

EMS DEVICES SCHEDULE AND CONSTRUCTION INSTALLATION RESPONSIBILITIES MATRIX									
HFT GENERAL CONTRACTOR IS TO MANAGE AND VALIDATE THE EMS INSTALLATION AND COMMISSIONING THROUGH COMPLETION AND FINAL OPERATION.									
SYMBOL	DEVICE	QUANTITY SUPPLIED BY SIEMENS	DEVICE CABLE TYPE	DEVICE LOCATION	PROVIDED BY	MOUNTING	BOX/RACEWAYS	INSTALL CABLE/WIRE, TERMINATE BOTH ENDS	INSTALLATION NOTES
Ⓒ	CARBON DIOXIDE SENSOR	1 PER HVAC UNIT WITH CO2 (AS REQUIRED PER MECHANICAL DRAWINGS)	18/4 & 18/2	NEXT TO ZONE TEMP SENSOR	SIEMENS	SIEMENS	E.C.	SIEMENS	
Ⓓ	DUCT TEMPERATURE SENSOR	1 PER CONTROLLED HVAC EXCEPT UNIT HEATERS	18/2	BOTTOM OF MAIN SUPPLY AIR DUCT DROP	SIEMENS	SIEMENS	E.C.	SIEMENS	
Ⓔ	DIMMING CONTROL PANEL	1 (AS REQUIRED PER ELECTRICAL DRAWINGS)	VARIES PER CONNECTED DEVICES.	NEAR LCP	SIEMENS	E.C.	E.C.	E.C. / SIEMENS WILL TERMINATE LOW VOLTAGE WIRING AT DCP	4
ⒹⒸ	DIGITAL ZONE CONTROLLER (WALL MOUNT VERSION)	1 PER UNIT HEATER	18/4 TO UNIT HEATER / 24-1P DAISY CHAIN	RETURN SIDE OF UNIT HEATER	SIEMENS	SIEMENS	E.C.	SIEMENS	
ⒹⒼ	DIGITAL ZONE CONTROLLER (ROOFTOP VERSION)	1 PER CONTROLLED HVAC (EXCEPT UNIT HEATER)	18/10 TO RTU'S CTRL TERMINAL / 24/1P DAISY CHAIN / SENSORS AS REQUIRED	HVAC CONTROLS SECTION	SIEMENS	SIEMENS	E.C.	SIEMENS	
Ⓕ	INDOOR LIGHT SENSOR	AS REQUIRED PER ELECTRICAL DRAWINGS	18/4	IN DAYLIGHT HARVESTING ZONE	SIEMENS	SIEMENS	E.C.	SIEMENS	
ⒻⒻ	LIGHTING CONTROL PANEL	1 (TYPICAL)	AS REQUIRED	NEAR BREAKER PANELS FEEDING LIGHTING CIRCUITS	SIEMENS	E.C.	E.C.	E.C. / SIEMENS WILL TERMINATE LOW VOLTAGE WIRING AT LCP	1
ⒹⒼ	MICRO I/O	1 (STOCK ROOM RTU)	AS REQUIRED	MOUNTED ON DZC-RT	SIEMENS	SIEMENS	N/A	SIEMENS	
ⒺⒸ	OUTSIDE SENSING DEVICE	1	18/4	ROOF	SIEMENS	SIEMENS	M.C.	SIEMENS	
ⒹⒼ	RELATIVE HUMIDITY SENSOR	1	18/4	STOCK ROOM	SIEMENS	SIEMENS	E.C.	SIEMENS	
Ⓒ	ZONE TEMPERATURE SENSOR	1 PER CONTROLLED HVAC	18/2	1 IN EACH ZONE (SEE CONSTRUCTION DRAWING FOR LOCATIONS)	SIEMENS	SIEMENS	E.C.	SIEMENS	
ⒺⒻ	SCREAM LOGIC PANEL	1 PER EACH DIMMING GROUP ON SALES FLOOR	VARIES PER CONNECTED DEVICES.	ELECTRICAL ROOM OR STOCKROOM	SIEMENS	E.C.	E.C.	E.C. / SIEMENS WILL TERMINATE LOW VOLTAGE WIRING AT SLP	
Ⓔ	SLIDER SWITCH	1	18/2	WALL BETWEEN STOCK AND SALES FLOOR	SIEMENS	E.C.	E.C.	E.C. / SIEMENS	4
	SECURITY INTERFACE	1	18 /4	WITHIN 10 FEET OF SECURITY RELAY PANEL	SIEMENS	SIEMENS	E.C.	SIEMENS	
	SPLICE BOX	1 PER EACH DIMMING GROUP ON SALES FLOOR (AS REQUIRED)	AS REQUIRED	NEXT TO DCP	SIEMENS	SIEMENS	E.C.	SIEMENS	
ⒹⒻ	TOUCH SCREEN PANEL	1	CAT-5	MANAGERS OFFICE	SIEMENS	E.C.	E.C.	E.C.	5, 2, 3

