PROJECT

901 N. LAUREL AVE.
LOS ANGELES, CA 90046
OWNER: LI INVESTMENTS LLC

City of Los Angeles, Department of Building & Safety
APPROVED PLANS

1. This **perforated** set of plans are not approval for construction until the required permit fees are paid and the permit is issued.
2. The permit(s) is valid for two years from the date the permit fees are paid.
3. Visit http://www.permitla.org/lpar/index.cfm to check the status of this set of plans by entering the 16 digit Permit number. "Issued" status means the permit fees have been paid.
4. No inspection can be scheduled until the permit fees are paid.

BY: Heather Conklin DATE: FEB. 7 2013
Permit No.: 13010 - 20000 - 87965
Application No. 13030 - 20000 - 20601

5. This set of plans **MUST** be at the job site during construction.
6. It is unlawful to alter, change, or deviate from these plans.
7. The stamping of this plan **SHALL NOT** be held to permit or to be an approval of the violation of any provisions of any Ordinance or Law.
8. **SEPARATE** permits are required for **BUILDING, ELECTRICAL, PLUMBING, FIRE SPRINKLER, ELEVATOR, HEATING or REFRIGERATION** work, unless this permit was issued as a combination permit for a One or Two Family Dwelling pursuant to LAMC Section 91.0107.2.2. and the work by that trade does not require Plan Check.

BUILDING ANALYSIS

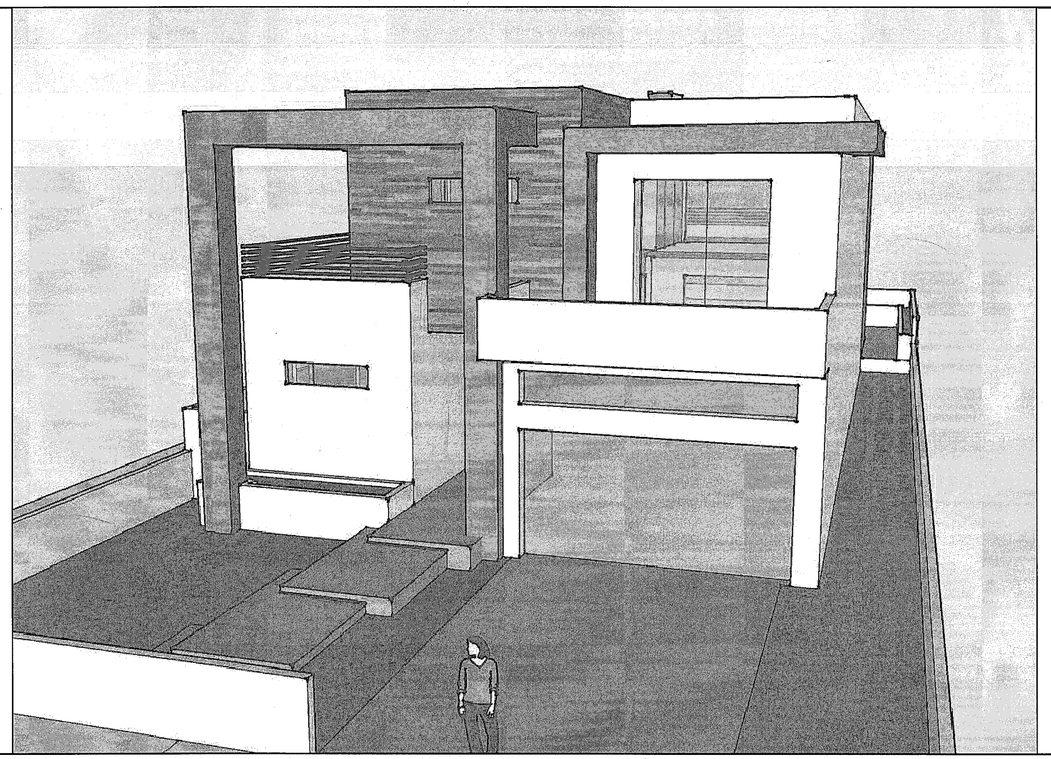
CONSTRUCTION :	TYPE VB
OCCUPANCY GROUP:	R-3 / U
GOVERNING BUILDING CODE:	LARC 2011
LEGAL DESCRIPTION :	LOT 26 BLOCK NONE
TRACT:	TR 3425
LOT AREA:	6,601.8 SQ.FT.
APN# :	5529023012
ZONING :	R1-1
STORY:	2 STORY
BUILDING HEIGHT:	28'-0"
BUILDING SETBACK:	REAR: 15'-6" SIDE: 6'-0", 6'-0" FRONT: 25'-0"

FLOOR AREA

1ST FLOOR	2167 SQ. FT.
SECOND FLOOR	2214 SQ. FT.
TOTAL :	4381 SQ. FT.
2 CAR GARAGE	407 SQ. FT.
PATIO	294 SQ. FT.

ZONING AREA

1ST FLOOR	2012 SQ. FT.
SECOND FLOOR	1794 SQ. FT.
TOTAL :	3806 SQ. FT.
2 CAR GARAGE	381 SQ. FT.
PATIO	294 SQ. FT.



SHEET INDEX

ARCHITECTURAL	A0.0	COVER SHEET
	A1.0	GREEN BUILDING FORMS
	A1.1	GREEN NOTES
	A1.2	GENERAL NOTES
	A2.0	SITE PLAN
	A2.1	MANSIONIZATION CALCULATION
	A2.2	VOLUME CALCULATION
	A3.0	FIRST FLOOR PLAN
	A3.1	SECOND FLOOR PLAN
	A3.2	FIRST FLOOR LIGHTING PLAN
	A3.3	SECOND FLOOR LIGHTING PLAN
	A3.4	FIRST FLOOR CEILING PLAN
	A3.5	SECOND FLOOR CEILING PLAN
	A4.0	ROOF PLAN
	A5.0	SECTION
	A6.0	ELEVATIONS
	A6.1	ELEVATIONS
	A7.0	DOORS & WINDOW SCHEDULE
	AD-1	ARCHITECTURAL DETAILS
	AD-2	ARCHITECTURAL DETAILS
	AD-3	ARCHITECTURAL DETAILS
STRUCTURAL	SO-1.1	STRUCTURAL OBSERVATION
	S-1.1	STRUCTURAL SPECIFICATIONS
	S-1.2	STRUCTURAL SPECIFICATIONS
	S-1.3A	STRUCTURAL QUALITY ASSURANCE PLAN
	S-1.3B	STRUCTURAL QUALITY ASSURANCE PLAN
	S-1.3C	STRUCTURAL QUALITY ASSURANCE PLAN
	S-2.1	FOUNDATION DETAILS
	S-2.2	FOUNDATION DETAILS
	S-2.3	FOUNDATION DETAILS
	S-3.1	SHEAR WALL SCHEDULE
	S-3.2	SHEAR WALL DETAILS
	S-3.3	FRAMING DETAILS
	S-3.4	FRAMING DETAILS
	S-3.5	FRAMING DETAILS
	S-3.6	FRAMING DETAILS
	S-3.7	FRAMING DETAILS
	S-3.8	FRAMING DETAILS
	S-3.9	FRAMING DETAILS
	S-4.1	FOUNDATION PLAN
	S-5.1	SECOND FLOOR FRAMING PLAN
	S-5.2	ROOF FRAMING PLAN
	SSW1	SSW (STEEL STRONG WALL)

DESIGNS, INC.

RESIDENTIAL, COMMERCIAL
& INTERIOR DESIGN SERVICES

NATHALIE GISPAN 818.915.4119
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www.NEDESIGNSINC.com

General Notes

No.	Revision/Issue	Date

Project
901 N. LAUREL AVE.
LOS ANGELES, CA 90046

NEW 2 STORY HOUSE

Drawing Title
COVER SHEET

Project 12-553	Sheet A0.0
Date 02-04-13	
Scale N.T.S.	

SCOPE OF WORK

* NEW 2 STORY HOUSE WITH ATTACHED GARAGE

* BUILDING SHALL BE EQUIPED WITH AN AUTOMATIC RESIDENTIAL FIRE SPRINKLER IN ACCORDANCE WITH SECTION R313.3 OR NFPA13D. (R313, 12.21A17(D))

CONSULTANTS

STRUCTURAL ENGINEER

HRD ENGINEERING
7463 VARNA AVE.
NORTH HOLLYWOOD, CA
91605
(805) 431-5415

OWNER

LI INVESTMENTS LLC
1180 BEVERLY DR.
LOS ANGELES, CA 90035

City of Los Angeles
Department of Building and Safety
Green Building Division

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By: Molly Young Total of 11 Sheets

Date: 2/8/2013

VICINITY MAP

City of Los Angeles
Department of Building and Safety
Green Building Division

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By: _____ Total of _____ Sheets

Date: _____

STORM WATER POLLUTION CONTROL

(2011 Los Angeles Green Building Code)

FORM GRN 1

Storm Water Pollution Control Requirements for Construction Activities
Minimum Water Quality Protection Requirements for All Construction Projects

The following notes shall be incorporated in the approved set of construction/grading plans and represents the minimum standards of good housekeeping which must be implemented on all construction projects.

Construction means constructing, clearing, grading or excavation that result in soil disturbance. Construction includes structure teardown (demolition). It does not include routine maintenance to maintain original line and grade, hydraulic capacity, or original purpose of facility; emergency construction activities required to immediately protect public health and safety; interior remodeling with no outside exposure of construction material or construction waste to storm water; mechanical permit work; or sign permit work. (Order No. 01-182, NPDES Permit No. CAS004001 – Part 5: Definitions)

1. Eroded sediments and pollutants shall be retained on site and shall not be transported from the site via sheet slow, swales, area drains, natural drainage or wind.
2. Stockpiles of earth and other construction-related materials shall be covered and/or protected from being transported from the site by wind or water.
3. Fuels, oils, solvents and other toxic materials must be stored in accordance with their listing and shall not contaminate the soil nor the surface waters. All approved toxic storage containers are to be protected from the weather. Spills must be cleaned up immediately and disposed of properly and shall not be washed into the drainage system.
4. Non-storm water runoff from equipment and vehicle washing and any other activity shall be contained on the project site.
5. Excess or waste concrete may not be washed into the public way or any drainage system. Provisions shall be made to retain concrete waste on-site until it can be appropriately disposed of or recycled.
6. Trash and construction –related solid wastes must be deposited into a covered receptacle to prevent contamination of storm water and dispersal by wind.
7. Sediments and other materials shall not be tracked from the site by vehicle traffic. The construction entrance roadways must be stabilized so as to inhibit sediments from being deposited into the street/public ways. Accidental depositions must be swept up immediately and may not be washed down by rain or by any other means.
8. Retention basins of sufficient size shall be provided to retain storm water runoff on-site and shall be properly located to collect all tributary site runoff.
9. Where retention of storm water runoff on-site is not feasible due to site constraints, runoff may be conveyed to the street and the storm drain system provided that an approved filtering system is installed and maintained on-site during the construction duration.

