

ABBREVIATIONS		SYMBOLS		KEY PLAN			INDEX OF DRAWINGS	
ACT ACOUSTICAL CEILING TILE MAX MAXIM ADA AMERICAN DISABILITIES ACT MFG. MANUF MANUF	/UM FACTURE. MANUFACTURER						$\widehat{\mathbf{x}} \land \widehat{\mathbf{x}} \land \widehat{\mathbf{x}} \land \widehat{\mathbf{x}} \land \widehat{\mathbf{x}}$	ARCHITECTURAL
AFF ABOVE FINISHED FLOOR MIN MINIMU ARCH ARCHITECT. ARCHITECTURAL MTD MOUN	UM, MINUTE ITED	ELEVATION MARKER	+ ELEVATION DATUM	Maxwell St	MAXWELL STREET Monavell St			CS1 NOTES, LEGEND AND KEY PLAN
APPROX APPROXIMATE MTL METAL BD BOARD NIC NOT IN	L N CONTRACT				Maxwell St Maxwell St			A1 FLOOR PLAN AND WALL CONSTRUCTION TYPES
BLDGBUILDINGOCON CECEMCEMENT PLASTER FINISHOPPOPPOS	ENTER ISITE	1 ENLARGED DETAIL INDICATOR			and Company the second	Buch		A1.2 ENLARGED PLAN, SECTION AND ELEVATIONS A2 REFLECTED CEILING PLAN, LEGEND AND DETAIL
CLGCEILINGPEJPREFOCLRCLEARPLAMPLAST	ORMED EXPANSION JOINT TIC LAMINATE		\land			iner B		A3 INTERIOR ELEVATIONS A3.1 EXTERIOR ELEVATIONS
CMU CONCRETE MASONRY UNIT PLYWD PLYWO COL COLUMN PR PAIR	OOD		EXISTING DOOR			The N hand		A4 SCHEDULES, NOTES, DETAILS AND SECTIONS
DF DRINKING FOUNTAIN PSI POUN DTL DETAIL PTD PAINT	DS PER SQUARE INCH			Mar	Food Giant 📻	see A		
DWG DRAWING RELO RELO EA EACH REQD REQU		A1 WALL SECTION MARKER		weith and		Central Ln		S-1 EXISTING ROOF FRAMING PLAN W/ STRUCTURAL MODIFICATIONS S-2.0 STRUCTURAL ELEVATIONS, SECTIONS AND DETAILS
EIFSEXTERIOR INSULATION FINISH SYSTEMSCSOLIDELEVELEVATIONSFSQUAR	RE FEET	=	NEW DOOR	Florit				MECHANICAL / PLUMBING
EQ EQUAL SHI SHEE EXIST EXISTING SIM SIMILA	AR AR			da Ave	NT - AND - NT	r Brar		MP-1 HVAC & PLUMBING PLAN / ISOMETRICS & KEYED NOTES MP-2 SCHEDULES & DETAILS
EXTING EXTINGUISHER T THICK FE FIRE EXTINGUISHER TC TEMPE	K, THICKNESS	X INTERIOR ELEVATION MARKER	GYPSUM WALL BOARD	C C Z		/ckne		MP-3 SPECIFICATIONS
FRFIRE RATINGFIGFIGFRPFIBERGLAS REINFORCED PANELTHRESHTHRESHTYDTYDTYD	SHOLD							
FINFINISH, FINISHEDTTPTTPO.FTFOOT, FEETULUNDER	RWRITERS LABORATORIES		WOOD TRIM			E E E E E E E E E E E E E E E E E E E		E-1 FOWER FLAN E-2 LIGHTING PLAN E-3 SCHEDULES NOTES & DETAILS
FTG FOOTING ONLOGE FV FIELD VERIFY VCT VINYL VTR VENT	COMPOSITION TILE			1		-Real And		E-4 NOTES & RISER DIAGRAM
GA GAGE WITC VENT GWB GYPSUM WALL BOARD W WIDE,	WIDTH	WALL CONSTRUCTION TYPE	NEW WALL CONSTRUCTION			641		FIRE FROIDCIION FP1 FIRE SPRINKLER PLAN AND RISER DETAIL
H HIGH HDW HARDWARE W/ WITH WWE WELD								FP2 FIRE SPRINKLER SPECIFICATION, NOTES AND DETAILS FA1 FIRE ALARM PLAN - NEW WORK
HM HOLLOW METAL 4000 HGT HEIGHT & AND ANGLE	F		CMU	F				FA2 FIRE ALARM NOTES, CALCULATIONS AND MATRIX FA3 FIRE ALARM SPECIFICATIONS
HOL HOLLOW @ AT HORIZ HORIZONTALLY @ AT								FOR REFERENCE ONLY
HR HOUR Q DEGRI HVAC HEATING, VENTILATION AND AIR CONDITIONING DEGRI	EISES	XXX DOOR NUMBER	CONCRETE	KEY PLAN				DS1 REACH-IN UNITS DETAILS AND SPECIFICATIONS EM-1 ENERGY MANAGEMENT PLAN
L LENGTH, LONG # NUMB	BER OR MINUS			SCALE: NONE	SEE 'GENEF	RAL SITE ACCESSIBILITY NOTES', SHEET		EM-2 ENERGY MANAGEMENT PLAN EM-3 ENERGY MANAGEMENT PLAN
LAMINATE LEVIEL					PROJECT CST, FOR A	ADDITIONAL REQUIREMENTS.		EM-4 ENERGY MANAGEMENT PLAN
					IN ACCORDANCE WITH CHAPTER 11 ACCESSIBILITY - SECTIONS 110	AND 1106 APPLICABLE BLUE DING CODE:		
1. CONSTRUCTION SHALL COMPLY WITH ALL APPLICABLE LOCAL, STATE, AND NATIONAL CODES AND REGULATIONS. CONSTRUCTION SHALL ALSO			SIGNS TO INCLUDE BUT NOT LIMITED TO PERIMET	ER WALL	OF THE INTERNATIONAL BUILDING CODE, 2012 EDITION, THE EXTER	RIOR	2012 INTERNATIONAL BUILDING CODE	RRMM ARCHITECTS, PC
2. ALL WOOD FRAMEWORK, WOOD BLOCKING AND PLYWOOD SHALL BE FIRE	TO JL INDUSTRIES MO	DEL COSMIC 5E. LOCATE EXTINGUISHERS AS SHOWN.	WINDOW DECALS. CONTACT THE CONSTRUCTION	I PM FOR	OCCUPANCY OF THE NEW TENANT. NO CHANGE OF OCCUPANCY OF	APPLICABLE PLUMBING CODE:	2012 INTERNATIONAL PLUMBING CODE	CHESAPEAKE, VIRGINIA 23320
RETARDANT TREATED PER CODE. 3. ALL FINISH MATERIALS SHALL MEET FLAME SPREAD AND SMOKE		GUISHER" SIGNS ON WALL DIRECTLY ABOVE EACH	14. CONTRACTOR SHALL SEAL ALL EXTERIOR PENET	RATIONS INCLUDING	COMPLIANCE TO ABOVE MENTIONED CODE. REQUIRED SITE DEVEL	OPMENT OR USE GROUP:	M - MERCANTILE	FAX (757) 622-2828 FAX (757) 622-6883
DEVELOPMENT RATING CLASS C (OR CLASS 3). 4. WALL CONSTRUCTION BY THE TENANT'S CONTRACTOR IS SHOWN HATCHED.	TAGGED .		SHALL SELECT MATERIAL APPROPRIATE FOR CON	NDITION TO PROVIDE	OF LANDLORD AND/OR OWNER OF EXISTING BUILDING AND SITE.	CONSTRUCTION TYPE:	II B	
5. THE CONTRACTOR SHALL FIELD VERIFY ALL DIMENSIONS AND EXISTING CONDITIONS PRIOR TO BID TO DETERMINE THE EXTENT OF WORK. THE	FIXTURES AND ACCES	SORIES (BOTH EXISTING AND NEW) MEET ALL	ACCEPTABLE FINISHED MATERIAL.)			NUMBER OF STORIES:	ONE	TENANT
CONTRACTOR SHALL NOTIFY THE ARCHITECT AND THE TENANT OF ANY DISCREPANCIES PRIOR TO BIDDING.	APPLICABLE LOCAL, S LAWS.		INSPECTIONS & CERTIFICATE OF OCCUPANCY.		ENVIRONMENTAL HEALTH NOTES	DECK HEIGHT	15'-8" - 11'-3"	FAMILY DOLLAR STORES, INC.
6. ALL MATERIALS INDICATED ARE NEW, UNLESS SPECIFICALLY NOTED AS EXISTING, AND SHALL BE PROVIDED AND INSTALLED BY THE CONTRACTOR .	4. PROVIDE EXTERIOR LI LANDLORD, IF ONE DO	DES NOT EXIST WITHIN 10 FEET OF REAR DOOR.	CONSTRUCTION ADHESIVE.	OUNTING SURFACE WITH	1. THIS FACILITY CARRIES ONLY 100 % PRE-PACKAGED FOOD TO INC	ICLUDE THE SPRINKLERED:	YES	CHESAPEAKE, VA 23320 PHONE (757)321-5218
ITEMS INDICATED AS TENANT SUPPLIED SHALL BE INSTALLED BY THE CONTRACTOR PER TENANT'S REQUIREMENTS AND/OR MANUFACTURER'S	5. PAINT ALL EXPOSED S WALL COLOR (IE WHIT	E OR YELLOW).			 THIS FACILITY IS A NON DINING FACILITY. NO DINING SEATING WIL PROVIDED TO CUSTOMERS 	LL BE TOTAL BUILDING AREA:	17,707 SF	FAX (757)321-5300 CHARLES GOMEZ
PUBLISHED STANDARDS. 7. ALL EXISTING MATERIALS TO REMAIN WHICH ARE DAMAGED OR OTHERWISE	6. CONTRACTOR SHALL C COLUMN SURROUNDS	TO AVOID INJURY.			 THIS FACILITY DOES NOT PERFORM ANY TYPE OF FOOD PREPARA WITHIN THE STORE FOR CUSTOMER CONSUMPTION AND/OR FMR 		4 551 SF	
DISTURBED BY THE CONTRACTOR'S OPERATIONS SHALL BE PATCHED OR REPAIRED TO MATCH THE EXISTING ADJACENT MATERIALS, SO THAT THE	7. REPAIR AND CLEAN AL AND GLAZING, WALLS,	CEILING, ETC) TO REMAIN TO A LIKE NEW CONDITION.			CONSUMPTION.	OCCUPANCY LOAD:	UNOCCUPIED AREA 4,551 / 30 = 152	<u>PLUMB, MECH, ELEC ENGINEER</u> OLG ENGINEERING
REPAIR IS IMPERCEPTIBLE. 8. DURING THE COURSE OF CONSTRUCTION, IF THE CONTRACTOR UNCOVERS	8. NOTIFY FAMILY DOLLA EXPOSED CONCRETE	BLOCK WALL TO REMAIN ON THE SALES FLOOR.			 THIS FACILITY WILL HAVE 3 TO 4 EMPLOYEES PER SHIFT MAXIMUL STORE MANAGER, ONE TO TWO CASHIERS AND ONE STOCKER 	IM. ONE TOTAL FAMILY DOLLAR AREA:	13,156 SF	301 INDUSTRIAL BLVD TULLAHOMA, TENNESSEE 37388
ANY CODE VIOLATION KNOWN TO HIM OR ANY DISCREPANCY WITH THE DESIGN, CONTRACTOR SHALL NOTIFY THE ARCHITECT OF SUCH	WALL'S CONDITION IS	SUITABLE FOR PAINTING OR NEEDS TO BE FURRED			 6. EMPLOYEE LOCKERS- EASILY CLEANABLE LOCKERS WILL BE PRO ALL EMPLOYEES, REFER TO FIXTURE PLAN FOR LOCATION. 	OVIDED TO OCCUPANCY LOAD:	SALES AREA 10,725 / 30 = 358 PRE-SALES 2 431 / 300 = 9	PHONE (931) 454-9940 FAX (931) 454-2338
IMMEDIATELY. 9. CONTRACTOR SHALL ASSEMBLE AND INSTALL MATERIALS/ PRODUCTS IN	9. CONTRACTOR SHALL I	DS AND GWB. INSTALL TENANT SUPPLIED FIXTURES TO INCLUDE			 MOP SINK- THIS FACILITY WILL BE SUPPLIED WITH A 24"x36" FLOO MOD SINK WITH ADDROVED VACUUM PREAKED FAUCET, WALLS 	DR MOUNTED	TOTAL = 367	TIM LITTLE, PM
STRICT ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDATIONS AND INDUSTRIAL/ASSOCIATION STANDARDS.	GONDOLA, BALLOON C	CART CORRAL, PERIMETER WALL GONDOLA, FLOOR CENTER, HANGING BALLOON CORRALS, HELIUM TANK			SURROUNDING MOP SINK WILL HAVE FRP TO 8'-0" ABOVE FINISH F	FLOOR FOR PROJECT ADDRESS:	FAMILY DOLLAR 503 TENNESSEE AVE NORTH	STRUCTURAL ENGINEER
 FIELD VERIFY AND/OR REPORT ASBESTOS-CONTAINING MATERIAL TO ARCHITECT AND TENANT UPON DISCOVERY. 	PLAN.	OR), AND MOBILE FIXTURES PER TENANT'S FIXTURE			 NSF, ANSI AND UL APPROVED- ALL EQUIPMENT WITHIN THIS FACIL ANSI AND UL APPROVED, CUT SHEETS FOR FOURIMENT AVAILABLE 		PARSONS, TN 38363 (731) 847-6358	CLARK, GEER, LATHAM & ASSOCIATES, INC 3901 SPRINGHILL AVENUE
11. ALL INTERIOR CONCRETE SHALL BE PORTLAND CEMENT BASED TO INCLUDE PATCHING, FLOATING/LEVELING OF FLOORS AND INFILLING.	10. DOORS AND FRAMES (SUPPLIED FOR CONTE	RACTOR INSTALLATION. STOREFRONT DOORS (WHEN				FIRE MONITORING REQUIRED:	REFER TO FIRE PROTECTION SHEETS	MOBILE, ALABAMA 36608 PHONE (251) 344-7073
12. ANY DETAIL WHICH MAY BE INCOMPLETE OR LACKING IN THE PLANS OR SPECIFICATIONS SHALL NOT CONSTITUTE CLAIM FOR EXTRA	REQUIRED. AUTOMATI	C DOORS (WHEN NOTED) WILL BE SUPPLIED AND			CONSTRUCTION DOCUMENTS AND LOCATED ON SHEET A4 FOR Y			FAX (251) 343-9179 THOMAS LATHAM
COMPENSATION. SUCH DETAIL, IF REQUESTED BY THE CONTRACTOR, SHALL BE SUPPLIED BY THE ENGINEER/ARCHITECT AND SUBMITTED TO THE		TION.)			AND ENGINEERS LISTED ON SHEET CS1 WITH ANY QUESTIONS OF		S. RISK CLASS U	
CONTRACTOR IN ADVANCE OF ITS REQUIREMENT ON THE JOB. THE TRUE INTENT OF THE PLANS AND SPECIFICATIONS IS TO PRODUCE A COMPLETE	TENANT'S NAME (INTE	REMOVE ANY EXISTING SIGNAGE THAT HAS PREVIOUS RIOR AND/OR EXTERIOR.) ANY SIGNAGE THAT IS			DIRECTOR OF ARCHITECTURAL SERVICES FOR DOLLAR TREE STO		OCATIONS)	SIGN CONTRACTOR
WORKING FACILITY AND INCOMPLETE DETAIL WILL NOT ABROGATE THIS INTENT.	12. CONTRACTOR SHALL V	VERIFY IF THERE IS AN EXISTING ACCESS PANEL TO						ALLEN INDUSTRIES 6434 BURNT POPLAR RD
13. THE CONTRACTOR SHALL PROVIDE ALL SHOP DRAWINGS (WITH THEIR STAMP OF APPROVAL) AS REQUIRED BY THE AUTHORITY HAVING	ACCESS PANEL EITHE	R INSIDE AT DOLLAR TREE'S SPACE ABOVE THE						GREENSBORO, NC 27409 PHONE (888) 294-2007 EXT. 3117
JURISDICTION FOR APPROVAL BY THE ARCHITECT/ENGINEER OF RECORD.		MATCH CANOPY CONSTRUCTION AS ALLOWED BY						BRYAN DANIEL
	INSTALLING.	WITH SIGN VENDOR FOR LOCATION PRIOK TO						
								LANDLORD ACE HARDWARF OF PARSONS
								413 TENNESSEE AVE NORTH PARSONS_TN 38363
								PHONE (731) 549-5731 JOE WHITE

503 TENNESSEE AVE N PARSONS, TENNESSEE PROJECT # 805621





DE	EMOLITION NOTES
	REMOVE PARTITION SHOWN DASHED LINE COMPLETE.
2	REMOVE DOOR AND FRAME COMPLETE.
3	REMOVE EXISTING WALL FIXTURES AND FINISHES COMPLETE.
4	FLOORING CONTRACTOR (TENANT HIRED) SHALL REMOVE EXISTING CARPET COMPLETE. GC SHALL NOT INCLUDE IN BID.
5	FLOORING CONTRACTOR (TENANT HIRED) SHALL REMOVE EXISTING VCT FLOORING COMPLETE. GC SHALL NOT INCLUDE IN BID.
6	FLOORING CONTRACTOR (TENANT HIRED) SHALL REMOVE EXISTING LAMINATE COMPLETE. GC SHALL NOT INCLUDE IN BID.
$\langle 7 \rangle$	REMOVE EXISTING BASE COMPLETE.
8	REMOVE EXISTING GWB CEILING COMPLETE.
9	REMOVE EXISTING ACT AND GRID COMPLETE.
	EXISTING CEILING GRID TO REMAIN. REMOVE EXIST CEILING TILES COMPLETE.
	REMOVE EXISTING LIGHT FIXTURES COMPLETE.
<12>	REMOVE EXIST STOREFRONT DOORS, TRANSOM AND THRESHOLD COMPLETE.
	REMOVE EXIST STOREFRONT FRAMING AND GLAZING COMPLETE.
14	REMOVE EXIST CONCRETE LANDING AND STAIRS COMPLETE. REFER TO STRUCTURAL DWGS.
15	REMOVE EXISTING TOILET FIXTURES OR ACCESSORIES NOT IN COMPLIANCE WITH CURRENT HANDICAPPED CODES OR ADA LAWS.
16	FOR REMOVAL AND/OR RELOCATION OF EXISTING ELECTRICAL PANELS AND TRANSFORMER SEE ELECTRICAL SHEETS.
17	(COORDINATE WITH FAMILY DOLLAR) REMOVE EXISTING CHECKOUT COUNTERS, FLOOR FIXTURES, WALL FIXTURE, AND SHELVING COMPLETE.
18	REMOVE PORTION OF EXISTING BRICK VENEER AND METAL STUDS WALL AS INDICATED FOR INSTALLATION OF DOOR IN NEW WORK. REFER TO STRUCTURAL DRAWINGS.

20





WALL CONSTRUCTION TYPES

- EXTERIOR DEMISING WALL: EXISTING BRICK, METAL STUD AND GWB. PATCH AND REPAIR TO LIKE NEW CONDITION. SEE DETAIL 3/A4. FINISH PER FINISH SCHEDULE, SHEET A4.
- PARTITION WALL: 6" (20 GA) METAL STUDS @ 16" OC WITH ONE LAYER 5/8" GWB EACH SIDE TO ROOF DECK. SEE DETAIL 7/A4. FINISH PER FINISH SCHEDULE, SHEET A4.
- PARTITION WALL: EXISTING METAL STUD AND GWB PARTITION. PATCH AND REPAIR TO LIKE NEW CONDITION. SEE DETAIL 4/A4. FINISH PER FINISH SCHEDULE, SHEET A4.
- INFILL PARTITION: 3 5/8" (20 GA) METAL STUDS @ 12" OC WITH ONE LAYER 5/8" GWB ON EXPOSED SIDE. ALIGN EXIST ADJACENT SURFACES. FINISH PER FINISH SCHEDULE, SHEET A4.
- 5 EXTERIOR DEMISING WALL: EXISTING PRE-ENGINEERED METAL BUILDING WALL WITH INTERIOR GWB. PATCH AND REPAIR WALL AS REQUIRED. FINISH PER FINISH SCHEDULE, THIS SHEET.
- 6 EXTERIOR DEMISING WALL: EXISTING BRICK, METAL STUD AND GWB. PATCH AND REPAIR AS REQUIRED.

FAMILY DOLLAR GENERAL NOTES

KEY BOX NOTE:

G.C. SHALL PROVIDE KEY BOX FOR LOCK ACCESS DURING PUNCHOUT AND TURNOVER. COMBINATION MUST MATCH LAST FOUR DIGITS OF STORE NUMBER.

DESIGNER NOTE: GC TO PROVIDE EYE BOLT EMBEDDED 12" MIN. INTO TOP OF LOADING AREA BOLLARD WITH DIAMETER SIZED FOR KEY LOCK BOX.

KNOX BOX NOTE:

IF A KNOX BOX ENTRY SYSTEM IS REQUIRED BY THE CODES GOVERNING THE CONSTRUCTION OF THE PROJECT, PROVIDE RECESSED KNOX BOX PROVIDED BY THE GC PRIOR TO THE COMPLETION OF THE PROJECT. LOCATE PER LOCAL CODE REQUIREMENTS. KNOX BOX CONTACT - 866-625-4563

CERTIFICATE OF OCCUPANCY

G.C. IS RESPONSIBLE FOR THE "CERTIFICATE OF OCCUPANCY". CERTIFICATE TO BE FRAMED AND MOUNTED IN THE MANAGERS OFFICE. IF MUNICIPALITY DOES NOT ISSUE A CofO, IT IS THE RESPONSIBILITY OF THE G.C. TO GET A LETTER FROM THE MUNICIPALITY STATING AS SUCH ON CITY/COUNTY LETTERHEAD AND THAT LETTER IS TO BE FRAMED AND MOUNTED IN MANAGER'S OFFICE.

SIGN FOR GROUND UP STORES SIGN FOR IN-LINE STORES





<u>SMOKE FREE NOTE</u>: PROVIDE SIGNAGE AT EVERY ENTRY POINT ON EXTERIOR WALL INTO THE BUILDING PER THE GROUND UP OR IN-LINE STORE TYPE ABOVE. SIGNS MUST BE 10"hX7w" IN SIZE. THE MATERIAL IS PREFERRED TO BE ALUMINUM. SIGNS MAY BE FOUND AT WWW.compliancesigns.com

HIGH PILED STORAGE NOTE:

NO HIGH PILED STORAGE, AS DEFINED BY THE CODES GOVERNING THE JURISDICTION IN WHICH THE PROJECT IS CONSTRUCTED, SHALL BE ALLOWED.

FREEZER / COOLER NOTE: ALL REACH-IN FREEZER / COOLER UNITS ARE SELF CONTAINED. REFER TO SHEET DS1 FOR SPECIFICATION.







CHECKOUTS AND POWER POLES ARE TENANT SUPPLIED / CONTRACTOR

. CHECKOUT AISLES SHALL COMPLY WITH 2012 INTERNATIONAL BUILDING CODE SECTION 1109.12.2 (PROVIDE 2 when 5 or more)

PROVIDE SIGN DISPLAYING THE INTERNATIONAL SYMBOL OF ACCESSIBILIT IN BLUE AND WHITE ABOVE EACH CHECKOUT AISLE IN THE SAME LOCATION AS

THE CHECKOUT NUMBER OR TYPE OF CHECKOUT

- TOP OF SLATWALL

PROVIDE 3'-6"(H) x 2'-6"(W) 3/4"

PLYWOOD BACKBOARD INSTALLED

GEN	IERAL REST ROOM NOTES:
1.	LAYOUT OF TOILET ROOM FACILITIES SHALL COMPLY WITH ALL APPLICABLE STATE AND LOCAL CODE ALL ADA REQUIREMENTS. SUBMIT ANY MODIFIED LAYOUTS TO FAMILY DOLLAR FOR THEIR REVIEW A
2.	TOILET ACCESSORIES ARE SUPPLIED BY TENANT AND INCLUDE THE FOLLOWING ACCESSORIES FOR
	18"X36" WALL MIRROR WITH CONCEALED MOUNTING CENTERED OVER EACH LAVATORY. INSTALL W/ E REFLECTIVE SURFACE @ 40" A.F.F. PER ADA REQUIREMENTS SHOWN ON THIS SHEET.
	DUAL ROLL TOILET TISSUE DISPENSER, 18 GA. CHROME PLATED STEEL OR APPROVED EQUAL. INSTAI REQUIREMENTS SHOWN ON THIS SHEET.
	STN. STL. COAT HOOK MOUNTED TO DOOR FACE OR APPROVED EQUAL. INSTALL HOOK @ 4'-0" A.F.F.
	1 1/4" ~ x 36" & 42" & 18" STN. STL. CODE APPROVED GRAB BARS MOUNTED TO WALL. INSTALL GRAB B REQUIREMENTS SHOWN ON THIS SHEET.
	PROVIDE JUNCTION BOX PER ELECTRICAL DRWGS. FOR TENANT SUPPLIED AND INSTALLED HAND DR
	SOAP DISPENSER MOUNTED PER ADA REQUIREMENTS SHOWN ON THIS SHEET.
	CODE APPROVED ROOM IDENTIFICATION SIGN INSTALLED ADJACENT TO STRIKE JAMB/LATCH SIDE O HORIZONTAL CENTERLINE @ 60" A.F.F.
3.	INSTALL CONTINUOUS FIRE RETARDANT TREATED 2x6 BLOCKING BETWEEN STUDS FOR ALL HANDRAI BARS, FIXTURES, BRACKETS, ACCESSORIES, CABINETRY, AND MISC. SPECIALTIES AS REQUIRED, UNL OTHERWISE.
4.	USE 5/8" MOISTURE RESISTANT G.W.B. (GREENBOARD) FOR TOILET ROOM WALLS.
5.	DOOR HARDWARE MUST BE MOUNTED BETWEEN 34 (MIN.) & 48 INCHES (MAX.)

NOTE: 1. THE ELECTRICIAN SHALL INSTALL ADDITIONAL #12 WIRE TIE SUPPORTS FROM THE CEILING GRID TO THE STRUCTURE ABOVE FOR SUPPORT OF THE LIGHT FIXTURES CLIPPED ON THE GRID.
 NOTE: 2. LIGHT FIXTURES ARE TENANT SUPPLIED / CONTRACTOR INSTALLED.
 NOTE: 3. MOUNT LIGHTS 10'-0 AFF IN STOCKROOM.

