



OFFICE OF STATEWIDE HEALTH PLANNING AND DEVELOPMENT
FACILITIES DEVELOPMENT DIVISION

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

OFFICE USE ONLY

APPLICATION #: OPM-0411-13

OSHPD Preapproval of Manufacturer's Certification (OPM)

Type: [X] New [] Renewal [] Update to Pre-CBC 2013 OPA Number:

Manufacturer Information

Manufacturer: The Kirlin Company

Manufacturer's Technical Representative: Joe Strelchuk

Mailing Address: 3401 E Jefferson Ave, Detroit, MI 48207

Telephone: 313-259-6400 Ext. 353 Email: jstrelchuk@kirlinlighting.com

Product Information

Product Name: OPTeMED, INFRALED, and INFRALED 60 ceiling mounted light fixtures

Product Type: Hospital Light Fixtures

Product Model Number: MRR-12640, MRR-12642, MRR-12620, MRR-12622, and MRS-17600

General Description: The OPTeMED, INFRALED and INFRALED 60 light fixtures are used in a variety of hospital applications including ICU, CCU, ED, Cath labs, patient rooms, and birthing suites. Fixtures can be used as standalone units or in pairs.

Applicant Information

Applicant Company Name: W.E. Gundy & Associates Inc. (WEGAI)

Contact Person: Frank Eckwright

Mailing Address: PO Box 9121, Boise, ID 83707

Telephone: 208-342-5989 Ext. 123 Email: feckwright@wegai.com

I hereby agree to reimburse the Office of Statewide Health Planning and Development review fees in accordance with the California Administrative Code, 2016.

Signature of Applicant: [Signature] Date: 3/21/2017

Title: Project Engineer Company Name: W.E. Gundy & Associates, Inc. (WEGAI)

"Access to Safe, Quality Healthcare Environments that Meet California's Diverse and Dynamic Needs"





**OFFICE OF STATEWIDE HEALTH PLANNING AND DEVELOPMENT
FACILITIES DEVELOPMENT DIVISION**

Registered Design Professional Preparing Engineering Recommendations

Company Name: W.E. Gundy & Associates, Inc. (WEGAI)

Name: Frank Eckwright, PE California License Number: 82375 (Civil)

Mailing Address: PO Box 9121, Boise, ID 83707

Telephone: 208-342-5989 Ext. 123 Email: feckwright@wegai.com

OSHPD Special Seismic Certification Preapproval (OSP)

- Special Seismic Certification is preapproved under OSP-
(Separate application for OSP is required)
- Special Seismic Certification is not preapproved

Certification Method(s)

- Testing in accordance with: ICC-ES AC156 FM 1950-16
- Other* (Please Specify): _____

*Use of criteria other than those adopted by the California Building Standards Code, 2016 (CBSC 2016) 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 2016 may be used when approved by OSHPD prior to testing.

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

List of Attachments Supporting the Manufacturer's Certification

- Test Report Drawings Calculations Manufacturer's Catalog
- Other(s) (Please Specify): _____

OFFICE USE ONLY – OSHPD APPROVAL VALID FOR CBC 2016 & ALL PRE-2016 CODE BASED PROJECTS

Signature: *William Staehlin* Date: 08-03-2017

Print Name: William Staehlin

Title: SSE

Condition of Approval (if applicable): _____

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GENERAL NOTES

1. THIS OSHPD PREAPPROVAL OF MANUFACTURER'S CERTIFICATION (OPM) IS BASED ON THE CBC 2016. THE DEMAND (DESIGN FORCES) FOR USE WITH THIS OPM SHALL BE BASED ON THE CBC 2016.
2. SEISMIC DEMAND CRITERIA PER 2016 CBC AND ASCE 7-10:
 $S_{DS} = 2.50$, $a_p = 1.0$, $R_p = 1.5$, $I_p = 1.50$, $z/h \leq 1.0$, $\Omega_0 = 1.50$
 $E_h = F_p = 3.0 W_p$
 $E_v = 0.5 W_p$
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.
5. MINIMUM MATERIAL PROPERTIES:
 - a. CONCRETE
 1. SLABS/BEAMS: NORMAL WEIGHT OR SAND LIGHTWEIGHT, THICKNESS $\geq 4"$, $3000 \text{ PSI} \leq f'_c \leq 10,000 \text{ PSI}$
 2. SLAB ON METAL DECK: NORMAL WEIGHT OR SAND LIGHTWEIGHT, $f'_c \geq 3,000 \text{ PSI}$
 - b. STEEL
 1. BEAMS, JOISTS, AND THREADED ROD: A36 STEEL
 2. STRUT: 1 5/8" X 1 5/8" X 12GA SOLID STRUT, COLD ROLLED STEEL MEETING ASTM A1011SS GRADE 33

MINIMUM STRUT SECTION PROPERTIES:

WEIGHT (lb/ft)	AREA (in ²)	I _{xx} (in ²)	S _{xx} (in ³)	r _x (in)	I _{yy} (in ⁴)	S _{yy} (in ³)	r _y (in)
1.89	0.544	0.18	0.195	0.575	0.233	0.287	0.655

3. METAL DECK: 20GA THICK
4. ROD COUPLERS: ASTM A563, 58 KSI TENSILE STRENGTH
- c. POST-INSTALLED CONCRETE ANCHORS:
 1. HILTI KB-TZ (ICC ESR-1917 REVISED SEPTEMBER 2016)
6. POST-INSTALLED ANCHORS SHALL BE INSTALLED PER THE REQUIREMENTS OF THE EVALUATION SERVICE REPORT (ICC ESR-1917) AND THE PARAMETERS GIVEN IN THESE DRAWINGS.
7. TESTING OF POST-INSTALLED ANCHORS SHALL BE ACCORDING TO 2016 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 1/2 TURN OF THE NUT. ALL TESTS SHALL BE CONDUCTED IN THE PRESENCE OF THE INSPECTOR OF RECORD AND THE TEST RESULTS SHALL BE REPORTED TO OSHPD.
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. DESIGN IS CONTROLLED BY SEISMIC FORCES. NON-SEISMIC FORCES, SUCH AS GRAVITY, ARE OUTSIDE THE SCOPE OF THIS OPM.

