND BAR WITH 7 TERMINALS FOR GROUNDING OF FRAME RELAY AND OTHER COMMUNICATION EQUIPMENT.
6. CONTRACTOR SHALL RELOCATE EXISTING NETWORK INTERFACE DEVICE (DEMARC) TO LOCATION AS SHOWN ON COMMUNICATION BOARD DIAGRAM. FIELD VERIFY EXISTING DEMARC AND NOTIFY FD PROJECT MANAGER IF NOT EXISTING OR ANY OTHER ISSUES AFFECTING INSTALLATION OF COMMUNICATION BOARD/EQUIPMENT.
7. CONTRACTOR SHALL PROVIDE TWO (2) DUPLEX ISOLATED GROUND RECEPTACLES. SEE PLANS FOR CIRCUIT NUMBER. RECEPTACLES SHALL BE SURFACE MOUNTED. RECEPTACLES SHALL BE "ORANGE" WITH WHITE COVER PLATES.
8. CONTRACTOR SHALL RELOCATE 25 PAIR (66 CLIPS) TELEPHONE PUNCHDOWN BLOCK TO LOCATION AS SHOWN ON COMMUNICATION BOARD DIAGRAM. FIELD VERIFY EXISTING TELEPHONE PUNCHDOWN BLOCK AND THAT THREE (3) PHONES HAVE BEEN LANDED AND ARE OPERATIONAL AS PART OF SHELL BUILDING. CONTRACTOR SHALL NOTIFY FD PROJECT MANAGER IF NOT EXISTING OR ANY OTHER ISSUES AFFECTING INSTALLATION OF COMMUNICATION BOARD/EQUIPMENT.
9. HVAC UNIT CONTROLLER FURNISHED WITH EMS SYSTEM AND INSTALLED BY CONTRACTOR. (FIELD VERIFY QUANTITY WITH MECHANICAL PLANS). REFER TO EM DRAWINGS FOR INSTALLATION INFORMATION. LOCATIONS FOR ADDITIONAL CONTROLLERS SHOWN IF APPLICABLE.
10. NOT USED.
11. FIELD VERIFY EXISTING 2" EMPTY CONDUIT, SCHEDULE 40 PVC, WITH NYLON PULLWIRE FOR INCOMING WAN/DATA SERVICE (CABLE, DSL OR T1) HAS BEEN PROVIDED AS PART OF SHELL BUILDING. CONTRACTOR SHALL NOTIFY FD PROJECT MANAGER IF NOT EXISTING OR ANY OTHER ISSUES AFFECTING INSTALLATION OF COMMUNICATION BOARD/EQUIPMENT.
12. FIELD VERIFY THAT TELEPHONE AND DATA CONDUITS HAVE BEEN STUBBED UP WITHIN 6" OF THE COMMUNICATION BOARD AT 30" AFF AS PART OF SHELL BUILDING. CONDUITS SHOULD NOT BE EXPOSED ON FACE OF EXTERIOR WALL. CONTRACTOR SHALL NOTIFY FD PROJECT MANAGER IF NOT EXISTING OR ANY OTHER ISSUES AFFECTING INSTALLATION OF COMMUNICATION BOARD/EQUIPMENT.
13. DUCT SMOKE DETECTOR REMOTE TEST STATION LOCATION. CONTRACTOR SHALL INSTALL REMOTE TEST STATION. SEE WIRING DIAGRAM 3/E4 FOR DETAIL.
14. CONTRACTOR SHALL PROVIDE DUPLEX ISOLATED GROUND RECEPTACLE IN WALL, NEXT TO OR ABOVE COMMUNICATION BOARD TO BE USED FOR PAGING SYSTEM. USE SAME CIRCUIT FOR RECEPTACLES AT COMMUNICATION BOARD. RECEPTACLE SHALL BE "ORANGE" WITH WHITE COVER PLATE.



3/E4 DUCT DETECTOR SCHEMATIC
SCALE: NONE

SMOKE NOTIFICATION NOTES:

1. ALL EQUIPMENT AND INSTALLATION SHALL COMPLY WITH THE LATEST LOCAL CODES.
2. EC TO PROVIDE, WIRE AND TEST OPERATION OF DUCT SMOKE DETECTORS, REMOTE TEST STATIONS AND NOTIFICATION DEVICES FOR EACH RTU.
3. INSTALL/WIRE DUCT SMOKE DETECTORS, REMOTE TEST STATIONS AND NOTIFICATION DEVICES PER MANUFACTURER'S INSTALLATION INSTRUCTIONS.
4. COORDINATE INSTALLATION AND CONNECTION WITH MECHANICAL CONTRACTOR.



4/E4 COOLER/FREEZER CASE INSTALLATION
SCALE: NONE

COOLER/FREEZER CASES NOTES:

1. COOLERS/FREEZERS SHALL BE VENDOR SUPPLIED AND VENDOR INSTALLED.
2. COOLERS/FREEZERS WILL BE "HYBRID" UNITS WITH THE COMPRESSOR MOUNTED ON TOP OF THE CASE AND DO NOT REQUIRE AN OUTDOOR CONDENSING UNIT. REFRIGERATION SYSTEM IS PRE-PIPED AND PRE-CHARGED IN THE FACTORY.
3. COOLERS/FREEZERS WILL UTILIZE EVAP-AWAY HEATERS/PANS TO EVAPORATE CONDENSATE INTO THE AIR. THE EVAP-AWAY HEATERS/PANS ARE MOUNTED ON TOP OF CASES. FACTORY INSTALLED CONDENSATE PUMPS ARE USED TO PUMP THE CONDENSATE TO THE EVAP-AWAY HEATER/PANS. NO PLUMBING FLOOR DRAINS ARE REQUIRED.
4. CONTRACTOR SHALL PROVIDE CONDUIT AND WIRING FROM ELECTRICAL PANEL TO 4X4 JUNCTION BOX IN WALL. CONTRACTOR SHALL PROVIDE 15' ELECTRICAL WHIP FROM 4X4 JUNCTION BOX.
5. COOLER/FREEZERS VENDOR WILL CONNECT ELECTRICAL WHIP TO CASE DISCONNECT SWITCH.
6. REFER TO FDS SITE SPECIFIC FIXTURE PLAN FOR DIMENSIONED LOCATIONS OF COOLER/FREEZER CASES AND JUNCTION BOX LOCATIONS PRIOR TO ELECTRICAL ROUGH-IN.
7. JUNCTION BOX FOR CASE SHOULD ALWAYS BE INSTALLED 18" FROM THE RIGHT EDGE OF CASE AND 100" AFF TO TOP OF JUNCTION BOX.
8. IF REQUIRED BY LOCAL CODES, CONTRACTOR SHALL PROVIDE A SAFETY GROUND CONNECTED TO DISCONNECT. CONTRACTOR SHALL CONFIRM WITH LOCAL BUILDING INSPECTOR PRIOR TO BEGINNING ELECTRICAL ROUGH-IN.

2/E4 NOT USED
SCALE: NONE

CASCO
12 Summers Drive, Suite 100, St. Louis, MO 63143 T: 314.821.1100

mark	date	description
		by

date	project	designed	drawn	checked
12/21/21	21016S0	DAM	DAM	HJA

CASCO DIVERSIFIED CORPORATION
ENGINEERING FIRM
LICENSE #000613
EXPIRES 12/31/21

PROFESSIONAL OF RECORD

Harry J Auman
License No. E16827
Expiration Date 12/31/22

PHONE: 314-821-1100

project: FAMILY DOLLAR
603 E. Washington Street, Hayti, MO 63851

drawing: ELECTRICAL PHONEBOARD AND OFFICE DETAILS

E4

SECTION 16010 - GENERAL PROVISIONS

RELATED DOCUMENTS
A. The General Conditions, Supplementary Conditions, and General Requirements apply to the Work specified in this Section.
B. Nothing stated here-in shall override instruction and directions by the tenants contract manager, city, state authority or national and local codes applicable to this facility and the lease agreement between the tenant and landlord.

DESCRIPTION:
A. This Section defines the General Provisions which are common to all Sections of Division 16.

B. The information in the Specifications and the Plan Drawings are basic facts to follow in determining a reasonable and competitive price for the disciplines intended. The Drawings and Specifications do not necessarily indicate or describe each item necessary for the full performance and completion of the particular work the contractor may be bidding. These documents provide the general intent necessary to inform the contractor of the tenant's desire for the systems required for Electrical. Contractor shall visit the site prior to bidding to become familiar with the existing conditions under which the work shall be performed. Failure to inspect the site will not be considered justification for an adjustment in contract price or failure to perform the work under this contract.

C. Work Included:
- All electrical work herein specified and/or shown on drawings unless noted otherwise.
- Work by the Utility Company for which there is a backcharge. All electrical back charges to be included under this Division 16 Contract.
- Installation shall be complete from the location designated by the Electrical Utility Company as the point of service connection, to the final connection of motors, fixtures, devices, apparatus or pieces of equipment, unless modified by Drawings or these Specifications.
- The Electrical Drawings and specifications shall be understood to cover complete operating systems.
- The Drawings and Specifications are to be taken together. Work specified and not shown, or work shown and not specified shall be performed or furnished as though mentioned in both Drawings and Specifications.
- Minor items and accessories reasonably inferred as necessary to complete such systems shall be included. All work & materials necessary for proper operation of any system, shall be provided by this Contractor.
- Installation shall be in compliance with seismic code requirements.

D. Description of System:
- Complete power wiring to main disconnect switch, panels, motorized equipment, motors, equipment cabinets, and miscellaneous outlets.
- General wiring for power, lighting, and miscellaneous systems.
- Materials and equipment for electrical work.
- Electric service and distribution.
- Motor and equipment wiring, including starters, safety switches & control wiring.
- General and emergency lighting and power systems.
- Contactors for lighting and sign control systems.
- Telephone back boxes and empty conduit.
- Arrange for sources of temporary construction services. Such services shall be nominally 120/208 volt, 3 phase, 4 wire from which a complete system of temporary power and lighting shall be installed for all construction needs and as required by the occupational safety and health departments, (OSHA). Temporary services shall be removed upon completion of work.
- Computer system empty conduit raceway.
- Wiring of power connections to equipment furnished and installed by others.
- Cutting, patching, excavation and back fill, and concrete work required to complete the work of this section. Back fill shall be compacted to 95% of standard compaction. All existing surfaces shall be patched or replaced to "Like New" conditions.
- All other equipment, material, devices, accessories required and/or shown on the drawings.

E. Related work to be completed by others as indicated on Low Voltage Plans:
- Computer system wiring.
- Television system wiring.
- Alarm System
- Security Systems

F. Definitions - As used within the Contract Document:
- "Circuitry" or "Wiring" shall mean any electric work.
- "Package Unit" shall mean an item of equipment having one or more motors or other electric energy consuming elements integrally factory mounted on a single base, complete with all associated control devices and interconnecting wiring.

G. Permits:
- Obtain all permits and pay all fees required for the complete electrical system.

QUALITY ASSURANCE
A. Qualifications:
- Materials and equipment shall be new and shall conform to N.E.M.A. and Underwriters Laboratories (UL) standards in every case, where such standard has been established. All equipment of similar type shall be of the same manufacturer.

B. Requirements of Regulatory Agencies:
- All electrical work shall be in accordance with the National Electrical Code (N.E.C.), current edition, and any amendments to the National Electrical Code made by the local Code Officials. Coordinate exact code requirements and local amendments with AHJ prior to any installation.
- Where applicable, all fixtures, equipment and materials shall be as approved or listed by the following agencies:

a. Factory Mutual Laboratories.
b. National Fire Protection Association.
c. Underwriters Laboratories, Inc. (UL)
d. National Electrical Manufacturers Association (NEMA)
e. Americans with Disabilities Act (ADA)
f. Applicable Energy Codes

C. Allowable Tolerances:
- Review Architectural, Structural and Mechanical Drawings for all dimensions, locations, partitions and walls, structural details, and location of mechanical pipes and ducts so that the electrical installation shall be in coordination with that of the other trades.
- Exact location and electrical requirements of equipment furnished by other trades and wired by this Contractor shall be obtained from the Drawings of the other trades.

APPROVAL DRAWINGS
A. Prepare and submit for approval such additional electrical drawings, diagrams, and specifications as are required by:
- Local Fire Prevention Bureau
- Local Building Department - Electrical Inspection Section
- Local Utility Companies

GUARANTEE
A. Provide one year guarantee for all fixtures, equipment, materials and workmanship, upon final acceptance by tenant. Any defective material or faulty workmanship shall be replaced without cost to tenant.

COORDINATION AND COOPERATION
A. The contractor shall examine the premises and satisfy himself of existing conditions under which he will be obligated to operate in performing his part of the work or that will in any manner affect the work under the contract. The Contractor shall cooperate with other trades so that the installation of all equipment may be properly coordinated.
B. All equipment furnished shall fit the space available, with connection, etc., in the required locations and with adequate space for operating and servicing. The drawings are generally diagrammatic and indicate the manner and method of the installation while the specifications and fixture list denote the type and quality of material and workmanship to be used. Where a conflict exists between the drawings and the specifications, the Contractor shall promptly notify the Architect whose decision shall be final. No allowance will be made subsequently in this connection on behalf of the Contractor after award of the contract.

PROTECTION
A. The contractor shall be responsible for protecting all, both, new and existing equipment and systems against harmful exposure, or accumulation of dust/moisture, flooding, corrosion, or other forms of damage. Clean and restore damaged finishes and equipment to place installation in a like-new condition.
B. Contractor shall determine operational condition of existing equipment to be used and maintained for this project prior to commencing work. Contractor shall adjust, repair or replace non functional equipment. All work shall maintain existing UL listing and labeling requirements. Contact and report all unforeseen conditions for appropriate directions.

INSTALLATION/APPLICATION/PERFORMANCE/ERECTION
A. Application, Installation:
- No measurements of a Drawing by scale shall be used as a dimension to work by. The drawings are not intended to show complete or accurate details of the building in every respect. Exact locations and relations are to be defined in the field and shall be satisfactory to the Architect/Engineer. This Contractor shall take all field measurements and shall be responsible therefore.
- Compare Drawings and Specifications, checking all measurements and determine intent of Contract Documents. Discrepancies shall be brought to the Architect/Engineer's attention for interpretation prior to any installation.
- The right is reserved to make any reasonable change in location of outlets and equipment prior to roughing-in without involving additional expenses. Any change from the Electrical Drawings as is necessary to make the work of this Contractor conform to the building as constructed and to fit the work of other trades shall be included in Contractor's Contract and installed without extra cost.
- Perform all work in compliance with all applicable safety regulations including OSHA regulations.
- Coordinate all work with other trades prior to any installation.
- Provide code approved clearances around electrical equipment.
- Coordinate staging of material with building management representative at time of bidding.
- Device heights indicated are to center of devices and/or equipment and spaced 6" apart on center, uon.

FIELD QUALITY CONTROL
A. Testing:
- After wires are in place and connected to devices and equipment, the system shall be tested for shorts and grounds. All hot wires, if shorted or grounded, shall be removed and replaced.
- All meters, instruments, cable connections equipment, and apparatus necessary for making all tests, shall be furnished by this Contractor at his own expense.

ADJUST AND CLEAN
A. Cleaning Equipment, Completed Work and Premises: After the completion of all installations, each system shall be thoroughly cleaned to remove all paint, oil and other foreign material. Contractor shall also clean all foreign paint, grease, oil, dirt, labels and stickers, etc., from all fixtures, equipment, etc. The Contractor shall remove all rubbish, debris, etc., accumulated from his operations from the premises.

APPROVALS
A. Obtain all permits and approvals from the governing bodies which have jurisdiction over this project.

IDENTIFICATION AND TAGGING
A. Identification of distribution switches or circuit breakers individually mounted or of panel boards shall be by means of engraved lamacoid nameplates permanently fastened on the front face of the housing, showing 1/4" high white lettering on a black background. Provide all panel boards with typewritten directory.

SLEEVES
A. Provide sleeves in walls and floor slabs for the passage of all conduits, pipes and ducts installed. Sleeves shall be set in place in sufficient time, ahead of concrete work, so as not to delay that work.

CUTTING AND PATCHING
A. Perform all cutting and patching required to complete the Work, except where specifically shown on the Architectural or Structural Drawings. Patching shall match existing and shall be coordinated with tenant's representative.

SECTION 16100 - BASIC MATERIALS AND METHODS

MATERIALS
A. CONDUIT:
- Electrical Metallic Tubing: EMT, "Thinwall" conduit shall in general be utilized where permitted by Code except where described herein. Minimum size conduit shall be 1/2", unless specifically noted otherwise.
- Heavy-wall steel conduit and I.M.C. shall be either hot dipped galvanized or sherardized.
- Flexible conduit shall be Greenfield type except, where exposed to oil, grease, or water-conduit shall be Sealtite.
- Plastic conduit shall be PVC Schedule 40.
- Conduit shall be as manufactured by Allied, Triangle or approved equal.
- Provide expansion fittings for conduits crossing expansion joints.
- Conduit fittings:

a. Rigid: Threaded.
b. Thin-Wall: Compression Type for 1" or smaller, set screw type for 1-1/4" conduit and larger.
c. Flexible: Connectors shall be compatible with flexible conduit used.

SECTION 16100 - CONTINUE
- Provide bushing and lock nuts for all conduit entries to boxes.

A. Type MC "Metal Clad" Copper Cable may be used for interior applications where permitted by the local authority in accordance with the latest NEC article 330 AND with the following provisions:
- MC Cable shall be equipped with "green" insulated grounding conductor. Per NEC table 250.122
- MC Cable shall be installed in a professional manner, concealed, dressed along structural members and supported as required at proper intervals.
- MC Cable conductor shall be color coded (black, blue, red for 120/208V), (Brown, Orange, Yellow for 277/480V).
- MC Cable shall not be used for IG circuits.
- MC Cable shall not be used for feeders.
- MC Cable shall not enter panel boards or service equipment enclosures. Provide j-boxes, wireways, etc.. for all branch extensions from point of home run.
- Where a home run is shown a dedicated conduit shall be installed to panel.
- Where a home run is NOT shown the contractor may combine a maximum of three (3) 20 amp branch circuits to panel, with common neutral.
- Where more than three (3) 20 amp branch circuits are installed in conduit, branch circuits shall be de-rated per NEC.

C. Wires and Cables:
- Unless specifically noted otherwise, all feeder wiring shall be installed in conduit.
- All wire shall be type THW or THWN copper unless otherwise noted on plans.
- Wire smaller than #8 shall be solid: #8 and larger, stranded.
- Cable and wire shall be as manufactured by Triangle, General Cable, Southwire or Carol.
- All branch wiring shall be Copper minimum #12 AWG.
- All feeder conductors shall be Copper.
- Service entrance conductors shall be Copper. Aluminum alloy per NEC may be used. Adjust conduit size accordingly.
- Terminal lugs shall be 75° C. rated.
- Terminals, splicing connectors, lugs shall be identified for material installed.

D. Color Coding: Color coding shall be used throughout the entire electrical system. Provide industry standard color coding for the voltages involved. Control wiring shall be numbered for easy identification of terminal points. Number terminal blocks accordingly.

E. Disconnect Switches:
- Switches shall meet NEMA enclosed switch standards KS1, current edition. Switches shall be quick-make, quick-break so that operation of the contacts shall not be capable, during normal operation of the switch, of being restrained by the operating handle after the opening or closing of the contacts has started.
- All safety switches shall be heavy duty of voltage matching equipment served. NEMA 1 for indoor use and NEMA 3R for outdoor use. Switches shall be as manufactured by Eaton, General Electric, Square D, or Siemens.
- Disconnect switches shall be equipped with ground lug.

F. Fuses: Furnish and install all fuses. Fuses shall be Bussmann.
- Provide fuses at all locations shown on the drawings or required for supplemental protection. Where amp rating of protective device is 600 amps or less, provide Bussmann low-peak current limiting fuses, class J for service switches. class RK1 on panels; RK5 (with dual element Fusetron up to 100 A; above 100 A dual element Low Peak), having an interrupting rating of 200,000 amps RMS.

G. Outlet, Pull and Junction Boxes: Outlet, pull and junction boxes shall be 12 gauge, or heavier, steel, with removable knockouts. Boxes shall be as manufactured by Appleton, Steel City or Raco. Size boxes as required for the intended duty, minimum size as required by the applicable National Electrical Code.

H. Switches:
- Wall switches shall be located as indicated on the Drawings, arranged singly or in gangs and at the height specified or indicated and shall have proper covers with finishes specified herein. Switches shall be as follows unless otherwise called for on Drawings or hereinafter specified.
- Switches, 20 amperes, 120/277 volt specification grade, quiet rated: by Leviton, Eagle, HUBBELL, or Pass & Seymour. Switch shall be white.

I. Receptacles:
- Receptacle shall be located as shown on the Drawings and at the heights specified or indicated. Receptacle and power outlets shall be of the grounding type specification grade and as manufactured by HUBBELL, General Electric, Pass & Seymour, Eagle or Leviton. Receptacle shall be white.

J. Switch and Receptacle Plates and Devices:
- Plates in finished areas for switches and receptacles shall be white. Identify all dedicated circuits with a laser printed adhesive label indicating panel and circuit number.
- Devices shall be white, uon.

K. Contractor shall provide all boxes, elbows, connectors, etc., and install outlets complete.

L. Lighting and Appliance Panel boards:
- Panels shall be type indicated on the Drawings, with main lugs, main breakers, branch breakers, spares and spaces as scheduled.
- Panels shall comply with U.S. Federal Specification WP115a, Type 1, Class 1.
- Bus structure shall be copper or aluminum.
- All circuit breakers shall be bolt-on type.
- The Contractor shall balance all circuits. All conductors shall be continuous without splicing from last outlet to their terminals in cabinet.
- Contractor shall provide a directory of circuits for cabinet. Directory shall be typewritten designating room or equipment and circuit numbers, include any existing circuits which remain.
- Where 2 or 3 pole breaker units are called for, they shall be on unit with common trip and not single pole units with handle ties. Capacity of main busses shall be as shown on the Drawings.
- Panel boards shall be manufactured to match equipment supplied by tenant's vender.
- Provide new circuit breakers to match panel board manufacturer, style and ratings as required for system.
- Provide ground fault interrupting circuit breakers and circuit breaker hardware as called for on plans.

M. Outside Delivery Door Bell: A Bell system shall be furnished and installed by the contractor including 24 Vac transformer and wire. See symbol schedule for product information.

INSTALLATION/APPLICATION
A. CONDUIT:
- Installation - All conduit shall be sized in accordance with the applicable N.E.C.
- Conduit to be run exposed in unfinished areas such as Pre Sales Area mechanical and equipment room. All other conduit shall be concealed in wall or above ceiling.
- All conduit and wiring shall be concealed wherever possible. Where conduit and wire cannot be concealed, obtain direction from the Architect. No surface mounted conduit, wire mold or power poles will be acceptable, unless specifically indicated on the drawings.
- All exposed conduits shall be run parallel to or at right angles to structural members. Carefully coordinate exact routing with the Architect's representative, in the field, prior to any installation.
- All conduit shall be independently supported from the building structure. Conduit shall not be suspended from ventilating ducts, mechanical piping, suspended ceiling grids, or their hangers.
- All conduit shall be mechanically and electrically continuous from outlet to outlet and box to box. Secure conduit fittings at all enclosures and junctions.
- Provide green equipment ground, conductor with all feeders and branch circuits, in conduit and MC cable.

B. Types of Conduit:
- Conduit, within building confines run in concrete slabs, within outside masonry walls, in earth fill, and exposed in wet areas shall be galvanized steel heavy wall or IMC. Couplings for conduit run in poured concrete shall be concrete tight.
- Conduit run exposed or outdoors shall be galvanized steel heavy wall or IMC with watertight fittings and boxes.
- Conduit run in dry areas within building confines shall be EMT, except where specifically noted otherwise or prohibited by local codes.
- Provide pull wire in all empty conduits.
- Conduits run under floor slabs and in contact with earth may be PVC Schedule 40.
- Underground and service entrance conduits shall be heavy wall galvanized rigid steel, schedule 80 PVC or encased schedule 40 PVC.

C. Provide full size insulated (green) ground wire in all conduits. Where the drawings do not identify the size of the equipment ground wire, it shall be sized per NEC. Provide bare ground wire in all PVC conduit runs.

D. Boxes, outlets and cabinets:
- Install equipment and materials in a neat and workmanlike manner and align, level and adjust for satisfactory operation. Install equipment so that all parts are easily accessible for inspection, operation, maintenance and repair. Provide the design, fabrication, and erection of supplementary structural framing required for attachment of hangers or other devices supporting electrical equipment. Rigidly mount all boxes and provide with suitable screw fastened covers. Plug open knockouts or holes in boxes with suitable blanking devices.
- Center all outlets with regard to paneling, furring, and trim. Symmetrically arrange outlets in the room. Satisfactorily correct outlets improperly located or installed. Repair or replace damaged finishes. Set outlets plumb and extend to the finished surface of the wall, ceiling or floor without projecting beyond same.

E. Fire and Smoke Partition Penetrations:
- The Contractor shall familiarize himself with all fire rated construction and install his work so as to maintain the integrity of the fire code rating. Maintain rating of fire rated and smoke rated construction. Sleeves shall be steel or pre-manufactured sleeves. Seal annular space around conduits. For fire and smoke rated floors, walls and partitions, use UL listed material that maintains fire rated wall and floor integrity. For non-rated walls and partitions, use mineral or glass fiber insulation. Coordinate with the General Contractor to insure the inequity of the installation is maintained. use only approved UL Assemblies.

SECTION 16400 - SERVICE AND DISTRIBUTION

DESCRIPTION
A. Work Included:
- Current transformers cabinet and utility metering.
- Main switchboard or panel boards
- A complete distribution system.
- System grounding per local codes.
- All work and charges required by the local utility company.
- Dry type step down transformer.
- Bonding of all utilities.

B. Services:
- Incoming electrical service is as indicated on drawings.
- Provide exterior main service entrance rated switch where required by local authority.
- Provide concrete encased service feeders where installed in PVC schedule 40 conduit. Underground service feeders shall be a minimum of 36" below grade. Install warning tape above conduit route 12" below grade. Transition below grade to galvanized rigid steel conduit with thread fillings where underground conduit is to be exposed above grade.

EQUIPMENT
A. Main switchboard, service switches or panels shall be service entrance rated and front accessible with removable screw - on cover plates. Grounding and metering shall comply with the local utility company and all local code requirements.

DISTRIBUTION PANEL BOARDS
A. Panel board shall be enclosed in steel cabinet per UL Standard #50 for cabinets. All panel boards shall be provided with door locks, all keyed alike.
B. Bus structure shall be copper or aluminum.
C. Short circuit current rating shall be equal to or greater than the available short circuit at the panel board, and as called for on plans, rating where not indicated on plans shall not be less than 65,000 amperes symmetrical. Where allowed by authority having jurisdiction series rating may be applied. Provide series rating identification as required by NEC 110.
D. Panel boards shall be as shown on the drawings with main lugs, main breakers, branch bolt-on breakers, spares and spaces as scheduled. Provide G.F.I. breakers as required. New panel boards to match equipment supplied by tenant's vender
E. Provide a typewritten panel directory for each panel, identifying the use and location of each circuit including any existing circuits which remain.

DRY TYPE TRANSFORMER
A. Step down transformers shall be NEMA DOE-2016 energy efficient ventilated, as indicated on plans, typically 480V delta primary to 120/208v, 3Ø, 4 wire WYE secondary, 60 hertz, NEMA 1 enclosure and as noted on plans.
B. Wiring Aluminum 220° c. insulation system, 150° rise.
C. Nominal 5% impedance
D. Taps (6) 2-1/2% (2) above and (4) below normal.
E. 75 KVA rated unless otherwise noted.

CONNECTIONS
A. All main feeder connections shall be made with soder-less connectors, bolted type. Small wire #10 or less splices shall be made with pressure type connectors - Minnesota Mining "SKOTCHLOCKS" or Ideal "WINGNUTS"

INSTALLATION
A. System Grounding
- Shall be in strict accordance with the National Electrical Code, Local Governing Authorities and in accordance with the recommendations of the Utility Company. See details on drawings for additional grounding requirement.
- All equipment grounding conductors and grounding electrodes shall be copper and comply with local and national code.

B. Electrical Service:
- The Utility Company will furnish, install and connect all primary service conductors.
- This contractor shall contact the Utility Company and Landlord to obtain all information necessary for the work, incorporate their instructions into the work, and obtain their approval of all work and material. Include all costs in base bid.

DESCRIPTION
SECTION 16500 - LIGHTING SYSTEMS AND CONTROLS
A. Work Included:
- Contractor to install lighting fixtures with lamps, hangers and controls as shown on Drawings and Lighting Fixture Schedules. Tenant will provide all lighting fixtures, lamps, spacers, fixture trim and accessories as required for a complete secure and working installation.

B. Requirements
- All lamps shall be LED or Retrofit T-8 LED 4K retrofit 4' long type lamps, dual rated for 120v or 277v operation. All lamps shall be as indicated on the lighting fixture schedule supplied with fixture by NAV.
- All lamp ballasts drivers shall be electronic type integral to lamp fixture housing.
- All exit and emergency lighting as required by applicable code(s).
- Each lighting circuit shall have dedicated neutral.
- Emergency lighting shall be individual unit equipment in accordance with NEC 700.12(F).
- Contractor shall connect LED strip fixture 4-wire harness for operation of each lamp as individually controlled and as indicated on plans. Internal modification of emergency strip fixtures may be required only as directed by manufacturer.
- Provide manual daylight control switch for IECC 2012 and earlier and California Title-24.
- Provide motion sensor lighting control, manual on, automatic off.
- Contractor shall provide Commissioning Agent and include all reports, fees, etc. as required by local jurisdictions.

C. California Title-24.
- Provide demand response controls for areas larger than 10,000 s.f.
- Provide (2) 0-10v dimmers for sales lighting control.

SECTION 16700 - COMMUNICATIONS

DESCRIPTION
A. Work Included: 1. Empty backboxes and conduit shall be furnished and installed by Contractor.

TELEPHONE SYSTEM/COMPUTER SYSTEM
A. Telephone System Grounding Conductors: Furnish a #6 AWG, solid copper grounding conductor from telephone service equipment D-Mark to electrical service grounding electrode system.
B. Telephone/Computer Conduit System: Furnish as indicated on the Drawings, including the following:
- Telephone service conduits for underground service.
- Other conduits as indicated on the Drawings. Furnish #14 AWG soft iron pull wire or heavy nylon cord in each conduit for pulling the telephone cable to each termination point.
- Outlet boxes with a 3/4" conduit stubbed into accessible ceiling space with pullwire for cabling by others. Provide separate dedicated conduits for P.O.S. lines. (Do not share with other telephone or data lines.)

C. No electrical conduits or power wiring shall pass over the telecommunications closet and panels, except for telecommunications room light fixtures.
D. Provide plenum rated cable where required by local code and in plenum spaces. As alternate method contractor shall provide conduit system.
E. Supplemental drawings for EMS and Low Voltage system requirements shall be included in this contractors work.

INSTALLATION
A. Furnish and install conduit system as shown. Cabling and final connection to be by the tenant contractor. The system shall consist of telephone/data outlets in locations as indicated, branch conduits, and all accessories required by the telephone company for complete installation.