INSTALLATION SUMMARY

1. LOW VOLTAGE CABLE:

I. SIEMENS SHALL FURNISH THE LOW VOLTAGE CABLE FOR THE EMS SYSTEM. THE CABLE SHALL BE AS SPECIFIED IN THE CABLE SCHEDULE.

II. REFER TO "EMS DEVICES SCHEDULE AND CONSTRUCTION INSTALLATION RESPONSIBILITY MATRIX" FOR ADDITIONAL INFORMATION ON RESPONSIBILITIES FOR INSTALLATION OF LOW VOLTAGE CABLE.

2. EQUIPMENT DELIVERY:

I. SITE CONTROLS SHALL PROVIDE THE EMS EQUIPMENT IN 1 SHIPMENT.

II. IT SHALL BE UP TO THE G.C. TO CALL FOR EMS EQUIPMENT DELIVERY THE EQUIPMENT WILL BE SHIPPED WITHIN 2 DAYS OF RECEIVING A VALID REQUEST. A VALID REQUEST SHALL CONSIST OF THE FOLLOWING:

1 - NAME AND PHONE NUMBER OF PERSON RESPONSIBLE FOR RECEIVING THE EMS EQUIPMENT AND STORE NUMBER.

2 - A VALID SHIPPING ADDRESS (CONFIRMABLE BY THE DELIVERY AGENT).

3. CONTACT INFORMATION:

I. PLEASE DIRECT ALL SHIPPING AND PROJECT MANAGEMENT REQUESTS TO SIEMENS RCS AT (512) 751-5942 OR PROJECT MANAGER

KARLA LARA AT KARLA.LARA@SIEMENS.COM

II. PLEASE DIRECT ALL TECHNICAL RFI TO JUAN CABRERA AT JUANCABRERA@SIEMENS.COM, CC TO LESLIE.VAUGHN@SIEMENS.COM

4. EMS COMMISSIONING:

I. IT SHALL BE UP TO THE G.C. TO CALL FOR EMS COMMISSIONING AT LEAST 2 WEEKS PRIOR TO TURN OVER AND BEFORE THE INSTALLING CONTRACTOR HAS LEFT THE PROJECT. SIEMENS WILL BE ON SITE PER HFT REQUEST 1 WEEK AFTER THE HFT "FIXTURE DATE".

THE FOLLOWING CONDITIONS MUST BE MET PRIOR TO SIEMENS ARRIVAL:

1-ALL EMS DEVICES AND PANELS HAVE BEEN INSTALLED AND WIRED

2-ALL LINE VOLTAGE WIRING HAS BEEN COMPLETED

3-ALL CONTROLLED EQUIPMENT HAS BEEN INSTALLED AND STARTED

II. FAILURE TO MEET THESE CONDITIONS COULD RESULT IN DELAY OF STORE OPENING AND ADDITIONAL CHARGES.

III. E.C. & M.C. MUST BE PRESENT FOR COMMISSIONING OF EMS.

NOTE: TITLE 23 REPRESENTATIVE SHALL ALSO BE PRESENT AT CALIFORNIA LOCATIONS.

