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

OFFICE USE ONLY

APPLICATION #: OPM-0669

HCAI Preapproval of Manufacturer's Certification (OPM)

Type: [X] New [ ] Renewal/Update

Manufacturer Information

Manufacturer: Konica Minolta Heathcare Americas, Inc.

Manufacturer's Technical Representative: Carson Thomas

Mailing Address: 2217 U.S. Hwy 70 E, Garner, NC 27529

Telephone: (224) 529-1873 Email: carson.thomas@konicaminolta.com

Product Information

Product Name: KDR System

Product Type: Radiography and Fluoroscopy System

Product Model Number: KDR System (SU-45XX, SU-40XX), Generators (SHF-415 to SHF-835, CMP200-DR40kW to CMP200-DR 80kW)

General Description: U Arm X-ray system and High Voltage Generators

Applicant Information

Applicant Company Name: Structural Integrity Associates / TRU Compliance

Contact Person: Grant Wu

Mailing Address: 9710 Scranton Road, Suite 300, San Diego, CA 92121

Telephone: (619) 354-5602 Email: gwu@structint.com

Title: Senior Engineer

Registered Design Professonal Preparing Engineering Recommendations

Company Name: STRUCTURAL INTEGRITY ASSOCIATES, INC.

Name: LACHEZAR HANDZHIYSKI California License Number: S6515

Mailing Address: 5215 Hellyer Avenue, Suite 210, San Jose, CA 95138

Telephone: (669) 437-0200 Email: Lhandzhiyski@StructInt.com

HCAI Special Seismic Certification Preapproval (OSP)

[X] Special Seismic Certification is preapproved under OSP OSP Number: OSP-0576-10

Certification Method

Testing in accordance with: [X] ICC-ES AC156 [ ] FM 1950-16

[ ] Other(s) (Please Specify):

*Use of criteria other than those adopted by the California Building Standards Code, 2022 (CBSC 2022) 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 2022 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: 1/22/2024

Name: William Staehlin Title: Senior Structural Engineer

Condition of Approval (if applicable):

OPM-0669

KONICA MINOLTA

KDR RADIOGRAPH SYSTEM AND HIGH VOLTAGE GENERATOR

TRU COMPLIANCE
By Structural Integrity Associates, Inc.
5215 HELLYER AVENUE,
SUITE 210
SAN JOSE, CALIFORNIA 95138
PHONE 1-877-4SI-POWER

PROJECT # :	2200260	DATE: 01/12/2024	
DRAWN :	GW	SHEET: 01 of 15	
CHECKED :	ZCW		
REVIEWED :	LH		
SCALE:	NTS	OPM-0669	

LICENSED PROFESSIONAL ENGINEER
LACHEZAR V. HANDZHIYSKI
S 6515
STRUCTURAL
STATE OF CALIFORNIA

GENERAL NOTES:

1. THIS HCAI PREAPPROVAL OF MANUFACTURER'S CERTIFICATION (OPM) IS BASED ON THE 2022 CBC. THE DEMANDS (DESIGN FORCES) FOR USE WITH THIS OPM SHALL BE BASED ON THE 2022 CBC.
2. THIS DOCUMENT MAY ONLY BE USED WITH THE EXPRESS WRITTEN CONSENT OF THE MANUFACTURER FOR THE SPECIFIC PROJECT SITE AND INSTALLATION LOCATION. THIS DOCUMENT IS INVALID WITHOUT SUCH CONSENT.
3. THIS PREAPPROVAL CONFORMS TO THE 2022 CALIFORNIA BUILDING CODE WHERE S_{DS} IS NOT GREATER THAN 2.0 (z/h≤1) AND 2.5 (z/h=0). SEE DETAIL FOR APPLICABILITY.
4. FORCES PER ASCE 7-16 SECTION 13.3.1, EQUATIONS 13.3-1, 13.3-2 & 13.3-3
   WHERE S_{DS} = 2.5, a_P = 2.5, I_P = 1.5, R_P = 2.5, z/h = 0. SEE FOLLOWING SHEETS FOR Ω_o (RADIOGRAPH SYSTEM).
   WHERE S_{DS} = 2.0, a_P = 2.5, I_P = 1.5, R_P = 2.5, z/h ≤ 1.0. SEE FOLLOWING SHEETS FOR Ω_o (RADIOGRAPH SYSTEM).
   WHERE S_{DS} = 2.5, a_P = 2.5, I_P = 1.5, R_P = 6.0, z/h = 0. SEE FOLLOWING SHEETS FOR Ω_o (VOLTAGE GENERATOR).
   WHERE S_{DS} = 2.0, a_P = 2.5, I_P = 1.5, R_P = 6.0, z/h ≤ 1.0. SEE FOLLOWING SHEETS FOR Ω_o (VOLTAGE GENERATOR).
5. THIS PREAPPROVAL COVERS ONLY THE SUPPORTS AND ATTACHMENTS OF THE EQUIPMENT TO THE STRUCTURE.
6. ALL DESIGN FORCES SHOWN ON THE DRAWINGS ARE FACTORED LOADS THAT SHALL BE USED FOR STRENGTH DESIGN.
7. CONCRETE SLAB ON METAL DECK DETAIL VALID FOR DEMANDS SHOWN AT ANY ELEVATION IN THE BUILDING (i.e. z/h≤1)
8. CONCRETE SLAB DETAIL VALID FOR DEMANDS SHOWN AT OR BELOW GRADE. (i.e. z/h=0)
9. RESPONSIBILITIES OF THE STRUCTURAL ENGINEER OF RECORD OF THE BUILDING
   A. PROVIDE SUPPORTING STRUCTURE TO SUPPORT WEIGHTS AND FORCES SHOWN IN ADDITION TO ALL OTHER LOADS.
   B. VERIFY THAT THE INSTALLATION IS IN CONFORMANCE WITH THE 2022 CBC AND WITH THE DETAILS, MATERIAL, AND GAGE OF THE UNIT WHERE ATTACHMENTS ARE MADE AGREE WITH THE INFORMATION SHOWN ON THE PREAPPROVAL DOCUMENTS.
   C. VERIFY THAT PROJECT SPECIFIC VALUES OF S_{DS} & z/h RESULTS IN SEISMIC FORCES (E_h, E_v) THAT DO NOT EXCEED THE VALUES ON THE DETAILS.
   D. VERIFY THAT THE CONCRETE SLAB TO WHICH THE EQUIPMENT IS ANCHORED MEETS THE REQUIREMENTS OF THE APPLICABLE ICC ESR REPORT AND THIS OPM.
   E. VERIFY THAT THE ANCHORS ARE AN ADEQUATE DISTANCE FROM ANY SLAB EDGES OR OPENINGS.
   F. VERIFY THAT ALL NEW OR EXISTING ANCHORS ARE AN ADEQUATE DISTANCE FROM THE UNIT ATTACHMENTS AND CHECK FOR INTERACTION WHERE OTHER ANCHORS ARE WITHIN 18" OR $6h_{ef}$ FROM THIS UNIT'S ANCHORS.
10. POST-INSTALLED ANCHORS
   A. ATTACHMENT IS TO BE MADE WITH THE ANCHORS LISTED BELOW AND INSTALLED AS DESCRIBED IN THE CORRESPONDING ICC REPORT.

