



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

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

OFFICE USE ONLY	
APPLICATION #:	OPM-0092-13

OSHPD Preapproval of Manufacturer's Certification (OPM)

Type: New Renewal Update to Pre-CBC 2013 OPA Number: _____

Manufacturer Information

Manufacturer: Woodwork Institute

Manufacturer's Technical Representative: Rob Stanley

Mailing Address: P.O. Box 980247, West Sacramento, CA 95798

Telephone: 916-372-9943 Email: drob@woodinst.com

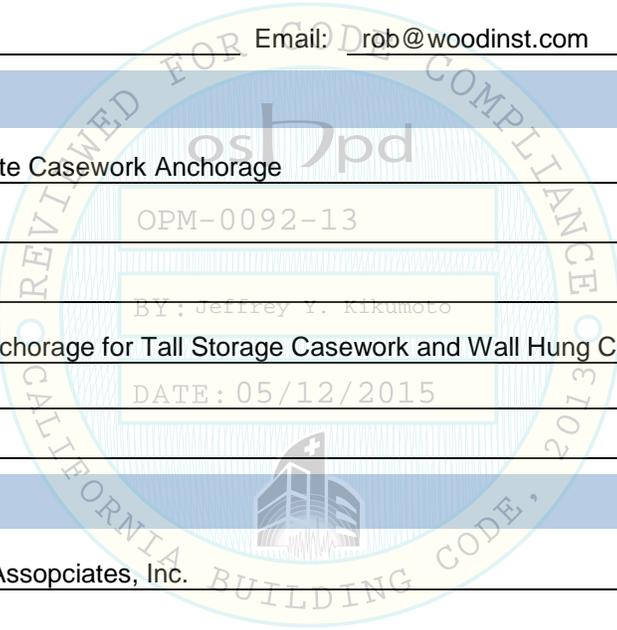
Product Information

Product Name: Woodwork Institute Casework Anchorage

Product Type: Casework OPM-0092-13

Product Model Number: _____

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



Applicant Information

Applicant Company Name: LTK Assopciates, Inc.

Contact Person: Ray Uribes

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

Telephone: 650-967-8465 Email: ltk@ltkse.com

I hereby agree to reimburse the Office of Statewide Health Planning and Development review fees in accordance with the California Administrative Code, 2013.

Signature of Applicant:  Date: 4/1/2014

Title: President Company Name: LTK Associates, Inc.

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





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

Registered Design Professional Preparing Engineering Recommendations

Company Name: LTK Associates, Inc.

Name: Ray Uribes California License Number: S2479

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

Telephone: 650-967-8465 Email: ltk@ltkse.com

OSHPD Special Seismic Certification Preapproval (OSP)

- Special Seismic Certification is preapproved under OSP- (Separate application for OSP is required)
- Special Seismic Certification is not preapproved

Certification Method(s)

- Testing in accordance with: ICC-ES AC156 FM 1950-10
- Other* (Please Specify): _____

*Use of criteria other than those adopted by the California Building Standards Code, 2013 (CBSC 2013) 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 2013 may be used when approved by OSHPD prior to testing.

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

List of Attachments Supporting the Manufacturer's Certification

- Test Report Drawings Calculations Manufacturer's Catalog
- Other(s) (Please Specify): _____

