



OFFICE OF STATEWIDE HEALTH PLANNING AND DEVELOPMENT
FACILITIES DEVELOPMENT DIVISION

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

OFFICE USE ONLY

APPLICATION #: OPM-0092

OSHPD Preapproval of Manufacturer's Certification (OPM)

Type: ☐ New ☒ Renewal/Update

Manufacturer Information

Manufacturer: Woodwork Institute

Manufacturer's Technical Representative: Clare Smith

Mailing Address: 3188 Industrial Blvd., West Sacramento, CA 95691

Telephone: (916) 372-9943 Email: clare@woodinst.com

Product Information

Product Name: Woodwork Institute Casework Anchorage

Product Type: Casework

Product Model Number: NA

General Description: Seismic Anchorage for Tall Storage Casework and Wall Hung Casework

Applicant Information

Applicant Company Name: LTK ASSOCIATES, INC.

Contact Person: Raymond Z. Uribes

Mailing Address: 745 Distel Drive, Suite 7, Los Altos, CA 94022

Telephone: () - Email: ltk@ltkse.com

Title: _____

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

STATE OF CALIFORNIA—HEALTH AND HUMAN SERVICES AGENCY

OSHPD



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

Registered Design Professional Preparing Engineering Recommendations

Company Name: LTK ASSOCIATES, INC.

Name: Raymond Z. Uribes

California License Number: S2479

Mailing Address: 745 Distel Drive, Suite 7, Los Altos, CA 94022

Telephone: (650) 967-8465

Email: ltk@ltkse.com

OSHDP 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 OSHDP prior to testing.

☒ Analysis

☐ Experience Data

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

OSHDP Approval

Date: 6/16/2020

Name: Jeffrey Kikumoto

Title: Senior Structural Engineer

Condition of Approval (if applicable): _____

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

STATE OF CALIFORNIA—HEALTH AND HUMAN SERVICES AGENCY

OSHDP

WOODWORK INSTITUTE

CASEWORK SUPPORTS & ATTACHMENTS

OSHPD Pre-Approval of Manufacturer's Certification (OPM) OPM-0092

SUPPORTS & ATTACHMENTS DESIGNED FOR:
2019 CALIFORNIA BUILDING CODE (CBC)
ASCE 7-16

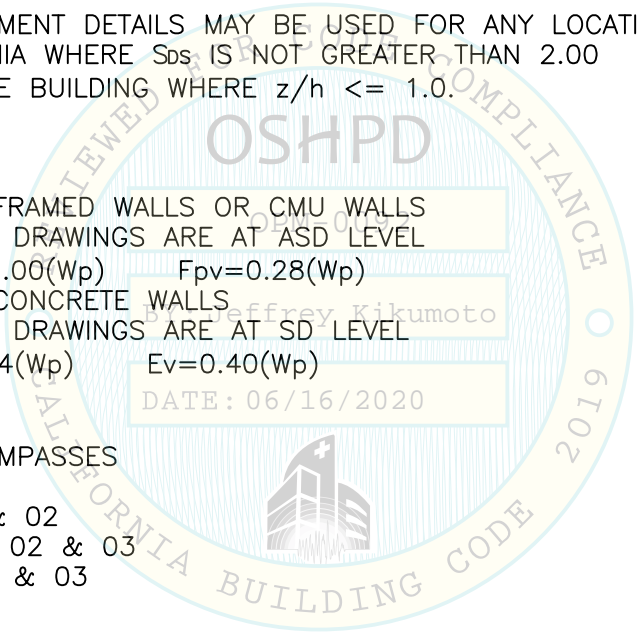
IMPORTANCE FACTOR:	$I_p=1.5$
DESIGN S.R.A., SHORT PERIOD:	$S_{DS}=2.00$
COMP. AMP. FACTOR:	$a_p=1.0$ (ASCE 7-16
COMP. RESPONSE MOD. FACTOR:	$R_p=2.5$ TABLE 13.5.1)
OVERSTRENGTH FACTOR:	$\Omega_o=2.0$ (REQ'D FOR ANCHORAGE TO CONCRETE & CMU)

THE SUPPORT AND ATTACHMENT DETAILS MAY BE USED FOR ANY LOCATION
IN THE STATE OF CALIFORNIA WHERE S_{DS} IS NOT GREATER THAN 2.00
AND AT ANY HEIGHT IN THE BUILDING WHERE $z/h \leq 1.0$.

SEISMIC FORCES:
FOR FASTENERS USED IN FRAMED WALLS OR CMU WALLS
FORCES SHOWN ON THESE DRAWINGS ARE AT ASD LEVEL
CALCULATED THUS: $F_{ph}=1.00(W_p)$ $F_{pv}=0.28(W_p)$
FOR FASTENERS USED IN CONCRETE WALLS
FORCES SHOWN ON THESE DRAWINGS ARE AT SD LEVEL
CALCULATED THUS: $F_p=1.44(W_p)$ $E_v=0.40(W_p)$
DATE: 06/16/2020

THIS PRE-APPROVAL ENCOMPASSES
THE FOLLOWING:
DESIGN CRITERIA: DC-01 & 02
STORAGE CABINET: SC-01, 02 & 03
WALL CABINET: WC-01, 02 & 03

THIS PRE-APPROVAL COVERS ONLY
THE SUPPORTS & ATTACHMENTS OF
THE UNIT TO THE STRUCTURE.
THE SUPPORTS AND ATTACHMENTS SHALL
BE SUPPLIED & INSTALLED BY THE CONTRACTOR.