Anchor Diameter	Concrete Type	Min. f'c (psi)	Anchor Type	ICC Report No.	Effective Embed. Depth (in.)	Min. Conc. Thickness (in.)	Min. Conc. Edge Dist. (in.)	Sheet
1/4"	Sand Light Weight	3000	KWIK HUS-EZ	3027	1.92	3.25	6	14
1/4"	Normal Weight	3000	Hilti Kwik Bolt TZ2 (Carbon Steel)	ESR-4266	1.5	4	2.5	12
1/2"	Sand Light Weight	3000	Hilti Kwik Bolt TZ2 (Carbon Steel)	ESR-4266	2.0	3.25	7.5	10
1/2"	Sand Light Weight	3000	ASTM F1554 GR. 105 Threaded Rod	N/A	Thru-Bolt	3.25	N/A	06
1/2"	Normal Weight	3000	Hilti Kwik Bolt TZ2 (Carbon Steel)	ESR-4266	2.0	4	4	04
1/2"	Normal Weight	3000	Hilti Kwik Bolt TZ2 (Carbon Steel)	ESR-4266	2.0	4	2.75	08

   B. INSTALL POST-INSTALLED ANCHORS IN STRICT ACCORDANCE WITH MANUFACTURER'S INSTRUCTIONS WITH PERIODIC SPECIAL INSPECTION AS REQUIRED BY CBC 2022 TABLE 1705A.3. REINFORCING STEEL DOWELS, THREADED RODS, AND ANCHORS SHALL BE FREE OF DUST, GREASE, RUST AND OTHER MATERIALS THAT WILL IMPAIR BOND WITH CONCRETE.
   C. USE ONLY NON-REBAR CUTTING DRILL BITS MEETING THE REQUIREMENTS OF ANSI B212.15-1994 (R2000) TO DRILL HOLES IN CONCRETE AND CONCRETE MASONRY UNITS. EXISTING REINFORCING STEEL AND PRESTRESSING TENDONS SHALL BE POSITIVELY LOCATED BY NON-DESTRUCTIVE MEANS PRIOR TO DRILLING HOLES. DO NOT CUT OR DAMAGE EXISTING REINFORCING STEEL AND PRESTRESSING TENDONS UNLESS APPROVED BY THE ENGINEER OF RECORD.
   D. WHERE EXISTING CONCRETE IS DAMAGED AND/OR DRILLED HOLES ABANDONED, THE DAMAGED CONCRETE OR ABANDONED HOLES SHALL BE REPAIRED OR FILLED WITH NO-SHRINK GROUT. BRING EACH CONDITION TO THE ATTENTION OF THE STRUCTURAL ENGINEER OF RECORD PRIOR TO IMPLEMENTING REPAIRS.
   E. BRING TO THE ATTENTION OF THE STRUCTURAL ENGINEER OF RECORD ANY POST-INSTALLED ANCHOR LOCATION THAT CANNOT COMPLY WITH THE PARAMETERS STATED HEREIN AND INDICATED IN THIS OPM.
   F. DO NOT DRILL HOLES WITHIN 4 INCHES OF EXISTING ELECTRICAL OUTLETS THAT ARE EMBEDDED IN SUBSTRATE.
   G. ADHESIVE ANCHORS MUST BE INSTALLED IN CONCRETE AGED A MINIMUM OF 21 DAYS (ACI 318-19 17.1.2).
   H. PROVIDE FOR FULL THREAD ENGAGEMENT OF NUT & WASHER.
   I. WHERE NEOPRENE WASHERS ARE REQUIRED IN FINAL INSTALLATION THE ANCHORS SHALL FIRST BE INSTALLED AND TESTED USING METAL WASHERS AND THE NEOPRENE WASHERS SHALL BE INSTALLED AFTER TESTING.

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GENERAL NOTES

PROJECT # : 2200260 DATE: 01/12/2024
DRAWN : GW SHEET: 02 of 15
CHECKED : ZCW
REVIEWED : LH
SCALE: NTS

OPM-0669

LICENSED PROFESSIONAL ENGINEER LACHEZAR V. HANDZHIYSKI S 6515 STRUCTURAL STATE OF CALIFORNIA

11. BOLTS THROUGH CONCRETE ON METAL DECK
    A. INSTALL THROUGH-BOLT ANCHORS WITH PERIODIC SPECIAL INSPECTION AS REQUIRED BY CBC 2022 TABLE 1705A.3.
    B. USE ONLY NON-REBAR CUTTING DRILL BITS MEETING THE REQUIREMENTS OF ANSI B212.15-1994 (R2000) TO DRILL HOLES IN CONCRETE AND CONCRETE MASONRY UNITS. EXISTING REINFORCING STEEL AND PRESTRESSING TENDONS SHALL BE POSITIVELY LOCATED BY NON-DESTRUCTIVE MEANS PRIOR TO DRILLING HOLES. DO NOT CUT OR DAMAGE EXISTING REINFORCING STEEL AND PRESTRESSING TENDONS UNLESS APPROVED BY THE ENGINEER OF RECORD.
    C. WHERE EXISTING CONCRETE IS DAMAGED AND/OR DRILLED HOLES ABANDONED, THE DAMAGED CONCRETE OR ABANDONED HOLES SHALL BE REPAIRED OR FILLED WITH NO-SHRINK GROUT. BRING EACH CONDITION TO THE ATTENTION OF THE STRUCTURAL ENGINEER OF RECORD PRIOR TO IMPLEMENTING REPAIRS.
    D. BRING TO THE ATTENTION OF THE STRUCTURAL ENGINEER OF RECORD ANY THROUGH-BOLT ANCHOR LOCATION THAT CANNOT COMPLY WITH THE PARAMETERS STATED HEREIN AND INDICATED IN THIS OPM.
    E. DO NOT DRILL HOLE WITHIN 4 INCHES OF EXISTING ELECTRICAL OUTLETS THAT ARE EMBEDDED IN SUBSTRATE.
    F. PROVIDE FOR FULL THREAD ENGAGEMENT OF NUT & WASHER.
    G. THROUGH-BOLTS BOLTS SHALL BE TORQUED BY 3/4 TURN OF THE NUTS AFTER THE SNUG-TIGHT CONDITION IS ACHIEVED, UNLESS NOTED OTHERWISE. (THE SNUG-TIGHT CONDITION IS DEFINED AS THE TIGHTNESS REQUIRED TO BRING THE CONNECTED PLIES INTO FIRM CONTACT)
    H. THROUGH-BOLT HOLES SHALL BE 1/16" LARGER THAN BOLT SIZE (HOLE SIZE = BOLT SIZE + 1/16) FOR CONCRETE.
    I. 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. TESTING REQUIREMENTS
    A. TEST 50% OF INSTALLED ANCHORS. IF ANY ANCHOR FAILS TESTING, ALL ANCHORS OF THE SAME TYPE WHICH ARE INSTALLED BY THE SAME TRADE AND NOT PREVIOUSLY TESTED SHALL BE TESTED UNTIL TWENTY (20) CONSECUTIVE ANCHORS PASS, THEN RESUME THE INITIAL TEST FREQUENCY.
    B. TEST LOADS SHALL BE THE MANUFACTURER'S RECOMMENDED PROOF LOADS AND INSTALLATION TORQUES AS APPROVED IN ICC-ES REPORTS AND PROVIDED ON THE FOLLOWING SHEETS.
    C. ANCHORS SHALL BE TESTED BY THE TORQUE WRENCH METHOD USING A CALIBRATED TORQUE WRENCH WITHIN 1/2 TURN OF NUT.
    D. ALL TESTS SHALL BE PERFORMED IN THE PRESENCE OF THE SPECIAL INSPECTOR/INSPECTOR OF RECORD.
13. STEEL TO STEEL BOLTED CONNECTIONS
    A. STEEL TO STEEL BOLTS SHALL BE TORQUED BY 1/2 TURN OF THE NUTS AFTER THE SNUG-TIGHT CONDITION IS ACHIEVED, UNLESS NOTED OTHERWISE. (THE SNUG-TIGHT CONDITION IS DEFINED AS THE TIGHTNESS REQUIRED TO BRING THE CONNECTED PLIES INTO FIRM CONTACT)

