



**EQUIPMENT ANCHORAGE
& SEISMIC ENGINEERING**

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Office of Statewide Health Planning and Development
PREAPPROVAL OF MANUFACTURER'S CERTIFICATION
OPM-0360-13

THIS PREAPPROVAL CONFORMS TO THE 2016 CALIFORNIA BUILDING CODE

MANUFACTURER: **ICW USA INC.**
EQUIPMENT NAME: **TITAN AND ELITE WALL MOUNTS**

Sheet: 1 of 7
Date: 2/17/17

GENERAL NOTES

1. THIS OSHPD PREAPPROVAL OF MANUFACTURER'S CERTIFICATION (OPM) IS BASED ON THE 2016 CBC, THE DEMANDS (DESIGN FORCES) FOR USE WITH THIS OPM SHALL BE BASED ON THE 2016 CBC
2. THIS DOCUMENT MAY ONLY BE USED WITH THE EXPRESS WRITTEN CONSENT OF THE MANUFACTURER LISTED ABOVE FOR THE SPECIFIC PROJECT SITE AND INSTALLATION LOCATION. THIS DOCUMENT IS INVALID WITHOUT SUCH CONSENT.
3. THIS PREAPPROVAL CONFORMS TO THE 2016 CALIFORNIA BUILDING CODE.
4. FORCES PER ASCE 7-10 SECTION 13.3.1, EQUATIONS 13.3-1, 13.3-2 & 13.3-3, WHERE $S_{ds} = 1.70$, $a_p = 2.5$, $I_p = 1.5$, $R_p = 2.5$, $z/h \leq 1$.
5. THE DETAILS IN THIS PREAPPROVAL MAY BE USED AT ANY LOCATION IN THE STATE OF CALIFORNIA, WHERE S_{ds} IS NOT GREATER THAN 1.70.
6. ALL DESIGN FORCES SHOWN ON THE DRAWINGS ARE FACTORED LOADS THAT SHALL BE USED FOR STRENGTH DESIGN.
7. SHEET METAL SCREWS SHALL BE TEKS SCREWS BY ITW BUILDEX (ICC ESR-1976).
8. THIS PREAPPROVAL COVERS ONLY THE SUPPORTS AND ATTACHMENTS OF THE EQUIPMENT TO THE STRUCTURE.
9. RESPONSIBILITIES OF THE STRUCTURAL ENGINEER OF RECORD OF THE BUILDING
 - A. PROVIDE SUPPORTING STRUCTURE REQUIRED TO SUPPORT WEIGHTS AND FORCES SHOWN, IN ADDITION TO ALL OTHER LOADS.
 - B. VERIFY THAT THE INSTALLATION IS IN CONFORMANCE WITH THE 2016 CBC AND WITH THE DETAILS SHOWN IN THIS PREAPPROVAL. VERIFY THAT THE ACTUAL EQUIPMENT'S WEIGHT, CG LOCATION, ANCHOR LOCATIONS, ANCHOR DETAILS AND THE MATERIAL AND GAGE OF THE UNIT WHERE ATTACHMENTS ARE MADE AGREE WITH THE INFORMATION SHOWN ON THE PREAPPROVAL DOCUMENTS.
 - C. VERIFY THAT THE COMBINATION OF S_{ds} & z/h RESULT IN SEISMIC FORCES (E_h , E_v) THAT ARE NOT GREATER THAN THE VALUES ON THE DETAILS.
 - D. DESIGN BACKING BARS, STUDS, ETC. WHICH THE UNITS ARE ATTACHED TO AS NOTED ON THE DRAWINGS.



ICW USA INC.

DES. **J. ROBERSON**

SHEET

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JOB NO. **11-1532**

TITAN AND ELITE WALL MOUNTS

DATE **2/17/17**

OF **7** SHEETS

SEISMIC SUPPORTS & ATTACHMENTS

WALL MOUNTED

STRUCTURAL ENGINEER OF RECORD SHALL DESIGN THE WALL STRUCTURE (16 GA., 50 KSI MIN.)