RESPONSIBILITIES OF THE BUILDING STRUCTURAL ENGINEER OF RECORD

1. VERIFY THE INSTALLATION CONFORMS TO CBC 2016 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.

THE KIRLIN CO.



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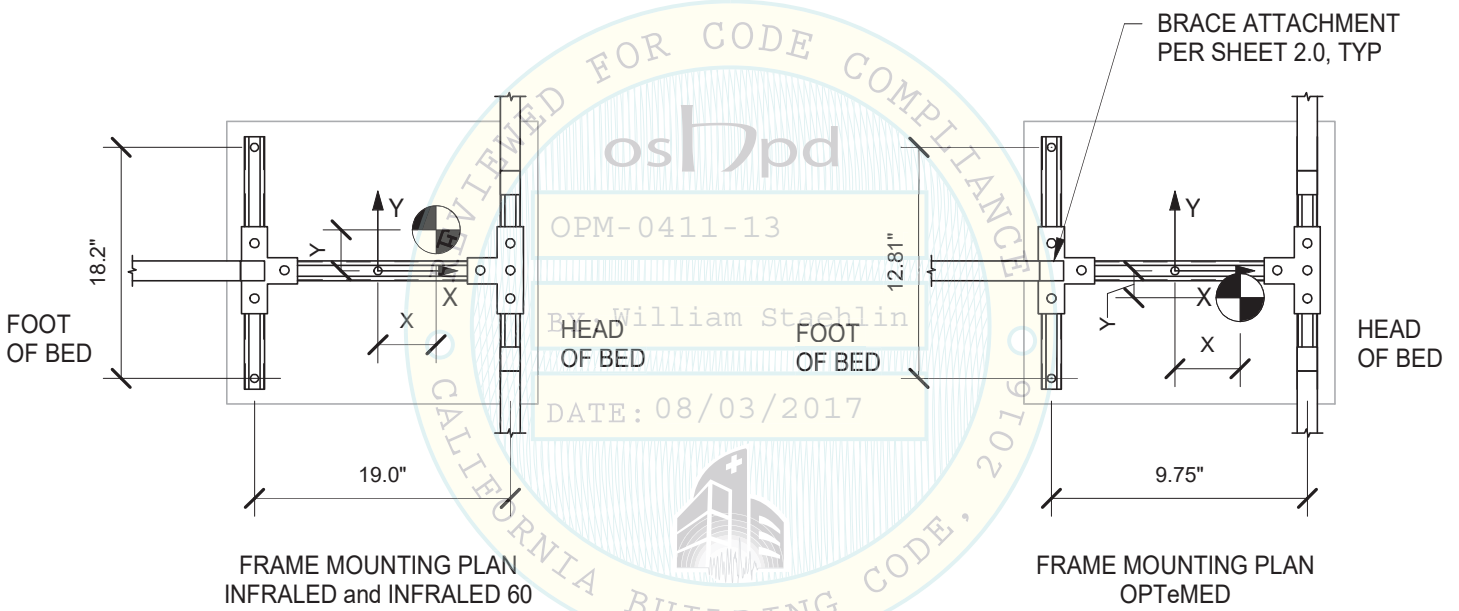
Frank Eckwright
 Frank Eckwright, PE
 California PE No. 82375

GENERAL NOTES - OPTeMED, INFRALED, and INFRALED 60 LIGHT FIXTURES			1.0
Project number: OPM 0411-13	Date: 2017.04.11		
Drawn by: JM	Checked by: FE	Scale: NTS	

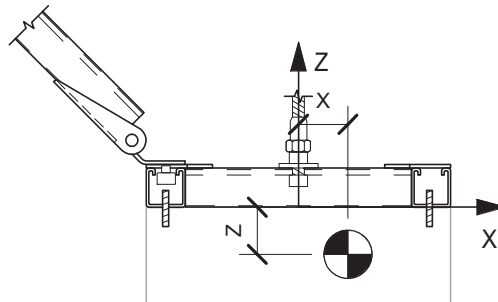
LIGHT FIXTURE PROPERTIES:

UNIT	LENGTH (IN)	WIDTH (IN)	HEIGHT (IN)	MAXIMUM WEIGHT (lbs)	CENTER OF GRAVITY		
					X	Y	Z
OPTeMED (MRR-12640/MRR12642)	16.810	13.060	11.500	27.50	2.93	-0.21	-4.27
INFRALED (MRR-12620/MRR-12622)	22.000	22.000	11.910	38.00	4.50	2.38	-4.73
INFRALED 60 (MRS-17600)	23.750	23.750	11.250	50.00	-1.51	4.02	-6.12

NOTE:
 DIMENSIONS REPRESENT MAXIMUM EXTENTS OF EACH FIXTURE, INCLUDING COMPONENTS EXTENDING BEYOND THE MAIN ENCLOSURE. CENTER OF GRAVITY IS MEASURED FROM TOP OF LIGHT FIXTURE, DIRECTLY BELOW THREADED ROD ATTACHMENT POINT. POSITIVE X-AXIS IS ORIENTED TOWARDS HEAD OF BED AS IDENTIFIED ON LIGHT FIXTURE.



NOTE:
 CENTER THE THREADED ROD
 IN BOTH DIRECTIONS ON THE
 COMPONENT PLAN.