GENERAL EMS CONSTRUCTION NOTES

1. SIEMENS SHALL PROVIDE THE INSTALLATION LABOR AND MATERIALS TO INSTALL THE LOW VOLTAGE PORTION OF THE EMS SYSTEM ACCORDING TO THE EMS SCHEDULES AND THE FOLLOWING:

I. INSTALL EMS DEVICES AT LOCATIONS SHOWN ON THE MECHANICAL DRAWINGS AND MOUNT ACCORDING TO THE EMS DETAILS.

II. PROVIDE AND INSTALL THE LOW VOLTAGE CABLING FROM THE EMS DEVICES TO THE RTU'S AND LCP

III. TERMINATE THE LOW VOLTAGE CABLING AT BOTH ENDS.

IV. CLEARLY IDENTIFY (LABEL) THE CABLES AT BOTH ENDS.

2. THE ELECTRICAL CONTRACTOR SHALL PROVIDE THE LABOR AND MATERIALS TO INSTALL THE LINE VOLTAGE PORTION OF THE EMS SYSTEM ACCORDING TO THE EMS SCHEDULES AND THE FOLLOWING:

I. PROVIDE AND INSTALL ELECTRICAL BOXES WITH 3/4" EMT STUB-UPS TO ABOVE CEILING GRID FOR WALL MOUNTED EMS AND CONTROL DEVICES.

II. PROVIDE AND INSTALL A 5' SECTION OF 1/2" RIGID FOR ROOF MOUNTED OSD.

3. SIEMENS SHALL PROVIDE THE LABOR AND MATERIALS TO INSTALL THE LINE VOLTAGE PORTION OF THE EMS SYSTEM ACCORDING TO THE EMS SCHEDULES AND THE FOLLOWING:

I. MOUNT EMS PANELS AND PIPE TOGETHER ACCORDING TO THE EMS DRAWINGS.

II. SIEMENS SHALL INSTALL AND TERMINATE OSD AND CABLE.

4. NOTES ABOVE DO NOT ALLEViate CONTRACTORS OF OVERALL RESPONSIBILITIES OF PROVIDING A COMPLETE AND OPERATIONAL SYSTEM.

5. TITLE 24: THE E.C. SHALL WIRE AND INSTALL A LOW VOLTAGE DIMMER LOCATED OUTSIDE OF THE BREAK ROOM FOR SALES REPLENISHMENT FIXTURES MANUAL DIMMING. THE DIMMING SWITCH

WRES SHALL BE TERMINATED IN A JUNCTION BOX MOUNTED ABOVE DCP. SIEMENS TO EXTEND WIRING TO DCP.

GENERAL LV CABLE INSTALLATION INSTRUCTIONS

1. HOME RUNS:

I. LOW VOLTAGES CABLES SHALL BE PULLED FROM DEVICE TO CONTROL PANEL WITHOUT SPLICING.

2. COMMUNICATIONS CABLING:

I. IN THE CASE OF MULTIPLE DEVICES SUCH AS COMMUNICATIONS CABLING, THE CABLE SEGMENTS SHALL BE PULLED FROM DEVICE TO DEVICE WITHOUT SPLICING.