VOC CONTENT VERIFICATION CHECKLIST

(2011 Los Angeles Green Building Code)

FORM GRN 2

VOC content verification of paints, coatings, carpets, cushions, resilient flooring, adhesives, sealants, and caulks.

Attach product specification sheets and other supporting documents. Use additional sheets if necessary.

Item #	Product Category (e.g. paint, carpet, adhesive)	Product Manufacturer	Product Specification (e.g. model #)	VOC Content (in grams/liter) or Standard (e.g. Green Label Plus)	Allowable VOC Content (in grams/liters)

FORMALDEHYDE EMISSIONS VERFICATION CHECKLIST

(2011 Los Angeles Green Building Code)

FORM GRN 3

Formaldehyde emissions verification of non-structural engineered wood, hardwood plywood, particleboard, and medium density fiberboard composite wood.

Attach product specification sheets and other supporting documents. Use additional sheets if necessary.

Item #	Product Category (e.g. particleboard, hardwood plywood, etc..)	Product Manufacturer	Product Specification	Formaldehyde Content (in parts per million)	Formaldehyde Limits (in parts per million)

2011 Los Angeles Green Building Code and 2012 CALGreen Supplement

FORM GRN 4

MANDATORY REQUIREMENTS CHECKLIST

NEW/LY-CONSTRUCTED RESIDENTIAL BUILDINGS OF SIX STORIES OR LESS

(INCORPORATE THIS FORM INTO THE PLANS)

Project Address: 901 N. Laurel Ave Date: 1/21/12

ITEM #	CODE SECTION	REQUIREMENT	REFERENCE SHEET (Sheet # or N/A)	COMMENTS (e.g. note # or detail #)
		PLANNING AND DESIGN		
1	4.106.2	Storm water drainage and retention during construction	A1.0	Grn Form 1
2	4.106.3	Grading and paving	A2.0	Site Plan
3	4.106.6	Electric vehicle supply wiring	A3.0	Note #13
		ENERGY EFFICIENCY		
4	4.210.1	Appliance rating	A1.1	Note # 13
5	4.211.4	Future access for electrical solar system	A4.0	
6	4.211.4.1	Space for future electrical solar system	A4.0	
		WATER EFFICIENCY & CONSERVATION		
7	4.303.1	20 percent savings	A1.1	Table 4.303.2
8	4.303.2	Multiple showerheads serving one shower	A1.1	#5
9	4.304.1	Irrigation controllers	A3.0	
10	4.304.1.1	Irrigation design		
		MATERIAL CONSERVATION & RESOURCE EFFICIENCY		
11	4.406.1	Rodent proofing	A1.1	Note #7
12	4.407.3	Flashing details	AD-2/AD-1	Detail #12 & #14
13	4.407.4	Material protection	A1.1	Note #8
14	4.408.1	Construction waste reduction of at least 50 percent	A2.0	Note #5
15	4.410.1	Operation and maintenance manual	A1.1	Note #24
		ENVIRONMENTAL QUALITY		
16	4.503.1	Fireplaces and woodstoves	AD-3	
17	4.504.1	Covering of duct openings and protection of mechanical equipment during construction	A1.1	Note #17
18	4.504.2	Finish material pollutant control	A1.1	Note #12
19	4.504.2.1	– Adhesives, sealants, caulks	↓	↓
20	4.504.2.2	– Paints and coatings		
21	4.504.2.3	– Aerosol paints and coatings		
22	4.504.2.4	– Verification	A1.1	Note #13
23	4.504.3	Carpet systems	A1.1	Note #14
24	4.504.3.1	Carpet cushion	A1.1	Note #15
25	4.504.4	Resilient flooring systems	A1.1	Note #16
26	4.504.5	Composite wood products	A1.1	Note #17 & #18
27	4.505.2.1	Capillary break	S-2/AD-1	Detail #7

2011 Los Angeles Green Building Code and 2012 CALGreen Supplement

FORM GRN 4

ITEM #	CODE SECTION	REQUIREMENT	REFERENCE SHEET (Sheet # or N/A)	COMMENTS (e.g. note # or detail #)
28	4.505.3	Moisture content of building materials	A1.1	Note #19
29	4.506.1	Bathroom exhaust fans	A3.0/AD.1	Note #1, 2
30	4.507.1	Whole house exhaust fans	N/A	
31	4.507.2	Heating and air-conditioning system design	A4.0	

VOC AND FORMALDEHYDE LIMITS

(2011 Los Angeles Green Building Code)

FORM GRN 11

The tables below are taken from the **2011 Los Angeles Green Building Code**
Tables 4.504.1, 4.504.2, 4.504.3, 4.504.5, 5.504.4.1, 5.504.4.2, 5.504.4.3, 5.504.4.5, 9.504.1, 9.504.2, 9.504.3, 9.504.5 10.504.4.1, 10.504.4.2, 10.504.4.3, 10.504.4.5

TABLE 4.504.3
VOC CONTENT LIMITS FOR ARCHITECTURAL COATINGS[1,2]
Grams of VOC per Liter of Coating, Less Water and Less Exempt Compounds

COATING CATEGORY	EFFECTIVE 1/1/2010	EFFECTIVE 1/1/2012
Flat coatings	50	
Nonflat coatings	100	
Nonflat-high gloss coatings	150	
Specialty Coatings		
Aluminum roof coatings	400	
Basement specialty coatings	400	
Bituminous roof coatings	50	
Bituminous roof primers	350	
Bond breakers	350	
Concrete curing compounds	350	
Concrete/masonry sealers	100	
Driveway sealers	50	
Dry fog coatings	150	
Faux finishing coatings	350	
Fire resistive coatings	350	
Floor coatings	100	
Form-release compounds	250	
Graphic arts coatings (sign paints)	500	
High temperature coatings	420	
Industrial maintenance coatings	250	
Low solids coatings[3]	120	
Magnesite cement coatings	450	
Mastic texture coatings	100	
Metallic pigmented coatings	500	
Multicolor coatings	250	
Pretreatment wash primers	420	
Primers, sealers, and undercoaters	100	
Reactive penetrating sealers	350	
Recycled coatings	250	
Roof coatings	50	
Rust preventative coatings	400	250
Shellacs		
Clear	730	
Opaque	550	
Specialty primers, sealers and undercoaters	350	100
Stains	250	
Stone consolidants	450	
Swimming pool coatings	340	
Traffic marking coatings	100	
Tub and tile refinish coatings	420	
Waterproofing membranes	250	
Wood coatings	275	
Wood preservatives	350	
Zinc-rich primers	340	

[1] Grams of VOC per liter of coating, including water and including exempt compounds.
[2] The specified limits remain in effect unless revised limits are listed in subsequent columns in the table.
[3] Values in this table are derived from those specified by the California Air Resources Board, Architectural Coatings Suggested Control Measure, February 1, 2008. More information is available from the Air Resources Board.

TABLE 4.504.1
ADHESIVE VOC LIMIT [1,2]
Less Water and Less Exempt Compounds in Grams per Liter

ARCHITECTURAL APPLICATIONS	CURRENT VOC LIMIT
Indoor carpet adhesives	50
Carpet pad adhesives	50
Outdoor carpet adhesives	150
Wood flooring adhesive	100
Rubber floor adhesives	60
Subfloor adhesives	50
Ceramic tile adhesives	65
VCT and asphalt tile adhesives	50
Drywall and panel adhesives	50
Cove base adhesives	50
Multipurpose construction adhesives	70
Structural glazing adhesives	100
Single-ply roof membrane adhesives	250
Other adhesives not specifically listed	50
SPECIALTY APPLICATIONS	
PVC welding	510
CPVC welding	490
ABS welding	325
Plastic cement welding	250
Adhesive primer for plastic	550
Contact adhesive	80
Special purpose contact adhesive	250
Structural wood member adhesive	140
Top and trim adhesive	250
SUBSTRATE SPECIFIC APPLICATIONS	
Metal to metal	30
Plastic foams	50
Porous material (except wood)	50
Wood	30
Fiberglass	80

[1] If an adhesive is used to bond dissimilar substrates together, the adhesive with the highest VOC content shall be allowed.
[2] For additional information regarding methods to measure the VOC content specified in this table, see South Coast Air Quality Management District Rule 1168.

TABLE 4.504.2
SEALANT VOC LIMIT
Less Water and Less Exempt Compounds in Grams per Liter

SEALANTS	CURRENT VOC LIMIT
Architectural	250
Marine deck	760
Nonmembrane roof	300
Roadway	250
Single-ply roof membrane	450
Other	420
SEALANT PRIMERS	
Architectural	
Nonporous	250
Porous	775
Modified bituminous	500
	760
Marine deck	760
Other	750

TABLE 4.504.5
FORMALDEHYDE LIMITS[1]
Maximum Formaldehyde Emissions in Parts per Million

PRODUCT	CURRENT LIMIT	JAN 1, 2012	JULY 1, 2012
Hardwood plywood veneer core	0.05		
Hardwood plywood composite core	0.08		0.05
Particleboard	0.09		
Medium density fiberboard	0.11		
Thin medium density fiberboard[2]	0.21	0.13	

[1] Values in this table are derived from those specified by the California Air Resources Board, Air Toxics Control Measure for Composite Wood as tested in accordance with ASTM E 1333-96(2002). For additional information, see *California Code of Regulations*, Title 17, Sections 93120 through 93120.12.
[2] Thin medium density fiberboard has a maximum thickness of 6 millimeters

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By: _____ Total of _____ Sheets

Date: _____

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General Notes

No.	Revision/Issue	Date

Project
901 N. LAUREL AVE.
LOS ANGELES, CA 90046

NEW 2 STORY HOUSE

Drawing Title
GREEN FORMS

Project 12-553

Date 02-04-13

Scale 1/4"=1'-0"