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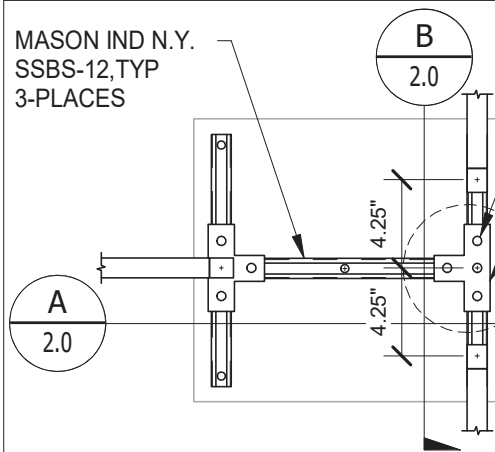
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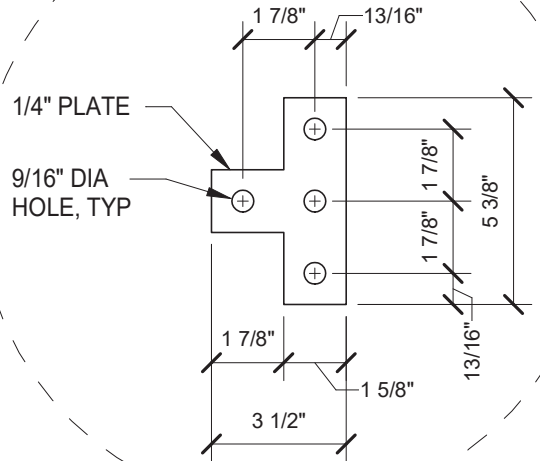
1.1

