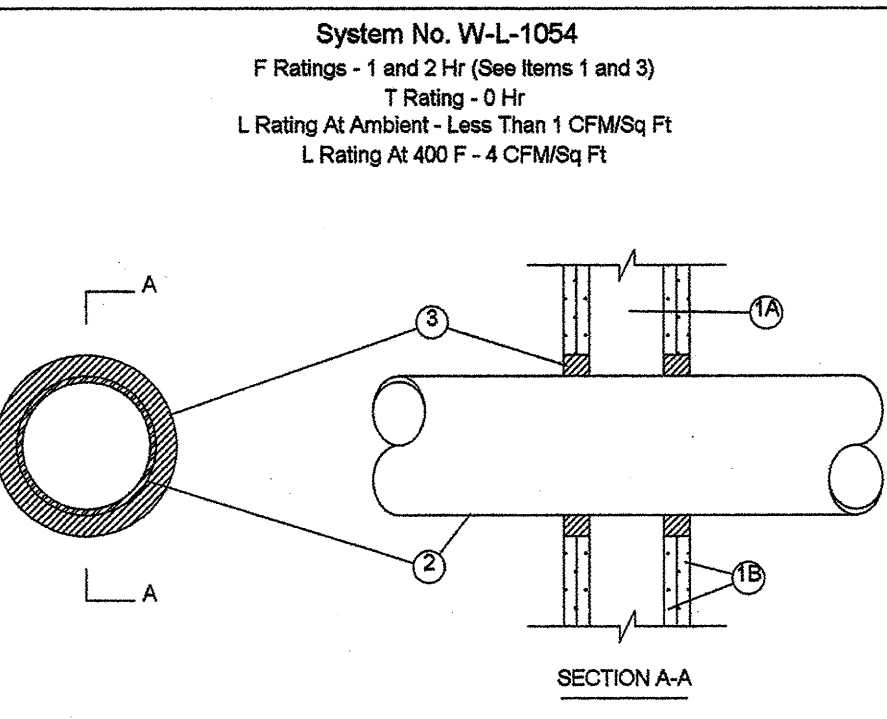


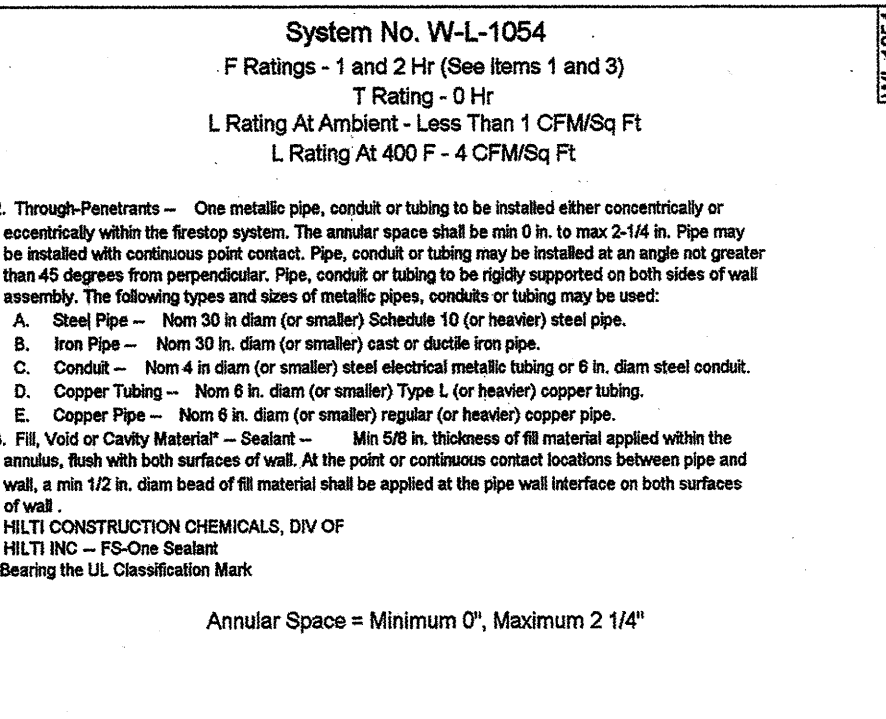
FIRE STOPPING PENETRATION DETAIL



System No. W-L-1054
 F Rating - 1 and 2 Hr (See Items 1 and 3)
 T Rating - 0 Hr
 L Rating At Ambient - Less Than 1 CFMSq Ft
 L Rating At 400 F - 4 CFMSq Ft