Sheet A1.0

1. Removed
2. Removed
3. Each new appliance provided and installed meets ENERGY STAR if an ENERGY STAR designation is applicable for that appliance. (4.210, 9.210)
4. The flow rates for all plumbing fixtures shall comply with the minimum flow rates in Table 4.303.2/ Table 9.403.2. (4.303.1, 9.303.1)
5. When single shower fixtures are served by more than one showerhead, the combined flow rate of all the showerheads shall not exceed the maximum flow rates specified in the 20 percent reduction column contained in Table 4.303.2/Table 9.303.2 or the shower shall be designed to only allow one showerhead to be in operation at a time. (4.303.2, 9.303.2)
6. Installed automatic irrigation system controllers shall be weather or soil-based controllers. (4.304.1, 9.304.1)
7. Annular spaces around pipes, electric cables, conduits, or other openings in the building's envelope at exterior walls shall be protected against the passage of rodents by closing such openings with cement mortar, concrete masonry, or metal plates. (4.406.1, 9.406.1)
8. Materials delivered to the construction site shall be protected from rain or other sources of moisture. (4.407.4, 9.407.4)
9. Only a City of Los Angeles certified hauler will be used for hauling of construction waste. (4.408, 9.408)
10. For all new equipment, an Operation and Maintenance Manual including, at a minimum, the items listed in Section 4.410.1, shall be completed and placed in the building at the time of final inspection. (4.410, 9.410)
11. All duct and other related air distribution component openings shall be covered with tape, plastic, or sheet metal until the final startup of the heating and cooling equipment. (4.504.1, 9.504.1)
12. Architectural paints and coatings, adhesives, caulks and sealants shall comply with the Volatile Organic Compound (VOC) limits. (4.504.1-4.504.4, 9.504.1-9.504.4)
13. The VOC Content Verification Checklist, Form GRN 2, shall be completed and verified prior to final inspection approval. The manufacturer's specifications showing VOC content for all applicable products shall be readily available at the job site and be provided to the field inspector for verification. (4.504.5, 9.504.5)
14. All new carpet installed in the building interior shall meet the testing and product requirements of one of the following:
a. Carpet and Rug Institute's Green Label Plus Program
b. California Department of Public Health Standard Practice for the testing of VOCs (Specification 01350)
c. NSF/ANSI 140 at the Gold level
d. Scientific Certifications Systems Indoor Advantage Gold (4.504.3, 9.504.3)
15. All new carpet cushion installed in the building interior shall meet the requirements of the Carpet and Rug Institute Green Label program. (4.504.3.1, 9.504.3.1)
16. 50% of the total area receiving new resilient flooring shall comply with the VOC limits or be certified under the Resilient Floor Covering Institute (RFCI) Floor Score program. (4.504.4, 9.504.4)
17. New hardwood, plywood, particle board, and medium density fiberboard composite wood products used in the interior or exterior of the building shall meet the formaldehyde limits listed in Table 4.504.5/ Table 9.504.5. (4.504.5, 9.504.5)
18. The Formaldehyde Emissions Verification Checklist, Form GRN 3, shall be completed prior to final inspection approval. The manufacturer's specifications showing formaldehyde content for all applicable wood products shall be readily available at the job site and be provided to the field inspector for verification. (4.504.5.1, 9.504.5.1)
19. Building materials with visible signs of water damage shall not be installed. Wall and floor framing shall not be enclosed until it is inspected and found to be satisfactory by the building inspector. (4.505.3, 9.505.3)
20. Newly installed bathroom exhaust fans shall be ENERGY STAR compliant and be ducted to terminate to the outside of the building. Provide the manufacturer's cut sheet for verification. (4.506.1, 9.506.1)
21. Bathroom exhaust fans, not functioning as a component of a whole house ventilation system, must be controlled by a humidistat which shall be readily accessible. (4.506.1, 9.506.1)
22. Whole house exhaust fans shall have covers or louvers which close when the fan is off and that are insulated with a minimum insulation value of R-4.2. (4.507.1)
23. The size and layout of the heating and air-conditioning systems shall be in accordance with ACCA Manual J, ACCA 29-D and ACCA 36-S, ASHRAE handbooks. (4.507.2, 9.507.2)
24. An operation and maintenance Manual including, at a minimum, the items listed in section 9.410.1, shall be completed and placed in the building at the time of final inspection". (9.410.1)
25. A 4-inch thick base of ½ inch or larger clean aggregate shall be provided for the proposed slab on grade construction. AD-2 Detail #1 (4.505.2.1)
26. A vapor barrier shall be provided in direct contact with concrete for the proposed slab on grade construction. (4.505.2.1)
27. Construction waste shall be reduced by 50%
28. An Operation and Maintenance Manual including, at a minimum, the items listed in Section 4.410.1, shall be completed and placed in the building at the time of final inspection. (4.410.1)

CITY LA DBS DEPARTMENT OF BUILDING AND SAFETY

PLUMBING FIXTURE FLOW RATES

Residential Occupancies
2011 Los Angeles Green Building Code
(Incorporate this form into the plans)

FORM GRN 16

TABLE 4.303.2
FIXTURE FLOW RATES

FIXTURE TYPE	MAXIMUM FLOW RATE AT > 20 percent REDUCTION
Showerheads	2 gpm @ 80 psi
Lavatory faucets, residential	1.5 gpm @ 60 psi[1]
Lavatory Faucets, nonresidential	0.4 gpm @ 60 psi[2]
Kitchen faucets	1.8 gpm @ 60 psi[3]
Gravity tank type water closets	1.28 gallons/flush[4]
Flushometer tank water closets	1.28 gallons/flush[4]
Flushometer valve water closets	1.28 gallons/flush[4]
Urinals	0.125 gallons/flush

TABLE 9.303.2
FIXTURE FLOW RATES

FIXTURE TYPE	MAXIMUM ALLOWABLE FLOW RATE
Showerheads	2 gpm @ 80 psi
Lavatory faucets residential	1.5 gpm @ 60 psi
Gravity tank type water closets	1.28 gallons/flush[1]
Flushometer tank water closets	1.28 gallons/flush[1]
Flushometer valve water closets	1.28 gallons/flush[1]
Urinals	0.125 gallons/flush

[1] Lavatory Faucets shall not have a flow rate less than 0.8 gpm at 20 psi.
[2] Kitchen faucets may temporarily increase flow above the maximum rate, but not above 2.2gpm @ 60psi and must default to a maximum flow rate of 1.8 gpm @ 60psi.
[3] Where complying faucets are unavailable, aerators rated at .35 gpm or or other means may be used to achieve reduction.
[4] Includes single and dual flush water closets with an effective flush of 1.28 gallons or less.
Single Flush Toilets - The effective flush volume shall not exceed 1.28 gallons (4.8 liters). The effective flush volume is the average flush volume when tested in accordance with ASME A112.19.233.2.
Dual Flush Toilets - The effective flush volume shall not exceed 1.28 gallons (4.8 liters). The effective flush volume is defined as the composite, average flush volume of two reduced flushes and one full flush. Flush volumes will be tested in accordance with ASME A112.19.2 and ASME A112.19.14.

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By:_____ Total of_____Sheets

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General Notes

No.	Revision/Issue	Date

Project
901 N. LAUREL AVE.
LOS ANGELES, CA 90046

NEW 2 STORY HOUSE

Drawing Title
GREEN NOTES

Project 12-553	Sheet A1.1
Date 02-04-13	
Scale 1/4"=1'-0"	

General Notes

1. Operating Information. The builder shall provide the building owner at occupancy the appropriate Certificate(s) of Compliance and a list of the features, materials, components, and mechanical devices installed in the building and instructions on how to operate them efficiently. The instructions shall be consistent with specifications set forth by the executive director. For residential buildings, such information shall, at a minimum, include information indicated on forms Certificate of Compliance (CF-1R), Mandatory Measures (MF-1R), Installation Certificate (CF-6R), Insulation Certificate (IC-1), and a manual which provides all information specified in this section 10-103(b). The Home Energy Manual (P400-92-031, July 1992) may be used to meet the requirement for providing this manual. Title 24, Part 1, Section 10-103(c)1

2. The builder shall provide to the building owner at occupancy maintenance information for all features, materials, components, and manufactured devices that required routine maintenance for efficient operation. Required routine maintenance actions shall be clearly stated and incorporated on a readily accessible label. The label may be limited to identifying, by title and/or publication number, the operation and maintenance manual for that particular model and type of feature, material, component, or manufactured device. For dwelling units, buildings or tenant spaces which are not individually owned and operated, or are centrally operated, such information shall be provided to the person(s) responsible for maintaining the feature, material, component, or mechanical device installed in the building. Title 24, Part 1, Section 10-103(c)2

3. All systems, equipment and/or building components shall comply with the applicable manufacturer provisions and installation provisions of Title 2 4, Part 6, Chapter 2, Sections 111 through 119.

4. All appliances for which a California Standard has been established in the Appliance Efficiency Regulations shall be certified by the manufacturer as compliant with the applicable standards. (Title 24, Part 6, Chapter 2, Section 111)

5. Service water-heating systems that have a total capacity greater than 167,000 Btu/hr, shall have separate remote heaters, heat exchangers, or boosters to supply higher temperature at outlets that require higher than service water temperatures as listed in the 1995 ASHRA E Handbook. (Title 24, Part 6, Chapter 2, Section 113)

6. Controls for service water-heating systems shall limit the outlet temperature at public lavatories to 110 EF. (Title 24, Part 6, Chapter 2, Section 113)

7. Unfired service water-heater storage tanks and backup tanks for solar water-heating systems shall have:

a) External insulation with an installed R-value of at least R-12, or

b) Internal and external insulation with a combined R-value of at least R-16, or

c) The heat loss of the tank surface, based on an 80 EF water-air temperature difference shall be less than 6.5 Btu/hr per square foot (Title 24, Part 6, Chapter 2, Section 113)

8. Any pool or spa heating system or equipment shall:

a) Have a thermal efficiency for gas-fired systems of at least 78%, when tested according to ANSI standard Z21.56-1994.

b) Have a readily accessible on-off switch, mounted on the outside of the heater that allows shutting off the heater without adjusting the thermostat setting.

c) Have a permanent, readable, weatherproof instruction card, that gives instructions for the proper, energy efficient operation of the pool or spa.

d) Not utilize electric resistance heating or a pilot light.

e) Have at least 36 inches of pipe between the filter and heater to allow for the future addition of solar heating equipment.

f) Have a thermal insulation cover for outdoor pools or spas.

g) Have directional inlets for the pool or spa that adequately mix the pool water.

h) Have a time switch for the circulation pump that allows the pump to run in the off-peak electric demand period, and for the minimum time necessary to maintain the water in the condition required by applicable public health standards. (Title 24, Part 6, Chapter 2, Section 114)

9. Space conditioning equipment shall meet the efficiency standards specified in Title 24, Part 6, Chapter 2, Section 112.