REFLEC	CTED CEILING LEGEND		
	2'-0"X4'-0" ACOUSTICAL CEILING TILE AND GRID- SEE FINISH NOTE 4.	\otimes	EXIT LIGHT
	EXIST GWB - PAINT WHITE UNLESS OTHERWISE NOTED.		VENTILATION FAN
	8'-0" STRIP LED LIGHT FIXTURE WITH LAMPS ON NIGHT LIGHT	+	CEILING HEIGHT ABOVE FINISH F
INL.	CIRCUIT. SURFACE MOUNT TO GWB AND ACT CEILING.	\boxtimes	DIFFUSER
	8'-0" STRIP LED LIGHT FIXTURE. SURFACE MOUNT TO GWB AND ACT CEILING.		RETURN AIR GRILLE
0	8'-0" STRIP LED LIGHT FIXTURE WITH LAMPS ON	•	POWER POLE
	SURFACE MOUNT TO GWB AND ACT CEILING. FOR FIXTURES WITH 4 LAMPS, THE EMERGENCY BATTERY		EMERGENCY LIGHT FIXTURE
	PACK WILL ONLY OPERATE 2 OF THE LAMPS.		SECURITY MONITOR
NL	4'-0" STRIP LED LIGHT FIXTURE WITH LAMPS ON NIGHT LIGHT CIRCUIT. SURFACE MOUNT TO TO GWB AND ACT CEILING.		
	4'-0" STRIP LED LIGHT FIXTURE. SURFACE MOUNT TO ACT AND GWB CEILING.		
	4'-0" STRIP LED LIGHT FIXTURE WITH LAMPS ON EMERGENCY LIGHT CIRCUIT WITH BATTERY PACK. SURFACE MOUNT TO TO GWB AND ACT CEILING.		

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

	FINISH SC								CHED								
	ROOM #	SPACES	FLOORS	BASES	WALLS	CEILING	NOTES							S			Т
	101	SALES	ENTRY CARPET TILE /	4" VINYL	GWB - PAINT PT-1 / FRP TO 4'-	-0" ACT	1,2,4,5,7,9,11	<i>.</i> <i>.</i> <i>.</i> <i>.</i> <i>.</i>	Тц						FR	NOTES	3
	102		POLISHED CONCRETE		EXIST GW/B-PAINT PT-3	EXIST GWB - PT-3	271012	# VV	П 6'-8"	1 3/4"	IVIA I ERIAL					1004	
	103	EXIST HALLWAY	POLISHED CONCRETE	4" VINYL	EXIST GWB / EXIST FRP	ACT	2,4,5,7	200 PR 3'-0'	" 7'-0"	.063"	EXIST TP. ALUM ALLOY	D				200A	$\frac{1}{2}$
	104 & 105 106	EXIST TOILETS PRESALES	EXIST VINYL SEALED CONCRETE / 12" PAINTED AROUND	EXIST VINYL	EXIST GWB / EXIST FRP EXISTING / GWB	EXIST GWB - PT-3	3,5 2,5,6,8,13	300 3'-0" 400 PR 3'-0" 401 3'-0"	6'-8" " 7'-0" 7'-0"	1 3/4" 1 3/4" 1 3/4"	EXIST SC WOOD EXIST HOLLOW METAL EXIST HOLLOW METAL	C E B	- - -	 		300C 400A 400C	3
								402 3'-0" 403 3'-0" 500 PR 3'-0	7'-0" 7'-0" "7'-0"	1 3/4" 1 3/4" 1 3/4"	HOLLOW METAL HOLLOW METAL ALUM & GLASS	B B A	- 5/A4 2/ -	- 6/A4 S2.0 5/A4 - 1/A4		400C 400G 500A	4
		NISH SCHEDULE				DDODUOT		DOOR N	IOTES				HARD	WARE NC	TES		
	NO. IYP PT-1 EGGS	YE C SHELL 2	UAIS BENJAMIN MC "FD BM #2019-70 -	JORE LIGHTING WHITE"	SUPER HIDE ZERO VOC LATI	PRODUCT EX - 357		1. PROVID	DE A SIGN ENT TO T	N POSTED HE DOOR	ON THE EGRESS SIDE, C STATING: " THIS DOOR T	ON OR O REMAIN	HDW # 1 1 ´	00A /2 PAIR HING	ES: STANDA	ARD WEIGH	IT
	PT-2 SEMI	-GLOSS ENAMEL 2	"FD BM #2019-70 -	LIGHTING WHITE"	SUPER HIDE ZERO VOC LAT	EX - 358		UNLOC SHALL	<u>KED WHE</u> BE IN LE ⁻	<u>EN BUILDIN</u> TTERS 1" H	IG IS OCCUPIED. " THE S	SIGN G	1 N	1ECHANICAL WITH LEVEF	PUSH BUTT HANDLE	ON LOCKS	ΞT
	PT-7 SEMI	-GLOSS ENAMEL 2 -GLOSS 2	"FD BM GREY"		TOUGH SHEILD ACRYLIC GL	EX - 358 OSS - TY 43		BACKG	ROUND.				10	LOSER			
	PT-8 SEMI	-GLOSS 2	"FD BM WHITE"		TOUGH SHEILD ACRYLIC GL	OSS - TY 43		2. NEW DO DOORS) Sors - S W/ Wine	UPPLIED E DOW .	SY TENANT - ELIASON BI-	SWING	HDW # 2	00A		DOOD	
	FINISH NO	OTES						3. DOOR, INSTALI	FRAME A L ANY MI	ND HINGE	S ARE EXISTING. PROVI MS OF HARDWARE PER	DE AND	EA 9"	/P-3 ALUMINU SY SWING HI X 30" CLEAR .	M TRAFFIC NGE SYSTE ACRYLIC W	INDOW	
	1. CARPET TI	ILE: MANUFACTURED BY	PORTICO SYSTEMS AND	6. SEAL	ER: CLEAR ACRYLIC SEALER BY	MASTERKURE, CC 300)SB OR			TES.		- @ 4' 2"	FL	USH HOLLOW	METAL FR	AME - DRY\	NAL
		UPPLIED /CONTRACTOR	INSTALLED. INSTALL TILES NT'S CRITERIA.	FDS A 7. POLIS	APPROVED SUBSTITUTE. SHED CONCRETE FLOOR PER M/	ANUFACTURE SPECIFIC	CATIONS	AFF.	JE (UNE)			<u>@</u> 4 -3	1 ⁴	/2 PAIR HING	ES: STANDA	ARD WEIGH	T
PAINT BLACK (TYP). EMBEDDED 3" DEEP INTO 2"Ø HOLE AND	CONTRACT	TILE: DOMINATOR LP TIL TOR SHALL PREPARE FLO	DOR SURFACE AND	BY TE	ENANT'S VENDOR. COORDINATE	WITH TENANT.		5. PAINT E PAINT.	DOOR AN	D FRAME	N/ WHITE SEMI-GLOSS E	NAMEL	1 ((F	LOSER			
FILLED WITH NON-SHRINK GROUT	2. VINYL COV	/E BASE: 4" HIGH TOPSET	ON W/ CARPET INSTALLER. COVE VINYL - ARMSTRONG, BLAC	8. 12" S K. BAND	TRIPE AROUND PERIMETER & AF) SHALL BE PAINTED PRIOR TO P	ROUND COLUMNS: COL PAINTING ANY YELLOW	OR- PT-8. CLEAR	6. INSTALI	L TENAN	T SUPPLIE	D SIGNAGE PER ELEVAT	ION		RDWARE)			
	VINYL BAS GONDOLAS	SE ON EXPOSED AREAS C S AND FREEZER / COOLE	NLY IN SALES ROOM (NOT BEHIND RS). VINYL COVE BASE TO BE LOC/	FLOC ATED 9. EXPC	OR AREAS. DSED STEEL COLUMNS TO BE PA	INTED PT-1. ROUND CO	DLUMNS	7. REINFO	RCE JAN	IBS WITH V	WOOD BLOCKING.		יעח # 2 3 '	PAIR HINGES:	4 1/2" HEA	VY WEIGHT	,
GALV CHAIN LINK FABRIC. SECURE TO	IN PRESAL 3. SHEET VIN	.ES AT MOP SINK AND CA NYL: CLASSIC CORLON SE	BINET ONLY UON. ERIES MANUFACTURED BY	ARE I 10. PROV	NOT TO RECEIVE COVE BASE. /IDE PREFORMED COUNTER WIT	TH WHITE HIGH PRESSI	JRE	8. CONTR			E AND INSTALL DOOR SV		1 I	NON- REMC NON-ALARME	D, NON-KEY	S (ED PANIC NE ALARM	BAR
RAILING ON ALL SIDES.	ARMSTROI SHEET VIN	NG - CONNECTION CORL IYL BASE: INTEGRAL, 3/8"	ON "PORCELAIN" #88724 OR EQUA RADIUS, 6" HIGH COVED BASE W/	L. LAMII BY TE	NATE FINISH. MOUNT TO WALLS ENANT. SEE ENLARGED OFFICE	. FILING CABINETS PRO PLAN AND OFFICE ELE	OVIDED VATION.	DEBRIS	SINFILTR	ATION.				REFER TO DETAIL	OOR ALAR	M MOUNTIN	1G
	COVE STIC 4. PROVIDE 2	CK AND EXTRUDED ALUM 2'-0" X 4'-0" CEILING TILE E	INUM CAP TRIM. EQUAL TO ARMSTRONG	11. SALE BEHII	S AREA TO RECEIVE LEVEL 4 FIN	NISH. PROVIDE FINISH ⁻ NDOLA TO FE EVERYW	TO 1'-0" HERE	9. MOUNT BACK S	I ENAN I IDE OF D	SUPPLIEL DOOR.) COAT HOOK AT 48" AFF	·. ON	2 (2	OVERHEAD H	OLDERS/ST (ON INACT	OPS IVE LEAF)	
	"CORTEGA AREAS WIT	A" MINABOARD #769, WHIT TH SIGNIFICANT AIR PRE	ΓΕ, IN A WHITE METAL GRID. (IN SSURE DIFFERENTIALS PROVIDE	ELSE	CONTRACTOR SHALL ALLOW 7	2 HOUR CURE TIME.		10. PAINT E PAINT. I	DOOR FR	AME WHIT	E WITH SEMI-GLOSS WITH ORIGINAL FINISH.	ENAMEL	1[DUST PROOF PEEP HOLE	STRIKE		
		N CLIPS TO RETAIN PANE	ELS IN PLACE.)	12. SLAT SEE M	WALL: 3/4" SLATWALL WITH WHIT /ANUFACTURER'S DRAWINGS FC	E MELAMINE FINISH. DR INSTALLATION		11. PROVID)E SIGNA	GE THAT F	READS "EMERGENCY EXI	IT ONLY."	1/2	ALUM THRESI SWEEPS	10LD (1/2" N	MAX HEIGH	Г)
	PEBBLED E	EMBOSSED FINISH, BY CF	RANE COMPOSITES OR EQUAL):	INSTA	LLED.	LIED / CONTRACTOR		12. PROVID	DE SIGNA	GE THAT F	READS "EMPLOYEES ONI	_Y."	1\	NEATHER ST RAIN DRIP	RIP		
	FRP TO 8'-0 CABINET O	0" AFF IN PRESALES BEH	IND MOP SINK AND UTILITY	13. PAIN1	T EMPLOYEE AREA WALLS PT-4 1	ΓΟ 4'-0" AFF.		13. PROVIL HANDLE	ES AND C	N WASHER CRASH BAF	RS TO PREVENT METAL (OR ON METAL	HDW #	IOOC			
	DRINKING ON PLANS/	FOUNTAIN ONLY. FRP ON /ELEVATIONS) SHALL BE	I SALES FLOOR (WHERE NOTED ALMOND COLOR WITH "J"					14. ALL DO	OR FRAM	/IE, CASED	OPENING AND HARDWA	RE	1	/2 PAIR HING REMOVABL	ES: STAND/ E PINS	ARD WEIGH	IT, N
	CHANNEL ⁻	TRIM CAP AND "H" CHANI	NEL PANEL CONNECTORS.					MATERI RESPOI	IAL WILL NSIBLE F	BE SUPPL	IED BY TENANT. GC IS _LATION.		11	NON-ALARME WITH STAN	D, NON-KEY D ALONE AL	/ED PANIC _ARM - REF	3AR ER 1
A								, F					1 ′	ALARM MOU	INTING DET STOP ARM	ΓAIL. 1	
								GENERA	AL HAF	RDWAF	RENOTES		- 1 F	PEEP HOLE	iold (1/2" N	MAX HEIGH	T)
								1. THRES MORE	HOLDS A THAN 1/2	AT EGRESS 2" (MAX) HE	S DOORS SHALL BE NO EIGHT AFF.		1:	SWEEP VEATHER ST	RIP		
								2. ALL DC	OOR HAN	DLES, PUL PERATING I	LS, LATCHES, LOCKS DEVICES SHALL BE		1 HDW #	IOOG			
								INSTAL BE "SIN	LED 34" IGLE-HAI	(MIN) TO 4 NDED" OPE	4" (MAX) AFF AND SHALL ERABLE WITHOUT USE O	F	1 '	/2 PAIR HING REMOVABL	ES: STAND/ E PINS	ARD WEIGH	IT, N
								KEY OF 3. WHERE	R SPECIA E EGRES	NL KNOWLE	EDGE. ARE USED IN PAIRS, THE	E	11	NON-ALARME DEVICE W/ I STAND ALO	D, NON-KEY (EYED EXTI NE ALARM	ERIOR TRIN	3AR /: W
ALIGN (BOTH SIDES)					— PROVIDE (2) #12 x 3/4" SMS @ DOWN FLUTE	EA		UNLAT MORE	CHING O THAN ON	F THE LEA IE (1) OPEI	F SHALL NOT REQUIRE RATION AS MENTIONED		1	ALARM MOU	INTING DET	ΓAIL. 1	DOC
GWB TO MATCH EXISTING.						STEEL ROOF		IN GEN	IERAL HA		NOTE #2 ABOVE.		11	PEEP HOLE	IOLD (1/2" N	//AX HEIGH:	T)
		<u>1</u> "			PROVIDE #8 WAFERH	IEAD FRAMING		4. CONTR BE LEV	ER-TYPE	E (OR EQU)	AL) PROVIDING		1 {	SWEEP VEATHER ST	RIP		•)
AS REQUIRED.				ф 	PROVIDE (20 GAGE) 2	2 1/2" LEG STANDARD		TIGHT THE W	GRASPIN RIST.	NG, PINCHI	NG, OR TWISTING OF		1 F	RAIN DRIP			
VINYL 'J' MOLD			TAL DOOR ED W/ GROUT		DEFLECTION.	TOP TRACK FOR T		5. THE FC	DRCE RE		D ACTIVATE CONTROLS		t # HDW H	i00A INGES PER S	FOREFRON	T MANUFA	CTUI
SEALANT W/ BACKED		(AS SCHEDU				TICAL R TO		OF INT GREAT	ERIOR H ER THAN	NGED DO	ORS SHALL BE NO S (22.2 N).		(B) 2	Y GENERAL C CLOSERS WI	ONTRACTO) Rm and dr	OP F
ROD (BOTH SIDES)			TAL DOUR AS		REFLECTED CEILING FOR HEIGHT	B PLAN		6. DOORS ADJUS	S EQUIPP	PED WITH (THAT THE	CLOSERS SHALL BE SWEEP PERIOD FROM		2	PUSH PLATE	S (BY GENE S (BY GEN	RAL CONTE ERAL CONT	RAC RA(
METAL THRESHOLD SET IN								AN OPI AT LEA	EN POSIT AST 3 SE	TION OF 70 CONDS TO	DEGREES WILL TAKE MOVE TO A POINT 3"		1 r 1 (COMMERCIAL		ADLOCK W	(NT) THI /
BED OF SEALANT			-					FROM LEADIN	THE LAT	CH, MEAS	URED FROM THE OOR.		NO [°]	TE: CONTRAC	TOR SHALL	. VERIFY CL	LOSE
INTERIOR					PAINT LIGHTNING WH	HITE							DOI CL(ES NOT HAVE DSER DOES, 1	A HOLD-OF	PEN FEATU	RE. I
EXISTING CONC		WAX											REF	PLACE WITH N	EW CLOSE	R.	
RE																	
					NOTE: ATTACH GONDO	LA FIXTURE		*			– 1 1/2" Ø STEEL PIPE PAINT BLACK (TYP).	RAILING - EMBEDDI	ED				
TION - REFER TO STRUCTURAL DRAWINGS FOR ROUGH					UNITS PER MANUFACT INSTRUCTIONS.	URER'S				M	3" DEEP INTO 2"Ø H FILLED WITH NON-S	OLE AND HRINK GR	JUT				
OPENING		i dai an Tagan Inda Indana Ang															
5 HFAD & SILL																	
A4 SCALE: 1 1/2" = 1'-0"					METAL STUD AND GW WALL CONSTRUCTIO	VB PARTITION - N TYPE:											
								-10"									
					@ 16" OC WITH ONE LA	YER 5/8" GWB											
	FRAME AS SCHE																
EXTERIOR 1	IN BED OF SEAL	ANT			/ (20 GA) SILL TRACK	W/ "HILTI" SHOT						JRAL SHEE	:T S				
	INTERIOR	SLAB			PIN "DN" SERIES #X- X .145" DIA @ 16" OC	DNI EMDED 1 1/4" C (OR EQUAL)			لې يې + +								
	1				,			I	1 I	1 1	*						

____TENANT'S FLOOR FINISH

- 1. FIELD VERIFY ALL CONDITIONS AND DIMENSIONS PRIOR TO CONSTRUCTION. COORDINATE ALL WORK WITH ARCHITECTURAL AND MECHANICAL DRAWINGS.
- UPON COMPLETION OF DEMOLITION WORK, CONTRACTOR SHALL NOTIFY ENGINEER OF ANY DISCREPANCIES IN ASSUMED CONDITIONS PRIOR TO MAKING ANY NEW STRUCTURAL MODIFICATIONS.
- 5. ALL WELDING SHALL BE PERFORMED IN ACCORDANCE WITH AWS AND SHALL BE PERFORMED BY AWS
- ALL WELDS SHALL BE INSPECTED BY AWS CERTIFIED WELDING INSPECTORS. CONCRETE SHALL BE 3,000 PSI MINIMUM COMPRESSIVE STRENGTH AT 28 DAYS.
- 10. CONTRACTOR SHALL SUPPLY ROOF TOP UNIT CURBS OF APPROPRIATE DIMENSIONS AND PROVIDE NEW ∠ 4"x 4"x 1/4" MEMBERS TO ENSURE CURBS ARE FULLY SUPPORTED.
- 14. STRUCTURE DESIGN LOADS: 2018 INTERNATIONAL BUILDING CODE
 - WL = EXPOSURE "B" V_{ULT} = 115 mph V_{ASD} = 90 mph GROUND SNOW LOAD = 10 psf

 - BUILDING OCCUPANCY CATEGORY II IMPORTANCE FACTOR 1.0 (I w) ENCLOSED BUILDING, INTERNAL PRESSURE COEFFICIENT +/- 0.18 (GCpi) LL ROOF = 20 psf REDUCED AS ALLOWED BY CODE

1. PROVIDE NEW CONCRETE LANDING AND STAIR ON EXISTING CMU WALL AT SIDE EXTERIOR WALL OF SPACE. 2. PROVIDE (2 NEW ROOF TOP UNITS (RTU's) AT LOCATIONS COORDINATED WITH MECHANICAL ENGINEER. PROVIDE NEW ROOF CURBS AND STRUCTURAL SUPPORT AS SHOWN.

6 ----à _____ RRMNARCHITECTS, PC 1317 Executive Blvd, Suite 200 Chesapeake, VA 23320 (757)622-2828 / fax (757)622-6883 \sim H, DEAL 62 503 TENN Parsons, TE EXISTING RD sheet S-1.0

AIR DEVICE TAG

SUPPLY AIR DIFFUSER RETURN/EXHAUST AIR GRILLE

FIRE DAMPER

VOLUME DAMPER PLUMBING FIXTURE TAG

PLUMBING SANITARY (WASTE) BELOW SLAB PLUMBING SANITARY (WASTE) ABOVE SLAB

PLUMBING VENT DOMESTIC COLD WATER

DOMESTIC HOT WATER

NATURAL GAS (NEW) NATURAL GAS (EXISTING)

AIR CONDITIONING CONDENSATE

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.

RE-IDENTIFY ALL ROOFTOP EQUIPMENT SERVING TH 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

CONTRACTOR SHALL REFER TO THE TEMPERATURE SENSOR MOUNTING DETAIL FOR PLACEMENT AND INSTALLATION INSTRUCTIONS PRIOR TO INSTALLING.

NOTE- HVAC CONTROLS: CONTRACTOR SHALL REFER TO THE EM SHEETS FOR INSTALLATION INSTRUCTIONS TEMPERATURE AND CO2 SENSOR LOCATIONS PRIOR TO INSTALLATION OF ALL RELATED ITEMS. PLEASE NOTE THAT EM SHEETS INDICATE ROOF TOP UNITS. PLEASE REFER TO MANUFACTURER'S INSTRUCTIONS FOR SIMPLE STAT WIRING FOR ALL OTHER SYSTEMS.

CONTACT TELETROL PRIOR TO ENERGIZING SYSTEM. FAILURE TO COMPLY WITH THESE INSTRUCTIONS COULD RESULT IN CONTRACTOR REPLACING SYSTEM (FIRE, DOMESTIC WATER, SEWER, GAS, STORM)

SITE UTILITIES

- I. CONTRACTOR SHALL VERIFY POINT OF CONNECTION TO SITE UTILITY SERVICE PRIOR TO COMMENCING INSTALLATION. CONTRACTOR SHALL VERIFY EXISTING SANITARY SEWER INVERT PRIOR TO START OF WORK. IF INVERT CANNOT MEET SLOPE REQUIREMENTS WITH NEW TENANT PIPING, NOTIFY THE GENERAL CONTRACTOR IMMEDIATELY.
- 2. CONTRACTOR SHALL ADJUST LOCATION AND DEPTH OF BUILDING SERVICES AS REQUIRED TO CONNECT TO SITE 3.
- UTILITY SERVICE. CONTRACTOR SHALL MAKE FINAL CONNECTION TO SITE UTILITY SERVICE (UNLESS OTHER PROVISIONS HAVE BEEN MADE).
- CONTRACTOR'S FAILURE TO PROPERLY COORDINATE SERVICES SHALL NOT BE JUSTIFICATION FOR ANY EXTRA 5. CHARGES.

GENERAL NOTES

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

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

- PROVIDE PROPER CONDENSATE TRAP AND TERMINATE AS REQUIRED BY LOCAL CODE. С.
- 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.
- DO NOT SUSPEND ANY ITEMS FROM DECK OR SLAB ABOVE. ALL ITEMS SHALL BE SUSPENDED FROM TOP CHORD OF H. STRUCTURE, UNLESS OTHERWISE NOTED. PROVIDE MISCELLANEOUS STEEL AS REQUIRED.
- 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.
- CONTRACTOR SHALL COORDINATE AND SCHEDULE ALL WORK WITH LANDLORD'S FIELD REPRESENTATIVE.
- PROVIDE SUPPORT FOR PIPING ON ROOF PER LANDLORDS ROOFING CONTRACTORS RECOMMENDATIONS. K. WHERE AN OPEN CEILING PLAN IS UTILIZED FOR THE SALES AREA, AIR DEVICES SHALL BE INSTALLED AT 12'-O" A.F.F.,
- OR COORDINATED WITH LIGHTING INSTALLATION HEIGHT. VERIFY ALL REQUIREMENTS WITH PROJECT MANAGER. FOR EXISTING DUCT SMOKE DETECTORS, FURNISH AND INSTALL A REMOTE AUDIBLE/VISUAL ALARM DEVICE WITH A M.
- REMOTE TEST SWITCH (SYSTEM SENSOR #SSK451) LOCATED IN AN APPROVED LOCATION AND WIRE EXISTING DETECTORS TO ALARM. FIELD VERIFY EXACT REQUIREMENTS. CONTRACTOR SHALL TEST SYSTEM TO INSURE PROPER FUNCTION PRIOR TO TENANT OCCUPYING SPACE.

WHERE NO EXISTING DUCT SMOKE DETECTOR IS PRESENT. FURNISH AND INSTALL DUCT SMOKE DETECTOR (SYSTEM SENSOR #D4120) IN RETURN AIR DROP FROM UNIT. FURNISH AND INSTALL A REMOTE AUDIBLE/VISUAL ALARM DEVICE WITH A REMOTE TEST SWITCH (SYSTEM SENSOR #. RTS2-A0S) LOCATED IN AN APPROVED LOCATION AND WIRE DETECTOR TO REMOTE ALARM. FIELD VERIFY EXACT REQUIREMENTS. CONTRACTOR SHALL TEST SYSTEM TO INSURE PROPER FUNCTION PRIOR TO TENANT OCCUPYING SPACE. CONTRACTOR SHALL TEST ALL SMOKE DUCT DETECTOR SYSTEMS TO INSURE PROPER FUNCTION PRIOR TO TENANT

OCCUPYING SPACE. SMACNA EQUIVALENT ROUND DUCT SIZES MAY BE SUBSTITUTED FOR THE RECTANGULAR DUCT SIZES INDICATED ON THE N. PLANS. ALL DUCT, INSULATION, AND OTHER MATERIALS AND SPECIFICATIONS SHALL BE PER PLANS. EQUIVALENT SIZING SHALL BE NEXT HIGHER STANDARD SIZE FROM DUCTILATOR SIZING (E.G. 14X12 = 13.5 ROUND - USE 14 INCH ROUND.) SUBSTITUTION SHALL BE OF NO ADDITIONAL COST OR TIME TO THE TENANT DELIVERY, CONTRACTOR SHALL BEAR ANY COST BURDENS INCURRED FOR DESIGN CHANGES TO PLANS FOR CODES/INSPECTIONS.

KEYED NOTES

- KI EXISTING TOILET EXHAUST TO REMAIN. CONTRACTOR SHALL VERIFY PROPER OPERATION OF EXISTING FAN(S) AND EXHAUST CAPACITY OF 100 CFM MIN. PER TOILET.
- K2> NATURAL GAS SERVICE, METER AND PIPING ARE EXISTING TO REMAIN FOR XRTU-1, 2, 3, 4 & 5. PROVIDE NEW I" NG PIPING FROM METER HEADER TO NEW RTU-6 \$ 7, AND XRTU-8. COORDINATE WITH LOCAL UTILITY TO DELIVER 1167 TOTAL MBH AT 2 PSI. PROVIDE NEW NG REGULATOR AT EACH RTU FOR 7" WC OUTLET AND CONNECT PIPING TO UNIT.
- K3> EXISTING HVAC UNIT, CURB AND ROOF OPENING TO REMAIN. CONTRACTOR SHALL SERVICE HVAC COMPONENTS PER BELOW AND PROVIDE AND INSTALL NEW ACCESSORIES AND CONTROLS AS INDICATED ON PLANS, SCHEDULE AND NOTES. CONNECT NEW DUCTS TO EXISTING DUCT DROPS FROM UNITS PROVIDED BY OTHERS WITH TRANSITION FITTINGS AS REQUIRED.

THE FOLLOWING MODIFICATION AND RE-CONDITIONING EFFORTS SHALL BE ACCOMPLISHED TO THE EXISTING HVAC COMPONENTS BEING RE-USED. VERIFY LANDLORD WARRANTY ISSUES WITH FINAL LEASE AGREEMENT PRIOR TO START OF WORK.