CASCO
12 Summers Drive, Suite 100, St. Louis, MO 63143 T: 314.821.1100

mark	date	description
		by

date	project	designed	drawn	checked
12/21/21	21016S0	DAM	DAM	HJA

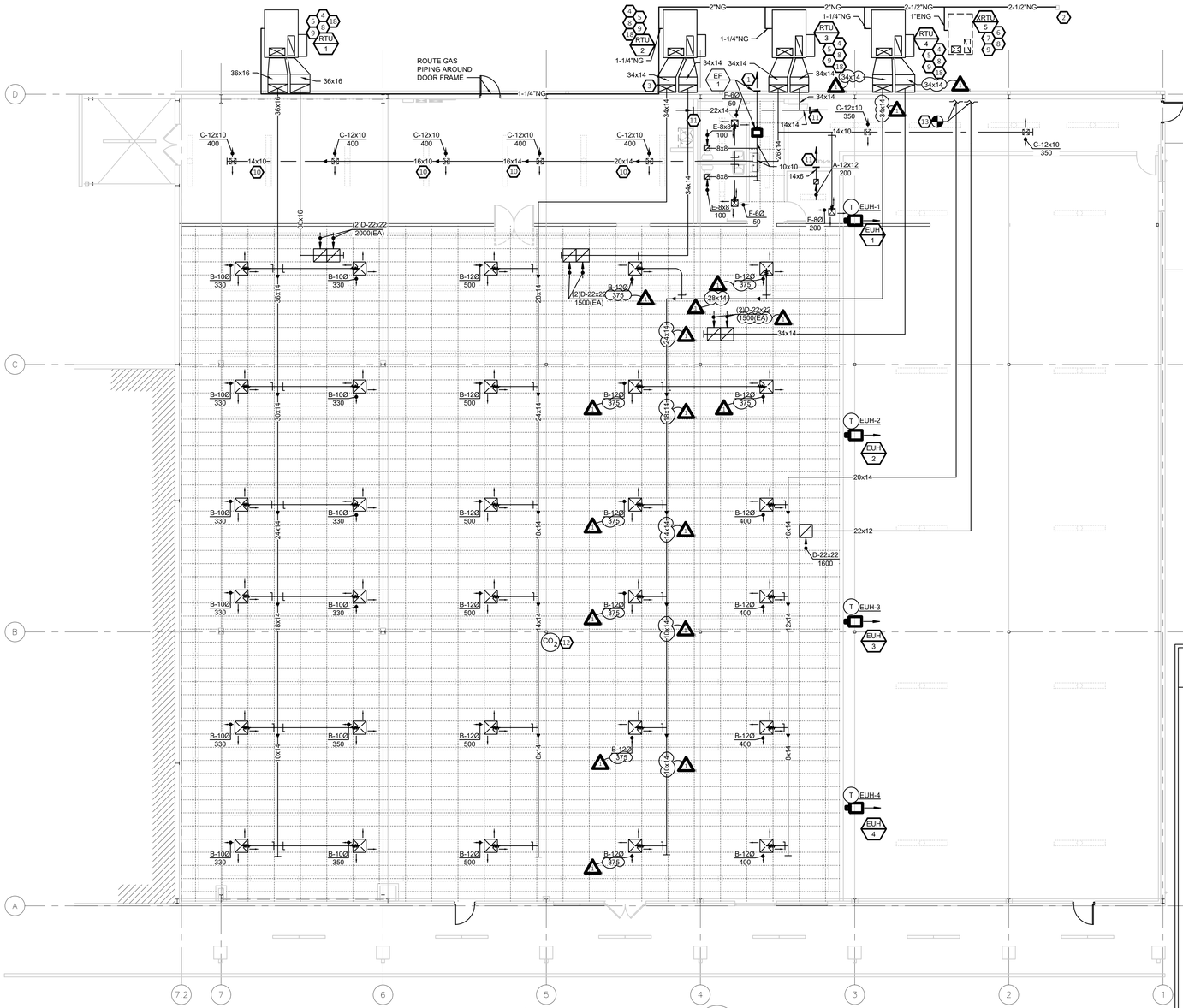
CASCO DIVERSIFIED CORPORATION
ENGINEERING FIRM
LICENSE #00006113
EXPIRES 12/31/21

PROFESSIONAL OF RECORD

Harry J Auman
License No. E16827
Expiration Date 12/31/22
PHONE: 314-821-1100

project: FAMILY DOLLAR
603 E. Washington Street, Hayti, MO 63851
drawing: ELECTRICAL SPECIFICATIONS

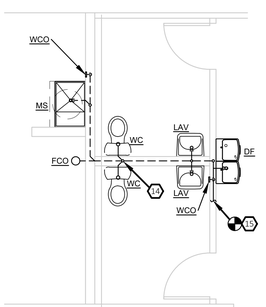
E5



1 MP1 HVAC/PLUMBING PLAN

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

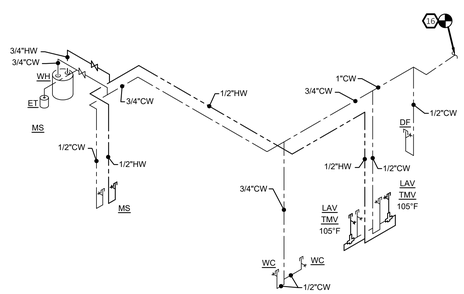
NORTH



2 MP1 PARTIAL PLUMBING PLAN

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

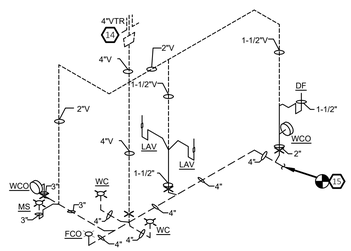
17



3 MP1 WATER ISOMETRIC

SCALE: NOT TO SCALE

17



4 MP1 SANITARY ISOMETRIC

SCALE: NOT TO SCALE

17

NOTE:
NEW GAS PIPING IS ROUTED IN EXACT LOCATION OF EXISTING GAS PIPING. EXISTING GAS PIPING CAN BE REUSED IF IT IS SIZED AS SHOWN ON PLAN. IF EXISTING PIPING IS KEPT, CONTRACTOR SHALL TEST PIPING FOR LEAKAGE/DEFECTS PRIOR TO CONNECTION.

NOTE:
RTU DUCT SMOKE DETECTORS ARE NOT PROVIDED PER INTERNATIONAL MECHANICAL CODE. THE SECTION STATES THAT SMOKE DETECTORS SHALL NOT BE REQUIRED WHERE AIR DISTRIBUTION SYSTEMS ARE INCAPABLE OF SPREADING SMOKE BEYOND THE ENCLOSING WALLS, FLOORS AND CEILINGS OF THE ROOM OR SPACE IN WHICH THE SMOKE IS GENERATED.

ALTERNATIVE DUCTWORK NOTES:

1. IN THE INTEREST OF COST SAVINGS, THE CONTRACTOR SHALL HAVE THE OPTION TO SUBSTITUTE EQUIVALENT ROUND DUCT FOR THE RECTANGULAR DUCT AS ILLUSTRATED AND SPECIFIED HEREIN ON THESE DOCUMENTS. REFER TO SPECIFICATIONS SHEET.
2. EQUIVALENT ROUND DUCTWORK SHALL HAVE ESSENTIALLY THE SAME PRESSURE DROP PERFORMANCE AND VELOCITY CLASS AS THE RECTANGULAR DUCTWORK SPECIFIED HEREIN ON THESE DOCUMENTS.
3. ALL ROUND DUCTWORK IN CONCEALED LOCATIONS AND IN THE STOCK ROOM SHALL BE EXTERNALLY INSULATED AS REQUIRED ON SPECIFICATIONS SHEET. DUCTWORK IN OPEN DECK AREAS (AREAS WITHOUT HUNG CEILINGS) IS NOT REQUIRED TO BE INSULATED.
4. UNDER THIS ALTERNATE, THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE FOLLOWING:
   A. OBTAIN ALL NECESSARY PERMITS AND APPROVALS FROM ALL AUTHORITIES HAVING JURISDICTION. PAY ALL FEES THAT MAY BE REQUIRED TO IMPLEMENT THIS ALTERNATE. PROVIDE DETAILED DUCTWORK DRAWINGS AS REQUIRED TO OBTAIN APPROVALS FROM THESE BUILDING AUTHORITIES.
   B. VERIFY THAT THE ROUND DUCTWORK WILL FIT AND FUNCTION PROPERLY IN THE SPACES PROVIDED WITHOUT BUILDING MODIFICATIONS. VERIFY THAT ADDITIONAL ELBOWS, FITTINGS, OR TRANSITIONS WILL NOT BE REQUIRED WHICH WILL ADD SUBSTANTIALLY TO THE PRESSURE DROP OF THE SYSTEMS.
   C. IF THE AUTHORITIES HAVING JURISDICTION REQUIRE THAT THE ORIGINAL DUCTWORK DRAWINGS PREPARED BY TENANT'S ENGINEER BE REVISED TO ILLUSTRATE AND SPECIFY THE ROUND DUCT ALTERNATIVE, THE CONTRACTOR SHALL REIMBURSE TENANT'S ENGINEER FOR THE COST OF THE REVISIONS.
   D. THE ROUND DUCT ALTERNATIVE SHALL NOT BE JUSTIFICATION FOR CONSTRUCTION DELAYS.

MECHANICAL/PLUMBING LEGEND

- #x# (#Ø) — NEW SUPPLY, RETURN, EXHAUST DUCTWORK SINGLE OR DOUBLE LINE
- DUCTWORK TRANSITION (NOTE: DIRECTION OF ARROW DOES NOT NECESSARILY INDICATE DIRECTION OF AIR FLOW)
- NEW SUPPLY, RETURN, EXHAUST ELBOW UP
- NEW SUPPLY, RETURN, EXHAUST ELBOW DOWN
- NEW SUPPLY, RETURN, EXHAUST ELBOW WITH TURNING VANE
- FLEX DUCT
- EXISTING SUPPLY, RETURN, EXHAUST DUCTWORK
- (E) EXISTING
- (VIF) VERIFY IN FIELD
- CO_2 CONNECTION TO EXISTING SERVICE/DUCTWORK CARBON DIOXIDE (CO2) SENSOR
- S APPROVED DUCT TYPE SMOKE DETECTOR
- T TEMPORARY THERMOSTAT (FOR LANDLORD START-UP AND PRE-EMS SYSTEM USE)
- RTU 1 — TAG NO. — EQUIPMENT TAG ADD X TO TAG FOR EXISTING, I.E. "XRTU"
- A-10x10 / 300 — TAG-NECK SIZE / VOLUME(CFM) — AIR DEVICE TAG
- SUPPLY AIR DIFFUSER
- RETURN/EXHAUST AIR GRILLE
- FD FIRE DAMPER
- VOLUME DAMPER
- NG NEW NATURAL GAS
- ENG EXISTING NATURAL GAS
- AC AIR CONDITIONING CONDENSATE
- PLUMBING SANITARY (WASTE) BELOW SLAB
- PLUMBING SANITARY (WASTE) ABOVE SLAB
- PLUMBING VENT
- DOMESTIC COLD WATER
- DOMESTIC HOT WATER AND TEMPERED WATER

NOTE:
RE-IDENTIFY ALL ROOFTOP EQUIPMENT SERVING THE TENANT'S SPACE WITH THE STORE NAME AND THE EQUIPMENT NUMBER ENGRAVED IN 3"x8" LAMINATED PLASTIC EQUIPMENT TAGS PERMANENTLY ATTACHED TO THE UNITS IN A VISIBLE LOCATION. DO NOT OBSTRUCT HOUSING PANELS, ETC. REQUIRED FOR MAINTENANCE OR REPAIR.

NOTE- DUCTWORK:
CONTRACTOR SHALL SITE VERIFY EXISTING HVAC UNIT LOCATION(S) & POTENTIAL DUCTWORK OBSTRUCTIONS (SPRINKLER LINES, STRUCTURAL BEAMS & JOIST, ETC..) PRIOR TO FABRICATING DUCTWORK. CONTRACTOR SHALL CONTACT THE DT/FD CONSTRUCTION PROJECT MANAGER IF CONFLICTS BETWEEN CONSTRUCTION DOCUMENTS & EXISTING CONDITION EXIST FOR DIRECTION.

FIRE PROTECTION STANDARDS

THE CONTRACTOR SHALL RETAIN AND PAY FOR A "PROFESSIONAL OF RECORD" FOR ALL FIRE PROTECTION WORK.

THE DRAWINGS AND ALL SPECIFICATIONS FOR ALL FIRE PROTECTION WORK ARE PERFORMANCE IN SCOPE AND INTENT. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ALL DESIGN, LAYOUT, DETAILS, DRAWINGS, DOCUMENTS, MATERIALS, EQUIPMENT, LABOR, AND ALL CRITERIA TO MEET GOVERNING AUTHORITIES, CODES, REGULATIONS, AND UNDERWRITER'S REQUIREMENTS FOR ALL FIRE PROTECTION WORK.

CONTRACTOR SHALL VISIT THE SITE TO BECOME FAMILIAR WITH THE EXISTING CONDITIONS PRIOR TO SUBMITTING BID.

A COMPLETE SET OF ALL REQUIRED DOCUMENTS SHALL BE PREPARED AND SUBMITTED TO THE PROPER AUTHORITIES WITHIN THIRTY (30) DAYS OF CONTRACT AWARD. THE LANDLORD'S DESIGN CRITERIA SHALL BE CONSIDERED PART OF THESE STANDARDS.

ALL FIRE PROTECTION WORK SHALL BE SCHEDULED IN ADVANCE WITH THE LANDLORD'S FIELD REPRESENTATIVE. FIRE PROTECTION SYSTEM SHALL BE FULLY OPERATIONAL WHEN THE CONTRACTOR IS OFF THE SITE.

WHERE CEILINGS OR CEILING GRIDS ARE EXISTING TO REMAIN OR NEW CEILINGS ARE INSTALLED AND NEW LIGHTING CONFLICTS WITH THE LOCATION OF EXISTING SPRINKLER HEADS, THE NEW LIGHTING SHALL BE SHIFTED APPROXIMATELY 6" (OR AS REQUIRED TO MAINTAIN CLEARANCE TO SPRINKLER HEADS PER NFPA 13) TO ALLOW THE EXISTING SPRINKLER HEADS TO REMAIN.

CONTRACTOR SHALL MODIFY EXISTING SPRINKLER PIPING AND HEADS AS REQUIRED FOR REDEMISED SPACE.

CONTRACTOR SHALL PROVIDE DRY PENDANT HEADS IN WALK-IN COOLER AND FREEZER SECTIONS PER NFPA 13 REQUIREMENTS.

GENERAL NOTES

A. WHEN REQUIRED, HVAC ROOF CURBS SLOPED TO MATCH ROOF PITCH SHALL BE PROVIDED BY CONTRACTOR AND ARE NOT PART OF THE NATIONAL ACCOUNT PROVISIONS. REFER TO KEYED NOTES ON THIS SHEET FOR ADDITIONAL INFORMATION.

B. CONTRACTOR SHALL IDENTIFY ALL HVAC EQUIPMENT WITH STORE NAME AND UNIT NUMBER USING PERMANENT, WEATHER PROOF 2" HIGH DIE-CUT LETTERS.

C. PROVIDE PROPER CONDENSATE TRAP AND TERMINATE AS REQUIRED BY LOCAL CODE.

D. ANY PENETRATION THROUGH THE ROOF SHALL BE COORDINATED WITH THE LANDLORD'S FIELD REPRESENTATIVE AND SHALL BE DONE BY A LANDLORD APPROVED ROOFING CONTRACTOR IN ORDER TO MAINTAIN THE ROOFING WARRANTEE. ALL VENTS SHALL EXTEND A MINIMUM OF 12 INCHES ABOVE ROOF AND SHALL BE A MINIMUM OF 10 FEET FROM ANY OUTSIDE AIR INTAKE.

E. ALL DUCT SIZES SHOWN ARE CLEAR INSIDE AIR FLOW DIMENSIONS.

F. DO NOT PROVIDE AIR EXTRACTORS OR SPLITTER DAMPERS WHICH PROTRUDE INTO RECTANGULAR TRUNK DUCTS (WHERE USED). PROVIDE ROUND SPIN-IN FITTINGS FOR ROUND BRANCH DUCTS.

G. ROUND BRANCH DUCTS WHERE INDICATED ARE SAME SIZE AS ATTACHED DIFFUSER NECK SIZE.

H. DO NOT SUSPEND ANY ITEMS FROM DECK OR SLAB ABOVE. ALL ITEMS SHALL BE SUSPENDED FROM TOP CHORD OF STRUCTURE, UNLESS OTHERWISE NOTED. PROVIDE MISCELLANEOUS STEEL AS REQUIRED.

I. WHERE CEILING SPACE IS NOT SUFFICIENT TO PERMIT TOP CONNECTION TO CEILING DIFFUSER WITH PROPER BEND RADIUS FOR FLEXIBLE DUCT, CONTRACTOR SHALL FABRICATE AND/OR PROVIDE AN ADAPTER BOX FOR DIFFUSER TO PERMIT SIDE CONNECTION OF FLEXIBLE DUCT.

J. CONTRACTOR SHALL COORDINATE AND SCHEDULE ALL WORK WITH LANDLORD'S FIELD REPRESENTATIVE.

K. PROVIDE SUPPORT FOR PIPING ON ROOF PER LANDLORDS ROOFING CONTRACTORS RECOMMENDATIONS.

L. WHERE AN OPEN CEILING PLAN IS UTILIZED FOR THE SALES AREA, AIR DEVICES SHALL BE INSTALLED AT 12'-0" A.F.F., OR COORDINATED WITH LIGHTING INSTALLATION HEIGHT. VERIFY ALL REQUIREMENTS WITH PROJECT MANAGER.

KEYED NOTES

1. EXTEND 10" X 10" EXHAUST DUCT THRU WALL AND TERMINATE WITH WALL CAP 11'-0" MIN. ABOVE WALKWAY. PAINT WALL CAP TO MATCH ADJACENT SURFACES.
2. EXISTING GAS METER TO REMAIN. CONTRACTOR SHALL VERIFY THAT EXISTING GAS METER IS REGULATED FOR 7" W.C. PRESSURE AND HAS A MINIMUM CAPACITY OF 832 CFH. ANY DISCREPANCIES IN THIS INFORMATION SHOULD BE IMMEDIATELY BROUGHT TO THE ATTENTION OF THE CONSTRUCTION MANAGER AND/OR PROJECT ENGINEER. GAS PIPING IS SIZED BASED ON 7" W.C. PRESSURE AND A 0.5" W.C. PRESSURE DROP PER THE INTERNATIONAL FUEL GAS CODE.
3. CONTRACTOR SHALL EXTEND 2-1/2" GAS RISER ON THE OUTSIDE OF THE BUILDING TIGHT TO WALL. PROVIDE AN APPROVED GAS SHUT-OFF AT 48" ABOVE FINISHED GRADE.
4. CONTRACTOR TO EXTEND AND CONNECT NEW GAS PIPING TO NEW HVAC UNITS AS INDICATED. SEE DETAIL ON SHEET MP2.
5. CONTRACTOR SHALL INSTALL NEW TENANT PROVIDED HVAC UNIT AS INDICATED ON PLANS, SCHEDULE AND NOTES. BRING SUPPLY AND RETURN DUCTWORK THROUGH EXTERIOR WALL ABOVE CEILING, APPROXIMATELY 12'-6" A.F.F. PER DETAIL 3 ON SHEET MP2.
6. EXISTING HVAC UNIT TO REMAIN. CONTRACTOR SHALL SERVICE HVAC COMPONENTS AND PROVIDE AND INSTALL NEW ACCESSORIES AND CONTROLS AS INDICATED ON PLANS, SCHEDULE AND NOTES.
7. CONTRACTOR SHALL SERVICE EXISTING AIR CONDITIONING SYSTEM COMPLETELY INCLUDING, BUT NOT LIMITED TO, CLEANING INTERIOR AND EXTERIOR OF ALL COMPONENTS, TOUCH UP PAINTING, REPLACING AIR FILTERS, INSPECTING AND REPLACING FAN BELTS (IF REQUIRED,) CHECKING EVAPORATOR AND CONDENSER FANS AND FAN MOTORS, CLEANING AND COMBING EVAPORATOR AND CONDENSER COILS, CHECKING AND TRIMMING REFRIGERANT CHARGE, CHECKING COMPRESSOR AMP DRAW, INSPECTING HEAT EXCHANGER, INSPECTING AND VERIFYING OPERATION OF GAS TRAIN, CHECKING DAMPER OPERATION AND DAMPER MOTORS, CLEANING CONDENSATE TRAP, ETC., TO INSURE PROPER OPERATION. SHOULD ANY REPAIRS BE REQUIRED, CONTRACTOR SHALL IMMEDIATELY NOTIFY OWNER'S REPRESENTATIVE AND SUBMIT A WRITTEN COST PROPOSAL INCLUDING COMPLETE COST TO PLACE UNIT IN "LIKE NEW" CONDITION AND TIME ESTIMATE TO COMPLETE REPAIRS.
8. PROVIDE FULL SIZE CONDENSATE TRAP/LINE. TERMINATE IN A CODE APPROVED LOCATION. SEE DETAIL ON SHEET MP2.
9. FURNISH AND INSTALL SMOKE DUCT DETECTOR (SYSTEM SENSOR #D4120) IN RETURN AIR DROP FROM UNIT. WIRE SMOKE DUCT DETECTOR TO BUILDING FIRE ALARM CONTROL PANEL OR FURNISH AND INSTALL A REMOTE AUDIBLE/VISUAL ALARM DEVICE WITH A REMOTE TEST SWITCH (SYSTEM SENSOR #RTS2-AOS) LOCATED IN AN APPROVED LOCATION. FIELD VERIFY EXACT REQUIREMENTS. CONTRACTOR SHALL TEST SYSTEM TO INSURE PROPER FUNCTION PRIOR TO TENANT OCCUPYING SPACE.
10. CONTRACTOR SHALL LOCATE BOTTOM OF STOCK ROOM DUCTWORK 12'-0" MIN. ABOVE STOCK ROOM FLOOR ABOVE LIGHTS. ANY DEVIATION TO THIS DIMENSION DUE TO INTERFERENCE WITH ANY BUILDING OBSTRUCTIONS SUCH AS STRUCTURE, OVERHEAD DOORS, ETC. SHALL BE BROUGHT TO THE ATTENTION OF THE ENGINEER PRIOR TO FABRICATING THE DUCTWORK.
11. COVER OPEN END OF RETURN DUCT WITH 1" MESH HARDWARE CLOTH IN A REMOVABLE METAL FRAME. SEE DETAIL SHEET MP2.
12. TENANTS CONTRACTOR SHALL INSTALL TENANT VENDOR PROVIDED CO2 SENSOR 7'-0" A.F.F. THIS SENSOR SHALL CONTROL RTU-1,-2,-4 AND XRTU-5. SEE EM SHEETS FOR MORE INFORMATION.
13. CONNECT NEW DUCTWORK TO EXISTING DUCTWORK AS SHOWN ON PLAN WITH LIKE MATERIALS. ENSURE VAPOR BARRIER IS MAINTAINED. DUCTWORK CONNECTION TO BE SEALED TO SMACNA LOW LEAK STANDARDS. PROVIDE OFFSETS, TRANSITION, ETC., AS REQUIRED.
14. PROVIDE NEW 4" VENT THRU ROOF. REUSE EXISTING VENT THRU ROOF WHERE FEASIBLE. SEAL ALL UNUSED VENTS THRU ROOF AIRWEATHER-TIGHT. COORDINATE ROOF PENETRATION REQUIREMENTS WITH LANDLORD'S ROOFING CONTRACTOR.
15. EXTEND NEW 4" SANITARY SEWER TO EXISTING MIN. 4" SANITARY. FIELD VERIFY EXACT LOCATION, SIZE, AND INVERT ELEVATION OF CONNECTION POINT PRIOR TO START OF ANY WORK. REPORT DIFFERENCES TO ENGINEER. FAILURE TO DO SO MAY RESULT IN CONTRACTOR REPLACING PIPING AT NO ADDITIONAL COST TO TENANT.
16. EXTEND 1" DOMESTIC WATER TO EXISTING MIN. 1" WATER SERVICE CONNECTION. PROVIDE SHUT-OFF, BACKFLOW PREVENTER, PRESSURE REGULATING VALVE, METER, AND REMOTE READER IF REQUIRED. INSULATE ENTIRE LINE WITHIN BUILDING. FIELD VERIFY EXACT LOCATION OF EXISTING DOMESTIC WATER SERVICE PRIOR TO INSTALLING ANY PIPING. REPORT DIFFERENCES TO ENGINEER. FAILURE TO DO SO MAY RESULT IN CONTRACTOR REPLACING PIPING AT NO ADDITIONAL COST TO TENANT.
17. CONTRACTOR SHALL OBTAIN A COPY OF ALL PLUMBING FIXTURE SPEC. SHEETS PRIOR TO INSTALLATION OF ANY PIPING. CONTRACTOR SHALL ROUGH IN PLUMBING BASED ON THE FIXTURE INSTALLATION INSTRUCTIONS.
18. ALL EXTERIOR SUPPLY AND RETURN DUCTWORK TO BE EXTERNALLY INSULATED WITH A MINIMUM OF 2" THICK, 2 LB. DENSITY (R-8) INSULATION WITH VAPOR BARRIER. ALL INSULATION SHALL MEET NFPA 90 WITH FLAME SPREAD RATING UNDER 25 AND SMOKE DEVELOPED RATING UNDER 50. INSULATION SHALL BE FASTENED TO DUCTWORK PER MANUFACTURER'S INSTRUCTIONS AND SMACNA STANDARDS. APPLY WEATHER-RESISTANT PROTECTIVE FINISH TO ALL EXPOSED INSULATION, AS SPECIFIED BY INSULATION MANUFACTURER OR WRAP ALL EXTERIOR INSULATION WITH GALVANIZED SHEET METAL. APPLY UV PROTECTIVE COATING TO ALL EXPOSED EXTERIOR DUCTWORK. SILICONE SEAL ALL JOINTS WATER AND WEATHER TIGHT. FOLLOW ALL MANUFACTURER'S INSTALLATION INSTRUCTIONS. SEE DETAIL 3 ON SHEET MP3 FOR ADDITIONAL DETAIL.

NOTE CONTRACTOR:
DUCTWORK SHALL BE SIZED AND INSTALLED AS INDICATED ON CONTRACT DOCUMENTS. NO CHANGES SHALL BE MADE WITHOUT PRIOR WRITTEN APPROVAL FROM TENANT. FAILURE TO DO SO SHALL RESULT IN CONTRACTOR REMOVING INSTALLED SYSTEM AND REPLACING WITH NEW AS SHOWN AT NO ADDITIONAL COST TO TENANT. MINOR DUCT CHANGES DUE TO EXACT UNIT LOCATIONS OR ORIENTATION SHALL BE ACCEPTABLE.

NOTE- HVAC CONTROLS:
CONTRACTOR SHALL REFER TO THE EM SHEETS FOR INSTALLATION INSTRUCTIONS FOR THE VENDOR FURNISHED, CONTRACTOR INSTALLED HVAC CONTROL SYSTEM AND TEMPERATURE AND CO2 SENSOR LOCATIONS PRIOR TO THE INSTALLATION OF ALL RELATED ITEMS.

CASCO
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mark	date	revisions
	01/19/2022	OWNER CHANGES

by	description
BAM	

date	12/21/21
project	2101650
designed	FJM
drawn	FJM
checked	MCG

CASCO DIVERSIFIED CORPORATION
ENGINEERING FIRM
LICENSE #000613
EXPIRES 12/31/23

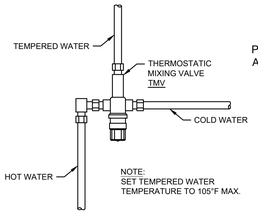
PROFESSIONAL OF RECORD

MICHAEL C. GRAPPERHAUS
LICENSE NO.: PE-2008019543
EXP. DATE: 12/31/22
PHONE: 314-821-1100

project: FAMILY DOLLAR
603 E. Washington Street, Hayti, MO 63851

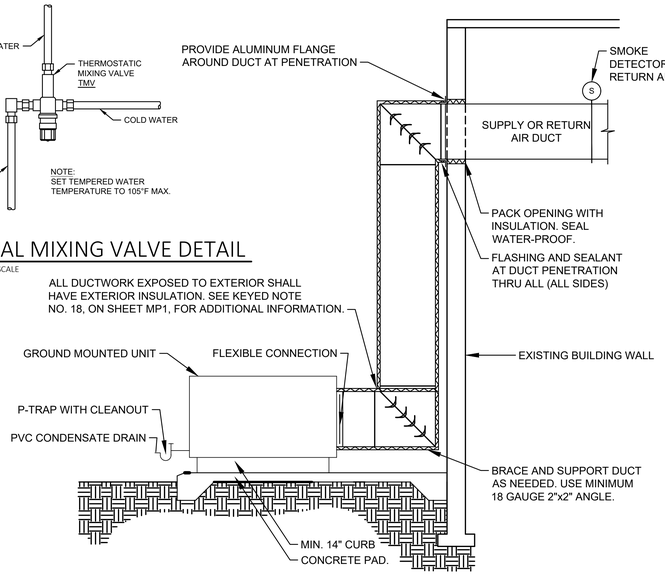
drawing: FLOOR PLAN
HVAC / PLUMBING

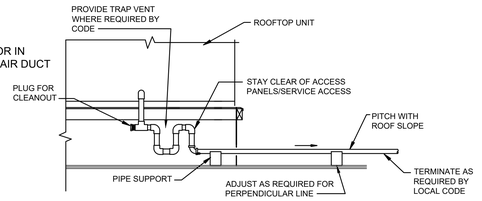
MP1



1 MP2 THERMAL MIXING VALVE DETAIL

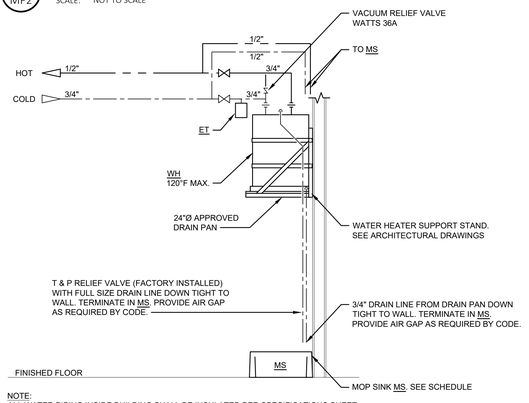
SCALE: NOT TO SCALE





2 MP2 ROOFTOP UNIT CONDENSATE PIPING DETAIL

SCALE: NOT TO SCALE

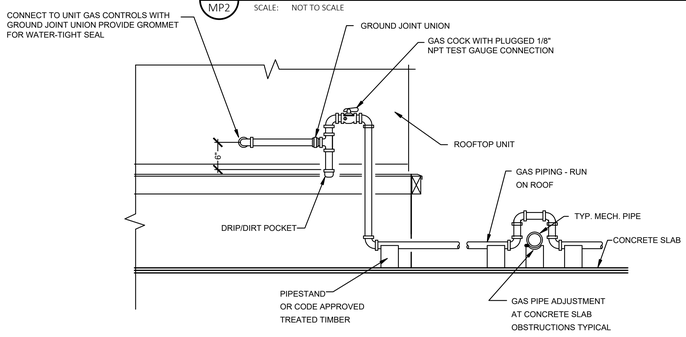


NOTE:
ALL WATER PIPING INSIDE BUILDING SHALL BE INSULATED PER SPECIFICATIONS SHEET MP3.