MASON IND N.Y. SSBS-12, TYP
3-PLACES

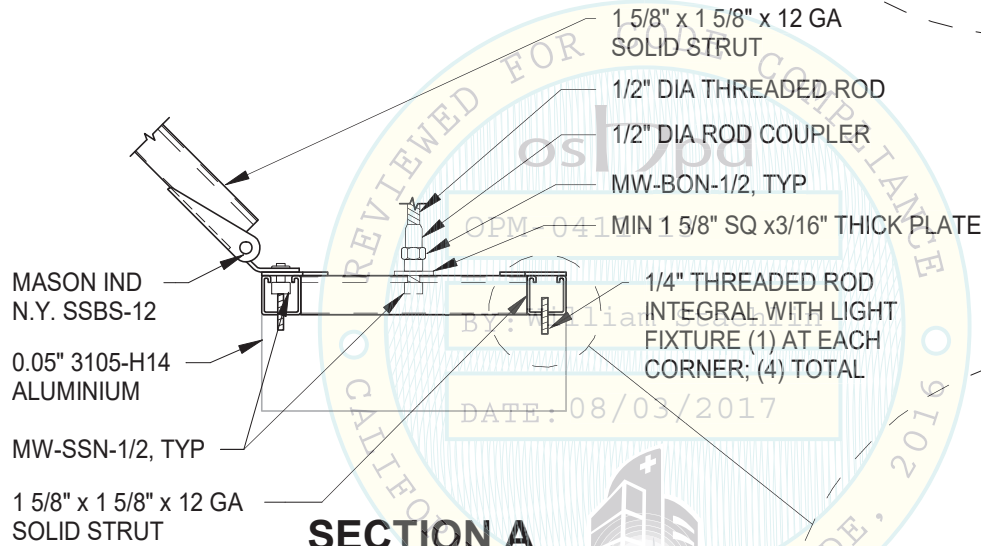


MASON IND. N.Y. MW-SSN-1/2 W/ MW-BON-1/2 TORQUE UNTIL NUT BREAKS OFF - (4) PER PLATE

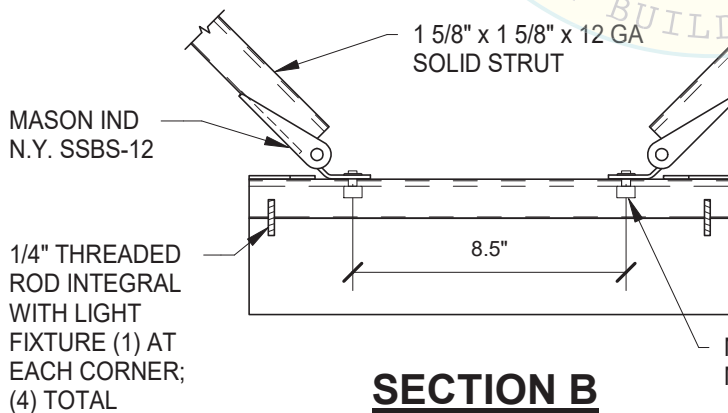
1/4" A36 "T" PLATE, TYP



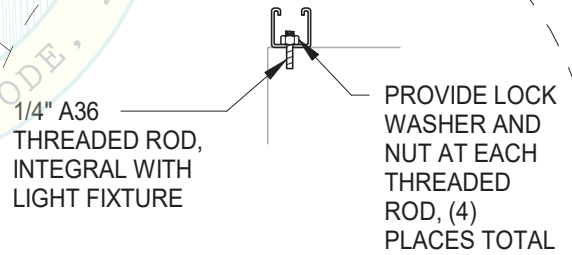
STRUT ATTACHMENT PLAN



SECTION A



SECTION B



MATERIAL REQUIREMENTS:
NUTS = ASTM A563 GRADE A OR BETTER
LOCK WASHERS = ASTM F436

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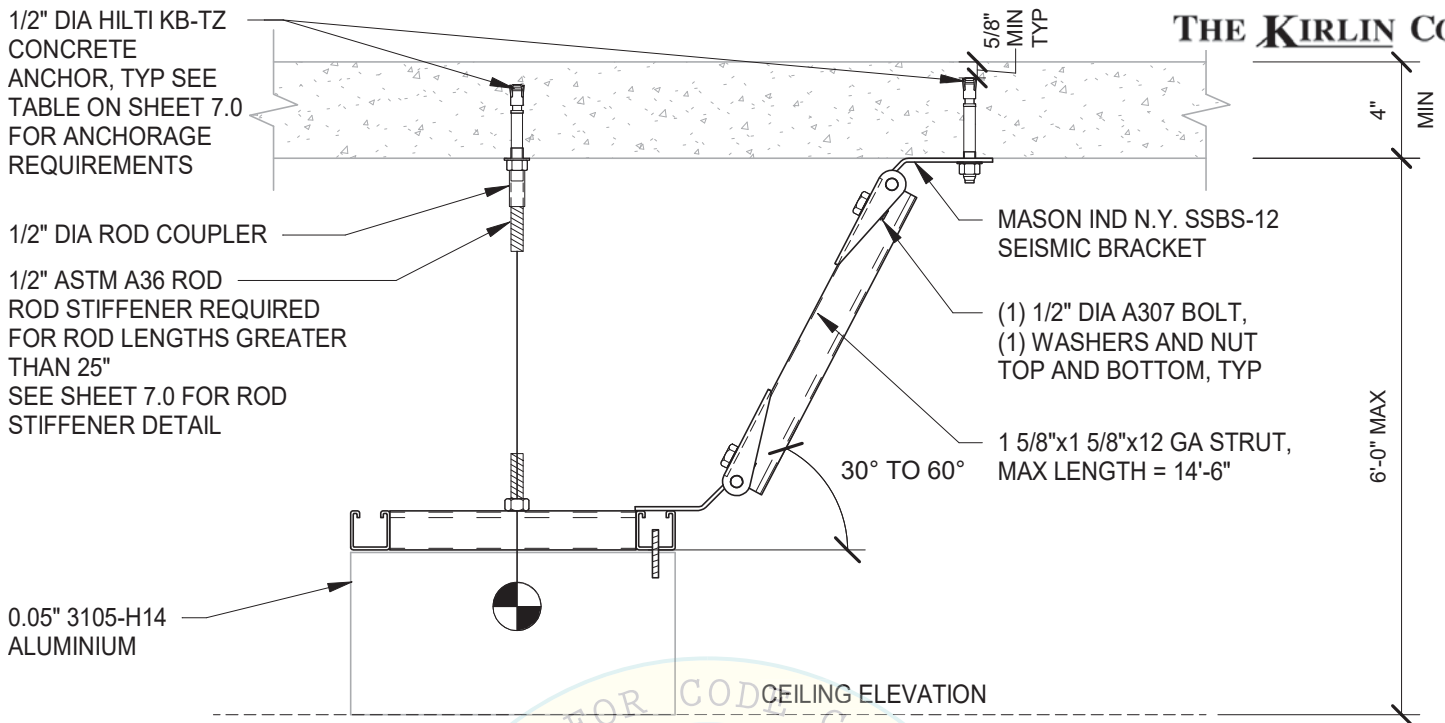
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LIGHT FITXURE WITH FRAME - OPTeMED, INFRALED, and INFRALED 60 LIGHT FIXTURES

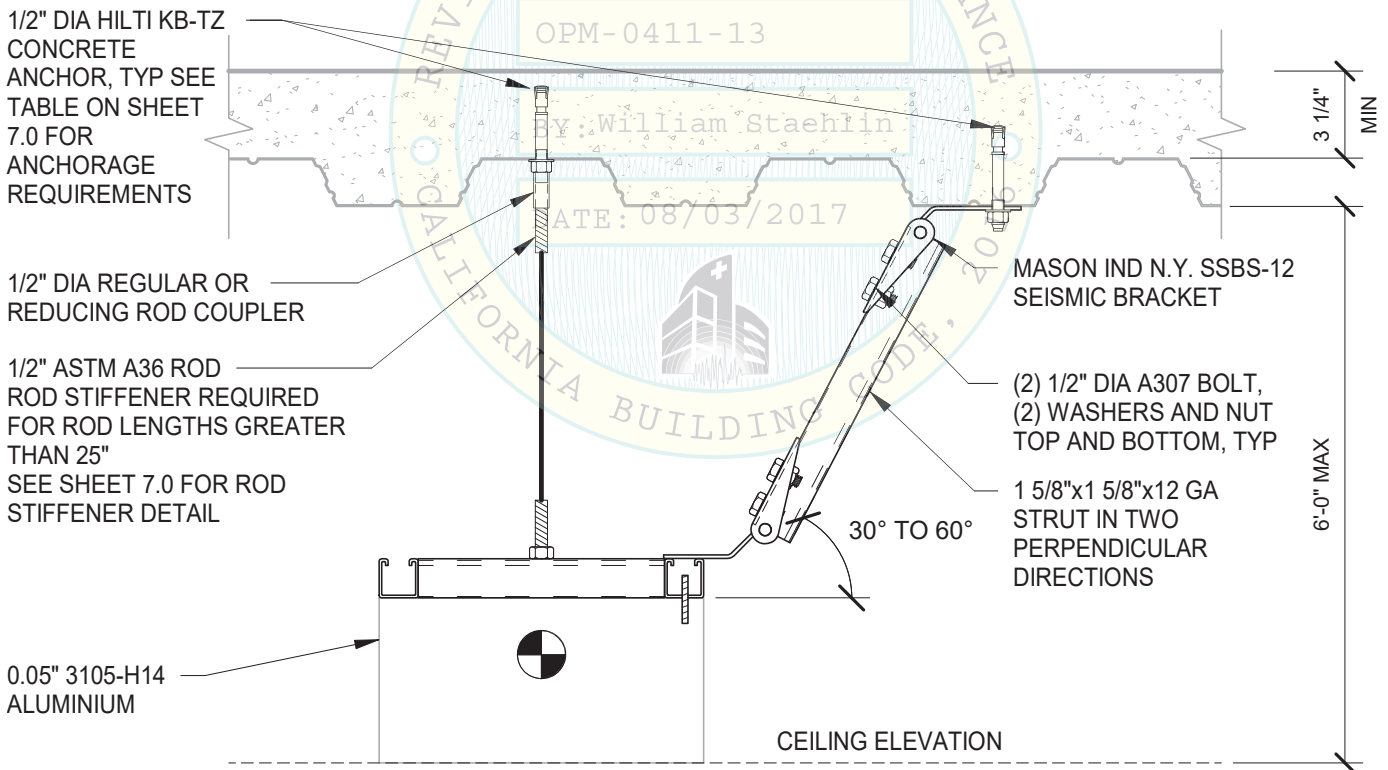
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2.0