HVAC UNITS: WHEN KEEPING EXISTING MECHANICAL UNITS, IMMEDIATELY UPON ARRIVAL ON JOB SITE CONTRACTOR SHALL INSPECT, SERVICE AND TEST 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 AND WORN SHEAVES (IF REQUIRED.) CHECKING EVAPORATOR AND CONDENSER FANS AND FAN MOTORS, CLEANING AND COMBING EVAPORATOR AND CONDENSER COILS, CHECKING AND TRIMMING REFRIGERANT CHARGE AND LUBRICATION, CHECKING COMPRESSOR AMP DRAW, INSPECTING HEAT EXCHANGER AND GAS TRAIN TO VERIFY PROPER OPERATION (OR ELECTRIC HEAT AND CONTROLS AND REVERSING VALVE AS APPLICABLE), CHECKING DAMPER OPERATION AND DAMPER MOTORS, CLEANING CONDENSATE TRAP, ETC., TO INSURE PROPER OPERATION. ADJUST FANS, SHEAVES, AND SETTINGS AS INDICATED. PROVIDE CONTROLS NEW AS INDICATED ON SCHEDULE. UNITS NOT RESTORABLE TO GOOD WORKING ORDER SHALL BE BROUGHT TO THE ATTENTION OF THE GENERAL CONTRACTOR. SHOULD ANY REPAIRS BE REQUIRED, CONTRACTOR SHALL IMMEDIATELY NOTIFY CPM (CONSTRUCTION PROJECT MANAGER) AND /OR OWNER'S REPRESENTATIVE AND SUBMIT A WRITTEN REPORT AS TO THE CONDITION AND A COST

PROPOSAL INCLUDING COMPLETE COST TO PLACE UNIT IN "LIKE NEW" CONDITION AND TIME ESTIMATE TO COMPLETE REPAIRS. DUCTWORK: DUCTWORK INDICATED TO REMAIN FOR RE-USE SHALL BE INSPECTED AND RE-SEALED OR REPAIRED AS REQUIRED WITH INSULATED GALVANIZED SHEET. CONTRACTOR SHALL PROVIDE BLANKET WRAP INSULATION ON ALL

EXISTING UN-INSULATED DUCTWORK. DIFFUSERS & GRILLES: EXISTING DIFFUSERS, GRILLES, ETC. INDICATED TO REMAIN FOR RE-USE SHALL BE CLEANED AND TOUCH-UP PAINT APPLIED AS REQUIRED. WHERE REQUIRED TO CLEAR NEW LIGHTING, GRILLES SHALL BE RELOCATED TO ADJACENT CEILING GRID AND THE DUCTWORK EXTENDED TO MATCH EXISTING.

- KA CONTRACTOR SHALL INSTALL NEW TENANT PROVIDED HVAC UNIT. CONTRACTOR TO PROVIDE ROOF CURB AS INDICATED ON PLANS, SCHEDULE AND NOTES. PROVIDE NEW OPENING AND STRUCTURAL SUPPORT AS SHOWN ON STRUCTURAL DRAWINGS. PROVIDE FULL SIZE DUCT DROPS TO BOTTOM CHORD OF STRUCTURE. CONTRACTOR SHALL PROVIDE AND INSTALL NEW DUCTWORK, CONTROLS, AND ACCESSORIES AS INDICATED ON THE PLANS, SCHEDULES, AND NOTES.
- K5 CONTRACTOR SHALL LOCATE BOTTOM OF STOCK ROOM DUCTWORK 12'-O" 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.
- KE> COVER OPEN END OF RETURN DUCT WITH I" MESH HARDWARE CLOTH IN A REMOVABLE METAL FRAME. SEE DETAIL SHEET MP2.
- KT> MODIFY EXISTING CO2 CONTROLS TO INCLUDE NEW RTU-6. ON COLUMN AT 6'-O" A.F.F. THIS SENSOR SHALL NOW CONTROL XRTU-1, 2, 3 & 4 AND RTU-6. SEE EM SHEETS FOR MORE INFORMATION.
- KE> EXHAUST FANS (EF-2 AND EF-3) SHALL BE CONTROLLED BY LINE VOLTAGE THERMOSTAT ON WALL AT CEILING (BEHIND COOLER/FREEZER SHROUD). ALL DUCT SHALL BE MOUNTED AS HIGH AS POSSIBLE ABOVE CEILING, ROUTE DISCHARGE DUCT ABOVE CEILING THEN TURN DOWN TO EGG-CRATE GRILLE IN SPACE AS INDICATED.
- KO EXISTING PLUMBING FIXTURES TO REMAIN SHALL BE CLEANED, TOILET SEAT REPLACED, TANK FLUSH MECHANISM REPLACED IF REQUIRED, FAUCETS REFURBISHED INCLUDING REPLACING CARTRIDGE IF REQUIRED, ADDING OR REPLACING ADA REQUIRED INSULATION ON LAV TRAP AND WATER PIPING AND STOPS, ETC., LEAVING FIXTURES IN "LIKE NEW" CONDITION. SHOULD ANY FIXTURES REQUIRE REPLACEMENT, CONTRACTOR SHALL IMMEDIATELY NOTIFY OWNER'S REPRESENTATIVE AND SUBMIT A WRITTEN COST PROPOSAL TO REPLACE INCLUDING A TIME ESTIMATE TO COMPLETE REPAIRS. CONTRACTOR SHALL ALSO ROD DRAINS TO INSURE PROPER FLOW.
- KID EXISTING WATER HEATER TO REMAIN, VERIFY 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.
- KID CONTRACTOR SHALL REMOVE EXISTING WATER CLOSET. CONTACTOR SHALL INSTALL NEW WATER CLOSET WHERE EXISTING IS REMOVED, CONTRACTOR TO COORDINATE TRIP LEVER FOR ACCESS SIDE.
- KIZ> CONTRACTOR SHALL INSTALL AIR CURTAIN AND CONTROLS AS INDICATED ON THE PLANS AND SCHEDULE.
- KI3> EXISTING UNIT TO REMAIN FOR TEMPERING OF UNUSED SPACE. CONTRACTOR SHALL SERVICE EXISTING UNIT AND ACCESSORIES PER ABOVE ABOVE. UNIT NOT DEEMED SERVICEABLE SHALL BE REPORTED TO THE TENANTS REPRESENTATIVE AND CONTRACTOR SHALL CHECK REAR UNIT IF FIRST IS NOT SERVICEABLE FOR CONSIDERATION ALSO. CONTRACTOR SHALL BLOCK AND REDIRECT AIR AWAY FROM NEW DEMISING WALL AT EXISTING CONCENTRIC DIFFUSER TO REMAIN.

KIZ- CONTRACTOR SHALL COORDINATE WITH UTILITY TO REMOVE EXISTING METER AND TERMINATE SERVICE FOR UNUSED METER.

								EXISTING ROO	OFTOP UNIT	- SCHEDUL	E (ga	as heat/elec	. cool)						
MARK	MFG/MODEL	DISCHARGE	TONS	ESP	CFM	OUTSIDE AIR		ENTERING AIR	NET COOLING C	APACITY (MBH)	ARI	HEATING FUEL	HEATING		AFUE %		MCA/	ACCESSORIES	UNIT WEIGHT
XRTU-I	RHEEM RGEA14048	DOWNFLOW	4	0.8	1600	150	400	80°F DB 61°F WB @ 95 °F AMBIENT	EXISTING	EXISTING	JLLK	NATURAL GAS	100		82	208/3/60	25/35	23,45	EXISTING
XRTU-2	RHEEM RRNLBO48	DOWNFLOW	4	0.8	1600	150	400	80°F DB 67°F WB @ 95 °F AMBIENT	EXISTING	EXISTING		NATURAL GAS	100		82	208/3/60	34/50	2,3,4,5	EXISTING
XRTU-3	YORK ZYGOB	DOWNFLOW	7.5	1.0	3000	250	800	80°F DB 67°F WB @ 95 °F AMBIENT	EXISTING	EXISTING		NATURAL GAS	180	44	82	208/3/60	40.4/50	13,45	EXISTING
XRTU-4	YORK ZYGOB	DOWNFLOW	7.5	1.0	3000	250	800	80°F DB 67°F WB @ 95 °F AMBIENT	EXISTING	EXISTING		NATURAL GAS	180	144	82	208/3/60	40.4/50	1 <i>3</i> ,45	EXISTING
XRTU-5	YORK ZYGO4	DOWNFLOW	3	0.8	1200	150	150	80°F DB 67°F WB @ 95 °F AMBIENT	EXISTING	EXISTING		NATURAL GAS	112	90	82	208/3/60	23.7/35	1,3,4,5	EXISTING
XRTU-8	TRANE YSCI20	DOWNFLOW	ю	1.0	4000	0	0	80°F DB 67°F WB @ 95 °F AMBIENT	119.5	89.8	EXIST	NATURAL GAS	200	160	82	208/3/60	50.1/60	6	EXISTING
ACCES	SORIES PR	OVIDED AN		NSTA	LLED	BY TENAN	IT CONTRAC												

1. PROVIDE AND INSTALL NEW DIFFERENTIAL ENTHALPY ECONOMIZER WITH BAROMETRIC RELIEF

2. PROVIDE AND INSTALL NEW DIFFERENTIAL ENTHALPY ECONOMIZER WITH BAROMETRIC RELIEF ON EXISTING HORIZONTAL DUCT ABOVE ROOF 3. PROVIDE AND INSTALL NEW LOUVERED CONDENSER COIL GUARDS ACCESSORIES PROVIDED BY TENANT FOR TENANT CONTRACTOR INSTALLATION:

4. CO2 DEMAND CONTROL VENTILATION. OA MIN. OPEN POSITION SHALL BE THE MIN. AND SHALL MODULATE OPEN UP TO THE MAX. TO MAINTAIN MAXIMUM CO2 LEVELS IN THE BREATHING AREA OF 1000 PPM RELATIVE TO THE OA AMBIENT.

5. INSTALL EMS CONTROLS PACKAGE

6. INSTALL EMS CONTROLS PACKAGE, SET TO MAINTAIN MINIMAL SPACE CONDITIONING (55 HEATING 78 COOLING (ADJUSTABLE PER TENANT ROMTS)) 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 ASHRAE 62.1-2004 TABLE 6-1 BUILDING AND PEOPLE COMPONENTS FOR AN ENGINEERED VENTILATION SYSTEM EMPLOYING A CO2 MONITORING SYSTEM.

								R <i>OO</i> FTO	P UNIT SCH	EDULE (aa	s he	at/elec. coo)						
								RTU PROV	VIDED BY TENAN	T FOR INSTALLA	ATION E	BY CONTRACTOR							
MADY	MEG/MODEL	DIGCHADGE	TONG	ECD	CEM	OUTSIDE AIR	OUTSIDE AIR	ENTERING AIR	NET COOLING C	APACITY (MBH)	ARI FFR/	HEATING FUEL	HEATING (CAPACITY	AFUE	ELECTRICAL	MCA/	ACCESSORIES	UNIT WEIGHT
		DISCHARCE			UTR	CFM (MIN.)	CFM (MAX.)	CONDITIONS	TOTAL	SENSIBLE	SEER		INPUT	OUTPUT	%	VOLT / PH / HZ	MOCP		(LBS)
RTU-6	CARRIER 48HCED08	DOWNFLOW	7.5	1.0	2970	300	800	80°F DB 67°F WB @ 95 °F AMBIENT	93.3	72.2	l2.0	NATURAL GAS	180	148	82	208/3/60	42.6/50	1,3,4,5,6,7,8	1050
RTU-7	CARRIER 486CEA05	DOWNFLOW	4	1.0	1400	150	150	80°F DB 61°F WB @ 95 °F AMBIENT	50.6	3 8.I	15.6	NATURAL GAS	115	92.3	82	208/3/60	25.3/30	1,456,78	150
ACCES	SORIES PR	OVIDED AI	ND IN	ISTA	LLED	BY TENAN	T CONTRAC	TOR:	•							•			
I. FL	ILL PERIMET	ER INSULA	TED	ROC	OF CUF	RB OR ADA	APTER CUR	3 AS REQUIRED, S	LOPED PER F	00F REQUIR	EMEN	TS FOR LEVEL	UNIT INST.	ALLATION					
2. Di	RAIN PAN O	VERFLOW	SMITC	CH F	OR UN	NIT SHUT-DO	OMN												
ACCES	SORIES PR	OVIDED B	Y TEN	IANT	FOR	TENANT CO	ONTRACTO	R INSTALLATION:											
3. CO	D2 DEMAND	CONTROL	VEN	TILA	TION.	OA MIN. C	PEN POSIT	ION SHALL BE THE	E MIN. AND SH	ALL MODULA		PEN UP TO THE	MAX. TO	MAINTAIN	MAXIN	MUM CO2 LEVE	ELS IN TH	E BREATHING ,	AREA
4. DI	FFERENTIAL	ENTHALP	Y ECO	ONO	OA A MIZER	MBIENT. R WITH BAR		ELIEF											
5. IN	STALL EMS	CONTROLS	5 PAC	CKAG	Æ														
6. LC	NVERED CO	ONDENSER	COIL	. <i>G</i> UA	ARDS														
7. UN	IT MOUNTED	NON-POW	ERED	NE/	ATHER	RPROOF G	CI OUTLET												
8. UN	IT MOUNTED	DISCONNE	ECT S	5WITO	CH														

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 ASHRAE 62.1-2004 TABLE 6-1 BUILDING AND PEOPLE COMPONENTS FOR AN ENGINEERED VENTILATION SYSTEM EMPLOYING A CO2 MONITORING SYSTEM.

						VENTILAT	ION AIR CALCULATIONS								
Zone	Unit	Occupancu Cateaoru	DOAS / 57 / M7	Area	People OA Rate	Area OA Rate	Occcupant Density	Occupants	Breathing Zone OA Flow	Zone Air Distribution	Zone Outdoor Airflow	System Ventilation Fff	OA Intake Flow Required	Total OA Delivered	Unit OA Delivered
20110	01110	• • • • • • • • • • • • • • • • • • •		(fe)	(cfm/per)	(cfm/sf)	(#/IOOO sf)	P	Vbz (cfm)	Ez	Voz/(cfm)	Ev	Vot/(cfm)	(CFM)	(CFM)
	XRTU-I														400
	XRTU-2														400
SALES	XRTU-3	RETAIL	SZ	10,763	7.5	0.12	15	161	2502	1.0	2502	0.8	3128	3200	800
	XRTU-4														800
	RTV-6														800
STOCK	XRTV-5	CTOP & CE	67	1854	00	012	0	0	222		111	0.9	276	300	150
JIUUK	RTV-7	JIUKADE	52		0.0	0.12		0		1.0	222	0.0	210	500	150

TYPICAL ROOFTOP UNIT INSTALLATION

	EXHAUST FAN SCHEDULE							
	CONT	RACTO	OR PR	OVIDED,	CONTRA	CTOR INSTALL	ED	
MARK	MFR./MODEL	CFM	RPM	esp In. W.G.	MOTOR HP	ELECTRICAL V / PH / Hz	ACCESSORIE	
EF-I	YORK/PENN BARRY CIBHTDA	200	1354	0.50	א וד	115 / 14 / 60	1, 2, 3, 4, 5, 7	
FF-2 FF-3	YORK/PENN BARRY CII2HTDA	1000	1082	0.50	1/3	II5 / IØ / 60	2, 3, 4, 5, 6	
ACCE	ESSORIES/OPTION	15: I. (2. 1	GAL√/ BACKI	ANIZED 1/ ORAFT D	VALL CA	P WITH INSECT	SCREEN	
		3. 1	PLUG	DISCONN	ECT			
		4. 5		UNIK	JLLER DI ATION "			
		5. 6.			γ_CATION RYINE ∖		MOSTAT TO	
		0.	STARI	FAN AT	85°F A	ND STOP FAN	AT 75°F.	
		7. 1	FAN S	HALL BE	INTERLO	OCKED WITH MC	DTION SENSOR.	

8. 2TTV TRANSFORMER

PLUMBING FIXTURE SCHEDULE

MARK FIXTURE TYPE

HANDICAP WATER CLOSET

NOTE:

PROVIDED BY TENANT'S VENDOR FOR INSTALLATION BY CONTRACTOR

GPF

ZURN MODEL Z5560 IT" H

ELONGATED PRESSURE ASSIST 1.6

THAT THE CONTRACTOR'S BID INCLUDES ALL COSTS NECESSARY TO MEET ALL REGULATIONS & CODES.

PROVIDED WITH LAV KIT. THERE SHALL BE NO SHARP OR ABRASIVE SURFACES UNDER LAVATORY.

ALL PIPING AND VALVES BELOW LAVATORY SHALL BE INSULATED WITH PVC LAV GUARDS AND CONFIGURED TO PROTECT AGAINST CONTACT

MANUFACTURER

f MODEL NO.

FIXTURE CONNECTIONS

| CM | HM | M | V |

| 1/2" |--- | 3" | 2"

REMARKS

THE WC (SIDE OPPOSITE THE WALL).

GR	CON	, REG itracto	ISTER & R PROVIDE	DIFFUS d, contra	ER SCH	HEDUL Alled
MARK	MFR.	MODEL	MATERIAL	DEVICE SIZE	MOUNTING	TYPE
А	TUTTLE & BAILEY	T64	STEEL	12" X 10"	DUCT	SUPPLY
В	TUTTLE & BAILEY	51200	STEEL	24" X 24"	LAY-IN	SUPPLY
С	TUTTLE & BAILEY	CRE500	ALUMINUM	24" X 24"	LAY-IN	RETURN
D	NTTLE & BAILEY	CRE5 <i>00</i>	ALUMINUM	2" X 24"	LAY-IN	RETURN
NOT	E: PRO	VIDE TY	PE "A" DIFF	USERS WIT	H DAMPER	ô.

	AIR CURTAIN SCHEDULE								
		PROVIDEI	O BY TENANT FOR I	NSTALL	ATION BY (CONTACTO	R		
MARK	MFR./MODEL	OUTLET VELOCITY (FPM)	VELOCITY @ 80" BELOW (FPM)	CFM	HEATING (KM	CAPACITY MBH	MCA/MOCP	ELECTRICAL V / PH / Hz	ACCESSORIES
AC-I	POWERED AIRE EVE-2-72	3262	784	1968	-	-	8.8A TOTAL	120/1/60	1,2,4,5,6,7,8,9
ACCES	SORY OPTIONS: 1. 2. 3. 4. 5. 6. 7. 8. 9.	MEETS IECC BUILD PROVIDE TWO DOO PROVIDE WITH THE REMOTE MOUNTED SINGLE POINT POW CLEANABLE WIRE EC PROVIDE DISC MOUNT UNIT WITH C	ING CODE ALLOWIN OR SWITCHES AND I ERMOSTAT AND TIM VARIABLE SPEED VER CONNECTION MESH FILTERS ONNECT SWITCH. D ONCEALED FASTEN OF CURTAIN 2 INCHE	IG AMCA DELAY E DELA ON/OFF ISCONNE ISCONNE IERS. PI	A CERTIFIE TIMER TO 3 Y RELAY SWITCH ECT SWITCH ROVIDE TR VE TOP OF	D AIR CUR 30 SECOND H AND WIRI 2ANSOM MO DOOR (86	Ng to be co Dunting bra "t aff)	OF VESTIBULE DNCEALED CKET AS REQU	IRED.

REMOVABLE METAL FRAME DETAIL NOT TO SCALE

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

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

- I. 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.
- I. 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
- I. 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.
- 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.
- 2. 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

HVAC UNITS (CONTINUED)

- 4. SMOKE ALARM (WHERE REQUIRED)
- DEVICE.

GRILLES, REGISTERS AND DIFFUSERS

- 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 I 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 I" W.C. PRESSURE AND O TO 250 DEGREE TEMPERATURE. MAXIMUM LENGTH SHALL BE 5'-O". MINIMUM CENTER LINE BEND RADIUS SHALL BE I 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 I" 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 INSPECTION 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.

3. 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

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

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

- 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 II" 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

- I. 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.
- IO. 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

- I. 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.
- B. HOT AND COLD WATER
- I. ABOVE GRADE
- 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
- I. 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
- I. SCHEDULE 40 BLACK IRON PIPE WITH 150 LB. BLACK MALLEABLE THREADED OR SOCKET WELDED FITTINGS.

EXECUTION

- A. GENERAL REQUIREMENTS
- I. 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

- I. 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.

EXECUTION (CONTINUED)

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

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

D. NATURAL GAS

- I. 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 OR RUST INHIBITING EXTERIOR PAINT.
- 7. SUPPORT PIPING ON ROOF PER INSTRUCTION OF LANDLORD'S ROOFING CONTRACTOR TO MAINTAIN ROOF WARRANTY

E. INSULATION

- I. ALL WATER PIPING, HORIZONTAL AND VERTICAL SHALL BE INSULATED WITH FIBERGLASS PIPE INSULATION WITH AN ALL PURPOSE VAPOR BARRIER JACKET. USE MINIMUM I" 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
- I. 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'-O" APART AND AT EACH CHANGE IN DIRECTION, (5'-O" 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
- 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
- I. 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 TFNANT.

BLES
ARD _DING: CAL,

POWE	POWER/WIRING INFORMATION FOR COOLER/FREEZER EQUIPMENT						
DEVICE*	DISCONNECT SIZE	COND	UIT/WIRE SIZE	FEEDER PANEL	FEEDER BREAKER(6)		
	JUNCTION BOX @ 100" AFF W/10' WHIP	1/2"	(3)#12 4 (1)#12 GND.**	ĻP	2,4		
	JUNCTION BOX @ 100" AFF W/10' WHIP	1/2"	(3)#12 # (1)#12 GND.**	LP	6,8		
C3	JUNCTION BOX @ 100" AFF W/10' WHIP	1/2"	(3)#12 & (1)#12 GND.**	LP	10,12		
	JUNCTION BOX @ 100" AFF W/10' WHIP	1/2"	(3)#12 & (1)#12 GND.**	Ļ₽	14,6		
(C5)	JUNCTION BOX @ 100" AFF W/10' WHIP	1/2"	(2)#12 & (1)#12 GND.	ĻP	18		
FI	JUNCTION BOX @ 100" AFF W/10' WHIP	3/4"	(3)#8 & (1)#10 GND.**	LP	13,15		
F2	JUNCTION BOX @ 100" AFF W/10' WHIP	3/4"	(3)#8 & (1)#10 GND.**	LP	<i>פו</i> ,דו		
F3	JUNCTION BOX @ 100" AFF W/10' WHIP	3/4"	(3)#8 \$ (1)#10 GND.**	LP	21,23		
	JUNCTION BOX @ 100" AFF W/10' WHIP	3/4"	(3)#10 \$ (1)#10 GND.**	LP	25,27		

NOTE: ALL DIMENSIONS ARE TO THE TOP OF THE ASSOCIATED DEVICE. AS PART OF THIS PROJECT, THE MANUFACTURER'S REPRESENTATIVE WILL MAKE THE FINAL CONNECTION TO INTEGRAL EQUIPMENT DISCONNECTS AT TIME

** INCLUDES: (2) HOT, (1) NEUTRAL, & (1) GROUND

HVAC*	DISCONNECT SIZE	CONDU	CONDUIT/WIRE SIZE		FEEDER BREAKER(G)
XRTU-1	EXISTING TO REMAIN	EΧ	EXISTING	₽ ∑	8
XRTU-2	EXISTING TO REMAIN	EΧ	EXISTING	LP L	26,28
XRTU-3	EXISTING TO REMAIN	EX	EXISTING	<u>لا</u>	4
XRTU-4	EXISTING TO REMAIN	EX	EXISTING	Ω	6
XRTU-5	EXISTING TO REMAIN	EX	EXISTING	<u>۹</u>	3
RTU-6	PROVIDED WITH UNIT	3/4"	(3)#8 & (1)#10 GND.	LP	1,3,5
RTU-7	PROVIDED WITH UNIT	3/4"	(3)#8 & (1)#10 GND.	LP.	١ , <i>פ</i> ,٦
XRTU-8	EXISTING TO REMAIN	EX	EXISTING	Σ	5
AC-1	RATED SWITCH (TO BE CONCEALED)	1/2"	(2)#12 \$ (1)#12 GND.	LP	24

NEW 1/2" CONDUIT AND WIRE -NEW DUPLEX FACEPLATE -

SCALE: NONE

- EXISTING ALUMINUM FRAMING & GLAZING ALUMINUM BREAK METAL CHASE. FINISH SHALL MATCH EXISTING ALUMINUM FRAME NEW SINGLE-GANG BOX & DUPLEX OUTLET TO BE SURFACE MOUNTED TO FRAME

3 STOREFRONT CONDUIT CONCEALMENT DETAIL

POWER PLAN NOTES:

INSTALL AND/OR CONNECT WP/GFCI RECEPTACLE AT HYAC UNIT AS REQUIRED. CONNECT TO CIRCUIT RP-5. UNIT MAY BE SUPPLIED WITH UN-WIRED RECEPTACLE BUILT-IN.

