APPLICATION FOR HCAI PREAPPROVAL OF MANUFACTURER'S CERTIFICATION (OPM)

OFFICE USE ONLY

APPLICATION #: OPM-0770

HCAI Preapproval of Manufacturer's Certification (OPM)

Type: [X] New [ ] Renewal/Update

Manufacturer Information

Manufacturer: LightWave Telecommunications Inc.

Manufacturer's Technical Representative: Basil Costantino

Mailing Address: 950 Holly Dell Ct., Sewell, NJ 08080

Telephone: (609) 929-1802 Email: b.costantino@lwtelecom.com

Product Information

Product Name: Genesis Network Cabinets

Product Type: Network Cabinets

Product Model Number: PC042722A and PC042722B

General Description: Steel cabinets for telecommunications equipment

Applicant Information

Applicant Company Name: W. E. Gundy & Associates, Inc.

Contact Person: Frank Eckwright

Mailing Address: 250 S 5th Street, Suite 510, Boise, ID 83702

Telephone: (208) 342-5989 Email: feckwright@wegai.com

Title: Principal Engineer

Registered Design Professonal Preparing Engineering Recommendations

Company Name: W.E. GUNDY & ASSOCIATES, INC.

Name: Frank Eckwright California License Number: CE82375

Mailing Address: 1199 Shoreline Dr, Ste 310, Boise, ID 83702

Telephone: (208) 342-5989 Email: feckwright@wegai.com

Certification Method

Testing in accordance with: ☐ ICC-ES AC156 ☐ FM 1950 ☐ ASHRAE 171 ☐ FEMA 461

☐ Other(s) (Please Specify):

*Use of criteria other than those adopted by the California Building Standards Code, 2025 (CBSC 2025) for component supports and attachments are not permitted. For distribution system, interior partition wall, and suspended ceiling seismic bracings, test criteria other than those adopted in the CBSC 2025 may be used when approved by HCAI prior to testing.

☒ Analysis

☐ Experience Data

☐ Combination of Testing, Analysis, and/or Experience Data (Please Specify):

HCAI Approval

Date: 7/20/2026

Name: William Staehlin Title: Senior Structural Engineer

Condition of Approval (if applicable):

Frank Eckwright, PE
W.E. Gundy & Associates, Inc.
(208) 342-5989
feckwright@wegai.com

TABLE OF CONTENTS

	PAGES
GENERAL NOTES	S1 - S2
PC042722A CABINET	S3 - S8
PC042722B CABINET	S9 - S14
STRUT DESIGN	S15

Project No.1408-01		Date:2026.04.17	TOC
Drawn By: RG	Checked By: FE	Scale: NTS	

Frank Eckwright, PE
W.E. Gundy & Associates, Inc.
(208) 342-5989
feckwright@wegai.com

GENERAL NOTES

1. THIS HCAI PREAPPROVAL OF MANUFACTURER'S CERTIFICATION (OPM) IS BASED ON THE CBC 2025. THE DEMAND (DESIGN FORCES) FOR USE WITH THIS OPM SHALL BE BASED ON THE CBC 2025
2. SEISMIC DEMAND CRITERIA PER 2025 CBC AND ASCE 7-22:
   C_{AR} = 1.0, R_{po} = 1.5, I_p = 1.50, Ω_0 = 2.0
   - S_{DS} = 2.0 & z/h = 0.0, $H_f/R\mu$ = 1.0, $E_h = F_p$ = 0.9 W_p
   - S_{DS} = 2.0 & z/h = 1.0, $H_f/R\mu$ = 2.69, $E_h = F_p$ = 2.15 W_p

   E_V = 0.4 W_p
3. THIS PREAPPROVAL COVERS ONLY THE SUPPORTS AND ATTACHMENTS OF THE EQUIPMENT TO THE STRUCTURE
4. ALL LOADS SHOWN ON THE DRAWINGS ARE FACTORED LOADS AND SHALL BE USED FOR STRENGTH DESIGN UNO
5. MINIMUM MATERIAL PROPERTIES:
   a. CONCRETE:
      i. SLABS/BEAMS: NORMAL WEIGHT, THICKNESS ≥ 5”, 3,000 psi ≤ f`c ≤ 8,000 PSI
      ii . SLAB ON METAL DECK: NORMAL WEIGHT OR SAND LIGHTWEIGHT, f`c ≥ 3,000
   b. STEEL:
      i. THREADED ROD: ASTM F1554 Gr. 36 (Fu = 58 KSI)
      ii. NUT: ASTM A563A HEX NUT
      iii. WASHER: ASTM 844 FLAT WASHER (0.53 I.D. x 1.25 O.D. x 0.12 T)
      iv. METAL DECK: 20GA THICK
   c. POST-INSTALLED CONCRETE ANCHORS:
      i. HILTI KB-TZ2 (ICC ESR-4266 LATEST EDITION)
6. POST-INSTALLED ANCHORS SHALL BE INSTALLED PER THE REQUIREMENTS OF THE EVALUATION SERVICE REPORT (ICC ESR-4266) AND THE PARAMETERS GIVEN IN THESE DRAWINGS.
7. TESTING OF POST-INSTALLED ANCHORS SHALL BE ACCORDING TO 2025 CBC SECTION 1910A.5. A MINIMUM OF 50% OF POST-INSTALLED ANCHORS SHALL BE TESTED NO LESS THAN 24 HOURS AFTER INSTALLATION. A CALIBRATED TORQUE WRENCH SHALL BE USED TO VERIFY THE INSTALLATION TORQUE IS OBTAINED WITHIN ½ TURN OF THE NUT. ALL TESTS SHALL BE CONDUCTED BY AN APPROVED INDEPENDENT AGENCY EMPLOYED BY THE FACILITY OWNER PER CBC §1704A & 1910A.5, AND CAC 7-149. ALL REPORTS SHALL BE SENT TO THE INSPECTOR OF RECORD (IOR), OWNER, & THE ARCHITECT OR ENGINEER IN RESPONSIBLE CHARGE.
8. IF ANY ANCHOR FAILS TESTING, ALL OF THE ANCHORS OF THE SAME TYPE SHALL BE TESTED, WHICH ARE INSTALLED BY THE SAME TRADE, NOT PREVIOUSLY TESTED UNTIL TWENTY (20) CONSECUTIVE ANCHORS PASS, THEN RESUME THE INITIAL TEST FREQUENCY.
9. THROUGH BOLTS AT CONCRETE FILLED METAL DECK SHALL BE TORQUED BY 3/4 TURN OF THE NUT AFTER ACHIEVING SNUG TIGHT CONDITION (FIRM CONTACT BETWEEN THE CONNECTED PLIES).