OFFICE USE ONLY – OSHPD APPROVAL VALID FOR CBC 2013 ONLY

Signature:  Date: 05/12/2015

Print Name: Jeffrey Kikumoto

Title: SSE

Condition of Approval (if applicable): _____

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



WOODWORK INSTITUTE

CASEWORK SUPPORTS & ATTACHMENTS

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

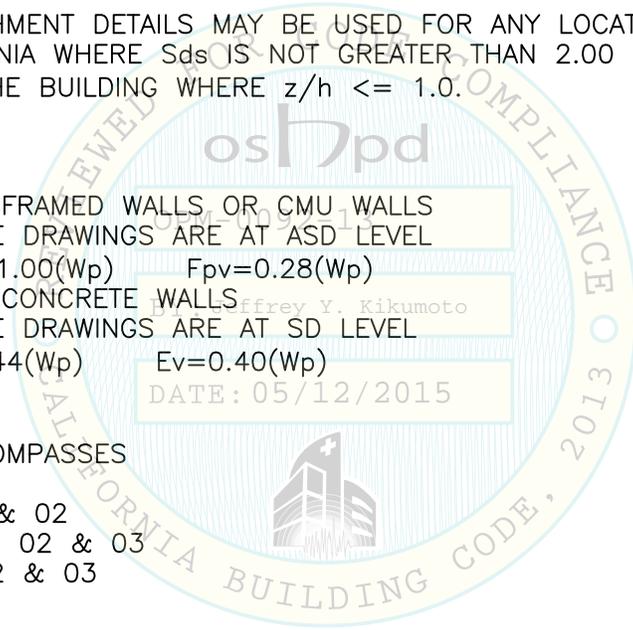
OPM-0092-13

SUPPORTS & ATTACHMENTS DESIGNED FOR:
2013 CALIFORNIA BUILDING CODE (CBC)
ASCE 7-10 INCLUDING SUPPLEMENTS 1 & 2

IMPORTANCE FACTOR:	$I_p=1.5$
DESIGN S.R.A., SHORT PERIOD:	$S_{ps}=2.00$
COMP. AMP. FACTOR:	$a_p=1.0$ (ASCE 7-10
COMP. RESPONSE MOD. FACTOR:	$R_p=2.5$ TABLE 13.5.1)
OVERSTRENGTH FACTOR:	$\Omega_o=2.5$ (REQ'D FOR ANCHORAGE TO CONCRETE)

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: $F_p=1.44(W_p)$ $E_v=0.40(W_p)$



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: 5/08/2015		DESIGN CRITERIA Woodwork Institute P.O. Box 980247 West Sacramento, CA 95798-0247 (916) 372-9943 www.woodworkinstitute.com	Drawing No. OPM-0092-13 DC-01 1 of 8
LTK ASSOCIATES Incorporated Structural Engineers 745 Distel Drive Los Altos, CA 94022 (650) 967-8465 FAX (650) 967-5148				

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 FASTNRS 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)
3/8"Ø HILTI KWIK BOLT-3
w/ 2 1/2" EMBED. & 4" MIN. EDGE DIST.
ICC ESR-1385, 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:

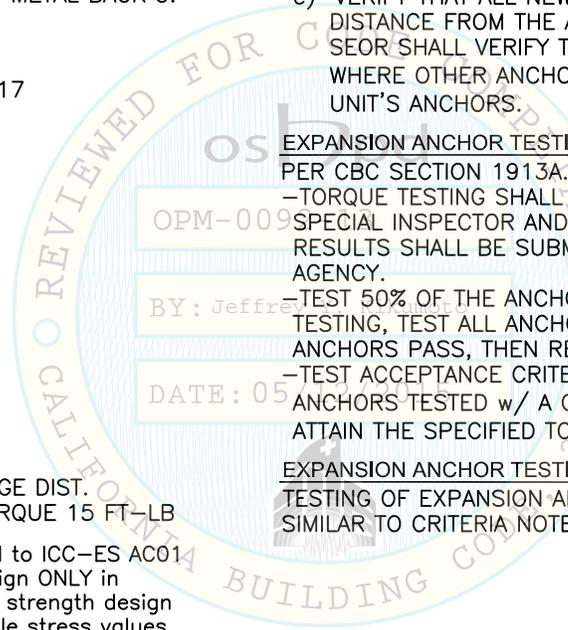
- 1) THIS OSHPD PREAPPROVAL OF MANUFACTURER'S CERTIFICATION (OPM) IS BASED ON THE CBC 2013. THE DEMAND (DESIGN FORCES) FOR USE WITH THIS OPM SHALL BE BASED ON THE CBC 2013.
- 2) STRUCTURAL ENGINEER OF RECORD IS RESPONSIBLE FOR:
 - a) THE DESIGN OF THE STRUCTURE (FLOOR, WALL, BACKING) TO SUPPORT THE FORCES 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 1913A.7
-TORQUE TESTING SHALL BE DONE IN THE PRESENCE OF THE SPECIAL INSPECTOR AND A REPORT OF THE TEST RESULTS SHALL BE SUBMITTED TO THE ENFORCEMENT AGENCY.
-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:

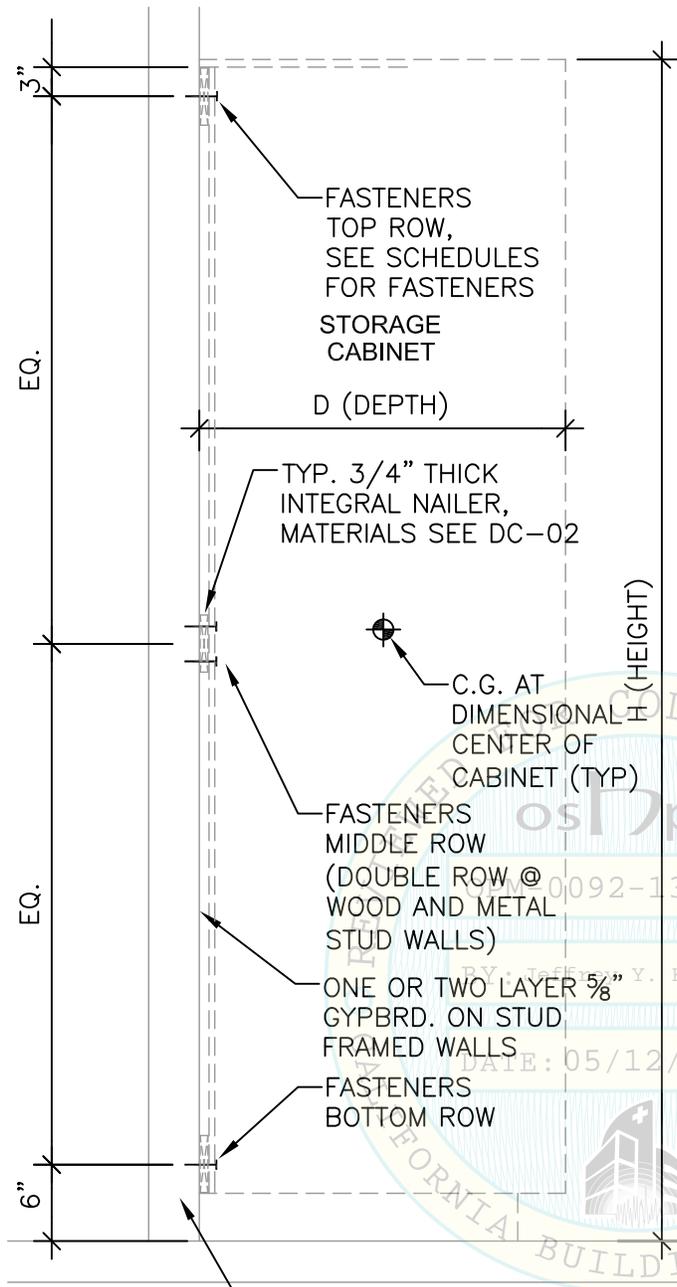
TESTING OF EXPANSION ANCHORS IN CMU, SIMILAR TO CRITERIA NOTED ABOVE.



OPM-009
BY: Jeffrey
DATE: 05



SCALE: NONE	DATE: 5/08/2015		DESIGN CRITERIA	Drawing No.
			Woodwork Institute P.O. Box 980247 West Sacramento, CA 95798-0247 (916) 372-9943 www.woodworkinstitute.com	OPM-0092-13 DC-02 2 of 8



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:

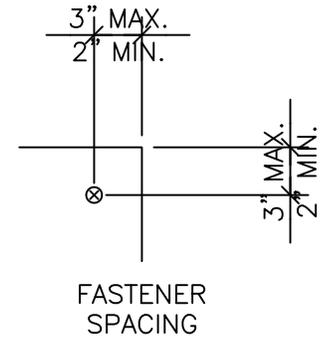
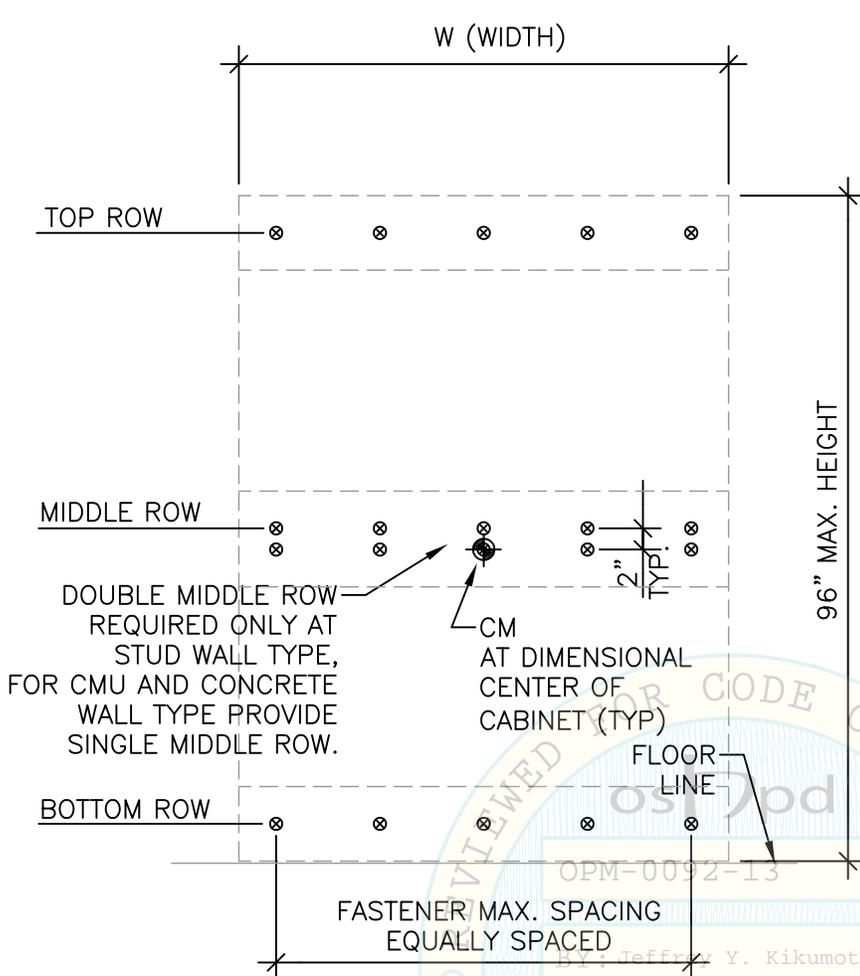
FOR FASTENER AND ANCHOR TYPES,
 SEE DWG. No. DC-02
 FOR FASTENER & ANCHOR LOCATIONS
 AND SPACING SEE DWG'S. SC-02 & 03

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	DATE: 5/08/2015	 <p>STORAGE CABINET Woodwork Institute P.O. Box 980247 West Sacramento, CA 95798-0247 (916) 372-9943 www.woodworkinstitute.com</p>	Drawing No.
 <p>Structural Engineers 745 Distel Drive Los Altos, CA 94022 (650) 967- 8465 FAX (650) 967-5148</p>			<p>OPM-0092-13 SC-01 3 of 8</p>



FASTENER MAX. SPACING & DESIGN VALUES:

- 1) STUD FRAMED WALLS (WOOD OR METAL):
 - A) w/ 1 LAYER OF GYP. BOARD
SPACING: 1-#14 SCREW AT 12" O.C.
DESIGN VALUES: T=103#, V=89#
 - B) 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).
- 2) CMU WALLS:
(1) 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=205#, V=177#
- 3) CONCRETE WALLS:
(1) 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=733#, Vu=632#
(SD VALUES INCLUDE Ωo)