- PROVIDE DEDICATED 120V, 20A, GFI, WEATHERPROOF EXTERIOR RECEPTACLE RECESSED IN WALL WITH FACE FLUSH WITH EXTERIOR WALL. PROVIDE WITH "IN-USE" COVERS.
- 3 PROVIDE THREE (3) DEDICATED ISOLATED GROUND CIRCUITS AND THREE (3) DIRTY CIRCUITS FOR FUTURE CASH STATIONS. CIRCUITS SHALL BE TERMINATED TO JUNCTION BOXES SECURED TO STRUCTURE CONFIRM LOCATION OF JUNCTION BOXES WITH FD SITE SPECIFIC FIXTURE PLAN PRIOR TO BEGINNING CONSTRUCTION. POWER POLES ARE FURNISHED WITH CHECKOUT COUNTERS. JUNCTION BOXES SHALL BE LOCATED WITHIN 3' OF POWER POLE LOCATIONS. LABEL ALL JUNCTION BOXES WITH CIRCUIT NUMBER AND DESCRIPTION AS SHOWN IN PANEL SCHEDULE. ALL DIRTY AND ISOLATED GROUND (IG) CIRCUITS SHALL HAVE DEDICATED NEUTRALS. <u>DO NOT SHARE NEUTRALS.</u>
- ENERGY MANAGEMENT SYSTEM (EMS), CONTRACTOR SHALL REFER TO EMS SHEETS FOR INSTRUCTION AND RESPONSIBILITIES FOR INSTALLING TENANT SUPPLIED ENERGY MANAGEMENT SYSTEM (EMS) PRIOR TO BIDDING AND INSTALLATION.
- PROVIDE SINGLE GANG JUNCTION BOX MOUNTED NEXT TO RECEIVING 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 13'-O" AFF, PAGING SYSTEM SHALL BE VENDOR SUPPLIED AND VENDOR INSTALLED.
- ALL PANELBOARDS SHALL HAVE FIELD-APPLIED HAZARD MARKINGS INSTALLED PER 2014 NEC 11021 (B).
- MC CABLE IS ALLOWED AS BUILDING STANDARD WHERE LOCAL CODE JURISDICTION WILL ALLOW. ALL MC CABLE SHALL BE RUN OVERHEAD, AND IN A NEAT AND ORGANIZED FASHION. WHERE CODE DOES NOT ALLOW MC CABLE, EMT SHALL BE USED. ALL EXPOSED CABLE AND CONDUIT SHALL BE RUN TIGHT TO CEILING CONSTRUCTION AND CONCEALED FROM VIEW WHEREVER POSSIBLE.
- THE QUAD RECEPTACLE SHOWN IS ACTUALLY MADE UP OF TWO DUPLEX RECEPTACLES WITH THE TWO CIRCUITS SHOWN. MOUNT RECEPTACLE AT 18" A.F.F. COORDINATE LOCATION WITH FIXTURE PLAN.
- PROVIDE (2) TWO DEDICATED ISOLATED GROUND RECEPTACLES WITH ISOLATED GROUNDING CONDUCTOR BACK TO SERVICE GROUND. RECEPTACLES SHALL BE SURFACE MOUNTED AT COMMUNICATION BOARD AND CONNECTED TO CIRCUITS RP-2 & RP-4, SEE COMMUNICATION BOARD DETAIL 2 ON SHEET E-3 FOR MOUNTING LOCATIONS AND INSTRUCTIONS ON USING STENCIL FOR LOCATING RECEPTACLES. RECEPTACLES SHALL BE "ORANGE" WITH WHITE COVER PLATES.
- CONTRACTOR SHALL PROVIDE 2" EMPTY CONDUIT, SCHEDULE 40 PVC, WITH NYLON PULLWIRE FOR INCOMING TELEPHONE SERVICE. CONTRACTOR SHALL ROUTE TELEPHONE CONDUIT TO PHONE PEDESTAL, PROPERTY LINE, OR POINT AS COORDINATED WITH LOCAL TELEPHONE COMPANY.
- CONTRACTOR SHALL PROVIDE 2" EMPTY CONDUIT, SCHEDULE 40 PVC, WITH NYLON PULLWIRE FOR WAN/DATA SERVICE (CABLE, DSL OR TI). CONTRACTOR SHALL ROUTE DATA CONDUIT TO DATA PEDESTAL, PROPERTY LINE, OR POINT AS COORDINATED WITH LOCAL DATA PROVIDER. CONTACT FAMILY DOLLAR FOR DATA SERVICE PROVIDER THAT WILL BE UTILIZED.
- TERMINATE ENDS OF TELEPHONE AND DATA CONDUITS WITHIN 6" TO THE LEFT OF COMMUNICATION BOARD AT 30" AFF. DO NOT INSTALL CONDUIT EXPOSED ON FACE OF EXTERIOR WALL. SEE DETAIL 2/E-3 FOR ADDITIONAL DETAILS.
- B PROVIDE DEDICATED ISOLATED GROUND CIRCUIT TO FLUSH MOUNTED IG RECEPTACLE IN WALL 11'-6" AFF. FOR EAS POWER SUPPLY, RECEPTACLE SHALL BE MOUNTED DIRECTLY WALL 11'-6" AFF. FOR EAS POWER SUPPLY. RECEPTACLE SHALL BE MOUNTED DIRECTLY ABOVE DOOR MULLION CLOSEST TO CHECKOUT STATIONS, IG RECEPTACLE SHALL BE "ORANGE" WITH WHITE COVER PLATE, CONFIRM SIDE TO MOUNT RECEPTACLE WITH FD SITE SPECIFIC FIXTURE PLAN PRIOR TO BEGINNING CONSTRUCTION. EAS SHALL BE FURNISHED AND INSTALLED BY EAS VENDOR AT TIME OF FD UPFIT.
- $\langle 14 \rangle$ PROVIDE DEDICATED ISOLATED GROUND CIRCUIT TO FLUSH MOUNTED IG RECEPTACLE IN WALL 18" AFF. FOR ATM. IG RECEPTACLES SHALL BE "ORANGE" WITH WHITE COVER PLATE. PROVIDE SINGLE GANG JUNCTION BOX MOUNTED NEXT TO ATM RECEPTACLE FOR DATA CONNECTION. EC SHALL MOUNT JUNCTION BOX IN WALL AT 18" AFF WITH 3/4" CONDUIT WITH PULL STRING UP IN WALL TO 13'-0" AFF. DATA CABLING SHALL BE PROVIDED BY FD VENDOR. CONFIRM RECEPTACLE LOCATION(S) WITH FD SITE SPECIFIC FIXTURE PLAN PRIOR TO BEGINNING CONSTRUCTION.
- **(**5**)** FURNISH AND INSTALL CONDUIT AND WIRING FOR EXTERIOR BUILDING SIGNS. CIRCUIT SHALL BE TERMINATED AT A JUNCTION BOX(ES) LOCATED MINIMUM 13'-0" AFF. BUILDING SIGN CIRCUIT SHALL BE CIRCUITED VIA ENERGY MANAGEMENT SYSTEM. PROVIDE ADDITIONAL 6'-0" FEET OF SLACK ABOVE ELECTRICAL PANEL. COORDINATE ACTUAL NUMBER OF BUILDING MOUNTED SIGNS WITH ARCHITECTURAL ELEVATIONS AND FDS PROJECT MANAGER PRIOR TO CONSTRUCTION. COORDINATE REQUIRED JUNCTION BOX QUANTITIES AND LOCATION WITH ARCHITECTURAL ELEVATIONS AND SIGN SUPPLIER PRIOR TO ELECTRICAL ROUGH-IN.
- SEE STOREFRONT CONDUIT CONCEALMENT DETAIL ON THIS SHEET FOR THIS DEVICE AND CIRCUIT.

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

	ANY NEW LIGHTING	6 WILL BE P	ROVIDED	BY TENANT FOR	TENANT'S CONTR	RACTOR INSTALLATION	
			LIGHT	FIXTURE SCH	IEDULE		
FIXT. SYM	LIGHT DESCRIPTION	VOLTS	WATTS	LAMP QTY, WATTS, TYPE		MOUNTING	SCHEDULE NOTES
4 3	EMERGENCY LIGHT (EXTERIOR)	SEE ELEC. PANEL	2	<mark>(</mark> 2) 1 W	ATT LED	WALL OVER EXTERIOR DOOR	EMERGENCY LIGHT WITH REMOTE BATTERY
43	EMERGENCY LIGHT (INTERIOR)	SEE ELEC. PANEL	2	(2) 1 W	ATT LED	SURFACE	EMERGENCY LIGHT UNIT
8	EXIT LIGHT	SEE ELEC. PANEL	5	FURNISHED \	WITH FIXTURE	CEILING UNLESS OTHERWISE REQUIRED BY CODE	L.E.D. SINGLE-FACE EXIT SIGN W/EMERGENCY BATTERY NOTES: D
	8'-0" STRIP LIGHT	SEE ELEC. PANEL	36	(2) 18W LED	FURNISHED WITH FIXTURE	CEILING SURFACE	INTERIOR/EXTERIOR STRIP NOTES: A, C, D, F, G
	8'-0" STRIP LIGHT (EMERGENCY LIGHT)	SEE ELEC. PANEL	36	(2) 18W LED	FURNISHED WITH FIXTURE	CEILING SURFACE	EMERGENCY LIGHT WITH INTEGRAL BATTERY PACK NOTES: A, C, D, E, F, G
	4'-0" STRIP LIGHT	SEE ELEC. PANEL	18	(1) 18W LED	FURNISHED WITH FIXTURE	CEILING SURFACE	INTERIOR/EXTERIOR STRIP NOTES: A, C, D, F, G
Ċ	4'-0" STRIP LIGHT (EMERGENCY LIGHT)	SEE ELEC. PANEL	18	(1) 18W LED	FURNISHED WITH FIXTURE	CEILING SURFACE	EMERGENCY LIGHT WITH INTEGRAL BATTERY PACK NOTES: A, C, D, E, F, G
	4'-0" STRIP LIGHT (TWO-LAMP EMERGENCY LIGHT)	SEE ELEC. PANEL	36	(2) 18W LED	FURNISHED WITH FIXTURE	CEILING SURFACE	EMERGENCY LIGHT WITH INTEGRAL BATTERY PACK NOTES: A, C, D, E, F, G
LIGHT FIXTURE SCHEDU	LE NOTES:						
 A. DESIGNATED FIXTURE SHALL HAVE LED LAMPS. 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 FIXTURE. 							
C.	ATTACH FIXTURE TO T-BAR P	ER NEC 41	D-36.				
D.	FIXTURE PROVIDED WITH DU	JAL VOLTA	GE 120/27	7V POWER SUPP	LY. VERIFY VOLTA	AGE FOR EACH FIXTURE LO	DCATION.
E.	E. EMERGENCY FIXTURE WITH BUILT-IN BATTERY BACK-UP.						
F. G.	LIGHT FIXTURES DENOTED BY WITH NO FINISHED CEILING, THE STOCKROOM SHALL BE S	USPENDE	LL REMAII FURES AB D @ 10'-0'	N ON DURINNG N OVE THE SALES FI ' A.F.F.	ION-BUSINESS W LOOR SHALL BE SU	ORKING HOURS. JSPENDED @ 12'-0" A.F.F.	. AND LIGHT FIXTURES ABOVE
H. FOR EXISTING FIXTURES THAT ARE TO REMAIN, THE CONTRACTOR SHALL REPLACE ALL EXISTING LAMPS WITH NEW LAMPS PROVIDED BY THE CONTRACTOR.				H NEW LAMPS PROVIDED BY			

CONTRACTOR SHALL INSTALL ADDITIONAL WIRE THE SUPPORTS FROM THE CEILING GRID TO THE STRUCTURE ABOVE FOR SUPPORT OF THE LIGHT FIXTURES CLIPPED ON THE GRID. PROVIDE DEDICATED NEUTRAL FOR EACH LIGHTING CIRCUIT.

LIGHTING PLAN NOTES:

ALL EXIT SIGNS, NIGHT LIGHTS, AND EXTERIOR EMERGENCY LIGHTS SHALL BE CIRCUITED TO PANEL "LP", CIRCUIT 30. WIRING NOT SHOWN FOR DRAWING CLARITY.

TOILET ROOMS SHALL HAVE OCCUPANCY SENSORS INSTALLED AND CONNECTED AS SHOWN IN DETAIL #1 -SCHEMATIC DIAGRAM, THIS SHEET. MOUNT ON WALL NEXT TO DOOR INSIDE RESTROOM. LIGHTS AND OCCUPANCY SENSORS TO BE WIRED INDEPENDENTLY OF THE ENERGY MANAGEMENT SYSTEM VIA CIRCUIT LP-37. EXISTING TOILET ROOM EXHAUST SYSTEM TO REMAIN AS INSTALLED AND CIRCUITED. CONNECT TO OCCUPANCY SENSORS PER THE SCHEMATIC DIAGRAM ON THIS SHEET.

THE LIGHT FIXTURES WITHIN THE DESIGNATED DAYLIGHTING ZONE IN FIRST TWO ROWS WILL BE PROVIDED WITH INDEPENDENT CONTROL FOR DAY-LIGHTING PER IECC. THESE CIRCUITS SHALL BE ROUTED THROUGH THE LCP FOR DAY-LIGHTING CONTROL.

5 PROVIDE RECEPTACLE IN CEILING FOR SECURITY MONITOR EQUIPMENT AND CONNECT TO CIRCUIT RP-39. CONFIRM RECEPTACLE LOCATION WITH FD SITE SPECIFIC FIXTURE PLAN PRIOR TO BEGINNING CONSTRUCTION.

ALL EXISTING EXTERIOR LIGHTING AND PYLON SIGNAGE SHALL BE HOOKED-UP, RELAMPED (ALL FIXTURES), FULLY TESTED AND REPAIRED OR REPLACED AS REQUIRED, AND FULLY OPERATIONAL PRIOR TO COMPLETION. CIRCUITS SHALL BE ROUTED THROUGH THE ENERGY MANAGEMENT SYSTEM, LEVEL 3 CONTACTOR, FOR CONTROL.

F	REFLECTED CEILING LEGEND
	**2'-0"X4'-0" ACOUSTICAL CEILING TILE AND GRID
	GWB - PAINT WHITE UNLESS OTHERWISE NOTED.
\square	DIFFUSER
\square	RETURN GRILLE
O	DOME
\square	VENTILATION FAN
+	CEILING HEIGHT (ABOVE FINISH FLOOR)
•	POWER POLE
۲	OCCUPANCY SENSOR. SEE NOTE 6.
۲	CEILING RECEPTACLE, 1200, 20A

	PANEL SCHEDULE			PANEL SCH	IEDULE	
PANEL NUMBER: LP			PANEL NUMBER: RP (NEW)			
LOCATION: STOCKROOM			LOCATION: STOCKROOM			
DIRECTORY	AMPS/P OLES OLES MAMPS/P AMPS/P OLES CKT.NO.	DIRECTORY		kw A B	AMPS/P OLES CKT.NO.	DIRECTORY
RTU-6 (HACR)	1 4.09 • 1.58 20/2 2 F	REACHIN COOLER (C1)	R - SIDEWALK 1 20	/1 0.18 •	0.18 20/1 2	R - COMMUNICATIONS BOARD
	3 50/3 4.09 • 1.58 4		R - SIDEWALK 3 20	/1 0.18 •	0.18 20/1 4	R - COMMUNICATIONS BOARD
Ī	5 4.09 • 1.59 20/2 6 F	REACHIN COOLER (C2)	HVAC SERVICE RECEPTACLES 5 20	/1 1.26	• 0.20 20/1 6	DOORBELL
RTU-7 (HACR)	7 2.43 • 1.59 8		SPARE 7 20	/1 0.00 •	2.00 30/1 8	WATER HEATER
	9 30/3 2.43 • 1.59 20/2 10 F	REACHIN COOLER (C3)	R - ATM MACHINE 9 20	/1 0.36 •	0.36 20/1 10	R - REGISTER
Ī Ī	11 2.43 · 1.59 12		R - BREAK AREA 11 20	/1 1.50	• 0.36 20/1 12	R - REGISTER (ISOLATED)
REACH-IN FREEZER (F1)	13 40/2 3.82 · 1.59 20/2 14 F	REACHIN COOLER (C4)	R - BREAK AREA 13 20	/1 1.50 •	0.36 20/1 14	R - REGISTER
	15 3.82 • 1.59 16		R - STOCKROOM 15 20	/1 0.18 •	0.36 20/1 16	R - REGISTER (ISOLATED)
REACH-IN FREEZER (F2)	17 40/2 3.82 · 1.50 20/1 18 F	REACHIN COOLER (C4)	SPARE 17 20	/1 0.00	• 0.36 20/1 18	R - REGISTER
	19 3.82 · 1.20 20/1 20 I	CE CREAM BUNKER	R - SHOW WINDOW & PRINTER 19 20	/1 1.26 •	0.36 20/1 20	R - REGISTER (ISOLATED)
REACH-IN FREEZER (F3)	21 40/2 3.82 · 1.20 20/1 22 E	BAGGED ICE MACHINE (FUTURE)	* ENERGY MANAGEMENT SYSTEM (E.M.S.) 21 20	/1 0.20 •	0.00 20/1 22	SPARE
	23 3.82 · 1.06 20/1 24 A	AIR CURTAIN, AC-1	HAND DRYER 23 20	/1 1.50	• 0.00 20/1 24	SPARE
REACH-IN FREEZER (F4)	25 30/2 2.32 · 3.26 50/2 26 X	XRTU-2	HAND DRYER 25 20	/1 1.50 •	0.00 20/1 26	SPARE
	27 2.32 · 3.26 28	Note food and the second	R - OFFICE (ISOLATED) 27 20	/1 0.18 •	0.00 20/1 28	SPARE
SPARE	29 20/1 0.00 • 0.30 20/1 30 E	EXIT SIGNS / NITE LIGHTS / EMG. LIGHTS*	R - OFFICE (ISOLATED) 29 20	/1 0.18	• 0.00 20/1 30	SPARE
LTG. UNUSED SPACE (LVL 2)	31 20/1 0.43 · 1.22 20/1 32 L	LTG. SALES AREA (LVL 2)	R - OFFICE (ISOLATED) 31 20	/1 0.18 •	0.00 20/1 32	SPARE
LTG. SALES AREA (LVL 1)	33 20/1 1.30 • 1.37 20/1 34 L	LTG. SALES AREA (LVL 2)	OFFICE PLUGMOLD 33 20	/1 0.54 •	0.00 20/1 34	SPARE
LTG. STOCKROOM (LVL 5)	35 20/1 0.40 · 1.20 20/1 36 F	PYLON/MONUMENT SIGN (LVL 3)	OFFICE PLUGMOLD 35 20	/1 0.54	• 0.00 20/1 36	SPARE
LTG. TOILETS / EF-1	37 20/1 0.20 • 1.40 20/1 38 E	EXTERIOR BUILDING LIGHTS (LVL 3)	R - EAS (ISOLATED) 37 20	/1 0.20 •	3.48 38	BALER A
LTG. SALES AREA (LVL 1)	39 20/1 1.01 • 1.20 20/1 40 5	SIGNAGE (LVL 3)	R - SECURITY SYSTEM 39 20	/1 1.08 •	3.48 50/3 40	
LTG, SALES AREA (LVL 4)	41 20/1 0.58 · 1.20 20/1 42 F	FUTURE SIGNAGE (LVL 3)	SPARE 41 20	/1 0.00	· 3.48 42	
				ſ		
MAIN BREAKER: MLO	kW PHASE "A" 28.95	NOTES:	MAIN BREAKER: MLO	kW PHASE "A"	11.20	NOTES:
MAIN BUS: 250A	kW PHASE "B" 30.58	R = RECEPTACLE LOAD	MAIN BUS: 250A	kW PHASE "B"	7.10	R = RECEPTACLE LOAD
VOLTAGE: 208Y120V	kW PHASE "C" 23.58		VOLTAGE: 208Y120V	kW PHASE "C"	9.38	
AIC: MATCH EXISTING		CIRCUIT BREAKERS SHALL BE PROVIDED BY	AIC: MATCH EXISTING			PANEL PROVIDED BY TENANT I
MOUNTING: SURFACE	TOTAL KW 83.11	E.C. AS REQUIRED	MOUNTING: SURFACE	TOTAL KW	27.68	INSTALLATION BY ELECTRICAL
LOAD SUMMARY Connected kW	Demand Factor Demand kW		LOAD SUMMARY Connected kW D	emand Factor	Demand kW	N
LIGHTING 11.81	1.25 14.76			1.25	0.00	13
HVAC 27.14	1.00 27.14		HVAC 0.00	1.00	0.00	1 \$
RECEPTACLES 0.00	1.00 0.00		RECEPTACLES 25.68	1.00	25.68	15
WATER HEATER 0.00	1.00 0.00		WATER HEATER 2.00	1.00	2.00	1 2
COOLER/FREEZER 44.16	1.00 44.16		COOLER/FREEZER 0.00	1.00	0.00	1 \$
83.11	86.06		27.68		27.68	3
*PROVIDE CIRCUIT BREAKER WITH A MEANS OF E	BEING LOCKED		*PROVIDE CIRCUIT BREAKER WITH A MEANS OF BEING			' २
						\sim

	PANEL	SCHEDU	JLE				PHASE "A"	58.73
PANEL NUMBER:	MP (EXISTING)						PHASE "B"	56.26
LOCATION:	STOCKROOM						PHASE "C"	51.54
MAIN BREAKER:	600A	VOL	AGE:	208Y120V			8	
MAIN BUS:	600A	A	IC:	EXISTING			TOTAL LOAD	166.53
PANEL TYPE:	EXISTING TO REMAIN	NOU	NTING:	SURFACE				
DIRECTORY		BKR. AMPS	WATTS	PHASE	Mount. Height	REMARKS	6	•••••••
EXISTING PANEL	'RP'	175	27.68	3		EXISTING BREAKER FEEDING EXISTING PANEL		
EXISTING PANEL	'LP'	200	83.11	3		EXISTING	BREAKER FEEDING	EXISTING TRANSFORMER
XRTU-5		35	6.84	3		EXISTING	BREAKER FEEDING	EXISTING EQUIPMENT
XRTU-3		50	11.40	3		EXISTING	BREAKER FEEDING	EXISTING EQUIPMENT
XRTU-8		60	14.40	3		EXISTING	BREAKER, RE-FEED	EXISTING UNIT
XRTU-4		50	11.40	3		EXISTING	BREAKER FEEDING	EXISTING EQUIPMENT
ENERGY MANAGEMENT SYSTEM (E.M.S.)		20	0.30	3		EXISTING	BREAKER FEEDING	NEW EQUIPMENT
XRTU-1		50	11.40	3		EXISTING	BREAKER FEEDING	EXISTING EQUIPMENT

Y		
Connected kW	Demand Factor	Demand kW
11.81	1.25	14.76
82.58	1.00	82.58
25.98	1.00	25.98
2.00	1.00	2.00
44.16	1.00	44.16
166.53		169.48
	Y Connected kW 11.81 82.58 25.98 2.00 44.16 166.53	Y Demand Factor 11.81 1.25 82.58 1.00 25.98 1.00 2.00 1.00 44.16 1.00 166.53 1.00

	7	
CASH REGISTER GROUNDING		
DIAGRAM NOTES		
 CASH REGISTER AND COMPUTER WIRING: FURNISH AND INSTALL AN INSULATED, ISOLATED GROUND BAR IN PANEL. INSTALL AN INSULATED "ISOLATED" GROUND WIRE IN EACH BRANCH CIRCUIT "HOMERUN" TO PANELBOARD. CONNECT GROUND WIRE FOR CASH REGISTER AND COMPUTER CIRCUITS TO ISOLATED GROUND BAR IN PANELBOARD AND DIRECTLY TO ISOLATED GROUND LUG/SCREW ON ISOLATED GROUND RECEPTACLES. 	EQUIPMENT GROUND BAR	
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. DO NOT RUN ANY CIRCUITS WITH CASH REGISTER OR COMPUTER (IG) CIRCUITS,	CONNECTION OF ISOLATED GROUND TO EQUIPMENT GROUND SHALL OCCUR AT THE MAIN PANEL OR	
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.	DISCONNECT WHERE THE SERVICE GROUND IS ESTABLISHED.	CONDUIT A EQUIPMENT
		TYPICAL U ISOLATED ON A CAS
(1) CASH REGISTER GROUNDING E-3) SCALE: NONE	<u>g diagram</u>	NOTE: DO CIRCUITS I

ON EACH ELECTRICAL PANEL, CIRCUITS DENOTED WITH "(LVL#)" ARE CONTROLLED VIA LIGHTING CONTROL PANEL LCP WHICH IS PART OF THE E.M.S. (ENERGY MANAGEMENT SYSTEM). PER THE FOLLOWING, THE "LVL#" INDICATES THE CONTACTOR(S) THAT WILL SWITCH THE ASSOCIATED CIRCUITS.

LVL 1 = EMPLOYEE LIGHTS (1 CONTACTOR REQUIRED)

LVL 2 = CUSTOMER LIGHTS (1 CONTACTOR REQUIRED) LVL 3 = SIGNS / EXTERIOR LIGHTS (1 CONTACTOR REQUIRED)

LVL 4 = DAYLIGHTING (1 CONTACTOR REQUIRED)

LVL 5 = STOCKROOM (1 CONTACTOR REQUIRED)

COMMUNICATION BOARD DIAGRAM E-3 SCALE: NONE

COMMUNICATION BOARD GENERAL NOTES:

- I. 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.
- 3. 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.
- 4. 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.
- 5. 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)
- 6. 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.
- 1. FAMILY DOLLAR CONTACT INFO: DEPLOYMENT CENTRAL 1-866-625-0177 (AVAILABLE 8AM-4PM EST MON-FRI). EMAIL: NEWSTORECONSTRUCTIONSTDT@FAMILYDOLLAR.COM.

COMMUNICATION BOARD KEYED NOTES:

- 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.
- $\langle 2 \rangle$ 1/4" METAL ANCHOR BOLTS. TYPICAL 8 PLACES.
- $\langle 3 \rangle$ 2" CONDUIT, SCHEDULE 40 PVC, WITH INCOMING TELEPHONE SERVICE 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 I TERMINALS FOR GROUNDING OF COMMUNICATION EQUIPMENT.
- $\langle 6 \rangle$ NETWORK INTERFACE DEVICE (DEMARC) ON COMMUNICATION BOARD. CONTRACTOR SHALL PROVIDE TWO (2) DUPLEX ISOLATED GROUND RECEPTACLES AND CONNECT TO CIRCUIT RP-2. RECEPTACLES SHALL BE SURFACE MOUNTED. RECEPTACLES SHALL BE "ORANGE" WITH WHITE
- COVER PLATES.
- CONTRACTOR SHALL PROVIDE 25 PAIR (66 CLIPS) TELEPHONE PUNCHDOWN BLOCK AS SHOWN ON COMMUNICATION BOARD DIAGRAM.
- EMS HVAC THERMOSTAT LOCATION. CONTRACTOR SHALL INSTALL THERMOSTATS FOR HVAC SYSTEMS. (FIELD VERIFY QUANTITY WITH MECHANICAL PLANS).
- (1) NOT USED
- 2" EMPTY CONDUIT, SCHEDULE 40 PVC, WITH NYLON PULLWIRE FOR INCOMING WAN/DATA SERVICE (CABLE, DSL OR TI).
- TELEPHONE AND DATA CONDUITS SHALL BE STUBBED UP WITHIN 6" OF THE COMMUNICATION BOARD AT 30" AFF. CONDUITS SHOULD NOT BE EXPOSED ON FACE OF EXTERIOR WALL.
- B DUCT SMOKE DETECTOR REMOTE TEST STATION LOCATION. CONTRACTOR SHALL INSTALL REMOTE TEST STATION.
- A CONTRACTOR SHALL PROVIDE DUPLEX ISOLATED GROUND RECEPTACLE IN WALL, NEXT TO OR ABOVE COMMUNICATION BOARD TO BE USED FOR PAGING SYSTEM. CONNECT TO CIRCUIT RP-4. RECEPTACLE SHALL BE "ORANGE" WITH WHITE COVER PLATE.

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.

- RISER LEGEND __ · __ · __ · __ ____
- NEW E.M.S. PANEL FURNISHED BY TENANT, INSTALLED -BY ELECTRICAL CONTRACTOR. MAKE ALL FINAL CONNECTIONS.
 - (SIZE AND QUANTITY AS REQUIRED) CONDUIT TO E.M.S. CONTACTOR PANEL FOR LIGHTING CIRCUITS

GENERAL ELECTRICAL NOTES

1. ALL ELECTRICAL WORK SHALL BE IN ACCORDANCE WITH THE LATEST EDITION OF THE NATIONAL ELECTRICAL CODE AND ALL LOCAL AND STATE CODES.