SCALE: NONE	DATE: 3/26/2020		DESIGN CRITERIA	Drawing No.
	Structural Engineers 745 Distel Drive Los Altos, CA 94022 (650) 967- 8465 FAX (650) 967-5148		Woodwork Institute P.O. Box 980247 West Sacramento, CA 95798-0247 (916) 372-9943 www.woodworkinstitute.com	OPM-0092 DC-01 1 of 8

STANDARD WOODWORK CASEWORK:

MATERIAL USED IN THE CONSTRUCTION OF THE POINT OF ATTACHMENT TO THE STRUCTURE (i.e., NAILER) SHALL BE OF THE FOLLOWING:
PLYWOOD (STRUCT 1),
MDF (GRADE 150) OR,
DOUGLAS FIR LARCH WITH A
SPECIFIC GRAVITY OF 0.50 OR BETTER.
MINIMUM THICKNESS OF 3/4" FOR THE PART THROUGH WHICH ATTACHMENT IS TO BE MADE.
HOLES IN CABINET FOR EXPANSION ANCHORS SHALL BE BOLT DIAMETER + 1/16".

FASTENERS:

MINIMUM SCREW FASTENERS SHALL BE:
#14 WOOD SCREWS (ROUND WASHER HEAD)
COMPLYING w/ ANSI/ASME STANDARD B18.6.1
OR SHEET METAL SCREWS (SMS)
WITH HEX WASHER HEAD
(TAPPING SCREW FASTENERS SHALL HAVE DATA IN ACCORDANCE w/ ICC-ES AC118).
WS SHALL HAVE 2 1/2" PENETRATION INTO WOOD BACKING, SMS SHALL HAVE MIN. 3 THREADS EXTEND BEYOND SHEET METAL BACK'G.

EXPANSION ANCHORS:

FOR USE IN CONCRETE WALL:
HILTI KWIK BOLT TZ, ICC ESR-1917
f'c=3000psi, NW CONCRETE
3/8"Ø w/ 2" EMBEDMENT
MIN. EDGE DISTANCE 6"
MIN. WALL THICKNESS 4"
INSTALLATION TORQUE 25 FT-LB

1/2"Ø w/ 3/14" EMBEDMENT
MIN. EDGE DISTANCE 6"
MIN. WALL THICKNESS 6"
INSTALLATION TORQUE 40 FT-LB

FOR USE IN CMU WALL: (ALL CELLS GROUTED SOLID)
HILTI KWIK BOLT-3 (ICC ESR-1385)
24" DEEP STORAGE CABINETS ONLY:
1/2"Ø w/ 3 1/2" EMBED. & 4" MIN. EDGE DIST.
INSTALLATION TORQUE: 25 ft-lb

ALL OTHER CABINETS:

3/8"Ø w/ 2 1/2" EMBED. & 4" MIN. EDGE DIST.
INSTALLATION TORQUE: 15 ft-lb

NOTE: Expansion anchors designed to ICC-ES AC01 are limited to allowable stress design ONLY in accordance with AC01 1.2. Hence, strength design values are not acceptable. Allowable stress values can be shown provided, SEOR will verify that:
a. masonry is not cracked as defined in ICC-ES AC01 Section 2.3; the SEOR shall provide calculations to show that the masonry wall would not crack under the design earthquake loads under all service conditions; the wall has to remain elastic.
b. masonry is fully grouted in accordance w/ ESR-1385 Section 3.2;
c. conditions of use requirements in accordance w/ ESR-1385 Section 5.0 is satisfied.

LOADING:

MAXIMUM CONTENT LOAD: 33 PCF

WALL BACKING:

WALL BACKING MAY BE EITHER,
3x6 FLAT DOUGLAS FIR (No. 2)
(at wood framed walls) or
16GA., 50 KSI SHEET METAL BACKING
(at metal stud framed walls)
ALL BACKING AND WALL FRAMING
TO BE DESIGNED BY SEOR.

GENERAL NOTES:

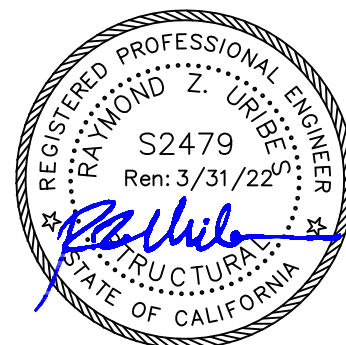
- 1) THIS OSHPD PREAPPROVAL OF MANUFACTURER'S CERTIFICATION (OPM) IS BASED ON THE CBC 2019. THE DEMAND (DESIGN FORCES) FOR USE WITH THIS OPM SHALL BE BASED ON THE CBC 2019.
- 2) STRUCTURAL ENGINEER OF RECORD IS RESPONSIBLE FOR:
 - a) THE DESIGN OF THE STRUCTURE (FLOOR, WALL, BACKING) TO SUPPORT THE FORCES DUE TO THIS EQUIPMENT LOADING. IN NO CASE SHALL WALL FRAMING BE DESIGNED FOR LESS THAN THE CODE REQUIRED MINIMUM DESIGN LOADS.
 - b) VERIFY THAT THE ANCHORS ARE AN ADEQUATE DISTANCE FROM ANY OPENINGS.
 - c) VERIFY THAT ALL NEW OR EXISTING ANCHORS ARE ADEQUATE DISTANCE FROM THE ANCHORS SHOWN IN THIS PRE-APPROVAL. SEOR SHALL VERIFY THERE IS NO ADVERSE INTERACTION WHERE OTHER ANCHORS ARE WITHIN 18" OR 6HEF FROM THIS UNIT'S ANCHORS.

EXPANSION ANCHOR TESTING IN CONCRETE:

PER CBC SECTION 1910A.5
-TORQUE TESTING SHALL BE DONE IN THE PRESENCE OF THE SPECIAL INSPECTOR (FROM APPROVED INDEPENDENT AGENCY) & A REPORT OF THE TEST RESULTS SHALL BE SUBMITTED TO THE IOR, OWNER, & ARCHITECT OR ENGINEER IN RESPONSIBLE CHARGE.
-TEST 50% OF THE ANCHORS, IF ANY ANCHOR FAILS TESTING, TEST ALL ANCHORS UNTIL 20 CONSECUTIVE ANCHORS PASS, THEN RESUME INITIAL TEST FREQUENCY.
-TEST ACCEPTANCE CRITERIA,
ANCHORS TESTED w/ A CALIBRATED WRENCH MUST ATTAIN THE SPECIFIED TORQUE WITHIN 1/2 TURN OF THE NUT.