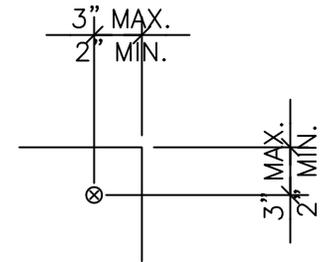
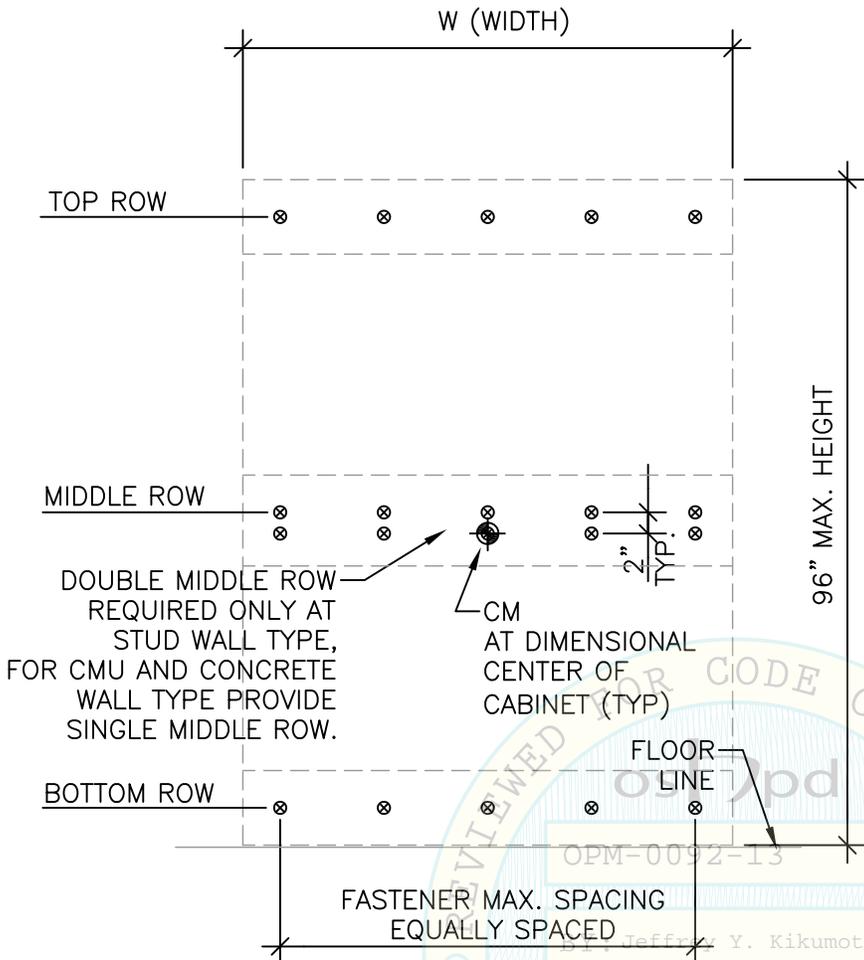
**12" DEEP STORAGE CABINET
ELEVATION OF BACK PANEL
FASTENER LOCATIONS**

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: 5/08/2015		12" DEEP STORAGE CABINET Woodwork Institute P.O. Box 980247 West Sacramento, CA 95798-0247 (916) 372-9943 www.woodworkinstitute.com	Drawing No. OPM-0092-13 SC-02 4 of 8
Structural Engineers 745 Distel Drive Los Altos, CA 94022 (650) 967-8465 FAX (650) 967-5148				



FASTENER SPACING

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) 3/8"Ø HKB-3 AT 14" O.C.
DESIGN VALUES: T=422#, V=309#
- 3) CONCRETE WALLS:
 - (1) 1/2"Ø HKB-TZ AT 21" O.C.
SD DESIGN VALUES: Tu=1825#, Vu=1471#
(SD VALUES INCLUDE Ωo)
- CMU & CONCRETE WALLS:
MIN. 6 ANCHORS PER CABINET
(1 AT EACH CORNER AND 2 AT MIDDLE ROW)