- 2. ALL MATERIAL, DEVICES, APPLIANCES, AND EQUIPMENT SHALL BE NEW AND SHALL CONFORM TO THE STANDARDS OF THE UNDERWRITER'S LABORATORIES, INC., AND THE NATIONAL ELECTRICAL MANUFACTURERS ASSOCIATION.
- 3. ALL ELECTRICAL PERMITS AND INSPECTION FEES SHALL BE OBTAINED AND PAID FOR BY THE ELECTRICAL CONTRACTOR. DRAWINGS ARE DIAGRAMMATIC ONLY AND INDICATE ONLY THE GENERAL ARRANGEMENT. SEE ARCHITECTURAL DRAWINGS FOR EXACT DIMENSIONS, DO NOT SCALE PLANS.
- 4. ELECTRICAL CONTRACTOR SHALL GUARANTEE ALL WORK AND MATERIALS FOR ONE YEAR EFFECTIVE THE DAY THE PROJECT IS ACCEPTED BY THE OWNER.
- 5. ELECTRICAL CONTRACTOR SHALL MAKE ALL ELECTRICAL POWER CONNECTIONS TO HYAC, PLUMBING AND OTHER EQUIPMENT AS REQUIRED.
- 6. A COMPLETE GROUNDING SYSTEM SHALL BE PROVIDED AND INSTALLED IN ACCORDANCE WITH ARTICLE 250 OF THE NEC, AND AS SHOWN ON THE DRAWINGS.
- 7. ALL CUTTING AND PATCHING OF WALLS AND FLOORS FOR ELECTRICAL EQUIPMENT SHALL BE THE RESPONSIBILITY OF THE ELECTRICAL CONTRACTOR. 8. CONDUCTORS SHALL BE COPPER RATED AT NOT LESS THAN 600
- VOLTS. MINIMUM SIZE SHALL BE #12 AUG UNLESS OTHERWISE NOTED ON THE DRAWINGS. ALL WIRE *8 AUG AND LARGER SHALL BE STRANDED. ALL CONDUCTORS #10 AND SMALLER SHALL BE SOLID, UNLESS OTHERWISE NOTED. BRANCH CIRCUIT CONDUCTORS SHALL BE TYPE THHN/THWN OR XHHW AS REQUIRED.
- 9. ALL WIRING SHALL BE INSTALLED IN ACCORDANCE WITH NEC. TYPE MC CABLE 13 THE PREFERRED WIRING METHOD, USE EMT WHERE MC 13 PROHIBITED. USE RIGID STEEL CONDUIT WHERE EXPOSED OUTDOORS, USE LIQUID TIGHT FMC FOR ALL CONNECTIONS TO MOTORS AND CONDENSING UNITS. MINIMUM CONDUIT SIZE TO BE 3/4". EC TO RUN ALL ELECTRICAL OVERHEAD IN A NEAT AND ORGANIZED FASHION. 10. PROVIDE A PULLWIRE IN ALL EMPTY CONDUITS.
- 11. PROVIDE A TYPED DIRECTORY IN ALL PANELBOARDS CLEARLY DESCRIBING THE LOCATION OF AND TYPE OF LOAD BEING SERVED FOR ALL CIRCUITS. PROVIDE ENGRAVED PHENOLIC NAMEPLATES FOR ALL PANELBOARDS AND DISCONNECT SWITCHES, WHITE LETTERS ON BLACK BACKGROUND.
- 12. FUSES Ø 600 AMPS SHALL BE UL CLASS "RK-1" LOW PEAK DUAL ELEMENT TIME DELAY WITH 200,000 AMPERE INTERRUPTING RATING AS MANUFACTURED BY BUSSMANN, UNLESS NOTED OTHERWISE. 13. ALL TERMINALS/LUGS SHALL BE 15° RATED. ALL TERMINALS, SPLICING
- CONNECTORS, LUGS, ETC SHALL BE IDENTIFIED FOR USE WITH THE MATERIAL (CU/AL) OF THE CONDUCTOR AND SHALL BE PROPERLY INSTALLED.
- 14. VERIFY ALL REQUIREMENTS AND COORDINATE EXACT LOCATION OF INCOMING ELECTRICAL SERVICE WITH LOCAL POWER COMPANY PRIOR TO PROJECT START-UP. NOTIFY ENGINEER OF ANY CHANGES AS MAY BE REQUIRED.
- 15. ALL ELECTRICAL DEVICES (SWITCHES AND OUTLETS) SHALL BE "WHITE" WITH WHITE NYLON UNBREAKABLE WALL COVER PLATES EXCEPT THAT IG OUTLETS SHALL BE "ORANGE".

- 16. THE ELECTRICAL CONTRACTOR SHALL BE RESPONSIBLE FOR PROTECTING ALL ELECTRICAL EQUIPMENT FROM FOREIGN MATERIAL DURING CONSTRUCTION (PAINT, SPACKLE, ETC.).
- 17. PENETRATIONS OF REQUIRED SMOKE PARTITIONS SHALL BE SEALED USING METHODS APPROVED UNDER THE STATE BUILDING CODE. COORDINATION WITH THE GENERAL CONTRACTOR SHALL BE MAINTAINED TO INSURE THAT THIS SMOKE STOPPING IS ACCOMPLISHED.
- 18. WHERE PENETRATIONS ARE MADE THROUGH A REQUIRED FIRE-RESISTIVE WALL, FLOOR, OR PARTITION FOR THE PURPOSE OF RUNNING RACEWAY CARRYING ELECTRICAL, TELEPHONE, TELEVISION, OR LOCAL COMMUNICATION AND/OR SIGNALING CIRCUITS, THE OPENING AROUND THE RACEWAY SHALL BE FIRE STOPPED PER THE STATE BUILDING CODE. COORDINATION WITH THE GENERAL CONTRACTOR SHALL BE MAINTAINED TO INSURE THAT THIS FIRE STOPPING IS ACCOMPLISHED. USE APPROVED U.L. OR EQUIVALENT ASSEMBLIES.
- 19. IN REQUIRED FIRE RATED WALLS AND PARTITIONS, OPENINGS FOR INSTALLATION OF BOXES THAT ARE GREATER THAN 16 SQUARE INCHES SHALL BE PROTECTED AS REQUIRED BY U.L. COORDINATE CLOSELY WITH THE GENERAL CONTRACTOR TO INSURE THAT THE INTEGRITY OF THE U.L. RATING IS MAINTAINED.
- 20. WHERE A HOME RUN IS SHOWN THE CIRCUIT SHALL BE INSTALLED IN A DEDICATED CONDUIT, DO NOT COMBINE WITH OTHER CIRCUITS. WHERE A CIRCUIT HOMERUN IS NOT SHOWN, THE CONTRACTOR SHALL COMBINE CIRCUITS AS FOLLOUS: A MAXIMUM OF THREE 20A BRANCH CIRCUITS MAY BE COMBINED IN A COMMON HOMERUN WITH SEPARATE NEUTRALS FOR A MAXIMUM TOTAL OF SIX CURRENT CARRYING CONDUCTORS. ALL BRANCH CIRCUITS LARGER THAN 200A SHALL BE SEPARATELY HOMERUN TO THE PANEL.
- 21. EACH DISCONNECT SHALL BE EQUIPPED WITH A GROUND BAR. 22. PROVIDE GREEN EQUIPMENT GROUNDING CONDUCTOR WITH ALL
- FEEDER AND BRANCH CIRCUITS. 23. DEVICE HEIGHTS INDICATED ARE TO THE CENTER OF THE DEVICE OR EQUIPMENT UNLESS NOTED OTHERWISE. RECEPTACLE AND
- DATA/TELEPHONE OUTLETS SHOWN ADJACENT ON DRAWINGS SHALL BE MOUNTED 6" APART ON CENTER HORIZONTALLY. 24. COORDINATE ALL DEVICES AND OUTLETS ABOVE OR BELOW WITH
- CASEWORK INSTALLATION AND FDS IN ORDER TO POSITION AT THE PROPER LOCATION AND HEIGHT. 25. ALL EXTERIOR FIXTURES AND DEVICES SHALL BE RATED FOR OPERATION AT O'F AND SHALL BE DAMP OR WET LABELED AS
- REQUIRED. 26. THE ELECTRICAL CONTRACTOR SHALL BE RESPONSIBLE FOR INSTALLING ALL ELECTRICAL EQUIPMENT, DEVICES, ETC. IN ACCORDANCE WITH LOCAL SEISMIC CODE REQUIREMENTS. PROVIDE SEISMIC RESTRAINTS, ACCESSORIES AND INSTALLATION DETAIL AS REQUIRED.
- 27. THE CONTRACTOR SHALL VISIT THE SITE AND BECOME THOROUGHLY FAMILIAR WITH ALL DETAILS OF THE WORK AND WORKING CONDITIONS. VERIFY ALL FIELD CONDITIONS INCLUDING LOCATION OF UTILITY LINES, STRUCTURES AND ADVISE THE ENGINEER OF ANY DISCREPANCY THAT MAY PREVENT OR HINDER THE SPECIFIED WORK FROM BEING COMPLETED.
- 28. THE CONTRACTOR SHALL STUDY THE STRUCTURE AND FINISH CONDITIONS AFFECTING THE WORK AND SHALL COORDINATE THE WORK ACCORDINGLY. THE CONTRACTOR SHALL PROVIDE ALL ACCESSORIES, HANGERS, AND ANCHORS AS NECESSARY TO MEET SUCH CONDITIONS WITHOUT ADDITIONAL COST TO THE OWNER.
- 29. PRIOR TO ACCOMPLISHING ANY WORK IN ANY AREA, ALL WORK SHALL BE PLANNED AND COORDINATED WITH OTHER TRADES AND THE OUNER. THE CONDUIT ROUTING SHALL BE COORDINATED WITH DUCTWORK AND OTHER OBSTACLES SO AS TO PROVIDE THE MOST EFFICIENT AND AESTHETICALLY PLEASING INSTALLATIONS.
- 30. PROPERLY SUPPORT ALL WORK AND EQUIPMENT INSTALLED UNDER THIS CONTRACT. STUDY ALL DRAWINGS, MANUFACTURER'S INSTRUCTIONS, AND CATALOG DATA TO DETERMINE HOW EQUIPMENT ACCESSORIES, AND RELATED ITEMS ARE TO BE SUPPORTED. MOUNTED OR SUSPENDED. PROVIDE ALL BOLTS, INSERTS, BRACKETS, STRUCTURAL SUPPORTS, AND ACCESSORIES FOR PROPER SUPPORT OF EQUIPMENT BEING FURNISHED UNDER THIS CONTRACT.

0 3" 6" 9" 1' 1.5'

1"=1'-0'

⁰ 3[°] 6[°] 9[°] 1[°] 1 1/2[°]=1[°]-0[°]

SYMBOL KE	Y			
<u>→</u>	EXISTING PIPING TO REMAIN			
<u> </u>	NEW PIPING			
ר <u>*</u> ז ר <u>*</u> ז ר <u>+</u> ז	CONNECT TO EXISTING PIPE AND/OR FITTING			
C)	EXISTING BRASS UPRIGHT ON 1" SPRIG	ORD/5.6/SF		
()	EXISTING FLUSH CHROME PENDENT	ORD/5.6/SF		
•	NEW CHROME PENDENT ON 2-PIECE TELESCOPING ESCUTCHEON	ORD/5.6/SF		
KOR X	APPROXIMATE CENTER LINE ELEVATION OF EXISTIN FINISHED FLOOR AND/OR BELOW METAL DECK	Ig Pipe Abc		
<u>on</u>	RECOMMENDED CENTER LINE ELEVATION OF NEW I FINISHED FLOOR	PIPE ABOVE		
_ _ _	RISE FROM LEFT TO RIGHT AND DROP FROM RIGHT	TO LEFT		
	NOT IN SCOPE			
SEE SHEET FP2 FOR NOTES, DETAILS, AND SPECIFICATION				

ALL ARM-OVERS TO NEW SPRINKLERS ARE 1" DIAMETER

6'' = 1' - 0'

0 1" 2" 3" 4" 5" 6" 3"=1'-0"

SECTION 15300 - FIRE SPRINKLER SYSTEMS

PART 1 - GENERAL

1.01 <u>SUMMARY</u>

A. RELATED DOCUMENTS: CONDITIONS OF THE CONTRACT, DIVISION 1 - GENERAL REQUIREMENTS AND DRAWINGS APPLY TO THE WORK OF THIS SECTION.

1.02 DESCRIPTION OF WORK

- A. PROVIDE ALL REQUIRED LABOR, MATERIALS, EQUIPMENT, TESTING AND SERVICES NECESSARY FOR A COMPLETE AND OPERATIONAL REMODELED FIRE PROTECTION SYSTEM FOR THE PROPOSED SPACE AS HEREINAFTER DESCRIBED AND AS SHOWN ON THE ENGINEERING DRAWINGS.
- B. WORK SHALL BEGIN WHERE INDICATED AND SHALL INCLUDE THE FOLLOWING: 1. REMODELED WET PIPE FIRE SPRINKLER SYSTEM FOR THE FAMILY DOLLAR TENANT EXPANSION.
- 2. COORDINATION OF WORK AND SCHEDULES WITH OTHER TRADES.
- C. INTERIOR WORK PROVIDE THE FOLLOWING:
- 1. ELECTRICALLY SUPERVISION OF EXISTING CONTROL VALVES.
- 2. OVERHEAD PIPE, FITTINGS, HANGERS AND SPRINKLERS.
- 3. TEST CONNECTION AND AUXILIARY DRAINS.

D. IT IS INTENDED THAT THE ENGINEERING DRAWINGS AND SPECIFICATION SHALL DESCRIBE AND PROVIDE FOR A WORKING INSTALLATION COMPLETE IN EVERY DETAIL AND ALL ITEMS NECESSARY FOR SUCH COMPLETE INSTALLATION SHALL BE PROVIDED WHETHER OR NOT SPECIFICALLY MENTIONED HEREIN OR SHOWN ON THE ENGINEERING DRAWINGS.

- 1.03 <u>REFERENCES</u>
- A. ALL WORK SHALL BE INSTALLED IN ACCORDANCE WITH ALL APPLICABLE CODES AND REFERENCED DESIGN STANDARDS:
- 1. INTERNATIONAL BUILDING CODE -2012 EDITION 2. INTERNATIONAL FIRE CODE - 2012 EDITION 3. NFPA 13, SPRINKLER SYSTEMS - 2010 EDITION
- 1.04 SYSTEM DESCRIPTION
- A. REMODELED FIRE SPRINKLER SYSTEM DESIGN CRITERIA SHALL BE STRICTLY PER THIS SPECIFICATION.
- B. REMODELED FIRE SPRINKLER SYSTEM TO PROVIDE FIRE PROTECTION FOR THE
- AREAS INDICATED ON THE ENGINEERING DRAWINGS.
- C. INTERFACE REMODELED FIRE SPRINKLER SYSTEM WITH BUILDING FIRE AND SMOKE ALARM SYSTEMS.
- D. OFFICE AREAS (LIGHT HAZARD WET PIPE FIRE SPRINKLER SYSTEM):
- DENSITY 0.10 GPM/SQ FT
- OPERATING AREA 1,500 SQ FT
- TEMPERATURE CLASSIFICATION / NOMINAL K-FACTOR / RESPONSE TYPE -
- ORD / 5.6 / SR HOSE STREAM ALLOWANCE - 100 GPM
- DURATION 0.50 HR
- E. SALES, STOCK ROOM AND RECEIVING (ORDINARY HAZARD GROUP 2 WET PIPE FIRE SPRINKLER SYSTEM):
- DENSITY 0.20 GPM/SQ FT
- OPERATING AREA 1,500 SQ FT
- TEMPERATURE CLASSIFICATION / NOMINAL K-FACTOR / RESPONSE TYPE -ORD / 5.6 / SR
- HOSE STREAM ALLOWANCE 250 GPM
- DURATION 1.0 HR
- F. SPRINKLER SPACING SHALL BE AS SHOWN ON THE ENGINEERING DRAWINGS. 1. UNFINISHED AREAS - LOCATE SPRINKLERS AS SHOWN ON THE ENGINEERING DRAWINGS.
- G. EXISTING FIRE DEPARTMENT CONNECTION TO REMAIN.
- H. PROVIDE ALL NECESSARY OFFSETS, RAISES OR DROPS IN MAIN OR BRANCH LINE PIPING AND AUXILIARY DRAINS REQUIRED BY BUILDING CONDITIONS WHETHER OR NOT SHOWN ON THE ENGINEERING DRAWINGS.
- I. EXAMINE THE JOB CONDITIONS AND VERIFY ALL MEASUREMENTS, DISTANCES, ELEVATIONS, CLEARANCES, PIPE SIZES, ETC.
- J. IT IS UNDERSTOOD, UNLESS SPECIFICALLY INDICATED OTHERWISE, THAT THE PIPE SIZES AS SHOWN ON THE ENGINEERING DRAWINGS WILL BE USED.

1.05 QUALITY ASSURANCE

- A. INSTALLER QUALIFICATIONS:
- 1. INSTALLER'S RESPONSIBILITIES INCLUDE PREPARING SHOP DRAWING SUBMITTAL, FABRICATING AND INSTALLING SPRINKLER SYSTEMS.
- B. INSTALLER SHALL BE STATE AND LOCALLY LICENSED.
- C. EQUIPMENT AND COMPONENTS NOT SPECIFICALLY SPECIFIED SHALL BE LISTED BY UNDERWRITERS LABORATORIES INC. FOR FIRE PROTECTION SYSTEMS INSTALLATION.
- D. ALL FIRE SPRINKLER SYSTEM COMPONENTS SHALL BE INSTALLED FREE OF ANY RUST, CORROSION OR VISIBLE DAMAGE. ALL ITEMS NOT COMPLYING WITH THIS REQUIREMENT SHALL BE REPLACED WITHOUT COST TO THE OWNER.

1.06 PROJECT CONDITIONS

- A. INTERRUPTION OF EXISTING SPRINKLER SERVICE: DO NOT INTERRUPT SPRINKLER SERVICE TO FACILITIES OCCUPIED BY OWNER OR OTHERS UNLESS PERMITTED UNDER THE FOLLOWING CONDITIONS AND THEN ONLY AFTER ARRANGING TO PROVIDE TEMPORARY SPRINKLER SERVICE ACCORDING TO REQUIREMENTS INDICATED:
- 1. NOTIFY CONSTRUCTION MANAGER IN ADVANCE OF PROPOSED INTERRUPTION OF SPRINKLER SERVICE.
- 2. DO NOT PROCEED WITH INTERRUPTION OF SPRINKLER SERVICE WITHOUT CONSTRUCTION MANAGER'S WRITTEN PERMISSION.

MAINTAIN SPRINKLER SERVICE.

3. PROVIDE TEMPORARY PIPING, FITTINGS AND VALVES AS REQUIRED TO

1.07 REGULATORY REQUIREMENTS

- A. ALL WORK SHALL MEET THE REQUIREMENTS OF SECTION 1.03.
- B. THE FIRE SPRINKLER CONTRACTOR SHALL NOT PURSUE ANY APPROVALS OR INTERPRETATIONS OF CCI'S CONSTRUCTION DOCUMENTS EXCEPT THROUGH CCI. C. SPRINKLER PIPING SHALL NOT BE CONCEALED WHERE IT IS INACCESSIBLE UNLESS
- IT IS FIRST INSPECTED AND ACCEPTED BY A REPRESENTATIVE OF THE AUTHORITY HAVING JURISDICTION.
- D. ANY WORK PERFORMED PRIOR TO THE SATISFACTORY REVIEW BY CCI AND APPROVAL BY THE AUTHORITY HAVING JURISDICTION AND THE INSURANCE UNDERWRITER WILL BE SOLELY AT THE FIRE SPRINKLER CONTRACTOR'S RISK.
- E. THE SYSTEM WILL NOT BE ACCEPTABLE UNTIL FINAL TESTING AND RECEIPT OF THE CONTRACTOR'S MATERIAL AND TEST CERTIFICATE HAS BEEN OBTAINED. 1.08 SUBMITTALS
- A. THE ENGINEERING DRAWINGS HAVE BEEN PREPARED USING AUTOCAD. THE ENGINEERING DRAWINGS ARE 100% CAD. THESE DOCUMENTS WILL BE MADE AVAILABLE TO THE SUCCESSFUL FIRE SPRINKLER CONTRACTOR IN EITHER ELECTRONIC FORM OR HARD COPY. UTILIZATION OF THESE DOCUMENTS FOR THE DEVELOPMENT OF SHOP DRAWINGS AND SUBMITTALS DOES NOT RELIEVE THE FIRE SPRINKLER CONTRACTOR FROM ANY OF HIS RESPONSIBILITIES REQUIRED HEREIN.
- B. SUBMIT THE FOLLOWING:
- 1. SHOP DRAWINGS. SUBMIT IN .PDF FORMAT OR TWO (2) HARD COPIES OF EACH DRAWING. DRAWINGS WILL BE RETURNED IN THE SAME FORMAT RECEIVED. SUBMITTAL MUST BE COMPREHENSIVE OF ENTIRE PROJECT, COMPLETE IN ALL DETAIL AND THE SAME SCALE AS THE ENGINEERING DRAWINGS.
- 2. MANUFACTURER'S LITERATURE ON ALL SYSTEM EQUIPMENT. SUBMIT IN .PDF FORMAT OR TWO (2) HARD COPIES OF THE LITERATURE. LITERATURE WILL BE RETURN IN THE SAME FORMAT AS RECEIVED. LITERATURE SHALL CLEARLY IDENTIFY EXACTLY WHAT COMPONENTS ARE BEING PROVIDED WHICH SHALL INCLUDE: FINISH, SIZE, TYPE, OPTIONS, ETC. LITERATURE WHICH IS NOT CLEARLY IDENTIFIED WILL BE REJECTED.
- C. CCI WILL REVIEW THIS SUBMITTAL FOR CONSISTENCY WITH CCI'S CONSTRUCTION DOCUMENTS.
- D. AFTER THE SATISFACTORY REVIEW BY CCI, PROVIDE SUBMITTALS TO THE AUTHORITY HAVING JURISDICTION AND THE INSURANCE UNDERWRITER FOR APPROVAL.
- E. THE FIRE SPRINKLER CONTRACTOR SHALL BE RESPONSIBLE FOR RESPONDING, IN WRITING, TO ANY COMMENTS FROM THE AUTHORITY HAVING JURISDICTION OR THE INSURANCE UNDERWRITER WITHIN TEN (10) WORKING DAYS AFTER THE RECEIPT O THEIR COMMENTS. COPIES OF THE RESPONSE SHALL BE SENT TO THE GENERAL CONTRACTOR AND CCI.
- 1.09 AS-BUILT DRAWINGS
- A. PROVIDE AS-BUILT DRAWINGS IN ACCORDANCE WITH REQUIREMENTS OF THE GENERAL CONDITIONS OF THE CONTRACT AND NFPA 13.
- 1.10 OPERATION AND MAINTENANCE DATA
- A. PROVIDE OPERATING AND MAINTENANCE INSTRUCTIONS TO THE OWNER IN ACCORDANCE WITH REQUIREMENTS OF THE GENERAL CONDITIONS OF THE CONTRACT AND NFPA 13.
- 1.11 WARRANTY
- A. REPAIR ALL DEFECTIVE WORKMANSHIP OR REPLACE ALL DEFECTIVE MATERIALS FOR A PERIOD OF ONE YEAR FROM THE DATE OF ACCEPTANCE BY THE OWNER. WORKMANSHIP OR EQUIPMENT FOUND TO BE DEFECTIVE DURING THAT PERIOD SHALL BE REPLACED WITHOUT COST TO THE OWNER.
- PART 2 PRODUCTS
- 2.01 PIPING
- A. UNDERGROUND PIPING: NONE.
- B. OVERHEAD PIPE: PER LOCAL REQUIREMENTS AND NFPA 13. ALL PIPE SHALL HAVE A CORROSION RESISTANCE RATIO (CRR) EQUAL TO OR GREATER THAN 1.00. REFER TO THE CURRENT UL FIRE PROTECTION EQUIPMENT DIRECTORY - STEEL SPRINKLER PIPE FOR ACCEPTABLE MANUFACTURERS, SIZES, AND JOINING METHODS.
- 2.02 JOINING OF PIPE AND FITTINGS
- RECOMMENDATIONS. B. FITTINGS SHALL BE 175 PSI SCREWED OR FLANGED BLACK CAST IRON OR APPROVED EQUAL SUCH AS MECHANICAL, GROOVED, PLAIN END OR WELDED
- CONNECTIONS. WHERE GROOVED FITTINGS AND COUPLINGS ARE USED TOGETHER, THEY SHALL BE OF THE SAME MANUFACTURER.
- C. BUSHINGS SHALL NOT BE USED.
- D. FLEXIBLE COUPLINGS SHALL BE IDENTIFIED ON THE SHOP DRAWINGS. 2.03 HANGERS AND SLEEVES
- A. SLEEVES SHALL BE SET FOR ALL PIPES PASSING THROUGH CONCRETE FLOORS, FOUNDATIONS AND MASONRY WALLS.
- B. PROVIDE PRIMED ESCUTCHEON PLATES AT ALL WALL PENETRATIONS WHERE THE HOLE WOULD OTHERWISE BE EXPOSED TO VIEW.
- C. ALL HANGERS TO BE OF APPROVED MATERIALS AND SPACED IN ACCORDANCE WITH NFPA 13 AND THE PIPING MANUFACTURER'S SPECIFICATIONS.
- D. THE SECTION MODULUS REQUIRED BY NFPA 13 SHALL BE PROVIDED FOR ALL TRAPEZE MEMBERS SUPPORTING PIPING.