EXPANSION ANCHOR TESTING IN CMU:

TESTING OF EXPANSION ANCHORS IN CMU,
SIMILAR TO CRITERIA NOTED ABOVE.



SCALE: NONE

DATE: 3/26/2020

LTK
ASSOCIATES
Incorporated

Structural Engineers
745 Distel Drive
Los Altos, CA 94022
(650) 967-8465
FAX (650) 967-5148

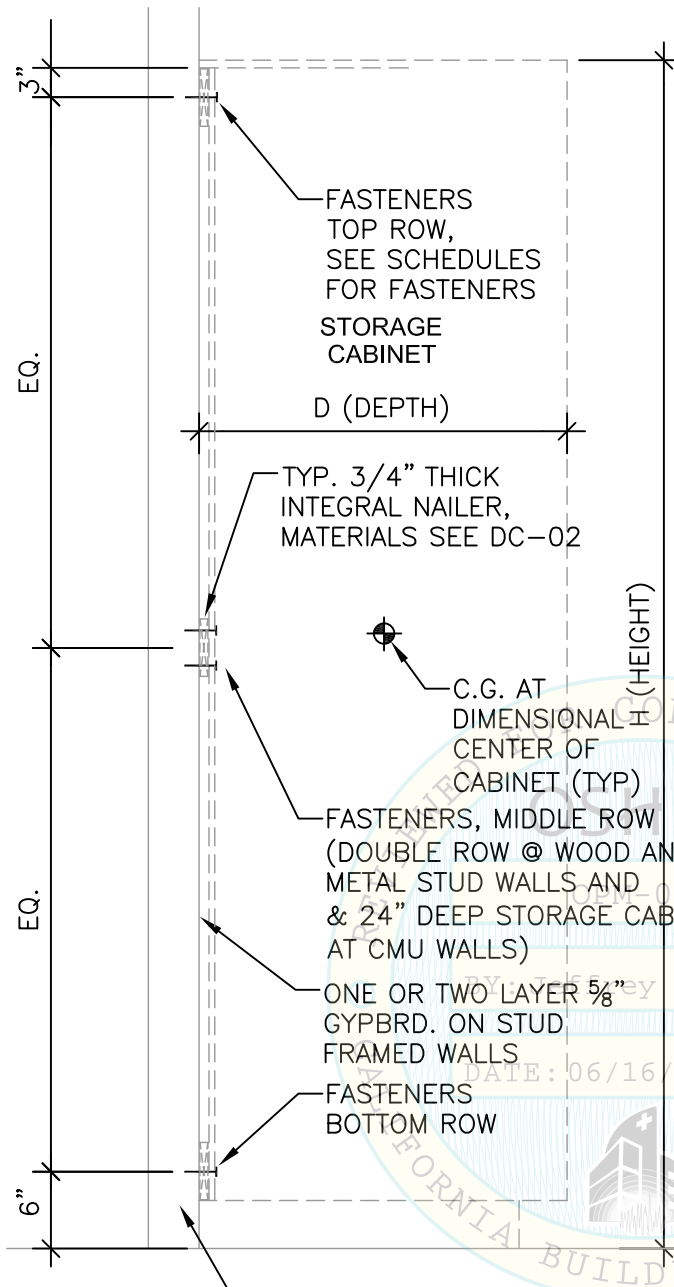


DESIGN CRITERIA
Woodwork Institute
P.O. Box 980247
West Sacramento, CA 95798-0247
(916) 372-9943
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Drawing No.

OPM-0092
DC-02

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STANDARD WOODWORK CASEWORK:

DIMENSIONS:

D = 12 & 24" (max)
H = 96" (max)
LENGTH = VARIES

LOADING:

APPROXIMATE EMPTY WEIGHT OF CABINET:
D=12" 50 #/FT (6.25 pcf)
D=24" 90 #/FT (5.63 pcf)

WALL BACKING & STUDS:

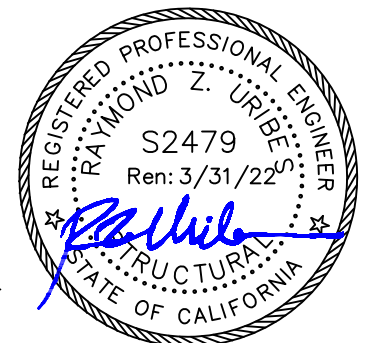
SEE DESIGN CRITERIA DWG. No. DC-02

FASTENERS / ANCHORS:

FOR FASTENER AND ANCHOR TYPES,
SEE DWG. No. DC-02
FOR FASTENER & ANCHOR LOCATIONS
AND SPACING SEE DWG'S. SC-02 & 03

WALL CONSTRUCTION
MAY BE OF CONCRETE,
CMU, WOOD OR STEEL
STUD FRAMING.
SEOR TO DESIGN WALL
AND CHECK IF CABINETS
ON BOTH SIDES OF WALL.

MINIMUM FLOOR
CONSTRUCTION:
2 1/2" THICK
3000 PSI
SAND LTWT CONC.
OVER METAL DECK
SEOR TO CHECK
FLOOR TO SUPPORT
CABINET LOADS.