EXPANSION TANK (ET) TO BE MOUNTED ON COLD WATER LINE, ON THE TANK SIDE OF THE COLD WATER SHUTOFF VALVE.

3 MP2 GROUND MOUNTED PACKAGED UNIT

SCALE: NOT TO SCALE

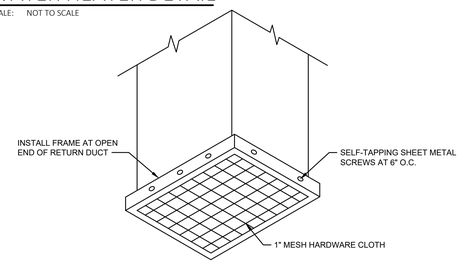


NOTE: COORDINATE PIPING SUPPORTS WITH LANDLORDS ROOFING CONTRACTOR.

NOTE: CONTRACTOR SHALL VERIFY ALL MECHANICAL GAS FIRED EQUIPMENT CONNECTION LOCATIONS IN THE FIELD PRIOR TO INSTALLING ANY GAS PIPE MAINS OR BRANCHES.

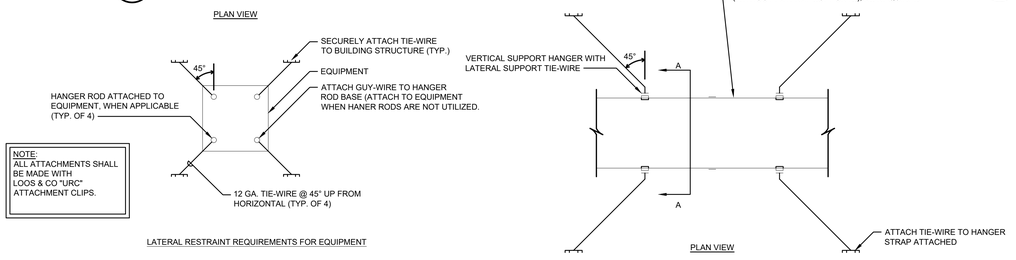
4 MP2 WATER HEATER DETAIL

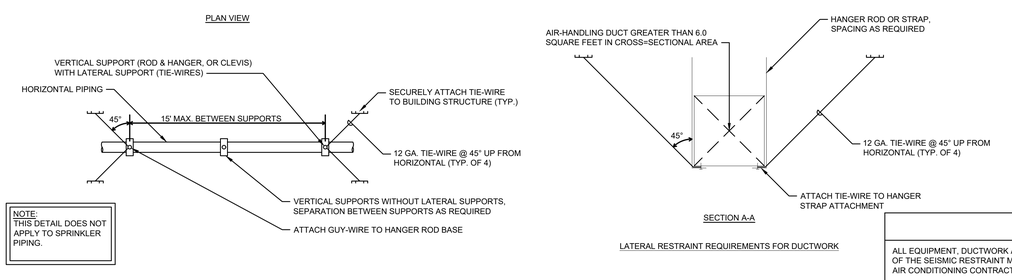
SCALE: NOT TO SCALE



5 MP2 ROOFTOP UNIT GAS PIPING DETAIL

SCALE: NOT TO SCALE





6 MP2 REMOVABLE METAL FRAME DETAIL

SCALE: NOT TO SCALE

7 MP2 LATERAL SEISMIC RESTRAINT REQUIREMENTS

SCALE: NOT TO SCALE

SEISMIC RESTRAINT REQUIREMENTS FOR NON-STRUCTURAL COMPONENTS

ALL EQUIPMENT, DUCTWORK AND PIPING SHALL BE PROVIDED WITH SEISMIC RESTRAINTS IN ACCORDANCE SEISMIC DESIGN CATEGORY "E" OF THE SEISMIC RESTRAINT MANUAL - GUIDANCE FOR MECHANICAL SYSTEMS, LATEST EDITION, AS PUBLISHED BY THE SHEET METAL AND AIR CONDITIONING CONTRACTORS' NATIONAL ASSOCIATION, INC. (SMACNA) AND ALL LOCAL CODES/AMENDMENTS.

EXCEPTIONS:
SEISMIC RESTRAINTS SHALL NOT BE REQUIRED FOR THE FOLLOWING INSTALLATIONS (ASCE 7-10, 13.6.7):

1. ALL DUCTS AND PIPING SUSPENDED BY HANGERS 12" OR LESS IN LENGTH FROM THE TOP OF THE DUCT TO THE BOTTOM OF THE SUPPORT FOR THE HANGER.
2. ALL DUCTS WITH A CROSS SECTIONAL AREA OF 6 SQUARE FEET OR LESS.

ROOFTOP UNIT SCHEDULE (gas heat/elec. cool)

OWNER PROVIDED, CONTRACTOR INSTALLED

MARK	MFR./MODEL	DISCHARGE	TONS	ESP	CFM	OUTSIDE AIR CFM (MIN.)	OUTSIDE AIR CFM (MAX.)	ENTERING CONDITIONS	GROSS COOLING CAPACITY (MBH) TOTAL	GROSS COOLING CAPACITY (MBH) SENSIBLE	(S)EER	FUEL TYPE	HEATING CAPACITY (MBH) INPUT	HEATING CAPACITY (MBH) OUTPUT	SSE %	ELECTRICAL DATA VOLTS	ELECTRICAL DATA PHASE	ELECTRICAL DATA FREQ.	MCA/ MOCP	APRX. UNIT WEIGHT (LBS.)	OPTIONS/ ACCESSORIES
RTU-1	YORK ZYG12E2C3A	HORIZONTAL	10.0	1.00	4,000	430	1,040	80.4°F DB 66.2°F WB @ 95.7°F AMBIENT	131.3	94.1	11.5 EER	NATURAL GAS	220	176	80	230	3	60	54.6 / 70	1,336	2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12.
RTU-2	YORK ZYG08E2C3A	HORIZONTAL	7.5	1.00	3,000	320	780	80.4°F DB 66.2°F WB @ 95.7°F AMBIENT	95.5	70.0	12.0 EER	NATURAL GAS	180	144	80	230	3	60	44.6 / 50	1,290	1, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12.
RTU-3	YORK ZYG08E2B1A	HORIZONTAL	7.5	1.00	3,000	360	360	80.4°F DB 66.2°F WB @ 95.7°F AMBIENT	95.5	70.0	12.0 EER	NATURAL GAS	180	144	80	230	3	60	40.4 / 50	1,290	1, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12.
RTU-4	YORK ZYG08E2B3A	HORIZONTAL	7.5	1.00	3,000	320	780	80.4°F DB 66.2°F WB @ 95.7°F AMBIENT	95.5	70.0	12.0 EER	NATURAL GAS	180	144	80	230	3	60	42.4 / 50	1,290	1, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12.

OPTIONS/ACCESSORIES:
1) FACTORY INSTALLED MEDIUM STATIC BELT DRIVE.
2) FACTORY INSTALLED HIGH STATIC BELT DRIVE.
3) FACTORY INSTALLED INTELLISPEED VFD.
4) FACTORY FURNISHED, FIELD INSTALLED. FIELD WIRED DUAL ENTHALPY ECONOMIZER W/ BAROMETRIC RELIEF AND HOODS.
5) FACTORY FURNISHED, FIELD INSTALLED LOUVERED HAIL GUARDS.
6) FACTORY INSTALLED, FIELD WIRED NON-FUSED DISCONNECT (REFER TO ELECTRICAL DRAWINGS FOR ADDITIONAL INFORMATION).
7) FACTORY INSTALLED, FIELD WIRED NON-POWERED CONVENIENCE OUTLET (REFER TO ELECTRICAL DRAWINGS FOR ADDITIONAL INFORMATION).
8) FACTORY FURNISHED, FIELD INSTALLED THRU THE BASE ELECTRICAL & THRU THE CURB GAS KIT.
9) FACTORY FURNISHED, FIELD INSTALLED SLOPED ROOF CURB.
10) FACTORY FURNISHED, FIELD INSTALLED FLUE EXTENSION KIT.
11) TENANT FURNISHED, FIELD INSTALLED/WIRED EMS PACKAGE.
12) CONTRACTOR FURNISHED, THREE (3) SETS OF PLEATED FILTERS (REFER TO SHEET MP5 FOR ADDITIONAL INFORMATION).

NOTE:
CONTRACTOR SHALL BE RESPONSIBLE FOR ALL STARTUP AND WARRANTY WORK. VERIFY ELECTRICAL POWER PRIOR TO INSTALLING UNITS. FAILURE TO DO SO SHALL RESULT IN CONTRACTOR FURNISHING CORRECT UNITS OR POWER AT NO ADDITIONAL COST TO TENANT. OUTSIDE AIR QUANTITIES BASED ON THE 2012 INTERNATIONAL MECHANICAL CODE - MINIMUM VENTILATION RATES, BUILDING AND PEOPLE COMPONENTS FOR AN ENGINEERED VENTILATION SYSTEM EMPLOYING A CO2 MONITORING SYSTEM.

EXISTING ROOFTOP UNIT SCHEDULE (gas heat/elec. cool)

MARK	MFR./MODEL	DISCHARGE	TONS	ESP	CFM	OUTSIDE AIR CFM (MIN.)	OUTSIDE AIR CFM (MAX.)	ENTERING CONDITIONS	GROSS COOLING CAPACITY (MBH) TOTAL	GROSS COOLING CAPACITY (MBH) SENSIBLE	(S)EER	FUEL TYPE	HEATING CAPACITY (MBH) INPUT	HEATING CAPACITY (MBH) OUTPUT	SSE %	ELECTRICAL DATA VOLTS	ELECTRICAL DATA PHASE	ELECTRICAL DATA FREQ.	MCA/ MOCP	OPTIONS/ ACCESSORIES
XRTU-5	CARRIER 48KCDA05	SIDE	4.0	1.00	1,600	180	420	80.4°F DB 66.3°F WB @ 95.7°F AMBIENT	47.9	38.7	14.0 SEER	NATURAL GAS	72	59	82	208	3	60	26 / 30	1, 2, 3, 4, 5, 6, 7.

EXISTING OPTIONS/ACCESSORIES (BY LANDLORD) TO BE VERIFIED BY CONTRACTOR:
1) HIGH STATIC BELT DRIVE BLOWER
2) LOUVERED HAIL GUARDS
3) DUAL ENTHALPY ECONOMIZER WITH FAULT DETECTION DIAGNOSTIC, BAROMETRIC RELIEF AND HOODS
4) DISCONNECT
5) CONVENIENCE OUTLET
6) RETURN AIR SMOKE DETECTOR.

ADDITIONAL OPTIONS/ACCESSORIES:
7) TENANT FURNISHED, FIELD INSTALLED/WIRED EMS PACKAGE.

NOTE:
CONTRACTOR SHALL FIELD VERIFY ALL EXISTING MODEL NUMBERS, ACCESSORIES AND OPERATING CHARACTERISTICS SCHEDULED ABOVE. ANY DEVIATION FROM THE INFORMATION SHOWN SHALL BE REPORTED TO THE ENGINEER AT THE BEGINNING OF CONSTRUCTION AND PRIOR TO FABRICATION OF ANY SYSTEM.

CONTRACTOR SHALL FIELD FURNISH ADDITIONAL ACCESSORIES AS SCHEDULED ABOVE.

CONTRACTOR SHALL BE RE-BALANCE OUTDOOR AIR TO THE MINIMUM AND MAXIMUM QUANTITIES SCHEDULED ABOVE. OUTSIDE AIR QUANTITIES BASED ON 2012 INTERNATIONAL MECHANICAL CODE - BUILDING AND PEOPLE COMPONENTS FOR AN ENGINEERED VENTILATION SYSTEM EMPLOYING A CO2 MONITORING SYSTEM.

PLUMBING FIXTURE SCHEDULE

PROVIDED BY TENANT'S VENDOR FOR INSTALLATION BY CONTRACTOR

MARK	FIXTURE TYPE	MANUFACTURER & MODEL NO.	FIXTURE CONNECTIONS CW	HW	W	V	REMARKS
BFP	BACKFLOW PREVENTER	WILKINS 975XLS2-AG (LEAD FREE)	LINE SIZE	---	---	---	REDUCED PRESSURE TYPE, INTEGRAL SHUT-OFF VALVES COMPLYING WITH ASSE 1013. PROVIDE WITH INLET WYE STRAINER AND AIR GAP FITTING
DF	BI-LEVEL HANDICAP DRINKING FOUNTAIN	ELKAY MODEL No. EMABFTLDD NON-REFRIGERATED	1/2"	---	1 1/2"	1 1/2"	FURNISH STANDARD CABINET FINISH FOUNTAIN, ADA APRON ACCESSORY, SUPPLY STOP & TUBE, DRAIN KIT AND WALL HANGER KIT
ET	EXPANSION TANK	WATTS MODEL PLT-5	3/4"	---	---	---	FDA APPROVED, POTABLE WATER EXPANSION TANK, 2.1 GALLON ACCEPTANCE
FCO	FLOOR CLEANOUT	ZURN MODEL #1454	---	---	LINE SIZE	---	SIZE PER PIPING LATERAL, 4" MAX.
LAV	HANDICAP WALL HUNG LAVATORY	ZURN MODEL NO. Z5344 WITH 1/2 GPM FLOW RESTRICTOR, GRID DRAIN. FAUCET HOLES ON 4" CENTERS	1/2"	1/2"	1 1/2"	1 1/2"	FURNISH LAVATORY, ZURN Z86500-XL LEAD FREE METERING FAUCET, WALL HANGER KIT, SUPPLY STOPS & TUBES, DRAIN, AND ADA PIPING PROTECTION
MS	FLOOR MTD. MOP SINK	ZURN MODEL Z1996-36	1/2"	1/2"	3"	2"	FURNISH SINK, ZURN MODEL NO. Z843M1 SERVICE SINK FAUCET WITH BUILT-IN VACUUM BREAKER, HOSE AND BRACKET, MOP HANGER, AND DRAIN KIT
TMV	MIXING VALVE	ZURN MODEL ZW3870XLT	3/8"	3/8"	---	---	3/8" TEMPERED OUTLET, MAX OUTLET TEMP. 105°F IN ACCORDANCE WITH ASSE 1070 AND NSF/ANSI 61-9. CSA CERTIFIED.
WC 1.6 GPF	HANDICAP WATER CLOSET	ZURN MODEL Z5560 17" H ELONGATED PRESSURE ASSIST 1.6 G.P.F.	1/2"	---	4"	2"	FURNISH ADA CLOSET & TANK, ADA OPEN FRONT SEAT, SELF SUSTAINING HINGE, FLOOR FLANGE, CLOSET BOLTS & CAPS, WAX RING, SUPPLY STOP & TUBE. FLUSH CONTROL MUST BE LOCATED ON THE WIDE/ACCESS SIDE OF THE WC (SIDE OPPOSITE THE WALL).
WCO	WALL CLEANOUT	ZURN MODEL #Z-1446	---	---	LINE SIZE	---	RAISED HEADPLUG POLISH S.S. COVER & VANDAL PROOF SCREW
WH 10 GAL	ELECTRIC WATER HEATER	BRADFORD WHITE MODEL NO. RE110U6 WITH OATEY 34079 DRAIN PAN AND ZURN VR10 VACUUM RELIEF VALVE	3/4"	3/4"	---	---	FURNISH 10 GALLON SHORT WATER HEATER, 120V/1Ø, 2,000 W ELEMENT WITH T & P RELIEF VALVE AND INTEGRAL HEAT TRAPS.

NOTE:
INSTALL ALL PLUMBING FIXTURES TO BE FULLY ACCESSIBLE TO INDIVIDUALS WITH DISABILITIES IN ACCORDANCE WITH LATEST ISSUE OF THE AMERICANS WITH DISABILITIES ACT AND ALL CURRENT STATE AND LOCAL CODES. - 'PROVIDING ACCESSIBILITY AND USABILITY FOR PHYSICALLY HANDICAPPED PEOPLE' AND/OR GOVERNING CODES. - ALL PLUMBING FIXTURES EQUIPMENT, TRIM, & FITTINGS SHALL COMPLY WITH LOCAL, STATE, AND FEDERAL REGULATIONS AND CODES, INCLUDING, BUT NOT LIMITED TO, WATER AND ENERGY CONSERVATION CODES. THE SCHEDULED AND/OR SPECIFIED PLUMBING FIXTURES AND EQUIPMENT REPRESENT THE MINIMUM CRITERIA AND SHALL BE THE BASIS FOR THE CONTRACTOR'S BASE BID. IF THE SCHEDULED OR SPECIFIED FIXTURES OR EQUIPMENT DO NOT COMPLY WITH GOVERNING CODES OR REGULATIONS IN ALL RESPECTS, THE CONTRACTOR SHALL PROVIDE AN ALTERNATE BID FOR COMPLYING FIXTURES, EQUIPMENT, TRIM, OR FITTINGS. THE ABSENCE OF AN ALTERNATE BID SHALL BE CONSTRUED TO MEAN THAT THE CONTRACTOR'S BID INCLUDES ALL COSTS NECESSARY TO MEET ALL REGULATIONS & CODES.
ALL PIPING AND VALVES BELOW LAVATORY SHALL BE INSULATED WITH PVC LAV GUARDS AND CONFIGURED TO PROTECT AGAINST CONTACT PROVIDED WITH LAV KIT. THERE SHALL BE NO SHARP OR ABRASIVE SURFACES UNDER LAVATORY.

GRILLE, REGISTER & DIFFUSER SCHEDULE

CONTRACTOR PROVIDED, CONTRACTOR INSTALLED

MARK	MFR.	MODEL	MATERIAL	DEVICE SIZE	MOUNTING	TYPE
A	TUTTLE & BAILEY	CRE500	ALUMINUM	12" X 12"	SURFACE	RETURN
B	TUTTLE & BAILEY	S1200	STEEL	24" X 24"	LAY-IN	SUPPLY
C	TUTTLE & BAILEY	T64	STEEL	12" X 10"	DUCT	SUPPLY
D	TUTTLE & BAILEY	CRE500	ALUMINUM	24" X 24"	LAY-IN	RETURN
E	TUTTLE & BAILEY	T70D	STEEL	8" X 8"	SURFACE	EXHAUST
F	TUTTLE & BAILEY	S1200	STEEL	12" X 12"	SURFACE	SUPPLY

NOTE: PROVIDE TYPE "C" DIFFUSERS WITH DAMPER.

EXHAUST FAN SCHEDULE

CONTRACTOR PROVIDED, CONTRACTOR INSTALLED

MARK	MFR./MODEL	CFM	RPM	ESP IN. WG.	MOTOR HP	ELECTRICAL DATA VOLTS	ELECTRICAL DATA PHASE	ELECTRICAL DATA FREQ.	ACCESSORIES	CONTROL
EF-1	YORK/PENN-BARRY CI8HTDA	200	1,354	0.50	71 W	115	1	60	1, 2, 3, 4, 5, 6.	MOTION SENSOR

ACCESSORIES:
1) GALVANIZED WALL CAP WITH INSECT SCREEN
2) BACKDRAFT DAMPER
3) PLUG DISCONNECT
4) SPEED CONTROLLER
5) VIBRATION ISOLATION MOUNT KIT
6) MOTION SENSOR

NOTES:
TOILET EXHAUST FAN (EF-1) SHALL BE INTERLOCKED WITH MOTION SENSOR (REFER TO ELECTRICAL DRAWINGS).

ELECTRIC UNIT HEATER SCHEDULE

CONTRACTOR PROVIDED, CONTRACTOR INSTALLED

MARK	MFR./ MODEL	HEATING VOLTS	HEATING PHASE	HEATING FREQ.	HEATING kW	HEATING AMPS	FAN HP	FAN RPM	FAN CFM	ACCESSORIES
EUH-1	QMARK MUH-07-2	208/240	1	60	5.6/7.5	27.0/31.3	1/30	1600	650	1, 2.
EUH-2	QMARK MUH-07-2	208/240	1	60	5.6/7.5	27.0/31.3	1/30	1600	650	1, 2.
EUH-3	QMARK MUH-07-2	208/240	1	60	5.6/7.5	27.0/31.3	1/30	1600	650	1, 2.
EUH-4	QMARK MUH-07-2	208/240	1	60	5.6/7.5	27.0/31.3	1/30	1600	650	1, 2.

ASSESSORIES:
1) WALL MOUNTING BRACKET
2) FIELD FURNISHED/INSTALLED, WALL MOUNTED, SINGLE-STAGE THERMOSTAT TO HANDLE FULL LOAD OF HEATER.

NOTES:
BOTTOM OF UNIT HEATER TO BE LOCATED AT 9'-0" ABOVE FINISHED FLOOR.

CONTRACTOR SHALL INSTALL UNIT HEATER PER MANUFACTURER'S INSTALLATION INSTRUCTIONS.

SET THERMOSTAT TEMPERATURE TO 50°F.

CASCO
12 Sunmen Drive, Suite 100, St. Louis, MO 63143 T.: 314.821.1100

description	by	date	mark
OWNER CHANGES	BAM	01/19/2022	1

revisions

date	project	designed	drawn	checked
12/21/21	2101650	F/M	F/M	MCG

CASCO DIVERSIFIED CORPORATION
ENGINEERING FIRM
LICENSE #000613
EXPIRES 12/31/23

PROFESSIONAL OF RECORD
MICHAEL C. GRAPPERHAUS
LICENSE NO.: PE-2008019543
EXP. DATE: 12/31/22
PHONE: 314-821-1100

project: FAMILY DOLLAR
603 E. Washington Street, Hayti, MO 63851

drawing: SCHEDULES AND DETAILS HVAC / PLUMBING

MP2

COMMISSIONING

WHERE AUTHORITY HAVING JURISDICTION REQUIRES MECHANICAL SYSTEMS & SERVICE WATER-HEATING SYSTEMS COMMISSIONING, CONTRACTOR SHALL COORDINATE THE HIRING OF A REGISTERED DESIGN PROFESSIONAL, OR APPROVED AGENCY (FURTHER REFERRED TO AS "CxA"), WITH TENANT/OWNER'S REPRESENTATIVE. ALL COMMISSIONING COORDINATION IS TO BE DONE PRIOR TO START OF CONSTRUCTION.

PRIOR TO FINAL MECHANICAL AND PLUMBING INSPECTIONS, THE CxA IS TO PROVIDE EVIDENCE OF MECHANICAL SYSTEMS COMMISSIONING AND COMPLETION IN ACCORDANCE TO THE APPLICABLE ENERGY CODE. CONTRACTOR SHALL MAKE ALL ARRANGEMENTS AND SCHEDULING OF ALL REQUIRED TESTING, BALANCING, ETC. WITH CxA AND TENANT/OWNER'S REPRESENTATIVE.

ALL REQUIRED COMMISSIONING DOCUMENTATION SHALL BE GIVEN TO THE OWNER, AND MADE AVAILABLE TO THE CODE OFFICIAL UPON REQUEST.

GENERAL MECHANICAL CONDITIONS

TENANT SHALL FURNISH SELECTED MECHANICAL EQUIPMENT, ACCESSORIES AND CONTROLS AS SCHEDULED AND AS SPECIFIED. THE MECHANICAL SUBCONTRACTOR(S) SHALL BE RESPONSIBLE FOR DELIVERY COORDINATION, RECEIVING, STORING, SETTING, STARTUP AND INSTALLING ALL TENANT FURNISHED EQUIPMENT AS WELL AS THE ONE YEAR PARTS AND LABOR WARRANTY FROM THE DATE OF STORE OPENING.

A. SCOPE

1. PROVIDE ALL LABOR, MATERIALS AND EQUIPMENT NECESSARY TO PROPERLY INSTALL AIR CONDITIONING SYSTEMS WHERE SHOWN ON DRAWINGS AND AS SCHEDULED.

2. PROVIDE EQUIPMENT AS SPECIFIED TOGETHER WITH ALL NECESSARY DUCTS, GRILLES, REGISTERS, CONTROLS, PIPING, LOW VOLTAGE FANS, CONTROL WIRING, HANGERS, STANDS, EQUIPMENT SUPPORTS, FLASHING AT EQUIPMENT, DUCT AND PIPE INSULATION, UNLESS OTHERWISE NOTED.

3. RELATED WORK BY OTHERS:
   a. PAINTING EXCEPT AS HEREIN SPECIFIED.
   b. LINE VOLTAGE WIRING AND CONDUIT.
   c. ELECTRICAL SUPPLY CONNECTION TO EQUIPMENT.

B. ALL WORK SHALL CONFORM TO ALL FEDERAL, STATE AND LOCAL CODES AND ANY LANDLORD REQUIREMENTS AS SPECIFIED IN THE EXECUTED LEASE AGREEMENT. CONTRACTOR SHALL VERIFY AND COORDINATE SCOPE OF WORK WITH TENANT AND LANDLORD.

C. THE CONTRACTOR SHALL EXAMINE THE PREMISES AND VERIFY THE EXISTING CONDITIONS UNDER WHICH HE WILL BE OBLIGATED TO OPERATE IN PERFORMING HIS PART OF THE WORK OR THAT WILL IN ANY MANNER AFFECT THE WORK UNDER CONTRACT. NO ADDITIONAL COMPENSATION SHALL BE PROVIDED FOR CONDITIONS FOUND DURING THE EXECUTION OF CONTRACTED WORK. THE CONTRACTOR SHALL COOPERATE WITH ALL OTHER TRADES SO THAT THE INSTALLATION OF ALL EQUIPMENT MAY BE PROPERLY COORDINATED. CONTRACTOR SHALL BRING TO THE ATTENTION OF THE CONSTRUCTION MANAGER ANY DISCREPANCIES BETWEEN FIELD CONDITIONS AND DESIGN DOCUMENTS.

D. ALL EQUIPMENT FURNISHED SHALL FIT THE SPACE AVAILABLE, WITH CONNECTIONS, ETC., IN THE REQUIRED LOCATIONS AND WITH ADEQUATE SPACE FOR OPERATING AND SERVICING. SHOULD A CONFLICT EXIST BETWEEN THE DRAWINGS AND THE SPECIFICATIONS, THE CONTRACTOR SHALL PROMPTLY NOTIFY THE CONSTRUCTION MANAGER WHOSE DECISION SHALL BE FINAL. NO ALLOWANCE WILL BE MADE, SUBSEQUENTLY, IN THIS CONNECTION ON BEHALF OF THE CONTRACTOR AFTER AWARD OF THE CONTRACT.

E. ALL MECHANICAL EQUIPMENT SHALL CONFORM WITH THE REQUIREMENTS OF THE STATE MECHANICAL CODE, THE STATE BUILDING CODE, THE STATE ENERGY CODE, NFPA 90A, 96.101 AND ALL APPLICABLE LOCAL CODES AND ORDINANCES.

F. DRAWINGS FOR MECHANICAL WORK ARE DIAGRAMMATIC SHOWING THE GENERAL LOCATION, TYPE, LAYOUT AND EQUIPMENT REQUIRED. THE DRAWINGS SHALL NOT BE SCALED FOR EXACT MEASUREMENTS. REFER TO MANUFACTURER'S STANDARD INSTALLATION DRAWINGS FOR EQUIPMENT CONNECTIONS AND INSTALLATION REQUIREMENTS AS REQUIRED. FURNISH AND INSTALL DUCTWORK, CONNECTIONS, ACCESSORIES, OFFSETS AND MATERIALS NECESSARY TO FACILITATE THE SYSTEM'S FUNCTIONING AS INDICATED BY THE DESIGN AND THE EQUIPMENT INDICATED. CONTRACTOR SHALL OBTAIN ALL NECESSARY PERMITS AND PAY ANY ASSOCIATED FEES.

G. THE CONTRACTOR SHALL INSTALL ALL PIPING, DUCTWORK, FIXTURES AND EQUIPMENT AS REQUIRED TO CONFORM THE STRUCTURE, AVOID OBSTRUCTIONS, PRESERVE CEILING HEIGHTS AND HEADROOM AND MAKE ALL EQUIPMENT REQUIRING MAINTENANCE OR REPAIR ACCESSIBLE.

H. THE CONTRACTOR SHALL INSTALL MECHANICAL SYSTEMS AS SHOWN, NOTED AND SPECIFIED. EQUIPMENT MAY NOT BE SUBSTITUTED UNLESS WRITTEN APPROVAL BY THE ENGINEER OR TENANT'S REPRESENTATIVE IS OBTAINED. ANY UNAUTHORIZED CHANGES SHALL BE REMOVED AT CONTRACTOR'S EXPENSE IF DEEMED NECESSARY BY ENGINEER OR TENANT'S REPRESENTATIVE. CONTRACTOR SHALL BE RESPONSIBLE FOR ANY REQUIRED CHANGE TO RELATED WORK CAUSED BY THE SUBSTITUTION OF ANY ITEMS OF MATERIALS OR EQUIPMENT AT NO ADDITIONAL COST TO THE OWNER.

HVAC UNITS (NEW)

- WHERE EXISTING HVAC COMPONENTS ARE TO REMAIN FOR REUSE, CONTRACTOR SHALL MODIFY, SERVICE, ETC. PER PLANS, SCHEDULES, AND NOTES

A. CONTRACTOR SHALL COORDINATE THE DELIVERY, RECEIVING, STORAGE, RIGGING, HOISTING, INSTALLATION AND START UP OF HEATING AND COOLING UNITS INCLUDING ALL ACCESSORIES AS SCHEDULED AND AS INDICATED ON THE DRAWINGS.

B. HVAC UNITS SHALL BE FURNISHED COMPLETE WITH CASING, REFRIGERATION SYSTEM, HEATING SECTION (AS SCHEDULED ON DRAWINGS), FANS, MOTORS AND DRIVES, FILTERS, AUTOMATIC CONTROLS, AND OPTIONS AND ACCESSORIES AS SCHEDULED ON DRAWINGS.

C. TEMPERATURE CONTROLS.

1. HVAC UNITS SHALL BE FURNISHED WITH FACTORY INSTALLED AND TESTED COMPONENTS TO PROVIDE TWO STAGES OF COOLING, TWO STAGES OF HEATING (WHERE APPLICABLE), ANTI-RECYCLE TIMER, FIVE (5) MINUTE COMPRESSOR STAGING RELAY, AND OTHER ITEMS AS SCHEDULED ON DRAWINGS.

D. SEQUENCE OF OPERATION

1. OCCUPIED HOURS.

a. UNIT OUTDOOR AIR DAMPER SHALL OPEN TO ITS MINIMUM POSITION AND UNIT SUPPLY FAN SHALL OPERATE CONTINUOUSLY.

b. FOR UNITS CONNECTED TO THE CO2 SENSOR SYSTEM, UNIT OUTDOOR AIR DAMPER SHALL MODULATE FROM ITS MINIMUM SCHEDULED POSITION TO ITS MAXIMUM SCHEDULED POSITION IN RESPONSE TO SPACE MOUNTED CO2 SENSOR (BY OTHERS) SET AT 800 PPM.

HVAC UNITS (CONTINUED)

c. UNIT HEATING SHALL ENGAGE CYCLING COMPRESSOR(S), HEATING (HEAT EXCHANGER, COMPRESSOR (HEAT PUMP), AND ELECTRIC HEAT AS EQUIPPED) AND SHALL STAGE TO MAINTAIN SPACE SETPOINT.

1. UNOCCUPIED HOURS.

a. UNIT OUTDOOR AIR DAMPER SHALL REMAIN CLOSED AND UNIT SUPPLY FAN SHALL CYCLE ON A SIGNAL FROM SPACE SENSOR.

b. UNIT HEATING SHALL ENGAGE CYCLING COMPRESSOR(S), HEATING (HEAT EXCHANGER, COMPRESSOR (HEAT PUMP), AND ELECTRIC HEAT AS EQUIPPED) AND SHALL STAGE TO MAINTAIN SPACE SETPOINT.