48'

- A. ALL PIPE SHALL BE JOINED IN ACCORDANCE WITH NFPA 13 AND MANUFACTURER'S

A. INTERIOR VALVES: 1. GLOBE VALVE: BRONZE THREADED; RENEWABLE COMPOSITION DISC; 175 PSI RATED WORKING PRESSURE.

- a. ACCEPTABLE MANUFACTURERS: CRANE, MILWAUKEE, NIBCO, STOCKHAM OR APPROVED EQUAL.
- 2.05 SUPERVISORY SWITCHES

2.04 VALVES

- A. SWITCHES SHALL BE MOUNTED SO AS NOT TO INTERFERE WITH THE NORMAL OPERATION OF THE VALVE; ADJUST TO OPERATE WITHIN TWO REVOLUTIONS OF THE VALVE CONTROL OR WHEN THE STEM HAS MOVED NO MORE THAN ONE-FIFTH OF THE DISTANCE FROM ITS NORMAL POSITION; TWO SINGLE POLE, DOUBLE THROW SWITCHES SHALL BE PROVIDED SUITABLE FOR OPERATION ON 24-VOLT D.C. OR 110-VOLT A.C.; DUST TIGHT CONSTRUCTION; TAMPER RESISTANT SCREWS ON ENCLOSURE.
- 1. ACCEPTABLE MANUFACTURERS: GUARDIAN, POTTER ELECTRIC, STARFIRE, SYSTEM SENSOR OR APPROVED EQUAL.
- B. THE SUPERVISORY SWITCH SHALL BE FURNISHED AND INSTALLED BY THE FIRE SPRINKLER CONTRACTOR AND WIRED COMPLETE BY THE FIRE ALARM CONTRACTOR. 2.06 SPRINKLERS
- A. TYPES:
- 1. CHROME PENDENT GLASS BULB STANDARD RESPONSE PENDENT SPRINKLER WITH POLISHED CHROME 2-PIECE TELESCOPING ESCUTCHEON.
- B. ACCEPTABLE MANUFACTURERS: GLOBE, RELIABLE, TYCO, VICTAULIC AND VIKING. C. ONLY SPRINKLERS MANUFACTURED AFTER JANUARY 1, 2020 WILL BE ACCEPTED FOR USE.
- D. ONLY SPRINKLERS MANUFACTURED UTILIZING BELLEVILLE SPRING SEALS WILL BE ACCEPTABLE FOR USE.
- E. PROVIDE AT THE RISER A SPARE SPRINKLER CABINET STOCKED WITH SPRINKLERS AND ESCUTCHEON ASSEMBLIES PROPORTIONATE TO THOSE PROVIDED IN THE BUILDING AND ALL NECESSARY SPRINKLER WRENCHES.
- F. IF FLEXHEAD, OR A SIMILAR PRODUCT, IS USED, HYDRAULIC CALCULATIONS SHALL BE PROVIDED TO INCLUDE THE ADDITIONAL FRICTION LOSS, AND PIPE SIZES ADJUSTED IF REQUIRED AT NO ADDITIONAL COST.
- 2.07 <u>SIGNS</u>
- A. APPROVED ENAMELED METAL SIGNS SHALL BE SECURELY ATTACHED AT ALL MAIN DRAINS, AUXILIARY DRAINS, ALARM TEST CONNECTIONS AND CONTROL VALVES.
- B. PROVIDE A PERMANENTLY ATTACHED PLACARD INDICATING HYDRAULIC DESIGN INFORMATION IN ACCORDANCE WITH NFPA 13 AND PLACED AT THE RISER. A MOCK-UP OF PLACARD SHALL BE INCLUDED WITH EQUIPMENT LITERATURE.
- C. PROVIDE A PERMANENTLY ATTACHED PLACARD INDICATING GENERAL INFORMATION IN ACCORDANCE WITH NFPA 13 AND PLACED AT THE RISER. A MOCK-UP OF PLACARD SHALL BE INCLUDED WITH EQUIPMENT LITERATURE.
- D. PROVIDE AT THE RISER A PLAN INDICATING THE AREA SERVED BY THE CONTROL VALVE. THE PLAN SHALL ALSO INCLUDE THE LOCATION OF EACH LOW POINT OR AUXILIARY DRAIN VALVE. THE PLAN SHALL CLEARLY IDENTIFY THE SYSTEM ASSOCIATED WITH EACH LOW POINT AND AUXILIARY DRAIN VALVE. THIS PLAN SHALL BE FRAMED WITH A PLEXIGLASS COVER AND SHALL BE PERMANENTLY ATTACHED TO A WALL. PLAN SHALL BE LARGE ENOUGH TO CLEARLY DEFINE THE AREAS PROTECTED BY EACH SYSTEM.
- 2.08 TEST AND DRAIN CONNECTIONS
- A. PROVIDE COMBINATION ALARM TEST/MAIN DRAIN VALVE WITH PRESSURE RELIEF EQUAL TO THE AGF MANUFACTURING CO. MODEL 1011A, 1 IN. SIZE WITH 1/2 IN. TEST ORIFICE WHERE INDICATED ON DRAWINGS.
- B. AUXILIARY DRAINS CONSISTING OF PLUGS, OR GLOBE VALVES AND PLUGS WHERE CAPACITY OF TRAPPED PIPE SECTION EXCEEDS 5 GALLONS, SHALL BE PROVIDED TO DRAIN ALL POINTS IN THE SYSTEM THAT CANNOT BE DRAINED BACK TO MAIN RISER. 2.09 ALARM TEST CONNECTION
- A. PROVIDE ALARM TEST CONNECTIONS FOR THE SYSTEM AS REQUIRED.
- PART 3 EXECUTION
- 3.01 COORDINATION WITH OTHER TRADES
- A. COORDINATE CLOSELY WITH ALL OTHER TRADES TO EXPEDITE CONSTRUCTION AND AVOID INTERFERENCE.
- 3.02 PAINTING AND PATCHING
- A. PAINTING OF SPRINKLER PIPING IS NOT INCLUDED IN THIS CONTRACT. ALL EXPOSED SPRINKLER PIPING SHALL BE THOROUGHLY CLEANED, REMOVING ALL DIRT, OIL, ETC. AND MADE READY TO RECEIVE PAINT IN ACCORDANCE WITH THE GENERAL CONDITIONS OF THE CONTRACT.
- B. HOLES IN WALLS OR FLOORS CUT DURING THE PERFORMANCE OF THIS WORK SHALL BE PATCHED IF THE HOLES CANNOT BE COVERED BY STANDARD ESCUTCHEON PLATES SO AS TO COMPLETELY CONCEAL THE CUTS WHERE THEY WOULD OTHERWISE BE EXPOSED TO VIEW.
- C. FIRE STOP ALL PENETRATIONS OF FIRE RATED ASSEMBLIES.
- 3.03 SYSTEM TESTS A. HYDROSTATICALLY TEST ENTIRE SYSTEM IN ACCORDANCE WITH NFPA 13.
- B. TEST SHALL BE WITNESSED BY THE AUTHORITY HAVING JURISDICTION AND OWNER'S AUTHORIZED AGENT.
- C. PRELIMINARY TESTING PROCEDURES SHALL BE CONDUCTED AS MENTIONED ABOVE TO ASSURE PROPER OPERATION WHEN THE FINAL TESTING IS PERFORMED. D. THE CONTRACTOR'S MATERIAL AND TEST CERTIFICATES AS SHOWN IN NFPA 13
- MUST BE COMPLETED AND SUBMITTED TO THE ENGINEER BEFORE FINAL ACCEPTANCE MAY BE GIVEN. WHEN THE SYSTEMS ARE INITIALLY COMMISSIONED (FILLED WITH WATER), USE THE
- MANUAL AIR VENT AND HOSE END ADAPTER AT THE END OF EACH SYSTEM, ATTACH A HOSE TO THE EXTERIOR AND OPEN THE VALVE UNTIL WATER IS DISCHARGED THROUGH THE HOSE. REPEAT THIS PROCEDURE FOR EACH SYSTEM AND ANY TIME THE SYSTEM IS DRAINED AND REFILLED.

END OF SECTION

HANGER NOTES

ALL HANGERS TO BE OF APPROVED MATERIALS AND SPACED IN ACCORDANCE WITH NFPA 13 AND THE PIPING MANUFACTURER'S SPECIFICATIONS.

SPRINKLER BELOW DUCT NOTE

PROVIDE SPRINKLER PROTECTION BELOW DUCTS IN EXPOSED STRUCTURE AREAS PER

CONSTRUCTION NOTES

NFPA 13.

- DURING CONSTRUCTION, FIRE SPRINKLER CONTRACTOR SHALL KEEP FIRE SPRINKLER SYSTEMS OUT OF CONSTRUCTION AREA FULLY CHARGED AND OPERATIONAL DURING BUSINESS HOURS.
- COORDINATE REQUIRED SHUT-DOWNS OF THE EXISTING SYSTEMS WITH THE OWNER, INSURANCE UNDERWRITER, AND FIRE DEPARTMENT.
- PROVIDE TEMPORARY PIPING AND FITTINGS AS REQUIRED TO MAINTAIN SERVICE
- TO FIRE SPRINKLER SYSTEMS DURING CONSTRUCTION. 4. COORDINATE CONSTRUCTION PHASES WITH OWNER AND GENERAL CONTRACTOR.

HYDRAULIC CALCULATIONS

HYDRAULIC CALCULATIONS ARE NOT REQUIRED PER TENNESSEE STATE FIRE MARSHAL'S OFFICE, PLANS EXAMINER DENNIS RHODES, DUE TO THE OCCUPANCY TYPE REMAINING MERCANTILE AND THE EXISTING SYSTEM DESIGNED TO 0.20 GPM SQ .FT. / 1,500 SQ. FT. AND LESS THAN 20 SPRINKLERS ARE AFFECTED,

SPRINKLER NOTES

- . ALL SPRINKLERS ARE 5.6 K-FACTOR.
- SPRINKLER SPACING IN LIGHT HAZARD AREAS MAXIMUM 225 SQ FT PER SPRINKLER AND MAXIMUM 15 FT BETWEEN SPRINKLERS.
- SPRINKLER SPACING IN ORDINARY HAZARD AREAS MAXIMUM 130 SQ FT PER SPRINKLER AND MAXIMUM 15 FT BETWEEN SPRINKLERS.

GENERAL NOTES

- PROVIDE ALL NECESSARY OFFSETS, RAISES OR DROPS IN PIPING AND AUXILIARY DRAINS REQUIRED BY BUILDING CONDITIONS WHETHER OR NOT SHOWN ON THE DRAWINGS.
- EXAMINE THE JOB CONDITIONS AND VERIFY ALL MEASUREMENTS, DISTANCES, ELEVATIONS, CLEARANCES, PIPE SIZES, ETC.
- ARCHITECTURAL, CIVIL, STRUCTURAL, MECHANICAL AND ELECTRICAL BACKGROUND INFORMATION IS SHOWN FOR COORDINATION PURPOSES ONLY. REFER TO THE PROPER DRAWINGS FOR EXACT LOCATIONS, SIZES, AND QUANTITIES OF OTHER TRADES' WORK.
- THE ENGINEERING DRAWINGS HAVE BEEN PREPARED USING AUTOCAD. THE DRAWINGS ARE 100% CAD. THESE DOCUMENTS WILL BE MADE AVAILABLE TO THE SUCCESSFUL FIRE SPRINKLER CONTRACTOR IN EITHER ELECTRONIC FORM OR HARD COPY.
- SUPPLY ONLY ONE (1) SPRINKLER FROM A SINGLE BRANCH LINE OUTLET. PROVIDE NEW BRANCH LINES AS REQUIRED.
- SPRINKLERS NEAR A HEAT SOURCE (UNIT HEATERS, DIFFUSERS, STEAM MAINS, SKYLIGHTS, ETC.) SHALL HAVE TEMPERATURE RATINGS IN ACCORDANCE WITH NFPA 13.
- IT IS UNDERSTOOD, UNLESS SPECIFICALLY INDICATED OTHERWISE, THAT THE PIPE
- SIZES AS SHOWN ON THE BID DOCUMENTS WILL BE USED. ALL UNUSED OUTLETS ON EXISTING BRANCH LINES SHALL BE PLUGGED.

MAXIMUM HANGER SPACING

1" - 1 1/4" BLACK STEEL PIPE - 12 FT MAXIMUM HANGER SPACING 1 1/2" - 3" BLACK STEEL PIPE - 15 FT MAXIMUM HANGER SPACING

FIRE SPRINKLER DEMOLITION NOTES

- FIRE SPRINKLER CONTRACTOR'S SCOPE OF WORK SHALL INCLUDE:
- SHUT DOWN AND DRAINING OF ALL EXISTING SYSTEMS.
- DEMOLITION OF EXISTING SPRINKLERS, PIPING, HANGERS, ETC. WHERE INDICATED ON THE PLANS.
- DISCONNECT AND DEMOLISH ALL EXISTING SPRINKLERS BACK TO EXISTING BRANCH LINE OUTLETS. CAP ALL UNUSED OUTLETS AS REQUIRED.
- FIRE SPRINKLER CONTRACTOR SHALL BE RESPONSIBLE FOR REPLACING ANY EXISTING PIPE OR FITTINGS TO REMAIN THAT ARE DAMAGED AS A RESULT OF THEIR WORK AT NO COST TO THE OWNER.

TOP BEAM CLAMP, ROD AND RING NOT TO SCALE

TYPICAL JOIST CLEARANCE REQUIREMENTS FOR UPRIGHT SPRINKLERS NOT TO SCALE

2 PIECE TELESCOPING ESCUTCHEON DETAIL NOT TO SCALE

ATTACHMENT, ROD AND RING NOT TO SCALE

1/2"=1'-0

) 3"6"9"1'

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

PROJECT INFORMATION

PROJECT NAME:

FIRE PROTECTION:

SCOPE OF WORK

CONFIGURED.

CONFIGURED.

ADDRESS:

TELEPHONE NUMBER:

APPLICABLE CODES

FOR RESOLUTION.

SMOKE DETECTOR.

LOCATION:

OCCUPANCY:

- DOLLAR TREE PARSONS, TN
- 503 TENNESSEE AVENUE NORTH 100% SPRINKLERED
- MERCANTILE (EXISTING)

THE EXISTING LANDLORD WATERFLOW MONITORING SYSTEM SHALL REMAIN AS CURRENTLY CONFIGURED.

THE EXISTING SMOKE DETECTOR SHALL REMAIN AS CURRENTLY CONFIGURED. THE EXTERIOR WATERFLOW BELL APPLIANCE SHALL REMAIN AS CURRENTLY

THE EXISTING MANUAL PULL STATION SHALL REMAIN AS CURRENTLY

THE NEW SCOPE OF WORK ON THE EXISTING LANDLORD'S FIRE ALARM SYSTEM SHALL CONSIST OF THE FOLLOWING: A CELLULAR COMMUNICATOR TO REPORT ALL ALARM, SUPERVISORY, AND TROUBLE SIGNAL OFF-SITE. A DOCUMENTATION CABINET ADJACENT TO THE FACP.

REMOTE SUPERVISING STATION FACILITY INFORMATION

MONITORING COMPANY NAME: ADT 4221 W JOHN CARPENTER FREEWAY

IRVING, TX 75063

(316) 858-6694

THE INSTALLING CONTRACTOR SHALL CONTACT ADT AT THE NUMBER ABOVE AT LEAST 28 DAYS PRIOR TO THE TCO DATE THE PANEL NEEDS DOWNLOADED. ASK FOR THE DOLLAR TREE SUPPORT TEAM SO AN ACCOUNT MANAGER CAN BE ASSIGNED. PROVIDE POINT ID INFORMATION AND VERIFY CORRECT SIGNALS ARE BEING RECEIVED PRIOR TO INSPECTIONS BY THE FIRE MARSHAL.

ALL WORK SHALL BE INSTALLED IN ACCORDANCE WITH ALL APPLICABLE CODES AND REFERENCED DESIGN STANDARDS.

2012 TENNESSEE BUILDING CODE

2012 TENNESSEE FIRE CODE

2012 TENNESSEE MECHANICAL CODE

2017 NATIONAL ELECTRICAL CODE

2016 EDITION NFPA 72 NATIONAL FIRE ALARM AND SIGNALING CODE

CONFLICTS BETWEEN THE REFERENCE NFPA STANDARDS, FEDERAL OR STATE CODES, SHALL BE BROUGHT TO THE IMMEDIATE ATTENTION OF ENGINEER OF RECORD (CCI)

FIRE ALARM EXISTING TO REMAIN KEYED NOTES (DENOTED AS 🖘)

THE EXISTING LANDLORD'S FIRE ALARM CONTROL PANEL AND ASSOCIATED EQUIPMENT LOCATED WITH IN THE FIRE SPRINKLER RISER ROOM SHALL REMAIN AS CURRENTLY CONFIGURED. THE LANDLORD'S FIRE ALARM CONTROL PANEL SHALL TRANSMIT FIRE ALARM, SUPERVISORY, AND TROUBLE SIGNALS OFF-SITE VIA NEW STARLINK FIRE-SLE-LTEAI-FIRE.

THE EXISTING FIRE SPRINKLER WATERFLOW SWITCHES AND TAMPER SWITCHES ARE ELECTRONICALLY SUPERVISED BY THE LANDLORD'S FIRE ALARM SYSTEM AND SHALL REMAIN AS CURRENTLY CONFIGURED.

THE EXISTING SMOKE DETECTOR AND ASSOCIATED CABLING/CONDUIT SHALL REMAIN AS CURRENTLY CONFIGURED. FIELD VERIFY THE EXISTING SMOKE DETECTOR IS IN GOOD WORKING CONDITION AND OPERATIONAL. IF THE EXISTING SMOKE DETECTOR IS NOT IN GOOD WORKING CONDITION, REPLACE THE EXISTING

THE EXISTING EXTERIOR WATERFLOW BELL APPLIANCE AND THE ASSOCIATED

CABLING/CONDUIT SHALL REMAIN AS CURRENTLY CONFIGURED.

THE EXISTING MANUAL PULL STATION AND ASSOCIATED CABLING/CONDUIT SHALL REMAIN AS CURRENTLY CONFIGURED.

FIRE ALARM KEYED NOTES (DENOTED AS 🍘)

- 1 PROVIDE A STARLINK (SLE-LTEAI-FIRE) DUAL PATH COMMUNICATOR FOR THE PRIMARY AND SECONDARY MEANS OF TRANSMISSION TO THE APPROVED OFF-SITE MONITORING STATION. THE PRIMARY MEANS OF TRANSMISSION SHALL UTILIZE AN IP BASED NETWORK CONNECTION. THE SECONDARY SHALL UTILIZE A CELLULAR SIGNAL. MOUNT THE STARLINK COMMUNICATOR AT A LOCATION WITH ACCEPTABLE SIGNAL STRENGTH FROM THE WIRELESS NETWORK CONNECTION. COORDINATE ALL PROGRAMMING, SIGNALS TRANSMISSION AND CONNECTIONS WITH THE OFF-SITE MONITORING STATION. COORDINATE ALL NETWORK CONNECTION REQUIREMENTS WITH THE GENERAL CONTRACTOR.
- 2 PROVIDE A DOCUMENTATION CABINET (RED ENCLOSURE) ADJACENT TO THE FIRE ALARM CONTROL PANEL TO HOUSE ALL SYSTEM DOCUMENTS IN ACCORDANCE WITH NFPA 72. SYSTEM DOCUMENTS SHALL INCLUDE (AT A MINIMUM) RECORD DRAWINGS, EQUIPMENT DATA SHEETS, SOFTWARE AND FIRMWARE CONTROL DOCUMENTATION. THE DOCUMENTATION CABINET SHALL BE PROMINENTLY LABELED "SYSTEM RECORD DOCUMENTS", AND SHALL BE ACCESSIBLE BY AUTHORIZED PERSONNEL ONLY AND PROTECTED FROM PUBLIC ACCESS.
- 3 THE EXISTING DUCT SMOKE DETECTORS, REMOTE TEST STATIONS, AND ASSOCIATED CABLING/CONDUIT SHALL REMAIN AS CURRENTLY CONFIGURED. FIELD VERIFY THE EXISTING DUCT SMOKE DETECTORS AND REMOTE TEST STATIONS ARE IN GOOD WORKING CONDITION, OPERATIONAL, AND SUPERVISED BY THE LANDLORD FIRE ALARM SYSTEM. IF THE EXISTING DUCT SMOKE DETECTORS AND REMOTE TEST STATIONS ARE NOT IN GOOD WORKING CONDITION, REPLACE THE EXISTING DUCT SMOKE DETECTOR AND REMOTE TEST STATION. IF THE EXISTING DUCT SMOKE DETECTORS AND REMOTE TEST STATIONS ARE NOT SUPERVISED BY THE LANDLORD FIRE ALARM SYSTEM, PROVIDE CONNECTIONS TO LANDLORD FIRE ALARM SYSTEM. PROVIDE NEW FIRE

ALARM CABLING/CONDUIT AS NEEDED.

FIRE ALARM SYMBOL KEY

СС	NEW CELLULAR COMMUNICATOR (STARLINK FIRE SLE-LTEAI-FIRE)
DOC	NEW DOCUMENTATION CABINET
FACP	LANDLORD FIRE ALARM CONTROL PANEL - EXISTING TO REMAIN
E	MANUAL PULL STATION - EXISTING TO REMAIN
(5)	PHOTOELECTRIC SMOKE DETECTOR (COMPATIBLE WITH LANDLORD SYSTEM) - EXISTING TO REMAIN
(FS)	WATERFLOW SWITCH - EXISTING TO REMAIN
<u>(آ\$</u>)	TAMPER SWITCH - EXISTING TO REMAIN
[8]	EXTERIOR WALL MOUNTED WATERFLOW BELL APPLIANCE - EXISTING TO REMAIN
-~~~	END OF LINE RESISTOR

FIRE ALARM MATRIX

FIRE SPRINKLER SYSTEMS
- WATERFLOW SWITCH
- CONTROL VALVE TAMPER SWITCH
SMOKE DETECTION DEVICES
- SPOT TYPE
MANUAL PULL STATION
ABNORMAL CELLULAR COMMUNICATOR SIGNAL
LOSS OF PRIMARY POWER AT THE FACP OR CC

ABNORMAL CIRCUIT (OPEN, GROUND FAULT, SHORT) OR DEVICE NOTE:

THIS MATRIX ONLY INCLUDES THE ITEMS WITHIN THIS SCOPE OF WORK. ALL EXISTING INITIATION DEVICES SHALL REMAIN AS CURRENTLY CONFIGURED. LOCATED IN THE DOLLAR TREE SPACE.

1. COORDINATE EXACT MOUNTING HEIGHT OF THE DOCUMENTATION CABINET ADJACENT TO THE FIRE ALARM CONTROL PANEL WITH THE OWNER'S REPRESENTATIVE PRIOR TO INSTALLATION. 2. MOUNT THE STARLINK COMMUNICATOR AT A LOCATION WITH ACCEPTABLE SIGNAL STRENGTH FROM THE WIRELESS NETWORK CONNECTION. COORDINATE ALL PROGRAMMING, SIGNALS TRANSMISSION AND CONNECTIONS WITH THE OFF-SITE MONITORING STATION. COORDINATE EXACT MOUNTING HEIGHT WITH THE OWNER'S REPRESENTATIVE, ELECTRICAL CONTRACTOR, AND AHJ PRIOR TO INSTALLATION.

FINISHED FLOOR

TYPICAL MOUNTING HEIGHT DETAIL

NOT TO SCALE

NOTES:

INSTALLATION NOTES

OWNER.

ALL WORK SHALL BE IN ACCORDANCE WITH NFPA STANDARDS AND ALL LOCAL ADOPTED CODES. FIRE ALARM CABLING SHALL BE ACCEPTABLE TO THE FIRE ALARM EQUIPMENT MANUFACTURER FOR THE INTENDED PURPOSE. SHOULD MANUFACTURER OF FIRE ALARM EQUIPMENT REQUIRE DIFFERENT TYPE OR SIZE OF CABLE THAN HEREIN SPECIFIED, THE LARGER OR MORE STRINGENT TYPE OF CABLE SHALL BE USED.

- ALL FIRE ALARM CABLING SHALL BE FIRE POWER LIMITED TYPE FPL, FPLR, OR FPLP AS REQUIRED BY THE NATIONAL ELECTRICAL CODE. SEE WIRING LEGEND FOR CABLE TYPES AND SIZES
- PROVIDE ALL REQUIRED CONDUIT, BACKBOXES, AND FITTINGS FOR THE FIRE ALARM SYSTEM CABLING.
- 5. FIRE ALARM CABLING SHALL BE RED IN COLOR.
- . FIRE ALARM CABLING SHALL NOT BE PAINTED. ALL CABLE RUNS SHALL BE NEATLY BUNDLED, WRAPPED TIGHT AND PROPERLY SECURED. ANY CABLING NOT INSTALLED IN A NEAT AND PROFESSIONAL MANNER SHALL BE PULLED OUT AND RE-RUN BY INSTALLER AT NO ADDITIONAL COST TO
- CONTRACTOR RUNNING CABLING MUST MARK BOTH ENDS OF CABLING, PROVIDE A WIRE LEGEND FOR ALL LOCATIONS, AND PROVIDE A CONTINUITY TEST LOG FOR EACH CABLE.
- EXPOSED CABLING SHALL BE RUN PARALLEL AND PERPENDICULAR TO BUILDING STRUCTURE. EXPOSED CABLING SHALL NOT BE RUN IN A "SPAN" FASHION BETWEEN BAR JOISTS OR BEAMS (I.E.: CABLING SHALL BE ROUTED ALONG PATH OF JOISTS AND BEAMS). ALL CABLING SHALL BE SECURED TO THE STRUCTURAL CEILING BETWEEN JOISTS OR BEAMS.
- ALL CABLING SHALL BE SUPPORTED FROM BUILDING STRUCTURE AND NOT FROM GRID, TILES OR SUPPORT WIRES. EXPOSED CABLING SHALL BE SUPPORTED BY BUILDING STRUCTURE AT NO MORE THAN FIVE (5) FOOT INTERVALS USING APPROVED "O" RINGS AND "J" HOOKS.
- . ALL FIRE ALARM CABLING BELOW THE STRUCTURE, IN ELECTRICAL AND MECHANICAL ROOMS (SUBJECT TO PHYSICAL DAMAGE), CONCEALED ABOVE CEILINGS OR IN PARTITIONS (SUBJECT TO PHYSICAL DAMAGE) SHALL BE INSTALLED IN METALLIC CONDUIT.
- ALL POWER LIMITED FIRE ALARM CABLING ABOVE THE STRUCTURE, ABOVE LAY-IN CEILINGS, OR CONCEALED ABOVE CEILINGS OR IN PARTITIONS (NOT SUBJECT TO PHYSICAL DAMAGE) ARE NOT REQUIRED TO BE INSTALLED IN CONDUIT.
- . ALL NON-POWER LIMITED FIRE ALARM CABLING FOR THE FIRE ALARM SYSTEM SHALL BE INSTALLED IN CONDUIT.
- 14. ALL CONDUIT SHALL BE TERMINATED AT THE BAR JOIST LEVEL WITH SOME FORM OF GROMMET OR BOX CONNECTOR.
- ALL CONDUIT LOCATED IN DRYWALL SHALL BE TERMINATED NO LESS THAN SIX (6) INCHES ABOVE THE CEILING TILE.
- 16. FOR DRYWALL APPLICATIONS, ALL CONDUIT AND BACKBOXES SHALL BE RECESSED INSIDE THE WALL.
- 7. ALL FIRE ALARM CABLING IN FINISHED AREAS SHALL BE CONCEALED.
- . COORDINATE DRILLING OF ANY HOLES (I.E. COLUMN PENETRATIONS) WITH THE OWNER'S REPRESENTATIVE AND ALL OTHER TRADES PRIOR TO INSTALLATION.
- 9. ALL FIRE ALARM DEVICES AND APPLIANCES SHALL BE INSTALLED IN OR ON A PROPER BACKBOX. NO DEVICES OR APPLIANCE SHALL BE INSTALLED WITHOUT A BACKBOX.
- 20. ALL CABLING, CONDUIT, AND BACKBOXES SHALL BE PROPERLY SUPPORTED AND SEISMICALLY BRACED, AS REQUIRED BY ALL APPLICABLE CODES AND THE LOCAL JURISDICTION.
- 21. ALL WIRING CONDUCTORS ENTERING FIRE ALARM PANEL(S) SHALL BE IN CONDUIT AND ENTER FROM THE SIDE OF THE FIRE ALARM PANEL(S).
- 22. CONDUIT FILL SHALL NOT EXCEED 40%.
- 23. ALL FIRE ALARM JUNCTION BOXES SHALL BE RED IN COLOR. 24. ALL FIRE ALARM CABLING RISERS SHALL BE INSTALLED IN EMT CONDUIT.

