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

OFFICE USE ONLY

APPLICATION #: OPM-0628

OSHPD Preapproval of Manufacturer's Certification (OPM)

Type: [X] New [ ] Renewal/Update

Manufacturer Information

Manufacturer: Hospital Systems, Inc.

Manufacturer's Technical Representative: Kathie CAMPBELL

Mailing Address: 750 Garcia Ave., Pittsburg, CA 94565

Telephone: (925) 427-7800 Email: kcampbell@hsiheadwalls.com

Product Information

Product Name: HSI Infinity Headwall

Product Type: Hospital Patient Headwall

Product Model Number: Infinity

General Description: Patient Headwall

Applicant Information

Applicant Company Name: CYS STRUCTURAL ENGINEERS

Contact Person: DIETER SIEBALD

Mailing Address: 2495 Natomas Park Drive, #650, SACRAMENTO, CA 95833

Telephone: (916) 920-2020 Email: dieters@cyseng.com

Title: STRUCTURAL ENGINEER

Registered Design Professonal Preparing Engineering Recommendations

Company Name: CYS STRUCTURAL ENGINEERS, INC.

Name: Dieter Siebald California License Number: S4346

Mailing Address: 2495 Natomas Park Drive, Suite 650, Sacramento, CA 95833

Telephone: (916) 920-2020 Email: dieters@cyseng.com

OSHPD 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 OSHPD prior to testing.

☒ Analysis

☐ Experience Data

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

OSHPD Approval

Date: 10/18/2021

Name: William Staehlin Title: Senior Structural Engineer

Condition of Approval (if applicable):

INFINITY HEADWALL

HSI Hospital Systems, Inc. The Headwall Experts

TABLE OF CONTENTS
OPM–0628

NOTES:

1. THESE DRAWINGS ARE PREPARED FOR HOSPITAL SYSTEM, INC., PITTSBURG, CA
2. THE CONTRACTOR AND INSPECTOR OF RECORD SHALL OBTAIN A COPY OF THIS PRE–APPROVAL FROM THE OFFICE OF STATEWIDE HEALTH PLANNING & DEVELOPMENT (OSHPD) PRE–APPROVAL PROGRAMS WEBSITE.
3. THIS PRE–APPROVAL COVERS THE SUPPORTS AND ATTACHMENTS OF THE EQUIPMENT TO THE SUPPORTING STRUCTURE. THE EQUIPMENT IS SUPPLIED BY THE MANUFACTURER. THE SCREWS & BACKING PLATES SHOWN IN THIS OPM SHALL BE SUPPLIED AND INSTALLED BY THE CONTRACTOR.

REGISTERED PROFESSIONAL ENGINEER
DIETER T SIEBALD
No. S4346
STRUCTURAL
STATE OF CALIFORNIA

SHEET TITLE: TABLE OF CONTENTS

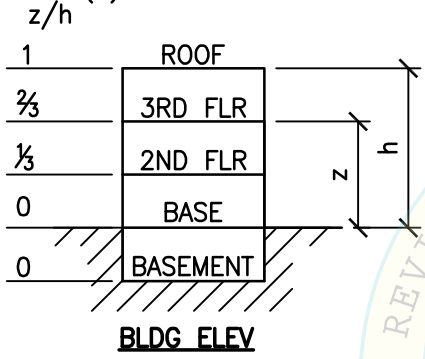
CYS STRUCTURAL ENGINEERS, INC.
2495 NATOMAS PARK DRIVE, SUITE 650
SACRAMENTO, CA 95833
TEL (916) 920-2020
www.cyseng.com

Job No:	20109
Date:	03-25-2021
Page:	1 of 6

INFINITY HEADWALL

GENERAL NOTES:

1. THIS OSHPD PRE–APPROVAL OF MANUFACTURER'S CERTIFICATION (OPM) IS BASED ON THE CBC 2019. THE DEMAND (DESIGN FORCES) FOR USE WITH THIS OPM SHALL BE BASED ON THE CBC 2019.
2. IT IS THE RESPONSIBILITY OF THE STRUCTURAL ENGINEER OF RECORD FOR A SITE SPECIFIC PROJECT TO VERIFY:
   - A. THE ADEQUACY OF THE NEW OR (E) STRUCTURE TO RESIST THE FORCES & WT SPECIFIED FOR EA EQUIP IN ADDITION TO ALL OTHER LOADS. PROVIDE & DESIGN SUPPLEMENTARY MEMBERS AS REQ.
   - B. THAT THE INSTALLATION IS IN CONFORMANCE W/ THE CBC 2019 & W/ THE DETAILS SHOWN IN THIS PRE–APPROVAL.
   - C. THAT THE ACTUAL EQUIP'S WT, CENTER OF GRAVITY (CG) LOCATION, ATTACHMENT LOCATIONS, ATTACHMENT DETAILS, & THE MATERIAL & GA OF THE EQUIP WHERE ATTACHMENTS ARE MADE, AGREE W/ THE INFO SHOWN ON THE PRE–APPROVAL DOCUMENTS.
   - D. THAT THE PROJECT SPECIFIC VALUES OF S_{DS} & z/h RESULT IN SEISMIC FORCES THAT DO NOT EXCEED THE VALUES PROVIDED IN THE DESIGN CRITERIA.
3. ONE (1) CASE OF ATTACHMENT IS SPECIFIED & PRESENTED IN THIS PRE–APPROVAL:



BLDG ELEV

CASE 1: ATTACHMENT DETAILS LOCATED AT UPPER FLRS ABV THE BASE OF A BLDG (z/h<=1.0), IT IS ASSUMED THAT THE WALLS ARE BUILT OF A MIN ⅝" THK GWB OVER 20 GA MIN STUD WALLS. MAY BE USED AT ANY GEOGRAPHICAL LOCATION IN THE STATE OF CALIFORNIA WHERE S_{DS} IS LESS THAN OR EQ TO 2.5.

REGISTERED PROFESSIONAL ENGINEER
DIETER T SIEBALD
No. S4346
STRUCTURAL
STATE OF CALIFORNIA

SHEET TITLE: GENERAL NOTES

CYS STRUCTURAL ENGINEERS, INC.
2495 NATOMAS PARK DRIVE, SUITE 650
SACRAMENTO, CA 95833
TEL (916) 920-2020
www.cyseng.com

Job No:	20109
Date:	03-25-2021
Page:	2 of 6

INFINITY HEADWALL

ABBREVIATIONS:

Ω_o	SEISMIC OVERSTRENGTH FACTOR
@	AT
ABV	ABOVE
ASCE	AMERICAN SOCIETY OF CIVIL ENGINEERS
ASD	ALLOWABLE STRESS DESIGN
ASTM	AMERICAN SOCIETY FOR TESTING & MATERIALS
BLDG	BUILDING
BLW	BELOW
CBC	CALIFORNIA BUILDING CODE
CG	CENTER OF GRAVITY
℄	CENTERLINE
CONC	CONCRETE
CONT	CONTINUOUS
DF	DOUG FIR
DIA (ø)	DIAMETER
DL	DEAD LOAD
(E)	EXISTING
EA	EACH
ELEV	ELEVATION
EQ	EQUAL
EQUIP	EQUIPMENT
ES	EACH SIDE
f'c	MINIMUM ULTIMATE COMPRESSIVE STRENGTH OF CONCRETE
FLG	FLANGE
FLR	FLOOR
FT (')	FOOT/FEET
Fp	HORIZONTAL SEISMIC FORCE PER ASCE 7-16 SEISMIC FORCE REQUIREMENTS
Fv	VERTICAL SEISMIC DESIGN FORCE PER ASCE 7-16 SECTION 12.4-4 SEISMIC DESIGN FORCE REQUIREMENTS
Fy	SPECIFIED MINIMUM YIELD STRESS OF STEEL
GA	GAUGE
GR	GRADE
GWB	GYPSUM WALLBOARD
HORIZ	HORIZONTAL
HT	HEIGHT
ICC	INTERNATIONAL CODE COUNCIL
IN (")	INCH
INFO	INFORMATION
JT	JOINT
KSI	KIPS PER SQUARE INCH
LBS	POUNDS
LL	LIVE LOAD
LRFD	LOAD AND RESISTANCE FACTOR DESIGN
MAX	MAXIMUM
MFR	MANUFACTURER
MIN	MINIMUM
MTL	METAL
NO. (#)	NUMBER OR POUNDS
NWC	NORMAL WEIGHT CONCRETE
OPM	OSHPD PRE-APPROVAL OF MANUFACTURER'S CERTIFICATION
OSHPD	OFFICE OF STATEWIDE HEALTH PLANNING & DEVELOPMENT
PCF	POUNDS PER CUBIC FOOT
PERP	PERPENDICULAR
PG	PAGE
ℙ	PLATE
PSI	POUNDS PER SQUARE INCH
PSF	POUNDS PER SQUARE FOOT
REQ	REQUIRED
SEOR	STRUCTURAL ENGINEER OF RECORD
SLWC	SAND-LIGHTWEIGHT CONCRETE
SMS	SHEET METAL SCREW
SPCG	SPACING
STL	STEEL
T	TENSION
THK	THICK/THICKNESS
Tu	ANCHORAGE TENSION REACTION DUE TO SEISMIC FORCE
TYP	TYPICAL
V	SHEAR
Vu	ANCHORAGE SHEAR REACTION DUE TO SEISMIC FORCE
W/	WITH
Wp	OPERATING WEIGHT
WS	WOOD SCREW
WT	WEIGHT