REGISTERED PROFESSIONAL ENGINEER
FRANK ECKWRIGHT
C82375
CIVIL
STATE OF CALIFORNIA
06/25/2026

Project No.1408-01		Date:2026.04.17	S1
Drawn By: RG	Checked By: FE	Scale: NTS	

Frank Eckwright, PE
W.E. Gundy & Associates, Inc.
(208) 342-5989
feckwright@wegai.com

GENERAL NOTES CONTINUED

10. DESIGN IS CONTROLLED BY SEISMIC FORCES. NON-SEISMIC FORCES SUCH AS GRAVITY ARE OUTSIDE THE SCOPE OF THIS OPM.
11. BOLTS THROUGH CONCRETE ON METAL DECK
    a. BOLTS SHALL BE TORQUED BY 3/4 TURN OF THE NUTS AFTER THE SNUG TIGHT (THE SNUG-TIGHT CONDITION IS DEFINED AS THE TIGHTNESS REQUIRED TO BRING THE CONNECTED PLIES INTO FIRM CONTACT) CONDITION IS ACHIEVED, UNO
    b. THROUGH BOLT HOLES SHALL BE 1/16" LARGER THAN BOLT SIZE (HOLE SIZE = BOLT SIZE + 1/16) FOR CONCRETE
    c. THROUGH BOLTS IN CONCRETE SHALL RECEIVE SPECIAL INSPECTION AND TESTING (THROUGH BOLTS WITH STEEL TO STEEL CONNECTION IN TENSION DO NOT REQUIRE TENSION TESTING) IN ACCORDANCE WITH REQUIREMENTS FOR POST-INSTALLED ANCHORS.
12. CABINETS CANNOT BE USED TO HOUSE COMPONENTS REQUIRING SPECIAL SEISMIC CERTIFICATION UNLESS THE CABINETS HAVE BEEN CERTIFIED AS PART OF THE SSC

RESPONSIBILITIES OF THE BUILDING STRUCTURAL ENGINEER OF RECORD

1. VERIFY THE INSTALLATION CONFORMS TO CBC 2025 AND THIS OPM, INCLUDING MATERIAL PROPERTIES AND DIMENSIONS OF THE SUPPORT.
2. VERIFY THE PROJECT SPECIFIC S_{DS} AND Z/H VALUES DO NOT RESULT IN SEISMIC FORCES EXCEEDING THE VALUES IN THIS OPM.
3. VERIFY ALL ANCHORS ARE A MINIMUM OF 12” FROM ALL CONCRETE EDGES AND ARE SUFFICIENTLY SPACED FROM ANY NEW OR EXISTING ANCHORS.
4. VERIFY ACCEPTABLE COVER IS PROVIDED FOR POST-INSTALLED ANCHORS INTO UPPER FLUTE OF SLAB ON METAL DECK.

REGISTERED PROFESSIONAL ENGINEER
FRANK ECKWRIGHT
C82375
CIVIL
STATE OF CALIFORNIA
06/25/2026

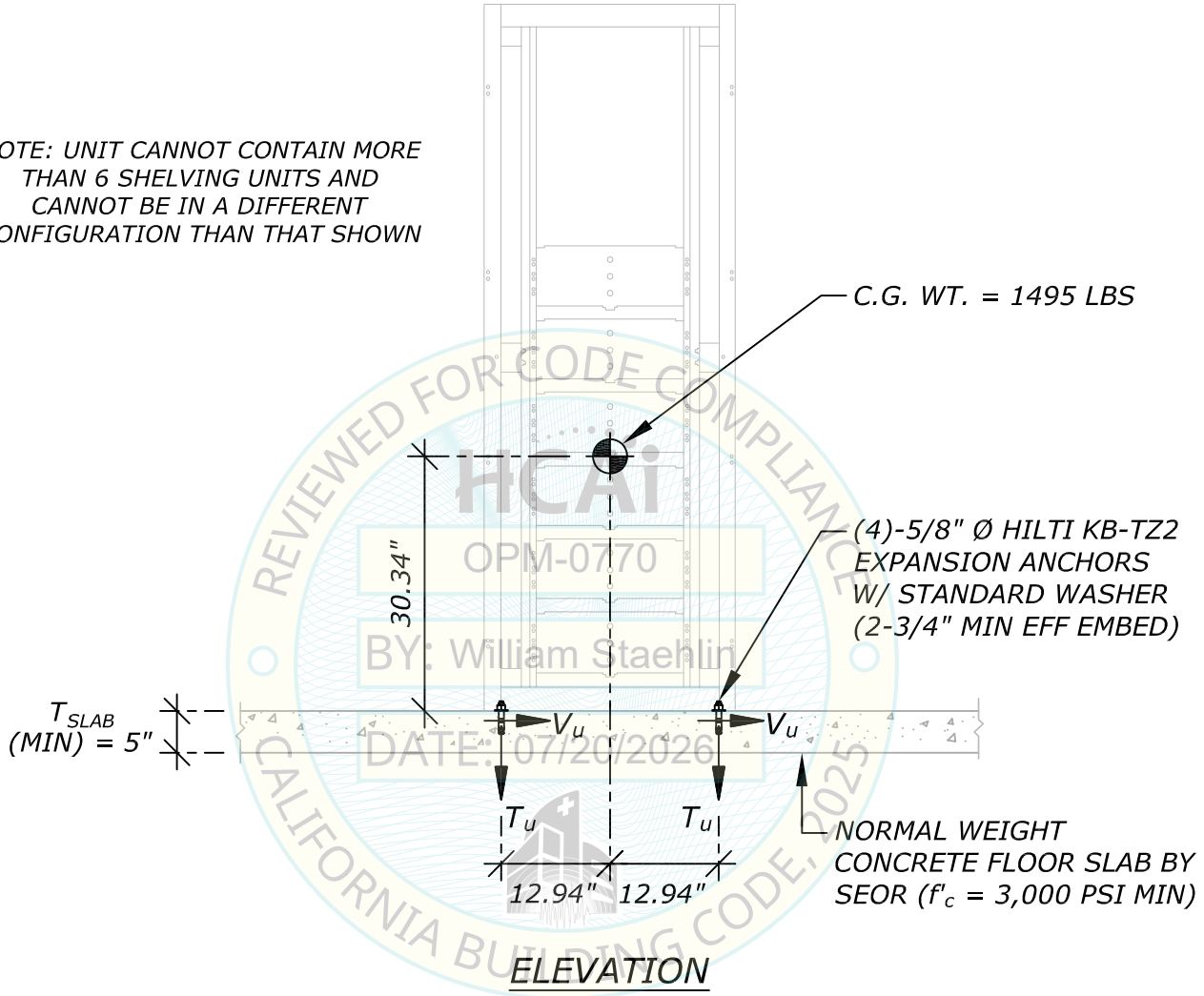
Project No.1408-01	*Date:2026.04.17*		S2
Drawn By: RG	*Checked By: FE*	*Scale: NTS*	

Frank Eckwright, PE
W.E. Gundy & Associates, Inc.
(208) 342-5989
feckwright@wegai.com

SEISMIC ANCHORAGE

(AT SLAB-ON-GRADE,
$S_{DS} \leq 2.0g$, $z/h = 0$)

NOTE: UNIT CANNOT CONTAIN MORE THAN 6 SHELVING UNITS AND CANNOT BE IN A DIFFERENT CONFIGURATION THAN THAT SHOWN



ELEVATION

TYPE	DIA	EFF EMBED (h_{ef})	HOLE DEPTH (h_o)	C_{min}	S_{min}	Required Torque
HILTI KB-TZ2	5/8"	2-3/4"	3-3/4"	4-1/2"	4-1/2"	40 ft-lbs

REGISTERED PROFESSIONAL ENGINEER
FRANK ECKWRIGHT
C82375
CIVIL
STATE OF CALIFORNIA
06/25/2026

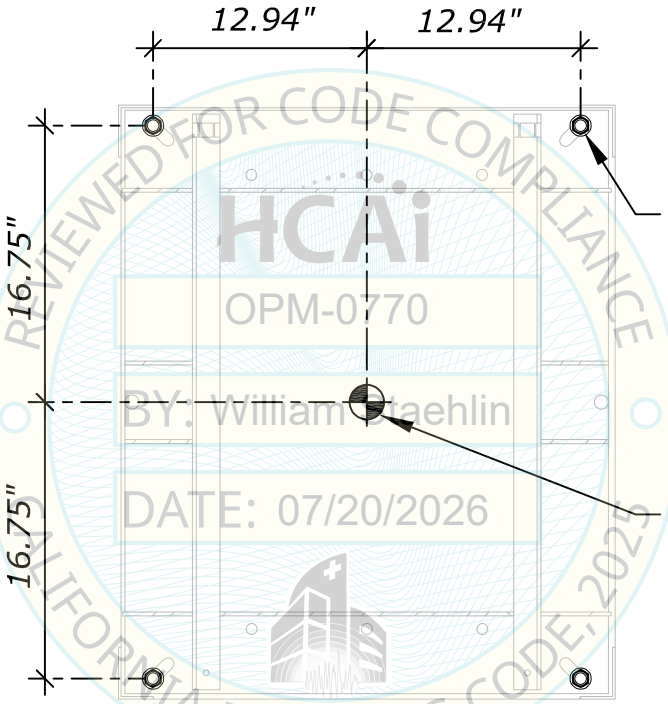
Project No.1408-01	Date:2026.04.17	
Drawn By: RG	Checked By: FE	Scale: NTS