FIRESTOP NOTES

- ALL THROUGH-PENETRATIONS OF FIRE-RATED WALLS AND FLOORS SHALL BE FIRE-STOPPED.
- FIRE-RATED GYPSUM BOARD WALLS CONSTRUCTED AS DESCRIBED IN THE INDIVIDUAL U300 OR U400 SERIES DESIGNS IN THE U.L. FIRE RESISTANCE DIRECTORY (GENERALLY DOUBLE THICKNESS WALLBOARD) SHALL BE FIRE-STOPPED WITH U.L. SYSTEMS.
- ALL REINFORCED LIGHTWEIGHT OR NORMAL WEIGHT CONCRETE FLOORS OR WALLS, AND ALL U.L. CLASSIFIED CONCRETE BLOCK WALLS SHALL BE FIRE-STOPPED WITH U.L. SYSTEMS.

GENERAL NOTES

- THE FIRE ALARM SYSTEM SHALL UTILIZE THE EXISTING FIRE ALARM CONTROL PANEL. ALL NEW FIRE ALARM DEVICES WITHIN THE DOLLAR TREE SPACE SHALL BE CONNECTED DIRECTLY TO THE EXISTING FIRE ALARM CONTROL PANEL. THE FIRE ALARM CONTROL PANEL SHALL TRANSMIT FIRE ALARM, SUPERVISORY, AND TROUBLE SIGNALS OFF-SITE VIA NEW STARLINK FIRE SLE-LTEAI-FIRE.
- EXISTING FIRE ALARM CIRCUITS SHALL REMAIN AS CURRENTLY CONFIGURED. NEW FIRE ALARM CIRCUITS SHALL MEET THE FOLLOWING MINIMUM
- REQUIREMENTS: INITIATION DEVICE CIRCUITS (IDC) - CLASS B
- SUPERVISORY CIRCUITS CLASS B SIGNALING LINE CIRCUITS (SLC) - CLASS B
- AUXILIARY CIRCUITS CLASS B CIRCUITS FOR RELAY COIL OPERATION SHALL BE 24 VDC MAXIMUM WITH A SEPARATE OR INTEGRAL FIELD COLLAPSING DIODE.
- THE EXISTING FIRE ALARM CONTROL PANEL (FACP) AND ASSOCIATED EQUIPMENT LOCATED OUTSIDE THE DOLLAR TREE SPACE SHALL REMAIN AS CURRENTLY CONFIGURED. FIELD VERIFY THAT ALL CABINETS HAVE A HINGED DOOR KEYED IN COMMON WITH ALL OTHER KEYED DEVICES THROUGHOUT THE SYSTEM.
- THE EXISTING SPRINKLER WATERFLOW AND CONTROL VALVE TAMPER SWITCHES SERVING DOLLAR TREE SPACE ARE LOCATED IN THE COMMON SPRINKLER RISER ROOM AND SHALL REMAIN AS CURRENTLY CONFIGURED.
- THE INSTALLING FIRE ALARM CONTRACTOR SHALL FIELD VERIFY EXISTING FIRE ALARM CONTROL PANEL (FACP) HAS SUFFICIENT STANDBY SECONDARY BATTERY CAPACITY TO ACCOMMODATE THE NEW FIRE ALARM EQUIPMENT. IF ADEQUATE SECONDARY BATTERY CAPACITY IS NOT PROVIDED, CONTRACTOR SHALL PROVIDE LARGER BATTERIES WITHOUT EXCEEDING EXISTING FACP MANUFACTURERS CHARGING CAPABILITIES. BATTERY CABINET SHALL BE PROVIDED AS NEEDED.
- UPON LOSS OF BUILDING POWER, THE ENTIRE SYSTEM SHALL TRANSFER TO SECONDARY POWER WITHIN TEN (10) SECONDS, AND WITHOUT LOSS OF SIGNALS. THE SYSTEM SHALL OPERATE UNDER SECONDARY POWER IN NORMAL OR TROUBLE CONDITIONS FOR TWENTY-FOUR (24) HOURS AND HAVE SUFFICIENT POWER TO SUPPORT COMPLETE ALARM CONDITION OPERATION FOR A SUBSEQUENT FIVE (5) MINUTES AT MAXIMUM CONNECTED LOAD.
- DEVICES AND APPLIANCE LOCATIONS AS SHOWN ON THE FIRE ALARM PLANS ARE NOT DIMENSIONED FOR EXACT INSTALLATION. COORDINATE EXACT PLACEMENT OF ALL DEVICES AND APPLIANCES WITH THE ARCHITECTURAL PLANS AND GENERAL CONTRACTOR PRIOR TO INSTALLATION.
- ARCHITECTURAL, STRUCTURAL, MECHANICAL AND ELECTRICAL BACKGROUND INFORMATION IS SHOWN FOR COORDINATION PURPOSES ONLY. REFER TO THE PROPER DRAWINGS FOR EXACT LOCATIONS, SIZES AND QUANTITIES OF OTHER TRADES' WORK.
- ALL THROUGH-PENETRATIONS OF FIRE-RATED WALLS AND FLOORS SHALL BE FIRE-STOPPED.
- 10. ALL JUNCTION BOXES SHALL BE ACCESSIBLE FOR SERVICE. PROVIDE ANY REQUIRED ACCESS PANELS.
- 1. ALL SIGNALING LINE CIRCUITS AND INITIATING DEVICE CIRCUITS SHALL BE
- SUPERVISED IN ACCORDANCE WITH NFPA 72. 12. PROVIDE ANY REQUIRED SEISMIC BRACING FOR ALL FIRE ALARM SYSTEM
- DEVICES, CONDUIT AND BACKBOXES. 3. PROVIDE A PRINTED LABEL FOR EACH INITIATING DEVICE INDICATING THE SPECIFIC ADDRESS FOR THAT DEVICE. THE LABEL SHALL INCLUDE THE PROGRAMMING ADDRESS AND DEVICE NUMBER. THE LABEL SHALL BE LOCATED ON THE BASE OF ALL DETECTORS AND THE COVER PLATES OF EACH ADDRESSABLE DEVICE.

PART 1 - GENERAL

1.01 RELATED DOCUMENTS

A. CONDITIONS OF THE CONTRACT, DRAWINGS GENERAL REQUIREMENTS CONDITIONS AND DIVISION 1 SPECIFICATION APPLY TO THE WORK OF THIS SECTION.

1.02 SUMMARY

- A. PROVIDE ALL REQUIRED LABOR, WARRANTY LABOR, MATERIALS, EQUIPMENT, SYSTEM PROGRAMMING, TESTING, SUBMITTALS AND SERVICES NECESSARY FOR A COMPLETE AND OPERATIONAL FIRE ALARM SYSTEM AS HEREINAFTER DESCRIBED, AND AS SHOWN ON THE ENGINEERING DRAWINGS.
- B. WORK SHALL INCLUDE BUT NOT BE LIMITED TO THE FOLLOWING: 1. CONNECTIONS TO EXISTING FACP
- 2. IP/CELLULAR COMMUNICATOR 3. DATA CIRCUITS C. PROVIDE A MINIMUM OF ONE (1) HOUR
- TRAINING, FOR STAFF PERSONNEL, IN THE OPERATION AND USE OF THE SYSTEM.
- D. IT IS INTENDED THAT THE ENGINEERING DRAWINGS AND SPECIFICATIONS SHALL DESCRIBE AND PROVIDE FOR A WORKING INSTALLATION COMPLETE IN EVERY DETAIL AND ALL ITEMS NECESSARY FOR SUCH COMPLETE INSTALLATION SHALL BE PROVIDED WHETHER OR NOT SPECIFICALLY MENTIONED HEREIN OR SHOWN ON THE ENGINEERING DRAWINGS.
- 1.03 DEFINITIONS
 - A. DEFINITIONS REFERENCED IN THESE SPECIFICATIONS ARE AS FOLLOWS:
 - 1. AHJ: AUTHORITY HAVING JURISDICTION
 - 2. FACP: FIRE ALARM CONTROL PANEL 3. UL: UNDERWRITERS LABORATORIES, INC.
 - 4. LED: LIGHT-EMITTING DIODE 5. NICET: NATIONAL INSTITUTE FOR
 - CERTIFICATION IN ENGINEERING TECHNOLOGIES
 - 6. NFPA: NATIONAL FIRE PROTECTION ASSOCIATION
 - 7. FAEM: FIRE ALARM EQUIPMENT MANUFACTURER
 - 8. NRTL: NATIONALLY RECOGNIZED TESTING LABORATORY
- 1.04 <u>REFERENCES</u>
 - A. ALL WORK SHALL BE INSTALLED IN ACCORDANCE WITH ALL APPLICABLE CODES AND REFERENCED DESIGN STANDARDS:
 - B. IF THERE IS A CONFLICT BETWEEN THE APPLICABLE CODES, REFERENCED DESIGN STANDARDS, OR LOCAL AMENDMENTS AND THIS SPECIFICATION, IT IS THE CONTRACTOR'S RESPONSIBILITY TO IMMEDIATELY BRING THE CONFLICT TO THE ENGINEER FOR RESOLUTION.
- 1.05 SYSTEM DESCRIPTION
 - A. THE SYSTEM SHALL CONTINUE TO OPERATE AS A LOW VOLTAGE FIRE ALARM SYSTEM AND SUPERVISED FIRE ALARM SYSTEM AS HEREINAFTER SPECIFIED. THE EXISTING FIRE ALARM CONTROL PANEL AND DEVICES SHALL REMAIN AND BE REUSED AS CURRENTLY CONFIGURED. NEW INITIATING DEVICE **CIRCUITS SHALL MEET THE MINIMUM** REQUIREMENTS OF CLASS B. NEW SIGNALING LINE CIRCUITS SHALL MEET THE MINIMUM REQUIREMENTS OF CLASS B. CIRCUITS FOR **RELAY COIL OPERATION SHALL BE 24 VOLT** MAXIMUM WITH A SEPARATE OR INTEGRAL FIELD COLLAPSING DIODE.
 - B. UPON LOSS OF BUILDING POWER, THE ENTIRE SYSTEM SHALL TRANSFER TO WITHIN TEN (10) SECONDS, AND WITHOUT LOSS OF SIGNALS. THE SYSTEM SHALL OPERATE UNDER SECONDARY POWER IN NORMAL OR TROUBLE CONDITIONS FOR TWENTY-FOUR (24) HOURS AND HAVE SUFFICIENT POWER TO SUPPORT COMPLETE ALARM CONDITION OPERATION FOR A SUBSEQUENT FIVE (5) MINUTES.
 - C. SYSTEM OPERATION SHALL BE AS FOLLOWS:
 - 1. ABNORMAL CIRCUIT CONDITIONS OR DEVICES, AS REQUIRED FOR THE CLASS OF THE CIRCUIT, SHALL INITIATE A "TROUBLE" CONDITION AT THE CONTROL PANEL FOR THAT SPECIFIC CIRCUIT OR DEVICE. THE "TROUBLE" INDICATION SHALL DESCRIBE THE NATURE OF THE CONDITION ON THE AFFECTED CIRCUIT OR DEVICE. THE FIRE ALARM SYSTEM SHALL TRANSMIT A "TROUBLE" CONDITION OFF-SITE VIA NEW STARLINK FIRE-SLE-LTEAI-FIRE.
 - 2. ACTIVATION OF ANY SUPERVISORY DEVICE AS INDICATED ON THE ENGINEERING DRAWINGS SHALL INITIATE A "SUPERVISORY" CONDITION AT THE CONTROL FOR THAT SPECIFIC DEVICE THE "SUPERVISORY" INDICATION SHALL DESCRIBE THE NATURE OF THE CONDITION AND SPECIFIC ADDRESS AND ALPHANUMERIC DESCRIPTION OF THE DEVICE AFFECTED. THE FIRE ALARM SYSTEM SHALL TRANSMIT A "SUPERVISORY" CONDITION OFF-SITE VIA NEW STARLINK FIRE-SLE-LTEAI-FIRE
 - 3. ACTIVATION OF ANY ALARM DEVICE AS INDICATED ON THE ENGINEERING DRAWINGS SHALL INITIATE AN "ALARM" CONDITION AT THE CONTROL PANEL FOR THAT SPECIFIC DEVICE. THE "ALARM" INDICATION SHALL DESCRIBE THE NATURE OF THE CONDITION AND SPECIFIC ADDRESS AND ALPHANUMERIC DESCRIPTION OF THE DEVICE AFFECTED. THE FIRE ALARM SYSTEM SHALL TRANSMIT AN "ALARM" CONDITION OFF-SITE VIA NEW STARLINK FIRE-SLE-LTEAI-FIRE.
 - 4. INITIATION OF AN "ALARM" CONDITION SHALL RESULT IN THE FOLLOWING FUNCTIONS TO BE PERFORMED BY THE SYSTEM:
 - a.INITIATE AN ALARM INDICATION ON THE CONTROL PANEL BY TONE AND ILLUMINATE THE CORRESPONDING DEVICE SPECIFIC ALPHANUMERIC LCD DESCRIPTION. MANUALLY ACTIVATING THE "ALARM SILENCE" SHALL SILENCE THE TONE AT THE PANEL. THE ALARM ALPHANUMERIC DISPLAY SHALL **REMAIN "ON" AT THE CONTROL PANEL** UNTIL THE CONDITION CAUSING THE ALARM HAS BEEN CLEARED AND RESET. AN ADDITIONAL ALARM REPORTED TO THE PANEL SUBSEQUENT TO ACTIVATING THE
 - "ALARM SILENCE" SHALL REACTIVATE THE CONTROL PANEL TONE.

b. THE EXISTING FIRE ALARM CONTROL PANEL SHALL TRANSMIT AN "ALARM" SIGNAL VIA NEW STARLINK FIRE-SLE-LTEAI-FIRE.

- 1.06 QUALITY ASSURANCE
- A. ALL WORK SHALL MEET THE REQUIREMENTS OF THE OWNER, ARCHITECT, ENGINEER AND AUTHORITY HAVING JURISDICTION (AHJ).
- B. ALL EQUIPMENT AND COMPONENTS SHALL BE UL LISTED, FOR THE ACTUAL INTENDED USE, UNLESS HEREINAFTER SPECIFICALLY EXCLUDED FROM SUCH A LISTING.
- C. INSTALLATION AND SUPERVISION OF INSTALLATION SHALL BE IN STRICT COMPLIANCE WITH THE REQUIREMENTS OF THE REGULATIONS, LICENSES, AND PERMITS FOR FIRE ALARM SYSTEM INSTALLERS IN THIS JURISDICTION.
- D. INSTALLER MUST HAVE BEEN ACTIVELY ENGAGED IN THE BUSINESS OF SELLING, INSTALLING, AND SERVICING FIRE ALARM SYSTEMS FOR AT LEAST FIVE (5) YEARS.
- E. INSTALLER MUST BE AN AUTHORIZED REPRESENTATIVE OF THE FIRE ALARM EQUIPMENT MANUFACTURER (FAEM) AND HAVE TECHNICAL FACTORY TRAINING SPECIFICALLY FOR THE SYSTEM PROPOSED.
- F. THE FAEM SHALL HAVE A REPRESENTATIVE SUPERVISE THE FINAL CONNECTION OF DEVICES, WIRING, AND PROGRAMMING OF THE CONTROL PANELS. THE FAEM REPRESENTATIVE SHALL BE NATIONAL INSTITUTE FOR CERTIFICATION IN ENGINEERING TECHNOLOGIES (NICET) CERTIFIED AS LEVEL II OR HIGHER FIRE ALARM PROTECTION / FIRE ALARM SYSTEMS ENGINEERING TECHNICIAN.
- 1.07 REGULATORY REQUIREMENTS
 - A. ALL WORK SHALL MEET THE REQUIREMENTS OF ALL APPLICABLE CODES AND REFERENCED DESIGN STANDARDS.
 - B. NO APPROVALS OR INTERPRETATIONS OF THE DESIGN DOCUMENTS SHALL BE PURSUED EXCEPT THROUGH THE ENGINEER.
 - C. ANY WORK PERFORMED PRIOR TO THE SATISFACTORY REVIEW OF THE SHOP DRAWINGS BY THE ENGINEER, APPROVAL BY THE AHJ, AND DETERMINED TO BE NONCOMPLIANT WITH THE CONTRACT DOCUMENTS OR APPLICABLE CODES BY THE OWNER OR AHJ WILL BE REPLACED AT THE CONTRACTORS' EXPENSE.
 - D. THE SYSTEM WILL NOT BE ACCEPTABLE UNTIL FINAL TESTING AND RECEIPT OF THE INSPECTION AND TESTING FORM HAS BEEN OBTAINED.

1.08 SUBMITTALS

- A. THE ENGINEERING DRAWINGS HAVE BEEN PREPARED USING AUTOCAD. THESE DOCUMENTS WILL BE MADE AVAILABLE EITHER IN ELECTRONIC OR HARD COPY FORM. UTILIZATION OF THESE DOCUMENTS FOR THE DEVELOPMENT OF SHOP DRAWINGS AND SUBMITTALS DOES NOT RELIEVE THE CONTRACTOR FROM ANY RESPONSIBILITIES REQUIRED HEREIN.
- B. IN THE SUBMITTALS, THE CONTRACTOR MUST CLEARLY IDENTIFY ALL AREAS AND SECTIONS OF THIS SPECIFICATION TO WHICH THEY TAKE EXCEPTION OR ARE NOT CAPABLE OF PROVIDING.
- C. SUBMITTALS WILL BE DISAPPROVED UNLESS REQUIRED EQUIPMENT LITERATURE. CALCULATIONS, AND COMPLETE SHOP DRAWINGS ARE SUBMITTED TOGETHER AS ONE PACKAGE FOR REVIEW.
- D. THE ENGINEER SHALL REVIEW THE CONTRACTOR'S SUBMITTALS TO VERIFY CONFORMANCE TO THE PROJECT SPECIFICATIONS AND DESIGN CONCEPTS EXPRESSED IN THE CONTRACT DOCUMENTS THE CONTRACTOR SHALL ALLOW SUFFICIENT TIME TO PERMIT ADEQUATE REVIEW. REVIEW OF SUCH SUBMITTALS IS NOT CONDUCTED FOR THE PURPOSE OF DETERMINING THE ACCURACY AND COMPLETENESS OF DETAILS AND DIMENSIONS, OR SUBSTANTIATING INSTALLATION OR PERFORMANCE OF EQUIPMENT AND SYSTEMS DESIGNED BY THE CONTRACTOR, ALL OF WHICH REMAIN THE CONTRACTOR'S RESPONSIBILITY TO THE EXTENT REQUIRED BY THE CONTRACT DOCUMENTS.
- E. THE ENGINEER'S REVIEW SHALL NOT CONSTITUTE APPROVAL OF SAFETY PRECAUTIONS OF CONSTRUCTION, MEANS, METHODS, TECHNIQUES, SEQUENCES OF PROCEDURES, OR APPROVAL OF A SPECIFIC ASSEMBLY.
- F. PRIOR TO RELEASE OF EQUIPMENT FOR SHIPMENT OR INSTALLATION, SUBMIT TO THE ENGINEER THE FOLLOWING:
- 1. SHOP DRAWINGS. THE SPECIFIC QUANTITY TO BE SUBMITTED SHALL BE CONFIRMED WITH THE GENERAL CONTRACTOR AND OWNER. ELECTRONIC SUBMITTALS ARE ACCEPTABLE. SUBMITTAL MUST BE COMPREHENSIVE OF THE ENTIRE PROJECT, COMPLETE IN ALL DETAIL, AND INCLUDE, BUT NOT BE LIMITED TO, THE FOLLOWING:
- a.FLOOR PLANS SHOWING EQUIPMENT PLACEMENT, POINT TO POINT WIRING, WIRING TYPES AND SIZES, CONDUIT TYPES AND SIZES, WIRING AND RACEWAY ROUTES, AND PROPOSED MOUNTING METHODS FOR CONDUIT AND BACKBOXES. FLOOR PLANS SHALL BE AUTOCAD GENERATED.
- **b.SEQUENCE OF OPERATIONS IN MATRIX** FORM TO INCLUDE A DETAILED DESCRIPTION OF THE OPERATION OF EACH SYSTEM FUNCTION FOR ALL POSSIBLE CONDITIONS.
- c.RISER DIAGRAM SHOWING TYPICAL WIRING CONNECTIONS FOR EACH TYPE OF DEVICE AND MODULE.
- d.SUPERVISORY AND ALARM CURRENT CALCULATIONS FOR PRIMARY POWER AND EMERGENCY BATTERY SIZING OF ALL CONTROL PANELS AND AUXILIARY POWER SUPPLIES.
- 1)BATTERY CALCULATIONS SHALL LIST THE TYPE OF DEVICES AND MODULES, QUANTITIES, AMPERAGE DRAW FOR STANDBY AND ALARM CONDITIONS FOR EACH DEVICE, THE TOTAL AMPERAGE DRAW FOR EACH PANEL, AND EACH PANEL'S BATTERY AMP/HOUR RATING.

2) THE CALCULATED LOAD SHALL BE THE DESIGN LOAD, INCLUDING ALL REQUIRED SPARE CAPACITY.

3) THE BATTERY CAPACITY USED TO MEET THE CALCULATED LOAD SHALL BE A MAXIMUM OF EIGHTY (80) PERCENT OF THE AMP/HOUR LISTED BY THE MANUFACTURER.

e.A COMPLETE LIST OF ALL PROPOSED DEVICES AND THEIR ASSOCIATED ZONES AND CIRCUIT NUMBER. 2. MANUFACTURER'S LITERATURE ON ALL SYSTEM EQUIPMENT. THE SPECIFIC QUANTITY TO BE SUBMITTED SHALL BE CONFIRMED WITH THE GENERAL CONTRACTOR AND OWNER. ELECTRONIC

SUBMITTALS ARE ACCEPTABLE LITERATURE WHICH IS NOT CLEARLY IDENTIFIED WILL BE REJECTED. a.LITERATURE SHALL INCLUDE SPECIFICATION AND DESCRIPTION OF

RECOMMENDED SUPPORTING METHODS, ENCLOSURES OR BOXES, AND WIRING CONNECTIONS. b. THE EXACT COMPONENTS TO BE

UTILIZED ON THIS SPECIFIC PROJECT SHALL BE INDICATED. BY HIGHLIGHTING OR ARROWS, ON EACH DATA SHEET OF THE EQUIPMENT LITERATURE. 3. QUALIFICATIONS AND AUTHORIZATION OF

THE REPRESENTATIVE OF THE FAEM. G. THE ENGINEER SHALL REVIEW FOR ACCURACY ALL SUBMITTALS REQUIRED TO BE RECEIVED BY THE ENGINEER PRIOR TO EQUIPMENT RELEASE OR INSTALLATION. THE OWNER, OWNER'S REPRESENTATIVE, OR DESIGN FIRMS

RETAINED BY THE OWNER SHALL NOT BE RESPONSIBLE FOR ANY ADDITIONAL COSTS RESULTING FROM REPLACEMENT OF EQUIPMENT OR MATERIALS NOT REVIEWED PRIOR TO INSTALLATION. H. AFTER SATISFACTORY REVIEW OF THE

SUBMITTALS BY THE ENGINEER, THE CONTRACTOR SHALL SUBMIT ALL REQUIRED DRAWINGS, MANUFACTURERS' LITERATURE CALCULATIONS AND ANY OTHER MATERIALS REQUIRED BY THE AHJ TO OBTAIN A PERMIT TO THE APPROPRIATE PARTY FOR REVIEW.

I. FORWARD TO THE ENGINEER A COPY OF THE TRANSMITTAL OF THE PERMIT APPLICATION. J. FORWARD TO THE ENGINEER, IN WRITING, ANY COMMENTS FROM THE AHJ OR THE **INSURANCE UNDERWRITER WITHIN FIVE (5)** WORKING DAYS AFTER THE RECEIPT OF THEIR COMMENTS.

1.09 PROJECT RECORD DOCUMENTS

A. THE CONTRACTOR SHALL PROVIDE AND MAINTAIN ON SITE AN UP-TO-DATE RECORD SET OF SATISFACTORY SHOP DRAWINGS WHICH SHALL BE MARKED TO SHOW EACH AND EVERY CHANGE MADE TO THE FIRE ALARM SYSTEM FROM THE ORIGINAL APPROVED SHOP DRAWINGS. THIS SHALL NOT BE CONSTRUED AS AUTHORIZATION TO DEVIATE FROM OR MAKE CHANGES TO THE SHOP DRAWINGS REVIEWED BY THE ENGINEER

WITHOUT WRITTEN INSTRUCTIONS FROM THE ENGINEER IN EACH CASE. THIS SET OF DRAWINGS SHALL BE ISSUED ONLY AS A RECORD SET. THESE DRAWINGS SHALL BE MADE AVAILABLE TO THE OWNER, OR THE OWNER'S REPRESENTATIVE. UPON REQUEST.

B. THE CONTRACTOR SHALL CONTINUALLY DOCUMENT SOFTWARE AND PROGRAMMING CHANGES. THIS DOCUMENTATION SHALL

1. A COMPLETE PRINTOUT OF THE SYSTEM PRIOR TO THE CHANGE.

INCLUDE:

AND DATE.

REPRESENTATIVE:

NFPA 72:

2. A COMPLETE PRINTOUT OF THE SYSTEM PROGRAM SUBSEQUENT TO THE CHANGE, WITH ALL MODIFICATIONS HIGHLIGHTED.

3. A LETTER PREPARED AND SIGNED BY THE INDIVIDUAL WHO MADE THE CHANGES, DESCRIBING EACH CHANGE MADE AND THE REASON FOR THE CHANGE. THIS LETTER SHALL CERTIFY THAT THE PROGRAMMER HAS PERSONALLY **REVIEWED AND COMPARED THE BEFORE**

AND AFTER PROGRAM PRINTOUT AND VERIFIED THE CORRECTNESS OF THE MODIFICATION(S). 4. AN EQUIVALENT MEANS PERFORMED

AUTOMATICALLY IN COMPUTER SOFTWARE, WHICH VERIFIED THE RESULTS OF CHANGES MADE IS ACCEPTABLE.

C. ONCE THE FIRE ALARM SYSTEM IS PUT INTO SERVICE, IN WHOLE OR IN PART, AND THE ASSOCIATED BUILDING(S) ARE PARTIALLY OR WHOLLY OCCUPIED, NO SOFTWARE CHANGES SHALL BE PERFORMED WITHOUT PRIOR WRITTEN PERMISSION OF THE OWNER, OR OWNER'S REPRESENTATIVE.

D. ONLY A CERTIFIED MANUFACTURER'S REPRESENTATIVE TRAINED IN THE SPECIFIC PROGRAMMING SOFTWARE SHALL MAKE CHANGES TO THE FIRE ALARM SYSTEM SOFTWARE ONCE THE SYSTEM IS IN SERVICE.