2. UNIT ECONOMIZER CYCLE (WHERE EQUIPPED) SHALL BE INITIATED UPON A SIGNAL FROM OUTDOOR AND RETURN AIR TEMPERATURE AND ENTHALPY SENSORS. OUTDOOR AIR DAMPER, RETURN AIR DAMPER, AND UNIT COMPRESSOR(S) SHALL CYCLE TO MAINTAIN SPACE SETPOINT. ECONOMIZER CYCLE SHALL OVER RIDE CO2 MONITORING SYSTEM.

3. SMOKE ALARM (WHERE REQUIRED).

a. UNIT OUTDOOR AIR DAMPER SHALL CLOSE AND UNIT SUPPLY FAN SHALL STOP ON A SIGNAL FROM DUCT SMOKE DETECTOR. DUCT SMOKE DETECTOR SHALL SEND A SIGNAL TO REMOTE ALARM DEVICE.

GRILLES, REGISTERS AND DIFFUSERS

A. THE CONTRACTOR SHALL PROVIDE GRILLES, REGISTERS AND DIFFUSERS WHERE INDICATED AND AS SCHEDULED ON THE DRAWINGS.

B. GRILLES, REGISTERS AND DIFFUSERS SHALL BE PROVIDED WITH OPPOSED BLADE VOLUME DAMPERS AS SCHEDULED ON THE DRAWINGS.

C. GRILLES, REGISTERS AND DIFFUSERS SHALL BE PROVIDED WITH FRAME TYPES TO MATCH THE SURFACE INTO WHICH THEY WILL BE INSTALLED.

D. GRILLES, REGISTERS AND DIFFUSERS SHALL BE PROVIDED WITH FACTORY APPLIED WHITE FINISH.

E. DESIGN IS BASED ON PRODUCTS MANUFACTURED BY TITUS. PRODUCTS OF EQUIVALENT PERFORMANCE, CONSTRUCTION AND APPEARANCE MAY BE SUPPLIED.

EXHAUST FANS

A. THE CONTRACTOR SHALL PROVIDE EXHAUST FANS WHERE INDICATED AND AS SCHEDULED ON THE DRAWINGS.

B. INLINE EXHAUST FANS SHALL BE FURNISHED WITH VIBRATION ISOLATING HANGARS AND ALL RELATED HARDWARE.

C. ALL EXHAUST FANS SHALL BE FURNISHED WITH BACK DRAFT DAMPER, INSECT SCREEN, MOTOR AND DRIVE, AND OPTIONS AND ACCESSORIES AS SCHEDULED ON DRAWINGS.

DUCTWORK

A. ALL DUCTWORK SHALL BE CONSTRUCTED OF GALVANIZED STEEL SHEET METAL AND BE FABRICATED ACCORDING TO THE LATEST EDITION OF THE SMACNA HVAC DUCT CONSTRUCTION STANDARDS FOR METAL AND FLEXIBLE DUCTWORK.

B. ALL ELBOWS SHALL HAVE PROPER RADIUS OR CONTRACTOR SHALL PROVIDE TURNING VANES AS REQUIRED BY SMACNA DUCT CONSTRUCTION MANUAL.

C. ALL DUCT CONNECTIONS TO EQUIPMENT SHALL BE LOADED TYPE VINYL, VIBRATION ELIMINATION CONNECTIONS, (FC) FLEXIBLE CONNECTIONS.

D. FLEX DUCT: PROVIDE FACTORY ASSEMBLED CLASS 1 AIR DUCT (UL 181) WITH FIBERGLASS INSULATION AND REINFORCED OUTER PROTECTIVE COVER/VAPOR BARRIER. FLEX DUCT SHALL MEET NFPA 90A WITH FLAME SPREAD UNDER 25, SMOKE DEVELOPED UNDER 50, AND SHALL BE RATED FOR 1" W.C. PRESSURE AND 0 TO 250 DEGREE TEMPERATURE. MAXIMUM LENGTH SHALL BE 5'-0". MINIMUM CENTER LINE BEND RADIUS SHALL BE 1 1/2 DUCT DIAMETERS. VAPOR BARRIER SHALL BE SEALED AT EACH END AFTER CONNECTION TO DUCT AND AIR DEVICE.

E. ALL NEW SUPPLY AND RETURN DUCTWORK SHALL BE INSULATED. NO EXCEPTIONS. INSULATE WITH EXTERNAL DUCT WRAP OR WITH SHOP APPLIED DUCT LINER. DUCT WRAP SHALL BE FOIL REINFORCED KRAFT FACING. ALL INSULATION SHALL MEET NFPA 90A FLAME SPREAD UNDER 25 AND SMOKE DEVELOPED UNDER 50. THICKNESS, DENSITY AND "R" VALUE SHALL BE PER CODE. INSULATION SHALL BE FASTENED TO DUCTWORK PER MANUFACTURER'S INSTRUCTIONS AND SMACNA STANDARDS. ROUND BRANCH DUCTWORK SHALL BE INSULATED WITH 1" THICK FIBERGLASS SLEEVE WITH FOIL JACKET AND ALL JOINTS AND TERMINATIONS SEALED WITH FOIL DUCT TAPE.

EXECUTION

A. ALL DUCTWORK TRANSITIONS SHALL BE (FOT) "FLAT ON TOP" UNLESS OTHERWISE SPECIFIED ON PLAN. ALL DUCT DIMENSIONS LISTED ARE INNER AIR STREAM DIMENSIONS.

B. ALL DUCTWORK SHALL BE ROUTED ABOVE THE SUSPENDED CEILING SPACE UNLESS OTHERWISE NOTED ON THE PLANS. ALL DUCTWORK SHALL BE SUSPENDED FROM TOP CHORD OF STRUCTURE AND ACCORDING TO THE LATEST EDITION OF THE SMACNA HVAC DUCT CONSTRUCTION STANDARDS FOR METAL AND FLEXIBLE DUCTWORK.

C. ALL OUTSIDE AIR INTAKES SHALL BE A MINIMUM OF 10'-0" AWAY FROM EXHAUST DISCHARGE OPENINGS AND PLUMBING VENT STACKS.

D. PROVIDE UL APPROVED FIRE DAMPERS FOR ALL PENETRATIONS THROUGH FIRE RATED WALLS, PARTITIONS, CEILINGS, AND FLOORS. INSTALL FIRE DAMPERS AS PER MANUFACTURER'S DIRECTIONS AND AS PER UL GUIDLINES.

E. PROVIDE ROUND SPIN-IN FITTINGS WITH LOCKING VOLUME DAMPER FOR EVERY INLET AND OUTLET ATTACHMENT TO THE MAIN TRUNK DUCT WHETHER SHOWN ON THE PLANS OR NOT. PROVIDE ADDITIONAL LOCKING VOLUME DAMPERS AT ALL SECONDARY BRANCH TAKEOFFS FROM DUCTWORK MAINS AND AS INDICATED ON PLANS. PROVIDE NSPECTION ACCESS PANELS IN DUCTS AT ALL FIRE DAMPERS.

F. SUPPLY, RETURN AND POSITIVE PRESSURE EXHAUST DUCTWORK SHALL BE SEALED IN ACCORDANCE WITH SMACNA SEAL CLASS "C".

G. CORE-DRILL OR SAW-CUT EXISTING WALLS, ROOF, ETC. AS REQUIRED FOR PIPING OR DUCTWORK AND FIRE-STOP OPENING AROUND PIPE OR DUCTWORK. VERIFY LOCATION OF STRUCTURAL BEAMS, JOISTS, ETC. BEFORE DRILLING OR CUTTING. NOTIFY ARCHITECT OF ANY DISCREPANCIES.

H. WHEREVER FOUNDATION WALLS, OUTSIDE WALLS, ROOFS, ETC. ARE CUT FOR INSTALLATION OF SYSTEMS, THEY SHALL BE PATCHED TO MATCH EXISTING CONSTRUCTION AND SEALED WEATHER TIGHT. WORK SHALL BE PERFORMED BY CRAFTSMEN SKILLED IN THEIR RESPECTIVE TRADES.

EXECUTION (CONTINUED)

I. PROVIDE 3 SETS OF PLEATED DISPOSABLE FILTERS. ONE SET TO BE USED UNTIL COMPLETION OF CONSTRUCTION PHASE. INSTALL ONE SET AT COMPLETION OF CONSTRUCTION PHASE AND DELIVER ONE SET TO OWNER AND LABEL EACH SET OF FILTERS TO DENOTE THEIR RESPECTIVE HVAC UNITS.

J. PROVIDE TWO OPERATION AND MAINTENANCE MANUALS BOUND IN 8-1/2" X 11" PAGE BINDERS, TITLED "OPERATION AND MAINTENANCE MANUAL". SUBDIVIDE BINDER CONTENTS WITH PAGE DIVIDERS BY SYSTEM AND EQUIPMENT. INCLUDE ALL SHOP DRAWINGS, AS-BUILT DRAWINGS AND WARRANTIES. SUBMISSION OF THESE DOCUMENTS SHALL BE WITHIN 90 DAYS OF SYSTEM ACCEPTANCE, PER ENERGY CODE, AND A REQUIREMENT FOR FINAL PAYMENT.

TESTING, ADJUSTING, BALANCING AND INSPECTION

A. WORK SHALL BE PERFORMED AFTER THE COMPLETE INSTALLATION AND STARTUP OF ALL EQUIPMENT, DUCT SYSTEMS AND TEMPERATURE AND ENERGY MANAGEMENT CONTROLS AND COMPLETED PRIOR TO TURNOVER FOR THE START OF STOCKING.

B. CONTRACTOR SHALL SUBMIT TEST AND BALANCE REPORT TO GENERAL CONTRACTOR FOR SUBMITTAL TO TENANT'S PROJECT MANAGER AND LOCAL CODE AUTHORITY (IF REQUIRED).

C. BALANCING OF AIR DEVICES SHALL BE ACCOMPLISHED BY ADJUSTING BRANCH TAKEOFF DAMPER AT MAIN TRUNK DUCT. DAMPERS IN THE NECKS OF AIR DEVICES SHALL BE USED FOR FINAL TRIM ONLY AND IN NO CASE FOR GREATER THAN 10% OF THE INDICATED VOLUME FOR THE INDIVIDUAL AIR DEVICE.

D. WHERE EXISTING DUCT IS TO BE REUSED, CONTRACTOR SHALL PROVIDE AND INSTALL NEW MANUAL DAMPERS WITH LOCKING QUADRANT IN THE RUNOUT DUCT AT THE CONNECTION TO THE TRUNK DUCT AS REQUIRED FOR THE COMPLETION OF BALANCING.

E. TESTING AND BALANCING CONTRACTOR SHALL ALSO INSPECT THE COMPLETED AND OPERATIONAL HVAC EQUIPMENT, DUCT SYSTEMS AND TEMPERATURE AND ENERGY MANAGEMENT CONTROLS PRIOR TO TURNOVER OF THE STORE FOR THE START OF STOCKING. TESTING AND BALANCING CONTRACTOR SHALL SUBMIT THE COMPLETED TENANT'S HVAC FIELD INSPECTION REPORT TO THE GENERAL CONTRACTOR FOR SUBMITTAL TO TENANT'S PROJECT MANAGER FOR REVIEW.

FIRE AND SMOKE PARTITION PENETRATIONS (WHERE REQUIRED)

A. THE CONTRACTOR SHALL FAMILIARIZE HIMSELF WITH ALL FIRE RATED CONSTRUCTION AND INSTALL HIS WORK SO AS TO MAINTAIN THE INTEGRITY OF THE FIRE CODE RATING. MAINTAIN RATING OF FIRE RATED AND SMOKE RATED CONSTRUCTION. SLEEVES SHALL BE STEEL OR PRE-MANUFACTURED SLEEVES SIMILAR TO PIPE SHIELDS, INC., FOR BARE PIPE THROUGH FIRE WALLS AND FLOORS, MODEL WFB, DFB OR QDFB. FOR PLASTIC PIPE, USE TYPE WFB WITH ONE INCH THICK CALCIUM SILICATE INSULATION ENCASED IN METAL SLEEVE EXTENSION TWO FEET EITHER SIDE OF FIRE RATED WALLS OR FLOOR. SEAL ANNULAR SPACE AROUND CONDUITS. FOR FIRE AND SMOKE RATED FLOORS, WALLS AND PARTITIONS, USE UL LISTED MATERIAL THAT MAINTAINS FIRE RATED WALL AND FLOOR INTEGRITY, SIMILAR TO RTV FOAM, DOW CORNING "FIRE STOP" OR PIPE SHIELDS, INC., MODEL WFB, DFB, OR QDFB. FOR NON-RATED WALLS AND PARTITIONS, USE MINERAL OR GLASS FIBER INSULATION.

GENERAL PLUMBING CONDITIONS

A. SCOPE

1. PROVIDE ALL LABOR, MATERIALS, TOOLS AND EQUIPMENT NECESSARY TO COMPLETE THE WORK, INCLUDING INSTALLATION OF PLUMBING PIPING AND FIXTURES. ALL MATERIALS SHALL BE NEW AND BE INSTALLED IN A WORKMANLIKE MANNER IN ACCORDANCE WITH THE DRAWINGS AND SPECIFICATIONS.

2. PROVIDE EXCAVATION AND BACK FILL OF ALL TRENCHES INCIDENTAL TO THE PLUMBING WORK AS SHOWN ON THE DRAWINGS. BACK FILL SHALL COMPACTED TO 90%.

3. PROVIDE ALL BACKING, SUPPORTS AND CARRIERS FOR FIXTURES.

4. PROVIDE ALL CUTTING AND PATCHING OF THE CONSTRUCTION WORK, ROUGH FINISH AND TRIM, WHICH MAY BE REQUIRED FOR THE INSTALLATION OF EQUIPMENT. ALL PATCHING SHALL MATCH ALL SURROUNDING WORK.

5. CONTRACTOR SHALL MAKE ALL PLUMBING AND PIPING CONNECTIONS TO EQUIPMENT SPECIFIED TO BE FURNISHED BY TENANT OR UNDER OTHER SECTIONS OF THE SPECIFICATIONS INCLUDING FINAL CONNECTIONS TO AIR CONDITIONING AND HEATING EQUIPMENT.

6. CONTRACTOR SHALL PROVIDE SUFFICIENT APPROVED WATER HAMMER ARRESTORS (WADE "SHOKSTOP", OR EQUIVALENT) TO PREVENT WATER HAMMER.

7. CONTRACTOR SHALL THOROUGHLY CLEAN ALL FIXTURES, EQUIPMENT AND PIPING AFTER INSTALLATION.

8. CONTRACTOR SHALL PROVIDE APPROVED ACCESS DOORS IN FRAMED HOLES FOR ALL VALVES, TRAPS WHICH MUST BE INSTALLED IN INACCESSIBLE LOCATIONS.

9. CONTRACTOR SHALL PROVIDE CUTOUT DATA FOR ALL SINKS AND LAVATORIES TO ALL OTHER RELATED TRADES.

10. CONTRACTOR SHALL OBTAIN AND PAY FOR ALL REQUIRED PERMITS, INSPECTIONS AND CERTIFICATES IN CONNECTION WITH THE HIS WORK AND MAKE ALL ARRANGEMENTS WITH UTILITY COMPANIES FOR SERVICE AND CONNECTIONS AND PAY ALL FEES, CHARGES PERMITS AND METER CHARGES.

MATERIALS

A. DRAIN, WASTE AND VENT

1. SERVICE WEIGHT, CAST IRON HUB AND SPIGOT PIPE AND FITTINGS WITH NEOPRENE GASKET JOINTS. NO-HUB SERVICE WEIGHT PIPE AND FITTINGS MAY BE USED ABOVE GRADE WHEN PERMITTED BY LOCAL CODE.

2. SCHEDULE 40, GALVANIZED STEEL PIPE AND BANDED MALLEABLE IRON SCREW FITTINGS.

3. SCHEDULE 40 AND 80 PVC OR ABS PIPING WITH DWV PATTERN FITTINGS MAY BE USED WHERE ALLOWED BY LOCAL CODE. FOAM CORE PVC PIPING WILL NOT BE APPROVED. NO PVC SHALL BE INSTALLED IN RETURN AIR PLENUMS.

4. WHERE "PUMPED" SANITARY LINES (TYPICALLY AT SEWAGE GRINDER PUMP LOCATIONS) ARE INDICATED ON PLANS, CONTRACTOR IS TO PROVIDE PRESSURE-RATED PIPING, FITTINGS, ETC. MATERIALS AND INSTALLATION TO BE COMPLIANT WITH ALL APPLICABLE CODES.

B. HOT AND COLD WATER

1. ABOVE GRADE.

MATERIALS (CONTINUED)

a. TYPE "L" COPPER TUBING, HARD TEMPER, COLD DRAWN WITH WROUGHT COPPER LEAD FREE SWEAT FITTINGS. CONNECTIONS TO FIXTURES AND EQUIPMENT SHALL BE MADE WITH 85% RED BRASS IPS SIZE PIPE OR COMPRESSION ANGLE STOPS. PROVIDE DIELECTRIC UNIONS WHERE CONNECTING PIPING OF DISSIMILAR MATERIALS.

b. PVC FOR COLD WATER AND CPVC FOR HOT WATER MAY BE SUBSTITUTED FOR COPPER PIPING WHERE ALLOWED BY LOCAL CODE AUTHORITY FOR ABOVE GRADE WATER PIPING ONLY.

c. PEX PIPING FOR HOT AND COLD WATER MAY BE SUBSTITUTED WHERE ALLOWED BY LOCAL CODE AUTHORITY. CONNECTION AT WATER HEATERS MUST BE TYPE "L" COPPER PIPING. CONTRACTOR IS RESPONSIBLE FOR CORRECTLY SIZING AND INSTALLING ALL PEX PIPING PER MANUFACTURE'S REQUIREMENTS.

2. BELOW GRADE.

a. TYPE "K" COPPER TUBING, HARD OR SOFT TEMPER, WITH WROUGHT COPPER LEAD FREE SWEAT FITTINGS. NOTE: NO FITTINGS SHALL BE PERMITTED BELOW GRADE INSIDE BUILDING.

c. PEX PIPING MAY BE SUBSTITUTED WHERE ALLOWED BY LOCAL CODE AUTHORITY. CONTRACTOR IS RESPONSIBLE FOR CORRECTLY SIZING AND INSTALLING ALL PEX PIPING PER MANUFACTURE'S REQUIREMENTS.

C. AIR CONDITIONING CONDENSATE

1. TYPE "M" COPPER TUBING, HARD TEMPER, COLD DRAWN WITH WROUGHT COPPER LEAD FREE SWEAT FITTINGS.

2. PVC PIPING MAY BE SUBSTITUTED FOR AIR CONDITIONING CONDENSATE PIPING ABOVE ROOF ONLY WHERE ALLOWED BY LOCAL CODE AUTHORITY. ALL AIR CONDITIONING CONDENSATE PIPING SHALL BE OF THE SAME MATERIAL.

D. NATURAL GAS PIPING

1. SCHEDULE 40 BLACK IRON PIPE WITH 150 LB. BLACK MALLEABLE THREADED OR SOCKET WELDED FITTINGS.

EXECUTION

A. GENERAL REQUIREMENTS

1. CONTRACTOR SHALL EXAMINE THE PREMISES AND SATISFY HIMSELF OF EXISTING CONDITIONS UNDER WHICH HE WILL BE OBLIGATED TO OPERATE IN PERFORMING HIS PART OF THE WORK THAT IN ANY MANNER AFFECT THE WORK UNDER THE CONTRACT. THE CONTRACTOR SHALL COOPERATE WITH OTHER TRADES SO THAT THE INSTALLATION OF ALL EQUIPMENT MAY BE PROPERLY COORDINATED.

2. ALL EQUIPMENT FURNISHED SHALL FIT THE SPACE AVAILABLE, WITH CONNECTION, ETC. IN THE REQUIRED LOCATIONS AND WITH ADEQUATE SPACE FOR OPERATION AND SERVICE.

3. ALL PIPING, EXCEPT FIXTURE SUPPLIES, SHALL BE CONCEALED, CUT ACCURATELY TO EXACT MEASUREMENTS TAKEN AT THE BUILDING AND WORKED CAREFULLY INTO PLACE WITHOUT FORCING OR SPRINGING. CHANGES IN DIRECTION OF ALL PIPING SHALL BE MADE WITH FITTINGS. CHANGES IN PIPE SIZE SHALL BE MADE WITH REDUCING FITTINGS.

4. NO WATER OR DRAIN LINES SHALL BE PERMITTED OVER ELECTRICAL OR TELECOMMUNICATION PANELS OR IN TELECOMMUNICATION ROOMS.

5. PROVIDE PROTECTIVE METAL COVER PLATES OVER STUDS AND JOISTS WHERE PIPES PENETRATE CLOSE TO EDGE OF STUD OR JOIST

6. PROVIDE CHROME PLATED ESCUTCHEONS WHERE PIPES PASS THROUGH FLOORS, WALLS AND CEILINGS IN FINISHED SPACES.

7. ALL PIPING SHALL BE INSTALLED WITH ADEQUATE PROVISION FOR EXPANSION AND CONTRACTION USING SWING JOINTS, PIPE CLAMPS, ANCHORS AND EXPANSION JOINTS. FITTINGS SHALL BE SO SPACED THAT THEY WILL NOT INTERFERE WITH SLIDING OF PIPE ON SUPPORTS.

8. ALL OPENINGS IN THE ROOF SHALL BE FLASHED WATERTIGHT PER THE INSTRUCTION OF THE LANDLORD'S ROOFING CONTRACTOR TO MAINTAIN ROOF WARRANTY.

B. DRAIN, WASTE AND VENT

1. ALL WASTE PIPING SHALL BE PITCHED A MINIMUM OF 1/4" PER FOOT WHERE POSSIBLE. PIPING GREATER THAN 4" DIAMETER MAY BE PITCHED AT 1/8" PER FOOT, ONLY WHERE REQUIRED BY EXISTING CONDITIONS, SUBJECT TO THE APPROVAL OF THE AUTHORITY HAVING JURISDICTION.

2. DRAINS AND P-TRAPS: 17 GA. C.P. BRASS WHERE EXPOSED TO VIEW EXTENDING TO WALL. NOMINAL SIZE OF DRAIN AND TRAP SHALL NOT BE SMALLER THAN THE FIXTURE OUTLET TO WHICH IT IS ATTACHED.

3. VENTS SHALL EXTEND NOT LESS THAN 12" THROUGH ROOF. THEY SHALL BE GATHERED TOGETHER WHERE POSSIBLE INTO ONE VENT OF EQUIVALENT AREA. VENTS SHALL BE FLASHED AS INDICATED ON THE DRAWINGS. ALL VENTS SHALL BE A MINIMUM OF 10'-0" FROM ANY FRESH AIR INTAKES, OR GREATER IF REQUIRED BY LOCAL CODE.

4. CLEANOUTS, SAME SIZE AS PIPE, SHALL BE INSTALLED IN SOIL AND WASTE LINES AT EVERY CHANGE OF DIRECTION AND AT EVERY 100 FEET OF RUN WHETHER SHOWN ON THE DRAWINGS OR NOT; AND SHALL BE ACCESSIBLE IN ALL CASES. WHEN OCCURRING IN FINISHED WALL OR FLOOR, SET FLUSH WITH SURROUNDING SURFACE.

5. CLEANOUTS AS A MINIMUM SHALL BE LOCATED SO THAT ALL SOIL AND WASTE LINES WITHIN OR UNDER BUILDING ARE ACCESSIBLE FOR CLEANING WITHOUT PASSING THROUGH MORE THAN ONE NINETY DEGREE OR TWO FORTY FIVE DEGREE BENDS. CLEANOUT COVERS SHALL BE SET FLUSH WITH FLOORS AND GRADE WITH EXPOSED PLASTIC NUT AT WALLS.

C. HOT AND COLD WATER

1. ALL WATER PIPING SHALL BE PITCHED IN DIRECTION OF FLOW TO ALLOW FOR SYSTEM DRAINING. INSTALL PIPING PARALLEL TO MAJOR BUILDING ELEMENTS.

2. INSTALL WATER PRESSURE REGULATOR, "WATTS" OR "WILKINS", WHERE AVAILABLE UTILITY PRESSURE EXCEEDS 80 PSI.

3. INSTALL WATER MAIN SHUTOFF VALVES (WATTS, OR APPROVED EQUAL FULL PORT BALL VALVE), UPSTREAM OF PRESSURE REGULATOR.

4. INSTALL ACCESSIBLE HOT AND COLD WATER STOPS AT ALL FIXTURES.

5. INSTALL DIELECTRIC ISOLATORS WHERE INCOMPATIBLE PIPING MATERIALS COME IN CONTACT.

EXECUTION (CONTINUED)

6. INSTALL TEMPERATURE AND PRESSURE RELIEF VALVES AS REQUIRED BY CODE.

D. NATURAL GAS

1. INSTALL NATURAL GAS PIPING AS INDICATED ON DRAWINGS AND AS REQUIRED BY LOCAL CODES.

2. INSTALL SHUTOFF VALVES CLOSE TO FIXTURE AND APPLIANCE CONNECTIONS, AND AHEAD OF UNION AND DIRT LEG AT ROOFTOP UNITS.

3. UNIONS SHALL BE INSTALLED ON BOTH SIDES OF ALL EQUIPMENT AND WHERE REQUIRED TO FACILITATE REMOVAL OF EQUIPMENT.

4. PROVIDE GAS PRESSURE REGULATING VALVES WITH TURNED DOWN VENTS AT ALL GAS APPLIANCES WHEN DISTRIBUTION PRESSURE IS GREATER THAN 7" W.C.

5. PROVIDE GAS MAIN SHUTOFF VALVE WITH LEVER TYPE HANDLE PLACED ON ON HOUSE SIDE OF METER.

6. PAINT ALL EXTERIOR PIPING INCLUDING PIPING INSTALLED ON ROOF WITH TWO COATS OF RUST INHIBITING EXTERIOR PAINT.

7. SUPPORT PIPING ON ROOF PER INSTRUCTION OF LANDLORD'S ROOFING CONTRACTOR TO MAINTAIN ROOF WARRANTY.

E. INSULATION

1. ALL WATER PIPING, HORIZONTAL AND VERTICAL SHALL BE INSULATED WITH FIBERGLASS PIPE INSULATION WITH AN ALL PURPOSE VAPOR BARRIER JACKET. USE MINIMUM 1" INSULATION ON WATER PIPING. ALL INSULATING MATERIALS SHALL HAVE A MAXIMUM 25 FLAME SPREAD RATING AND 50 SMOKE DEVELOPED RATING.

2. APPROVED INSULATION BLOCKING SHALL BE PLACED BETWEEN SHEET METAL JACKET AND BOTTOM OF THE PIPE WHERE JACKET ALONE CANNOT PREVENT CRUSHING. INSULATION JACKET OR VAPOR BARRIER SHALL BE SEALED AFTER INSTALLING BLOCKING (SEE HANGERS, SUPPORTS AND SLEEVES).

F. HANGERS, SUPPORTS AND SLEEVES

1. ALL DRAIN, WASTE, HOT AND COLD WATER, AND NATURAL GAS PIPING EXPOSED, ABOVE GRADE AND IN FURRED AREAS, SHALL BE SUPPORTED IN PLACE WITH SECURELY FASTENED SOLID PIPE HANGERS NOT OVER 8'-0" APART AND AT EACH CHANGE IN DIRECTION, (5'-0" ON CAST IRON PIPE).

2. PIPE HANGERS SHALL BE INSTALLED AROUND THE OUTSIDE OF INSULATION WITH VAPOR BARRIERS, AND INSULATION SHALL BE PROTECTED AGAINST CRUSHING BY SHEET METAL JACKET OF PROPER AREA AND WEIGHT.

3. ALL WATER PIPING RUNNING THROUGH FLOORS OR WALLS SHALL BE ISOLATED FROM THE PENETRATION WITH A SLEEVE. MAINTAIN THE FIRE RATING OF ALL WALL AND FLOOR PENETRATIONS BY USE OF APPROVED FIRE STOP MATERIALS.

4. SLEEVES THROUGH WALLS SHALL BE CUT SO AS TO BE FLUSH WITH THE FINISHED SURFACE OF THE WALL IN EACH CASE AND SHALL BE MADE WATERTIGHT.

G. TESTING

1. DRAIN, WASTE AND VENT LINES SHALL PASS INSPECTION UNDER HEAD OF WATER BY SYSTEM WITH WATER TO TOP OF HIGHEST VENT STACK.

2. WATER LINES SHALL PASS INSPECTION OF FOUR (4) HOURS UNDER 150 PSI PRESSURE. BEFORE ANY USE OF SYSTEM IS MADE FOR DOMESTIC PURPOSES, IT SHALL BE DISINFECTED BY SLOWLY FILLING WITH WATER TO WHICH A DISINFECTING AGENT HAS BEEN INJECTED AT A RATE OF 50 P.P.M. OF CHLORINE, WHICH SHOULD BE ALLOWED TO STAND IN THE PIPING FOR AT LEAST 24 HOURS, AFTER WHICH TESTS FOR RESIDUAL CHLORINE SHALL SHOW NOT LESS THAN FIVE (5) P.P.M. OF RESIDUAL CHLORINE AT EVERY WATER OUTLET IN THE BUILDING. IF THE RESIDUAL IS LESS THAN FIVE PPM, THE DISINFECTION SHALL BE REPEATED UNTIL THE REQUIRED RESIDUAL IS OBTAINED AT EVERY OUTLET. AFTER REQUIRED RESIDUAL IS OBTAINED AT EVERY OUTLET, THE SYSTEM SHALL BE FLUSHED UNTIL THE CHLORINE LEVEL AT EVERY OUTLET IS REDUCED TO THAT OF INCOMING WATER SUPPLY

3. GAS LINES SHALL STAND A PRESSURE OF 25 PSI FOR A PERIOD OF 15 MINUTES WITHOUT PERCEPTIBLE DROP.

4. ALL TESTING SHALL BE PERFORMED BY CONTRACTOR AT HIS OWN EXPENSE.

H. WARRANTY

1. ALL MATERIALS FURNISHED AND INSTALLED UNDER THIS CONTRACT SHALL BE NEW AND FREE FROM ALL DEFECTS IN MATERIALS AND WORKMANSHIP AND SHALL BE GUARANTEED FOR A PERIOD OF ONE (1) YEAR FROM THE DATE OF ACCEPTANCE BY TENANT.

