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

OFFICE USE ONLY

**APPLICATION #: OPM-0658**

## HCAI Preapproval of Manufacturer's Certification (OPM)

**Type:** [X] New [ ] Renewal/Update

## Manufacturer Information

Manufacturer: nSight Surgical

Manufacturer's Technical Representative: Nathaniel Smith

Mailing Address: 751 Clayton Street, San Francisco, CA 94117

Telephone: () - Email: nsmith@nsightsurgical.ai

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DATE: 06/05/2022
CALIFORNIA BUILDING CODE, 2019

## Product Information

Product Name: nSight Surgical Truss

Product Type: Camera Truss and Cabling Apparatus

Product Model Number: 01-110-00

General Description: Camera wall mount system

## Applicant Information

Applicant Company Name: Rutherford + Chekene

Contact Person: Angela Weng

Mailing Address: 375 Beale St Suite 310, San Francisco, CA 94105

Telephone: (415) 568-4441 Email: aweng@ruthchek.com

Title: Associate Principal

## Registered Design Professonal Preparing Engineering Recommendations

Company Name: RUTHERFORD + CHEKENE

Name: Angela Weng California License Number: S6212

Mailing Address: 375 Beale Street, Suite 310, San Francisco, CA 94105

Telephone: (415) 568-4441 Email: aweng@ruthchek.com

## HCAI Special Seismic Certification Preapproval (OSP)

☐ Special Seismic Certification is preapproved under OSP OSP Number:

## Certification Method

Testing in accordance with: ☐ ICC-ES AC156 ☐ FM 1950-16

☐ Other(s) (Please Specify):

*Use of criteria other than those adopted by the California Building Standards Code, 2019 (CBSC 2019) 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 2019 may be used when approved by HCAI prior to testing.

☒ Analysis

☐ Experience Data

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

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## HCAI Approval

Date: 6/5/2022

Name: William Staehlin Title: Senior Structural Engineer

Condition of Approval (if applicable):

CALIFORNIA DEPARTMENT OF HEALTH CARE ACCESS AND INFORMATION
HCAI PREAPPROVAL OF MANUFACTURER'S CERTIFICATION

OPM-0658

THIS PRE-APPROVAL CONFORMS TO THE 2019 CALIFORNIA BUILDING CODE

EQUIPMENT MANUFACTURER: nSight
EQUIPMENT TYPE: CAMERA TRUSS SYSTEM

GENERAL NOTES

1. THIS HCAI PREAPPROVAL OF MANUFACTURER'S CERTIFICATION (OPM) IS BASED ON THE CBC 2019. THE DEMAND (DESIGN FORCES) FOR USE WITH THIS OPM MUST BE BASED ON THE CBC 2019.
2. THIS PREAPPROVAL COVERS ONLY THE SUPPORTS AND ATTACHMENTS OF THE EQUIPMENT TO THE STRUCTURE.
3. FORCES PER ASCE 7-16 SECTION 13.3.1, EQUATIONS 13.3-1, 13.3-2, AND 13.3-3, WHERE
   $S_{DS}$ = 2.5
   $a_P$ = 1.0
   $I_P$= 1.5
   $R_P$ = 1.5
   $\Omega_O$= 2.0
   z/h = 1.0 MAXIMUM
4. ALL ANCHOR FORCES SHOWN ON THE DRAWINGS ARE FACTORED LOADS THAT SHALL BE USED FOR STRENGTH DESIGN.
5. SHEET METAL SCREWS SHALL BE HILTI SELF-DRILLING AND SELF-PIERCING SCREWS PER ICC-ES ESR-2196.
6. POWER ACTUTATED FASTENERS SHALL BE HILTI X-U PAFS PER ICC-ES ESR-2269.