MONITOR WT. = (SEE SCHED SHEETS 3-7 OF 7)

KEYBOARD WT. = 3 LB (MAX)

\bar{X} VARIES SEE SCHEDULE

26" ALUMINUM TRACK SHOWN (0.18" THK 6063-T6, F_y=31 KSI) (BY ICW USA)

C.G. WT. = SEE SCHED (\bar{Z} = SEE SCHEDULE)

USE (6)- 1/4"φ TEK SCREWS AT STEEL STUD WALL (16 GAGE, 50 ksi MIN.) 5/8" THK. WALL BOARD

DATE: 02/23/2017

STEEL STUD WALL SECTION (T2EP-WT2-KWP-MD26 MODEL SHOWN)

NOTES:

- FORCES ARE DETERMINED PER 2016 CALIFORNIA BUILDING CODE AND ASCE 7-10 STRENGTH DESIGN IS USED. ($S_{Ds} = 1.70, a_p = 2.5, I_p = 1.5, R_p = 2.5, z/h \leq 1$)

HORIZONTAL FORCE (E_h) = 3.06 W_p

VERTICAL FORCE (E_v) = 0.34 W_p

- CENTER OF GRAVITY (C.G.) AND WEIGHT ARE THE GOVERNING PARAMETERS FOR DESIGN. THIS PREAPPROVAL ENCOMPASSES ALL WEIGHTS UP TO THE MAXIMUM WEIGHT SHOWN.
- STRUCTURAL ENGINEER OF RECORD FOR THE BUILDING SHALL PROVIDE SUPPORT STRUCTURE DESIGNED TO SUPPORT WEIGHTS AND FORCES SHOWN IN COMBINATION WITH ALL OTHER LOADS THAT MAY BE PRESENT.
- SEE GENERAL NOTES: SHEETS 1



ICW USA INC.

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SHEET

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JOB NO. **11-1532**

TITAN AND ELITE WALL MOUNTS

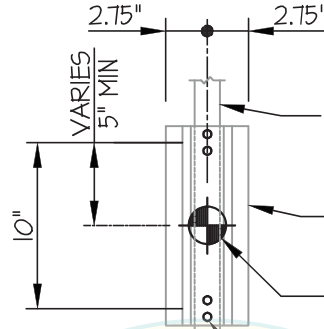
DATE **2/17/17**

OF **7** SHEETS

SEISMIC SUPPORTS & ATTACHMENTS

12" TRACK

WALL MOUNTED



STRUCTURAL ENGINEER OF RECORD SHALL DESIGN THE WALL STRUCTURE (16 GA., 50 KSI MIN.)

ALUMINUM TRACK (0.18" THK 6063-T6, Fy=31 KSI) (BY ICW USA)

C.G. WT. = SEE SCHED (X = SEE SCHEDULE)

USE (4)- 1/4"φ TEK SCREWS AT STEEL STUD WALL (16 GAGE, 50 ksi MIN.)

ELEVATION AT WALL PLATE

OPM-0360-13

MODEL	MONITOR WEIGHT (LB)	TOTAL LOAD (LB)	\bar{X} (in)	(AFW) Tu (lb)	(AFW) Vu (lb)	(AW) Tu (lb)	(AW) Vu (lb)
UL182EV7-W3-KUS-MD26	32	61	31.57	195	52	87	197
ELP5220-WT-KUS-MD26	28	62	47.97	277	53	88	278
T2EP-WT2-KWP-MD26	28	63	46.99	277	54	90	277
T2P2020-WT2-KPW-MD26	28	60	41.27	237	52	85	238
MDP18WMD-KPW-MD26	35	69	32.18	224	59	98	225



ICW USA INC.