CASCO

12 Sunnen Drive, Suite 100, St. Louis, MO 63143 T: 314.821.1100

mark	date	by	description

revisions

date	12/21/21
project	2101650
designed	FJM
drawn	FJM
checked	MCG

CASCO DIVERSIFIED CORPORATION ARCHITECTURAL FIRM LICENSE #000329 EXPIRES 12/31/23

CASCO DIVERSIFIED CORPORATION ENGINEERING FIRM LICENSE #000613 EXPIRES 12/31/21

PROFESSIONAL OF RECORD

MICHAEL C. GRAPPERHAUS
LICENSE NO.: PE-2008019543
EXP. DATE: 12/31/21
PHONE: 314-821-1100

project

FAMILY DOLLAR

603 E. Washington Street, Hayti, MO 63851

drawing

SPECIFICATIONS
HVAC / PLUMBING

MP3

RACK LEGEND

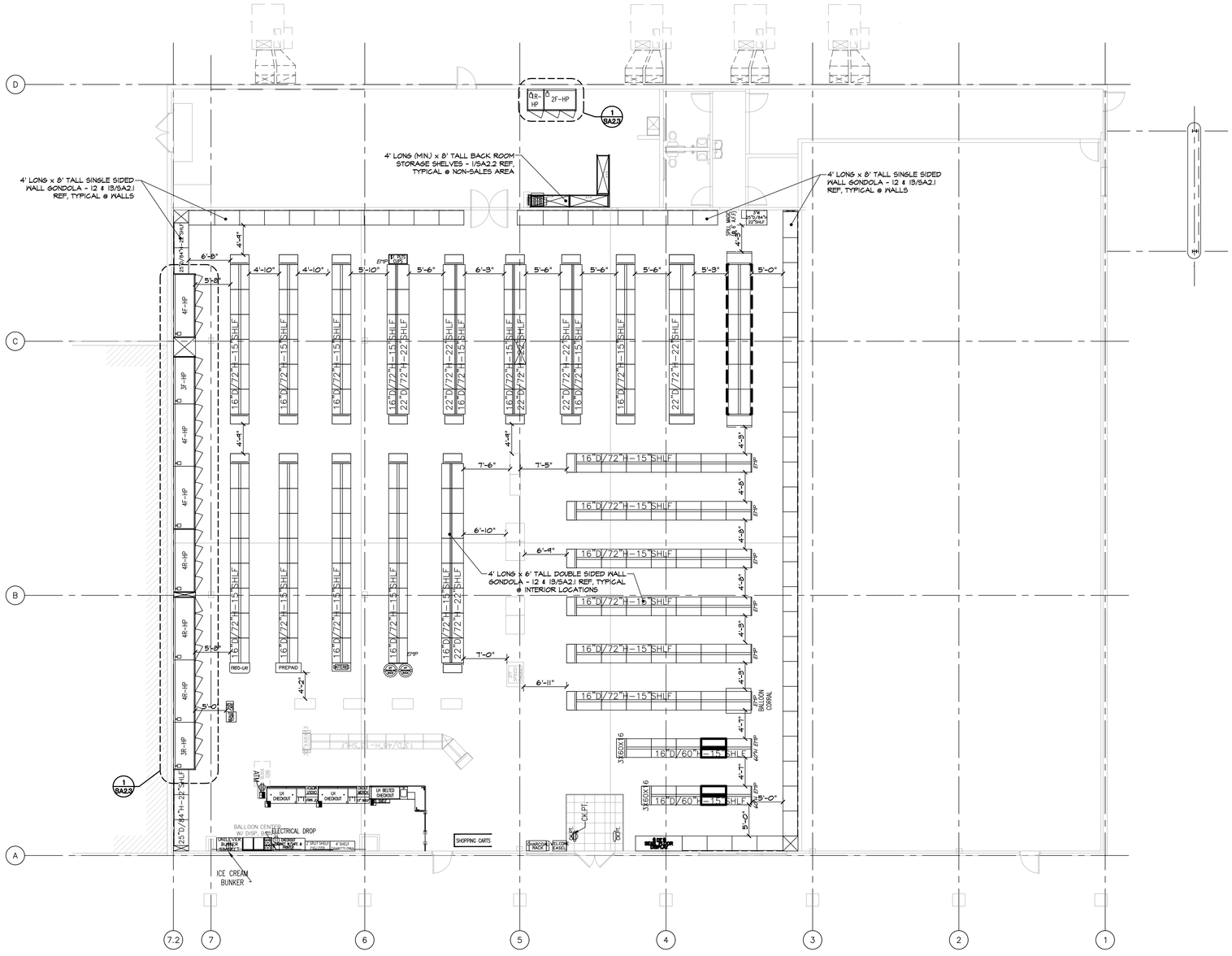
TYPE INDICATED	DECSRIPTION
	4' LONG x 6' TALL DOUBLE SIDED GONDOLA - I2 & I3/SA2.1 REF, TYPICAL @ INTERIOR LOCATIONS
	4' LONG x 8' TALL SINGLE SIDED WALL GONDOLA - I2 & I3/SA2.1 REF, TYPICAL @ WALLS
	3' LONG x 8' TALL SINGLE SIDED WALL GONDOLA - I2 & I3/SA2.1 REF, TYPICAL @ WALL **NOT USED**
	4' LONG (MIN.) x 8' TALL BACK ROOM STORAGE SHELVES - I/SA2.2 REF, TYPICAL @ NON-SALES AREA

NOTE:
FIXTURE PLAN IS PROVIDED FOR REFERENCE TO ANCHOR REQUIREMENTS. SEE ARCH'L FIXTURE PLAN FOR ALL INFORMATION NOT SHOWN.

NOTE:
SEE SA2.3 FOR FREEZER/COOLER ANCHORAGE REQUIREMENTS.

NOTE:
SEE SA2.1 FOR GONDOLA SHEALVING ANCHORAGE. SEE SA2.2 FOR BACKROOM SHELVING ANCHORAGE.

SPECIAL INSPECTION NOTE:
- SPECIAL INSPECTION REQUIRED FOR EPOXY AND EXPANSION ANCHOR INSTALLATION (PER ICC REPORT)



1 FIXTURE PLAN
SCALE: 1/8" = 1'-0"

BRAD YOUNG & ASSOCIATES, INC.
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mark	date	by	description

date 12/21/21
project 2101650
designed
drawn
checked

CASCO DIVERSIFIED CORPORATION
ARCHITECTURAL FIRM
LICENSE #000329
EXPIRES 12/31/21

CASCO DIVERSIFIED CORPORATION
ENGINEERING FIRM
LICENSE #000613
EXPIRES 12/31/21

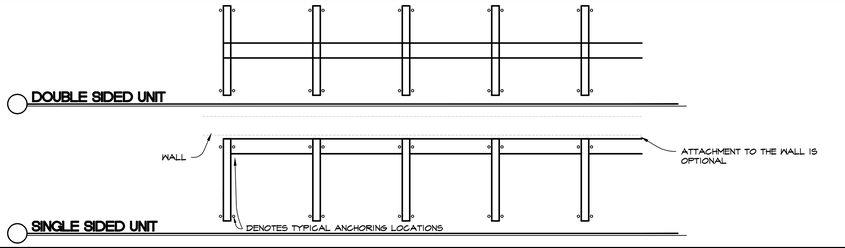
PROFESSIONAL OF RECORD
STATE OF MISSOURI
BRADLEY RAE YOUNG
NUMBER
PE-2005002178
PROFESSIONAL ENGINEER

BYA JOB # 21433

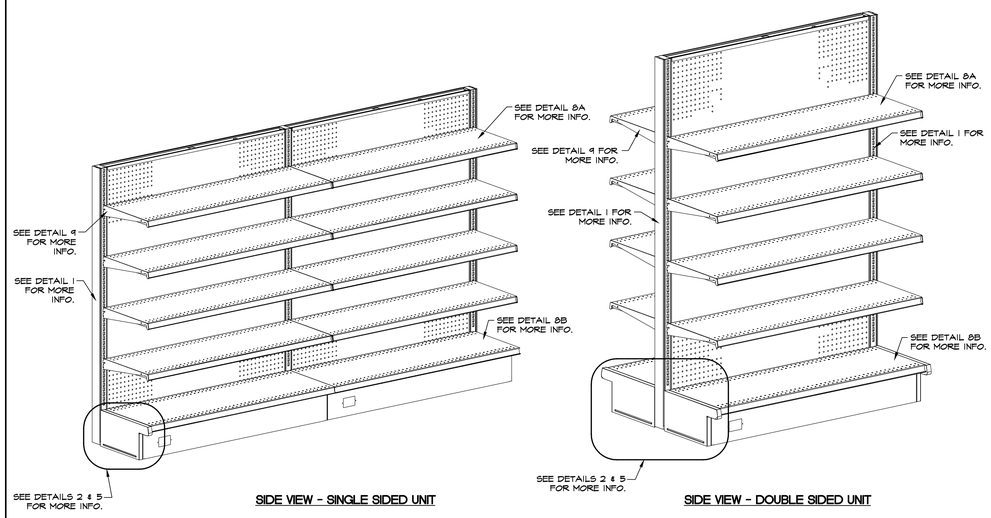
SIGNED AND STAMPED FOR GONDOLA LAYOUT REFERENCE FOR SEISMIC ANCHORAGE CALCULATIONS AND DETAILS

project FAMILY DOLLAR
603 E. Washington St. Hayti MO 63851
drawing FIXTURE PLAN

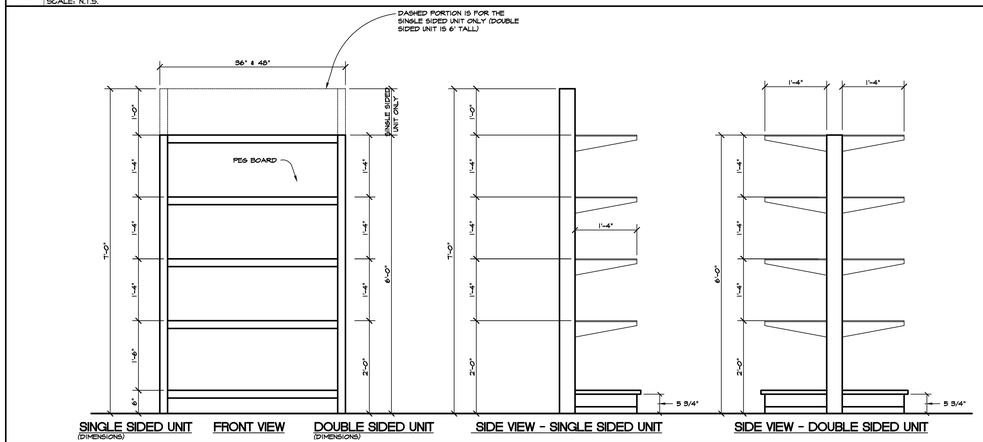
SA1.1



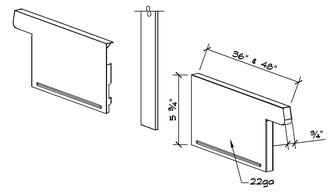
11 TOP VIEWS
SCALE: N.T.S.



12 GENERAL CONFIGURATION
SCALE: N.T.S.



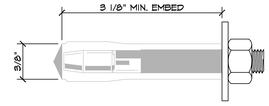
13 STORAGE FIXTURE ELEVATIONS
SCALE: N.T.S.



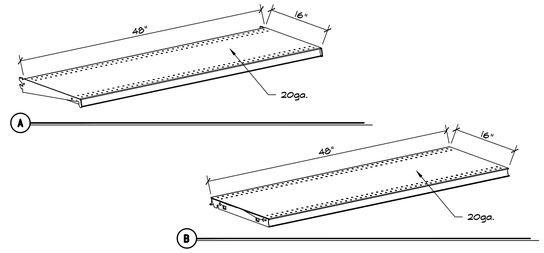
5 KICK PLATE
SCALE: N.T.S.

NOTE:
1. IF ANCHOR IS WITHIN 4" OF SLAB CONTROL JOINT (1/8" WIDE SAWCUT x 1" DEEP MAX.) USE 7/- ANCHOR.
2. IF ANCHOR IS WITHIN 4" OF SLAB EDGE OR CONSTRUCTION JOINT USE 7/- ANCHOR. ANCHORS ARE NOT ALLOWED WITHIN 2 1/2" OF SLAB EDGE OR CONSTRUCTION JOINT. CONTACT THE ENGINEER IF THIS CONDITION EXISTS

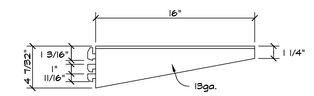
6 ANCHOR
SCALE: N.T.S.



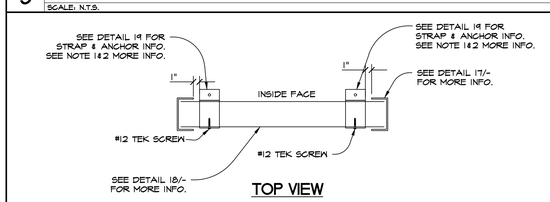
7 ANCHOR
SCALE: N.T.S.



8 SHELF
SCALE: N.T.S.



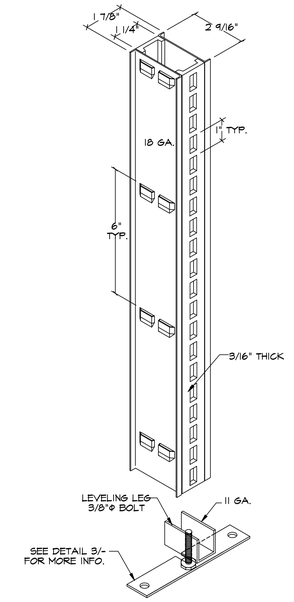
9 ARM
SCALE: N.T.S.



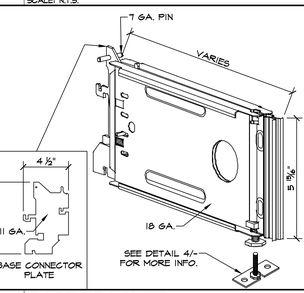
NOTE:
1. IF ANCHOR IS WITHIN 4" OF SLAB CONTROL JOINT (1/8" WIDE SAWCUT x 1" DEEP MAX.) USE 7/- ANCHOR.
2. IF ANCHOR IS WITHIN 4" OF SLAB EDGE OR CONSTRUCTION JOINT USE 7/- ANCHOR. ANCHORS ARE NOT ALLOWED WITHIN 2 1/2" OF SLAB EDGE OR CONSTRUCTION JOINT. CONTACT THE ENGINEER IF THIS CONDITION EXISTS

10 DETAIL
SCALE: N.T.S.

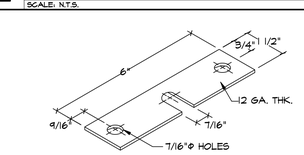
NOTES:
1. DESIGN PER SECTION 2209.1 OF THE 2018 IBC
   SITE CLASS D, S_s = 2.633
2. STORAGE CAPACITY:
   LIVE LOAD = 20# PER LEVEL (INTERIOR)
3. ASTM A570 FOR SHAPE Fy = 50,000 PSI GRADE 50.
4. ALL BOLTS A307 (UNLESS OTHERWISE NOTED).
5. ANCHOR HILTI KWIK BOLT TZ ICC REPORT ESR-1917 ~~OR APPROVED EQUAL (3/8"ø SIMPSON TITEN HD ANCHORS OK, ICC-ESR-2713)~~
6. SPECIAL INSPECTION IS REQUIRED FOR ANCHOR INSTALLATION.
7. CONCRETE 4" THICK x 2,500 PSI. CONTRACTOR TO VERIFY
8. SOIL BEARING PRESSURE 500 PSF



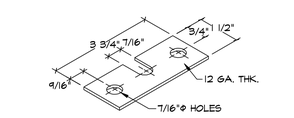
1 UPRIGHT
SCALE: N.T.S.



2 BASE BRACKET
SCALE: N.T.S.



3 ANCHOR PLATE (UPRIGHT)
SCALE: N.T.S.



4 ANCHOR PLATE (BASE FRONT)
SCALE: N.T.S.

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revisions			

date	12/21/21
project	2101650
designed	
drawn	
checked	

CASCO DIVERSIFIED CORPORATION
ARCHITECTURAL FIRM
LICENSE #000329
EXPIRES 12/31/21

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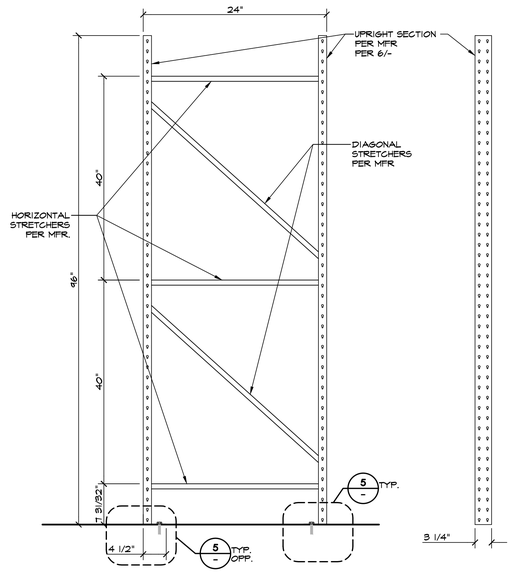
PROFESSIONAL OF RECORD
STATE OF MISSOURI
BRADLEY RAE YOUNG
NUMBER
PE-2005002178
PROFESSIONAL ENGINEER

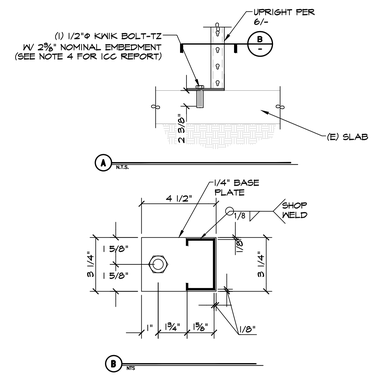
BYA JOB # 21433

project: FAMILY DOLLAR
603 E. Washington St. Hayti MO 63851
drawing: FIXTURE DETAILS

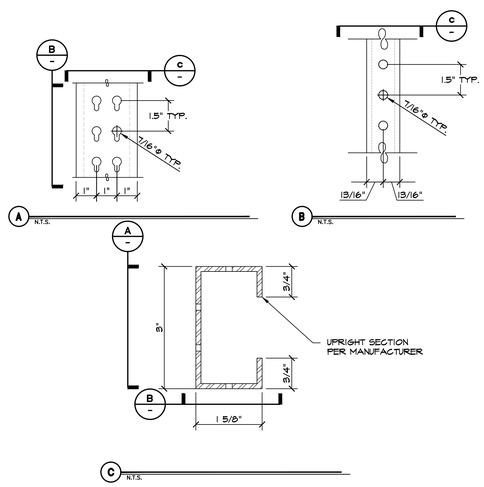
SA2.1



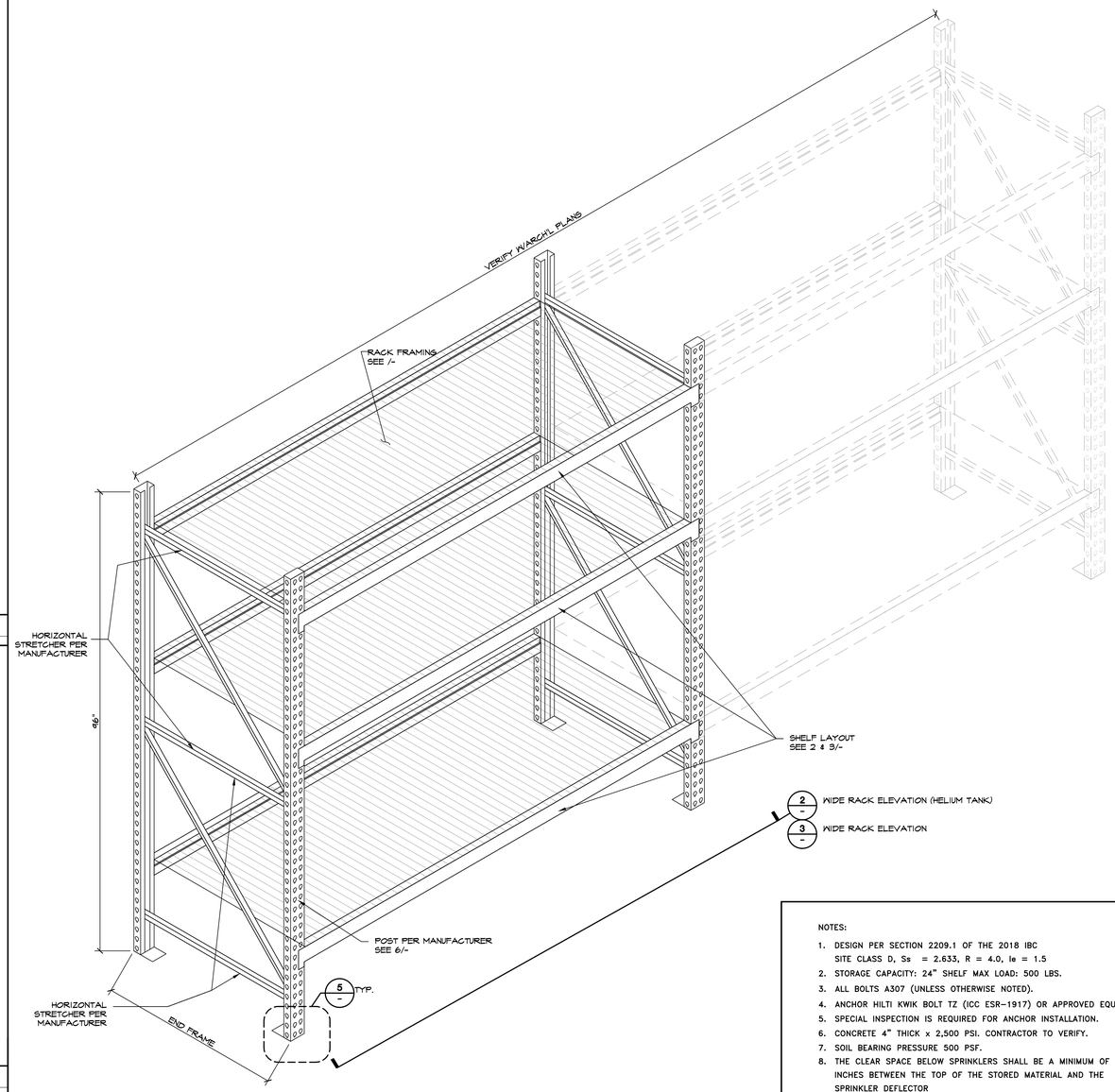
4 24" END FRAME
SCALE: 1" = 1'-0"



5 DETAIL
SCALE: N.T.S.



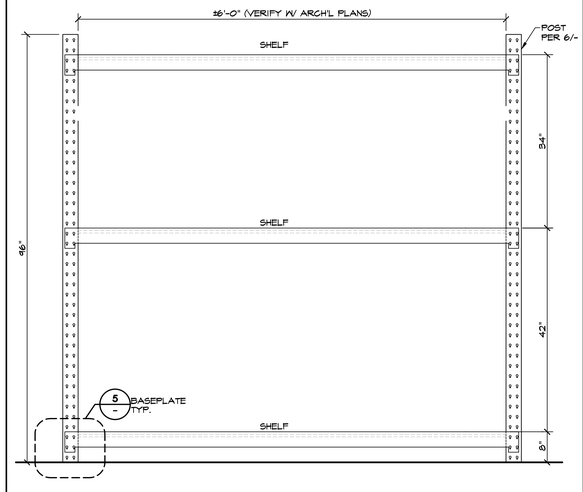
6 UPRIGHT SECTION
SCALE: N.T.S.



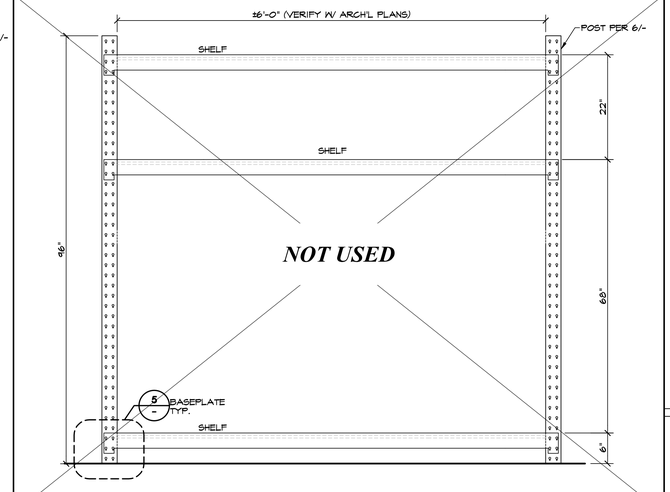
1 DETAIL - BACKROOM STORAGE RACKS
SCALE: N.T.S.

NOTES:

1. DESIGN PER SECTION 2209.1 OF THE 2018 IBC SITE CLASS D, Ss = 2.633, R = 4.0, Ie = 1.5
2. STORAGE CAPACITY: 24" SHELF MAX LOAD: 500 LBS.
3. ALL BOLTS A307 (UNLESS OTHERWISE NOTED).
4. ANCHOR HILTI KWIK BOLT TZ (ICC ESR-1917) OR APPROVED EQUAL.
5. SPECIAL INSPECTION IS REQUIRED FOR ANCHOR INSTALLATION.
6. CONCRETE 4" THICK x 2,500 PSI. CONTRACTOR TO VERIFY.
7. SOIL BEARING PRESSURE 500 PSF.
8. THE CLEAR SPACE BELOW SPRINKLERS SHALL BE A MINIMUM OF 18 INCHES BETWEEN THE TOP OF THE STORED MATERIAL AND THE SPRINKLER DEFLECTOR
9. ALL STEEL SHALL BE fy=50ksi



3 RACK ELEVATION (NO HELIUM TANK)
SCALE: N.T.S.



2 RACK ELEVATION (HELIUM TANK)
SCALE: N.T.S.

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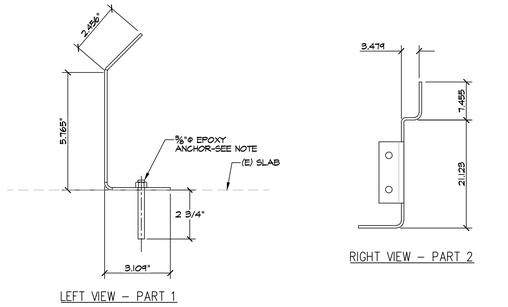
CASCO DIVERSIFIED CORPORATION ENGINEERING FIRM LICENSE #000613 EXPIRES 12/31/21

PROFESSIONAL OF RECORD
STATE OF MISSOURI BRADLEY RAE YOUNG NUMBER PE-2005002178 PROFESSIONAL ENGINEER

BYA JOB # 21433

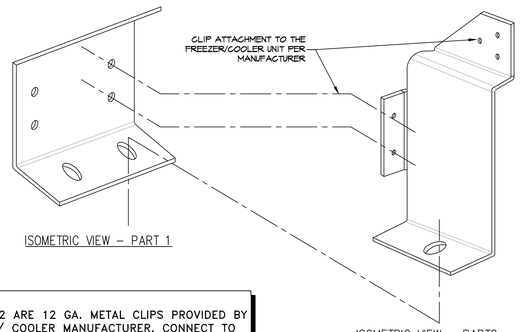
project FAMILY DOLLAR
603 E. Washington St. Hayti MO 63851
drawing FIXTURE DETAILS

SA2.2



LEFT VIEW – PART 1

RIGHT VIEW – PART 2



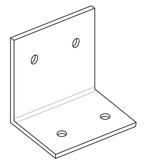
ISOMETRIC VIEW – PART 1

ISOMETRIC VIEW – PART2

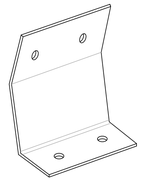
NOTE:
PARTS 1&2 ARE 12 GA. METAL CLIPS PROVIDED BY FREEZER / COOLER MANUFACTURER. CONNECT TO FREEZER / COOLER PER MANUFACTURER'S INSTRUCTIONS.

4 DETAILS - FRONT BRACKET

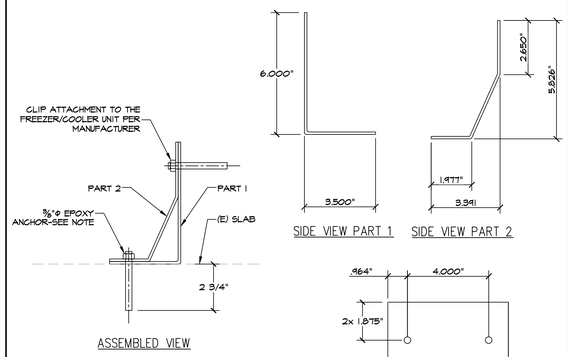
SCALE: N.T.S.



ISOMETRIC VIEW – PART 1



ISOMETRIC VIEW – PART 2



ASSEMBLED VIEW

SIDE VIEW PART 1

SIDE VIEW PART 2

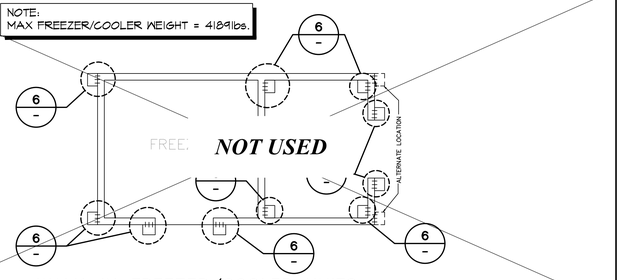
PLAN

NOTE:
PARTS 1&2 ARE 12 GA. METAL CLIPS PROVIDED BY FREEZER / COOLER MANUFACTURER. CONNECT TO FREEZER / COOLER PER MANUFACTURER'S INSTRUCTIONS.

2 DETAILS - REAR BRACKET

SCALE: N.T.S.

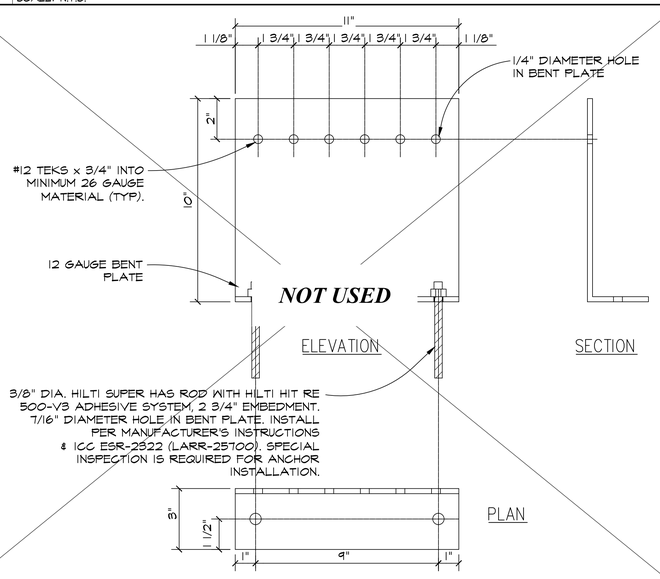
NOTE:
MAX FREEZER/COOLER WEIGHT = 41891bs.



WALK-IN FREEZER/COOLER UNITS

5 WALK-IN FREEZER/COOLER ANCHORAGE PLAN

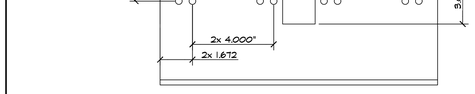
SCALE: N.T.S.



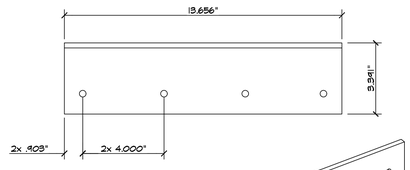
PLAN

6 DETAIL

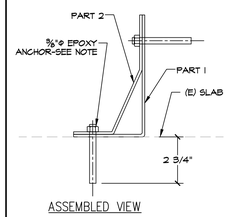
SCALE: N.T.S.