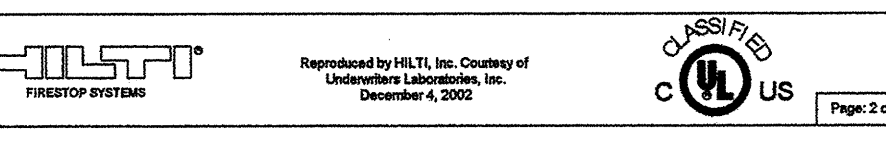
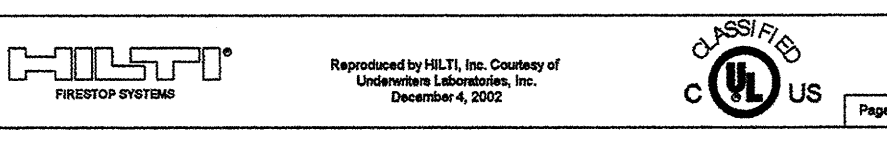
1. Wall Assembly - The 1 or 2 hr fire-rated gypsum wallboard wall assembly shall be constructed of the materials and in the manner specified in the individual UDO or UDO System Wall and Partition Details in the U.S. Fire Resistance Directory and shall include the following construction features:
 A. Stud - Wall framing may consist of either wood studs or steel channel studs. Wood studs to consist of nominal 2 by 4 in. lumber spaced 16 in. OC. Steel studs to be min. 3-1/2 in. wide and spaced max. 24 in. OC. When steel studs are used, the stud shall be placed between the vertical studs and secured to the stud with a nut and washer. The framed opening in the wall shall be 4 to 6 in. wider and 4 to 8 in. higher than the diameter of the penetrating item such that, when the penetrating item is installed in the opening, a 1 to 1/2 in. clearance is present between the penetrating item and the framing on all four sides.
 B. Gypsum Board - 5/8 in. thick, 4 ft wide sheets of gypsum board shall be applied to the wall, minimum number of layers, fastener type and sheet orientation shall be as specified in the individual UDO or UDO System Details in the U.S. Fire Resistance Directory. Max. dim. of opening is 20-14 in. for steel stud walls. Max. dim. of opening is 14-12 in. for wood stud walls.
 The F Rating of the firestop system is equal to the fire rating of the wall assembly.

PROVIDE ANNULAR CLEARANCE AROUND ALL PIPING PER NFPA 13, 2002

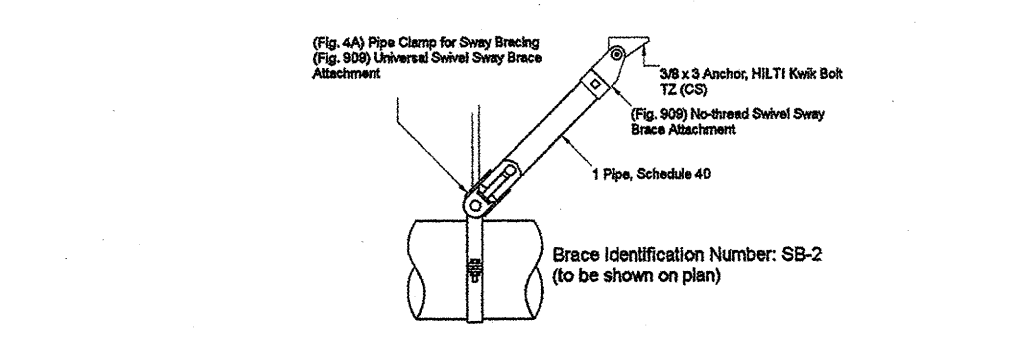


System No. W-L-1054
 F Rating - 1 and 2 Hr (See Items 1 and 3)
 T Rating - 0 Hr
 L Rating At Ambient - Less Than 1 CFMSq Ft
 L Rating At 400 F - 4 CFMSq Ft