S3

Frank Eckwright, PE
W.E. Gundy & Associates, Inc.
(208) 342-5989
feckwright@wegai.com

SEISMIC ANCHORAGE

(AT SLAB-ON-GRADE,
$S_{DS} \leq 2.0g$, $z/h = 0$)



(4)-5/8" Ø HILTI KB-TZ2 EXPANSION ANCHORS W/ STANDARD WASHER (2-3/4" MIN EFF EMBED) INSTALL BOLTS AT OUTSIDE END OF SLOTS AS SHOWN

C.G. WT. = 1495 LBS

T_u (MAX) = 1756 LBS
V_u (MAX) = 875 LBS

PLAN VIEW - BASE ($S_{DS} \leq 2.0$)

REGISTERED PROFESSIONAL ENGINEER
FRANK ECKWRIGHT
C82375
CIVIL
STATE OF CALIFORNIA
06/25/2026

Project No.1408-01		Date:2026.04.17	S4
Drawn By: RG	Checked By: FE	Scale: NTS	

WEGAI
W.E. GUNDY & ASSOCIATES, INC.
STRUCTURAL & EARTHQUAKE ENGINEERING
WEGAI.COM

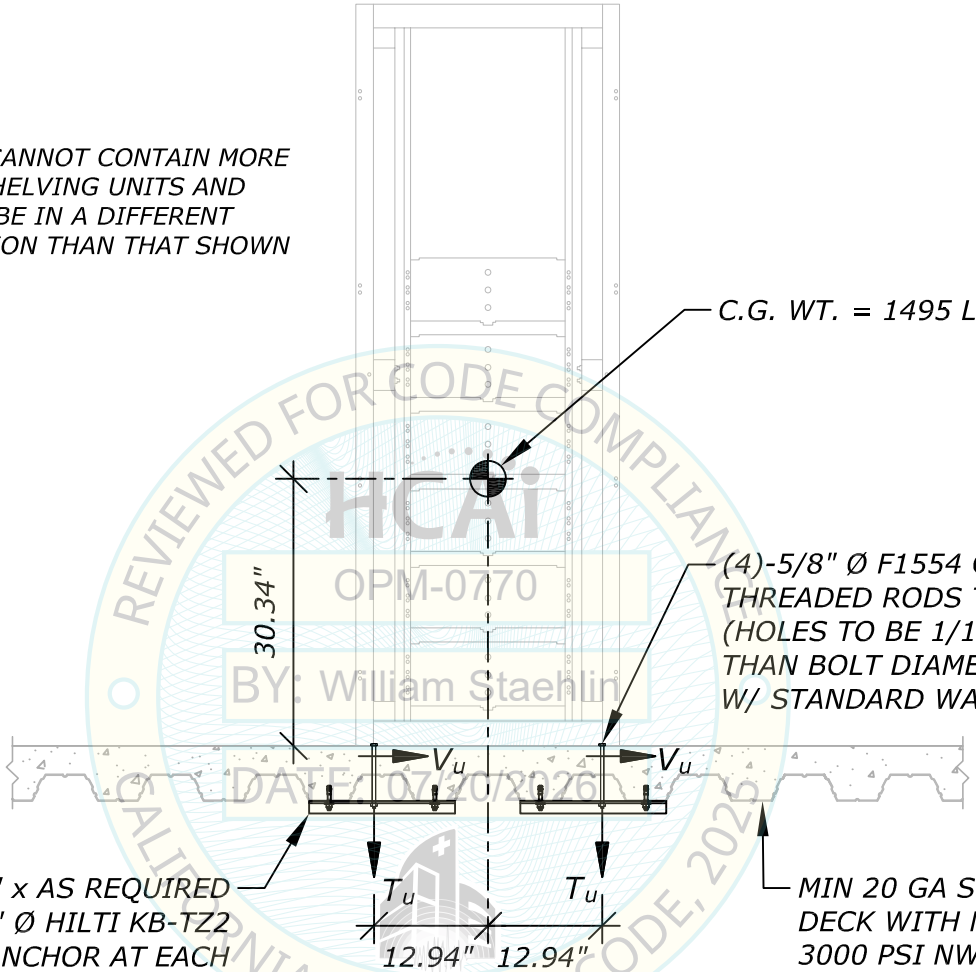
LIGHTWAVE TELECOMMUNICATIONS
PC042722A CABINET
OPM-0770

Frank Eckwright, PE
W.E. Gundy & Associates, Inc.
(208) 342-5989
feckwright@wegai.com

SEISMIC ANCHORAGE

(AT SLAB ON METAL DECK, $S_{DS} \leq 2.0g$, $z/h \leq 1$)

NOTE: UNIT CANNOT CONTAIN MORE THAN 6 SHELVING UNITS AND CANNOT BE IN A DIFFERENT CONFIGURATION THAN THAT SHOWN



ELEVATION

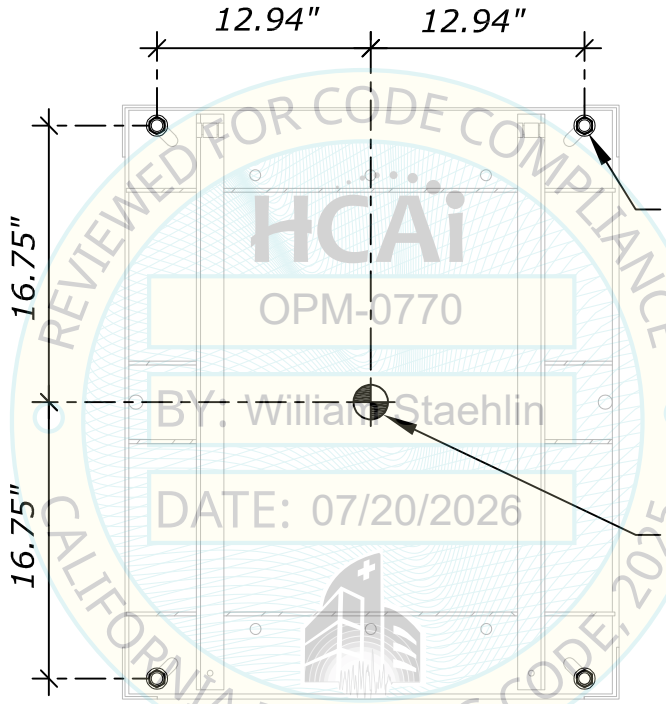
REGISTERED PROFESSIONAL ENGINEER
FRANK ECKWRIGHT
C82375
CIVIL
STATE OF CALIFORNIA
06/25/2026

Project No.1408-01		Date:2026.04.17	S5
Drawn By: RG	Checked By: FE	Scale: NTS	

Frank Eckwright, PE
W.E. Gundy & Associates, Inc.
(208) 342-5989
feckwright@wegai.com

SEISMIC ANCHORAGE

(AT SLAB ON METAL DECK, $S_{DS} \leq 2.0g$, $z/h \leq 1$)



T_u (MAX) = 2138 LBS
V_u (MAX) = 1047 LBS

PLAN VIEW - BASE ($S_{DS} \leq 2.0$)