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SCREW ANCHORS

1. SCREW ANCHORS SHALL BE LIMITED TO SIMPSON TITEN HD (ICC ESR-2713), U.O.N. USE ONLY SCREW ANCHORS THAT HAVE BEEN ISSUED AN ICC-ES REPORT IN ACCORDANCE WITH THE PROVISIONS OF ICC-ES AC193. ANCHOR SYSTEMS SHOULD BE APPROVED FOR USE IN CRACKED CONCRETE AND SEISMIC DESIGN CATEGORIES A THROUGH F PER SECTION 2.0 OF THE ICC-ESR.
2. DRILLING: INSTALL EACH ANCHOR BY DRILLING A PILOT HOLE INTO THE CONCRETE USING A HANDHELD ELECTRO-PNEUMATIC ROTARY HAMMER DRILL WITH A CARBIDE-TIPPED DRILL BIT CONFORMING TO ANSI B212.15-1994. THE PILOT HOLE MUST HAVE THE SAME NOMINAL DIAMETER AS THE NOMINAL DIAMETER OF THE ANCHOR.
3. INSTALLATION: DUST AND DEBRIS IN THE HOLE MUST BE REMOVED USING OIL-FREE COMPRESSED COMPRESSED AIR. THE ANCHOR MUST BE INSTALLED INTO THE HOLE TO THE SPECIFIED EMBEDMENT DEPTH USING A SOCKET WRENCH OR POWERED IMPACT WRENCH. MAXIMUM INSTALLATION TORQUE AND MAXIMUM IMIPACT WRENCH TORQUE RATING REQUIREMENTS ARE GIVEN IN TABLE BELOW.

| ANCHOR DIAMETER | MIN. EMBEDMENT | MAX INSTALLATION TORQUE (FT-LBS) | MAX IMPACT WRENCH TORQUE RATING (FT-LBS) |
|---|---|---|---|
| 1/4" | 2 1/2" | 24 | 125 |


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SURGICAL TRUSS

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5. TESTING: ANCHORS SHALL BE FIELD TESTED IN PLACE FOR INSTALLATION VERIFICATION IN ACCORDANCE WITH CBC 2019 SECTION 1910A.5. TESTING OF ANCHORS SHALL BE DONE IN THE PRESENCE OF THE SPECIAL INSPECTOR AND A REPORT OF THE TEST RESULTS SHALL BE SUBMITTED TO THE ENFORCEMENT AGENCY. IF ANCHORS FAIL THE TESTING REQUIREMENTS, THE ADDITIONAL TESTING REQUIREMENTS SHALL BE ACCEPTABLE TO THE ENFORCEMENT AGENCY.

   THE SPECIAL INSPECTOR WILL TEST 10% OF ANCHORS IN THE PRESENCE OF THE INSPECTOR OF IF ANY ANCHOR FAILS TESTING, ALL ANCHORS OF THE SAME CATEGORY, NOT PREVIOUSLY TESTED, SHALL BE TESTED UNTIL 20 CONSECUTIVE ANCHORS PASS THE TEST REQUIREMENTS AT NO ADDITIONAL COST TO THE OWNER.THE INITIAL TESTING FREQUENCY SHALL THEN BE RESUMED.

   ALL TEST EQUIPMENT (INCLUDING TORQUE WRENCHES) IS TO BE CALIBRATED BY AN APPROVED TESTING AGENCY IN ACCORDANCE WITH STANDARD RECOGNIZED PROCEDURES.

   TESTING SHOULD OCCUR 24 HOURS MINIMUM AFTER INSTALLATION. REQUIRED TEST TENSION LOAD SHALL BE DETERMINED AS EITHER TWICE THE MAXIMUM ALLOWABLE TENSION LOAD OR ONE AND A QUARTER (1 1/4) TIMES THE MAXIMUM DESIGN STRENGTH OF ANCHOR AS PROVIDED IN THE ICC-ESR OR DETERMINED IN ACCORDANCE WITH CHAPTER 17 OF ACI 318.

   FOR 1/4" DIAMETER SIMPSON TITEN HD, TENSION TEST LOAD IS 3810 LBS.