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GENERAL NOTES

PROJECT # :	2200260	DATE: 01/12/2024	
DRAWN :	GW	SHEET: 03 of 15	
CHECKED :	ZCW		
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SCALE:	NTS	OPM-0669	

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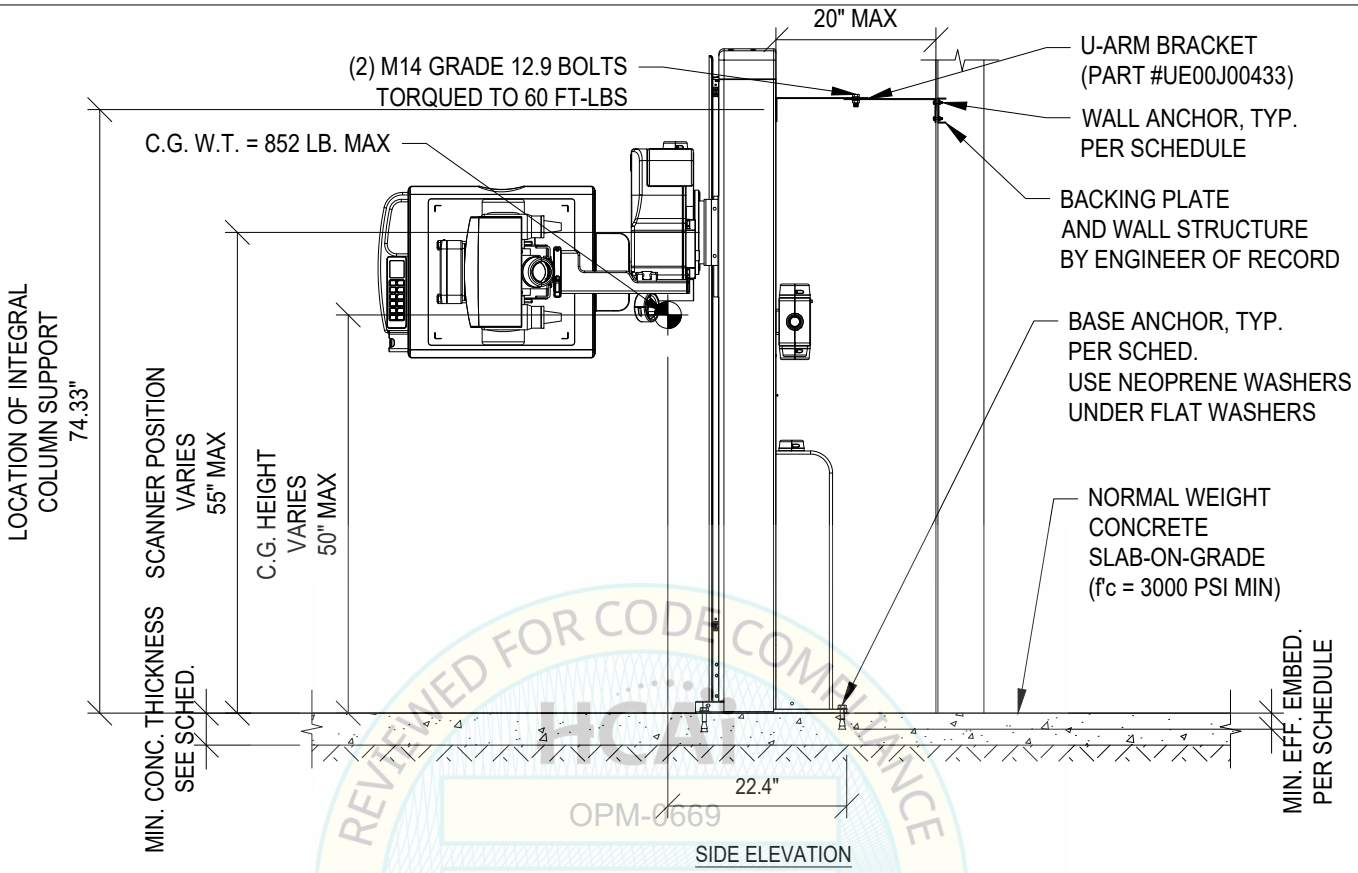

SIDE ELEVATION

MAX S_{DS} (G)	LOCATION	ANCHOR TYPE	DIA. (IN.)	EFFECTIVE EMBED. DEPTH (IN.)	ESR NO.	NO. OF ANCHORS	MIN. CONC. THICKNESS (IN.)	MIN. CONC. EDGE DIST. (IN.)	T_U (LBF)	V_U (LBF)	M_u (LBF-IN)	PROOF LOAD (LBF)	INSTALLATION /TEST TORQUE (LBF-FT.)
2.5	BASE	KWIK BOLT TZ2 - CS	1/2	2	4266	4	4	4	32*	767*	N/A	1983	50
2.5	WALL	A325 BOLT W/ NUT AND WASHER	1/4	N/A	N/A	4	N/A	N/A	219	219	17507	N/A	N/A

* VALUES INCLUDE Ω_o

NOTES:

1. FORCES ARE DETERMINED PER 2022 CALIFORNIA BUILDING CODE AND ASCE 7-16 CHAPTER 13. STRENGTH DESIGN IS USED. (a_p = 2.5, I_p = 1.5, R_p = 2.5, Ω_o = 2.0, z/h = 0)
2. CENTER OF GRAVITY (C.G.) AND WEIGHT ARE THE GOVERNING PARAMETERS FOR DESIGN. THIS PREAPPROVAL ENCOMPASSES ALL WEIGHTS UP TO THE MAXIMUM WEIGHT SHOWN.
3. LOADS LISTED ARE THE MAXIMUM FOR AN INDIVIDUAL ANCHOR.
4. STRUCTURAL ENGINEER OF RECORD FOR THE BUILDING TO PROVIDE STRUCTURE DESIGNED TO SUPPORT WEIGHTS AND FORCES SHOWN IN COMBINATION WITH ALL OTHER LOADS THAT MAY BE PRESENT.
5. KDR RADIOGRAPH HAS OBTAINED SPECIAL SEISMIC CERTIFICATION. REFER TO OSP-0576 (UUT-1). OPM MUST BE USED IN CONJUNCTION WITH OSP-0576.
6. SEE GENERAL NOTES: SHEET 2 AND 3.