10. Pilot lights shall be prohibited for:

a) Fan-type central furnaces

b) Household cooking appliances, except noted below.

c) Pool heaters

d) Spa heaters

Except for household cooking appliances without an electrical supply voltage connection and in which each pilot consumes less than 150 Btu/hr (Title 24, Part 6, Chapter 2, Section 115)

11. Manufactured fenestration products and exterior doors shall have air infiltration rates not exceeding 0.3 cfm/ft^2 of window area, 0.3 cfm/ft of residential door area, 0.3 cfm/ft^2 of nonresidential single door area, and 1.0 cfm/ft^2 of nonresidential double door area. (Title 24, Part 6, Chapter 2, Section 116)

12. Fenestration products, other than products which are removed and reinstalled, shall be certified for overall U-values and overall SHGC, and shall have a temporary label which lists the certified U-value and SHGC, and certifies that applicable air infiltration requirements are met. (Title 24, Part 6, Chapter 2, Section 116)

13. Field manufactured fenestration products and exterior doors, other than unframed glass doors and fire doors, shall be caulked between the fenestration products or exterior door and the building, and shall be weather stripped. (Title 24, Part 6, Chapter 2, Section 116)

14. Joints and other openings in the building envelope that are potential sources of air leakage shall be caulked, gasketed, weather stripped, or otherwise sealed to limit infiltration and ex-filtration (Title 24, Part 6, Chapter 2, Section 117)

15. Insulation shall be certified by the manufacturer as compliant with the California Quality Standards for Insulating Material, Title 24, Part 12, Chapter 12 & 13, CCR.(Title 24, Part 6, Chapter 2, Section 118)

16. Urea formaldehyde foam insulation may only be used in exterior side walls, and requires a four-mil-thick plastic polyethylene vapor barrier between the urea formaldehyde foam insulation and the interior space. (Title 24, Part 6, Chapter 2, Section 118)

17. All insulating material shall be installed in compliance with the flame spread rating and smoke density requirements of the UBC. (Title 24, Part 6, Chapter 2, Section 118)

18. If insulation is installed on an existing space conditioning duct, it shall comply with Section 605 of the CMC. (Title 24, Part 6, Chapter 2, Section 118)

19. If external insulation is installed on an existing unfired water storage tank or on an existing back-up tank for a solar water heating system, it shall have an R-value of at least R-12, or the heatloss of the tank surface based on an 80 EF water-air temperature difference shall be less than 6.5 Btu per hour per square foot. (Title 24, Part 6, Chapter 2, Section 118)

20. Service water-heating systems shall be equipped with automatic temperature controls capable of adjustment from the lowest to the highest acceptable temperature settings for the intended use as listed in Table 2, Chapter 49 of the ASHRAE Handbook and HVAC application handbook. (Title 24, Part 6, Chapter 2, Section 113)

21. Circulating service water-heating systems shall have a control capable of automatically turning off the circulating pump when hot water is not required. (Title 24, Part 6, Chapter 2, Section 113)

22. The opaque portions of framed demising walls shall have insulation with an installed R-value of at least R-13 between framing members. (Title 24, Part 6, Chapter 2, Section 118)

Residential Notes

1. A masonry or factory-built fireplace shall have the following:

a) Closeable metal or glass doors covering the entire opening of the firebox;

b) A combustion air intake to draw air from the outside of the building directly into the firebox, which is at least six square inches in area and is equipped with a readily accessible, operable, and tight-fitting damper or combustion-air control device (Exception: An outside combustion-air intake is not required if the fireplace will be installed over concrete slab flooring and the fireplace will not be located on an exterior wall.); and

c) A flue damper with a readily accessible control.(Title 24, Part 6, Chapter 7, Section 150 (e))

2. All heating and/or cooling systems other than wood stoves shall have an automatic thermostat with a clock mechanism or other

setback mechanism approved by the Executive Director of the California Energy Commission that shuts the system off during peak periods of nonuse and that allows the building occupant to automatically set back the thermostat set points for at least two periods (Title 24, Part. 6 , Chapter 7, Section 150(l) & 151(f))

3. The minimum installed weight per square foot of any loose-fill insulation shall conform with the insulation manufacturer's labeled R-value (Title 24, Part 6, Chapter 7, Section 150 (b))

4. Insulation shall be provided for water heaters as follows:

a) Storage gas water heaters with an energy factor < 0.58 shall be externally wrapped with insulation having an insulated thermal resistance of R-12 or greater.

b) Unfired hot water tanks, such as storage tanks and backup storage tanks for solar water-heating systems, shall be externally wrapped with insulation having an installed thermal resistance of R-12 or greater or have internal insulation of at least R-16 and a label on the exterior of the tank showing the insulation R-value.

c) Piping, whether buried or unburied, for re-circulating sections of domestic hot water systems, piping from the heating source to the storage tank for an indirect-fired domestic water-heating system and the first five feet of hot and cold water pipes from the storage tank for non re-circulating systems and cooling systems shall be thermally insulated as specified in subsection A & B.

d) Solar water-heating systems and/or collectors shall be certified by the Solar Rating and Certification Corporation. (Title 24, Part 6, Chapter 7, Section 150 (j))

5 Lighting

a)High Efficacy Luminaires. High Efficacy Luminaires for residential lighting shall contain only high efficacy lamps and shall not contain a medium screw base socket (E24/E26). A high efficacy lamp has a lamp efficacy that is no lower than the efficacies contained in TABLE 150-C. Ballasts for lamps rated 13 Watts or greater shall be electronic and shall have an output frequency no less than 20 kHz.

EXCEPTION to Section 150 (k) 1: High intensity discharge luminaires containing hardwired electromagnetic ballasts in medium screw base sockets shall be considered high efficacy luminaires for the purposes of meeting Section 150 (k) 6, provided they meet the efficacies contained in TABLE 150-C.

NOTE: To determine the minimum lamp efficacy category only the watts of the lamp (not the ballast) are to be considered.

b) Lighting in Kitchens. Permanently installed luminaires in kitchens shall be high efficacy luminaires.

EXCEPTION to Section 150 (k) 2 Up to 50 percent of the total rated wattage of permanently installed luminaires in kitchens may be in luminaires that are not high efficacy luminaires, provided that these luminaires are controlled by switches separate from those controlling the high efficacy luminaires. The wattage of high efficacy luminaires shall be the total nominal rated wattage of the installed high efficacy lamp(s). The wattage of luminaires shall be determined as specified by Section 130 (c).

c) Lighting in Bathroom, Garages, Laundry Rooms, and Utility Rooms. Permanently installed luminaires in bathrooms, garages, laundry rooms, and utility rooms shall be high efficacy luminaires.

EXCEPTION to Section 150 (k) 3: Permanently installed luminaires that are not high efficacy shall be allowed provided that they are controlled by an occupant sensor(s) certified to comply with Section 119 (d). Such motion sensors shall not have a control that allows the luminaire to be turned on automatically or that has an override allowing the luminaire to be always on.

d)Lighting other than in Kitchens, Bathrooms, Garages, Laundry Rooms, and Utility Rooms. Permanently installed luminaires located other than in kitchens, bathrooms, garages, laundry rooms, and utility rooms shall be high efficacy luminaires.

EXCEPTION 1 to Section 150 (k) 4: Permanently installed luminaires that are not high efficacy luminaires shall be allowed provided they are controlled by a dimmer switch.

EXCEPTION 2 to Section 150 (k) 4: Permanently installed luminaires that are not high efficacy shall be allowed provided that they are controlled by an occupant sensor(s) certified to comply with Section 119 (d). Such motion sensors shall not have a control that allows the luminaire to be turned on automatically or that has an override allowing the luminaire to be always on.

EXCEPTION 3 to Section 150 (k) 4: Permanently installed luminaires that are not high efficacy luminaires shall be allowed in closets less than 70 square feet.

NOTE: Lighting in areas adjacent to the kitchen, including but not limited to dining and nook areas, are considered kitchen lighting if they are not separately switched from kitchen lighting.

e) Recessed Luminaires in Insulated Ceilings. Luminaires recessed into insulated ceilings shall be approved for zero clearance insulation cover (IC) by Underwriters Laboratories or other testing/rating laboratories recognized by the International Conference of Building Officials, and shall include a label certifying air tight (AT) or similar designation to show air leakage less than 2.0 CFM at 75 Pascals (or 1.57 lbs/ft2) when tested in accordance with ASTM E283, and shall be sealed with a gasket or caulk between the housing and ceiling.

f) Outdoor Lighting. Luminaires providing outdoor lighting and permanently mounted to a residential building or to other buildings on the same lot shall be high efficacy luminaires.

EXCEPTION 1 to Section 150 (k) 6: Permanently installed outdoor luminaires that are not high efficacy shall be allowed provided that they are controlled by a motion sensor(s) with integral photocontrol certified to comply with Section 119 (d).

EXCEPTION 2 to Section 150 (k) 6: Permanently installed luminaires in or around swimming pools, water features, or other locations subject to Article 680 of the California Electric Code need not be high efficacy luminaires.

g)Parking Lots and Garages. Lighting for parking lots for eight or more vehicles shall comply with the applicable requirements in Sections 130, 132 and 147. Lighting for parking garages for eight or more vehicles shall comply with the applicable requirements in Sections 130, 131, and 146.

h) Common Areas of Low-rise Residential Buildings. Permanently installed lighting in the enclosed, non-dwelling spaces of low-rise residential buildings with four or more dwelling units shall be high efficacy luminaires.

EXCEPTION to Section 150 (k) 8: Permanently installed luminaires that are not high efficacy shall be allowed provided that they are controlled by an occupant sensor(s) certified to comply with Section 119 (d). (Title 24, Part 6, Chapter 7, Section 150 (k))

6 Material used for slab edge insulation shall meet the following minimum specifications:

a) Water absorption rate no greater than 0.3 percent.

b) Water vapor permeance no greater than 2.0 perm/inch.

c) Concrete slab perimeter insulation must be protected from physical damage and ultraviolet light deterioration. (Title 24, Part 6, Chapter 7, Section 150 (l))

7. Concrete-slab floor perimeter insulation shall be provided 16 inches deep, or the depth of the footing of the building, which ever is less. (Title 24, Part 6, Chapter 8, Section 151(f))

8. If insulation is installed in the existing attic of a low-rise Residential building, the total resultant R-value after the addition of the insulation shall be at least R-30. (Title 24, Par t 6, C h a p t e r 2, Section 118)

9. Raised floors separating conditioned spaces from unconditioned spaces shall be insulated between wood framing members with insulation having an installed thermal resistance of R-13 or greater. (Title 24, Part 6, Chapter 7, Section 150(a))

DESIGNS, INC.

RESIDENTIAL, COMMERCIAL
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ERAN GISPAN 818.915.4118