REGISTERED PROFESSIONAL ENGINEER
DIETER T SIEBALD
No. S4346
STRUCTURAL
STATE OF CALIFORNIA

SHEET TITLE: ABBREVIATIONS

CYS STRUCTURAL ENGINEERS, INC.
2495 NATOMAS PARK DRIVE, SUITE 650
SACRAMENTO, CA 95833
TEL (916) 920-2020
www.cyseng.com

Job No:	20109
Date:	03-25-2021
Page:	3 of 6

INFINITY HEADWALL

HSI Hospital Systems, Inc. The Headwall Experts

DESIGN CRITERIA

SUPPORT & ATTACHMENT DESIGN IS PER 2019 CBC AT LRFD LEVEL FORCES. OTHER RIGID COMPONENTS LOW DEFORMABILITY ELEMENTS & ATTACHMENTS.. PER TABLE 13.5-1 OF ASCE 7-16 SUPPLEMENT #1

a_p = 1.0 R_p = 2.5 I_p = 1.5

MAX W_p AS SHOWN ON PG 5.

FOR CASE 1 - UPPER FLRS ABV THE BASE, z/h <= 1.0

S_{DS} = 2.5

$F_p = \frac{0.4 a_p S_{DS} W_p}{(Rp/Ip)} (1+2\ z/h) = 3.0\ W_p$ ASCE 7-16 (13.3-1)

F_p (MAX) = 1.6 S_{DS} IpW_p = 6.00 W_p ASCE 7-16 (13.3-2)

F_p (MIN) = 0.3 S_{DS} IpW_p = 1.125 W_p ASCE 7-16 (13.3-3)

$E_v+F_v = \pm 0.2\ S_{DS}\ W_p = 0.50\ W_p$ ASCE 7-16 (12.4-4)

LOAD COMBINATIONS

(1.2+0.2 S_{DS}) D+1.0E+L LRFD

(1.0+0.14 S_{DS}) D+0.7E ASD

LOAD COMBINATIONS WERE RUN FOR 100% OF HORIZ FORCE IN ONE DIRECTION & 30% OF HORIZ FORCE IN THE PERP DIRECTION.