TRU COMPLIANCE
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KDR Radiograph System SU-45XX
(Slab-on-Grade)

PROJECT # : 2200260 DATE: 01/12/2024

DRAWN : GW
CHECKED : ZCW
REVIEWED : LH
SCALE: NTS

SHEET: 04 of 15

OPM-0669

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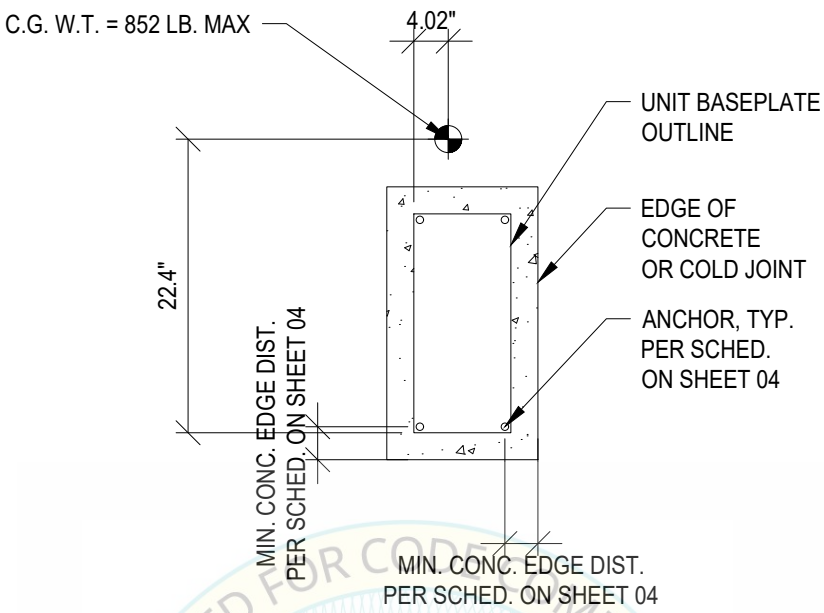
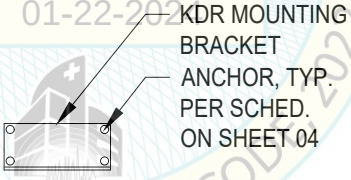


BASE ANCHORAGE LAYOUT



WALL ANCHORAGE LAYOUT

TRU COMPLIANCE
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KDR Radiograph System SU-45XX
(Slab-on-Grade)

PROJECT # : 2200260 DATE: 01/12/2024

DRAWN : GW
CHECKED : ZCW
REVIEWED : LH
SCALE: NTS

SHEET: 05 of 15

OPM-0669

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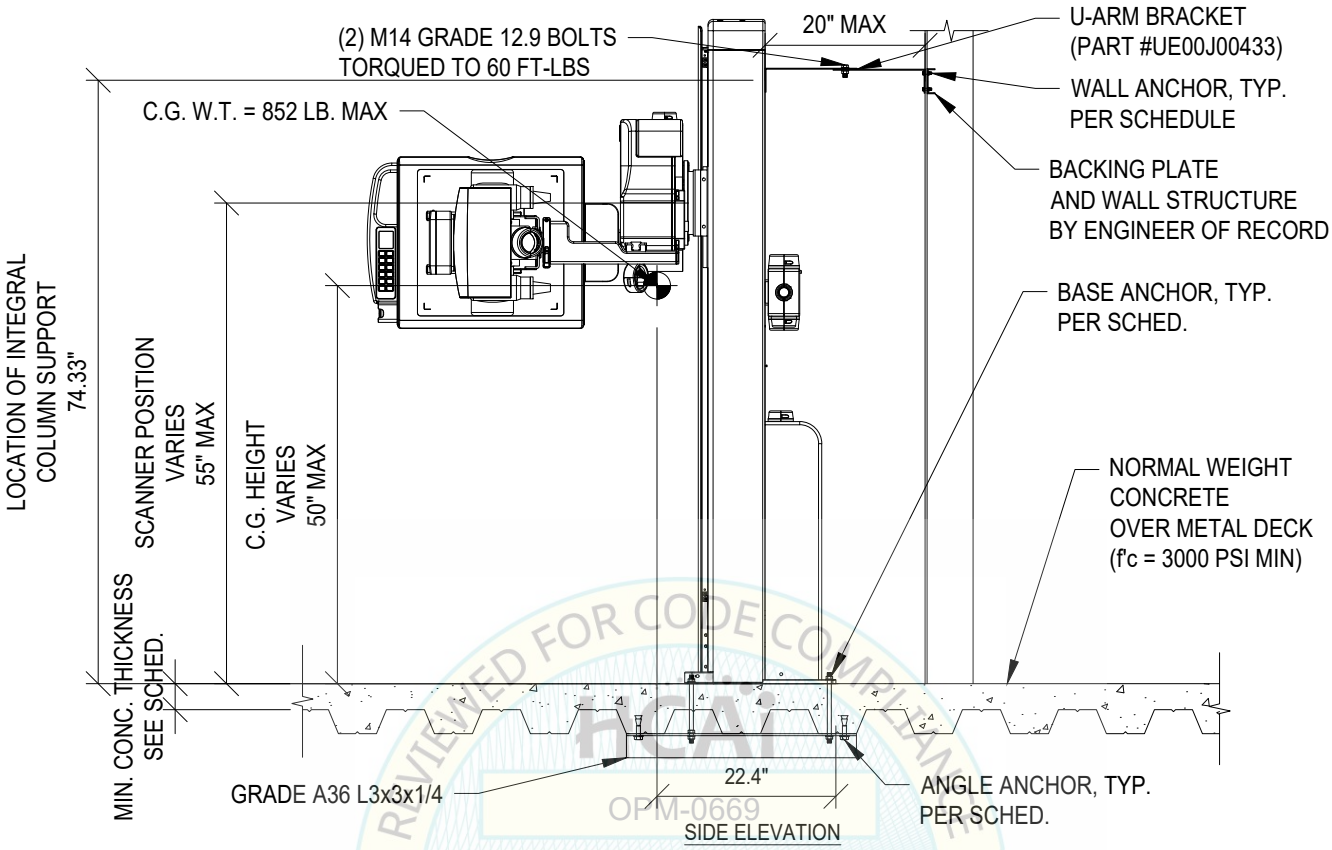

MAX S_{DS} (G)	LOCATION	ANCHOR TYPE	ANCHOR DIA. (IN.)	ANCHOR EFFECTIVE EMBED. DEPTH (IN.)	ANCHOR ESR NO.	NO. OF ANCHORS	MIN. CONC. THICKNESS (IN.)	T_U (LBF)	V_U (LBF)	M_u (LBF-IN)	INSTALLATION/ TEST TORQUE (LBF-FT)
2.0	BASE	ASTM F1554 GR. 105 THREADED ROD	1/2	THRU-BOLT	N/A	4	3.25	3259	2133*	N/A	N/A
2.0	WALL	A325 BOLT W/ NUT AND WASHER	1/4	N/A	N/A	4	N/A	417	383	20478	N/A
2.0	ANGLE	KWIK BOLT TZ2 - CS	1/2	3.25	4266	4	3.25	0	2133*	N/A	50

* VALUES INCLUDE Ω_o

NOTES:

1. FORCES ARE DETERMINED PER 2022 CALIFORNIA BUILDING CODE AND ASCE 7-16 CHAPTER 13. STRENGTH DESIGN IS USED. (a_p = 2.5, I_p = 1.5, R_p = 2.5, Ω_o = 2.0, z/h ≤ 1.0)
2. CENTER OF GRAVITY (C.G.) AND WEIGHT ARE THE GOVERNING PARAMETERS FOR DESIGN. THIS PREAPPROVAL ENCOMPASSES ALL WEIGHTS UP TO THE MAXIMUM WEIGHT SHOWN.
3. LOADS LISTED ARE THE MAXIMUM FOR AN INDIVIDUAL ANCHOR.
4. STRUCTURAL ENGINEER OF RECORD FOR THE BUILDING TO PROVIDE STRUCTURE DESIGNED TO SUPPORT WEIGHTS AND FORCES SHOWN IN COMBINATION WITH ALL OTHER LOADS THAT MAY BE PRESENT.
5. KDR RADIOGRAPH HAS OBTAINED SPECIAL SEISMIC CERTIFICATION. REFER TO OSP-0576 (UUT-1). OPM MUST BE USED IN CONJUNCTION WITH OSP-0576.