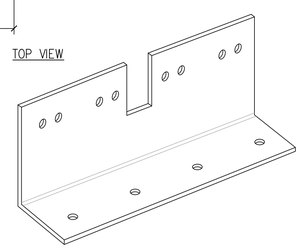
FRONT VIEW



TOP VIEW

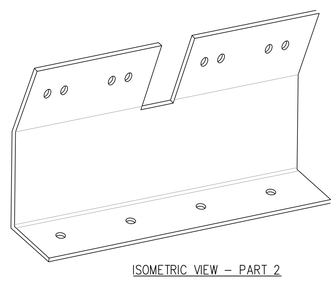


ASSEMBLED VIEW



ISOMETRIC VIEW – PART 1

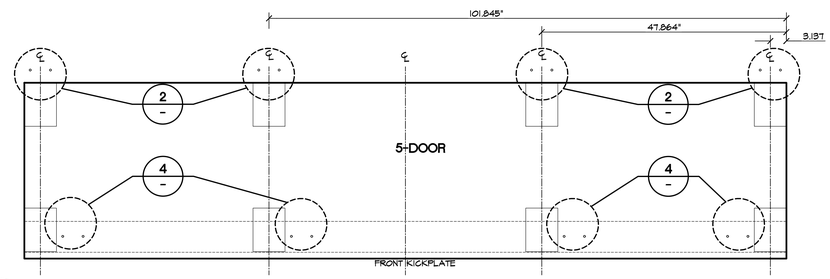
NOTE:
PARTS 1&2 ARE 12 GA. METAL CLIPS PROVIDED BY FREEZER / COOLER MANUFACTURER. CONNECT TO FREEZER / COOLER PER MANUFACTURER'S INSTRUCTIONS.

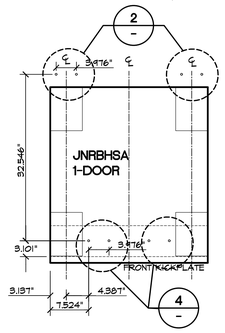


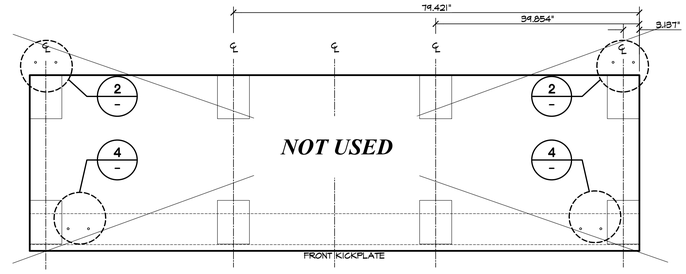
ISOMETRIC VIEW – PART 2

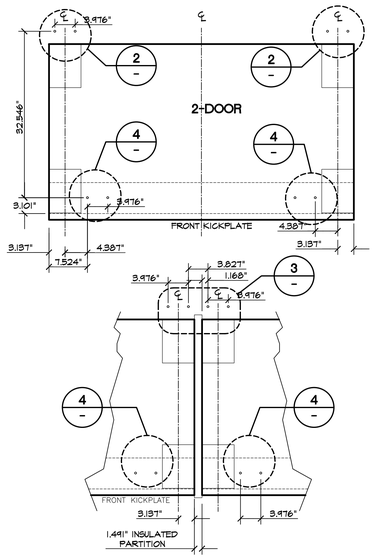
3 DETAILS REAR BRACKET

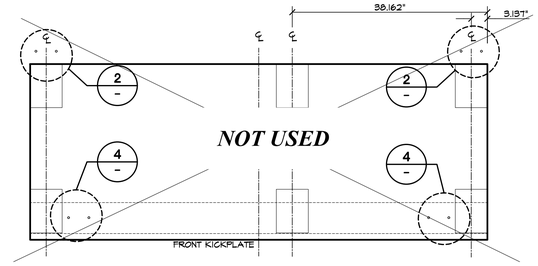
SCALE: N.T.S.

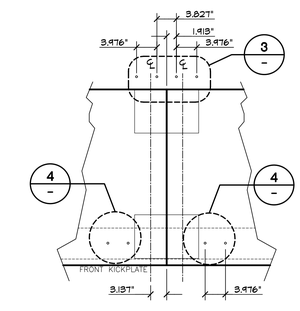












CASE LINEUP W/ INSULATED PARTITIONS

N.T.S.

CASE LINEUP W/O INSULATED PARTITIONS

N.T.S.

1 BASE FEET LAYOUT

SCALE: N.T.S.

ANCHOR NOTE:

REACH-IN FREEZER / COOLER ANCHORS ARE TO BE ⅜"ø ALL THREAD ROD. DRILL & EPOXY TO EXISTING SLAB WITH HILTI RE 500-V3 EPOXY W/ 2¾" EMBEDMENT.

NO SUBSTITUTIONS ALLOWED

SHELF LOADING LIMIT:

MAX. 100 LBS OF PRODUCT PER SHELF. TYP. AT ALL REACH-IN FREEZER/COOLER.

NOTE:
1. ANCHORAGE DESIGN PER THE 2018 IBC
2. SITE CLASS D, Ss = 2.633
3. ALL STEEL ANCHOR CLIPS ARE ASTM A570 Fy = 36,000 PSI (MIN.)
4. ALL BOLTS A307 (UNLESS OTHERWISE NOTED).
5. ANCHOR TO BE EPOXIED TO (E) SLAB WITH HILTI RE 500-V3 WITH 2 3/4" EMBEDMENT ICC ESR-3814 (LARR #26028) OR APPROVED EQUAL.
6. SPECIAL INSPECTION IS REQUIRED FOR ANCHOR INSTALLATION.
7. CONCRETE SLAB IS 4" THICK MIN. F'c=2,500 PSI.
8. SOIL BEARING PRESSURE 500 PSF
9. THIS DESIGN ONLY ADDRESSES THE ANCHORAGE OF THE FREEZER /COOLER UNITS (SHOWN IN DETAILS 1-2/-) TO RESIST SITE APPLICABLE SEISMIC OVERTURNING & SLIDING FORCES. THE FREEZER / COOLER UNITS ARE ASSUMED BY THIS DESIGN TO BE ABLE TO TRANSFER ALL APPLICABLE SEISMIC FORCES TO THE STEEL ANCHORAGE CLIPS SHOWN IN THE DETAILS. DESIGN OF THE STRUCTURE OF THE FREEZER/COOLER UNITS IS NOT PART OF THIS DESIGN AND IF REQ'D IS BY OTHERS.

BRAD YOUNG & ASSOCIATES, INC.
STRUCTURAL ENGINEERING
SAN JOSE, CA 95112
CLOVIS, CALIFORNIA 93612
PHONE: (559) 323-9600 FAX: (559) 323-9633

CASCO
12 Sunmeni Drive, Suite 100, St. Louis, MO 63143 T: 314.821.1100

mark	date	description
revisions		

date	12/21/21
project	2101650
designed	
drawn	
checked	

CASCO DIVERSIFIED CORPORATION
ARCHITECTURAL FIRM
LICENSE #000329
EXPIRES 12/31/21

CASCO DIVERSIFIED CORPORATION
ENGINEERING FIRM
LICENSE #000613
EXPIRES 12/31/21

PROFESSIONAL OF RECORD

STATE OF MISSOURI
BRADLEY RAE YOUNG
NUMBER PE-2005002178
PROFESSIONAL ENGINEER

BYA JOB # 21433

project: FAMILY DOLLAR
603 E. Washington St. Hayti MO 63851
drawing: FREEZER / COOLER ANCHORAGE

SA2.3

JNRBHSA

High Narrow Reach-In Self Contained Merchandiser
1, 2, 3, 4, 5 Door & 4' (Dairy/Deli/Beverage)

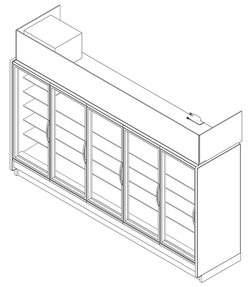
GENERAL NOTES:
- Lighting Controls and Anti Sweat Heat Controls are Required
- Option 1: OEM Provided:

Occupancy Sensor Based Lighting Controls (On/Off) & Hillphoenix provided embedded Anti Sweat Controls are standard, unless otherwise specified

- Option 2: End User Provided:

Lighting Controls should be Occupancy Sensor Based or on a minimum 8 Hour Off Schedule. Customer provided A/S Heat Controls should be set to 30% minimum off time at 75°F/55%RH

- 1 Door & 4' case lengths available in 120V R448A condensing unit configuration.
- 2,3,4 & 5 door lengths available in 208V R404A/R448A condensing unit configuration.



SHIPPING WEIGHT	
Case	Weight
JNRBHSA	----

2017 DOE COMPLIANT COMPONENT
ALL MEASUREMENTS ARE TAKEN PER ASHRAE-72-2005 SPECIFICATIONS. HILLPHOENIX REFRIGERATED DISPLAY CASES FOR SALE IN THE UNITED STATES MEET OR EXCEED DEPARTMENT OF ENERGY 2017 REQUIREMENTS.

JNRBHSA

Rev. Date	Rev. #	Rev. Title
10-16-19	11	DATA UPDATE
10-16-19	10	ENDVIEW UPDATE

Hillphoenix

REACH-IN FREEZER/COOLER SHEET 1 OF 8

JNRBHSA (R404A)

High Narrow Reach-In Self Contained Merchandiser
1, 2, 3, 4, 5 Door & 4' (Dairy/Deli/Beverage)

SYSTEM REQUIREMENT (R-404A REFRIGERANT)

Case Length	Volts	Phase	Frequency	Minimum Circuit Ampacity (MCA)	Maximum Overcurrent Protection (MOP)
2 Door	208	1	60	16.3	20
3 Door	208	1	60	16.5	20
4 Door	208	1	60	16.6	20
5 Door	208	1	60	18.4	20

*- 24 Hour Energy values includes evaporate fans, standard LEDs, anti-condensate heat & condensing unit

GUIDELINES AND CONTROL SETTINGS (R-404A REFRIGERANT)

Case Length	Application	Superheat Set Point @ Bulb (°F)	Discharge Air (°F)	Set Point Differential (°F)	Discharge Air Velocity (FPM)
2 - 5 Door	Beverage	6 - 8	35	6	230
2 - 5 Door	Dairy	6 - 8	30	6	230
2 - 5 Door	Deli	6 - 8	29	6	230

CONDENSING UNIT DATA (R-404A REFRIGERANT)

Case Length	Volts	Phase	Frequency	Horsepower	Running Load Amps (RLA) (Amps)	Locked Rotor Amps (LRA) (Amps)	Refrigerant	Lbs. of Refrigerant
2 Door	208	1	60	1/3	4.2	16.8	R404A	2.2
3 Door	208	1	60	1/3	4.2	16.8	R404A	2.6
4 Door	208	1	60	1/3	4.2	16.8	R404A	3.0
5 Door	208	1	60	1/2	5.3	26.5	R404A	3.5

DEFROST CONTROLS (R-404A REFRIGERANT)

Case Length	Defrosts Per Day	Run-Off Time (Min)	Fail-Safe (Min)	Termination Temp (F)
2 - 5 Door	2	0	46	44

DEFROST SCHEDULE (R-404A REFRIGERANT)

Defrosts Per Day	Time
2	12 a.m. - 12 p.m.

NOTES:
- "---" indicates that this feature is not an option on this case model.
- Listed discharge air velocity represents the average velocity at the peak of defrost.
- Temperature and defrost settings listed below are recommended start-up settings. Final operational settings may need to be adjusted for the store conditions in which the case operates.
- The recommended evaporator temperatures may need to be adjusted based on system setup, store conditions, etc. The minimum recommended evaporator temperature is 4°F below the listed evaporator temperature.
- The 24 Hour Energy Value is based upon AHRI 1200 test conditions with Hillphoenix provided Lights, occupancy sensor based (on/off) lighting control and dew point based anti sweat heat controller.

2017 DOE COMPLIANT COMPONENT
ALL MEASUREMENTS ARE TAKEN PER ASHRAE-72-2005 SPECIFICATIONS. HILLPHOENIX REFRIGERATED DISPLAY CASES FOR SALE IN THE UNITED STATES MEET OR EXCEED DEPARTMENT OF ENERGY 2017 REQUIREMENTS.

JNRBHSA (R404A)

Rev. Date	Rev. #	Rev. Title
10-16-19	11	DATA UPDATE
10-16-19	10	ENDVIEW UPDATE

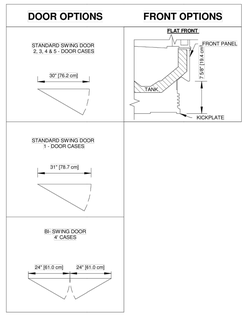
Hillphoenix

REACH-IN FREEZER/COOLER SHEET 2 OF 8

JNRBHSA

High Narrow Reach-In Self Contained Merchandiser
1, 2, 3, 4, 5 Door & 4' (Dairy/Deli/Beverage)

DOOR OPTIONS	FRONT OPTIONS
STANDARD SWING DOOR 2, 3, 4 & 5 - DOOR CASES	FLAT FRONT
STANDARD SWING DOOR 1 - DOOR CASES	
BI- SWING DOOR 4' CASES	



2017 DOE COMPLIANT COMPONENT
ALL MEASUREMENTS ARE TAKEN PER ASHRAE-72-2005 SPECIFICATIONS. HILLPHOENIX REFRIGERATED DISPLAY CASES FOR SALE IN THE UNITED STATES MEET OR EXCEED DEPARTMENT OF ENERGY 2017 REQUIREMENTS.

JNRBHSA

Rev. Date	Rev. #	Rev. Title
10-16-19	11	DATA UPDATE
10-16-19	10	ENDVIEW UPDATE

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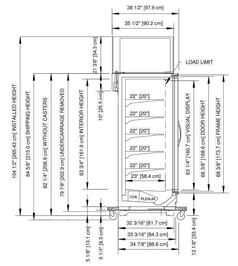
REACH-IN FREEZER/COOLER SHEET 3 OF 8

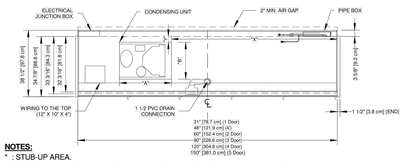
JNRBHSA

High Narrow Reach-In Self Contained Merchandiser
1, 2, 3, 4, 5 Door & 4' (Dairy/Deli/Beverage)



CONDENSING UNIT SIZE AND POSITION R404A				
REFRIGERANT	R404 A			
CASE LENGTH	2DR	3DR	4DR	5DR
"A"	19.5"	33.4"	48.3"	33"
"Y"	4.5"	4.5"	4.5"	4.5"
"A"	16.6"	16.6"	16.6"	16.1"
"B"	13.1"	13.1"	13.1"	13.7"

CONDENSING UNIT SIZE AND POSITION R448A						
REFRIGERANT	R448 A					
CASE LENGTH	1DR	2DR	3DR	4DR	5DR	4'
"A"	5"	14"	37"	37"	41"	5"
"Y"	2.5"	2"	2"	2"	2"	2.5"
"A"	14.1"	18.3"	18.3"	18.3"	18.3"	14.1"
"B"	12.1"	13.4"	13.4"	13.4"	13.4"	12.1"



NOTES:
* : STUB-UP AREA.
** : RECOMMENDED STUB-UP CENTERLINE FOR ELECTRICAL AND HUB DRAINS.

- Specialized Base Frame:
- Case fits through 80" doorway with shipping undercarriage removed.
- 2" lifting brackets (installed) & 3.25" ship loose risers combine for 5" baseframe once installed.
- Drain traps ship loose.
- Ends add approximately 1" to case height, 1/2" to the back & 1" to the front.

2017 DOE COMPLIANT COMPONENT
ALL MEASUREMENTS ARE TAKEN PER ASHRAE-72-2005 SPECIFICATIONS. HILLPHOENIX REFRIGERATED DISPLAY CASES FOR SALE IN THE UNITED STATES MEET OR EXCEED DEPARTMENT OF ENERGY 2017 REQUIREMENTS.

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Rev. Date	Rev. #	Rev. Title
10-16-19	11	DATA UPDATE
10-16-19	10	ENDVIEW UPDATE

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REACH-IN FREEZER/COOLER SHEET 4 OF 6

JNRZHSA

High Narrow Reach-In Self Contained Merchandiser
2, 3, 4 & 5 Door (Frozen Food)

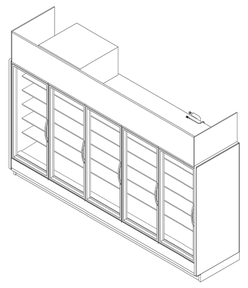
GENERAL NOTES:
- Lighting Controls and Anti Sweat Heat Controls are Required
- Option 1: OEM Provided:

Occupancy Sensor Based Lighting Controls (On/Off) & Hillphoenix provided embedded Anti Sweat Controls are standard, unless otherwise specified

- Option 2: End User Provided:

Lighting Controls should be Occupancy Sensor Based or on a minimum 8 Hour Off Schedule. Customer provided A/S Heat Controls should be set to 30% minimum off time at 75°F/55%RH

- 2,3,4, & 5 door case lengths are available in 208V R404A / R448A Condensing Unit Configuration



SHIPPING WEIGHT	
Case	Weight
JNRZHSA	----

2017 DOE COMPLIANT COMPONENT
ALL MEASUREMENTS ARE TAKEN PER ASHRAE-72-2005 SPECIFICATIONS. HILLPHOENIX REFRIGERATED DISPLAY CASES FOR SALE IN THE UNITED STATES MEET OR EXCEED DEPARTMENT OF ENERGY 2017 REQUIREMENTS.

JNRZHSA

Rev. Date	Rev. #	Rev. Title
10-17-19	7	ENDVIEW UPDATE
9-12-19	6	DATA UPDATE

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2 **REACH-IN FREEZER/COOLER SHEET 5 OF 8**

JNRZHSA (R404A)

High Narrow Reach-In Self Contained Merchandiser
2, 3, 4 & 5 Door (Frozen Food)

SYSTEM REQUIREMENT (R404A)

Case Length	Volts	Phase	Frequency	Minimum Circuit Ampacity (MCA)	Maximum Overcurrent Protection (MOP)
2 Door	208	1	60	24.1	30.0
3 Door	208	1	60	24.9	30.0
4 Door	208	1	60	29.8	30.0.
5 Door	208	1	60	30.0	30.0

*- 24 Hour Energy values includes evaporate fans, standard LEDs, anti-condensate heat & condensing unit

GUIDELINES AND CONTROL SETTINGS (R404A)

Case Length	Superheat Set Point @ Bulb (°F)	Set Point Differential (F)	Discharge Air (°F)	Discharge Air Velocity (FPM)
2 Door	3 - 5	6	- 9	300
3 Door	3 - 5	6	- 9	300
4 Door	3 - 5	6	- 9	300
5 Door	3 - 5	6	- 9	300

CONDENSING UNIT DATA (R404A)

Case Length	Volts	Phase	Frequency	Horsepower	Running Load Amps (RLA) (Amps)	Locked Rotor Amps (LRA) (Amps)	Refrigerant	Lbs. of Refrigerant
2 Door	208	1	60	3/4	9.0	43.0	R404A	2.8
3 Door	208	1	60	1	9.3	46.0	R404A	3.4
4 Door	208	1	60	1 1/4	12.6	55.0	R404A	3.7
5 Door	208	1	60	2	12.0	56.0	R404A	6.2

DEFROST CONTROLS (R404A)

	Electric Defrost		
Defrosts Per Day	Run Off Time (Min) Electric	Fail-Safe (Min)	Termination Temp (°F)
1	0	46	48

DEFROST SCHEDULE (R404A)

Defrosts Per Day	Time
1	12 midnight

NOTES:
- "---" indicates that this feature is not an option on this case model.
- Listed discharge air velocity represents the average velocity at the peak of defrost.
- Temperature and defrost settings listed below are recommended start-up settings. Final operational settings may need to be adjusted for the store conditions in which the case operates.
- The recommended evaporator temperatures may need to be adjusted based on system setup, store conditions, etc. The minimum recommended evaporator temperature is 4°F below the listed evaporator temperature.
- The 24 Hour Energy Value is based upon AHRI 1200 test conditions with Hillphoenix provided Lights, occupancy sensor based (on/off) lighting control and dew point based anti sweat heat controller.

2017 DOE COMPLIANT COMPONENT
ALL MEASUREMENTS ARE TAKEN PER ASHRAE-72-2005 SPECIFICATIONS. HILLPHOENIX REFRIGERATED DISPLAY CASES FOR SALE IN THE UNITED STATES MEET OR EXCEED DEPARTMENT OF ENERGY 2017 REQUIREMENTS.

JNRZHSA (R404A)

Rev. Date	Rev. #	Rev. Title
10-17-19	7	ENDVIEW UPDATE
9-12-19	6	DATA UPDATE

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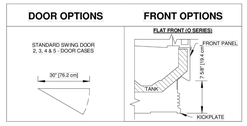
REACH-IN FREEZER/COOLER SHEET 6 OF 8

JNRZHSA

High Narrow Reach-In Self Contained Merchandiser
2, 3, 4 & 5 Door (Frozen Food)

DOOR OPTIONS	FRONT OPTIONS
STANDARD SWING DOOR 2, 3, 4 & 5 - DOOR CASES	FLAT FRONT (O SERIES)



2017 DOE COMPLIANT COMPONENT
ALL MEASUREMENTS ARE TAKEN PER ASHRAE-72-2005 SPECIFICATIONS. HILLPHOENIX REFRIGERATED DISPLAY CASES FOR SALE IN THE UNITED STATES MEET OR EXCEED DEPARTMENT OF ENERGY 2017 REQUIREMENTS.

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Rev. Date	Rev. #	Rev. Title
10-17-19	7	ENDVIEW UPDATE
9-12-19	6	DATA UPDATE

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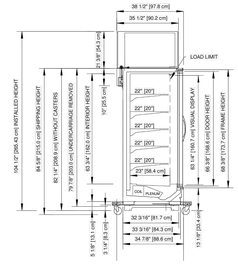
REACH-IN FREEZER/COOLER SHEET 7 OF 8

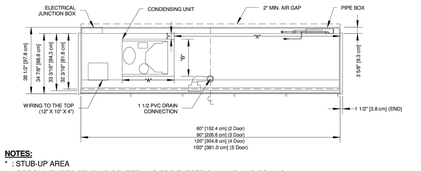
JNRZHSA

High Narrow Reach-In Self Contained Merchandiser
2, 3, 4 & 5 Door (Frozen Food)



CONDENSING UNIT SIZE AND POSITION R404A				
REFRIGERANT	R404 A			
CASE LENGTH	2DR	3DR	4DR	5DR
"A"	19.5"	33.4"	48.3"	33.0"
"Y"	5.5"	4.5"	4.5"	2.0"
"A"	17.5"	24.0"	24.0"	34.1"
"B"	14.4"	17.5"	17.1"	25.2"

CONDENSING UNIT SIZE AND POSITION R448A				
REFRIGERANT	R448 A			
CASE LENGTH	2DR	3DR	4DR	5DR
"A"	14.0"	39.0"	41.0"	41.0"
"Y"	2.0"	2.0"	2.0"	2.0"
"A"	18.0"	18.0"	24.0"	24.0"
"B"	16.0"	16.0"	24.0"	24.0"



NOTES:
* : STUB-UP AREA
** : RECOMMENDED STUB-UP CENTERLINE FOR ELECTRICAL AND HUB DRAINS

- Specialized Base Frame.
- Case fits through 80" doorway with shipping undercarriage removed.
- 2" lifting brackets (installed) & 3.25" ship loose risers combine for 5" baseframe once installled.
- Drain traps ship loose.
- Ends add approximately 1" to case height, 1/2" to the back & 1" to the front.

2017 DOE COMPLIANT COMPONENT
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Rev. Date	Rev. #	Rev. Title
10-17-19	7	ENDVIEW UPDATE
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REACH-IN FREEZER/COOLER SHEET 8 OF 8

CASCO
12 Summers Drive, Suite 100, St. Louis, MO 63143 T: 314.821.1100

mark	date	by	description

date 12/21/21
project 2101650
designed JLB
drawn JLB
checked CMS

PROFESSIONAL OF RECORD

FOR INFORMATION ONLY
NO SIGNATURE REQUIRED

PHONE: 314-621-1100

project FAMILY DOLLAR
603 E. Washington Street, Hayti, MO 63851
drawing REACH-IN UNITS DETAILS AND SPECIFICATIONS

FOR REFERENCE ONLY

DS1

LOW VOLTAGE WIRING SCOPE OF WORK

GENERAL: THE GENERAL CONTRACTOR WILL HIRE AND COORDINATE INSTALLATION OF LOW VOLTAGE WIRING USING FAMILY DOLLAR'S CLOSED SPEC VENDORS.

1. FAMILY DOLLAR CONSTRUCTION PROJECT MANAGER WILL PROVIDE THE DEVELOPER / ARCHITECT WITH THE ASSIGNED RISK CLASS AT TIME DEAL IS APPROVED AND TO BE CONFIRMED WITH THE FAMILY DOLLAR CONSTRUCTION PROJECT MANAGER AT CONSTRUCTION START.
2. THE ARCHITECT WILL INCLUDE SHEET LV-1.0 FOR RISK CLASS 0 THRU 3 OR LV-1.1 FOR RISK CLASS 4 LOCATIONS IN THE PERMITTED SET OF DRAWINGS.
3. THE GENERAL CONTRACTOR IS RESPONSIBLE FOR PULLING AND CLOSING LOW VOLTAGE PERMITS.
4. THE GENERAL CONTRACTOR WILL INSTALL 3/4" OR 1" CONDUIT WITH PULL STRING AT:
   A. FROM THE INTERIOR OF THE STORE DOOR'S TOP LEFT CORNER OF THE AUTOMATIC SLIDING DOOR TO TURNING OUT AT THE DECK LINE FOR BURGLAR ALARM
   B. FROM THE INTERIOR OF THE STORE DOOR'S TOP LEFT CORNER OF THE AUTOMATIC SLIDING DOOR TO TURNING OUT AT THE DECK LINE FOR CLOSED CIRCUIT TELEVISION (CCTV).
   C. FROM TOP EDGE OF NON-SWING SIDE OF ALL EXTERIOR DOORS TO TURNING OUT AT THE DECK LINE
   D. FROM BEHIND THE CASH WRAP 6' A.F.F. WITH A DUPLEX GANG BOX TO TURNING OUT AT THE DECK LINE FOR THE ALARM CONTROL PANEL
   E. ADDITIONAL CONDUIT NEXT TO THE LOW VOLTAGE POINT OF SALES (POS) RUN FOR PANIC ALARMS AT THE CASH WRAPS
5. THE DEVELOPER / GENERAL CONTRACTOR WILL CONTACT FAMILY DOLLAR APPROVED CONTRACTORS NO LATER THAN 9 WEEKS PRIOR TO POSSESSION (12 WEEKS PRIOR TO OPENING) TO SCHEDULE INSTALLATION TIMES WITH VENDORS.
   A) POS PHASE 1 WIRING RISK CLASS 0-4 BASED ON IT POS PHASE 1 VENDOR MAP (1-11-16).
      I) DIRECT SOURCE - CARRIE SMITH, 952-314-0405, CSMITH@DIRECTSOURCE.COM OR
      II) TELAID - KEVIN FRY, 770-903-6571, KFRY@TELAID.COM
   B) CCTV CAMERAS RISK CLASS 0 -3 - SECURITY SOURCE - JENNA ROGOFF, 978-284-2020
   C) CCTV CAMERAS RISK CLASS 4 - INTERFACE SECURITY SYSTEMS (ISS) - CARL VANWY, 940-536-9818
   D) BURGLAR ALARM WIRING RISK CLASS 0-4 - SECURITY SOURCE - JENNA ROGOFF, 978-284-2020
6. ALL LOW VOLTAGE WORK IS TO BE COMPLETED NO LESS THAN FOUR (4) WEEKS PRIOR TO FAMILY DOLLAR POSSESSION (7 WEEKS PRIOR TO OPENING).
7. PRIOR TO THE VENDORS ARRIVAL, THE COMMUNICATION BOARD, AND PERMANENT POWER AND PHONE LINES ARE TO BE INSTALLED.
8. THE POS PHASE 1 VENDOR WILL INSTALL THE TWO (2) CABINETS SUPPLIED BY ISS.
9. ISS, FAMILY DOLLAR'S FLAT RATE VENDOR, WILL HAVE THE NETWORK INSTALLED (IN ONE OF THE TWO (2) CABINETS) 4 WEEKS PRIOR TO POSSESSION (7 WEEKS PRIOR TO OPENING) AND TURNED ON THREE (3) WEEKS PRIOR TO POSSESSION (6 WEEKS PRIOR TO OPENING). THEY WILL DELIVER THE NETWORK CABINETS AT THE SAME TIME THE CASH WRAPS ARE SCHEDULED FOR DELIVERY - 5 WEEKS PRIOR TO POSSESSION (8 WEEKS PRIOR TO OPENING). THEY WILL USE THE DEVELOPER'S CONTACT AS LISTED ON THE DEVELOPER INFORMATION FORM (DIF) IN ACCRUENT FOR VERIFICATION OF POWER AND PHONE INSTALLS.
10. ALL LOCATIONS REGARDLESS OF RISK CLASS WILL HAVE TWO ADDITIONAL IG OUTLETS AND 4'X4' SHEET OF FIRE RETARDANT PLYWOOD (DVR BOARD) IN THE MANAGER'S OFFICE. THE BOARD IS TO BE MOUNTED ON THE SHORT WALL FURTHEST FROM THE OFFICE DOOR, WITH ONE EDGE OF THE BOARD IN THE CORNER. THE BOTTOM OF THE BOARD SHALL BE MOUNTED AT 2'6" A.F.F. THE GC WILL HANG THE DVR BOARD. SEE ELECTRICAL POWER PLAN FOR ADDITIONAL INFORMATION.
11. GENERAL CONTRACTOR WILL MAKE A SCISSORS LIFT AVAILABLE FOR THE VENDORS ON THE DAY OF THE INSTALL.
12. EACH LOW VOLTAGE VENDOR SHOULD COMPLETE THEIR WORK IN ONE DAY AND BE READY FOR INSPECTIONS AT THE END OF THE DAY. (RISK 4 LOCATIONS WILL TAKE 2 DAYS FOR CAMERA WIRING.)
13. ALL LOW VOLTAGE VENDORS WILL TERMINATE ENDS SO INSPECTIONS CAN BE COMPLETED AND RETURN TO MAKE FINAL INSTALLATION DURING STORE SET UP. A CHECKLIST DOCUMENT CONFIRMING ALL THE PHASE 1 WORK IS COMPLETED MUST BE COMPLETED FOR ONSITE REVIEW PRIOR TO LEAVING THE SITE.

CAMERA SYSTEM INSTALLATION REQUIREMENTS

CAMERAS - LEAVE 25' OF SLACK LOOP (FOR HORIZONTAL MOVE AT SAME HEIGHT) AT ALL CAMERA LOCATION ENDS. FOR ALL CAMERAS, POSITION VIEWS TO CAPTURE ITEMS LISTED IN CAMERA INSTALLATION POWER POINT PRESENTATION SUPPLIED BY FDS. INSTALL CAMERAS APPROXIMATELY 10'-14' A.F.F. (NO LESS THAN 10' A.F.F.).