LIGHT FIXTURE SUPPORTS AT CONCRETE BEAM OR SLAB



LIGHT FIXTURE SUPPORTS AT CONCRETE FILLED METAL DECK



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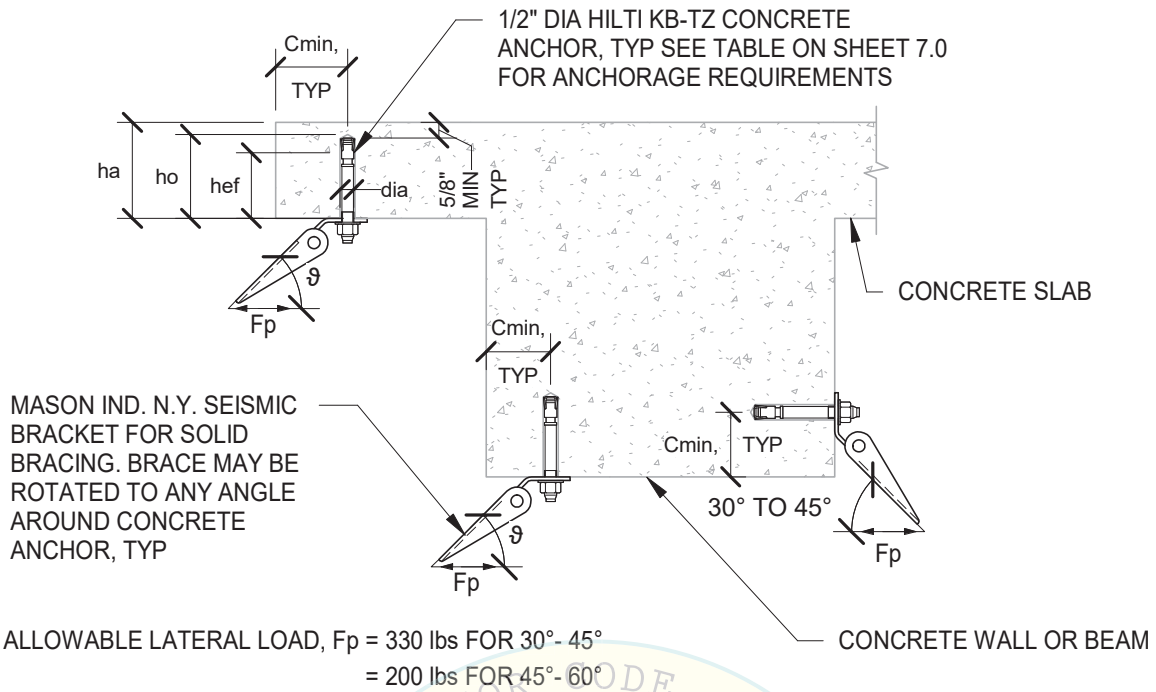
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SECTIONS - OPTeMED, INFRALED, and INFRALED 60 LIGHT FIXTURES

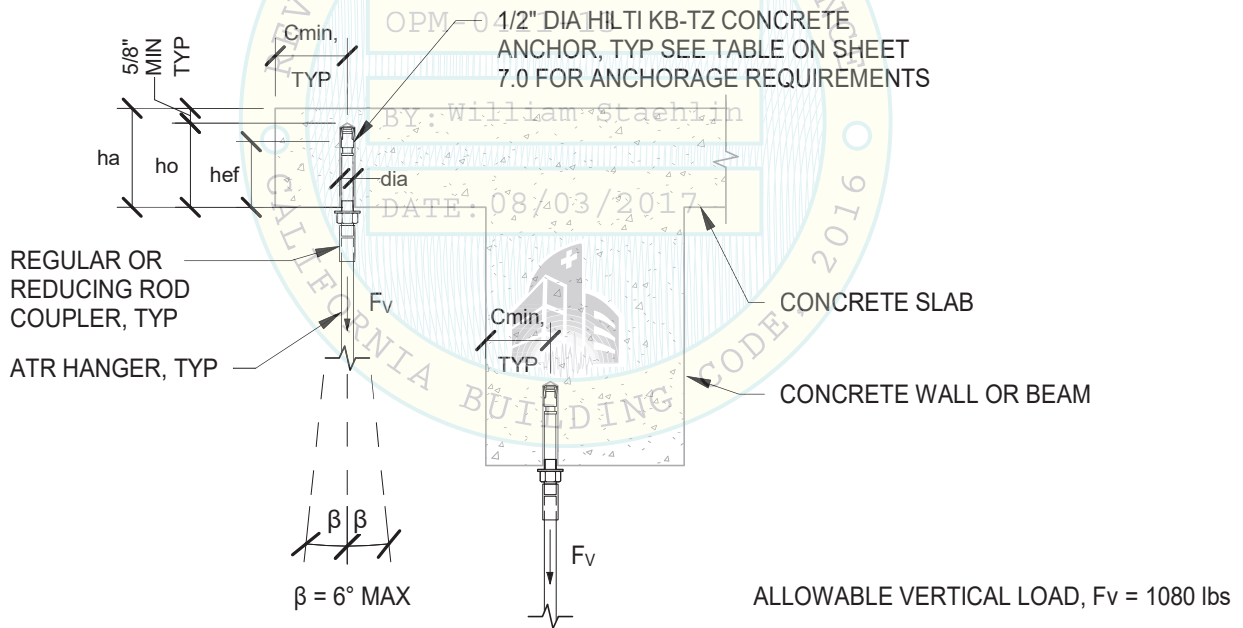
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3.0