REGISTERED PROFESSIONAL ENGINEER
DIETER T SIEBALD
No. S4346
STRUCTURAL
STATE OF CALIFORNIA

SHEET TITLE: DESIGN CRITERIA & LOAD COMBINATIONS

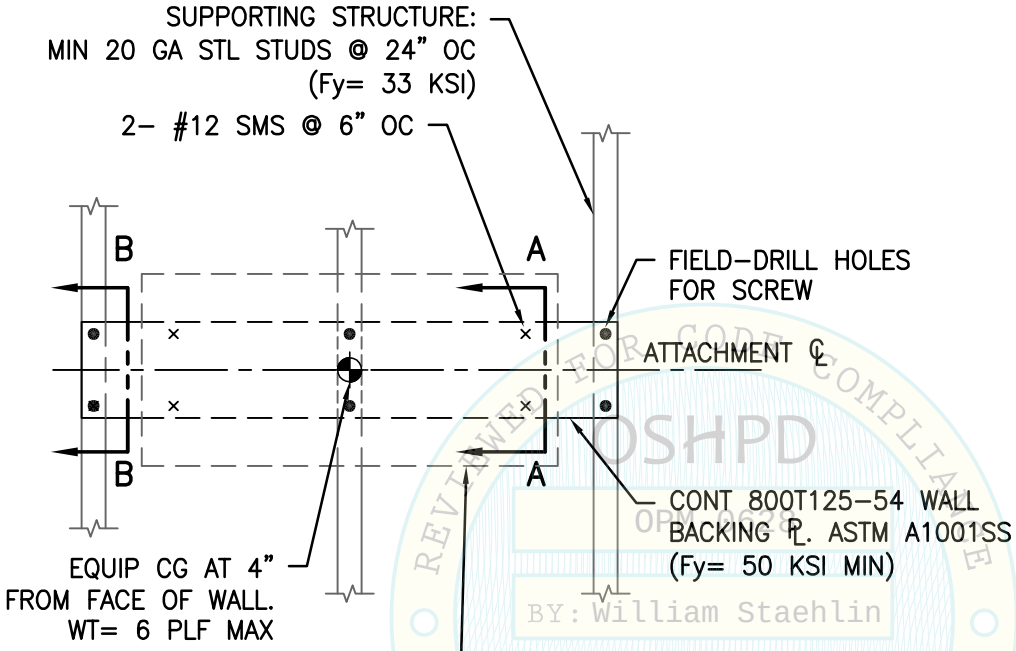
CYS STRUCTURAL ENGINEERS, INC.
2495 NATOMAS PARK DRIVE, SUITE 650
SACRAMENTO, CA 95833
TEL (916) 920-2020
www.cyseng.com

Job No:	20109
Date:	03-25-2021
Page:	4 of 6

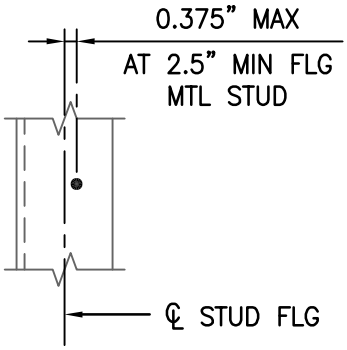
INFINITY HEADWALL

HSI Hospital Systems, Inc. The Headwall Experts

	MAX **ASD** FORCES AT EA SCREW (LBS) PLATE TO STUDS	
	16 GA MTL	
	T	V
CASE 1	62#	18#



CONNECTION PATTERN



SCREW INSTALL VARIANCE

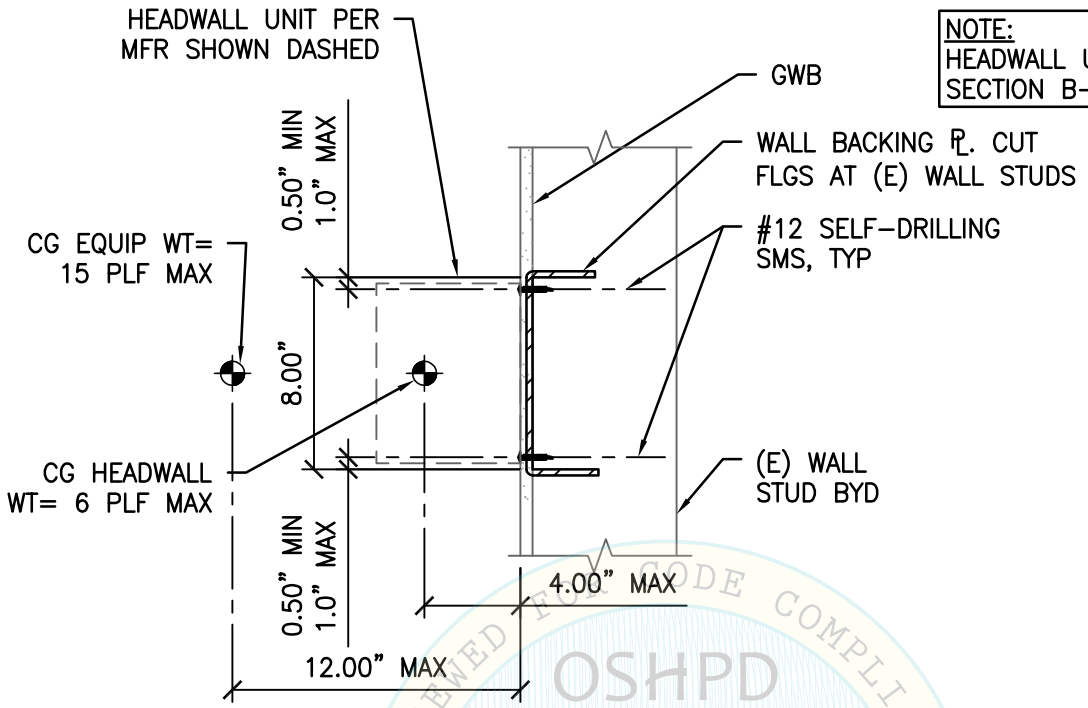
REGISTERED PROFESSIONAL ENGINEER
DIETER T SIEBALD
No. S4346
STRUCTURAL
STATE OF CALIFORNIA