2. Through-Penetrations - One metal pipe, conduit or tubing to be installed either concentrically or eccentrically within the firestop system. The annular space shall be min. 0 in. to max. 3-1/4 in. Pipe may be installed with maximum slight offset. Pipe, conduit or tubing to be installed at an angle not greater than 45 degrees from perpendicular. Pipe, conduit or tubing to be rigidly supported on both sides of wall assembly. The following types and sizes of metal pipe, conduit or tubing may be used:
 A. Steel Pipe - Nom 3/4 in. diam (or smaller) Schedule 10 (or heavier) steel pipe.
 B. Iron Pipe - Nom 3/4 in. diam (or smaller) cast or ductile iron pipe.
 C. Cast-Iron - Nom 4 in. diam (or smaller) steel electrical metallic tubing or 8 in. diam steel conduit.
 D. Copper Tubing - Nom 8 in. diam (or smaller) Type L (or heavier) copper tubing.
 E. Copper Pipe - Nom 8 in. diam (or smaller) regular (or heavier) copper pipe.
 F. Cast-Iron - Nom 8 in. diam (or smaller) regular (or heavier) cast iron pipe.
 G. Cast-Iron - Nom 8 in. diam (or smaller) regular (or heavier) cast iron pipe.
 H. Cast-Iron - Nom 8 in. diam (or smaller) regular (or heavier) cast iron pipe.
 I. Cast-Iron - Nom 8 in. diam (or smaller) regular (or heavier) cast iron pipe.
 J. Cast-Iron - Nom 8 in. diam (or smaller) regular (or heavier) cast iron pipe.
 K. Cast-Iron - Nom 8 in. diam (or smaller) regular (or heavier) cast iron pipe.
 L. Cast-Iron - Nom 8 in. diam (or smaller) regular (or heavier) cast iron pipe.
 M. Cast-Iron - Nom 8 in. diam (or smaller) regular (or heavier) cast iron pipe.
 N. Cast-Iron - Nom 8 in. diam (or smaller) regular (or heavier) cast iron pipe.
 O. Cast-Iron - Nom 8 in. diam (or smaller) regular (or heavier) cast iron pipe.
 P. Cast-Iron - Nom 8 in. diam (or smaller) regular (or heavier) cast iron pipe.
 Q. Cast-Iron - Nom 8 in. diam (or smaller) regular (or heavier) cast iron pipe.
 R. Cast-Iron - Nom 8 in. diam (or smaller) regular (or heavier) cast iron pipe.
 S. Cast-Iron - Nom 8 in. diam (or smaller) regular (or heavier) cast iron pipe.
 T. Cast-Iron - Nom 8 in. diam (or smaller) regular (or heavier) cast iron pipe.
 U. Cast-Iron - Nom 8 in. diam (or smaller) regular (or heavier) cast iron pipe.
 V. Cast-Iron - Nom 8 in. diam (or smaller) regular (or heavier) cast iron pipe.
 W. Cast-Iron - Nom 8 in. diam (or smaller) regular (or heavier) cast iron pipe.
 X. Cast-Iron - Nom 8 in. diam (or smaller) regular (or heavier) cast iron pipe.
 Y. Cast-Iron - Nom 8 in. diam (or smaller) regular (or heavier) cast iron pipe.
 Z. Cast-Iron - Nom 8 in. diam (or smaller) regular (or heavier) cast iron pipe.



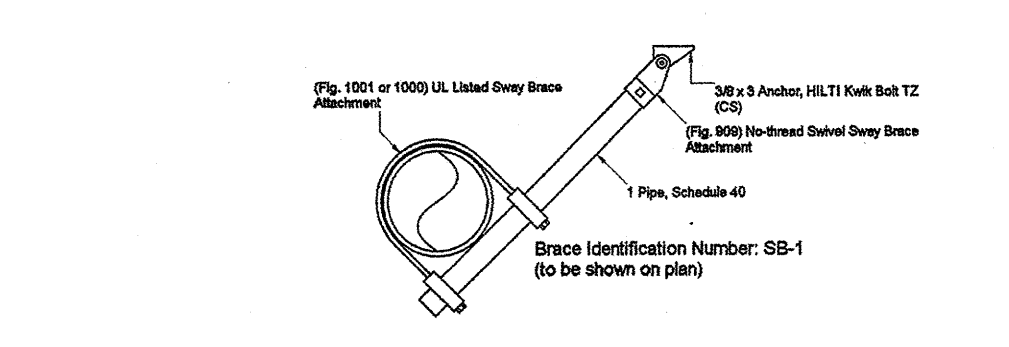
Brace Type	Brace Pipe Size	Fastener Type	Fastener Orientation
Longitudinal	1"	Anchor, H.L.T.I. KWIK-BOLT TZ (CS)	NFPA Type "B"
Brace Angle	Attached To	Fastener Size	Maximum Fastener Load
45	Normal Concrete	3/8 x 3	995B Doz
Code: NFPA #13 - 2007 Table: 9.3.5.9.1		Plan ID: SB-2	Manufacturer: Tolco Inc