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JOB NO. **11-1532**

DATE **2/17/17**

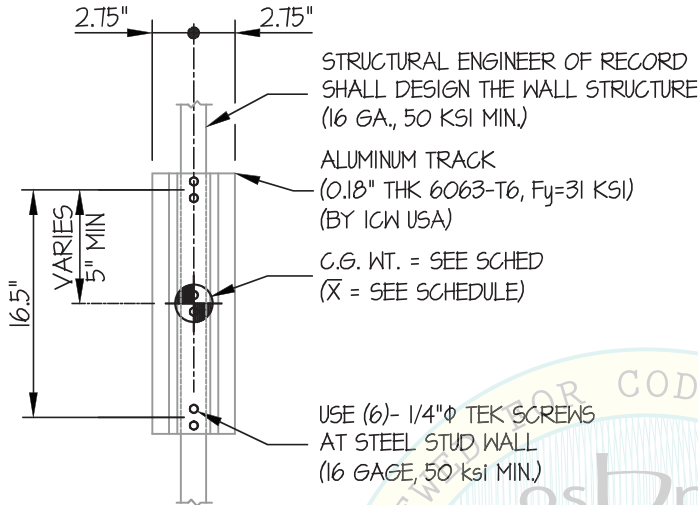
OF **7** SHEETS

TITAN AND ELITE WALL MOUNTS

SEISMIC SUPPORTS & ATTACHMENTS

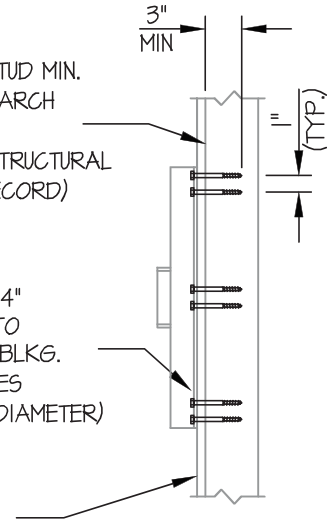
19" TRACK

WALL MOUNTED



VERTICAL 4 x STUD MIN.
(DOUGLAS-FIR LARCH
NUMBER 2 MIN.)
(DESIGNED BY STRUCTURAL
ENGINEER OF RECORD)

USE (6)- 1/4" ϕ X 4"
WOOD SCREWS TO
WOOD STUD OR BLKG.
(PRE-DRILL HOLES
TO 70% SHANK DIAMETER)



ELEVATION AT WALL PLATE

5/8" THK.
WALL BOARD

NOTE:
MIN EDGE DISTANCE = 1"
MIN END DISTANCE = 2"

WOOD STUD WALL SECTION

MODEL	MONITOR WEIGHT (LB.)	TOTAL LOAD (LB.)	\bar{X} (in.)	(AFW) T_u (lb.)	(AFW) V_u (lb.)	(AW) T_u (lb.)	(AW) V_u (lb.)
UL182EV7-W3-KUS-MD26	32	61	31.57	121	49	57	138
ELP5220-WT-KUS-MD26	28	62	47.97	171	50	58	187
T2EP-WT2-KWP-MD26	28	63	46.99	170	51	59	187
T2P2020-WT2-KPW-MD26	28	60	41.27	146	49	56	162
MDP18WMD-KPW-MD26	35	69	32.18	139	56	64	158

Jonathan Roberson
 REGISTERED PROFESSIONAL ENGINEER
 JONATHAN ROBERSON
 No. 4197
 EXP. 6-30-2018
 2/17/17
 STRUCTURAL
 STATE OF CALIFORNIA

ICW USA INC.

DES. **J. ROBERSON**

SHEET

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JOB NO. **11-1532**

DATE **2/17/17**

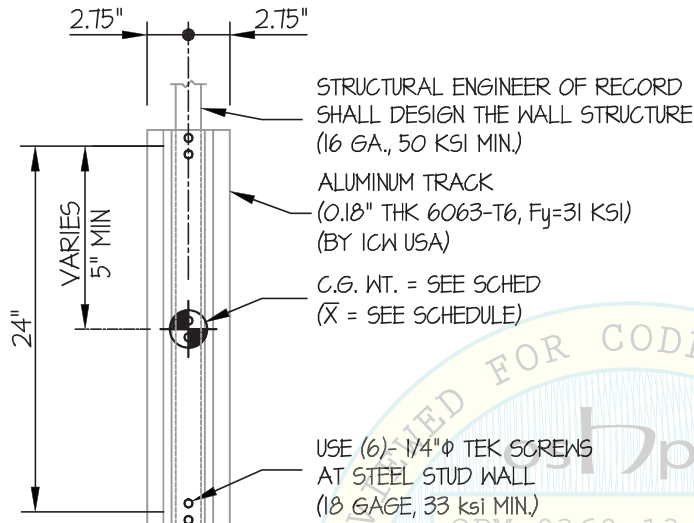
OF **7** SHEETS

TITAN AND ELITE WALL MOUNTS

SEISMIC SUPPORTS & ATTACHMENTS

26" TRACK

WALL MOUNTED



ELEVATION AT WALL PLATE

VERTICAL 4 x STUD MIN.
(DOUGLAS-FIR LARCH
NUMBER 2 MIN.)
(DESIGNED BY STRUCTURAL
ENGINEER OF RECORD)

USE (6)- 1/4"φ X 4"
WOOD SCREWS TO
WOOD STUD OR BLKG.
(PRE-DRILL HOLES
TO 70% SHANK DIAMETER)

5/8" THK.
WALL BOARD

NOTE:
MIN EDGE DISTANCE = 1"
MIN END DISTANCE = 2"