SCALE: NONE

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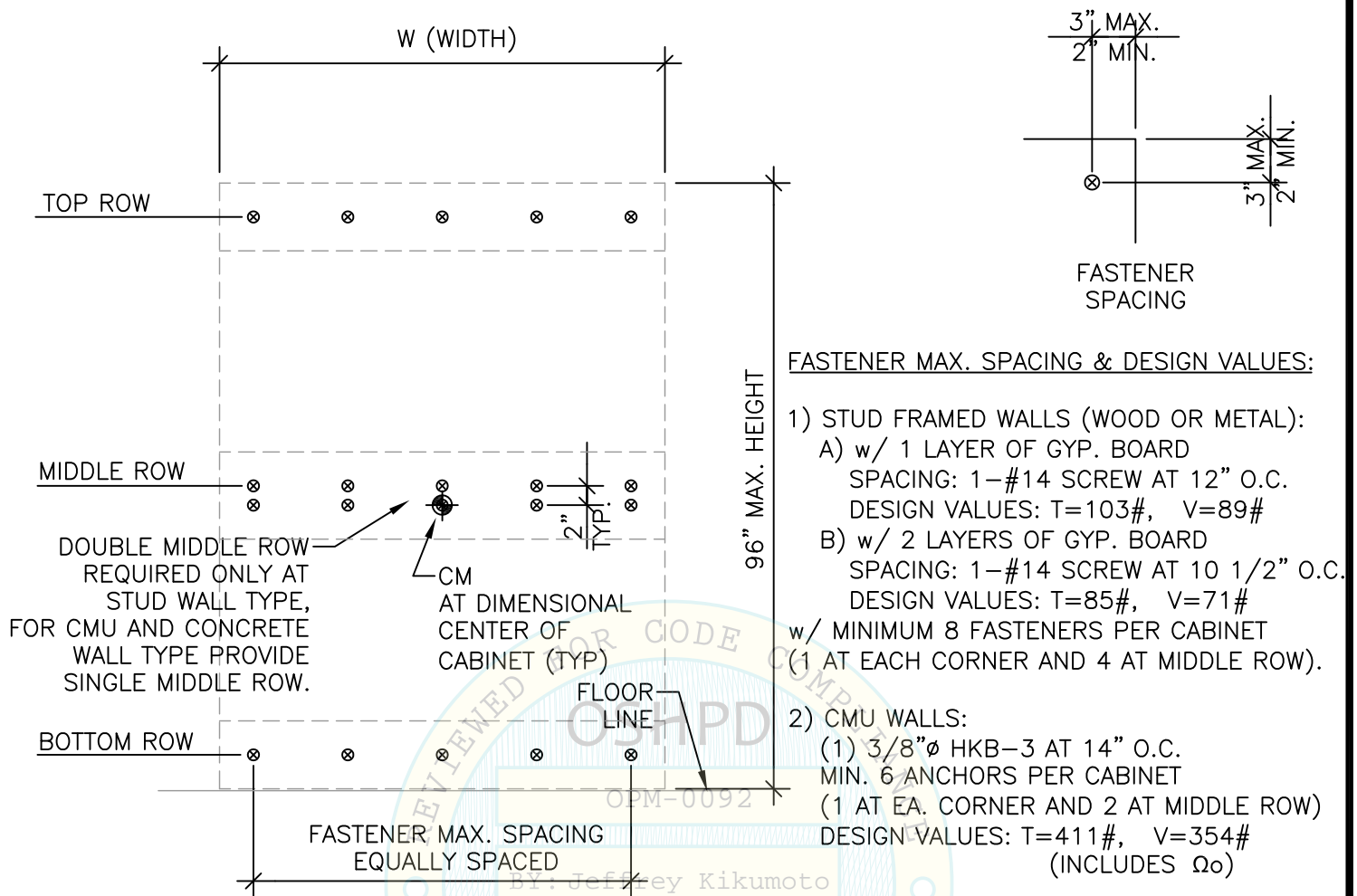


STORAGE CABINET
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Drawing No.

OPM-0092
SC-01

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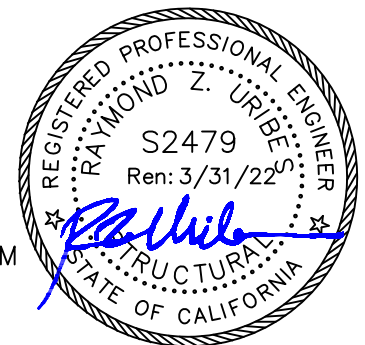
12" DEEP STORAGE CABINET ELEVATION OF BACK PANEL FASTENER LOCATIONS

FASTENER MAX. SPACING & DESIGN VALUES:

- STUD FRAMED WALLS (WOOD OR METAL):
 - w/ 1 LAYER OF GYP. BOARD
SPACING: 1-#14 SCREW AT 12" O.C.
DESIGN VALUES: T=103#, V=89#
 - w/ 2 LAYERS OF GYP. BOARD
SPACING: 1-#14 SCREW AT 10 1/2" O.C.
DESIGN VALUES: T=85#, V=71#
 w/ MINIMUM 8 FASTENERS PER CABINET (1 AT EACH CORNER AND 4 AT MIDDLE ROW).
- CMU WALLS:
 - 3/8"Ø HKB-3 AT 14" O.C.
MIN. 6 ANCHORS PER CABINET (1 AT EA. CORNER AND 2 AT MIDDLE ROW)
DESIGN VALUES: T=411#, V=354# (INCLUDES Ωo)
- CONCRETE WALLS:
 - 3/8"Ø HKB-TZ AT 14" O.C.
MIN. 6 ANCHORS PER CABINET (1 AT EA. CORNER AND 2 AT MIDDLE ROW)
SD DESIGN VALUES: Tu=587#, Vu=506# (SD VALUES INCLUDE Ωo)

NOTES:

- SEE NOTES ON DRAWING DC-01 & DC-02.
- CABINET DIMENSIONS SHOWN ARE MAXIMUM SIZES. FOR CABINETS OF OTHER SIZES USE FASTENER QUANTITIES FOR NEXT LARGER CABINET SIZE.
- MATERIAL SHOWN AS: WOOD, METAL, CMU, CONCRETE IS THE TYPE OF WALL CONSTRUCTION TO WHICH THE FASTENERS WILL BE ATTACHED. SEE DRAWING DC-02 FOR MATERIAL SPECIFICS AND BACKING REQUIREMENTS FOR STUD WALL TYPES.
- FASTENERS TO BE SPACED EQUALLY IN EACH ROW (OR LINE), PROVIDE MINIMUM QUANTITY OF FASTENERS NOTED ABOVE, UNLESS SPACING REQUIREMENTS DICTATE THE NEED FOR MORE FASTENERS.
- FOR TYPICAL FASTENER TYPES, SEE DRAWING DC-02.