3. CABLE SHIELD GROUNDING:

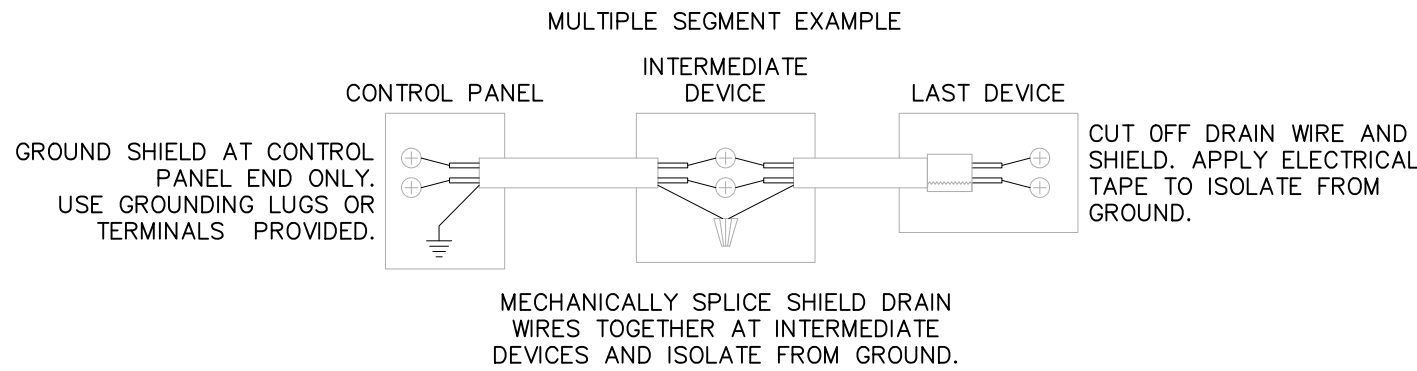
I. EACH CABLE RUN SHALL BE GROUNDED AT ONE END ONLY. GROUND SHIELD DRAIN WIRE AT CONTROL PANEL END. FASTEN DRAIN WIRE TO EARTH GROUND SCREWS PROVIDED. THE THE SHIELD AND DRAIN WIRE SHALL BE REMOVED FROM THE OPPOSITE (DEVICE) END AND ISOLATED FROM GROUND.

II. IN THE CASE OF MULTIPLE DEVICES SUCH AS COMMUNICATIONS WIRING, THE SHIELD DRAIN WIRES AT THE INTERMEDIATE DEVICES SHALL BE MECHANICALLY SPLICED TOGETHER AND ISOLATED FROM GROUND.

4. TESTING SHIELD GROUNDS:

I. DURING COMMISSIONING THE FIELD SERVICE REPRESENTATIVE (FSR) WILL TEST THE SHIELD GROUNDING AT THE CONTROL PANEL.

SHIELDS FOUND TO HAVE CONTINUITY LESS THEN 100K OHM TO GROUND SHALL BE REJECTED. THE CONTRACTOR SHALL BE RESPONSIBLE FOR CLEARING SHIELD GROUND FAULTS.



INSTALLATION NOTES

1. SIEMENS SHALL INSTALL LOW VOLTAGE CABLE IN RACEWAYS PROVIDED BY E.C. AND TERMINATE BOTH ENDS. LINE VOLTAGE CONDUIT, WIRING AND TERMINATIONS BY E.C.

2. SIEMENS SHALL TERMINATE ALL LOW VOLTAGE CABLES AT THE TOUCHSCREEN.

3. E.C. TO PROVIDE DEDICATED POWER CIRCUIT TO TOUCHSCREEN.

4. E.C. SHALL BE RESPONSIBLE FOR INSTALLATION OF POWER WIRING AND LOW VOLTAGE DIMMING CONTROL SIGNALS TO LIGHTING FIXTURES. SIEMENS SHALL BE RESPONSIBLE FOR

INSTALLATION OF ADDITIONAL CONTROL WIRING IN RACEWAYS INSTALLED BY E.C.

5. THE MAXIMUM DISTANCE BETWEEN THE TSP AND THE OUTLET IS 4 FEET. THE MAXIMUM LENGTH OF THE CAT-5 BETWEEN THE SLP AND TSP MUST NOT EXCEED 300 FEET.

GENERAL NON-EMS CONTROLS

1. COMBUSTION AIR VENTILATION AND OTHER EQUIPMENT:

I. CONTROLS FOR COMBUSTION AIR VENTILATION AND ANY OTHER EQUIPMENT NOT SPECIFICALLY MENTIONED IN THE EMS SCHEDULES SHALL BE FURNISHED AND INSTALLED ACCORDING TO THE MECHANICAL AND ELECTRICAL BID DOCUMENTS.