TRU COMPLIANCE
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KDR Radiograph System SU-45XX
(Concrete over Metal Deck)

PROJECT # : 2200260 DATE: 01/12/2024

DRAWN : GW
CHECKED : ZCW
REVIEWED : LH
SCALE: NTS

SHEET: 06 of 15

OPM-0669

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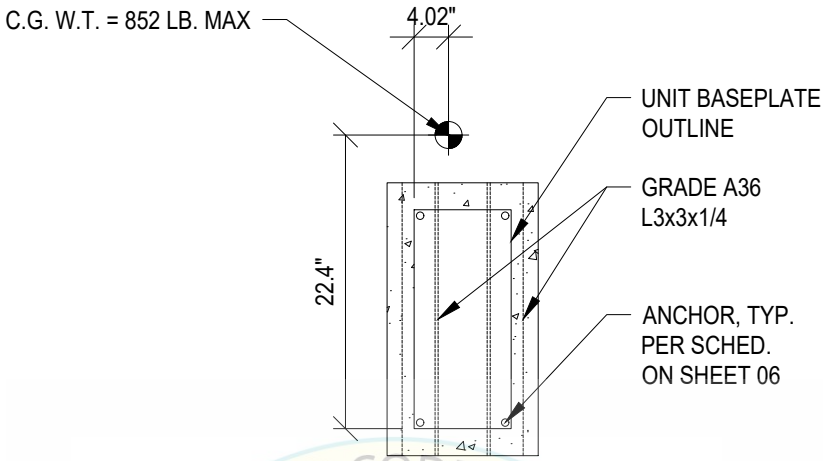
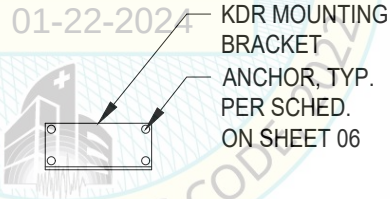


BASE ANCHORAGE LAYOUT



WALL ANCHORAGE LAYOUT

TRU COMPLIANCE
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KDR Radiograph System SU-45XX
(Concrete over Metal Deck)

PROJECT # :	2200260	DATE: 01/12/2024	
DRAWN :	GW	SHEET: 07 of 15	
CHECKED :	ZCW		
REVIEWED :	LH		
SCALE:	NTS	OPM-0669	

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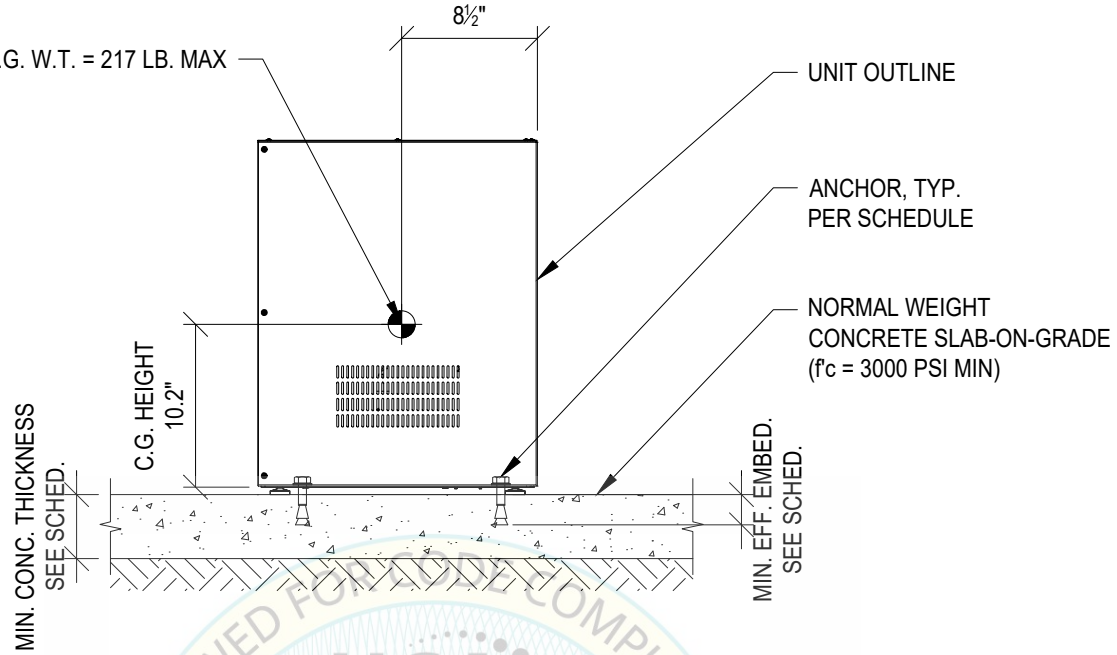

FRONT VIEW

MAX S_{DS} (G)	ANCHOR TYPE	DIA. (IN.)	EFFECTIVE EMBED. DEPTH (IN.)	ESR NO.	NO. OF ANCHORS	MIN. CONC. THICKNESS (IN.)	MIN. CONC. EDGE DIST. (IN.)	T_U (LBF)	V_U (LBF)	PROOF LOAD (LBF)	INSTALLATION /TEST TORQUE (LBF-FT.)
2.5	KWIK BOLT TZ2 - CS	1/2	2	4266	4	4	2.75	295*	178*	1740	50

* VALUES INCLUDE Ω_o

NOTES:

1. FORCES ARE DETERMINED PER 2022 CALIFORNIA BUILDING CODE AND ASCE 7-16 CHAPTER 13. STRENGTH DESIGN IS USED. (a_p = 2.5, I_p = 1.5, R_p = 6.0, Ω_o = 2.0, z/h = 0)
2. CENTER OF GRAVITY (C.G.) AND WEIGHT ARE THE GOVERNING PARAMETERS FOR DESIGN. THIS PREAPPROVAL ENCOMPASSES ALL WEIGHTS UP TO THE MAXIMUM WEIGHT SHOWN.
3. STRUCTURAL ENGINEER OF RECORD FOR THE BUILDING TO PROVIDE STRUCTURE DESIGNED TO SUPPORT WEIGHTS AND FORCES SHOWN IN COMBINATION WITH ALL OTHER LOADS THAT MAY BE PRESENT.
4. KDR SHF-835 HAS OBTAINED SPECIAL SEISMIC CERTIFICATION. REFER TO OSP-0576 (UUT-4).
5. SEE GENERAL NOTES: SHEET 2 AND 3.

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High Voltage Generator SHF-835
(Slab-on-Grade)