SCALE: NONE

DATE: 3/26/2020

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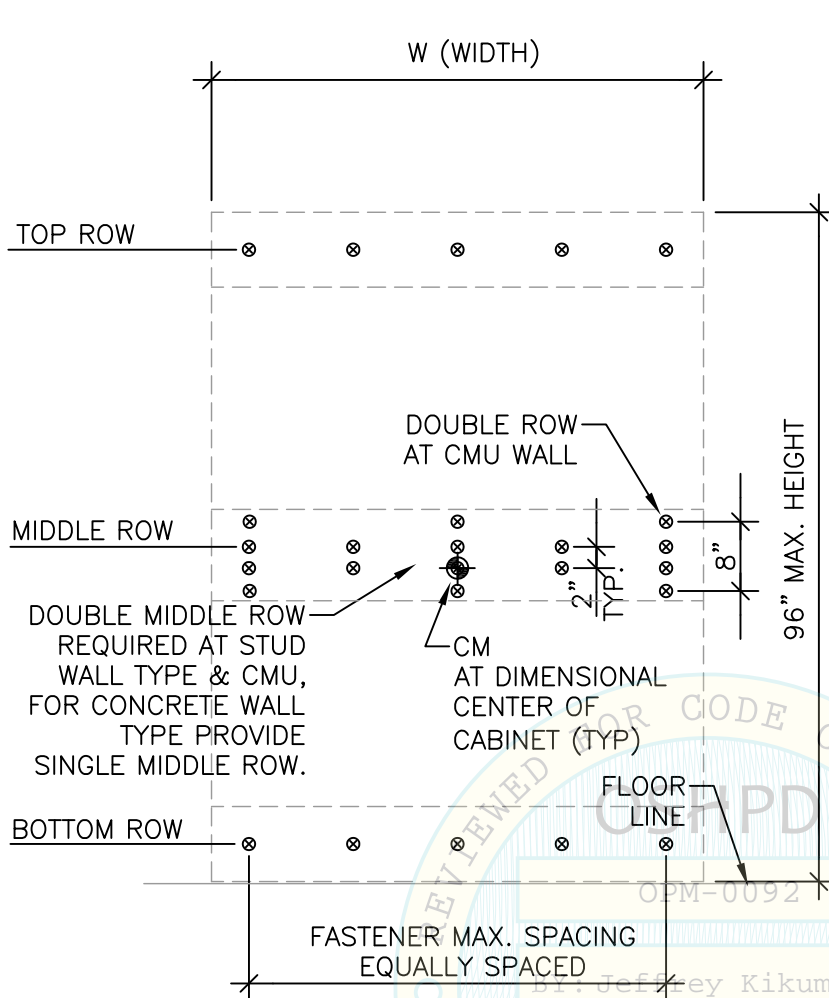


12" DEEP STORAGE CABINET
Woodwork Institute
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West Sacramento, CA 95798-0247
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Drawing No.

OPM-0092
SC-02

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24" DEEP STORAGE CABINET ELEVATION OF BACK PANEL FASTENER LOCATIONS

FASTENER MAX. SPACING & DESIGN VALUES:

1) STUD FRAMED WALLS:

- A) WOOD FRAMED WALLS w/
1 OR 2 LAYERS OF GYP. BOARD
SPACING: 1-#14 SCREW AT 6" O.C.
DESIGN VALUES: T=188#, V=77#
- B) METAL FRAMED WALLS w/
1 LAYER OF GYP. BOARD
SPACING: 1-#14 SCREW AT 5 1/4" O.C.
DESIGN VALUES: T=185#, V=69#
- C) METAL FRAMED WALLS w/
2 LAYERS OF GYP. BOARD
SPACING: 1-#14 SCREW AT 4 1/4" O.C.
DESIGN VALUES: T=182#, V=56#
w/ MINIMUM 8 SCREWS PER CABINET
(1 AT EACH CORNER AND 4 AT MIDDLE ROW)

2) CMU WALLS:

- 1/2" Ø HKB-3 AT 14" O.C.
TOP & BOTTOM ROW
2 - ROWS AT MIDDLE ROW AT 21" O.C.
DESIGN VALUES: T=512#, V=412#
(INCLUDES Ω_o)

3) CONCRETE WALLS:

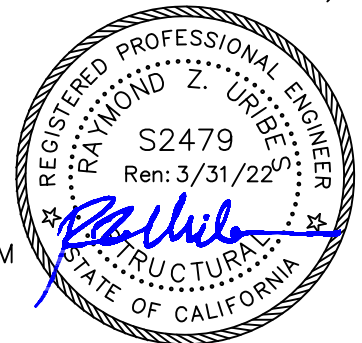
- 1/2" Ø HKB-TZ AT 21" O.C., EA. ROW
SD DESIGN VALUES: T_u=1460#, V_u=1177#
(SD VALUES INCLUDE Ω_o)

CMU & CONCRETE WALLS:

- MIN. 6 ANCHORS PER CABINET
(1 AT EACH CORNER AND 2 AT MIDDLE ROW)

NOTES:

- 1) SEE NOTES ON DRAWING DC-01 & DC-02.
- 2) CABINET DIMENSIONS SHOWN ARE MAXIMUM SIZES. FOR CABINETS OF OTHER SIZES USE FASTENER QUANTITIES FOR NEXT LARGER CABINET SIZE.
- 3) MATERIAL SHOWN AS: WOOD, METAL, CMU, CONCRETE IS THE TYPE OF WALL CONSTRUCTION TO WHICH THE FASTENERS WILL BE ATTACHED. SEE DRAWING DC-02 FOR MATERIAL SPECIFICS AND BACKING REQUIREMENTS FOR STUD WALL TYPES.
- 4) FASTENERS TO BE SPACED EQUALLY IN EACH ROW (OR LINE), PROVIDE MINIMUM QUANTITY OF FASTENERS NOTED ABOVE, UNLESS SPACING REQUIREMENTS DICTATE THE NEED FOR MORE FASTENERS.
- 5) FOR TYPICAL FASTENER TYPES, SEE DRAWING DC-02.