GANZ RISK CLASS 0 AND 1:
- CAMERA #1 - ENTRANCE
- CAMERA #2 - REGISTER 1
- CAMERA #3 - REGISTER 2
- CAMERA #4 - OFFICE
- CAMERA #5 - HBA
- CAMERA #6 - HEIGHT STRIP
- CAMERA #7 - LAUNDRY
- CAMERA #8 - STOCKROOM

GANZ RISK CLASS 2 AND 3: CURRENTLY SHOWN ON PLANS
- CAMERA #1 - ENTRANCE
- CAMERA #2 - REGISTER 1
- CAMERA #3 - REGISTER 2
- CAMERA #4 - OFFICE
- CAMERA #5 - HBA
- CAMERA #6 - HEIGHT STRIP
- CAMERA #7 - LAUNDRY
- CAMERA #8 - STOCKROOM
- CAMERA #9 - APPAREL
- CAMERA #10 - COOLER
- CAMERA #11 - AIR FRESHENER/AUTO
- CAMERA #12 - FRONT EXTERIOR

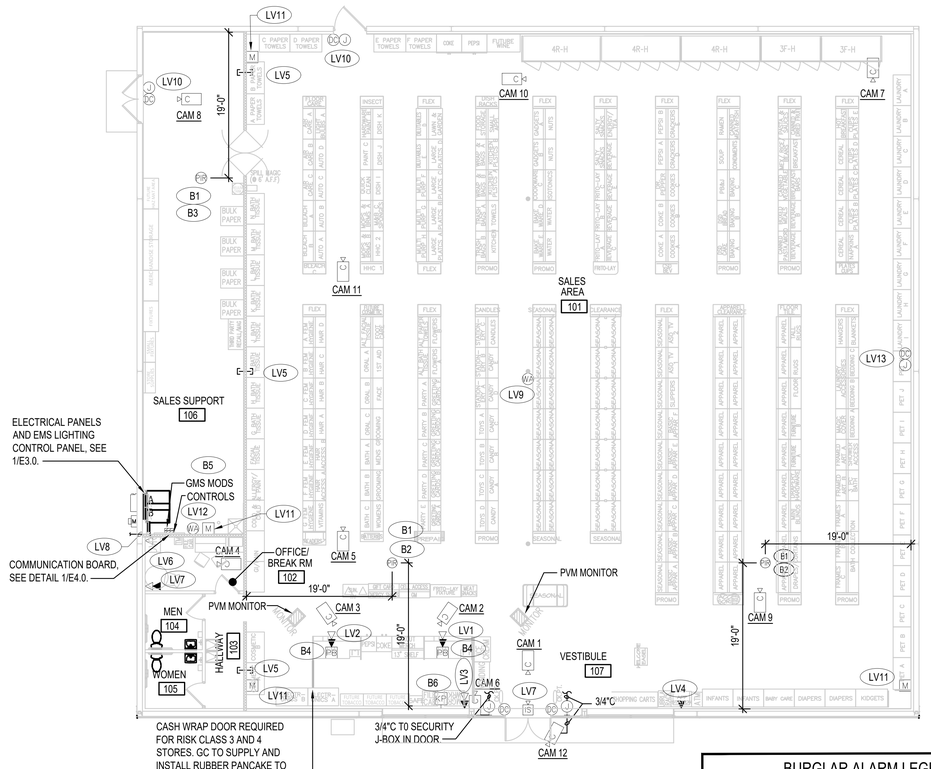
PVM'S - FOR ALL PVM'S, CONNECT CAMERAS TO PVM'S PER LISTED IN CAMERA INSTALLATION POWER POINT PRESENTATION SUPPLIED BY FDS. INSTALL PVM'S WHERE BOTTOM OF PVM IS APPROXIMATELY 9'-10' A.F.F. (BOTTOM OF PVM NO LESS THAN 9' A.F.F.).

GANZ RISK CLASS 0, 1 CAMERA SCHEMATICS AND INSTALLATION INSTRUCTIONS.
CURRENTLY USED BY SECURITY SOURCE TO INSTALL GANZ 16HD DVR - 8 CAMERAS AND 2 PVMS.

GANZ RISK CLASS 2, 3 CAMERA SCHEMATICS AND INSTALLATION INSTRUCTIONS. (LAYOUT AS DRAWN)
CURRENTLY USED BY SECURITY SOURCE TO INSTALL GANZ 16HD DVR - 12 CAMERAS AND 2 PVMS.

CAT5E CABLE INSTALLATION REQUIREMENTS

1. CAT5E CABLES SHOULD BE KEPT AT LEAST 12 INCHES FROM ELECTRICAL LINES AND OUTLETS. AVOID ATTACHING CAT5E TO THE OUTSIDE OF POWER CONDUIT OR HANGING IT NEXT TO EXPOSED LINES. IN OPEN SPACES ABOVE DROP CEILINGS, DO NOT ALLOW CAT5E CABLE TO REST ON TOP OF FLUORESCENT LIGHT FIXTURES.
2. CAT5E CABLES CANNOT BE LAID ON TOP OF THE CEILING TILES OR GRID. THE CABLE SHOULD NEVER BE BENT TO LESS THAN A 1-INCH RADIUS. THIS ALSO CAN LEAD TO WEAKENED OR BROKEN CONDUCTORS. CARE SHOULD BE TAKEN WHEN PULLING CABLES IN TO ENSURE THAT THEY ARE NOT KINKED OR NICKED. WHEN HANGING THE CABLES, AVOID CRIMPING THE CONDUCTOR WIRES. DO NOT USE STAPLES. USE CARE NOT TO OVER-TIGHTEN PLASTIC CABLE TIES. TYING CABLES TO CEILING TILE GRID HANGERS IS NOT PERMITTED. CABLES SHOULD BE TIED TO THE BUILDING SUPPORT STEEL AT A MINIMUM OF 5 FOOT INTERVALS. CABLE TIES SHOULD ONLY BE FINGER TIGHT TO AVOID CRUSHING THE CABLES AS THIS COULD AFFECT THE CABLES PERFORMANCE CHARACTERISTICS. DO NOT USE CABLE TIE GUNS OR STAPLE GUNS. ALL TERMINATING SHOULD BE CARRIED OUT ACCORDING TO THE MANUFACTURERS' INSTRUCTIONS AND GUIDELINES, AND THE STANDARDS FOR GENERIC CABLING SYSTEMS. THE CABLE SHEATH SHOULD BE STRIPPED BACK NO MORE THAN ½ INCH FROM THE POINT OF TERMINATION AND THE TWIST RATES SHOULD BE MAINTAINED. ALL PAIRS SHALL BE TERMINATED. STANDARDS SET FORTH BY EIA/TIA 568B DEFINE THE ACCEPTABLE WIRING AND COLOR-CODING SCHEMES FOR CAT5E CABLES. NO SPLICING, TAPPING OR BRIDGING DEVICES SHALL BE USED BETWEEN SPECIFIED CONNECTING HARDWARE. HOMERUN ALL CABLES FROM THE NETWORK EQUIPMENT DIRECTLY TO THE EQUIPMENT LOCATIONS WITHOUT ANY SPLICES OR JUNCTIONS IN BETWEEN THEM. CABLE INSTALLATION AND TERMINATION METHODS SHALL BE COMPLETED IN A MANNER THAT WILL NOT DEGRADE THE CABLE SPECIFICATION. ALL TERMINATIONS SHALL BE INSERTED BY THE USE OF THE PROPER TOOL.
3. ALL CAT5E CABLING MUST ADHERE TO EIA/TIA STANDARDS AND THE CURRENT NATIONAL ELECTRIC CODE (NEC).
4. PUNCH ALL CABLES TO THE 24-PORT PUNCH PANEL IN THE ISS NETWORK ENCLOSURE. PUNCH ALL CABLES AT THE DEVICE END. ATTACH THE NETWORK PATCH CABLES. ATTACH THE DEVICE PATCH CABLES. TEST THE CAT5E CABLES WITH THE PATCH CABLES ATTACHED AND TEST FOR PASS/FAIL AND CABLE LENGTH.

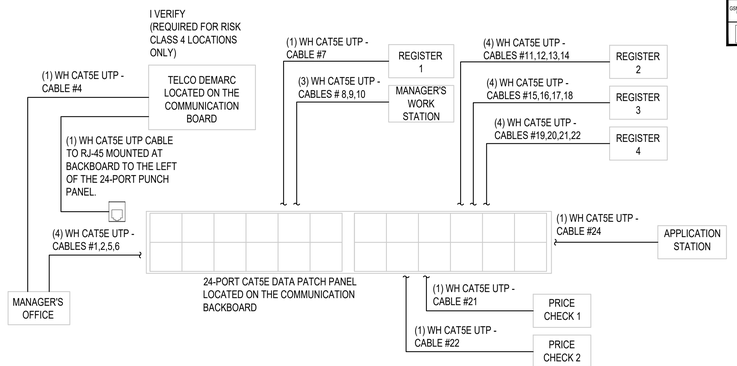


LOW VOLTAGE PLAN

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

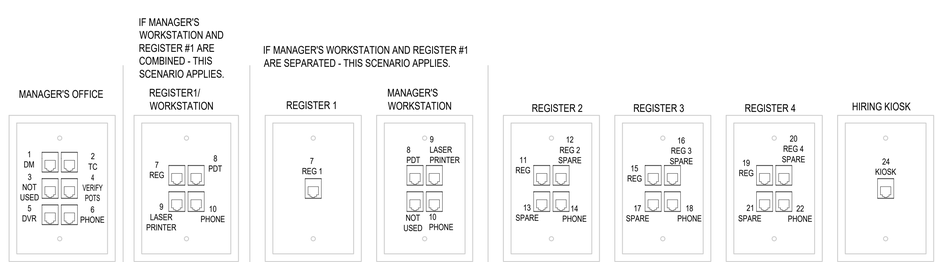
BURGLAR ALARM LEGEND

SYMBOL	DESCRIPTION	QUANTITY
DC	DOOR CONTACT	4
KP	KEYPAD WITH WIRELESS RECEIVER	1
IS	INDOOR SIREN	1
PB	WIRELESS PANIC BUTTON	2
PIR	CEILING MOUNTED MOTION	3
CONTROL PANEL	SECURITY CONTROL PANEL	1
GSM MOD	GSM MODULE MOUNTED INSIDE CONTROL PANEL	1
M	BURGULAR ALARM MOTION SENSOR	4



3 DATA CABLING RISER DIAGRAM

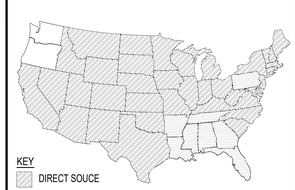
SCALE: NONE



4 RJ45 FACEPLATE PORT LAYOUT

SCALE:

IT POS PHASE 1 VENDORS (1-11-16)



LV# LOW VOLTAGE TAGGED NOTES

1. FURNISH AND INSTALL (1) CAT5E CABLE AND RJ45 TERMINATION PLUG FOR CASHIER'S MODULE #1 FROM THE STORE'S NETWORK ENCLOSURE. A 20' SERVICE LOOP IS TO BE NEATLY COILED, TIE-WRAPPED, AND ATTACHED TO THE BUILDING SUPPORT STEEL AT CASH-LANE #1 LOCATION. A 5' SERVICE LOOP IS TO BE NEATLY COILED, TIE-WRAPPED, AND ATTACHED TO THE BUILDING SUPPORT STEEL ABOVE THE NETWORK EQUIPMENT ENCLOSURE.
2. FURNISH AND INSTALL (4) CAT5E CABLES AND RJ45 TERMINATION PLUGS FOR CASHIER'S MODULE #2 FROM THE STORE'S NETWORK ENCLOSURE. A 20' SERVICE LOOP IS TO BE NEATLY COILED, TIE-WRAPPED, AND ATTACHED TO THE BUILDING SUPPORT STEEL AT CASH-LANE #2 LOCATION. A 5' SERVICE LOOP IS TO BE NEATLY COILED, TIE-WRAPPED, AND ATTACHED TO THE BUILDING SUPPORT STEEL ABOVE THE NETWORK EQUIPMENT ENCLOSURE.
3. FURNISH AND INSTALL (3) CAT5E CABLES AND RJ45 TERMINATION PLUGS FOR MANAGER'S WORKSTATION FROM THE STORE'S NETWORK ENCLOSURE. A 20' SERVICE LOOP IS TO BE NEATLY COILED, TIE-WRAPPED, AND ATTACHED TO THE BUILDING SUPPORT STEEL AT MANAGER'S WORKSTATION LOCATION. A 5' SERVICE LOOP IS TO BE NEATLY COILED, TIE-WRAPPED, AND ATTACHED TO THE BUILDING SUPPORT STEEL ABOVE THE NETWORK EQUIPMENT ENCLOSURE.
4. FURNISH AND INSTALL (1) CAT5E CABLE AND RJ45 TERMINATION PLUG FOR THE APPLICATION STATION FROM THE STORE'S NETWORK ENCLOSURE. A 20' SERVICE LOOP IS TO BE NEATLY COILED, TIE-WRAPPED, AND ATTACHED TO THE BUILDING SUPPORT STEEL AT APPLICATION STATION LOCATION. A 5' SERVICE LOOP IS TO BE NEATLY COILED, TIE-WRAPPED, AND ATTACHED TO THE BUILDING SUPPORT STEEL ABOVE THE NETWORK EQUIPMENT ENCLOSURE.
5. PROVIDE A (1") ONE FOOT PIECE OF 3" EMPTY CONDUIT RUNNING THROUGH THE WALL AT LOCATIONS AS SPECIFIED ON THE PLANS. ALL CONDUITS SHALL BE LOCATED 6" TO BOTTOM OF PURLINS. PROVIDE FIRE CAULK AND CAP OFF CONDUIT FOR FUTURE USE BY FAMILY DOLLAR.
6. FURNISH AND INSTALL (5) CAT5E CABLES AND RJ45 TERMINATION PLUGS FOR THE MANAGERS OFFICE FROM THE STORE'S NETWORK ENCLOSURE. A 20' SERVICE LOOP IS TO BE NEATLY COILED, TIE-WRAPPED, AND ATTACHED TO THE BUILDING SUPPORT STEEL AT MANGERS OFFICE LOCATION. A 5' SERVICE LOOP IS TO BE NEATLY COILED, TIE-WRAPPED, AND ATTACHED TO THE BUILDING SUPPORT STEEL ABOVE THE TELCO DEMARC.
7. MOUNT ALL DATA OUTLETS IN OFFICE AT 24" A.F.F.
8. PROVIDE 1" CONDUIT WITH PULL STRING THROUGH EXTERIOR WALL AT LOCATION SHOWN AT PANELBOARDS FOR FUTURE ANTENNA CONNECTION. COORDINATE MOUNTING HEIGHT WITH FDS CONSTRUCTION REPRESENTATIVE.
9. FURNISH AND INSTALL (1) CAT5E CABLE AND RJ45 TERMINATION PLUG FOR THE WIRELESS ACCESS POINT (WAP) FROM THE STORE'S NETWORK ENCLOSURE. A 20' SERVICE LOOP IS TO BE NEATLY COILED, TIE-WRAPPED, AND ATTACHED TO THE BUILDING SUPPORT STEEL ABOVE THE WIRELESS ACCESS POINT LOCATION. A 5' SERVICE LOOP IS TO BE NEATLY COILED, TIE-WRAPPED, AND ATTACHED TO THE BUILDING SUPPORT STEEL ABOVE THE NETWORK EQUIPMENT ENCLOSURE. THE WIRELESS ACCESS POINT SHOULD BE MOUNTED ON THE CENTER COLUMN IN THE SALES AREA BETWEEN 10'-0" AND 11'-0" AFF USING A COLUMN STRAP. THERE SHOULD NOT BE ANY POWER OR CONDUITS ATTACHED TO THE CENTERMOST COLUMN ABOVE 9'-6" AFF. THE WAP WILL BE INSTALLED BY INTERFACE SECURITY SYSTEMS (ISS).
10. PROVIDE JUNCTION BOX WITH 3/4" CONDUIT WITH PULL STRING ABOVE DOOR FOR WIRING OF DOOR CONTACTS. ROUTE CONDUITS TO COMMUNICATION BOARD. PAINT JUNCTION BOX AND EXPOSED CONDUIT TO MATCH WALL COLOR.
11. PROVIDE JUNCTION BOX AND 3/4" CONDUIT WITH PULL STRING AND COVERPLATE AT 9'-0" AFF FOR BURGLAR ALARM MOTION SENSORS. ROUTE CONDUITS TO COMMUNICATION BOARD. COVERPLATE TO MATCH WALL COLOR.
12. FURNISH AND INSTALL (1) CAT5E CABLE AND RJ45 TERMINATION PLUG FOR THE WIRELESS ACCESS POINT (WAP) FROM THE STORE'S NETWORK ENCLOSURE. A 20' SERVICE LOOP IS TO BE NEATLY COILED, TIE-WRAPPED, AND ATTACHED TO THE BUILDING SUPPORT STEEL ABOVE THE WIRELESS ACCESS POINT LOCATION. A 5' SERVICE LOOP IS TO BE NEATLY COILED, TIE-WRAPPED, AND ATTACHED TO THE BUILDING SUPPORT STEEL ABOVE THE NETWORK EQUIPMENT ENCLOSURE. THE WIRELESS ACCESS POINT SHOULD BE MOUNTED ON THE WALL ABOVE THE COMMUNICATION BOARD BETWEEN 10'-0" AND 11'-0" AFF. THE WAP WILL BE INSTALLED BY INTERFACE SECURITY SYSTEMS (ISS).
13. PROVIDE JUNCTION BOX WITH 3/4" CONDUIT WITH PULL STRING ABOVE FIREMAN ACCESS DOOR (IF PRESENT) FOR WIRING OF DOOR CONTACTS. ROUTE CONDUITS TO COMMUNICATION BOARD. PAINT JUNCTION BOX AND EXPOSED CONDUIT TO MATCH WALL COLOR.

NOTE:
FLOOR PLAN SHOWN IS TO INDICATE SCOPE OF WORK ONLY AND MAY DIFFER FROM ACTUAL FLOOR PLAN. LOW VOLTAGE CONTRACTORS SHALL OBTAIN MOST RECENT STORE SPECIFIC FIXTURE PLAN FROM FD PROJECT MANAGER AND COORDINATE FINAL LOCATION OF ALL LOW VOLTAGE EQUIPMENT PRIOR TO BEGINNING WORK. LOW VOLTAGE CONTRACTORS SHALL BE RESPONSIBLE FOR COMMISSIONING THEIR WORK AND ASSURING THAT THE SYSTEMS INSTALLED FUNCTION TO FD'S SATISFACTION AND REQUIREMENTS.

ALL EMPTY CONDUIT RUNS AND ADDITIONAL ELECTRICAL POWER DEVICES NOT SHOWN ON POWER PLANS, BUT LISTED ON THIS SHEET TO BE PROVIDED AND INSTALLED BY GC/EC. ALL SECURITY DEVICES ARE TO BE PROVIDED BY SECURITY VENDOR.

WHILE PULLING LOW VOLTAGE CABLE IN EMPTY CONDUITS, PROVIDE ADDITIONAL PULL STRING AT ENTIRE LENGTH OF CONDUIT FOR POSSIBLE FUTURE CABLE INSTALLATION.

JAMB CAM NOTE:
ENTRY DOOR SHALL BE ORDERED WITH A JAMB CAM INSTALLED. THIS WILL HOOK INTO THE CAMERA MONITORING SYSTEM AT THE STORE. CAMERA HOOKUP WILL BE BY LOW VOLTAGE VENDOR.

B# BURGLAR ALARM TAGGED NOTES:

1. IF THE CEILING DOES NOT ALLOW FOR 12'-0" A.F.F. MOUNTING THEN FLUSH MOUNT ON CEILING AT MAXIMUM HEIGHT AND PLACE MOTION SO IT'S PATTERN DOES NOT REACH THE FRONT GLASS WALL.
2. 360° PIR, PENDANT MOUNT @ 12'-0" A.F.F. 19'-0" FROM STORE FRONT AND 19'-0" FROM SIDE WALL.
3. 360° PIR, PENDANT MOUNT @ 12'-0" A.F.F. 19'-0" FROM REAR DOOR, CENTERED IN SALES SUPPORT.
4. WIRELESS PANICS SHALL BE MOUNTED UNDER THE FRONT COUNTER AT EACH REGISTER.
5. CONTROL PANEL SHALL BE MOUNTED IN THE STOCKROOM NEXT TO THE DATA RACK IN THE REAR OF STORE. LOCATE MAIN CONTROLS AT TELCO DEMARQ.
6. KEYPAD TO BE MOUNTED AT THE FRONT OF THE STORE NEAREST PROXIMITY TO THE NEAREST REGISTER.
7. SIREN WILL BE MOUNTED ABOVE THE SALES FLOOR ENTRY DOOR @ 8'-0" A.F.F. ON THE SALES FLOOR SIDE CENTRALLY LOCATED.

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12 Sunmen Drive, Suite 100, St. Louis, MO 63143 T: 314.821.1100

mark	date	description
		by

date	12/21/21
project	2101650
designed	
drawn	
checked	

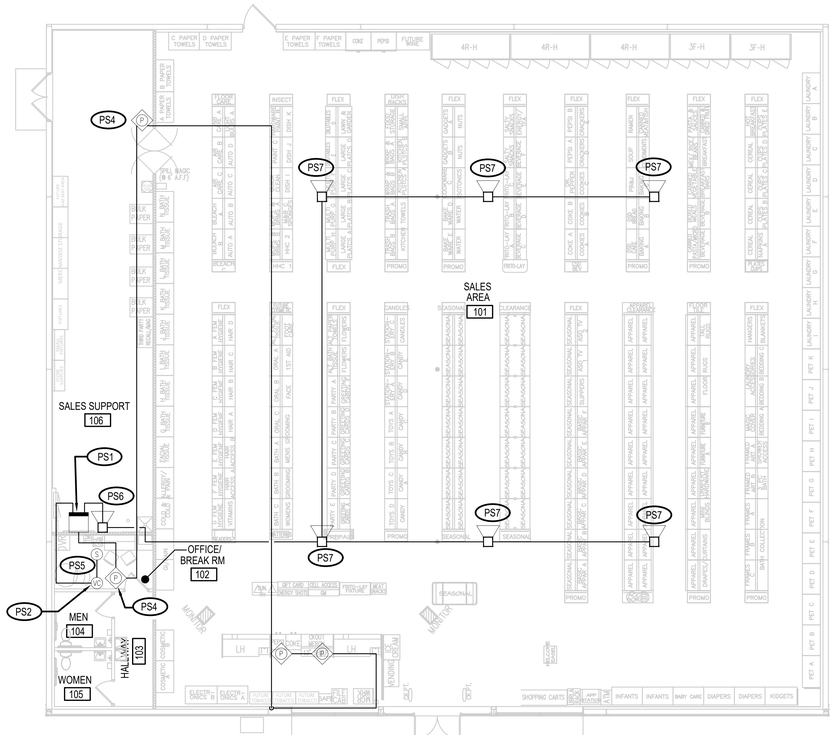
PROFESSIONAL OF RECORD

FOR INFORMATION ONLY

PHONE: 314-821-1100

project: FAMILY DOLLAR
603 E. Washington Street, Hayti, MO 63851
drawing: ELECTRICAL LOW VOLTAGE PLAN

LV1



PAGING SYSTEM PLAN

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

(PS#) PAGING SYSTEM TAGGED NOTES:

1. INSTALL HEAD END (AMP AND CONTROLLER) AT THE TOP RIGHT CORNER OF THE COMMUNICATION BOARD.
2. INSTALL WALL MOUNTED ATTENUATOR (VOLUME CONTROL) IN OFFICE NEXT TO EMS OPEN/CLOSE PUSHBUTTON. EC/GC TO PROVIDE JUNCTION BOX IN WALL AT 48" AFF WITH 3/4" CONDUIT WITH PULL STRING UP IN WALL TO 12'-0" AFF.
3. INSTALL WALL MOUNTED PAGING PHONE IN SALES SUPPORT AREA NEXT TO RECEIVING DOOR. EC/GC TO PROVIDE JUNCTION BOX IN WALL AT 48" AFF WITH 3/4" CONDUIT WITH PULL STRING UP IN WALL TO 12'-0" AFF.
4. INSTALL WALL MOUNTED PAGING PHONE IN OFFICE NEXT TO EMS OPEN/CLOSE PUSHBUTTON. EC/GC TO PROVIDE JUNCTION BOX IN WALL AT 48" AFF WITH 3/4" CONDUIT WITH PULL STRING UP IN WALL TO 12'-0" AFF.
5. INSTALL RECESSED CEILING SPEAKER IN OFFICE. CENTER WITHIN ACOUSTICAL CEILING TILE.
6. INSTALL PAGING HORN IN SALES SUPPORT AREA AT 12'-0" AFF. CENTER ON BACK WALL.
7. INSTALL (6) PAGING HORNS IN SALES AREA. MOUNT TO BOTTOM OF MAIN FRAME BEAMS.

NOTE:

FLOOR PLAN SHOWN IS TO INDICATE SCOPE OF WORK ONLY AND MAY DIFFER FROM ACTUAL FLOOR PLAN. LOW VOLTAGE CONTRACTORS SHALL OBTAIN MOST RECENT STORE SPECIFIC FIXTURE PLAN FROM FD PROJECT MANAGER AND COORDINATE FINAL LOCATION OF ALL LOW VOLTAGE EQUIPMENT PRIOR TO BEGINNING WORK. LOW VOLTAGE CONTRACTORS SHALL BE RESPONSIBLE FOR COMMISSIONING THEIR WORK AND ASSURING THAT THE SYSTEMS INSTALLED FUNCTION TO FD'S SATISFACTION AND REQUIREMENTS.

ALL EMPTY CONDUIT RUNS AND ADDITIONAL ELECTRICAL POWER DEVICES NOT SHOWN ON POWER PLANS, BUT LISTED ON THIS SHEET TO BE PROVIDED AND INSTALLED BY GC/EC. ALL PAGING SYSTEM DEVICES ARE TO BE PROVIDED BY PAGING SYSTEM VENDOR.

WHILE PULLING LOW VOLTAGE CABLE IN EMPTY CONDUITS, PROVIDE ADDITIONAL PULL STRING AT ENTIRE LENGTH OF CONDUIT FOR POSSIBLE FUTURE CABLE INSTALLATION.

NOTE:

- PAGING SYSTEM SHALL BE FURNISHED AND INSTALLED BY BAILIWICK. CONTACT AMY SAMPSON AT 800-935-8840 OR EMAIL AT FMDNSO@BAILIWICK.COM FOR ADDITIONAL INFORMATION.
- CONFIRM ALL LOCATIONS PRIOR TO INSTALL
- DSL EXTENSION FROM DEMARC TO MGR OFFICE
- VOICE RAN FROM DEMARC LOCATION IN STOCKROOM TO EACH LOCATION ON PLAN
- FIRE/BURG INSTALLED WITH RJ31X
- MAIN PHONE AND SPARE IN MANAGERS OFFICE WILL USE SPLIT PAIRS FROM ONE CABLE
- DSL AND DIAL BACKUP IN MANAGERS OFFICE WILL USE SPLIT PAIRS FROM ONE CABLE
- FOR STOCK ROOMS, A HORN IS USUALLY INSTALLED FOR THE CEILING IS USUALLY AT DECK HEIGHT.
- FOR SALES FLOOR AND OFFICE, A HORN OR SPEAKER MAY BE INSTALLED. THIS DEPENDS ON CURRENT CEILING CONDITIONS. IF YOU WERE SHIPPED SPEAKERS, INSTALL SPEAKERS ON THE SALES FLOOR AND OFFICE. IF YOU HAVE HORNS, INSTALL THE HORNS. CONSULT WITH THE BAILIWICK PM IF YOU ARE UNSURE.

LEGEND

- DATA CAT5E PLENUM 4PR WHITE
- VOICE CAT5E PLENUM 4PR WHITE
- AP CAT5E PLENUM 4PR WHITE
- (P) AIPHONE SPEAKER PHONE 22AWG/8 CONDUCTOR PLENUM STRANDED SHIELDED
- (S) PAGING LOCATION 18AWG/2 CONDUCTOR PLENUM STRANDED SHIELDED
- PAGING HORN 18AWG/2 CONDUCTOR PLENUM STRANDED SHIELDED
- (VC) VOLUME CONTROL 18AWG/2 CONDUCTOR PLENUM STRANDED SHIELDED
- HEAD END 22AWG/8 CONDUCTOR PLENUM STRANDED SHIELDED 18AWG/2 CONDUCTOR PLENUM STRANDED SHIELDED

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mark	date	by	description

date 12/21/21
project 2101650
designed
drawn
checked

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project FAMILY DOLLAR
603 E. Washington Street, Hayti, MO 63851
drawing ELECTRICAL PAGING SYSTEM PLAN

LV2

I. GENERAL CONTRACTOR'S RESPONSIBILITIES:

a. Read Cylon Retail Solutions (CRS) / Dollar Tree (DT) Documentation Package.
b. Review all DT drawings.
- Contact Cylon Retail Solutions Inc. at (888) 211-6789 and submit a fully completed EMS Installation Survey.
- Confirm CRS Survey Form is fully completed and EMAILED to CRS National Account Team at Surveys@Cylon.com or FAXED to (855) 224-0879, ***24 Hours Prior to scheduling the EMS Commissioning.***
- EMS Commissioning dates cannot be scheduled until fully completed EMS Installation Surveys have been received and approved by the CRS National Deployment Team.

c. Schedule remote EMS commissioning ***24 hours prior*** to the requested commissioning date.