PROJECT # : 2200260 DATE: 01/12/2024

DRAWN : GW
CHECKED : ZCW
REVIEWED : LH
SCALE: NTS

SHEET: 08 of 15

OPM-0669

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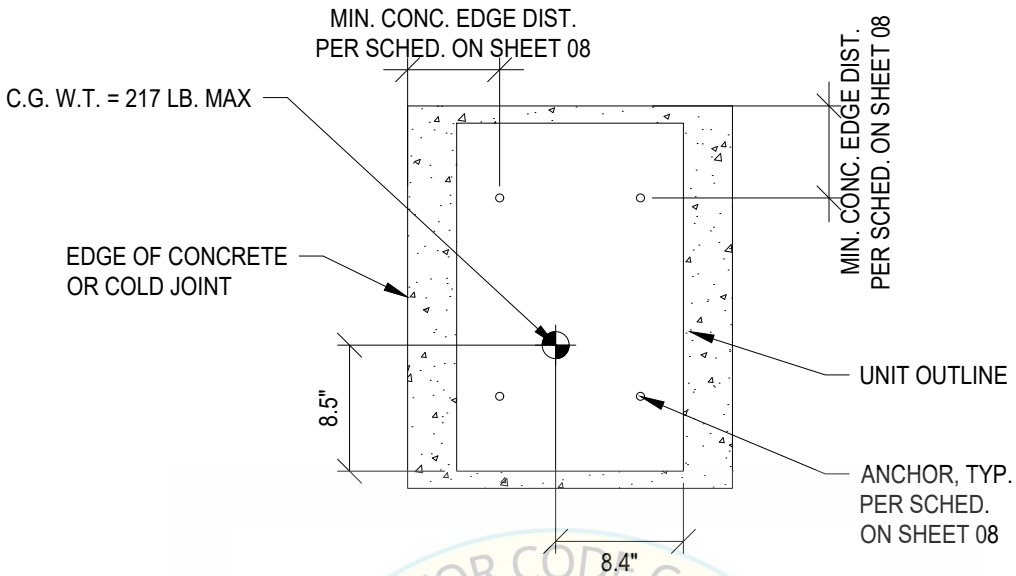
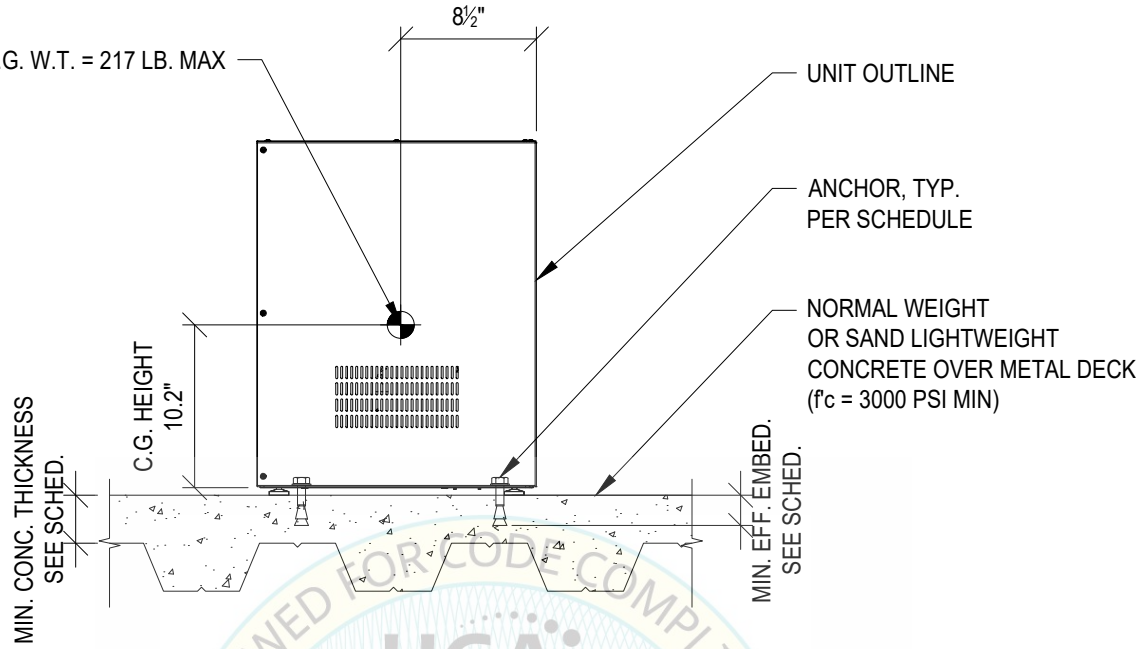


ANCHOR LAYOUT



FRONT VIEW

MAX S_{DS} (G)	ANCHOR TYPE	DIA. (IN.)	EFFECTIVE EMBED. DEPTH (IN.)	ESR NO.	NO. OF ANCHORS	MIN. CONC. THICKNESS (IN.)	MIN. CONC. EDGE DIST. (IN.)	T_U (LBF)	V_U (LBF)	PROOF LOAD (LBF)	INSTALLATION /TEST TORQUE (LBF-FT.)
2.0	KWIK BOLT TZ2 - CS	1/2	2	4266	4	3.25	7.5	397*	240*	1190	50

* VALUES INCLUDE Ω_o

NOTES:

1. FORCES ARE DETERMINED PER 2022 CALIFORNIA BUILDING CODE AND ASCE 7-16 CHAPTER 13. STRENGTH DESIGN IS USED. (a_p = 2.5, I_p = 1.5, R_p = 6.0, Ω_o = 2.0, z/h = 1.0)
2. CENTER OF GRAVITY (C.G.) AND WEIGHT ARE THE GOVERNING PARAMETERS FOR DESIGN. THIS PREAPPROVAL ENCOMPASSES ALL WEIGHTS UP TO THE MAXIMUM WEIGHT SHOWN.
3. STRUCTURAL ENGINEER OF RECORD FOR THE BUILDING TO PROVIDE STRUCTURE DESIGNED TO SUPPORT WEIGHTS AND FORCES SHOWN IN COMBINATION WITH ALL OTHER LOADS THAT MAY BE PRESENT.
4. KDR SHF-835 HAS OBTAINED SPECIAL SEISMIC CERTIFICATION. REFER TO OSP-0576 (UUT-4).
5. SEE GENERAL NOTES: SHEET 2 AND 3.

TRU COMPLIANCE
By Structural Integrity Associates, Inc.
5215 HELLYER AVENUE,
SUITE 210
SAN JOSE, CALIFORNIA 95138
PHONE 1-877-4SI-POWER

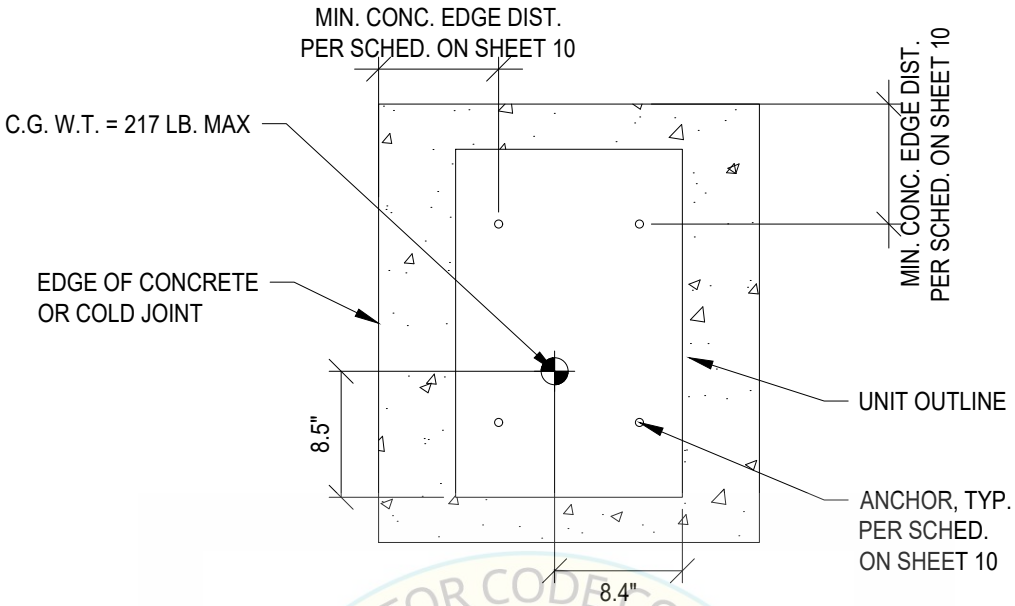
High Voltage Generator SHF-835
(Concrete over Metal Deck)