Project No.1408-01		Date:2026.04.17	S6
Drawn By: RG	Checked By: FE	Scale: NTS	

WEGAI
W.E. GUNDY & ASSOCIATES, INC.
STRUCTURAL & EARTHQUAKE ENGINEERING
WEGAI.COM

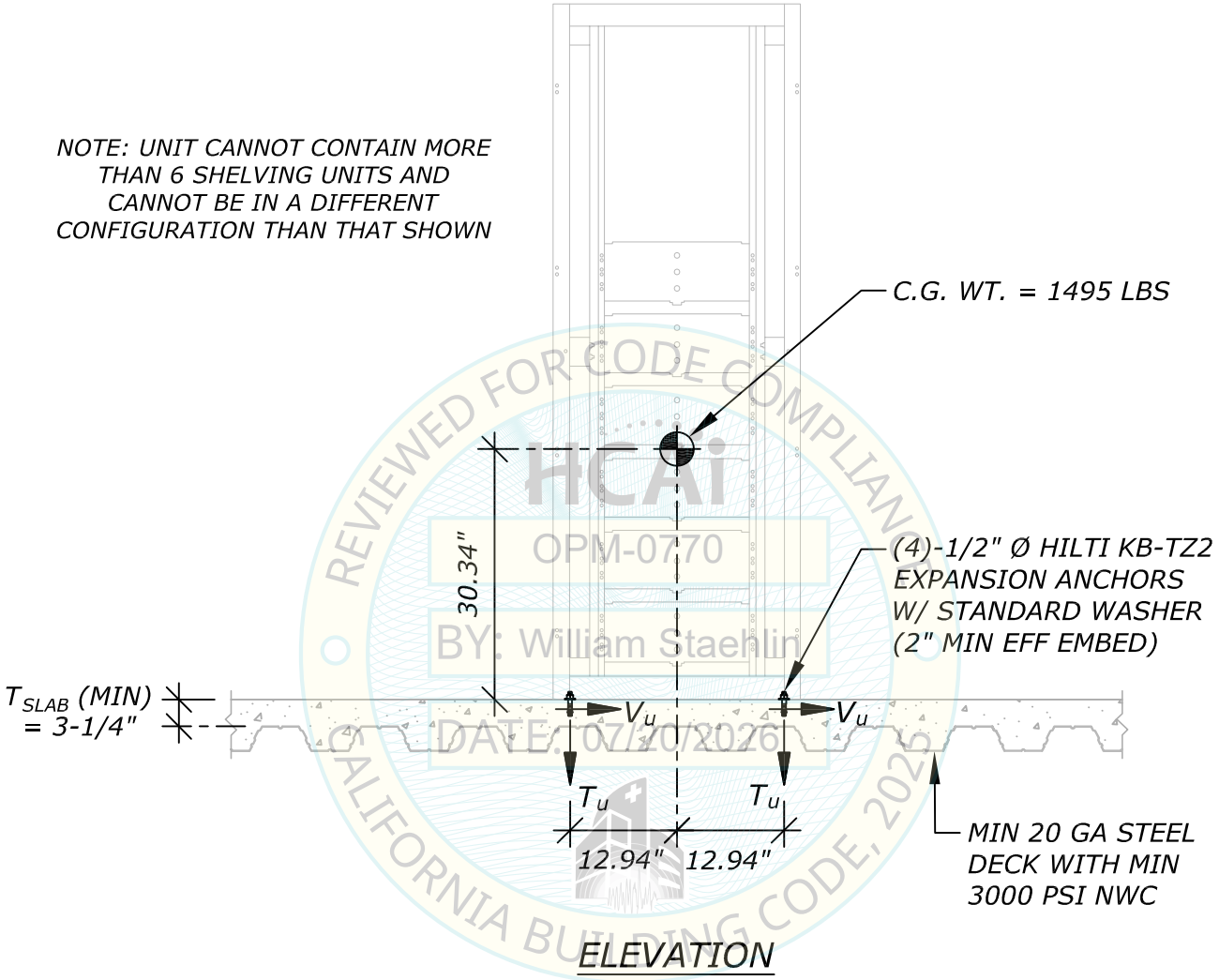
LIGHTWAVE TELECOMMUNICATIONS
PC042722A CABINET
OPM-0770

Frank Eckwright, PE
W.E. Gundy & Associates, Inc.
(208) 342-5989
feckwright@wegai.com

SEISMIC ANCHORAGE

(AT SLAB ON METAL DECK, SEE S8 FOR INSTALLATION LIMITATIONS)

NOTE: UNIT CANNOT CONTAIN MORE THAN 6 SHELVING UNITS AND CANNOT BE IN A DIFFERENT CONFIGURATION THAN THAT SHOWN



ELEVATION

TYPE	DIA	EFF EMBED (h_{ef})	HOLE DEPTH (h_o)	C_{min}	S_{min}	Required Torque
HILTI KB-TZ2	1/2"	2"	2-3/4"	7-1/2"	6"	50 ft-lbs

REGISTERED PROFESSIONAL ENGINEER
FRANK ECKWRIGHT
C82375
CIVIL
STATE OF CALIFORNIA
06/25/2026

Project No.1408-01	Date:2026.04.17	
Drawn By: RG	Checked By: FE	Scale: NTS

S7

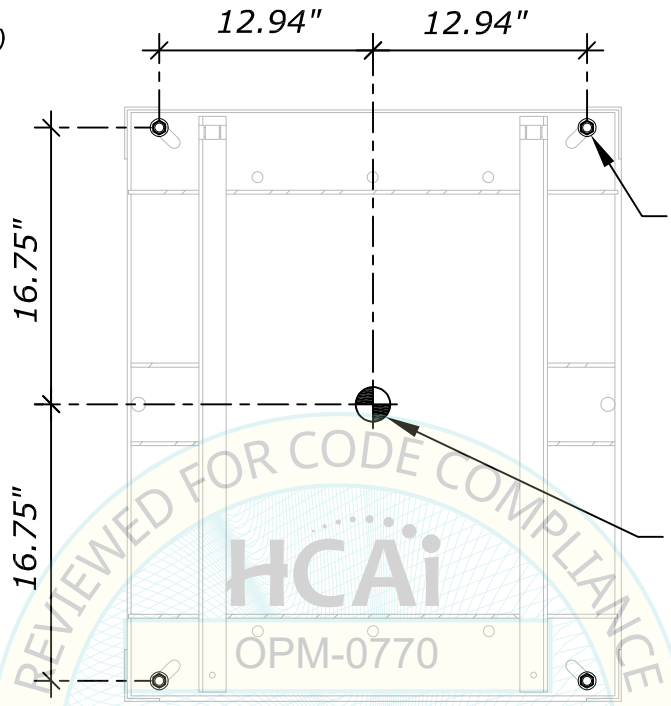
WEGAI
W.E. GUNDY & ASSOCIATES, INC.
STRUCTURAL & EARTHQUAKE ENGINEERING
WEGAI.COM

LIGHTWAVE TELECOMMUNICATIONS
PC042722A CABINET
OPM-0770

Frank Eckwright, PE
W.E. Gundy & Associates, Inc.
(208) 342-5989
feckwright@wegai.com

SEISMIC ANCHORAGE

(SEE VALID REGION IN FIGURE 1 SHOWN BELOW)