Pipe, Schedule	W	D	T	W	D	T	W	D	T	W	D	T	W	D	T	W	D	T	
1 Pipe, Schedule 10	0.217	1.317	0.155	0.217	1.317	0.155	0.217	1.317	0.155	0.217	1.317	0.155	0.217	1.317	0.155	0.217	1.317	0.155	
1 Pipe, Schedule 40	0.217	1.317	0.155	0.217	1.317	0.155	0.217	1.317	0.155	0.217	1.317	0.155	0.217	1.317	0.155	0.217	1.317	0.155	
Total Weight (P x 1.15)		1041B 05oz		1041B 05oz		1041B 05oz		1041B 05oz		1041B 05oz		1041B 05oz		1041B 05oz		1041B 05oz		1041B 05oz	

BRACING CALCULATIONS FOR THE SB-2 BRACE

Brace Type	Brace Pipe Size	Fastener Type	Fastener Orientation
Lateral	1"	Anchor, H.L.T.I. KWIK-BOLT TZ (CS)	NFPA Type "B"
Brace Angle	Attached To	Fastener Size	Maximum Fastener Load
45	Normal Concrete	3/8 x 3	995B Doz
Code: NFPA #13 - 2007 Table: 9.3.5.9.1		Plan ID: SB-1	Manufacturer: Tolco Inc