WOOD STUD WALL SECTION

MODEL	MONITOR WEIGHT (LB.)	TOTAL LOAD (LB.)	\bar{X} (in.)	(AFW) T_u (lb.)	(AFW) V_u (lb.)	(AW) T_u (lb.)	(AW) V_u (lb.)
UL182EV7-W3-KUS-MD26	32	61	31.57	93	49	53	110
ELP5220-WT-KUS-MD26	28	62	47.97	127	50	54	144
T2EP-WT2-KWP-MD26	28	63	46.99	127	51	55	144
T2P2020-WT2-KPW-MD26	28	60	41.27	110	49	52	126
MDP18WMD-KPW-MD26	35	69	32.18	107	56	60	125



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JOB NO. **11-1532**

TITAN AND ELITE WALL MOUNTS

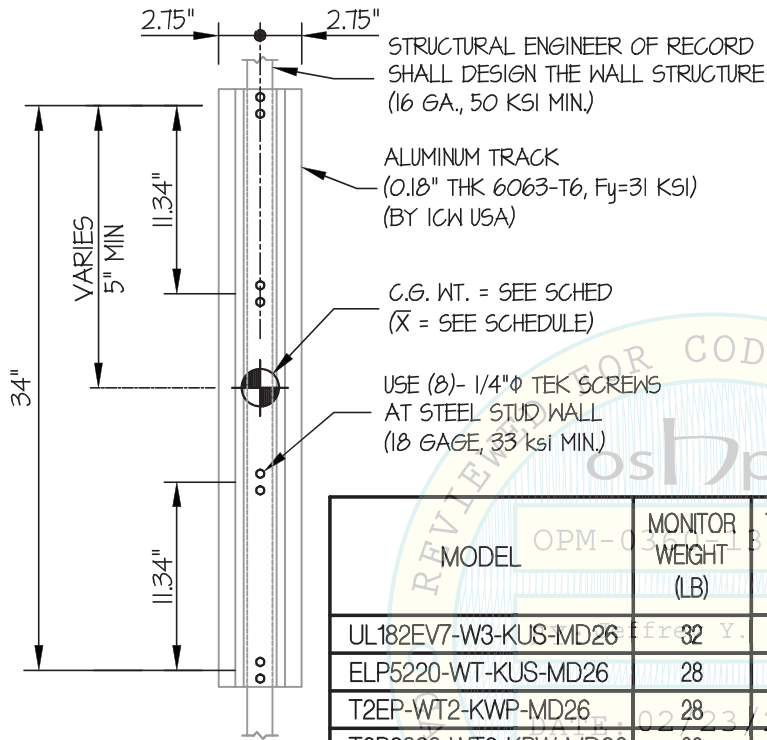
DATE **2/17/17**

OF **7** SHEETS

SEISMIC SUPPORTS & ATTACHMENTS

36" TRACK

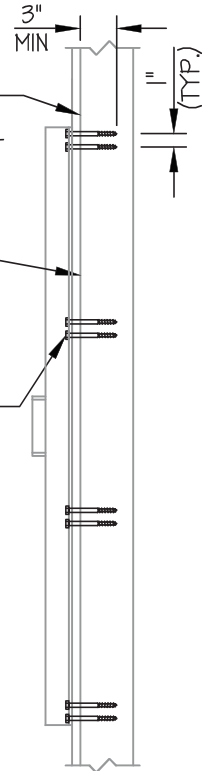
WALL MOUNTED



VERTICAL 4 x STUD MIN. (DOUGLAS-FIR LARCH NUMBER 2 MIN.) (DESIGNED BY STRUCTURAL ENGINEER OF RECORD)

5/8" THK. WALL BOARD

USE (8)- 1/4"Φ x 4" WOOD SCREWS TO WOOD STUD OR BLKG. (PRE-DRILL HOLES TO 70% SHANK DIAMETER)



MODEL	MONITOR WEIGHT (LB)	TOTAL LOAD (LB)	X̄ (in)	(AFW) Tu (lb)	(AFW) Vu (lb)	(AW) Tu (lb)	(AW) Vu (lb)
UL182EV7-W3-KUS-MD26	32	61	31.57	66.9	48	40	91
ELP5220-WT-KUS-MD26	28	62	47.97	91	49	40	115
T2EP-WT2-KWP-MD26	28	63	46.99	91	50	41	116
T2P2020-WT2-KPW-MD26	28	60	41.27	79	47	39	103
MDP18WMD-KPW-MD26	35	69	32.18	77	55	45	104

ELEVATION AT WALL PLATE

NOTE:
MIN EDGE DISTANCE = 1"
MIN END DISTANCE = 2"