PLAN VIEW - BASE

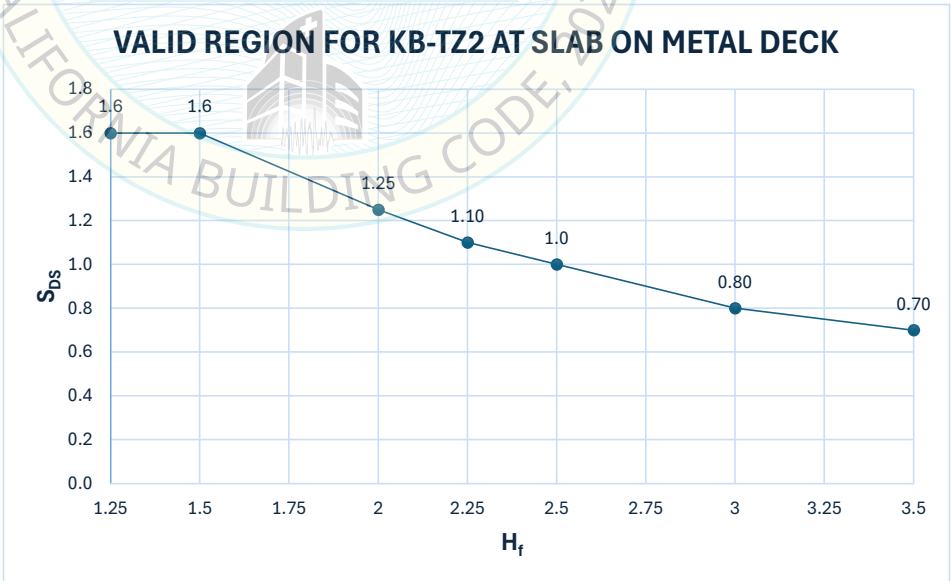


FIGURE 1

REGISTERED PROFESSIONAL ENGINEER
FRANK ECKWRIGHT
C82375
CIVIL
STATE OF CALIFORNIA
06/25/2026

Project No.1408-01		Date:2026.04.17	S8
Drawn By: RG	Checked By: FE	Scale: NTS	

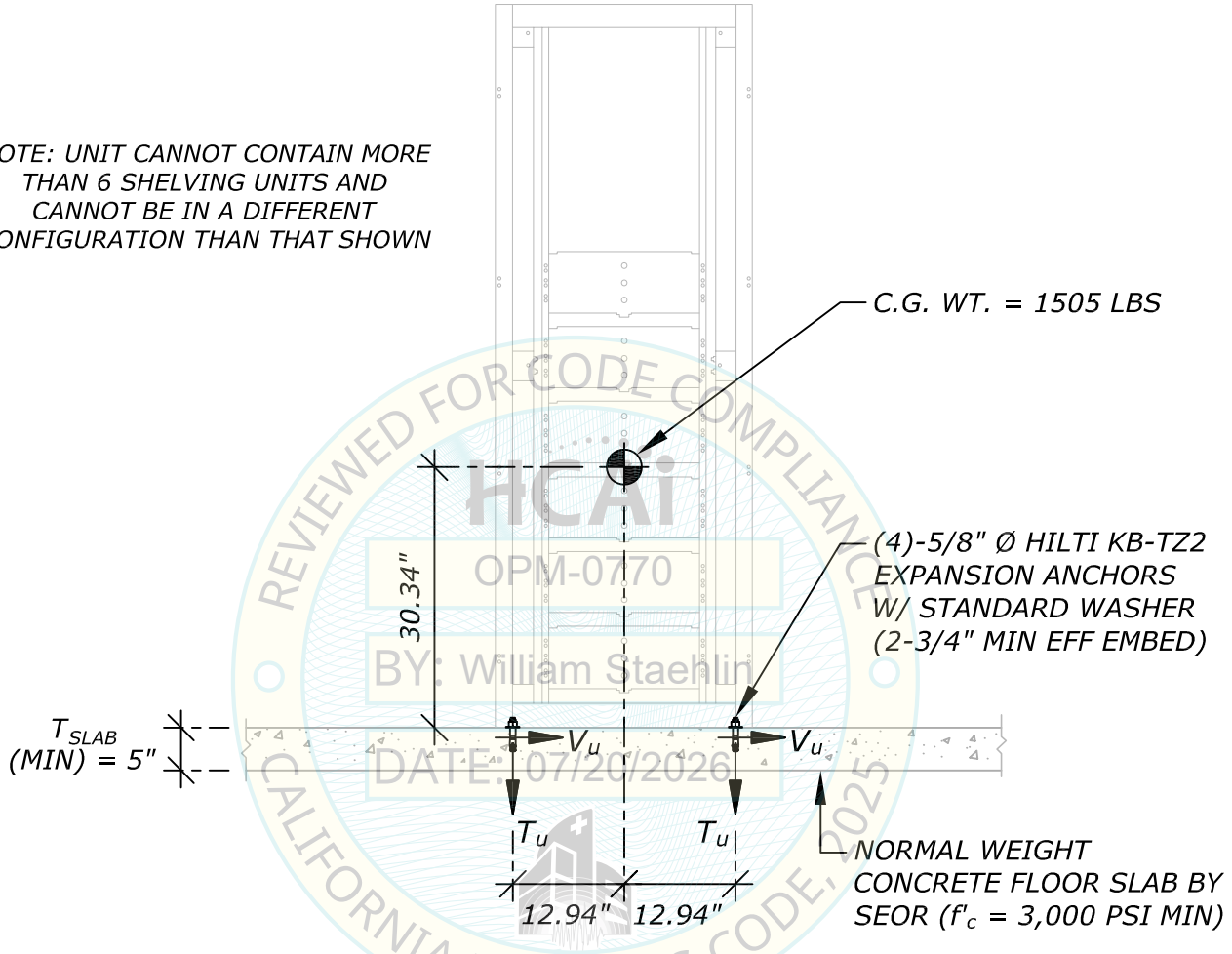
LIGHTWAVE TELECOMMUNICATIONS
PC042722B CABINET
OPM-0770

Frank Eckwright, PE
W.E. Gundy & Associates, Inc.
(208) 342-5989
feckwright@wegai.com

SEISMIC ANCHORAGE

(AT SLAB-ON-GRADE,
$S_{DS} \leq 2.0g$, $z/h = 0$)

NOTE: UNIT CANNOT CONTAIN MORE THAN 6 SHELVING UNITS AND CANNOT BE IN A DIFFERENT CONFIGURATION THAN THAT SHOWN



ELEVATION

TYPE	DIA	EFF EMBED (h_{ef})	HOLE DEPTH (h_o)	C_{min}	S_{min}	Required Torque
HILTI KB-TZ2	5/8"	2-3/4"	3-3/4"	4-1/2"	4-1/2"	40 ft-lbs

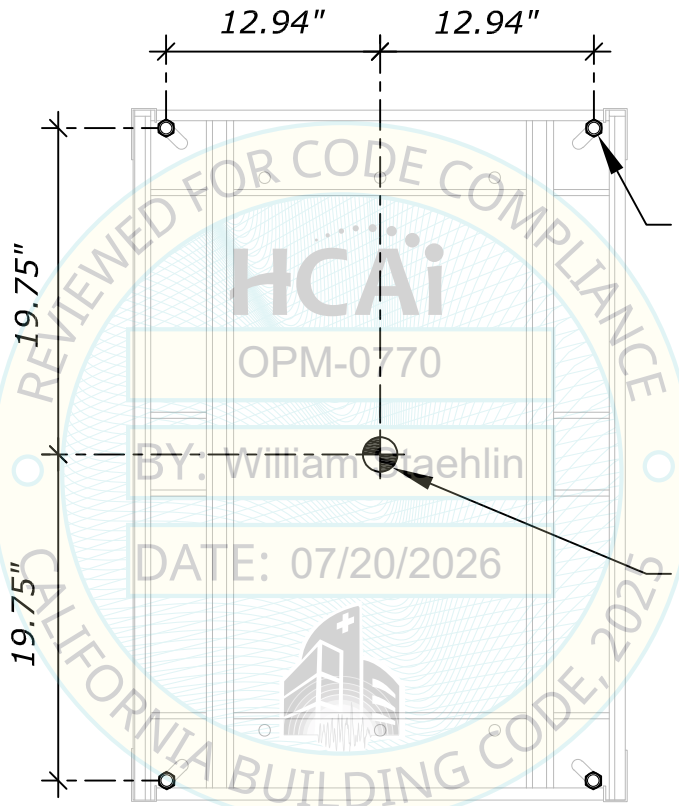
Project No.1408-01	Date:2026.04.17	
Drawn By: RG	Checked By: FE	Scale: NTS