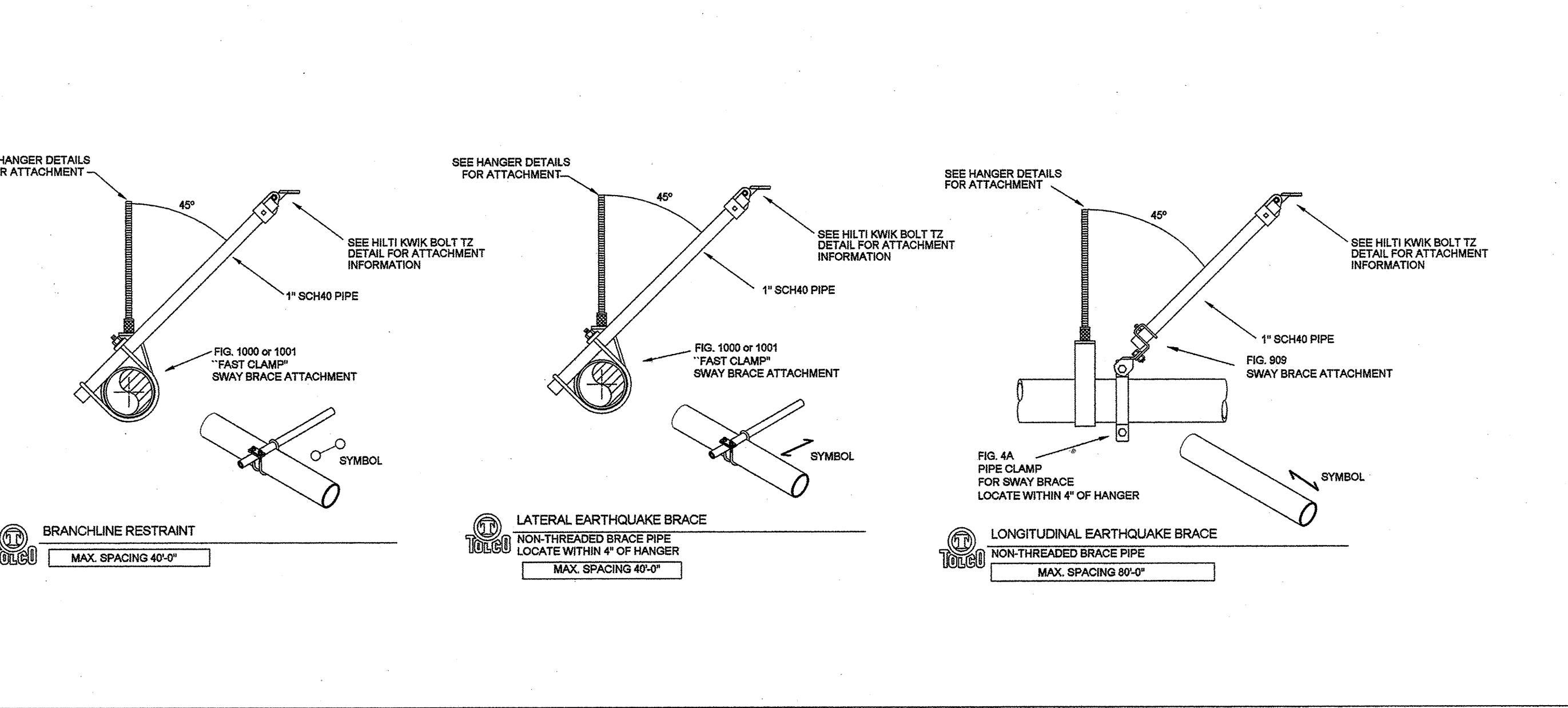


Pipe, Schedule	W	D	T	W	D	T	W	D	T	W	D	T	W	D	T	W	D	T	
2 Pipe, Schedule 10	0.217	1.317	0.155	0.217	1.317	0.155	0.217	1.317	0.155	0.217	1.317	0.155	0.217	1.317	0.155	0.217	1.317	0.155	
2 Pipe, Schedule 40	0.217	1.317	0.155	0.217	1.317	0.155	0.217	1.317	0.155	0.217	1.317	0.155	0.217	1.317	0.155	0.217	1.317	0.155	
Total Weight (P x 1.15)		1221B 11oz		1221B 11oz		1221B 11oz		1221B 11oz		1221B 11oz		1221B 11oz		1221B 11oz		1221B 11oz		1221B 11oz	

BRACING CALCULATIONS FOR THE SB-1 BRACE

BRACING DETAILS

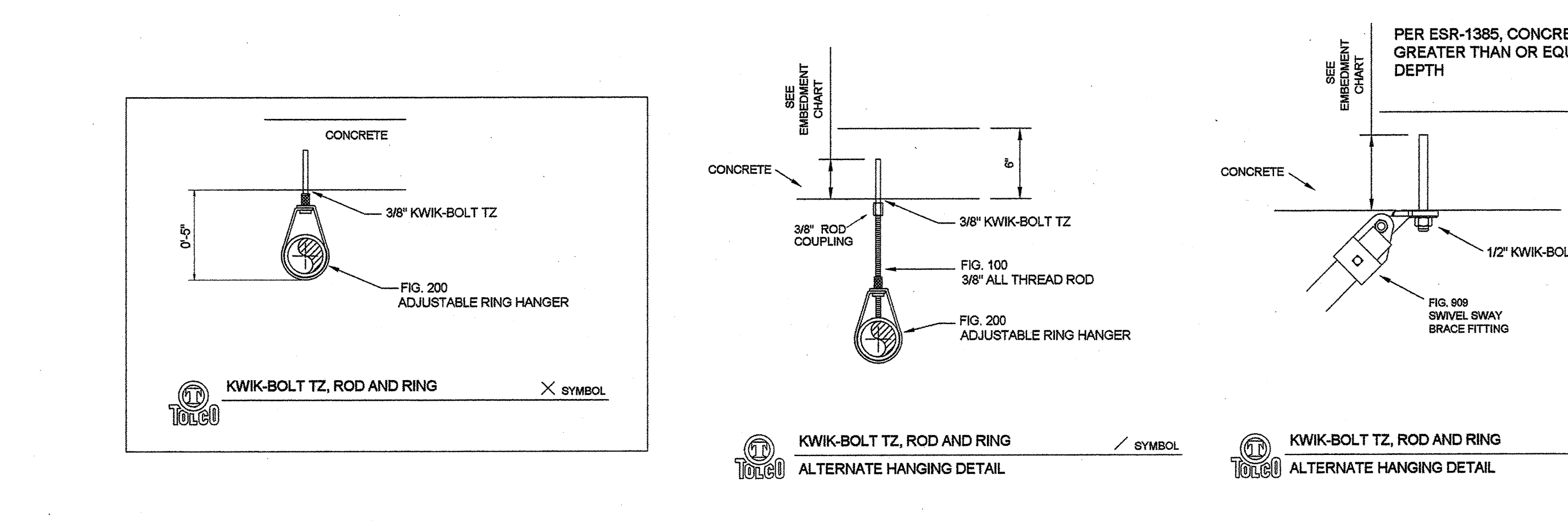
GENERAL CONTRACTOR TO COORDINATE PROVIDING REPLACEMENT OF FIREPROOFING AT ALL STEEL MEMBERS WHERE HANGER AND/OR BRACING ATTACHMENT OCCURS. ALL COMPONENTS AND ATTACHMENTS ARE TO BE PER TOLCO OSHPD PREAPPROVED SYSTEM (CPA-0300) PER ESR-1385, CONCRETE THICKNESS MUST BE GREATER THAN OR EQUAL TO 1.5 X ANCHOR EMBEDMENT DEPTH - ANCHORS IN UNDERSIDE OF METAL DECK ARE TO BE INSTALLED INTO LOW FLUTE