SCALE: NONE

DATE: 3/26/2020

LTK
ASSOCIATES
Incorporated

Structural Engineers
745 Distel Drive
Los Altos, CA 94022
(650) 967- 8465
FAX (650) 967-5148

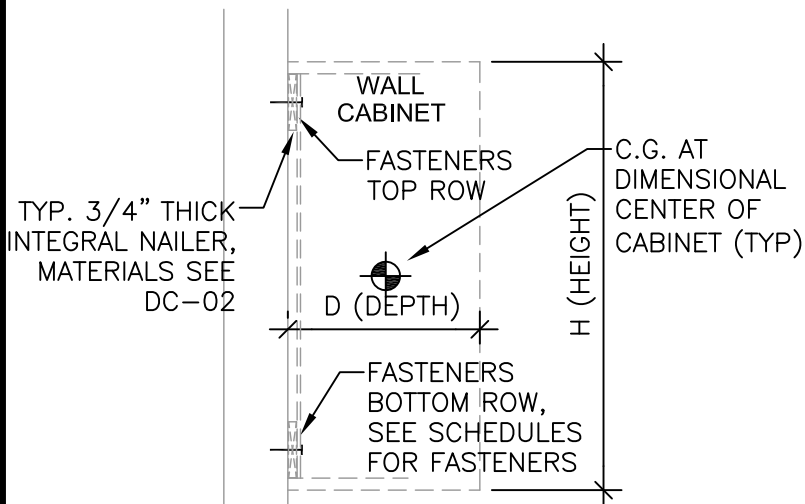


24" DEEP STORAGE CABINET
Woodwork Institute
P.O. Box 980247
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(916) 372-9943
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Drawing No.

OPM-0092
SC-03

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TYP. 3/4" THICK INTEGRAL NAILER, MATERIALS SEE DC-02

ONE OR TWO LAYER 5/8" GYPBRD. ON STUD FRAMED WALLS.

BASE CABINETS NOT INCLUDED IN SCOPE OF THIS OPM

WALL CONSTRUCTION MAY BE OF CONCRETE, CMU, WOOD OR STEEL STUD FRAMING. SEOR TO DESIGN WALL AND CHECK IF CABINETS ON BOTH SIDES OF WALL.

STANDARD WOODWORK CASEWORK:

DIMENSIONS:

D = 14" & 18" MAX.
H = 48" (max)
LENGTH = VARIES

LOADING:

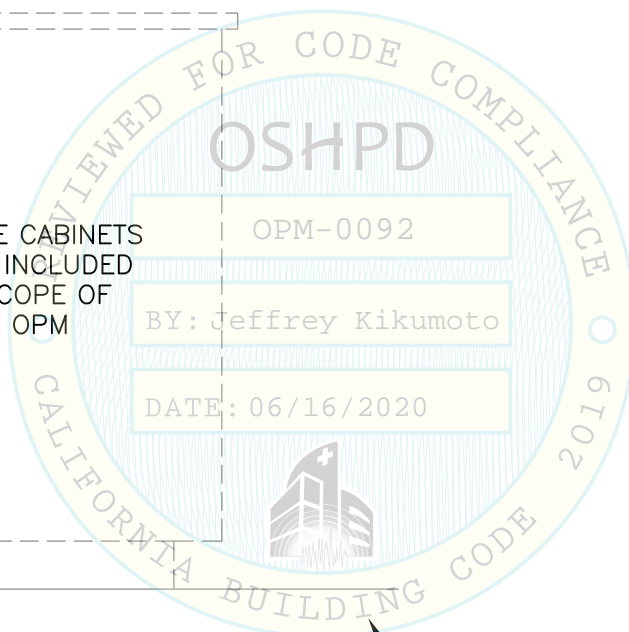
APPROXIMATE EMPTY WEIGHT OF CABINET:
D=14" 50#/FT (10.71 pcf)
D=18" 65#/FT (10.83 pcf)

WALL BACKING & STUDS:

SEE DESIGN CRITERIA DWG. No. DC-02

FASTENERS / ANCHORS:

FOR FASTENER & ANCHOR TYPES, SEE DWG. No. DC-02
FOR FASTENER & ANCHOR LOCATIONS AND SPACING SEE DWG'S. WC-02 & 03



MINIMUM FLOOR CONSTRUCTION: 2 1/2" THICK 3000 PSI SAND LTWT CONC. OVER METAL DECK SEOR TO CHECK FLOOR TO SUPPORT CABINET LOADS.