S9

Frank Eckwright, PE
W.E. Gundy & Associates, Inc.
(208) 342-5989
feckwright@wegai.com

SEISMIC ANCHORAGE

(AT SLAB-ON-GRADE,
S_{DS} ≤ 2.0g, z/h = 0)



T_u (MAX) = 1712 LBS
V_u (MAX) = 880 LBS

PLAN VIEW - BASE (S_{DS} ≤ 2.0)

REGISTERED PROFESSIONAL ENGINEER
FRANK ECKWRIGHT
C82375
CIVIL
STATE OF CALIFORNIA
06/25/2026

Project No.1408-01		Date:2026.04.17	S10
Drawn By: RG	Checked By: FE	Scale: NTS	

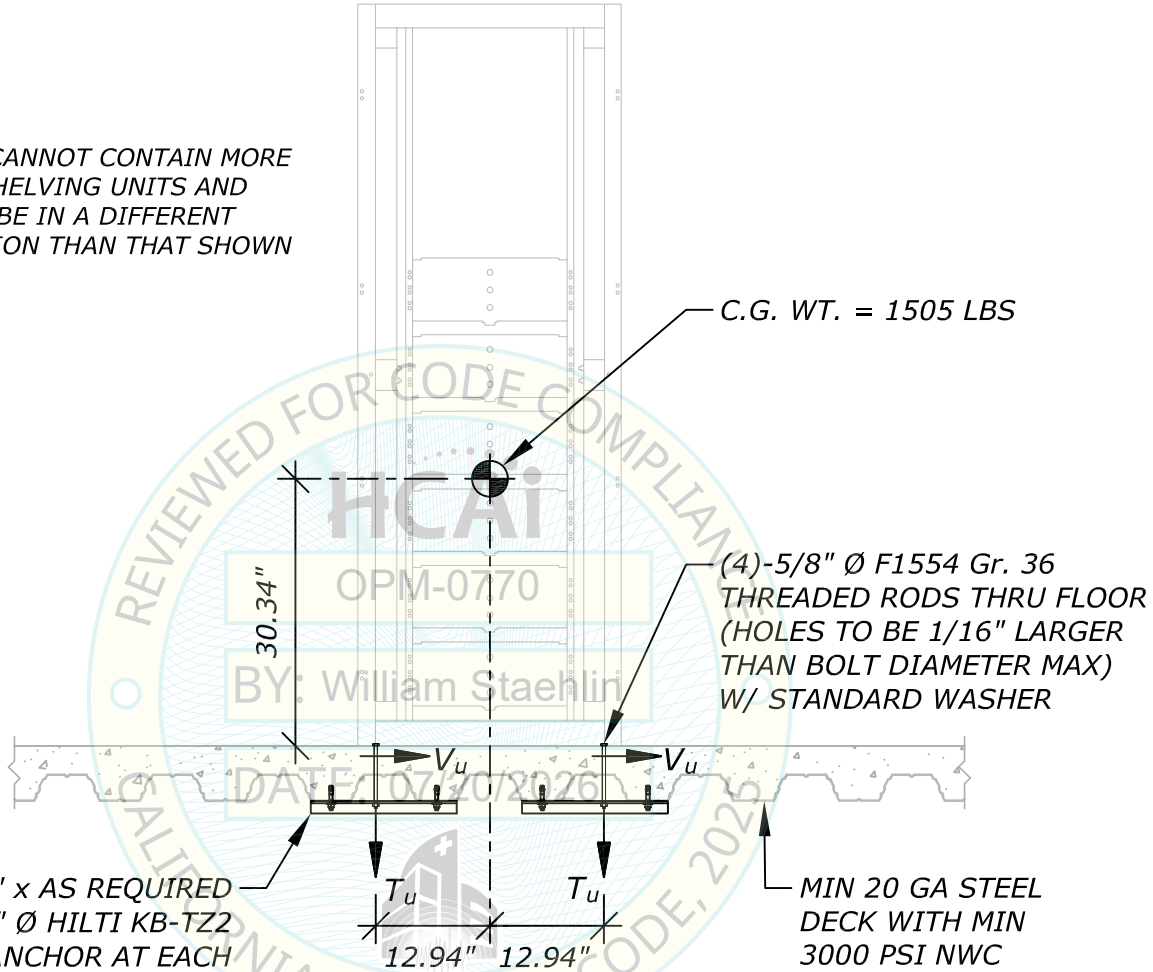
LIGHTWAVE TELECOMMUNICATIONS
PC042722B CABINET
OPM-0770

Frank Eckwright, PE
W.E. Gundy & Associates, Inc.
(208) 342-5989
feckwright@wegai.com

SEISMIC ANCHORAGE

(AT SLAB ON METAL DECK, $S_{DS} \leq 2.0g$, $z/h \leq 1$)

NOTE: UNIT CANNOT CONTAIN MORE THAN 6 SHELVING UNITS AND CANNOT BE IN A DIFFERENT CONFIGURATION THAN THAT SHOWN



ELEVATION

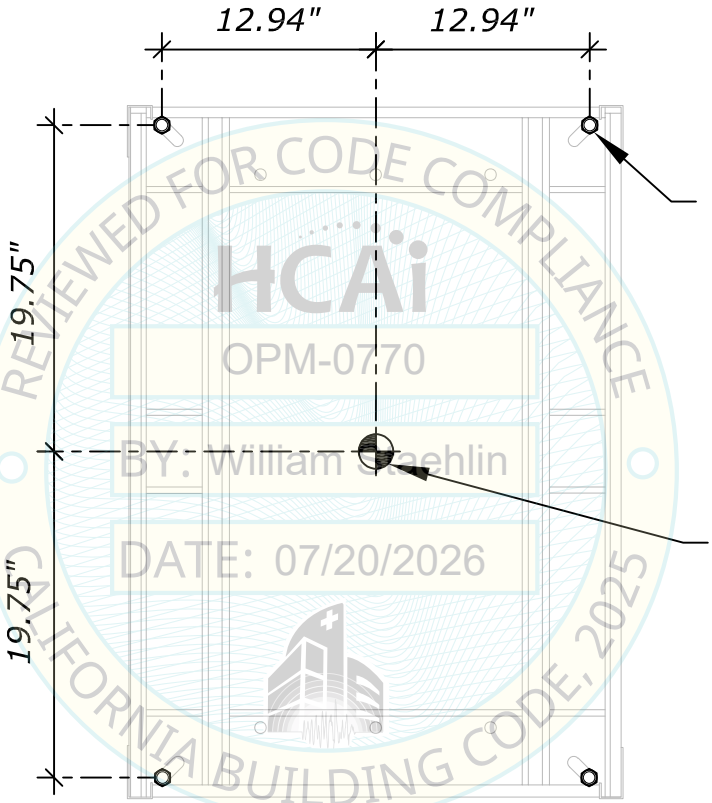
REGISTERED PROFESSIONAL ENGINEER
FRANK ECKWRIGHT
C82375
CIVIL
STATE OF CALIFORNIA
06/25/2026

Project No.1408-01		Date:2026.04.17	S11
Drawn By: RG	Checked By: FE	Scale: NTS	

Frank Eckwright, PE
W.E. Gundy & Associates, Inc.
(208) 342-5989
feckwright@wegai.com

SEISMIC ANCHORAGE

(AT SLAB ON METAL DECK, $S_{DS} \leq 2.0g$, $z/h \leq 1$)



T_u (MAX) = 2085 LBS
V_u (MAX) = 1054 LBS

PLAN VIEW - BASE ($S_{DS} \leq 2.0$)