BRACKET ANCHORAGE TO CONCRETE SLAB/BEAM



THREADED ROD ANCHORAGE TO CONCRETE SLAB/BEAM

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ANCHORAGE TO SLAB/BEAM - OPTeMED, INFRALED, and INFRALED 60 LIGHT FIXTURES

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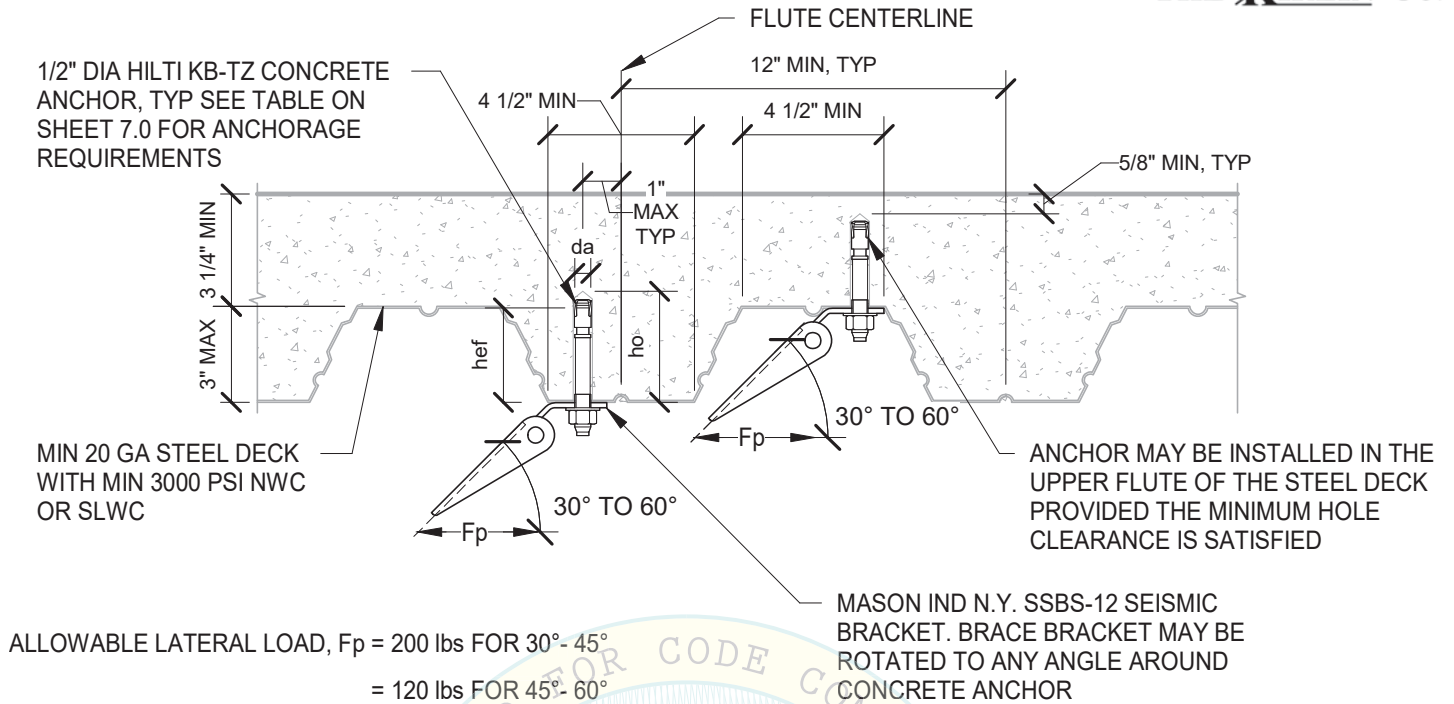
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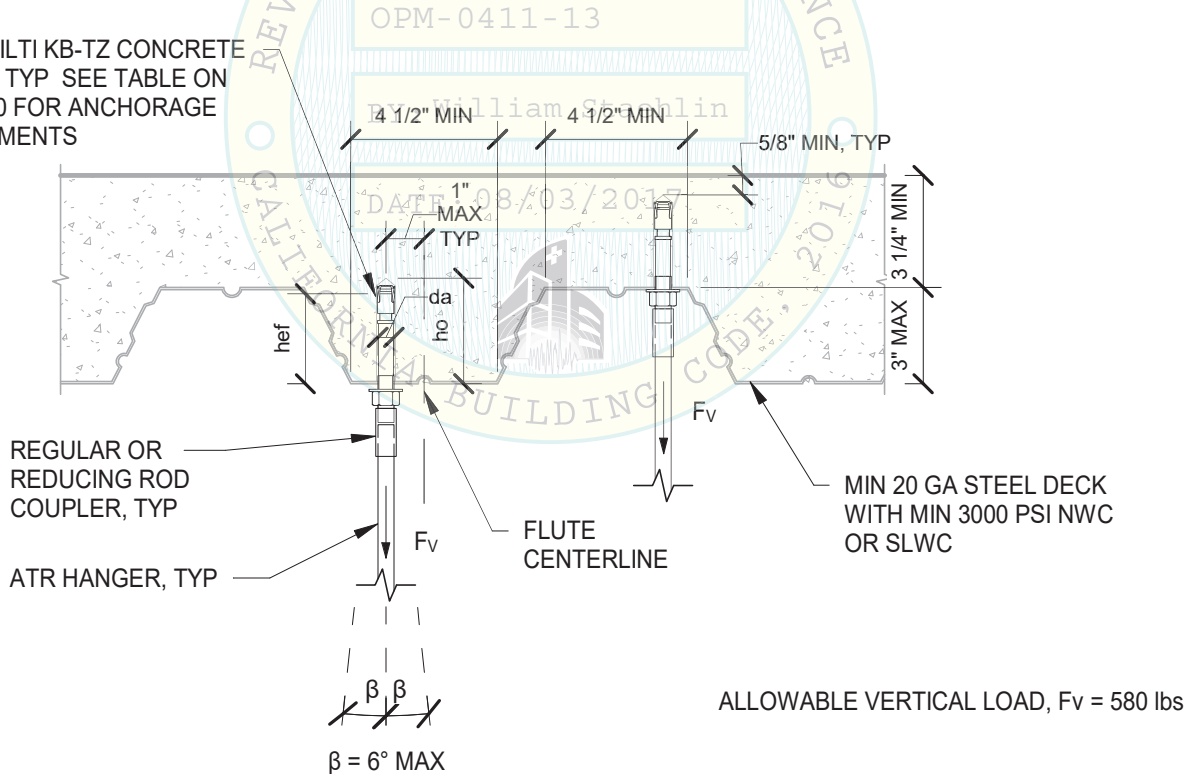
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4.0