SHEET TITLE: HEADWALL ELEVATION

CYS STRUCTURAL ENGINEERS, INC.
2495 NATOMAS PARK DRIVE, SUITE 650
SACRAMENTO, CA 95833
TEL (916) 920-2020
www.cyseng.com

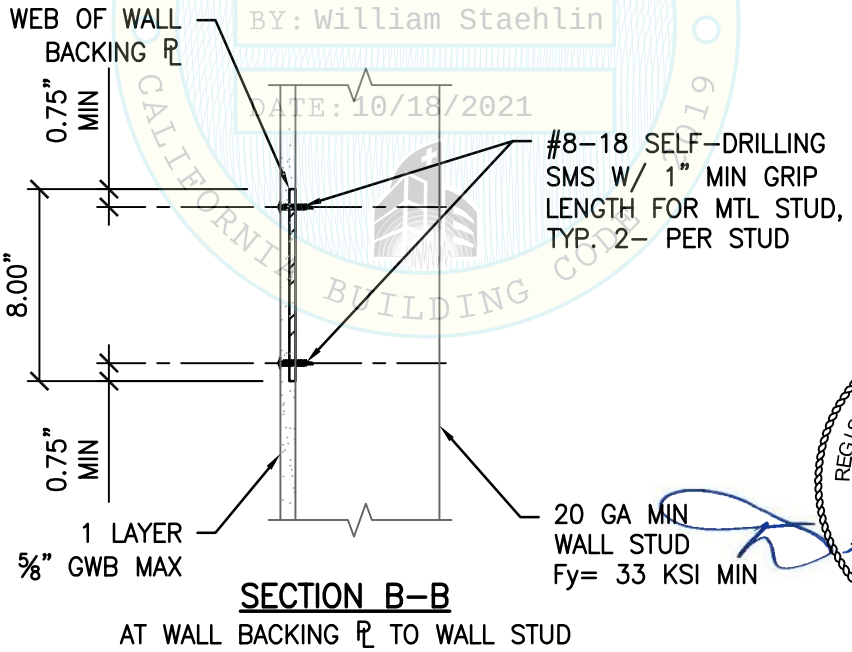
Job No:	20109
Date:	03-25-2021
Page:	5 of 6

INFINITY HEADWALL



NOTE:
HEADWALL UNIT NOT SHOWN IN SECTION B-B FOR CLARITY.

SECTION A-A
AT HEADWALL UNIT TO WALL PL



SECTION B-B
AT WALL BACKING PL TO WALL STUD

REGISTERED PROFESSIONAL ENGINEER
DIETER T SIEBALD
No. S4346
STRUCTURAL
STATE OF CALIFORNIA

SHEET TITLE: ATTACHMENTO TO STUD WALLS

CYS STRUCTURAL ENGINEERS, INC.
2495 NATOMAS PARK DRIVE, SUITE 650
SACRAMENTO, CA 95833
TEL (916) 920-2020
www.cyseng.com

Job No:	20109
Date:	03-25-2021
Page:	6 of 6