REGISTERED PROFESSIONAL ENGINEER
FRANK ECKWRIGHT
C82375
CIVIL
STATE OF CALIFORNIA
06/25/2026

Project No.1408-01		Date:2026.04.17	S12
Drawn By: RG	Checked By: FE	Scale: NTS	

WEGAI
W.E. GUNDY & ASSOCIATES, INC.
STRUCTURAL & EARTHQUAKE ENGINEERING
WEGAI.COM

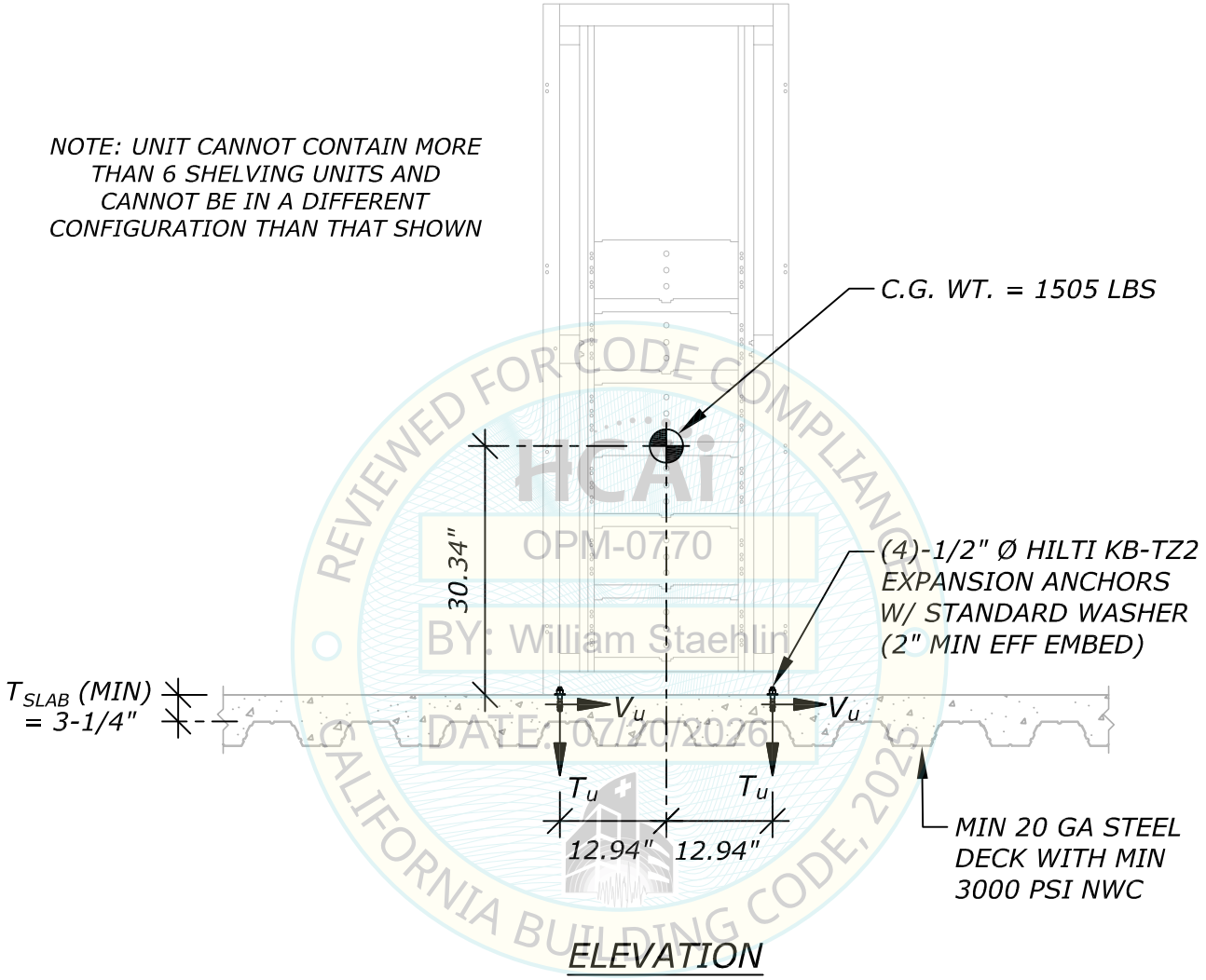
LIGHTWAVE TELECOMMUNICATIONS
PC042722B CABINET
OPM-0770

Frank Eckwright, PE
W.E. Gundy & Associates, Inc.
(208) 342-5989
feckwright@wegai.com

SEISMIC ANCHORAGE

(AT SLAB ON METAL DECK, SEE S14 FOR INSTALLATION LIMITATIONS)

NOTE: UNIT CANNOT CONTAIN MORE THAN 6 SHELVING UNITS AND CANNOT BE IN A DIFFERENT CONFIGURATION THAN THAT SHOWN



ELEVATION

TYPE	DIA	EFF EMBED (h_{ef})	HOLE DEPTH (h_o)	C_{min}	S_{min}	Required Torque
HILTI KB-TZ2	1/2"	2"	2-3/4"	7-1/2"	6"	50 ft-lbs

REGISTERED PROFESSIONAL ENGINEER
FRANK ECKWRIGHT
C82375
CIVIL
STATE OF CALIFORNIA
06/25/2026

Project No.1408-01		Date:2026.04.17	
Drawn By: RG	Checked By: FE	Scale: NTS	S13

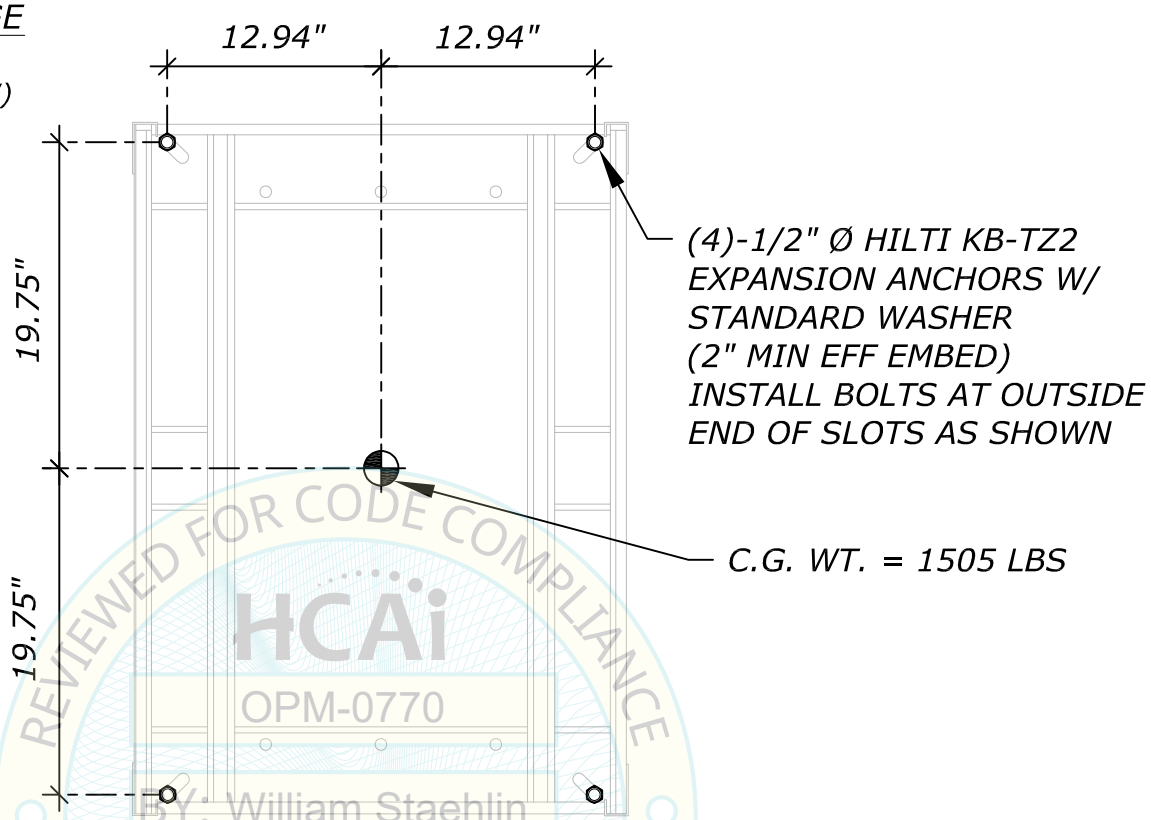
WEGAI
W.E. GUNDY & ASSOCIATES, INC.
STRUCTURAL & EARTHQUAKE ENGINEERING
WEGAI.COM