BRACKET ANCHORAGE INTO METAL DECK

1/2" DIA HILTI KB-TZ CONCRETE ANCHOR, TYP SEE TABLE ON SHEET 7.0 FOR ANCHORAGE REQUIREMENTS



THREADED ROD ANCHORAGE INTO METAL DECK



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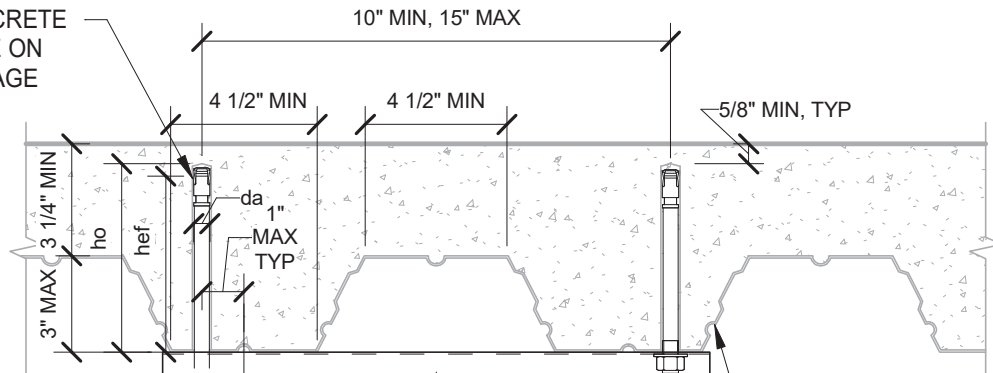
ANCHORAGE TO METAL DECK - OPTeMED, INFRALED, and INFRALED 60 LIGHT FIXTURES

Project number: OPM 0411-13 Date: 2017.04.11

Drawn by: JM Checked by: FE Scale: NTS

5.0

1/2" DIA HILTI KB-TZ CONCRETE ANCHOR, TYP SEE TABLE ON SHEET 7.0 FOR ANCHORAGE REQUIREMENTS



MIN 3/16"x1 5/8"x1 5/8" ASTM A36 STRUT WASHER AND REG NUT (SEE TABLE ON SHEET 7.0 FOR ANCHORAGE REQUIREMENTS) TYP

1 5/8"x1 5/8"x12 GA DOUBLE STRUT OR 1 5/8"x3 1/4"x12 GA SINGLE STRUT (SOLID OR PUNCHED ONLY) STRUT MAY BE ROTATED TO ANY ANGLE IN PLAN, TYP

MIN 20 GA STEEL DECK WITH MIN 3000 PSI NWC OR SLWC

MIN 3/16"x1 5/8"x1 5/8" ASTM A36 STRUT WASHER AND MW-SSN-1/2 W/ MW-BON-1/2 TORQUE UNTIL NUT BREAKS OFF

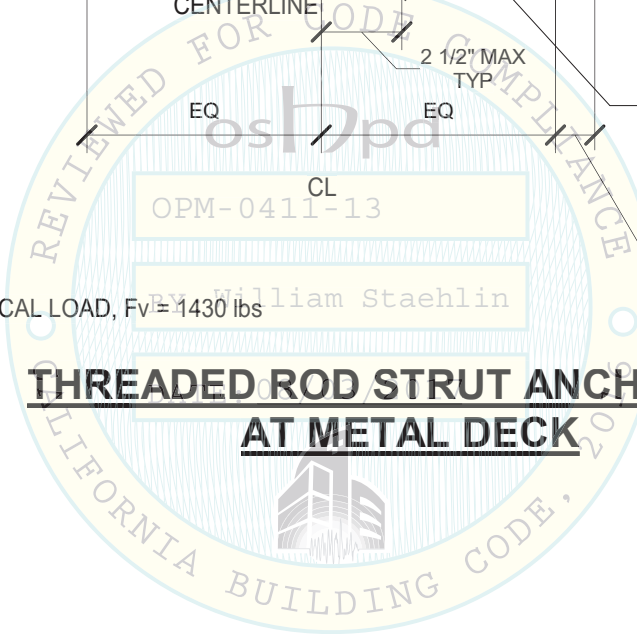
REGULAR OR REDUCING ROD COUPLER (ENGAGE MW-SSN-1/2 BY 1/2" MIN AND ATR BY DIMENSION OF ATR MIN)