RESPONSIBILITIES OF THE STRUCTURAL ENGINEER OF RECORD (SEOR)

THE STRUCTURAL ENGINEER OF RECORD (SEOR) SHALL:

1. VERIFY THAT THE PROJECT SPECIFIC VALUES OF $S_{DS}$ AND Z/H RESULTS IN SEISMIC FORCES THAT DO NOT EXCEED THE VALUES ON THE DETAILS.
2. VERIFY THE ADEQUACY OF THE STRUCTURE WHICH SUPPORTS THE EQUIPMENT FOR THE LOADS AND FORCES SHOWN, IN ADDITION TO ALL OTHER LOADS.
3. PROVIDE AND DESIGN ANY SUPPORTING MEMBERS THAT ARE REQUIRED TO SUPPORT THE LOADS AND FORCES SHOWN, FROM THE EQUIPMENT.
4. VERIFY THAT ANY CONCRETE TO WHICH THE EQUIPMENT IS ANCHORED MEETS THE REQUIREMENTS OF THE ICC ESR.
5. VERIFY THAT THE INSTALLATION IS IN CONFORMANCE WITH THE CBC AND WITH THE DETAILS SHOWN IN THIS PREAPPROVAL.
6. VERIFY THAT THE ACTUAL EQUIPMENT'S WEIGHT, CENTER OF GRAVITY (CG) LOCATION, ATTACHMENT LOCATIONS, ATTACHMENT DETAILS, AND THE MATERIAL AND GAGE OF THE UNIT WHERE ATTACHMENTS ARE MADE AGREE WITH THE INFORMATION SHOWN ON THE PREAPPROVAL DOCUMENTS.

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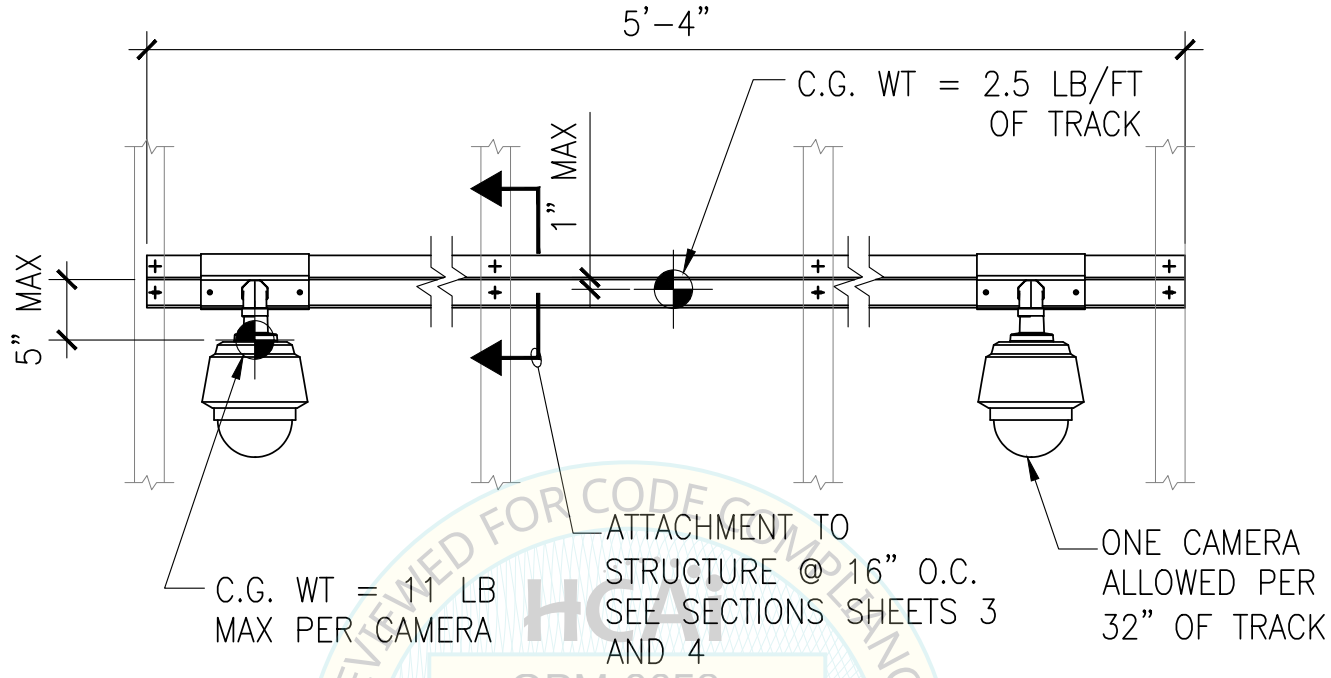
# SEISMIC SUPPORTS AND ATTACHMENTS