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FAX 818.789.6941

www.NEDESIGNSINC.com

General Notes

No.	Revision/Issue	Date

Project

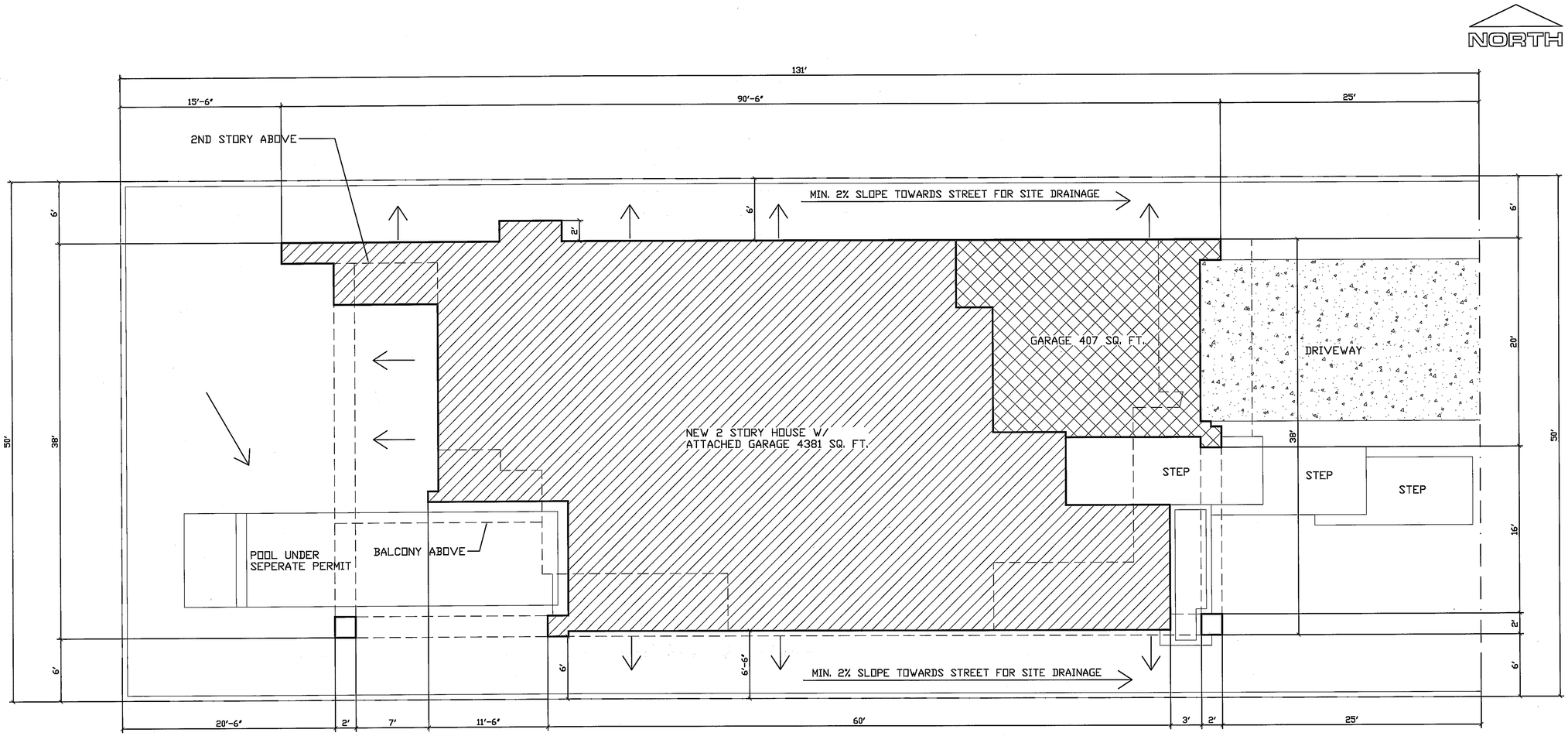
901 N. LAUREL AVE.
LOS ANGELES, CA 90046
LI INVESTMENTS LLC
1180 BEVERLY DR.
LOS ANGELES, CA. 90035

NEW 2 STORY HOUSE

Drawing Title

GENERAL NOTES

Project 12-553	Sheet A1.2
Date 02-04-13	
Scale 1/4"=1'-0"	



WILLOUGHBY AVE.

SITE PLAN

3/16"=1'-0"

NOTES :

1. AN APPROVED SEISMIC GAS SHUTOFF VALVE WILL BE INSTALLED ON THE FUEL GAS LINE ON THE DOWN STREAM SIDE OF THE UTILITY METER AND BE RIGIDLY CONNECTED TO THE EXTERIOR OF THE BUILDING OR STRUCTURE CONTAINIG THE FUEL GAS PIPING.
2. PROVIDE LOW CONSUMPTION WATER CLOSETS FOR ALL NEW CONSTRUCTION. EXISTING SHOWER HEADS AND TOILETS MUST BE ADAPTED FOR LOW WATER COSUMPTION.
3. ALL CONCENTRATED DRAINAGE INCLUDING ROOF WATER SHALL BE CONDUCTED TO THE STREET IN AN APPROVED DEVICE AT 2% MINUMUM.
4. THE CONSTRUCTION SHALL NOT RESTRIC A FIVE– FOOT CLEAR AND UNOBSTRUCT ACCESS TO ANY WATER OR POWER DISTRIBUTION FACILITIES(POWER POLES, PULL–BOXES, TRANFORMERS, VAULTS, PUMPS,VALVES,METERS,APPURTENANCES,ETC.) OR TO THE LOCATION OF THE HOOK UP. THE CONTRUCTION SHALL NOT BE WITHIN TEN FEET OF ANY POWER LINES WHETHER OR NOT THE LINES ARE LOCATED ON THE PROPERTY. FAILURE TO COMPLY MAY CAUSE CONSTRUCTION DELAYS AND/OR ADDITIONAL EXPENSES.
5. CONSTRUTION WASTE SHALL BE REDUCED BY 50%: CONTAINERS FOR WASTE AND RECYCLED MATERIAL MUST BE PROVIDED ON SITE AND CONTRACTOR TO VERIFY THAT WASTE AND RECYCLED MATERIAL WILL BE SEPARATED AND REMOVED BY CITY OF LOS ANGELES CERTIFIED HAULER
6. MATERIALS DELIVERED TO THE CONSTRUCTION SITE SHALL BE PROTECTED FROM RAIN OR OTHER SOURCES OF MOISTURE

City of Los Angeles
Department of Building and Safety
Green Building Division

This set of plans and specifications has been reviewed and is approved for compliance with state and local ordinances related to the Green Building Code.

This set of plans MUST be at the job site during construction.

It is unlawful to alter, change, or deviate from these plans.

The stamping of this plan SHALL NOT be construed to be approval of a violation of any provisions of any Ordinance or Law.

By:_____ Total of_____Sheets

Date:_____

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General Notes

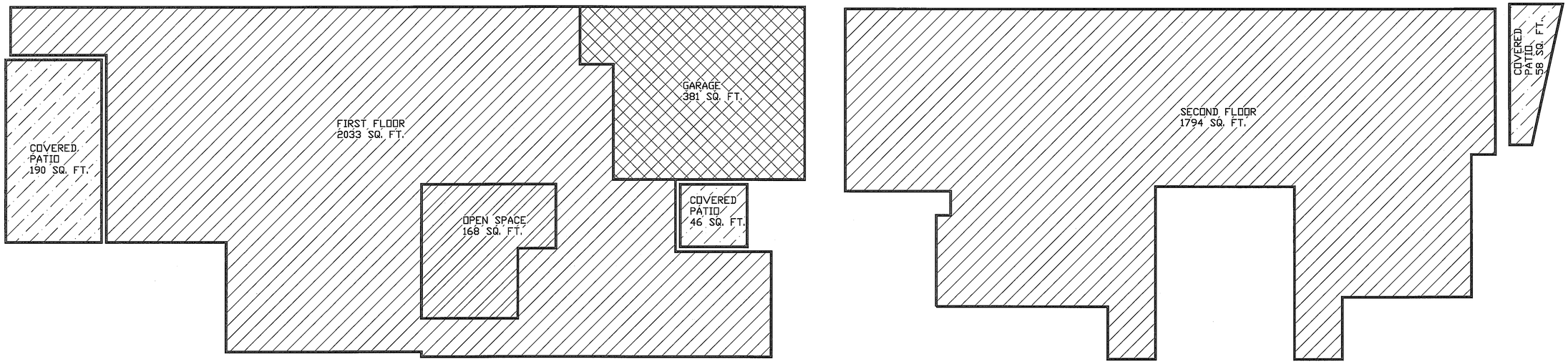
No.	Revision/Issue	Date

Project
901 N. LAUREL AVE.
LOS ANGELES, CA 90046

NEW 2 STORY HOUSE

Drawing Title
SITE PLAN

Project 12-546	Sheet A2.0
Date 02-04-13	
Scale 3/16"=1'-0"	



BASELINE MANSIONIZATION ORDINANCE: AREA AND HEIGHT LIMITATIONS (ZI-2391)

ZONE: R1-1	LOT AREA: 6,601.8 sq. ft.		ADDITIONAL 20% OF MAXIMUM R.F.A. PER CODE IF ADDITIONAL STORY DOES NOT EXCEED 75% OF BASE FLOOR AREA	
	NET AREA(sq. ft.):			
FIRST FLOOR		2033.00	BASE FLOOR	2,414 x .75= 1810.50
SECOND FLOOR		1794.00	REQUIRED SECOND FLOOR	1810.50
H>14ft CEILING AREA:	168-100=	68.00	PROVIDED SECOND FLOOR	1794.00
H>7ft ATTIC AREA:		00.00	TOTAL+20% BONUS	3,300.9x1.2= 3,961.08 SQ. FT.
GARAGE/CARPORT AREA:	381<400	00.00	PROVIDED:	3,939
COVERED PATIO AREA:	294-250=	44.00		
TOTAL:		3,939.00		
TOTAL R.F.A.	6,601.8x.5= 3,300.9	SQ. FT.		

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General Notes

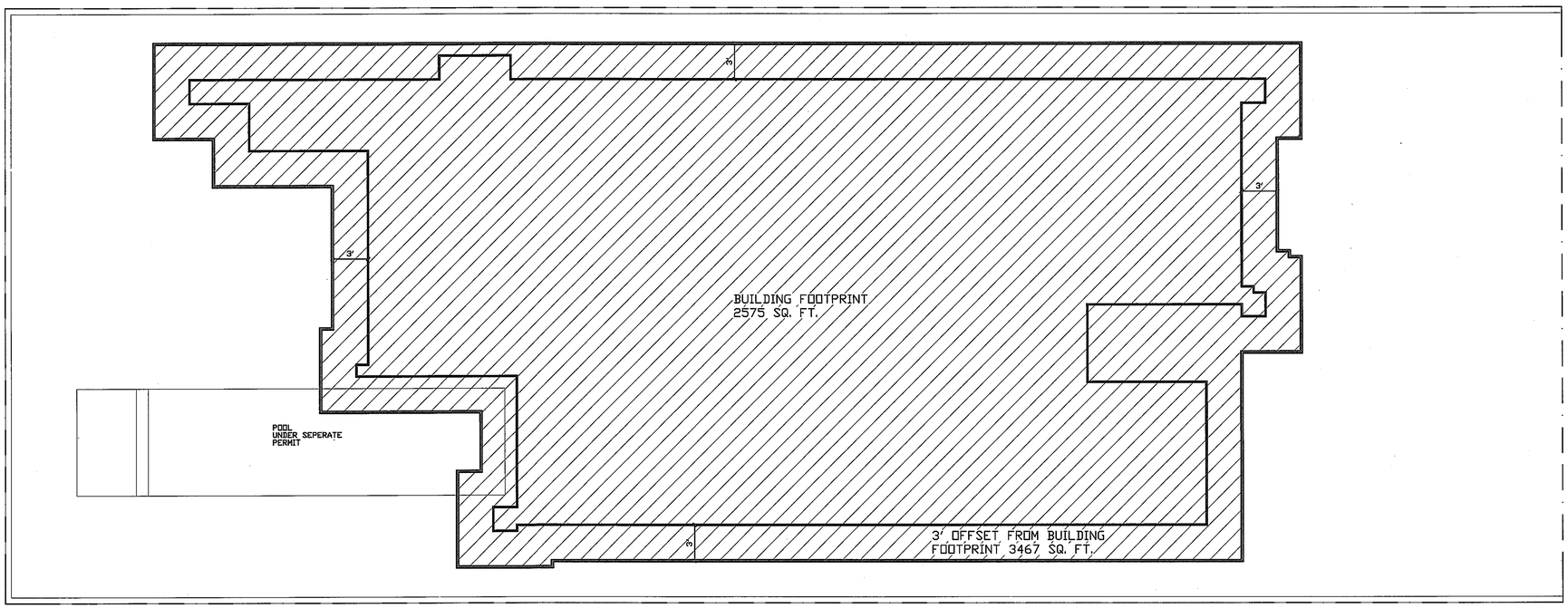
No.	Revision/Issue	Date

Project
901 N. LAUREL AVE.
LOS ANGELES, CA 90046

NEW 2 STORY HOUSE

Drawing Title
BASELINE MANSIONIZATION ORDINANCE CALCULATION

Project	Sheet
12-553	A2.1
Date: 02-04-13	
Scale: N.T.S.	