1/2" DIA ATR HANGER, TYP

1" MIN FOR NUT INSIDE STRUT
5" MIN FOR NUT OUTSIDE STRUT

ALLOWABLE VERTICAL LOAD, $F_v \approx 1430$ lbs

THREADED ROD STRUT ANCHORAGE AT METAL DECK



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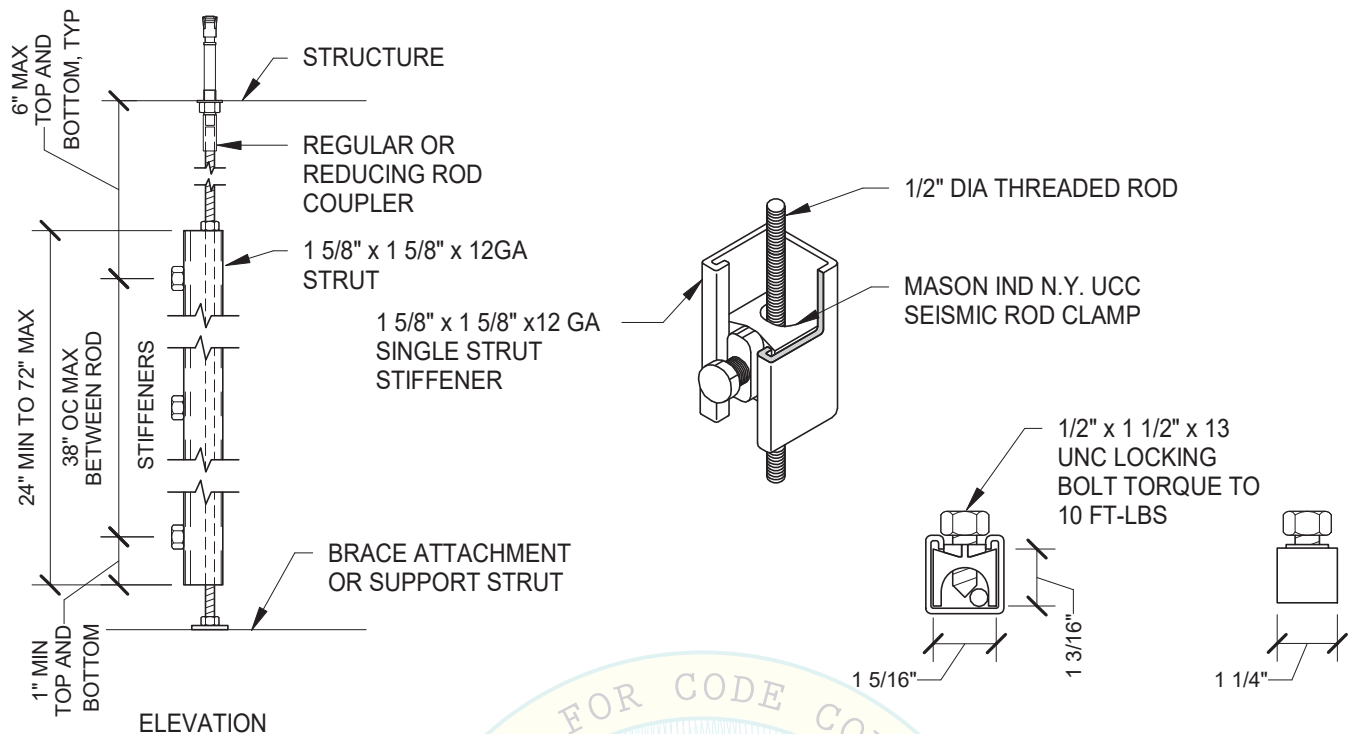
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ANCHORAGE TO METAL DECK - OPTeMED, INFRALED, and INFRALED 60 LIGHT FIXTURES

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6.0



ELEVATION

ROD STIFFENING DETAIL

TYPE UCC STEEL STRUT ASSEMBLY RATING (ASD)

ROD SIZE (INCHES)	MAX COMPRESSIVE FORCE (LBS)	MAX STRUT STIFFENER LENGTH (INCHES)	MAX UCC SPACING (INCHES)	MAX UNBRACED LENGTH (INCHES)
1/2	735	156	38	25

MASON IND UCC SEISMIC ROD CLAMPS

SUPPORT TYPE	da (in)	hef (in)	ho (in)	Smin (in)	Cmin (in)	REQUIRED TORQUE (ft-lbs)	ha (in)
CONCRETE BEAM/SLAB	0.50	2.00	2.625	6	4.500	40	4
CONCRETE FILLED METAL DECK	0.50	2.00	2.625	SEE NOTE 1	3.375	40	n/a
CONCRETE FILLED METAL DECK w/ STRUT	0.50	3.25	4.000	SEE NOTE 1	4.875	40	n/a

NOTE:
1. MINIMUM SPACING SHALL BE THE GREATER OF 3*hef OR 1.5* FLUTE WIDTH.

ANCHORAGE REQUIREMENTS

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ROD STIFFENER AND ANCHORAGE TABLE - OPTeMED, INFRALED, and INFRALED 60 LIGHT FIXTURES

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7.0