LIGHTWAVE TELECOMMUNICATIONS
PC042722B CABINET
OPM-0770

Frank Eckwright, PE
W.E. Gundy & Associates, Inc.
(208) 342-5989
feckwright@wegai.com

SEISMIC ANCHORAGE

(SEE VALID REGION IN FIGURE 2 SHOWN BELOW)



PLAN VIEW - BASE ($S_{DS} \leq 2.0$)

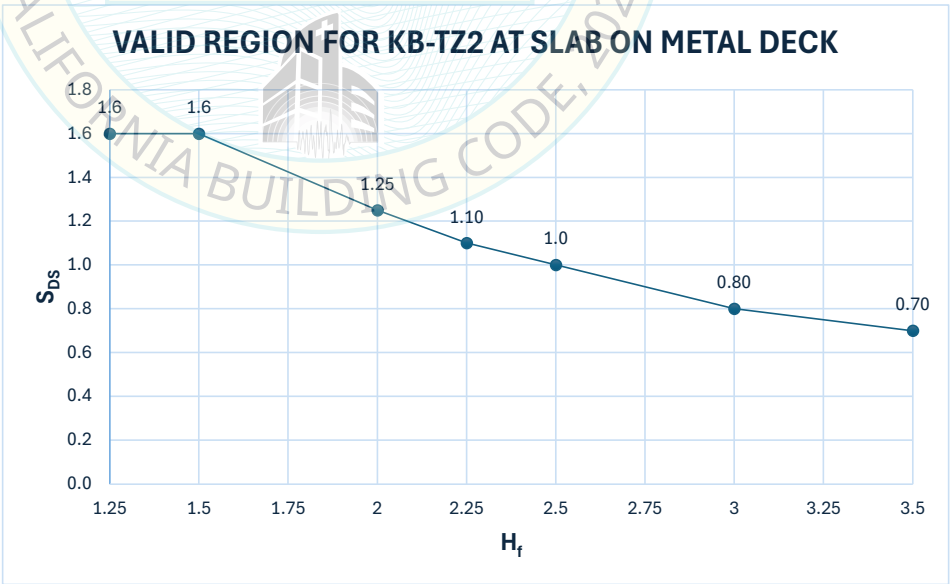


FIGURE 2

REGISTERED PROFESSIONAL ENGINEER
FRANK ECKWRIGHT
C82375
CIVIL
STATE OF CALIFORNIA
06/25/2026

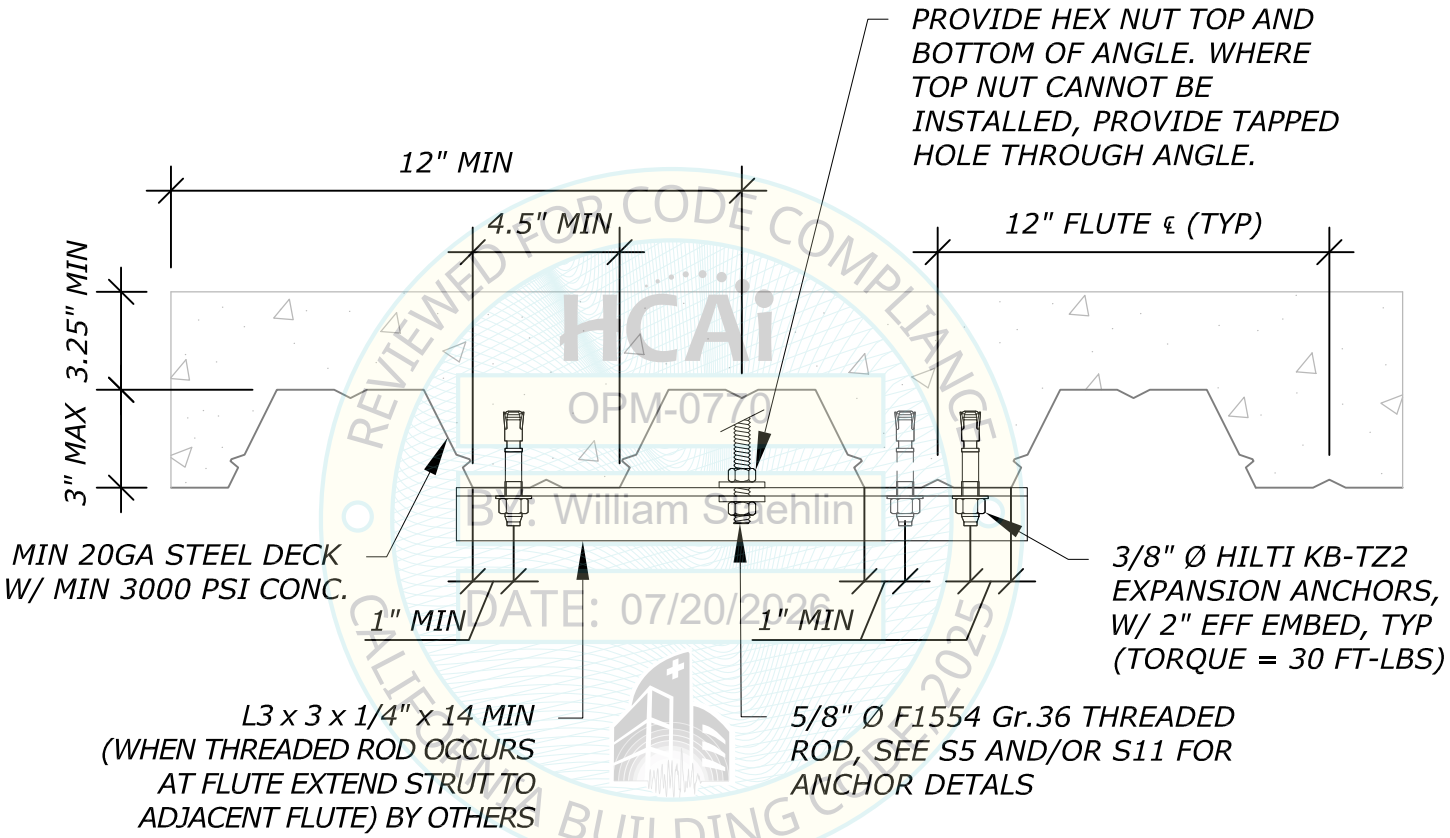
Project No.1408-01		Date:2026.04.17	S14
Drawn By: RG	Checked By: FE	Scale: NTS	

WEGAI
W.E. GUNDY & ASSOCIATES, INC.
STRUCTURAL & EARTHQUAKE ENGINEERING
WEGAI.COM

LIGHTWAVE TELECOMMUNICATIONS
OPM-0770

Frank Eckwright, PE
W.E. Gundy & Associates, Inc.
(208) 342-5989
feckwright@wegai.com

SEISMIC ANCHORAGE



ELEVATION - STRUT DESIGN

Project No.1408-01		Date:2026.04.17	S15
Drawn By: RG	Checked By: FE	Scale: NTS	