WOOD STUD WALL SECTION



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TITAN AND ELITE WALL MOUNTS

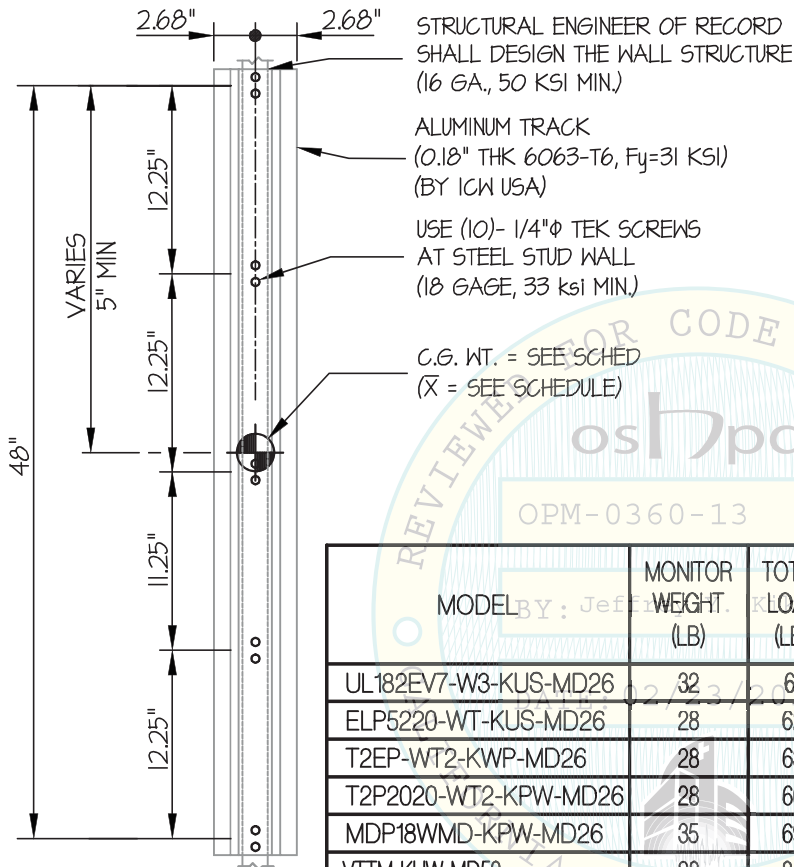
DATE **2/17/17**

OF **7** SHEETS

SEISMIC SUPPORTS & ATTACHMENTS

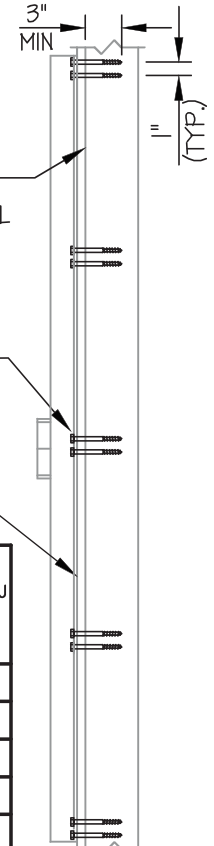
50° TRACK

WALL MOUNTED



VERTICAL 4 x STUD MIN. (DOUGLAS-FIR LARCH NUMBER 2 MIN.) (DESIGNED BY STRUCTURAL ENGINEER OF RECORD)

USE (10)- 1/4"Φ x 4" WOOD SCREWS TO WOOD STUD OR BLKG. (PRE-DRILL HOLES TO 70% SHANK DIAMETER)



MODEL	MONITOR WEIGHT (LB)	TOTAL LOAD (LB)	X̄ (in)	(AFW) T _u (lb)	(AFW) V _u (lb)	(AW) T _u (lb)	(AW) V _u (lb)
UL182EV7-W3-KUS-MD26	32	61	31.57	50	48	31	78
ELP5220-WT-KUS-MD26	28	62	47.97	67	49	32	96
T2EP-WT2-KWP-MD26	28	63	46.99	67	50	32	97
T2P2020-WT2-KPW-MD26	28	60	41.27	58	47	31	86
MDP18WMD-KPW-MD26	35	69	32.18	57	54	35	89
VTTM-KUW-MD50	28	84	16.66	48	66	43	88

NOTE:
MIN EDGE DISTANCE = 1"
MIN END DISTANCE = 2"

ELEVATION AT WALL PLATE

WOOD STUD WALL SECTION

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