WILLOUGHBY AVE.

VOLUME CALCULATION

R&R: 3,467 SQ. FT.
CALCULATION: 3,467 X 3= 10,401 C.F.
CALCULATION: 10,401/27= 385 C.Y.
R&R: 385 C.Y.

VOLUME CALCULATION

3/16"=1'-0"

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General Notes

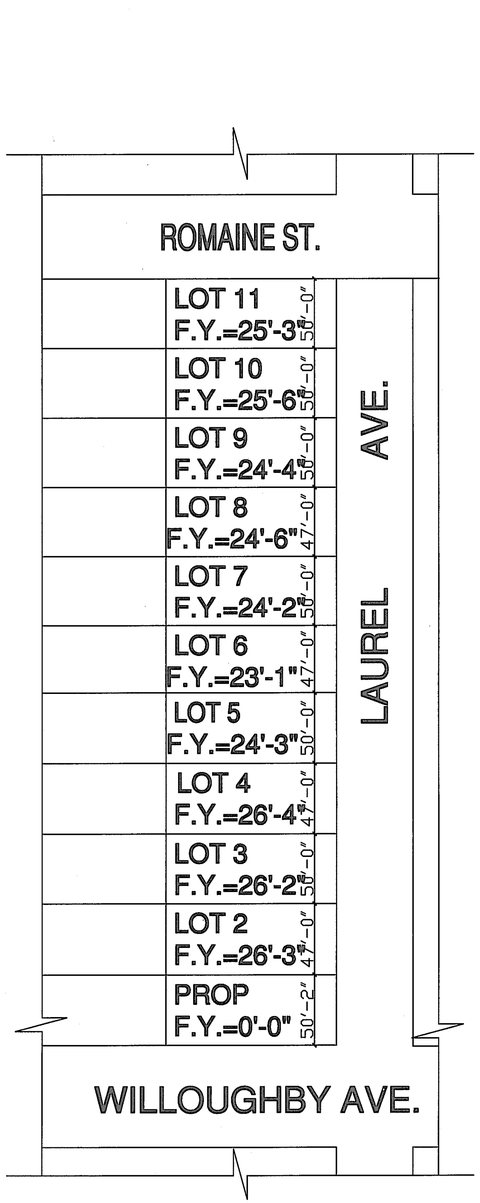
No.	Revision/Issue	Date

Project
901 N. LAUREL AVE.
LOS ANGELES, CA 90046

NEW 2 STORY HOUSE

Drawing Title
VOLUME CALCULATION

Project	Sheet
12-553	A2.2
Date: 02-04-13	
Scale: 3/16"=1'-0"	



Untitled Document

Prevailing Setback Calculator

City Of Los Angeles, Department Of Building and Safety

LA DBS

Refresh | ladbs home | Inches to Feet Conversion Table | Important Note | Zoning Code | Prevailing Setback Information Bulletin | Help

Calculate

No	Lot	Frontage	Setback	No	Lot	Frontage	Setback	No	Lot	Frontage	Setback
1	1	50.16	0	2	2	47.00	26.25	3	3	50.00	26.16
4	4	47.00	26.33	5	5	50.00	24.25	6	6	47.00	23.08
7	7	50.00	24.16	8	8	47.00	24.5	9	9	50.00	24.33
10	10	50.00	25.50	11	11	50.00	25.25	12			
13				14				15			
16				17				18			
19				20				21			
22				23				24			
25				26				27			
28				29				30			
31				32				33			
34				35				36			
37				38				39			
40				41				42			
43				44				45			

Prevailing Setback=24.98 ft

Total no of lots entered=11
Total frontage entered=538.00 ft
40% of Total frontage entered=215.20 ft
No of lots used in the calculations=10
Setback range used=23.08 - 33.08 ft
Total frontage used in the calculations=488 ft
No of trials=2

Lots Used

Lot	Frontage	Setback
2	47.00	26.25
3	50.00	26.16
4	47.00	26.33
5	50.00	24.25
6	47.00	23.08
7	50.00	24.16
8	47.00	24.5
9	50.00	24.33
10	50.00	25.50
11	50.00	25.25

View Calculations Detail

N.E. DESIGNS, INC.

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General Notes

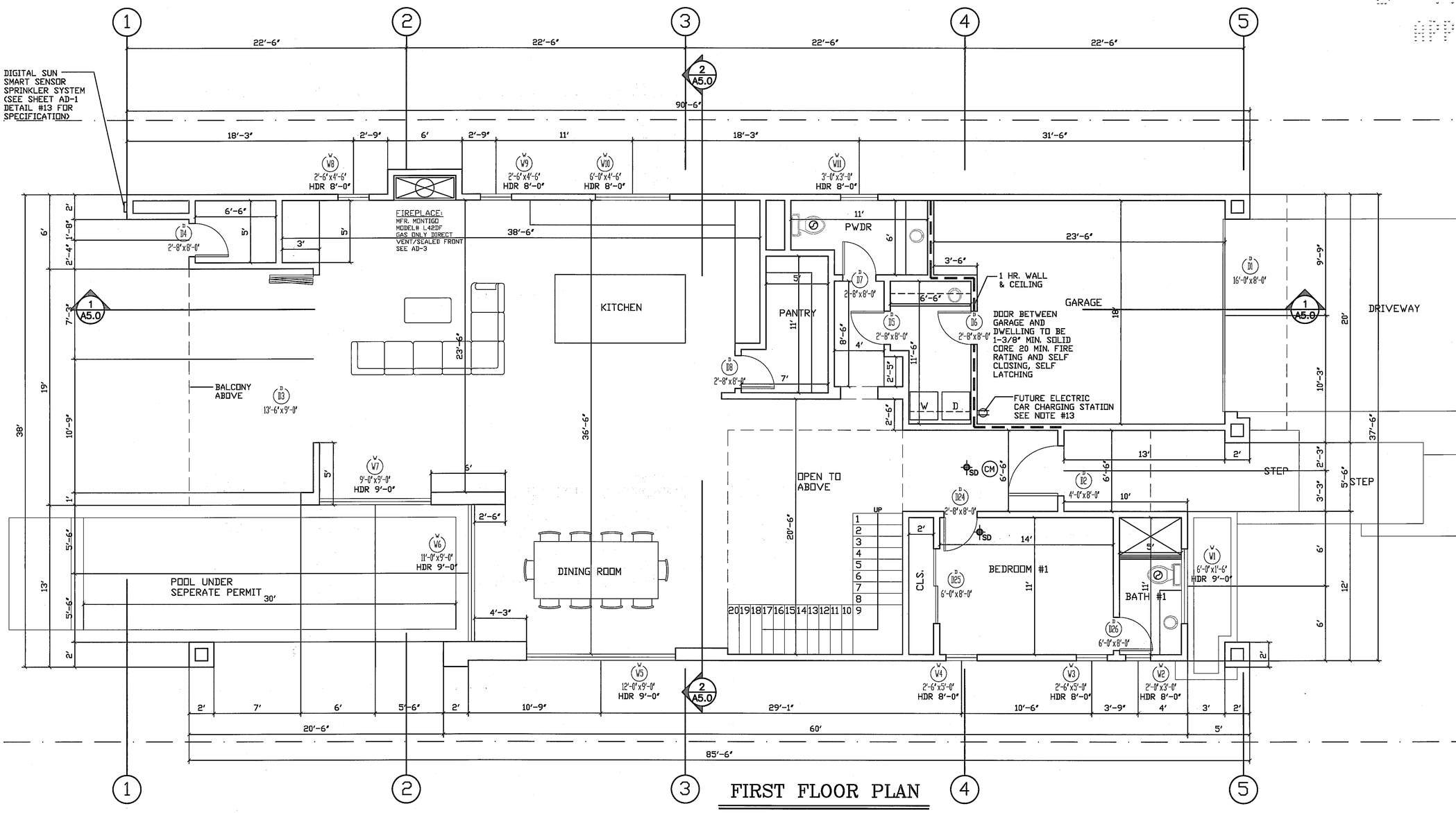
No.	Revision/Issue	Date

Project
901 N. LAUREL AVE.
LOS ANGELES, CA 90046

NEW 2 STORY HOUSE

Drawing Title
PREVAILING SETBACK CALC.

Project 12-553	Sheet A2.3
Date 02-04-13	
Scale N.T.S.	



FIRST FLOOR PLAN

1/4" = 1'-0"

Note :

FOR DOOR, WINDOW, AND FINISH SCHEDULE REFER TO SHEET A7.0

Legend :

1. _____ WALLS
2. — — — 1HR. FIRE SEPARATION WALL
3. WASHER AND DRYER TO UNIT VENT DRYER TO OUTSIDE AS PER MFR. SPEC.
4. 5 MIN.AIR CHANGE FAN EXHAUST SYSTEM WITH HUMIDSTAT OPENABLE FROM LIGHT SWITH. NEW INSTALLED BATHROOM EXHAUST FANS SHALL BE ENERGY STAR HUMIDISTAT CONTROLED OF THE BUILDING. (9.506.1) COMPLIANT AND DUCTED TO TERMINATE TO THE OUTSIDE

(CM) CARBON MONOXIDE

TSD 5. HARD-WIRED SMOKE DETECTORS WITH A BATTERY BACKUP ARE REQUIRED IN ALL SLEEPING ROOMS AND HALL-WAYS.

DETECTORS ARE ALSO REQUIRED ON THE 2ND FLOOR CEILING IN CLOSE PROXIMITY TO THE STAIRWAY.

SMOKE ALARMS SHALL BE PROVIDED AS FOLLOWS:
a. IN NEW CONSTRUCTION SMOKE ALARMS SHALL RECEIVE THEIR PRIMARY POWER FROM THE BUILDING WIRING AND SHALL BE EQUIPPED WITH BATTERY SIGNAL. SMOKE ALARMS SHALL BE LOCATED IN EACH SLEEPING ROOM & HALL-WAY OR AREA GIVING ACCESS TO A SLEEPING ROOM, AND ON EACH STORY AND BASEMENT FOR DWELLINGS WITH MORE THAN ONE STORY. SMOKE ALARMS SHALL BE INTERCONNECTED SO THAT ACTUATION OF ONE ALARM WILL ACTIVATE ALL THE ALARMS WITHIN THE INDIVIDUAL UNIT. (907.2.10.5)

6. PROVIDE ULTRA FLUSH WATER CLOSESTS FOR ALL NEW CONSTRUCTION. EXISTING SHOWER HEADS AND TOILETS MUST BE ADAPTED FOR LOW WATER CONSUMPTION. SEE FIXTURE FLOW RATE TABLE 4.303.2 SHEET A1.1

PROVIDE 15" MIN. BETWEEN THE CENTER OF WATER CLOSET TO ANY SIDE WALL. (CALIF. PLUMB. CODE 407.6)

PROVIDE 24" CLEAR SPACE IN FRONT OF ANY WATER CLOSET. (CALIF. PLUMB. CODE 407.6)

7. PROVIDE 70 INCH HIGH NON-ABSORBENT WALL ADJACENT TO SHOWER AND APPROVED SHATTER-RESISTANT MATERIALS FOR SHOWER ENCLOSURE.