SCALE: NONE

DATE: 3/26/2020

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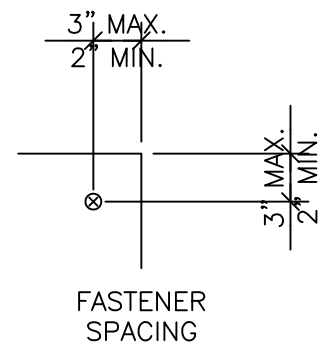
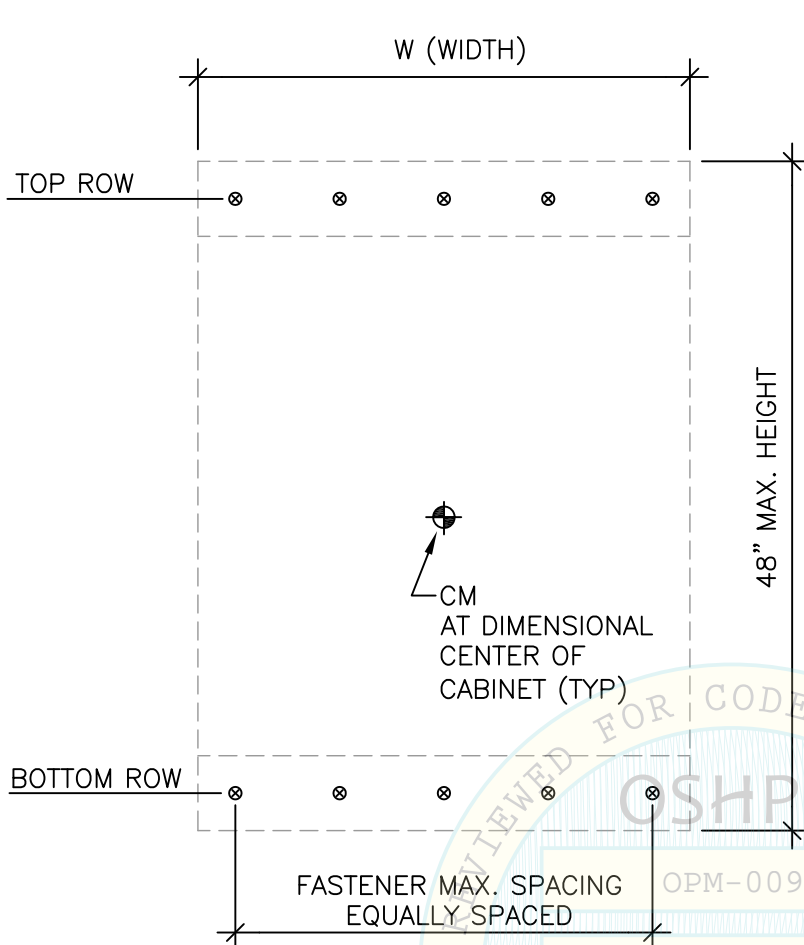
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Los Altos, CA 94022
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FAX (650) 967-5148



WALL CABINET
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WC-01
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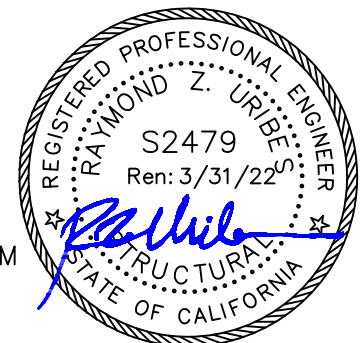
FASTENER MAX. SPACING & DESIGN VALUES:

- 1) STUD FRAMED WALLS (WOOD OR METAL):
 - A) w/ 1 LAYER OF GYP. BOARD
SPACING: 1-#14 SCREW AT 8" O.C.
(7 SCREWS MIN. FOR W=48"
AT WOOD FRAMING)
DESIGN VALUES: T=119#, V=119#
 - B) w/ 2 LAYERS OF GYP. BOARD
SPACING: 1-#14 SCREW AT 6" O.C.
(9 SCREWS MIN. FOR W=48"
AT WOOD FRAMING)
DESIGN VALUES: T=106#, V=89#
w/ MINIMUM 1 SCREW AT EACH CORNER.
- 2) CMU WALLS:
 - (1) 3/8"Ø HKB-3 AT 14" O.C.
MIN. 1 ANCHOR AT EA. CORNER
DESIGN VALUES: T=347#, V=356#
(INCLUDES Ωo)
- 3) CONCRETE WALLS:
 - (1) 3/8"Ø HKB-TZ AT 14" O.C.
MIN. 1 ANCHOR AT EA. CORNER
SD DESIGN VALUES: Tu=625#, Vu=629#
(SD VALUES INCLUDE Ωo)

14" DEEP WALL HUNG CABINET ELEVATION OF CABINET BACK FASTENER LOCATIONS

NOTES:

- 1) SEE NOTES ON DRAWING DC-01 & DC-02.
- 2) CABINET DIMENSIONS SHOWN ARE MAXIMUM SIZES. FOR CABINETS OF OTHER SIZES USE FASTENER QUANTITIES FOR NEXT LARGER CABINET SIZE.
- 3) MATERIAL SHOWN AS: WOOD, METAL, CMU, CONCRETE IS THE TYPE OF WALL CONSTRUCTION TO WHICH THE FASTENERS WILL BE ATTACHED. SEE DRAWING DC-02 FOR MATERIAL SPECIFICS AND BACKING REQUIREMENTS FOR STUD WALL TYPES.
- 4) FASTENERS TO BE SPACED EQUALLY IN EACH ROW (OR LINE), PROVIDE MINIMUM QUANTITY OF FASTENERS NOTED ABOVE, UNLESS SPACING REQUIREMENTS DICTATE THE NEED FOR MORE FASTENERS.
- 5) FOR TYPICAL FASTENER TYPES, SEE DRAWING DC-02.