A. Approved as noted for Architectural Review
 B. Review & Reattach
 C. Rejected
 This drawing is prepared in accordance with the rules and regulations of the State of California. Any dimension or detail not shown shall be as shown on the drawing. The contractor shall be responsible for any error or omission from contract. Modified per No. 6497 Canada College 546 Revisions. By: Andy Hotal Date: 05/24/2010 Submitted Reference No. 31 0000 0001

HANGER DETAIL

GENERAL CONTRACTOR TO COORDINATE PROVIDING REPLACEMENT OF FIREPROOFING AT ALL STEEL MEMBERS WHERE HANGER AND/OR BRACING ATTACHMENT OCCURS. PER ESR-1385, CONCRETE THICKNESS MUST BE GREATER THAN OR EQUAL TO 1.5 X ANCHOR EMBEDMENT DEPTH



MAXIMUM DISTANCE BETWEEN HANGERS										
NOMINAL PIPE SIZE (IN.)	3/4"	1"	1-1/4"	1-1/2"	2"	2-1/2"	3"	3-1/2"	4"	6"
MAX HANGER SPACING	N/A	12-0	12-0	15-0	15-0	15-0	15-0	15-0	15-0	15-0

HANGER ROD SIZES										
NOMINAL PIPE SIZE (IN.)	3/4"	1"	1-1/4"	1-1/2"	2"	2-1/2"	3"	3-1/2"	4"	6"
HANGER ROD SIZE	N/A	3/8"	3/8"	3/8"	3/8"	3/8"	3/8"	3/8"	3/8"	1/2"

KWIK-BOLT TZ EMBEDMENT INFORMATION (HANGERS)										
NOMINAL PIPE SIZE (IN.)	3/4"	1"	1-1/4"	1-1/2"	2"	2-1/2"	3"	3-1/2"	4"	6"
EMBEDMENT LENGTH (MIN.)	N/A	3"	3"	3"	3"	3"	3"	3"	3"	4"

KWIK-BOLT TZ EMBEDMENT INFORMATION (SWAY BRACE & RESTRAINT)	
SWAY BRACE EMBEDMENT (MIN.)	BRANCHLINE RESTRAINT EMBEDMENT (MIN.)
4"	3"

DETAIL SHEET
 Scale: 1/8" = 1'-0"

COORDINATION DRAWING SIGN-OFF			Key Plan	Graphic Scale	North	Revisions	Sprinkler Head Information	Standard Symbols	PROFESSIONAL ENGINEER	TRANSBAY FIRE PROTECTION, INC.	2182 Rheem Dr. Fremont, CA 94539 (925) 948-9444 Fax: (925) 948-4710
TRACE CONTRACTOR	SIGNATURE	DATE	BLD.5 3RD FLOOR	0 4 8 12 16 20 24		Rev. Date Designer Notes 5/24/10 JC Revision based on BCA comments dated 5/7/10	Symbol Brand SN# Model Description Size Temperature K Finish Escutcheon Quantity TYCO TY321 FRB SPSI recessed 1/2" 155° 5.8 White White 0 TYCO TY311 FRB Upright 1/2" 200° 5.8 Brass N/A 4 TYCO TY331 FRB Corridor 1/2" 155° 5.8 Brass White 34 TYCO TY331 FRB Horizontal 1/2" 155° 5.8 Brass N/A 36 TYCO TY348 WS Window 1/2" 155° 5.6 White White 0	Riser location Hanger Two Way Brace Four Way Brace Hydraulic Node Line Restraint	Professional Engineer Seal State of California C-18 License No. 629778	License No. 629778 Job No. 1025 Date 4/12/10 Designer JC Checked CM Scale 1/8" = 1'-0"	CANADA COLLEGE - BUILDING 5 4200 FARM HILL BOULEVARD REDWOOD CITY, CA. 94061 FP-01 DETAIL SHEET 2 of 3