E. EACH REVISION TO THE SOFTWARE SHALL BE IDENTIFIED BY A UNIQUE VERSION NUMBER

F. PRIOR TO FINAL PAYMENT FOR THE FIRE ALARM SYSTEM AND THE BEGINNING OF THE WARRANTY PERIOD, SUBMIT A CD ROM AND TWO (2) SETS (OR AS DIRECTED BY THE OWNER'S REPRESENTATIVE) OF THE FOLLOWING COMPLETED PROJECT RECORD DOCUMENTS TO THE OWNER'S

1. COPIES OF ALL TEST AND INSPECTION REPORTS AS REQUIRED BY THE AHJ AND

- a.THE RECORD OF COMPLETION FORM SHALL BE IN THE FORMAT AS OUTLINED IN NFPA 72.
- **b.THE INSPECTION AND TESTING FORM** SHALL BE IN THE FORMAT AS OUTLINED IN NFPA 72.
- 2. ALL PERMITS AND LICENSES REQUIRED TO BE IN THE POSSESSION OF THE OWNER BY

THE AHJ.

- 3. ACCURATE RECORD (AS-BUILT) DRAWINGS OF THE COMPLETE INSTALLATION TO INCLUDE, BUT NOT BE LIMITED TO, THE INFORMATION REQUIRED FOR THE SHOP DRAWINGS. RECORD DRAWINGS OF THE FLOOR PLANS SHALL BE AUTOCAD GENERATED.
- 4. ORIGINAL WARRANTY DOCUMENTS INCLUDING, BUT NOT LIMITED TO, THOSE OF THE FAEM. WARRANTY DOCUMENTS SHALL REFERENCE AND BE BINDING TO THE WARRANTY PROVISIONS SPECIFIED IN THE WARRANT PORTION OF THIS SPECIFICATION.
- 5. SUBMIT TO THE ENGINEER A COPY OF THE TRANSMITTAL TO THE OWNER'S REPRESENTATIVE FOR ALL FINAL COMPLETE PROJECT RECORD DOCUMENTS.
- G. UPON COMPLETION OF CONSTRUCTION, SUBMIT TWO (2) SETS AND A CD ROM OF EQUIPMENT WARRANTIES AND TWO (2) SETS AND A CD ROM OF INSTALLATION, OPERATIONS AND MAINTENANCE INSTRUCTIONS TO THE OWNER'S REPRESENTATIVE. THIS MANUAL SHALL REFLECT THE COMPLETED INSTALLATION AND INCLUDE, BUT NOT BE LIMITED TO THE FOLLOWING INFORMATION:
- 1. A DETAILED NARRATIVE DESCRIPTION OF THE SYSTEMS ARCHITECTURE, INPUTS, EVACUATION SIGNALING, AUXILIARY FUNCTIONS, ANNUNCIATION, SEQUENCE OF OPERATION, EXPANSION CAPABILITY, APPLICATION CONSIDERATIONS AND LIMITATIONS.
- 2. A DETAILED DESCRIPTION OF ROUTINE MAINTENANCE REQUIRED OR RECOMMENDED, OR AS WOULD BE PROVIDED UNDER A MAINTENANCE CONTRACT, INCLUDING A TESTING SCHEDULE AND DETAILED MAINTENANCE INSTRUCTIONS FOR EACH TYPE OF DEVICE INSTALLED.
- 3. DETAILED TROUBLESHOOTING INSTRUCTIONS FOR EACH POSSIBLE TROUBLE CONDITION.
- 4. AN EQUIPMENT LIST/SCHEDULE DETAILING ALL EQUIPMENT AND QUANTITIES INSTALLED. THE MANUFACTURER'S PRODUCT MODEL/IDENTIFICATION NUMBER SHALL BE SHOWN NEXT TO EACH PIECE OF EQUIPMENT ON THE LIST.
- 5. UPDATED MANUFACTURER'S DATA SHEETS AND INSTALLATION MANUALS/INSTRUCTIONS FOR ALL EQUIPMENT INSTALLED.
- 6. UPDATED LIST OF SPARE PARTS AND ACCESSORIES RECOMMENDED BY THE MANUFACTURER SHALL BE STOCKED FOR MAINTENANCE OF THE SYSTEM.
- 7. A DETAILED DESCRIPTION OF THE **OPERATION OF THE SYSTEMS, INCLUDING** OPERATOR RESPONSES. COPIES OF THE APPROVED SEQUENCE OF OPERATION SHALL BE PLACED IN, OR ADJACENT TO THE CONTROL PANEL
- H. A COPY OF ALL SOFTWARE DOCUMENTATION REQUIRED BY THIS SECTION SHALL BE MAINTAINED ON-SITE BY THE CONTRACTOR, IN A BINDER, ARRANGED IN CHRONOLOGICAL ORDER. THIS BINDER SHALL BE PROVIDED TO THE OWNER'S REPRESENTATIVE AT THE COMPLETION OF THE PROJECT.
- 1.10 WARRANTY
 - A. REPAIR ALL DEFECTIVE WORKMANSHIP OR REPLACE ALL DEFECTIVE MATERIALS FOR A PERIOD OF ONE (1) YEAR FROM THE DATE OF ACCEPTANCE BY THE OWNER'S REPRESENTATIVE. WORKMANSHIP OR EQUIPMENT FOUND TO BE DEFECTIVE DURING THAT PERIOD SHALL BE REPLACED AT NO ADDITIONAL COST TO THE OWNER.
 - B. THE WARRANTY OR ANY PART OF THE WARRANTY SHALL NOT BE MADE VOID BY ANY **REQUIRED OPERATION OR INSPECTION OF THE** SYSTEM AFTER ACCEPTANCE DURING THE WARRANTY PERIOD. THE OWNER MAY SELECT QUALIFIED FIRMS OTHER THAN WARRANTOR TO PROVIDE REQUIRED TESTS AND INSPECTIONS. SYSTEM TESTING AND INSPECTIONS WILL BE CONDUCTED ONLY BY A DULY LICENSED COMPANY UNDER CONTRACT WITH THE OWNER TO PERFORM SCHEDULED TESTING AND INSPECTIONS AS REQUIRED BY
- THE AHJ. THE OWNER MAY ELECT TO HAVE A REPRESENTATIVE PRESENT AT THE SCHEDULED TESTING DURING THE WARRANTY PFRIOD PART 2 - PRODUCTS
- 2.01 CONTROL PANELS
 - A. THE FIRE ALARM CONTROL PANEL SERVICING THE DOLLAR TREE SPACE IS PROVIDED BY THE LANDLORD/EXISTING TO REMAIN.
- 2.02 CELLULAR COMMUNICATOR
 - A. A STARLINK FIRE SLE-LTEAI-FIRE SHALL BE USED TO TRANSMIT ALARM AND TROUBLE SIGNALS TO THE APPROVED FAMILY DOLLAR / DOLLAR TREE OFF-SITE MONITORING STATION AS INDICATED IN THE ENGINEERING DRAWINGS. THE CC SHALL BE UL LISTED FOR COMMERCIAL FIRE REPORTING AND SHALL CONFORM TO THE REQUIREMENTS OF NFPA
 - B. THE STARLINK COMMUNICATOR SHALL OPERATE FROM A FACP DEDICATED 24 VOLT DC SOURCE WITH A LISTED SECONDARY POWER SOURCE CONFORMING TO THE SAME ALARM AND STANDBY TIME REQUIREMENTS AS THE FACP
 - C. THE STARLINK COMMUNICATOR SHALL HAVE THE CAPABILITY OF PROVIDING SINGLE OR DUAL PATH COMMUNICATIONS.
 - D. THE STARLINK COMMUNICATOR SHALL HAVE THE ABILITY TO VERIFY OF COMMUNICATIONS PATH AT MAXIMUM SIXTY (60) MINUTE INTERVALS IN ACCORDANCE WITH NFPA 72.
 - E. THE STARLINK COMMUNICATOR SHALL BE ABLE TO TRANSMIT ALL SIGNALS IN THE STANDARD SIA (SECURITY INDUSTRY ASSOCIATION) FORMAT.

2.10 DOCUMENTATION CABINET

- A. PROVIDE A DOCUMENTATION CABINET OF 16 GAUGE STEEL CONSTRUCTION.
- B. THE DOCUMENTATION CABINET SHALL BE RED IN COLOR WITH CONTRASTING TEXT INDICATING FIRE ALARM DOCUMENTS.
- C. THE DOCUMENTATION CABINET SHALL BE LOCKABLE AND KEYED IN COMMON WITH ALL OTHER KEYED DEVICES THROUGHOUT THE SYSTEM.
- D. THE DOCUMENTATION CABINET SHALL BE SIZED TO CONTAIN THE FOLLOWING: FULL SIZE RECORD DRAWING, EQUIPMENT DATA SHEETS, FIRMWARE AND SOFTWARE CONTROL DOCUMENTATION.
- E. ACCEPTABLE MANUFACTURER IS SPACE AGE SSU00685. 2.11 <u>CONDUCTORS</u>
 - A. INITIATION AND AUXILIARY DEVICE CIRCUIT CONDUCTORS FOR POWER LIMITED CIRCUITS SHALL BE TYPE FPL, FPLP, OR FPLR. WHERE CONDUCTORS ARE INSTALLED IN COMPLETE RACEWAY SYSTEMS, TYPE THHN OR TFFN MAY BE USED IF APPROVED BY THE MANUFACTURER. WHERE THE SIZE OR TYPE OF CONDUCTOR HEREINAFTER SPECIFIED CONFLICTS WITH THE FAEM'S REQUIREMENTS, THE LARGER SIZE OR MORE SPECIALIZED CONDUCTOR TYPE WILL BE USED.
 - B. CONDUCTORS FOR ANY NON-POWER LIMITED CIRCUITS SHALL BE TYPE NPLF, NPLFP, NPLFR OR THHN.
- C. CONDUCTORS FOR WET LOCATIONS SHALL BE AS FOLLOWS:
 - 1. TYPES RHW, TW, THW, THHW, THWN, XHHW OR OTHER TYPE LISTED FOR USE IN WET LOCATIONS.
- 2.12 RACEWAY A. THE FOLLOWING RACEWAY TYPES SHALL BE PERMITTED:
 - 1. EMT CONDUIT (3/4 INCH MINIMUM). 2. RIGID CONDUIT (3/4 INCH MINIMUM).
 - 3. NON-METALLIC CONDUIT FOR WET LOCATIONS (3/4 INCH MINIMUM).
 - 4. SURFACE MOUNTED METALLIC RACEWAY WITH A MINIMUM SIZE EQUIVALENT TO THREE QUARTER (3/4) INCH NOMINAL CONDUIT.
 - B. ALL RACEWAY TYPES SHALL BE NEW INSTALLING USED RACEWAY IS UNACCEPTABLE.
 - C. USING EXISTING RACEWAY IS UNACCEPTABLE WITHOUT PRIOR WRITTEN PERMISSION OF THE ENGINEER OR OWNER'S REPRESENTATIVE.
 - D. BOXES, SUPPORTS, AND OTHER ACCESSORIES FOR THE RACEWAY INSTALLATION SHALL BE LISTED FOR THE INTENDED APPLICATION.
- **PART 3 EXECUTION**
- 3.01 COORDINATION WITH OTHER TRADES
 - A. COORDINATE CLOSELY WITH ALL OTHER TRADES TO EXPEDITE CONSTRUCTION. ACCURATELY INTERFACE WITH RELATED SYSTEMS AND AVOID INTERFERENCES.
- 3.02 INSTALLATION / APPLICATION
 - A. FURNISH AND INSTALL ALL CONTROL WIRING, RACEWAY AND OUTLET BOXES FOR THE FIRE ALARM SYSTEM.
 - B. FURNISH AND INSTALL ALL BACKBOXES, EQUIPMENT AND DEVICES FOR THE FIRE ALARM SYSTEM
 - 1. BACKBOXES SHALL BE OF THE EXACT TYPE RECOMMENDED BY THE FAEM AS SHOWN ON THE EQUIPMENT AND DEVICE SUBMITTALS.
 - 2. BACKBOXES SHALL BE INSTALLED PER THE MANUFACTURER'S INSTALLATION RECOMMENDATIONS.
 - 3. DEVICES AND EQUIPMENT MUST BE INSTALLED BY PERSONNEL LEGALLY PERMITTED AND CURRENTLY LICENSED TO INSTALL THE DEVICES AND EQUIPMENT. THE COST OF INSTALLATION, WARRANTY OF INSTALLATION AND EQUIPMENT, COORDINATION OF THE INSTALLATION, AND SUPERVISION OF THE INSTALLATION ARE RESPONSIBILITIES OF THE CONTRACTOR.
 - C. ALL FIRE ALARM CONDUIT, JUNCTION BOXES. PULL BOXES, CABLE SPLICES AND TERMINAL CABINETS SHALL BE ACCESSIBLE, PAINTED RED OR CLEARLY MARKED "FIRE ALARM" THE CONTRACTOR SHALL COMPLY WITH ANY LOCAL CODES OR AHJ REQUIREMENTS FOR CIRCUIT IDENTIFICATION. ANY ACCESS PANELS REQUIRED FOR THE ACCESSIBILITY TO THE JUNCTION BOXES, PULL BOXES, CABLE SPLICES AND TERMINAL CABINETS SHALL BE THE RESPONSIBILITY OF THE FIRE ALARM CONTRACTOR.
 - D. ALL WIRING CONDUCTORS AND CONDUITS SHALL BE INSTALLED IN A NEAT AND WORKMANLIKE MANNER AT RIGHT ANGLES TO THE BUILDING WALLS, FLOORS AND CEILINGS, AND SUPPORTED FROM THE BUILDING STRUCTURE AT INTERVALS COMPLIANT WITH NEC REQUIREMENTS.
 - E. ALL POWER LIMITED WIRING CONDUCTORS FOR THE FIRE ALARM SYSTEM SHALL BE INSTALLED IN CONDUIT IN THE FOLLOWING LOCATIONS:
 - 1. SEVEN (7) FEET OR LESS ABOVE THE FINISHED FLOOR. 2. ELECTRICAL AND MECHANICAL ROOMS
 - 3. ELEVATOR HOISTWAYS AND ELEVATOR MACHINE ROOMS
 - 4. CONCEALED ABOVE CEILINGS OR IN PARTITIONS.
 - 5. AREAS SUBJECT TO PHYSICAL DAMAGE 6. WHERE REQUIRED BY APPLICABLE CODES 7. WIRING CONDUCTORS IN FINISHED AREAS THAT CANNOT BE CONCEALED ARE ALLOWED TO BE INSTALLED IN SURFACE-MOUNTED METALLIC RACEWAY ONLY UPON APPROVAL OF THE OWNER'S REPRESENTATIVE.
 - F. ALL NON-POWER LIMITED WIRING CONDUCTORS FOR THE FIRE ALARM SYSTEM SHALL BE INSTALLED IN CONDUIT.
 - G. POWER LIMITED WIRING CONDUCTORS FOR THE FIRE ALARM SYSTEM ARE NOT REQUIRED TO BE INSTALLED IN CONDUIT IN THE FOLLOWING LOCATIONS:
 - 1. MORE THAN SEVEN (7) FEET ABOVE THE FINISHED FLOOR.
 - 2. ABOVE LAY-IN CEILINGS. 3. CONCEALED IN CEILINGS OR PARTITIONS NOT SUBJECT TO DAMAGE.
 - H. EXPOSED WIRING CONDUCTORS AND CONDUITS SHALL BE CONCEALED FROM PUBLIC VIEW AT ALL LOCATIONS BY ROUTING ON THE INSIDE OF JOISTS, ABOVE LAY-IN CEILINGS, OVER GIRDERS, WITHIN PARTITIONS OR IN ANY OTHER MANNER ACCEPTABLE TO THE OWNER'S REPRESENTATIVE.
 - I. WIRING CONDUCTORS AND CONDUITS INSTALLED ABOVE LAY-IN CEILINGS SHALL BE SUPPORTED FROM THE BUILDING STRUCTURE AND SHALL NOT BE PERMITTED LESS THAN NINE (9) INCHES ABOVE OR BEHIND REMOVABLE PANELS OR CEILING TILES.

- J. EXPOSED WIRING CONDUCTORS SHALL BE SUPPORTED FROM THE BUILDING STRUCTURE AT INTERVALS OF NO MORE THAN FIVE (5) FFFT
- K. ALL WIRING CONDUCTORS SHALL BE TAGGED AT ALL JUNCTION POINTS AND SHALL TEST FREE FROM GROUNDS OR CROSSES BETWEEN CONDUCTORS.
- L. POWER-LIMITED WIRING CONDUCTORS SHALL NOT BE INSTALLED IN CONDUITS WITH ELECTRIC LIGHT, POWER CLASS 1, NON-POWER-LIMITED FIRE ALARM AND MEDIUM POWER NETWORK-POWERED BROADBAND COMMUNICATIONS CIRCUITS.
- M. FINAL CONNECTIONS BETWEEN EQUIPMENT AND THE WIRING SYSTEM SHALL BE MADE UNDER DIRECT SUPERVISION OF A REPRESENTATIVE OF THE FAEM. IF OTHER PERSONNEL ARE REQUIRED BY THE AHJ TO BE PRESENT DURING FINAL CONNECTIONS, THIS SHALL NOT RELIEVE THE CONTRACTOR OF THE RESPONSIBILITY OF PROVIDING A REPRESENTATIVE OF THE FAEM FOR DIRECT SUPERVISION.
- N. FIRE ALARM CABLING SHALL NOT BE PAINTED. O. CONDUITS SHALL ENTER THE CONTROL PANEL ENCLOSURES ONLY IN THE APPROVED LOCATIONS, AS IDENTIFIED IN THE FAEM INSTALLATION INSTRUCTIONS.
- P. INSTALL ALL HANGERS, CLAMPS, CONDUIT, AND BACKBOXES FOR THE FIRE ALARM SYSTEM PRIOR TO THE APPLICATION OF FIREPROOFING ON STRUCTURAL MEMBERS. THE HANGERS, CLAMPS, CONDUIT, AND BACKBOXES FOR THE FIRE ALARM SYSTEM SHALL BE INSTALLED ON THE EDGE OF ANY BEAM REQUIRING FIREPROOFING. BACKBOXES SHALL BE FASTENED TO THE FLANGE OF THE BEAM UTILIZING BEAM CLAMPS, AND SHALL NOT BE ATTACHED DIRECTLY TO THE BEAM. VERIFY THE LOCATIONS OF ALL FIREPROOFING, PRIOR TO THE INSTALLATION OF ANY FIRE ALARM CONDUIT OR BACKBOXES.
- Q. ANY DAMAGE TO FIREPROOFING ON THE BUILDING STRUCTURE AS A RESULT OF THE FIRE ALARM SYSTEM INSTALLATION SHALL BE REPAIRED BY A QUALIFIED FIREPROOFING CONTRACTOR. ALL DAMAGE AND REPAIR OF FIREPROOFING SHALL BE REPORTED TO AND COORDINATED THROUGH THE GENERAL CONTRACTOR. THE FIRE ALARM CONTRACTOR SHALL BE RESPONSIBLE FOR ALL FIREPROOFING REPAIRS AT NO ADDITIONAL COST TO THE OWNER.
- 3.03 EQUIPMENT MOUNTING
- A. COMPLY WITH NFPA 72 FOR INSTALLATION OF FIRE ALARM EQUIPMENT.
- **B. MOUNT THE STARLINK COMMUNICATOR** ENCLOSURE ONTO A TRIPLE GANGBOX AT A LOCATION WITH ACCEPTABLE SIGNAL STRENGTH FROM THE WIRELESS NETWORK CONNECTION. THE CELLULAR COMMUNICATOR SHALL NOT BE INSTALLED ABOVE A SUSPENDED CEILING.
- C. THE DOCUMENTATION CABINET SHALL BE SURFACE MOUNTED AS INDICATED ON THE FLOOR PLANS.
- D. DEVICES AND APPLIANCES SHALL NOT BE SUPPORTED BY CEILING TILES. DEVICES AND APPLIANCES MUST BE ATTACHED TO BACKBOX SUPPORTED BY THE CEILING GRID. E. ALL INITIATING DEVICES SHALL BE MOUNTED IN A LOCATION ACCESSIBLE FOR TESTING AND
- MAINTENANCE. F. PROVIDE A PRINTED LABEL FOR EACH INITIATING DEVICE INDICATING THE SPECIFIC ADDRESS FOR THAT DEVICE. THE LABEL SHALL INCLUDE THE PROGRAMMING ADDRESS AND DEVICE NUMBER. THE LABEL SHALL BE LOCATED ON THE BASE OF ALL DETECTORS AND THE COVER PLATES OF EACH ADDRESSABLE DEVICE.

- 3.04 RESTORATION OF SITE
 - A. WHERE SIDEWALKS, CURBS, AND LAWNS ARE EXCAVATED BY THE FIRE ALARM CONTRACTOR, THESE AREAS SHALL BE BACKFILLED AND REPLACED TO THE ORIGINAL CONDITION AND TO THE SATISFACTION OF THE
- OWNER, ARCHITECT AND AHJ. 3.05 PAINTING AND PATCHING
 - A. ALL FIRE ALARM CONDUIT SHALL BE THOROUGHLY CLEANED. REMOVING ALL DIRT OIL, ETC. AND MADE READY TO RECEIVE PAINT.
 - B. HOLES IN WALLS OR FLOORS CUT DURING THE PERFORMANCE OF THIS WORK SHALL BE PATCHED OR COVERED WITH STANDARD ESCUTCHEON PLATES SO AS TO COMPLETELY CONCEAL THE CUTS WHERE THEY WOULD OTHERWISE BE EXPOSED TO VIEW.
 - C. HOLES IN WALLS AND CEILINGS CREATED BY THE REMOVAL OF FIRE ALARM EQUIPMENT NO LONGER USED SHALL BE PATCHED AND PAINTED TO MATCH THE EXISTING WALLS AND CEILINGS, OR COVERED WITH STANDARD ESCUTCHEON PLATES SO AS TO COMPLETELY CONCEAL THE "HOLES" WHERE THEY WOULD OTHERWISE BE EXPOSED TO VIEW.
 - D. ALL PENETRATIONS OF FIRE RATED ASSEMBLIES (WALL OR FLOOR CONSTRUCTION) SHALL BE FIRESTOPPED TO PRESERVE THE ORIGINAL FIRE RESISTANCE AND SMOKETIGHT INTEGRITY OF THE ASSEMBLY. ALL FIRESTOPPING METHODS SHALL BE UL LISTED THROUGH PENETRATION FIRESTOP SYSTEMS OR OTHERWISE APPROVED BY THE OWNER, ARCHITECT, ENGINEER, AND AHJ. SPECIFIC FIRESTOP ASSEMBLY SHALL BE IDENTIFIED AT THE PENETRATION LOCATION WITH A STICKER OF OTHER APPROVED IDENTIFICATION MEANS
- 3.06 SYSTEM TESTS A. ALL TEST AND INSPECTIONS SPECIFIED IN THIS SECTION SHALL BE REPORTED IN WRITING AND SUBMITTED IN ACCORDANCE WITH THIS SPECIFICATION SECTION.
 - B. THE SYSTEM SHALL MEET ALL THE REQUIREMENTS OF THE LISTED APPLICABLE CODES AND THE REQUIREMENTS OF THE AHJ THE SYSTEM TESTS AND TEST DOCUMENTS, INCLUDING THOSE REQUIRED FOR AND BY THE APPROVED MONITORING STATION, SHALL MEET THE REQUIREMENTS OF THE AHJ.
 - C. PROVIDE ONE HUNDRED (100) PERCENT INITIAL ACCEPTANCE TESTING OF THE ENTIRE FIRE ALARM SYSTEM PRIOR TO THE REQUIRED AHJ ACCEPTANCE TESTING. BEFORE REQUESTING THE AHJ ACCEPTANCE TESTING, FURNISH A WRITTEN STATEMENT TO THE OWNER'S REPRESENTATIVE INDICATING THAT THE SYSTEM HAS BEEN INSTALLED IN ACCORDANCE WITH THE APPROVED DOCUMENTS AND TESTED IN ACCORDANCE WITH THE MANUFACTURER'S SPECIFICATIONS AND THE APPLICABLE NFPA REQUIREMENTS. THE RECORD OF COMPLETION SHALL BE COMPLETED AND SUBMITTED AS PART OF THE WRITTEN STATEMENT.
 - D. ALL TESTING. INSPECTION AND RETESTING REQUIRED FOR CERTIFICATION AND REQUIRED FOR ALL WARRANTY WORK OR REPLACEMENTS SHALL MEET THE **REQUIREMENTS OF THE AHJ. THIS** CERTIFICATION, INSPECTION, OR TESTING SHALL BE COMPLETED AT NO ADDITIONAL COST TO THE OWNER.
 - E. PROVIDE THE TESTING DATE IN WRITING TO THE OWNER A MINIMUM OF TWO (2) WEEKS BEFORE THE DATE. THE OWNER MAY ELECT TO HAVE A REPRESENTATIVE PRESENT FOR TESTING.
 - F. THE FIRE ALARM SYSTEM WILL NOT BE ACCEPTABLE UNTIL FINAL TESTING AND RECEIPT OF THE TESTING CERTIFICATES HAVE BEEN OBTAINED.
 - G. A PROPOSAL TO PERFORM ANNUAL TESTING AND/OR INSPECTION SERVICES SHALL BE SUBMITTED TO THE OWNER A MINIMUM OF THREE (3) WEEKS BEFORE THE DATE OF INITIAL ACCEPTANCE TESTING. THE PROPOSAL SHALL INCLUDE ALL TESTING AND/OR INSPECTION SERVICES REQUIRED BY THE AHJ FOR THE TWO (2) YEAR PERIOD BEGINNING AT FINAL ACCEPTANCE OF THE SYSTEM. THE OWNER HAS THE OPTION TO ACCEPT OR REJECT THE PROPOSAL

END OF SECTION

REACH-IN FREEZER/COOLER UNIT

REACH-IN FREEZER/COOLER SHEET 5 OF 8

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 <u>24 hours prior</u> 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.
- **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.
- 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. I. 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, <u>24 hours prior</u> 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.
- 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
- **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.
- **d.** CRS will issue an "EMS Check-Out Number" once all store systems are verified as operational.

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.

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.

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.

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.

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.

	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		
OHSOTS	OUTDOOR TEMPERATURE & RELATIVE HUMIDITY SENSORS		
RTS	REMOTE TEMPERATURE SENSOR		
CO ₂ S	INDOOR CO₂ 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	
1	18/2	SHIELDED PLENUN	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	

ENERGY MANAGEMENT SYSTEM SINGLE LINE DIAGRAM

SCALE: None

FIELD WIRING POSITIVE NEGATIVE OPTIONAL COMPONENT

	RETAIL SOLUTIONS	25 Sundial Ave - Suite 310 W Manchester, NH 03103	
N N N	DETAILS	NOT TO SCALE)	
	JIPMENT I	EFERENCE ONLY	
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