II. ELECTRICAL RESPONSIBILITIES:

Power to all EMS equipment and devices must be OFF while terminations are made.

a. Provide all labor and installation material, as required, for a complete and operational EMS for this DT store location.
b. Receive and store all CRS material in a dry and secure place until the EMS installation is completed.
c. The EMS equipment will be supplied by CRS and installed by an approved DT contractor.
d. Review the entire set of plans, perform a job site survey and inventory the CRS equipment to ensure the proper equipment has been ordered and received for a complete and operational CRS EMS.
e. If any material is missing or additional equipment is required, immediately call CRS at (888) 211-6789 to request an order.
f. Approved Contractor shall verify number of controlled lighting circuits against the design, report discrepancies, which cannot be resolved in the field, to the CRS National Account Support Team at (888) 211-6789 and wait for resolution instructions.
g. Coordinate the EMS installation with the Mechanical Contractor to avoid any interference that may delay progress during construction.
h. Perform all work in accordance with all National, State and Local Codes for this project.
i. All EMS cables are to be installed per National and Local Codes. It is the Electrical Contractor's responsibility to determine if National and Local Codes permit Class 2 cables to be installed exposed within the building structure or if a full conduit system is required.
j. EMT connectors and bushings are to be installed at the top of every conduit sleeve and threaded connector to protect EMS cables from abrasions.
k. All cables are to be clearly and distinctly labeled within one foot of both ends.
l. Furnish and install all required conduit, boxes, wire ways, fittings, straps, hangers and wiring for a complete and operational EMS as required.
m. Furnish and install a dedicated 120 VAC circuit with breaker lock for the EMS Panel.
i. Label breaker: DO NOT TURN OFF / EMS
ii. Confirm wiring is completed as per this documentation package before applying power. Improper wiring will cause damage to equipment.
n. Mount the EMS Panel adjacent to the electrical panels.
o. Install an Ethernet cable run from the eSCi RJ-45 jack located in the EMS Panel to the network switch specified by the DT networking team.
p. Call CRS at 888.211.6789 to verify Network Connectivity **before proceeding with the EMS installation**.
q. Install and terminate the CRS BACnet communication trunk, in a daisy chain fashion, from the EMS Panel to each of the Thermostat Controls and all other BACnet devices. (see this documentation package for requirements)
r. When applicable, mount the Auxiliary I/O Panel adjacent to the EMS Panel and ensure both panels are connected to the same Earth Ground.
s. When applicable, ensure the Auxiliary I/O panel is connected in series with the other BACnet devices on the BACnet communications trunk.
t. Mount and terminate the Outdoor Sensor Assembly (OSA) on the HVAC unit that resides closest to the EMS Panel. When installing, make sure OSA enclosure is:
i. Mounted on a 1" rigid riser with an 'LB' secured to the back of the OSA (Refer to OTS/OLS Detail as shown on EM-4)
ii. Mounted 3 feet above the HVAC unit
iii. Mounted facing north, away from the combustion heat blower and condenser fan
iv. Weather-proofed
v. Mounted with the white PVC sensor pointed downward
vi. Positioned to allow the Outdoor Light Sensor exposure to full ambient daylight but is not shadowed or exposed to any artificial illumination
u. When applicable, mount and terminate the CO2 Sensor as per the location specified by the DT drawings and this documentation package.
v. Mount and terminate the Override Button assembly as per the location specified by the DT drawings and this documentation package.
w. Do not adjust the DIP Switches for the EMS Override Buttons. They are factory preset for:
i. MSTP Address = 35
ii. Baud Rate = 19200
iii. Network Termination = Off
x. When applicable, mount and terminate the Indoor Ambient Light Sensor(s) as per the location specified by the DT drawings and the Special Instructions in this documentation package.
y. Install and wire load sides of lighting contactors for designated lighting loads and zones as required by DT and this documentation package
i. Employee Zone = 40% of Sales floor and 100% of all Stockroom areas
ii. Customer Zone = Remaining 60% of Sales Floor
iii. Exterior Zone = Building Exterior and Parking lights
iv. When applicable, Daylight Zone = First two (2) rows of lights along the store-front windows.
z. Furnish and install a 3-pole, 20-amp breaker/disconnect at the Main Electrical Distribution Panel (MDP) for the Phase Loss Power Monitor and Energy Meter.
aa. When applicable, furnish and install a 3-pole, 20-amp breaker/disconnect at each Electrical Distribution Panel for each additional Phase Loss Power Monitor
bb. Terminate wiring as specified in this documentation package.
i. Label Main Electrical Distribution Panel breaker/disconnect: DO NOT TURN OFF / PHASE FAILURE & ENERGY METER
ii. When applicable, label auxiliary Electrical Distribution Panel breaker/disconnect: DO NOT TURN OFF / PHASE FAILURE
iii. Confirm wiring is completed as per this documentation package before applying power. Improper wiring will cause damage to equipment.
cc. Install and terminate the CRS Modbus communication trunk from the eSCi Controller to the Energy Meter. (Refer to OEM instructions and this documentation package for requirements)
dd. Permanently mount and terminate the Electrical Meter in close proximity to the main utility power feed.
ee. Permanently mount the 3 Current Sensors, one each, around the 3 phases of the main utility feed.
ff. Terminate the 3 Current Sensors to the Energy Meter, correctly maintaining Electrical Phase and Meter Input relationships.
gg. Using the OEM Instructions, configure the EMS Energy Meter for:
i. Proper Current Transformer (CT) Ratio - Current Sensor Primary (Ct) = 400 - 1500 Amp
ii. Nominal Line to Line Voltage = 480 Vac
iii. Baud Rate = 19200
iv. Address = 1
v. Voltage Input Mode = True 3 Phase
vi. CT Auto Rotation = Auto Rotate

Note: *The EMS is designed to monitor a single primary 3 phase power feed. Contact CRS for support when attempting to monitor multiple power feeds*

hh. Provide a technician, on site, for an approximate 2-hour remote telephone checkout with CRS.
ii. Coordinate with the Mechanical Contractor to verify HVAC control during the CRS remote telephone checkout.
jj. Prior to scheduling the Remote Commissioning Checkout, the Electrical Contractor will:
i. Confirm CRS Survey Form is completed and EMAILED to CRS National Account Team at Surveys@Cylon.com or FAXED to (855) 224-0879, ***24 Hours Prior to scheduling the EMS Commissioning***.
ii. Confirm the Mechanical Contractor will be present during the CRS Remote Commissioning Checkout.
iii. Contact CRS to schedule the EMS Commissioning, ***24 hours prior*** at (888) 211-6789.

III. MECHANICAL RESPONSIBILITIES:

Power to all EMS equipment and devices must be OFF while terminations are made.

a. Provide labor and installation material, as required, for a complete and operational EMS for this DT store location.
b. Verify number and type of HVAC units against the design, report discrepancies, which cannot be resolved in the field, to the CRS National Account Support Team at (888) 211-6789 and wait for resolution instructions.
c. Perform all work in accordance with all National, State and Local Codes for this project.
d. Mount and terminate the SimpleSTAT module(s) as per the location(s) specified by the DT drawings and this documentation package.
e. Utilizing 18/8 cable between the SimpleSTAT module and HVAC unit.
i. Terminate C, R, G, Y1, Y2, W1 and W2 on the HVAC unit for control of fan, cooling and heating.
ii. Terminate the communications cables to the SimpleSTAT(s) as shown in this documentation package.
f. Set address on the SimpleSTAT module, as shown in the SimpleSTAT installation instructions. When communications to the EMS is in a failed state, the SimpleSTAT will operate 24/7 as a stand-alone STAT using the following temperature setpoints:
i. Default Cooling Setpoint = 72.0 °F
ii. Default Heating Setpoint = 68.0 °F
g. Utilizing the Downrods and associated hardware, specified by the DT drawings and the "Special Instructions" section of this documentation package, mount and terminate the Remote Space Temperature Sensor(s) as per the location(s)specified by the DT drawings.
i. In close proximity to the zone return air grille and away from supply air drafts.
ii. Install and secure the Remote Temperature Sensor wire to the Thermostat Controller.
h. Mount the Supply Duct Temperature sensor of each HVAC unit.
i. The remote Supply Duct Temperature Sensor should be mounted in the main Supply Air Duct on the interior side of the HVAC unit's building penetration.
ii. Utilizing 18/2 wire, terminate the supply duct temperature sensor wire to the Thermostat module as shown in this documentation package.
i. Provide Electrical Contractor with roof plan layout, showing location of HVAC Units on the roof.
j. Provide a technician, on site, for an approximate 2-hour remote telephone checkout with CRS.
k. Coordinate with the Electrical Contractor to verify proper HVAC control during the CRS Remote Commissioning Checkout.

IV. CYLON RETAIL SOLUTIONS RESPONSIBILITIES:

a. The following services will be supplied by CRS:
i. Shipping of all contracted EMS components for the job.
ii. Programming and downloading of CRS equipment and software.
iii. Provide telephone technical support at (888) 211-6789.
iv. Remote system checkout with installing contractor
b. Verification of proper operation of the following items by exercising the controlled load:
i. Timed operation of all applicable EMS lighting loads - Interior and Exterior.
ii. Outside light level control of all applicable EMS lighting loads - Interior and Exterior.
iii. Operation of HVAC heating stages, as indoor environment allows.
iv. Operation of HVAC cooling stages, as indoor and outdoor environments allow.
v. Verification of HVAC unit sensor readings - space and supply temperatures.
c. If any end unit (e.g. lighting, HVAC unit, supply air fan, etc.) cannot be operated for mechanical or electrical reasons, CRS will verify the proper operation of the EMS control devices (e.g. contactors, discrete I/O) leading up to the unit, in order to fully verify the operations of the EMS.
d. CRS will issue an "EMS Check-Out Number" once all store systems are verified as operational.

DEVICE LEGEND

SYMBOL	DESCRIPTION
SSC	HVAC UNIT CONTROLLER (SIMPLESTAT)
TRC	HVAC UNIT CONTROLLER (TRC)
DTS	DUCT TEMPERATURE SENSOR
STS	SPACE TEMPERATURE SENSOR
OLS	OUTDOOR LIGHT SENSOR
OHS OTS	OUTDOOR TEMPERATURE & RELATIVE HUMIDITY SENSORS
RTS	REMOTE TEMPERATURE SENSOR
CO_2S	INDOOR CO_2 SENSOR
IHS	INDOOR RELATIVE HUMIDITY SENSOR
ILS	INDOOR LIGHT SENSOR
DOOR SENSOR	O/H DOOR SENSOR
SID	SECURITY INTERFACE DEVICE
eSC	eBUILDING SYSTEM CONTROLLER
ROS	REMOTE OVERRIDE SWITCH
OCC	OCCUPANCY SENSOR

CABLE LEGEND

KEY	SIZE	TYPE	MFG.	MFG. PART #
10	18/2	SHIELDED PLENUM	WINDY CITY	# 002320-S
12	18/4	SHIELDED PLENUM	WINDY CITY	# 002340-S
14	18/8	NON SHIELDED PLENUM	WINDY CITY	# 002392-S
16	18/10	NON SHIELDED PLENUM	WINDY CITY	# 002393-S
18	24/8	CAT5 E PLENUM	WINDY CITY	# 5556140-S

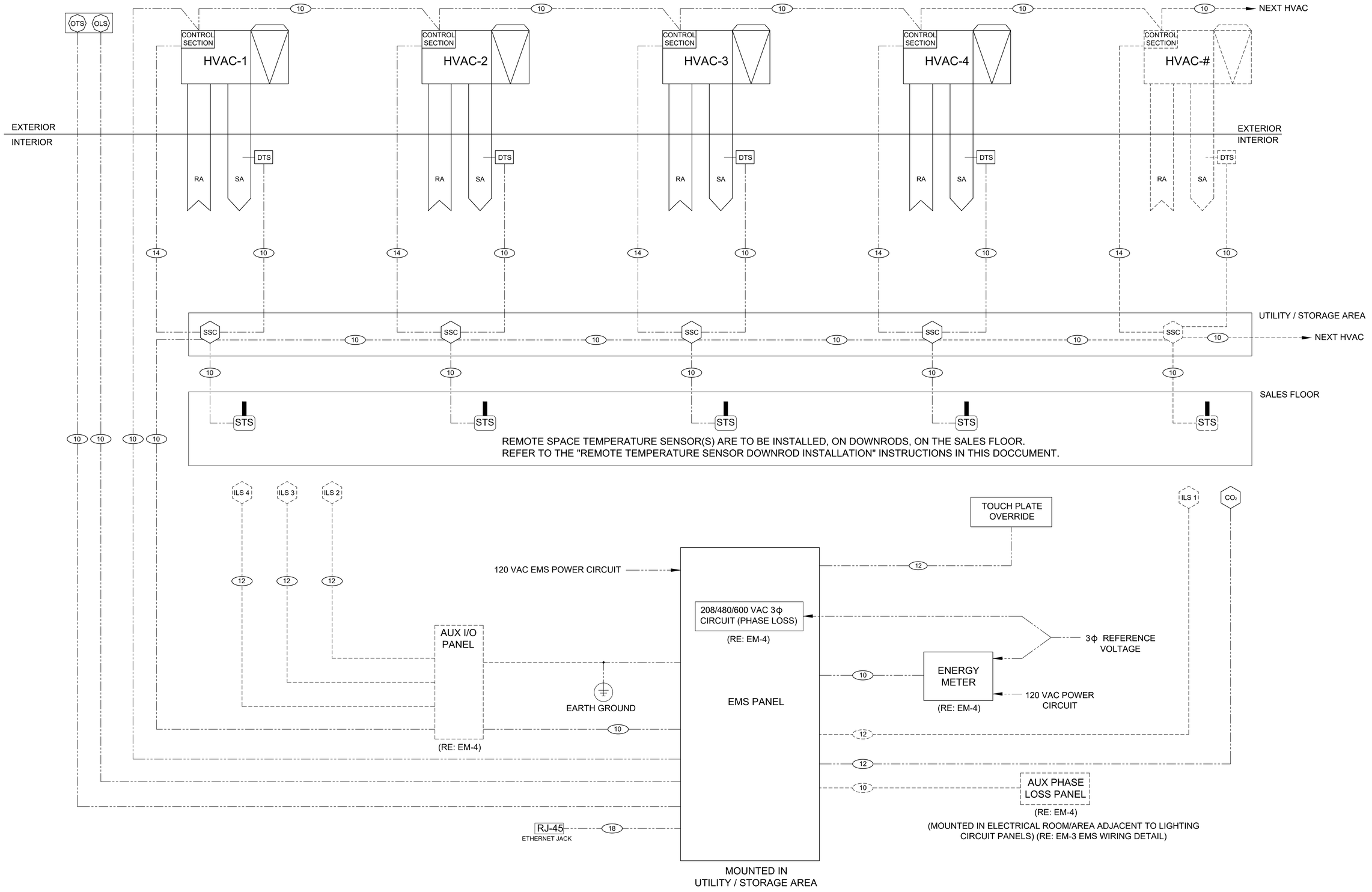
Cylon RETAIL SOLUTIONS
25 Sundial Ave - Suite 310 W
Manchester, NH 03103

FAMILY DOLLAR
DRAWING NOTES
(FOR REFERENCE ONLY)

REVISION: 1	
DATE: 06/05/20	ECN#: 2396
LOOSE DT OPTION	
REVISION:	
DATE:	ECN#:
REVISION:	
DATE:	ECN#:
REVISION:	
DATE:	ECN#:
DRAWN: WPC	ENGINEER: CGP
PART #: 94-403	OPTION: P

ENERGY MANAGEMENT PLAN

EM-1 of 4



ENERGY MANAGEMENT SYSTEM SINGLE LINE DIAGRAM

SCALE: None

WIRING LEGEND

- FIELD WIRING
- POSITIVE
- NEGATIVE
- OPTIONAL COMPONENT

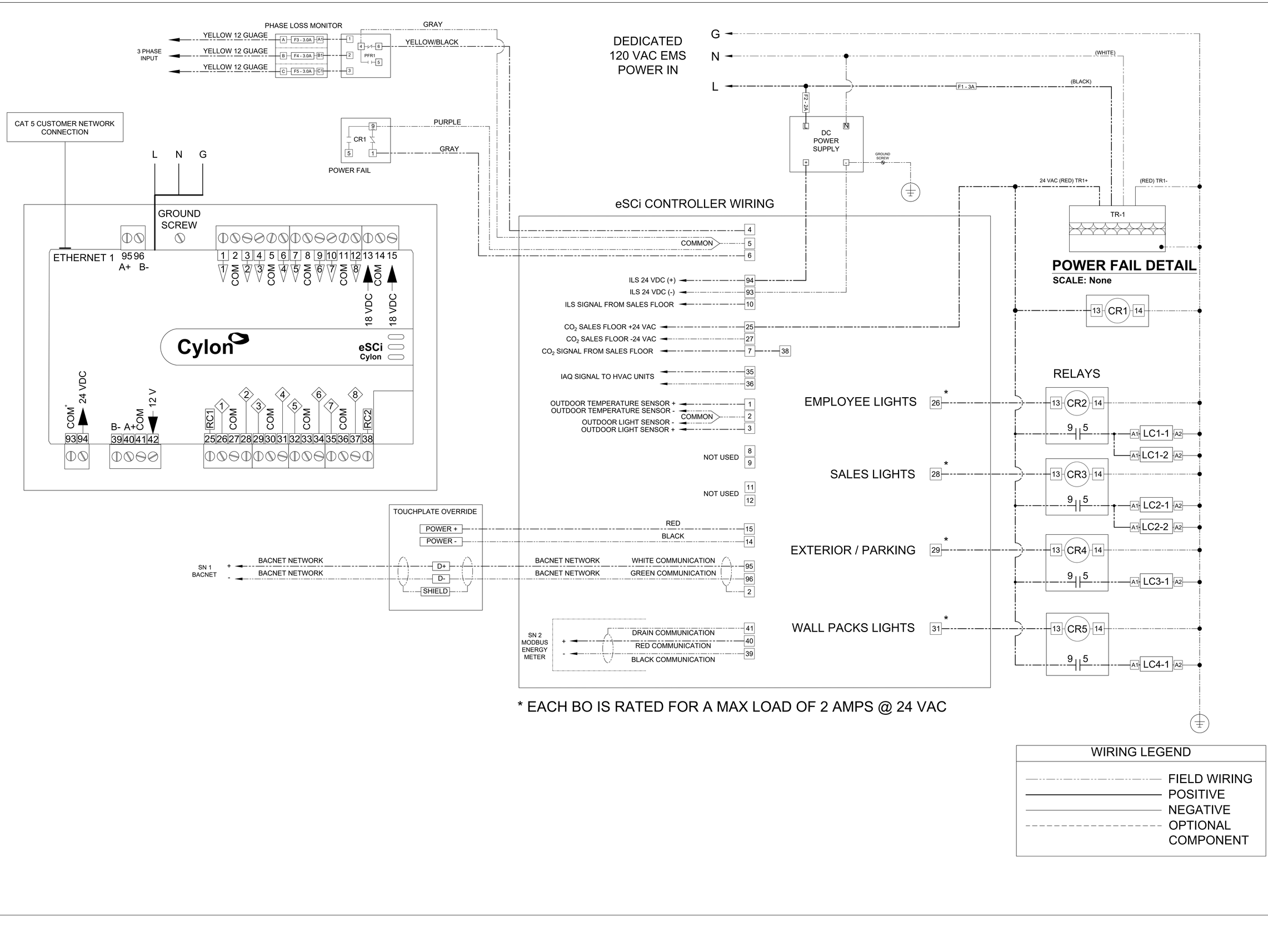
Cylon RETAIL SOLUTIONS
25 Sundial Ave - Suite 310 W
Manchester, NH 03103

FAMILY DOLLAR
LINE DIAGRAM
(FOR REFERENCE ONLY NOT TO SCALE)

REVISION: 1	
DATE: 06/05/20	ECN#: 2396
LOOSE DT OPTION ---- ----	
REVISION: ----	
DATE: ----	ECN#: ----
---- ---- ----	
REVISION: ----	
DATE: ----	ECN#: ----
---- ---- ----	
REVISION: ----	
DATE: ----	ECN#: ----
---- ---- ----	
DRAWN: WPC	CHECKED: CGP
PART #: 94-403	OPTION: P

ENERGY MANAGEMENT PLAN

EM-2 of 4



Cylon RETAIL SOLUTIONS
25 Sundial Ave - Suite 310 W
Manchester, NH 03103

FAMILY DOLLAR
FIELD WIRING
(FOR REFERENCE ONLY NOT TO SCALE)

REVISION: 1	
DATE: 06/05/20	ECN#: 2396
LOOSE DT OPTION	

REVISION: ----	
DATE: ----	ECN#: ----

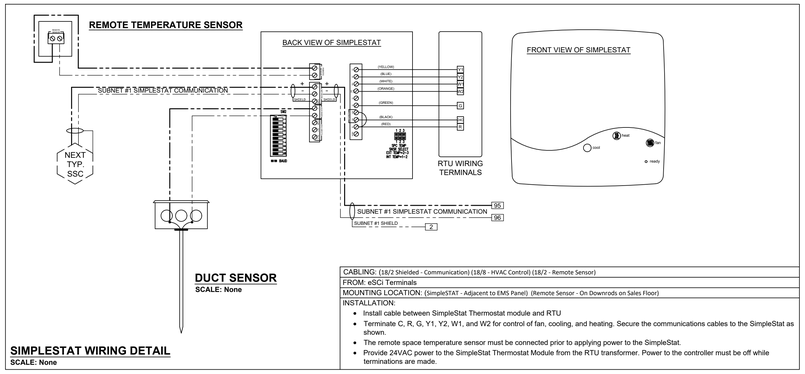
REVISION: ----	
DATE: ----	ECN#: ----

REVISION: ----	
DATE: ----	ECN#: ----

DRAWN: WPC	CHECKED: CGP
PART #: 94-403	OPTION: P

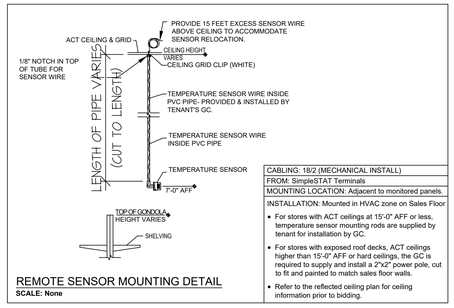
ENERGY MANAGEMENT PLAN

EM-3 of 4



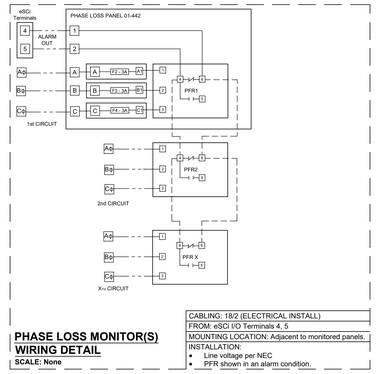
SIMPLESTAT WIRING DETAIL
SCALE: None

CABLING: (18/2 Shielded - Communication) (18/8 - HVAC Control) (18/2 - Remote Sensor)
FROM: eSCi Terminals
MOUNTING LOCATION: (SimpleSTAT - Adjacent to EMS Panel) (Remote Sensor - On Downrods on Sales Floor)
INSTALLATION: • Install cable between SimpleStat Thermostat module and RTU • Terminate C, R, G, Y1, Y2, W1, and W2 for control of fan, cooling, and heating. Secure the communications cables to the SimpleStat as shown. • The remote space temperature sensor must be connected prior to applying power to the SimpleStat. • Provide 24VAC power to the SimpleStat Thermostat Module from the RTU transformer. Power to the controller must be off while terminations are made.



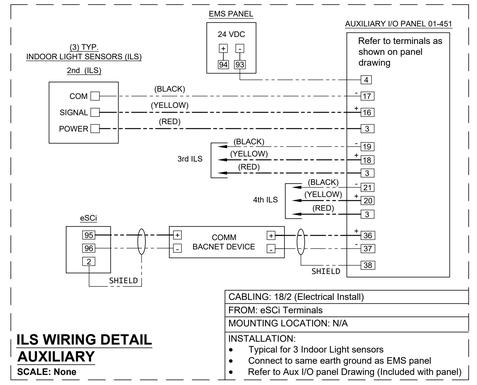
REMOTE SENSOR MOUNTING DETAIL
SCALE: None

CABLING: 18/2 (MECHANICAL INSTALL)
FROM: SimpleSTAT Terminals
MOUNTING LOCATION: Adjacent to monitored panels.
INSTALLATION: Mounted in HVAC zone on Sales Floor • For stores with ACT ceilings at 15'-0" AFF or less, temperature sensor mounting rods are supplied by tenant for installation by GC. • For stores with exposed roof decks, ACT ceilings higher than 15'-0" AFF or hard ceilings, the GC is required to supply and install a 2"x2" power pole, cut to fit and painted to match sales floor walls. • Refer to the reflected ceiling plan for ceiling information prior to bidding.



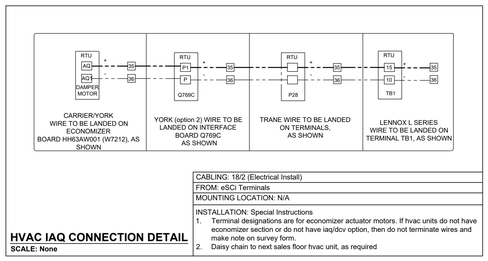
PHASE LOSS MONITOR(S) WIRING DETAIL
SCALE: None

CABLING: 18/2 (ELECTRICAL INSTALL)
FROM: eSCi I/O Terminals 4, 5
MOUNTING LOCATION: Adjacent to monitored panels.
INSTALLATION: • Line voltage per NEC • PFR shown in an alarm condition.



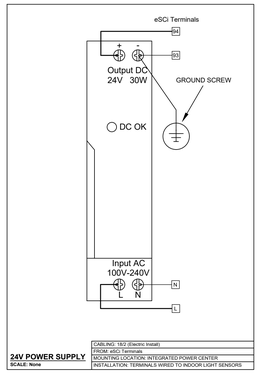
ILS WIRING DETAIL AUXILIARY
SCALE: None

CABLING: 18/2 (Electrical Install)
FROM: eSCi Terminals
MOUNTING LOCATION: N/A
INSTALLATION: • Typical for 3 Indoor Light sensors • Connect to same earth ground as EMS panel • Refer to Aux I/O panel Drawing (Included with panel)



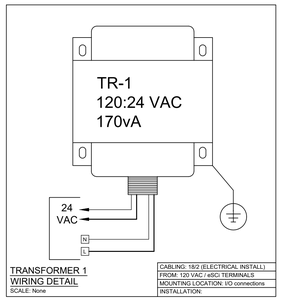
HVAC IAQ CONNECTION DETAIL
SCALE: None

CABLING: 18/2 (Electrical Install)
FROM: eSCi Terminals
MOUNTING LOCATION: N/A
INSTALLATION: Special Instructions 1. Terminal designations are for economizer actuator motors. If hvac units do not have economizer section or do not have iaq/dcv option, then do not terminate wires and make note on survey form. 2. Daisy chain to next sales floor hvac unit, as required



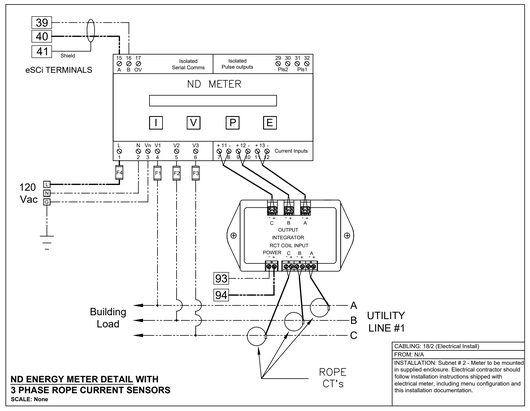
24V POWER SUPPLY
SCALE: None

CABLING: 18/2 (Electric Install)
FROM: eSCi Terminals
MOUNTING LOCATION: INTEGRATED POWER CENTER
INSTALLATION: TERMINALS WIRED TO INDOOR LIGHT SENSORS



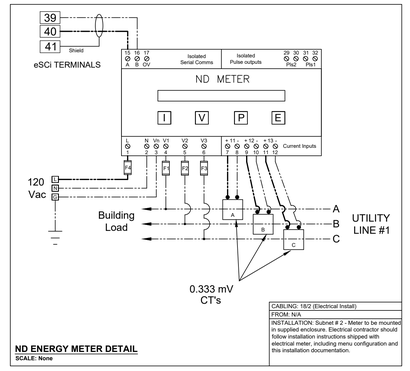
TRANSFORMER 1 WIRING DETAIL
SCALE: None

CABLING: 18/2 (ELECTRICAL INSTALL)
FROM: 120 VAC / eSCi TERMINALS
MOUNTING LOCATION: I/O connections
INSTALLATION:



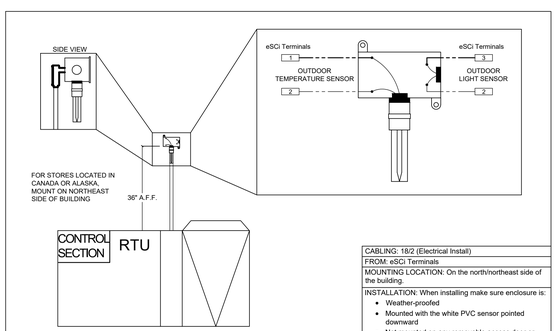
ND ENERGY METER DETAIL WITH 3 PHASE ROPE CURRENT SENSORS
SCALE: None

CABLING: 18/2 (Electrical Install)
FROM: N/A
INSTALLATION: Subnet # 2 - Meter to be mounted in supplied enclosure. Electrical contractor should follow installation instructions shipped with electrical meter, including menu configuration and this installation documentation.



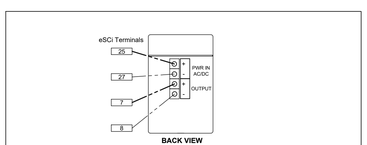
ND ENERGY METER DETAIL
SCALE: None

CABLING: 18/2 (Electrical Install)
FROM: N/A
INSTALLATION: Subnet # 2 - Meter to be mounted in supplied enclosure. Electrical contractor should follow installation instructions shipped with electrical meter, including menu configuration and this installation documentation.



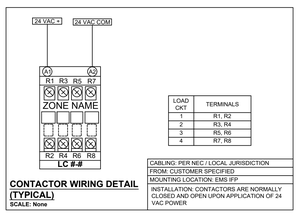
OTS/OLS WIRING DETAIL
SCALE: None

CABLING: 18/2 (Electrical Install)
FROM: eSCi Terminals
MOUNTING LOCATION: On the north/northeast side of the building.
INSTALLATION: When installing make sure enclosure is: • Weather-proofed • Mounted with the white PVC sensor pointed downward • Not mounted on any removable access door or HVAC Unit. • Positioned to allow the Outdoor Light Sensor exposure to full ambient daylight but is not shadowed or exposed to any artificial illumination.



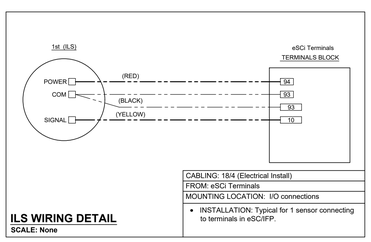
INDOOR CARBON DIOXIDE SENSOR DETAIL
SCALE: None

CABLING: 18/4 (Electrical Install)
FROM: eSCi Terminals
MOUNTING LOCATION: To be determined by customer
INSTALLATION: N/A



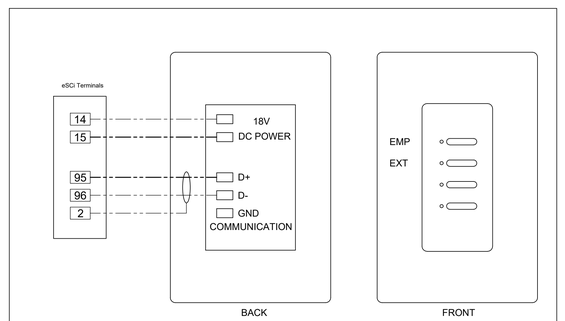
CONTACTOR WIRING DETAIL (TYPICAL)
SCALE: None

CABLING: PER NEC / LOCAL JURISDICTION
FROM: CUSTOMER SPECIFIED
MOUNTING LOCATION: EMS I/FP
INSTALLATION: CONTACTORS ARE NORMALLY CLOSED AND OPEN UPON APPLICATION OF 24 VAC POWER



ILS WIRING DETAIL
SCALE: None

CABLING: 18/4 (Electrical Install)
FROM: eSCi Terminals
MOUNTING LOCATION: I/O connections
• INSTALLATION: Typical for 1 sensor connecting to terminals in eSCi/FP.



TOUCHPLATE OVERRIDE
SCALE: None

CABLING: (18/2) X 2 (Electric Install)
FROM: eSCi TERMINALS
MOUNTING LOCATION: To be determined by customer
INSTALLATION:

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25 Sundial Ave - Suite 310 W
Manchester, NH 03103

FAMILY DOLLAR EQUIPMENT DETAILS (FOR REFERENCE ONLY NOT TO SCALE)

REVISION: 1	
DATE: 06/05/20	ECN#: 2396
LOOSE DT OPTION ---- ----	
REVISION: ----	
DATE: ----	ECN#: ----
---- ---- ----	
REVISION: ----	
DATE: ----	ECN#: ----
---- ---- ----	
REVISION: ----	
DATE: ----	ECN#: ----
---- ---- ----	
DRAWN: WPC	CHECKED: CGP
PART #: 94-403	OPTION: P

ENERGY MANAGEMENT PLAN

EM-4 of 4