SCALE: NONE

DATE: 3/26/2020

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Los Altos, CA 94022
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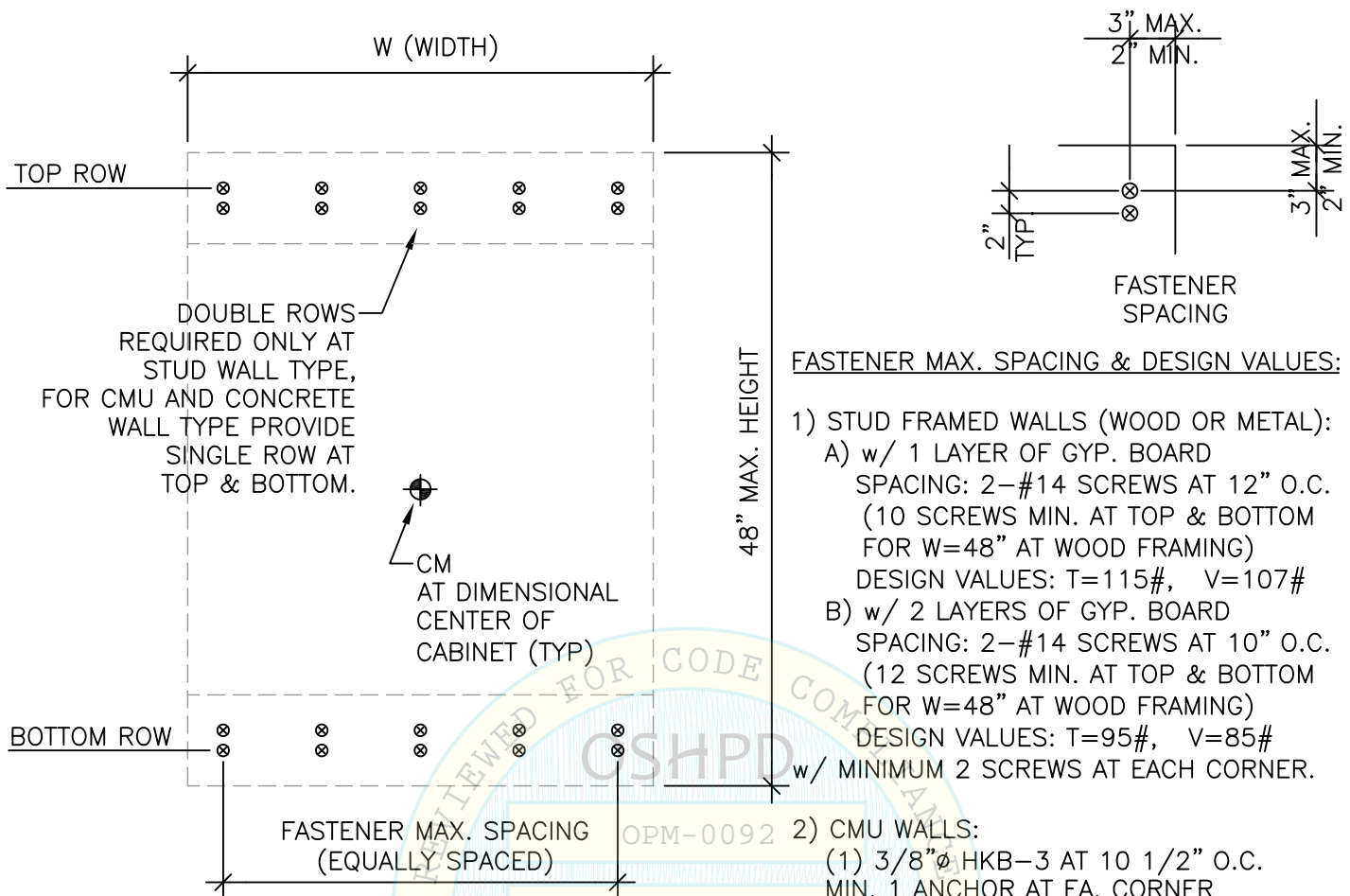


14" DEEP WALL CABINET
Woodwork Institute
P.O. Box 980247
West Sacramento, CA 95798-0247
(916) 372-9943
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Drawing No.

OPM-0092
WC-02

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18" DEEP WALL HUNG CABINET ELEVATION OF CABINET BACK FASTENER LOCATIONS

FASTENER MAX. SPACING & DESIGN VALUES:

1) STUD FRAMED WALLS (WOOD OR METAL):

A) w/ 1 LAYER OF GYP. BOARD

SPACING: 2-#14 SCREWS AT 12" O.C.
(10 SCREWS MIN. AT TOP & BOTTOM
FOR W=48" AT WOOD FRAMING)

DESIGN VALUES: T=115#, V=107#

B) w/ 2 LAYERS OF GYP. BOARD

SPACING: 2-#14 SCREWS AT 10" O.C.
(12 SCREWS MIN. AT TOP & BOTTOM
FOR W=48" AT WOOD FRAMING)

DESIGN VALUES: T=95#, V=85#

w/ MINIMUM 2 SCREWS AT EACH CORNER.

2) CMU WALLS:

(1) 3/8" Ø HKB-3 AT 10 1/2" O.C.
MIN. 1 ANCHOR AT EA. CORNER

DESIGN VALUES: T=461#, V=427#
(INCLUDES Ω_o)

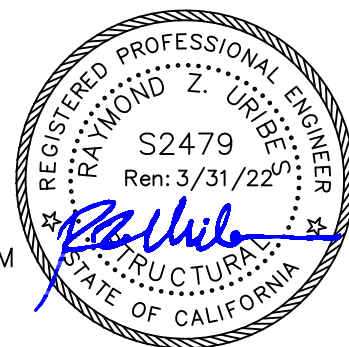
3) CONCRETE WALLS:

(1) 3/8" Ø HKB-TZ AT 10 1/2" O.C.
MIN. 1 ANCHOR AT EA. CORNER

SD DESIGN VALUES: T_u=638#, V_u=566#
(SD VALUES INCLUDE Ω_o)

NOTES:

- 1) SEE NOTES ON DRAWING DC-01 & DC-02.
- 2) CABINET DIMENSIONS SHOWN ARE MAXIMUM SIZES. FOR CABINETS OF OTHER SIZES USE FASTENER QUANTITIES FOR NEXT LARGER CABINET SIZE.
- 3) MATERIAL SHOWN AS: WOOD, METAL, CMU, CONCRETE IS THE TYPE OF WALL CONSTRUCTION TO WHICH THE FASTENERS WILL BE ATTACHED. SEE DRAWING DC-02 FOR MATERIAL SPECIFICS AND BACKING REQUIREMENTS FOR STUD WALL TYPES.
- 4) FASTENERS TO BE SPACED EQUALLY IN EACH ROW (OR LINE), PROVIDE MINIMUM QUANTITY OF FASTENERS NOTED ABOVE, UNLESS SPACING REQUIREMENTS DICTATE THE NEED FOR MORE FASTENERS.
- 5) FOR TYPICAL FASTENER TYPES, SEE DRAWING DC-02.



SCALE: NONE

DATE: 3/26/2020

LTK
ASSOCIATES
Incorporated

Structural Engineers
745 Distel Drive
Los Altos, CA 94022
(650) 967- 8465
FAX (650) 967-5148



18" DEEP WALL CABINET
Woodwork Institute
P.O. Box 980247
West Sacramento, CA 95798-0247
(916) 372-9943
www.woodworkinstitute.com

Drawing No.

OPM-0092
WC-03

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