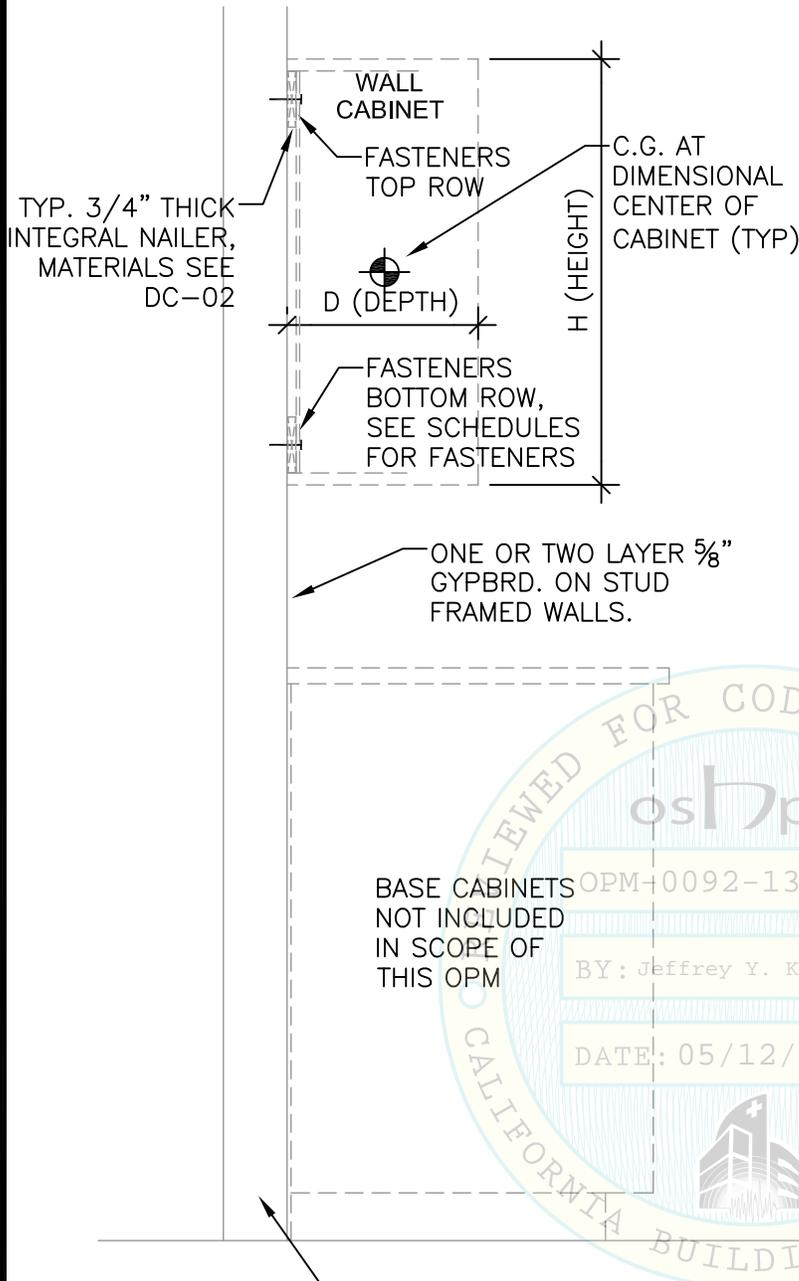
**24" DEEP STORAGE CABINET
ELEVATION OF BACK PANEL
FASTENER LOCATIONS**

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: 5/08/2015		24" DEEP STORAGE CABINET Woodwork Institute P.O. Box 980247 West Sacramento, CA 95798-0247 (916) 372-9943 www.woodworkinstitute.com	Drawing No. OPM-0092-13 SC-03 5 of 8
LTK ASSOCIATES Incorporated Structural Engineers 745 Distel Drive Los Altos, CA 94022 (650) 967-8465 FAX (650) 967-5148				



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:

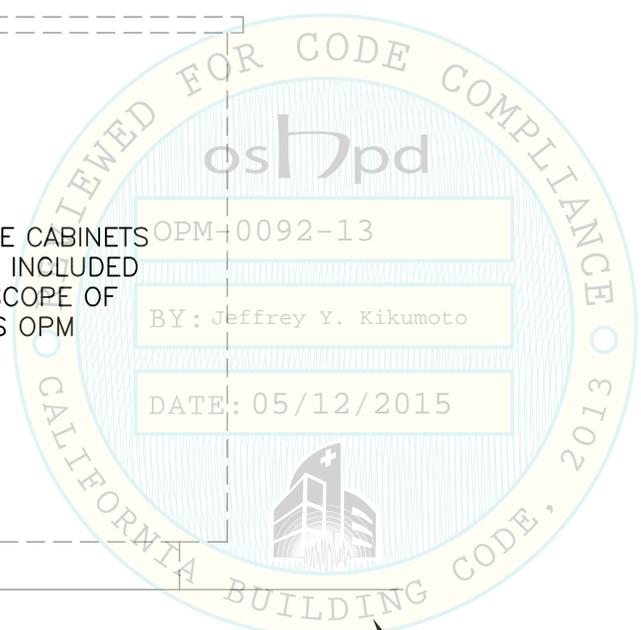
SEE DESIGN CRITERIA DWG. No. DC-02

FASTENERS / ANCHORS:

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

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

BASE CABINETS
 NOT INCLUDED
 IN SCOPE OF
 THIS OPM

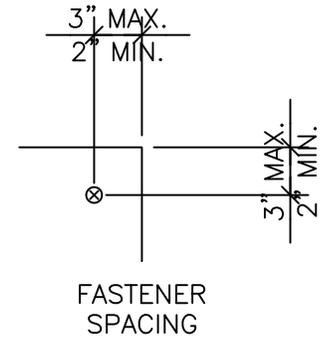
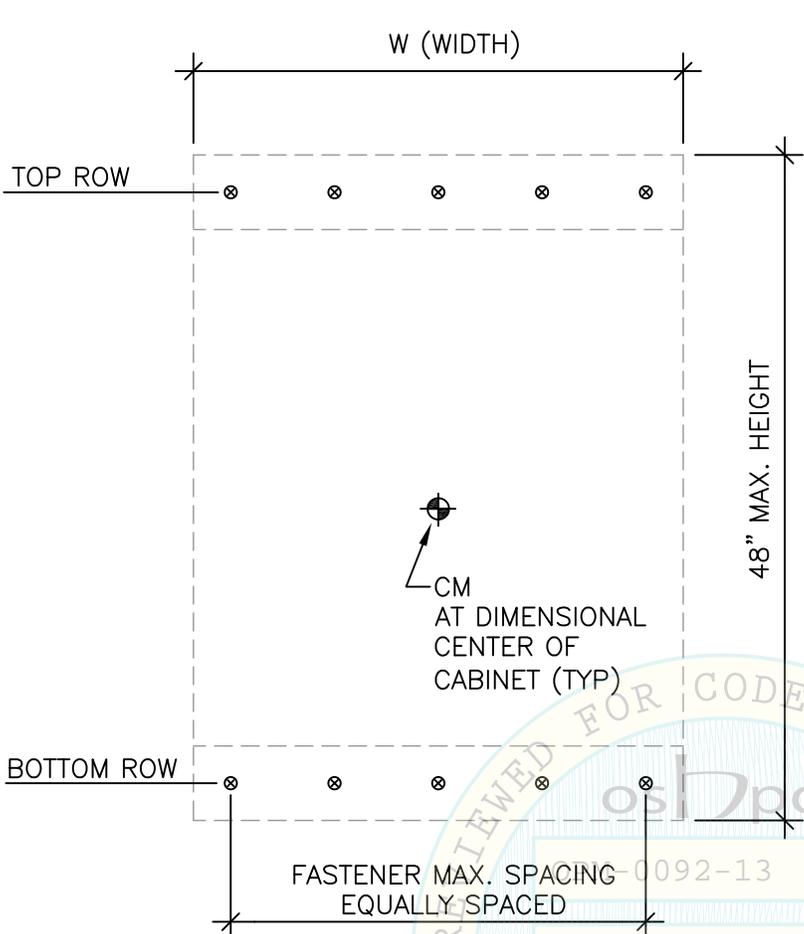


WALL CONSTRUCTION
 MAY BE OF CONCRETE,
 CMU, WOOD OR STEEL
 STUD FRAMING.
 SEOR TO DESIGN WALL
 AND CHECK IF CABINETS
 ON BOTH SIDES OF WALL.

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: 5/08/2015		WALL CABINET Woodwork Institute P.O. Box 980247 West Sacramento, CA 95798-0247 (916) 372-9943 www.woodworkinstitute.com	Drawing No. OPM-0092-13 WC-01 6 of 8
LTK ASSOCIATES Incorporated Structural Engineers 745 Distel Drive Los Altos, CA 94022 (650) 967- 8465 FAX (650) 967-5148				



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=174#, V=178#
- 3) CONCRETE WALLS:
 - (1) 3/8"Ø HKB-TZ AT 14" O.C.
 MIN. 1 ANCHOR AT EA. CORNER
 SD DESIGN VALUES: Tu=604#, Vu=589#
 (SD VALUES INCLUDE Ωo)