## FRONT ELEVATION

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NOTES:

1. FORCES ARE DETERMINED PER 2019 CALIFORNIA BUILDING CODE AND ASCE 7-16. STRENGTH DESIGN IS USED.

   $S_{DS}$ = 2.5, $a_p$ = 1.0, $I_p$ = 1.5, $R_p$ = 1.5, $\Omega_0$ = 2.0, z/h = 1.0

2. CENTER OF GRAVITY (C.G.) AND WEIGHT GIVEN ARE MAXIMUMS. THIS PREAPPROVAL ENCOMPASSES ALL WEIGHTS UP TO THE MAXIMUM SHOWN.

3. STRUCTURAL ENGINEER OF RECORD SHALL PROVIDE SUPPORTING STRUCTURE TO SUPPORT WEIGHTS AND FORCES SHOWN.

4. SEE GENERAL NOTES ON SHEET 1.


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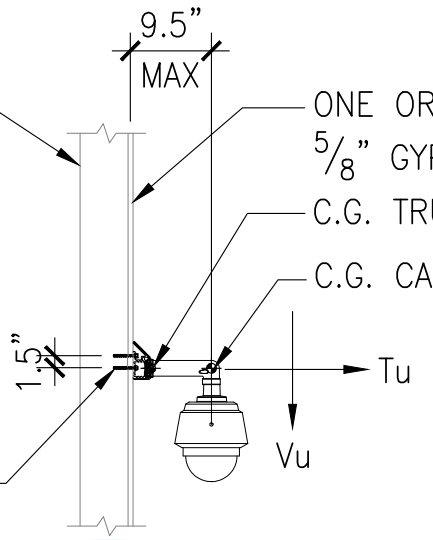
# SEISMIC SUPPORTS AND ATTACHMENTS




WALL METAL STUDS TO BE VERIFIED OR DESIGNED BY STRUCTURAL ENGINEER OF RECORD. 18 GA, 33 KSI FY MIN.

ONE OR TWO LAYERS 5/8" GYPBOARD

C.G. TRUSS

C.G. CAMERA

(2) #14 GALVANIZED SHEET METAL SCREW W/ RUBBER WASHER FROM TRUSS TO WALL STUD @ 16" O.C.

$T_U$ = 26 LB/SCREW
$V_U$ = 11 LB/SCREW

## STEEL STUD WALL SECTION

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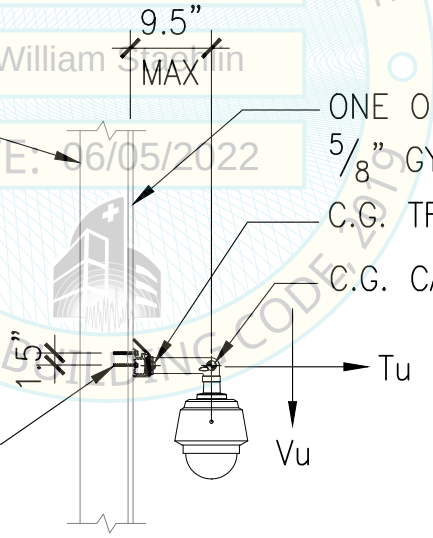


WALL WOOD STUDS TO BE VERIFIED OR DESIGNED BY STRUCTURAL ENGINEER OF RECORD. 1.5" WIDE MIN., SPECIFIC GRAVITY = 0.43 MIN.

ONE OR TWO LAYERS 5/8" GYPBOARD

C.G. TRUSS

C.G. CAMERA

(2) #14 GALVANIZED SHEET METAL SCREW W/ RUBBER WASHER FROM TRUSS TO WALL STUD @ 16" O.C.