2. EXHAUST FAN, TRANSFER FAN AND OTHER "HARD-WIRED" INTERLOCKS (SEE INTERLOCK EXAMPLE BELOW):

I. WHEN HARD-WIRED INTERLOCKING IS SPECIFIED IN THE MECHANICAL AND/OR ELECTRICAL SCHEDULES, THE INTERLOCKS SHALL BE FURNISHED AND INSTALLED BY THE TRADES SPECIFIED.

INTERLOCKING IS NOT PART OF EMS SYSTEM.

II. WHERE EXHAUST FAN AND RTU INTERLOCKS ARE CALLED OUT, THE CONTRACTOR SHALL CONNECT DIRECTLY TO THE SUPPLY FAN CONTACTOR COIL AND WIRE IN PARALLEL TO THE

COIL OF A PROPERLY SIZED CONTACTOR OR STARTER SERVING THE INTERLOCKED EQUIPMENT. DO NOT USE THE EMS SYSTEM TO INTERLOCK EQUIPMENT.

3. LIFE SAFETY AND FIRE ALARM SYSTEMS:

I. LIFE SAFETY AND FIRE ALARM SYSTEMS ARE NOT PART OF THE EMS SYSTEM AND SHALL BE FURNISHED AND INSTALLED AS SPECIFIED IN THE MECHANICAL AND ELECTRICAL BID DOCUMENTS.

II. MECHANICAL EQUIPMENT SHUTDOWN SHALL BE WIRED AS TO NOT AFFECT THE EMS SYSTEM.

4. MANUFACTURER SUPPLIED HUMIDITY CONTROLLERS:

I. DEHUMIDIFYING ROOFTOP UNITS:

SOME ROOFTOP UNITS MAY COME EQUIPPED WITH A DEHUMIDIFICATION CYCLE AND SPACE HUMIDITY SENSOR. THIS SENSOR SHALL BE INSTALLED IN ADDITION TO THE EMS SYSTEM AND ACCORDING TO THE MANUFACTURER'S INSTRUCTION.

CABLE SCHEDULE			
CABLE	TYPE	MANUFACTURER	SIEMENS PART #
18/2	18AWG, 2 CONDUCTOR, SHIELDED, STRANDED, PLENUM, WHITE	ANIXTER	RCS-2C18-CMP-WH
18/4	18AWG, 4 CONDUCTOR, SHIELDED, PLENUM, WHITE	ANIXTER	RCS-4C18-CMP-WH
18/10	18AWG, 10 CONDUCTOR, UNSHIELDED, STRANDED, PLENUM, WHITE	ANIXTER	RCS-10C18-CMP-WH
24/1P	24AWG, TWISTED PAIR, SHIELDED, STRANDED, PLENUM, WHITE	ANIXTER	RCS-TP24-CMP-WH
CAT-5	CATEGORY 5, UNSHIELDED, SOLID, TWISTED PAIR WHITE	ANIXTER	RCS-E-4UTP-CAT5E-CMR-WH

CABLE PURCHASING INSTRUCTIONS

ANIXTER INC. IS THE AUTHORIZED DISTRIBUTOR OF SPECIFIED CABLE FOR SIEMENS INDUSTRY, INC., BUILDING TECHNOLOGIES DIVISION. (PLEASE, CONSULT ANIXTER OR SIEMENS COMMODITY MANAGER FOR THE MOST CURRENT PRICING STRUCTURE.)