PROJECT # : 2200260 DATE: 01/12/2024

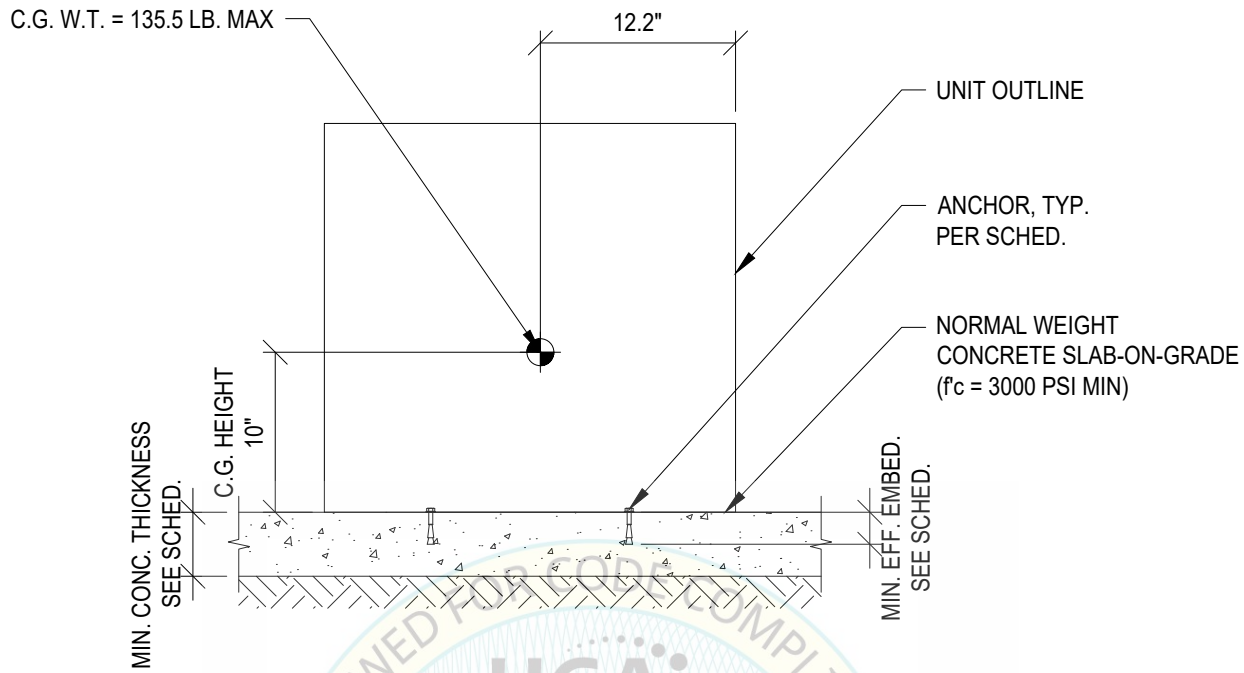
DRAWN : GW
CHECKED : ZCW
REVIEWED : LH
SCALE: NTS

SHEET: 10 of 15

OPM-0669



ANCHOR LAYOUT



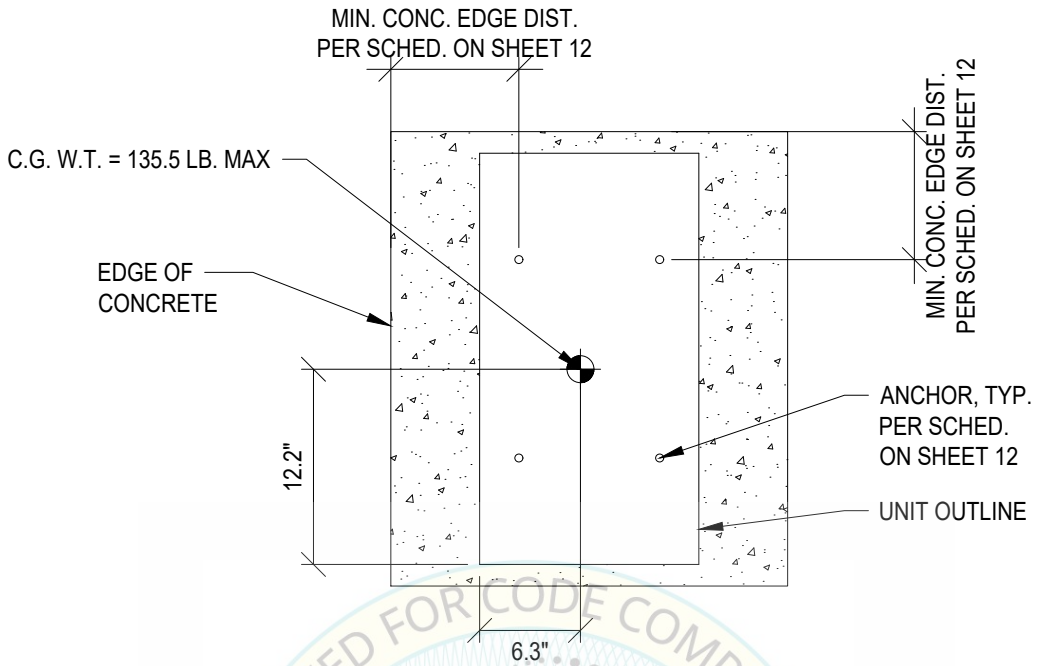
FRONT VIEW

MAX S_{DS} (G)	ANCHOR TYPE	DIA. (IN.)	EFFECTIVE EMBED. DEPTH (IN.)	ESR NO.	NO. OF ANCHORS	MIN. CONC. THICKNESS (IN.)	MIN. CONC. EDGE DIST. (IN.)	T_U (LBF)	V_U (LBF)	PROOF LOAD (LBF)	INSTALLATION /TEST TORQUE (LBF-FT.)
2.5	KWIK BOLT TZ2 - CS	1/4	1.5	4266	4	4	2.5	188*	85*	284	4

* VALUES INCLUDE Ω_o

NOTES:

1. FORCES ARE DETERMINED PER 2022 CALIFORNIA BUILDING CODE AND ASCE 7-16 CHAPTER 13. STRENGTH DESIGN IS USED. (a_p = 2.5, I_p = 1.5, R_p = 6.0, Ω_o = 2.0, z/h = 0)
2. CENTER OF GRAVITY (C.G.) AND WEIGHT ARE THE GOVERNING PARAMETERS FOR DESIGN. THIS PREAPPROVAL ENCOMPASSES ALL WEIGHTS UP TO THE MAXIMUM WEIGHT SHOWN.
3. STRUCTURAL ENGINEER OF RECORD FOR THE BUILDING TO PROVIDE STRUCTURE DESIGNED TO SUPPORT WEIGHTS AND FORCES SHOWN IN COMBINATION WITH ALL OTHER LOADS THAT MAY BE PRESENT.
4. KDR CMP200 HAS OBTAINED SPECIAL SEISMIC CERTIFICATION. REFER TO OSP-0576 (UUT-6).
5. SEE GENERAL NOTES: SHEET 2 AND 3.