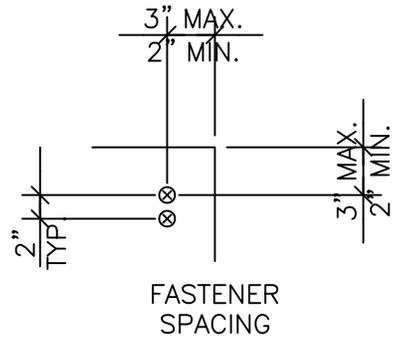
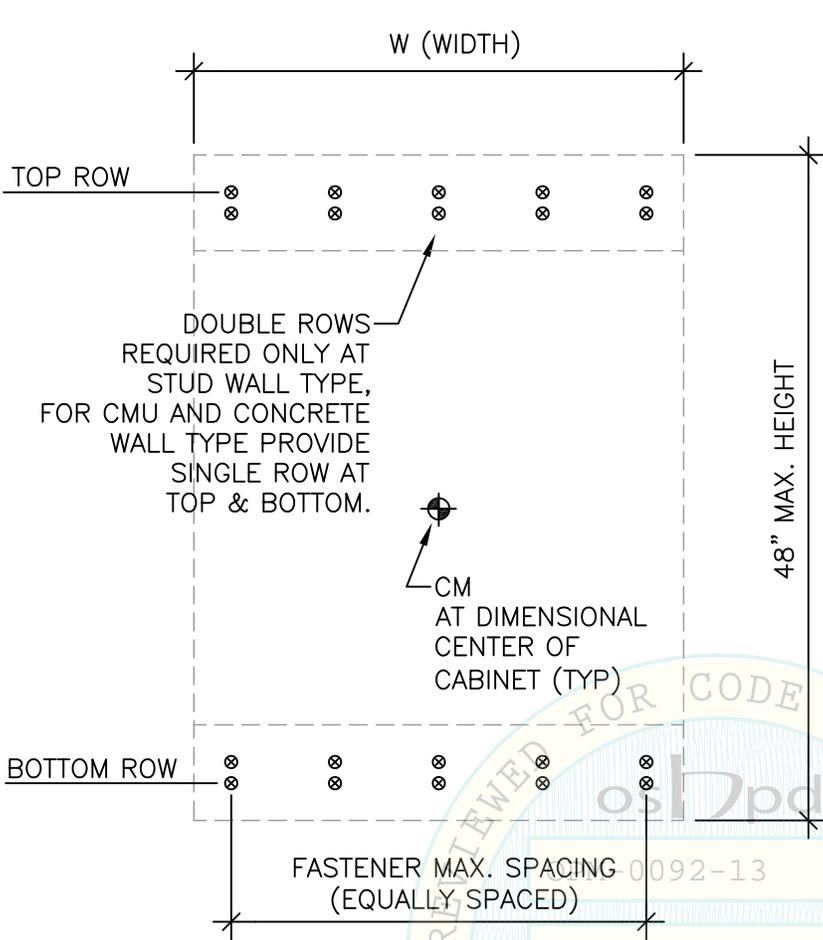
**14" DEEP WALL HUNG CABINET
 ELEVATION OF CABINET BACK
 FASTENER LOCATIONS**

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: 5/08/2015		14" DEEP WALL CABINET Woodwork Institute P.O. Box 980247 West Sacramento, CA 95798-0247 (916) 372-9943 www.woodworkinstitute.com	Drawing No. OPM-0092-13 WC-02 7 of 8
LTK ASSOCIATES Incorporated Structural Engineers 745 Distel Drive Los Altos, CA 94022 (650) 967-8465 FAX (650) 967-5148				



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=191#, V=171#
- 3) CONCRETE WALLS:
 - (1) 3/8"Ø HKB-TZ AT 10 1/2" O.C. MIN. 1 ANCHOR AT EA. CORNER
SD DESIGN VALUES: Tu=661#, Vu=566# (SD VALUES INCLUDE Ωo)

**18" 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: 5/08/2015		18" DEEP WALL CABINET Woodwork Institute P.O. Box 980247 West Sacramento, CA 95798-0247 (916) 372-9943 www.woodworkinstitute.com	Drawing No. OPM-0092-13 WC-03 8 of 8
LTK ASSOCIATES Incorporated Structural Engineers 745 Distel Drive Los Altos, CA 94022 (650) 967- 8465 FAX (650) 967-5148				