8. WATER HEATER MUST BE STRAPPED TO WALL(SEC. 507.3,UPC)

9. EVERY SPACE INTENDED FOR HUMAN OCCUPANCY SHALL BE PROVIDED WITH NATURAL LIGHT BY MEANS OF EXTERIOR GLAZED OPENINGS IN ACCORDANCE WITH SECTION 1205.2 OR SHALL BE PROVIDED WITH ARTIFICIAL LIGHT THAT IS ADEQUATE TO PROVIDE AN AVERAGE ILLUMINATION OF 10 FOOT-CANDLES OVER THE AREA OF THE ROOM AT A HEIGHT OF 30 INCHES ABOVE THE FLOOR LEVEL. (1205.1 AND 1205.3)

10. ENCLOSED USEABLE SPACE UNDER INTERIOR STAIRS REQUIRES ONE-HOUR FIRE-RESISTIVE CONSTRUCTION ON ENCLOSED SIDE. (SUCH AS 5/8" TYPE X, GYP. BRD.)

11. PROVIDE STAIRWAY ILLUMINATION. MIN. 1 FOOT-CANDLE AT TREAD RUNS. (1205.4)

12. SEPEPARATED FROM ALL HABITABLE ROOMS ABOVE BY NOT LESS THAN ½"-INCH TYPE X GYPSUM BOARD OR EQUIVALENT (406.1.4)

13. FOR FUTURE ELECTRIC VEHICLES CHARGING STATIONS 1 OR 2 FAMILY DWELLINGS AND TOWNHOUSES, PROVIDE: ONE 208/240 V 40AMP, GROUNDED AC OUTLET, FOR EACH DWELLING UNIT

14. AN APPROVED CARBON MONOXIDE ALARM SHALL BE INSTALLED IN DWELLING UNITS AND IN SLEEPING UNITS WITHIN WHICH FUEL-BURNING APPLIANCES ARE INSTALLED AND IN DWELLING UNITS THAT HAVE ATTACHED GARAGES. CARBON MONOXIDE ALARM SHALL BE PROVIDED OUTSIDE OF EACH SEPARATE DWELLING UNIT SLEEPING AREA IN THE IMMEDIATE VICINITY OF THE BEDROOM(S) AND ON EVERY LEVEL OF THE DWELLING UNIT INCLUDING BASEMENTS.(R315)

15. BATHROOM EXHAUST FANS SHALL BE ENERGY STAR COMPLIANT AND BE DUCTED TO TERMINATE TO THE OUTSIDE OF THE BUILDING (4.506.1)

16. BATHROOM EXHAUST FANS, NOT FUNCTIONING AS A COMPONENT OF A WHOLE HOUSE VENTILATION SYSTEM, MUST BE CONTROLLED BY A HUMIDISAT WHICH SHALL BE READILY ACCESSIBLE. (4.506.1)

17. AUTOMATIC GARAGE DOOR OPENERS, IF PROVIDED, SHALL BE LISTED IN ACCORDANCE WITH UL 325.

18. SMOKE DETECTORS SHALL BE PROVIDED FOR ALL DWELLING UNITS INTENDED FOR HUMAN OCCUPANCY, UPON THE OWNER;S APPLICATION FOR A PERMIT FOR ALTERATIONS, REPAIRS, OR ADDITIONS, EXCEEDING ONE THOUSAND DOLLARS ($1,000). (R314.6.2)

18. SMOKE DETECTORS SHALL BE PROVIDED FOR ALL DWELLING UNITS INTENDED FOR HUMAN OCCUPANCY, UPON THE OWNER;S APPLICATION FOR A PERMIT FOR ALTERATIONS, REPAIRS, OR ADDITIONS, EXCEEDING ONE THOUSAND DOLLARS ($1,000). (R314.6.2)

19. HEATER SHALL BE CAPABLE OF MAINTAINING A MINIMUM ROOM TEMPERATURE OF 68 F AT A POINT 3 FEET ABOVE THE FLOOR AND 2 FEET FROM EXTERIOR WALLS IN ALL HABITABLE ROOMS AT THE DESIGN TEMPERATURE. (R303.8)

20. GLAZING IN THE FOLLOWING LOCATIONS SHALL BE SAFETY GLAZING CONFORMING TO THE HUMAN IMPACT LOADS OF SECTION R308.3 (SEE EXCEPTIONS)(R308.4):

A. FIXED AND OPERABLE PANELS OF SWINGING, SLIDING AND BIFOLD DOOR ASSEMBLIES.

B. GLAZING IN AN INDIVIDUAL FIXED OR OPERABLE PANEL ADJACENT TO A DOOR WHERE THE NEAREST VERTICAL EDGE IS WITHIN A 24-INCH ARC OF THE DOOR IN A CLOSED POSITION AND WHOSE BOTTOM EDGE IS LESS THAN 60 INCHES ABOVE THE FLOOR OR WALKING SURFACE.

C. GLAZING IN AN INDIVIDUAL FIXED OR OPERABLE PANEL THAT MEETS ALL OF THE FOLLOWING CONDITIONS:
1. EXPOSED AREA OF AN INDIVIDUAL PANE GREATER THAN 9 SQUARE FEET.
2. BOTTOM EDGE LESS THAN 18 INCHES ABOVE THE FLOOR.
3. TOP EDGE GREATER THAN 36 INCHES ABOVE THE FLOOR.
4. ONE OR MORE WALKING SURFACES WITHIN 36 INCHES HORIZONTALLY OF THE GLAZING.

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By: _____ Total of _____ Sheet

Date: _____

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ERAN GISPAN 818.915.4118

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General Notes

No.	Revision/Issue	Date

Project

901 N. LAUREL AVE.
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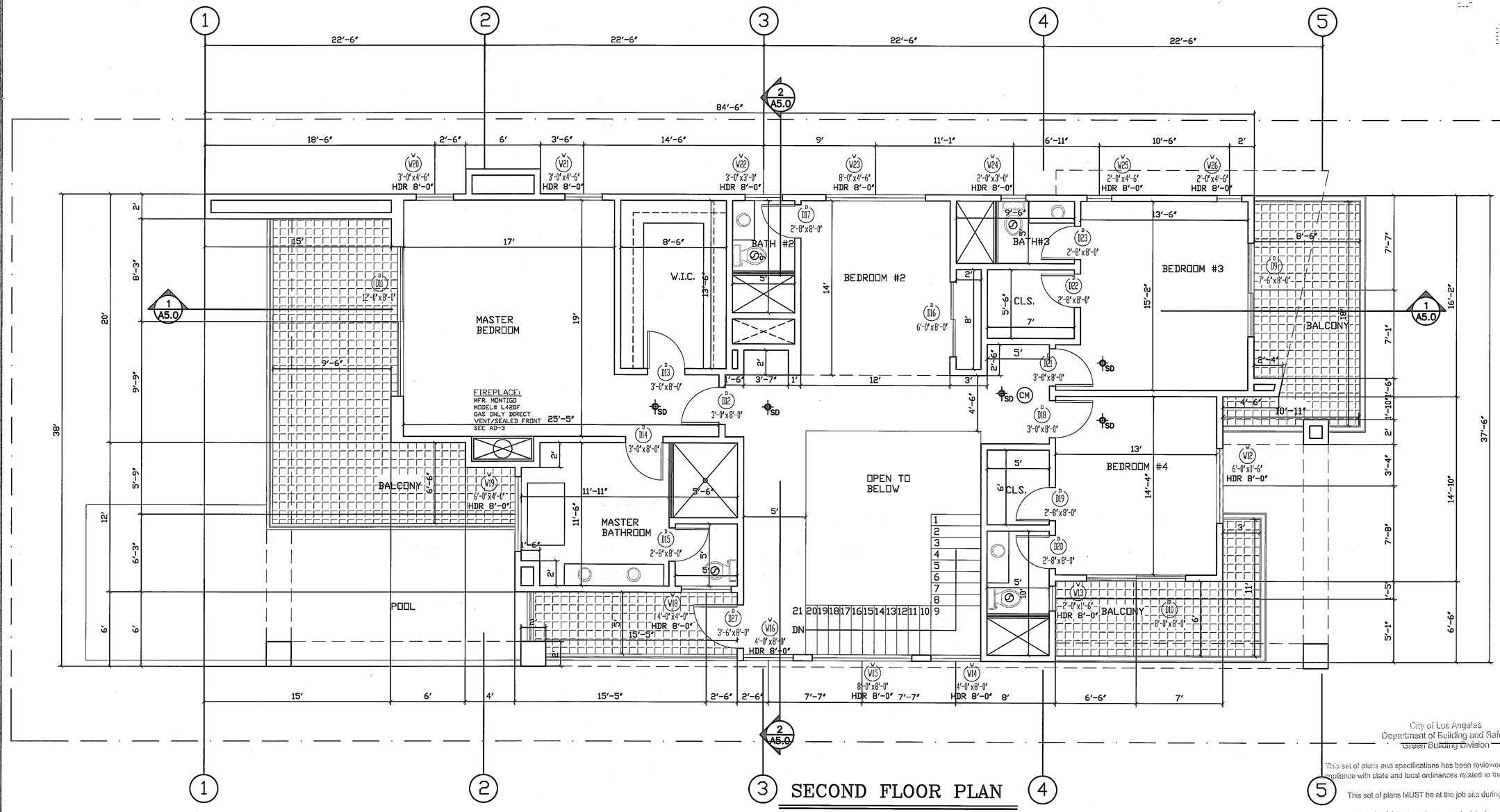
Drawing Title

FIRST FLOOR PLAN

Project 12-553	Sheet A3.0
Date 02-04-13	
Scale 1/4"=1'-0"	



SECOND FLOOR PLAN

1/4" = 1'-0"

FOR DOOR, WINDOW, AND FINISH SCHEDULE REFER TO SHEET A7.0

Legend :

1. WASHER AND DRYER TO UNIT VENT DRYER TO OUTSIDE AS PER MFR. SPEC.
2. 5 MIN.AIR CHANGE FAN EXHAUST SYSTEM WITH HUMIDSTAT OPENABLE FROM LIGHT SWITH. NEW INSTALLED BATHROOM EXHAUST FANS SHALL BE ENERGY STAR HUMIDISTAT CONTROLED OF THE BUILDING. (9.506.1) COMPLIANT AND DUCTED TO TERMINATE TO THE OUTSIDE
3. HARD-WIRED SMOKE DETECTORS WITH A BATTERY BACKUP ARE REQUIRED IN ALL SLEEPING ROOMS AND HALL-WAYS.