ANCHOR LAYOUT

TRU COMPLIANCE
By Structural Integrity Associates, Inc.
5215 HELLYER AVENUE,
SUITE 210
SAN JOSE, CALIFORNIA 95138
PHONE 1-877-4SI-POWER

High Voltage Generator CMP200-DR 80kW
(Slab-on-Grade)

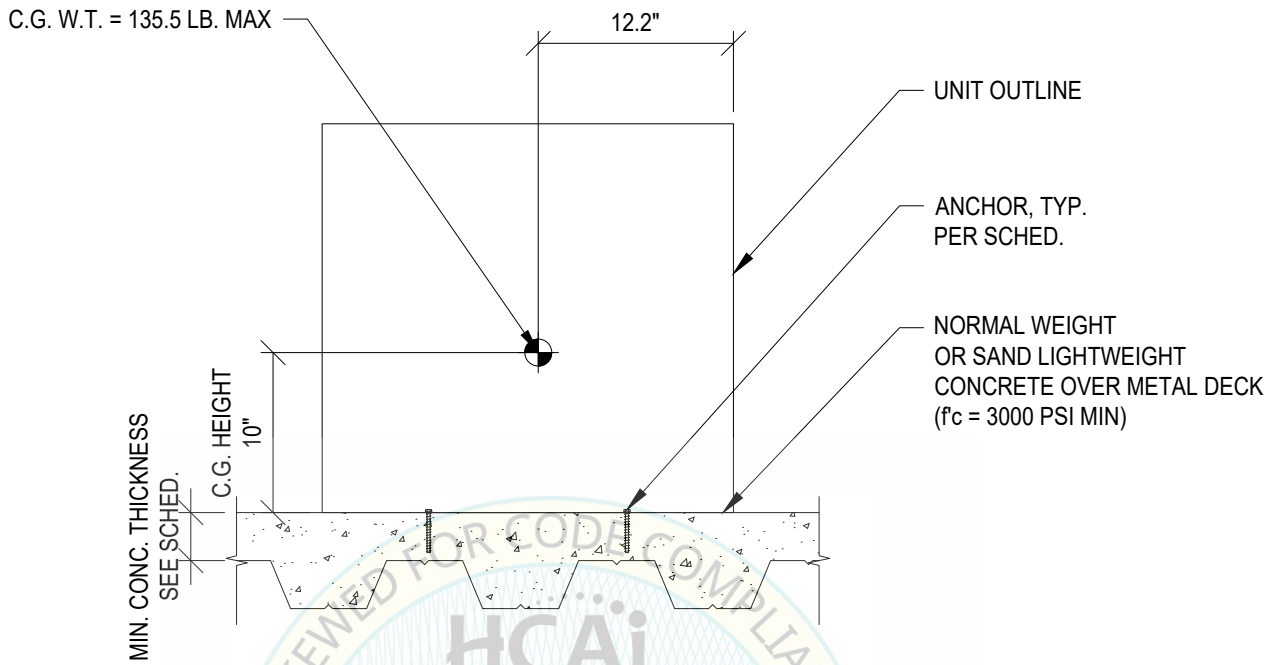
PROJECT # : 2200260 DATE: 01/12/2024

DRAWN : GW
CHECKED : ZCW
REVIEWED : LH
SCALE: NTS

SHEET: 13 of 15

OPM-0669

LICENSED PROFESSIONAL ENGINEER
LACHEZAR V. HANDZHIYSKI
S 6515
STRUCTURAL
STATE OF CALIFORNIA



FRONT VIEW

MAX S_{DS} (G)	ANCHOR TYPE	DIA. (IN.)	EFFECTIVE EMBED. DEPTH (IN.)	ESR NO.	NO. OF ANCHORS	MIN. CONC. THICKNESS (IN.)	MIN. CONC. EDGE DIST. (IN.)	T_U (LBF)	V_U (LBF)	PROOF LOAD (LBF)	MAX. INSTALLATION TORQUE (LBF-FT)
2.0	KWIK HUS-EZ	1/4	1.92	3027	4	3.25	6	251*	113*	468	18

* VALUES INCLUDE Ω_o

NOTES:

1. FORCES ARE DETERMINED PER 2022 CALIFORNIA BUILDING CODE AND ASCE 7-16 CHAPTER 13. STRENGTH DESIGN IS USED. (a_p = 2.5, I_p = 1.5, R_p = 6.0, Ω_o = 2.0, z/h = 1.0)
2. CENTER OF GRAVITY (C.G.) AND WEIGHT ARE THE GOVERNING PARAMETERS FOR DESIGN. THIS PREAPPROVAL ENCOMPASSES ALL WEIGHTS UP TO THE MAXIMUM WEIGHT SHOWN.
3. STRUCTURAL ENGINEER OF RECORD FOR THE BUILDING TO PROVIDE STRUCTURE DESIGNED TO SUPPORT WEIGHTS AND FORCES SHOWN IN COMBINATION WITH ALL OTHER LOADS THAT MAY BE PRESENT.
4. KDR CMP200 HAS OBTAINED SPECIAL SEISMIC CERTIFICATION. REFER TO OSP-0576 (UUT-6).
5. SEE GENERAL NOTES: SHEET 2 AND 3.

TRU COMPLIANCE
By Structural Integrity Associates, Inc.
5215 HELLYER AVENUE,
SUITE 210
SAN JOSE, CALIFORNIA 95138
PHONE 1-877-4SI-POWER

High Voltage Generator CMP200-DR 80kW
(Concrete over Metal Deck)

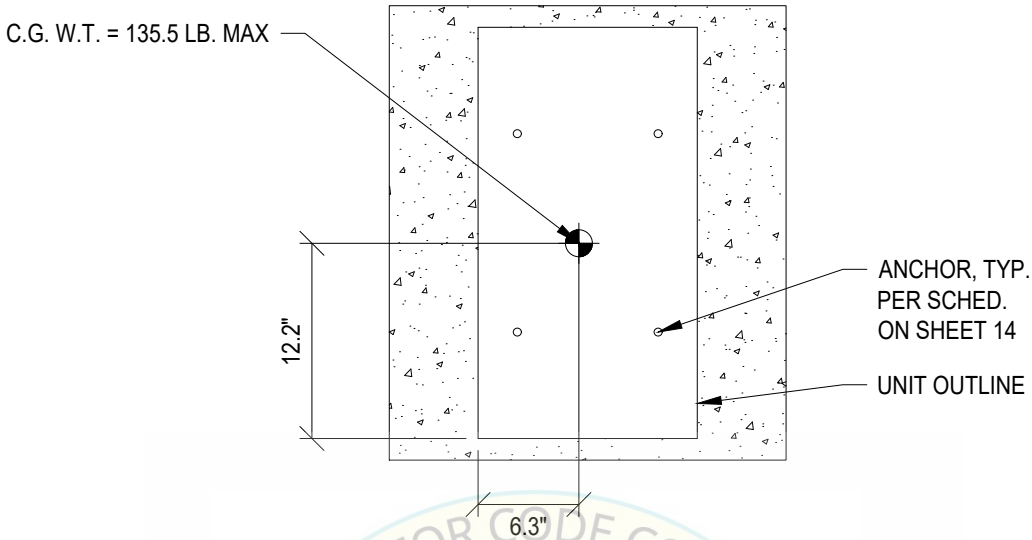
PROJECT # : 2200260 DATE: 01/12/2024

DRAWN : GW
CHECKED : ZCW
REVIEWED : LH
SCALE: NTS

SHEET: 14 of 15

OPM-0669

LICENSED PROFESSIONAL ENGINEER
LACHEZAR V. HANDZHIYSKI
S 6515
STRUCTURAL
STATE OF CALIFORNIA



ANCHOR LAYOUT

TRU COMPLIANCE
By Structural Integrity Associates, Inc.
5215 HELLYER AVENUE,
SUITE 210
SAN JOSE, CALIFORNIA 95138
PHONE 1-877-4SI-POWER

High Voltage Generator CMP200-DR 80kV
(Concrete over Metal Deck)

PROJECT # :	2200260	DATE: 01/12/2024	
DRAWN :	GW	SHEET: 15 of 15	
CHECKED :	ZCW		
REVIEWED :	LH		
SCALE:	NTS	OPM-0669	