$T_U$ = 26 LB/SCREW
$V_U$ = 11 LB/SCREW

## WOOD STUD WALL SECTION

REGISTERED PROFESSIONAL ENGINEER
ANGELICA MING WENG
S6212
STRUCTURAL
STATE OF CALIFORNIA

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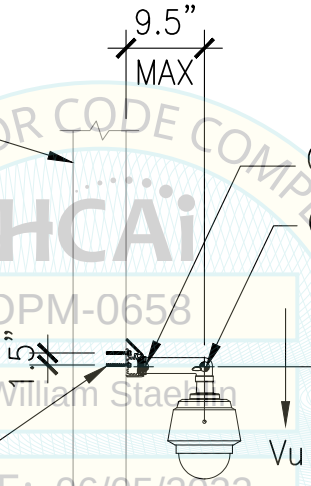
# SEISMIC SUPPORTS AND ATTACHMENTS

CONCRETE WALL TO BE VERIFIED OR DESIGNED BY STRUCTURAL ENGINEER RECORD. 6" THK MIN., 3000 PSI F'C MIN.

(2) ¼" DIA. x 2" EMBED GALVANIZED SCREW ANCHOR FROM TRUSS TO WALL @ 16" O.C.




$T_U$ = 52 LB/SCREW
$V_U$ = 22 LB/SCREW

## CONCRETE WALL SECTION

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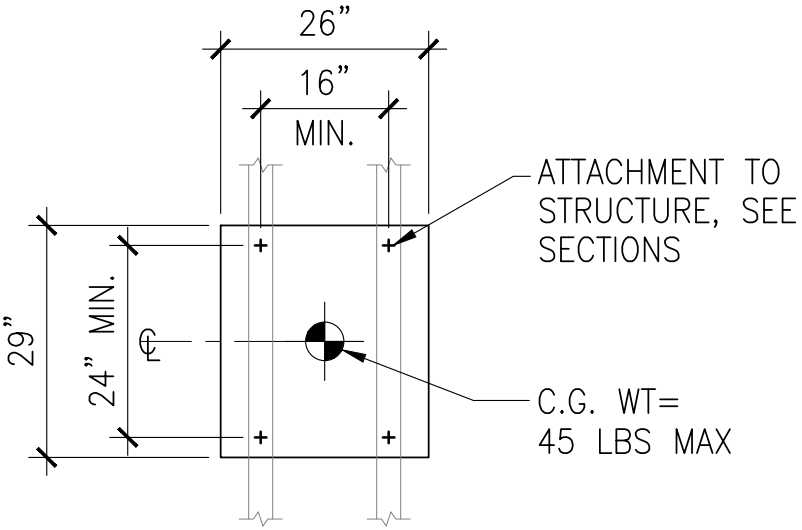
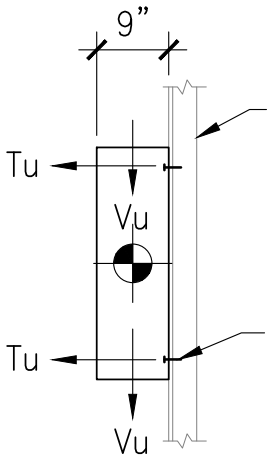
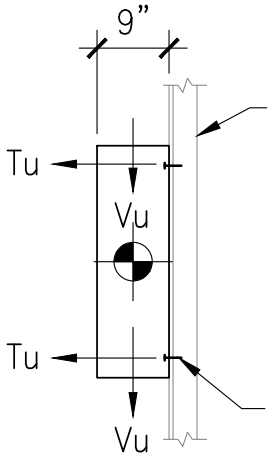


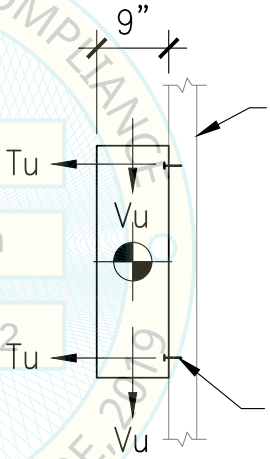

## FRONT ELEVATION




## STEEL STUD WALL SECTION




## WOOD STUD WALL SECTION




## CONCRETE WALL SECTION

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WALL BOX

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