CONTACT INFORMATION:

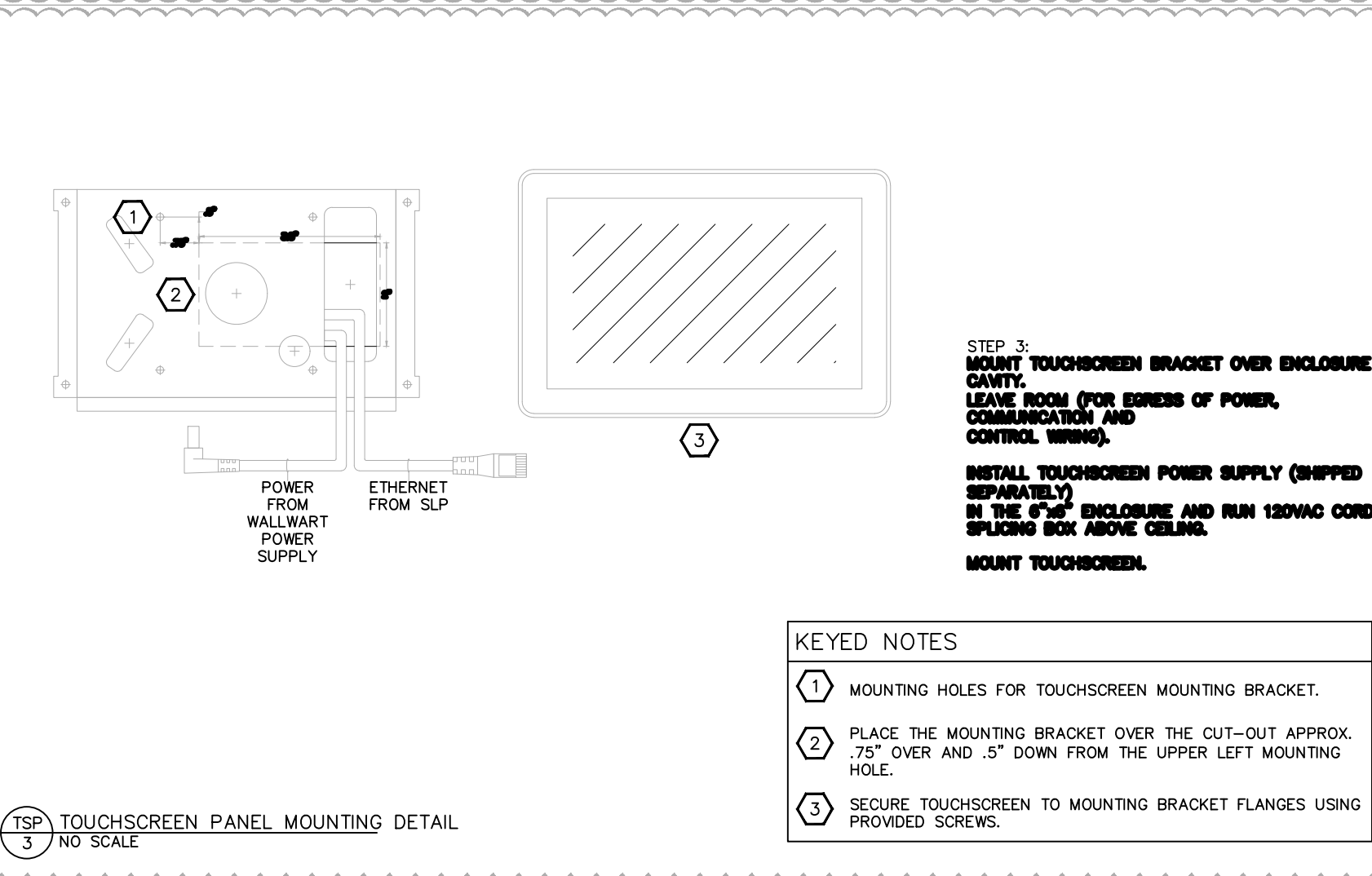
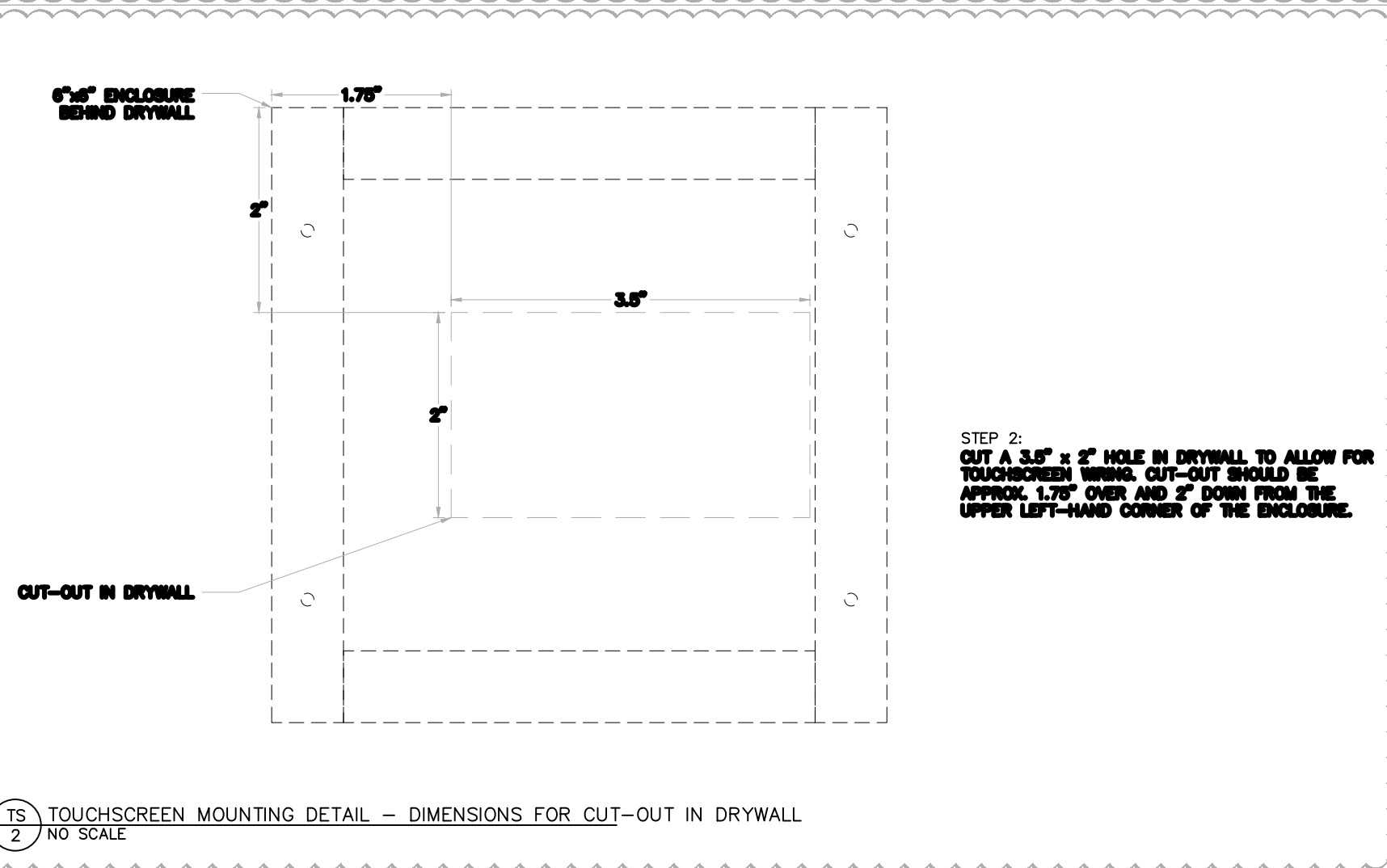
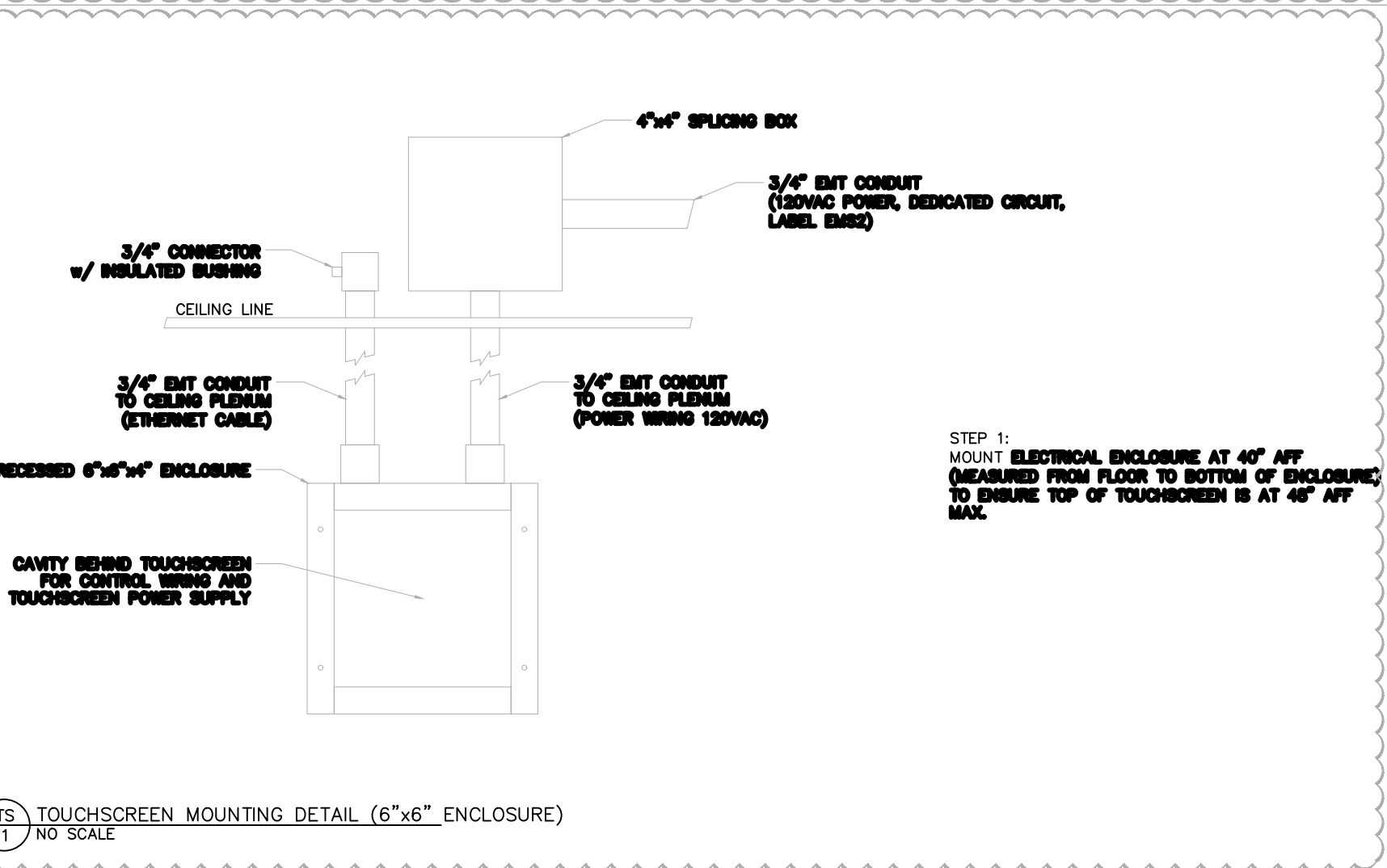
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WEBSITE FOR SIEMENS BT: www.anixter.com/SBT (BUILDING AUTOMATION TAB)

WO REFERENCE NUMBER: 30209634



Project:

Harbor Freight
NEW CONSTRUCTION

11-15-17

Date:

Description:

PROTOTYPICAL
NATIONAL EMS BID SET

NTS

Scale:

Revisions

Harbor Freight-Bid Set-Rev8.dwg

11-15-17

Date:

EMS-1

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