   DETECTORS ARE ALSO REQUIRED ON THE 2ND FLOOR CEILING IN CLOSE PROXIMITY TO THE STAIRWAY.

TSD

CM CARBON MONOXIDE ALARM

BATHTUB AND SHOWER FLOORS, WALLS ABOVE BATHTUBS WITH A SHOWERHEAD, AND SHOWER COMPARTMENTS SHALL BE FINISHED WITH A NONABSORBENT SURFACE. SUCH WALL SURFACES SHALL EXTEND TO A HEIGHT OF NOT LESS THAN 6 FEET ABOVE THE FLOOR (R307.2).

SMOKE ALARMS SHALL BE PROVIDED AS FOLLOWS:
a. IN NEW CONSTRUCTION SMOKE ALARMS SHALL RECEIVE THEIR PRIMARY POWER FROM THE BUILDING WIRING AND SHALL BE EQUIPPED WITH BATTERY SIGNAL. SMOKE ALARMS SHALL BE LOCATED IN EACH SLEEPING ROOM & HALL-WAY OR AREA GIVING ACCESS TO A SLEEPING ROOM, AND ON EACH STORY AND BASEMENT FOR DWELLINGS WITH MORE THAN ONE STORY. SMOKE ALARMS SHALL BE INTERCONNECTED SO THAT ACTUATION OF ONE ALARM WILL ACTIVATE ALL THE ALARMS WITHIN THE INDIVIDUAL UNIT. (907.2.10.5)

4. PROVIDE ULTRA FLUSH WATER CLOSESTS FOR ALL NEW CONSTRUCTION. EXISTING SHOWER HEADS AND TOILETS MUST BE ADAPTED FOR LOW WATER CONSUMPTION.

   PROVIDE 15" MIN. BETWEEN THE CENTER OF WATER CLOSET TO ANY SIDE WALL. (CALIF. PLUMB. CODE 407.6)

PROVIDE 24" CLEAR SPACE IN FRONT OF ANY WATER CLOSET. (CALIF. PLUMB. CODE 407.6)

5. PROVIDE 70 INCH HIGH NON-ABSORBENT WALL ADJACENT TO SHOWER AND APPROVED SHATTER-RESISTANT MATERIALS FOR SHOWER ENCLOSURE.
6. A MECHNICAL PERMIT FROM THE MECHANICAL LOW FLOW TOILETS (1.6 GLLON/FLUSH), SHOWERHEAD(2.5 GPM) AND FAUCETS (2.2 GPM) FOR ALL NEW FIXTURES.
7. WATER HEATER MUST BE STRAPPED TO WALL(SEC. 507.3,UPC)
8. EVERY SPACE INTENDED FOR HUMAN OCCUPANCY SHALL BE PROVIDED WITH NATURAL LIGHT BY MEANS OF EXTERIOR GLAZED OPENINGS IN ACCORDANCE WITH SECTION 1205.2 OR SHALL BE PROVIDED WITH ARTIFICIAL LIGHT THAT IS ADEQUATE TO PROVIDE AN AVERAGE ILLUMINATION OF 10 FOOT-CANDLES OVER THE AREA OF THE ROOM AT A HEIGHT OF 30 INCHES ABOVE THE FLOOR LEVEL. (1205.1 AND 1205.3)
9. ALL WINDOWS & GLASS DOORS HAVE TO BE TEMPERED
10. A WET BAR WILL NOT BE CONSIDERED AS A KITCHEN PROVIDED IT HAS NO HOT WATER, NO GARBAGE DISPOSAL, NO 220 V. ELECTRICAL, NO GAS OUTLET AND NO MORE THAN 10 SQ. FT. OF COUNTER SURFACE AREA. (ZA 90008O(ZA))
11. A COPY OF THE VALID EVALUATION REPORT AND/OR CONDITIONS OF LISTING SHALL BE MADE AVAILABLE AT THE JOB SITE.
12. VEHICULAR ACCESS DOORS SHALL COMPLY WITH SECTION R612.7
13. FOR POOL ON SITE, PROVIDE AN ALARM FOR DOORS TO THE DWELLING THAT FORM A PART OF THE POOL ENCLOSURE. THE ALARM SHALL SOUND CONTINUOUSLY FOR A MIN. OF 30 SECONDS WHEN THE DOOR IS OPENED. IT SHALL AUTOMATICALLY RESET AND BE EQUIPPED WITH A MANUAL MEANS TO DEACTIVATE (FOR 15 SECS. MAX.) FOR A SINGLE OPENING. THE DEACTIVATION SWITCH SHALL BE AT LEAST 54" ABOVE THE FLOOR. P/BC 2008-014
14. FOR POOL ON SITE, PROVIDE ANTI-ENTRAPMENT COVER MEETING THE CURRENT ASTM OR ASME IS REQUIRED FOR THE SUCTION OUTLETS OF THE SWIMMING POOL, TODDLER POOL AND SPA FOR SINGLE FAMILY DWELLINGS PER THE ASSEMBLY BILL (AB) NO. 2977.
15. DOORS BETWEEN GARAGE AND THE DWELLING UNIT SHALL BE SELF-CLOSING AND SELF-LATCHING, SOLID WOOD OR SOLID OR HONEYCOMB CORE STEEL NOT LESS THAN 1⅜ INCHES THICK, OR HAVE A MINIMUM FIRE PROTECTION RATING OF 20 MINUTES. (R302.5.1)
16. THE GARAGE SHALL BE SEPERATED FROM THE DWELLING AND ITS ATTIC AREA IN ACCORDANCE WITH TABLE R302.6 (R302.6)
17. DUCTS PENETRATING THE WALLS OR CEILINGS SEPERATING THE DWELLING FROM THE GARAGE SHALL BE CONSTRUCTED OF A MINIMUM NO. 26 GAGE SHEET STEEL OR OTHER APPROVED MATERIAL AND THERE SHALL BE NO OPENINGS FROM THE DUCTS INTO THE GARAGE (R302.5.2)
18. OTHER PENETRATIONS OF GARAGE/DWELLING CEILINGS AND WALLS ARE TO BE PROTECTED AS REQUIRED BY SECTION R302.11, ITEM 4 (R302.5.3)
19. ATTIC VENTILATION OF 1/150 OF THE AREA OF VENTILATED SPACE (APPROXIMATELY 10 SQ, IN FOR EACH 10 SQ. FT. OF ATTIC AREA) IS REQUIRED (R806.2)
20. ATTIC AREA HAVING A CLEAR HEADROOM OF 30" MUST HAVE AN ACCESS OPENING (20"X30" MIN.) (R807.1)
21. DAMPROOFING, WHERE REQUIRED, SHALL BE INSTALLED WITH MATERIALS AND AS REQUIRED IN SECTION R406.1
22. BUILDINGS SHALL HAVE APPROVED ADDRESS NUMBERS, BUILDING NUMBERS OR APPROVED BUILDING IDENTIFICATION PLACED IN A POSITION THAT IS PLAINLY LEGIBLE AND VISIBLE FROM THE STREET OR ROAD FRONTING THE PROPERTY. (R319)

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Department of Building and Safety
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By: _____ Total of _____ Sheets

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General Notes

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Project

901 N. LAUREL AVE.
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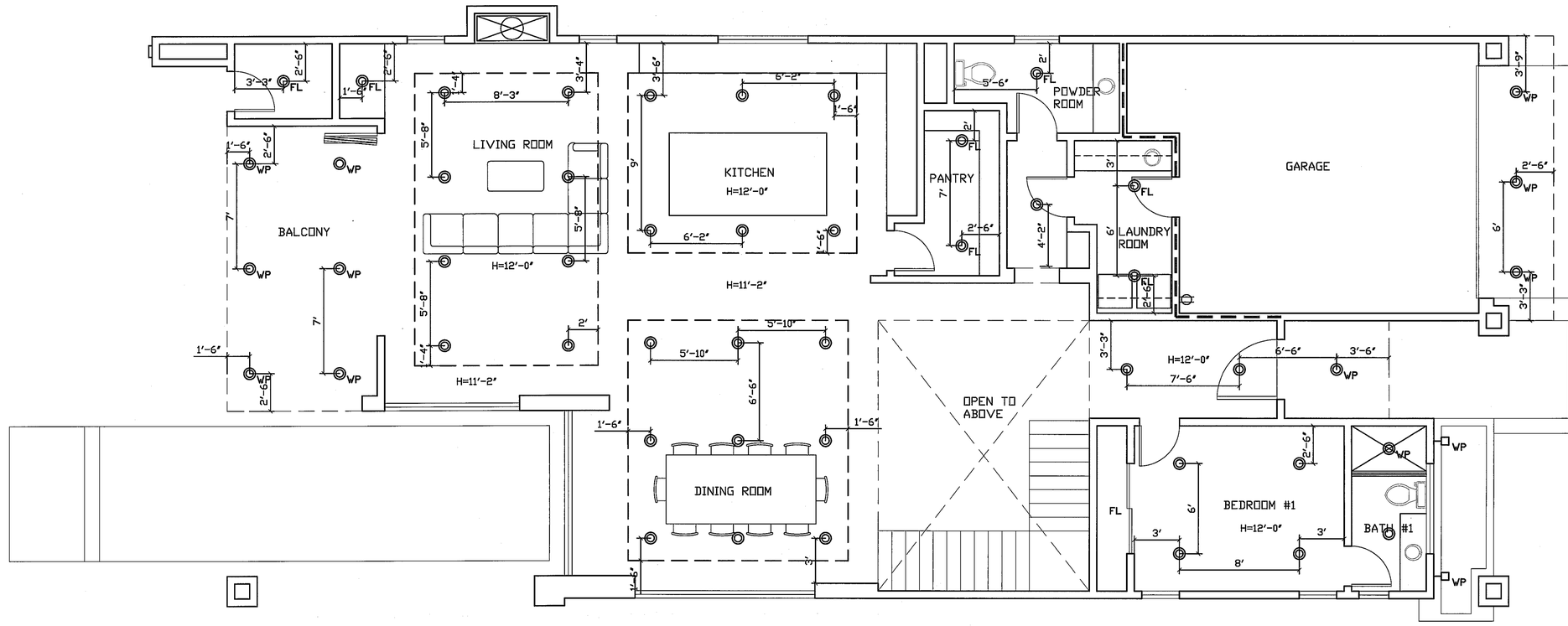
Drawing Title

SECOND FLOOR PLAN

Project 12-553	Sheet A3.1
Date 02-04-13	
Scale 1/4"=1'-0"	



Legend :

- 4" LOW VOLTAGE RECESSED FIXTURE
- META HIGHLIGHT
- CAMERA
- INTERCOM AND CAMERA
- 4" FLUORESCENT RECESSED
- 4" WATERPROOF RECESSED FIXTURE
- PLASMA
- CHANDELIER
- WATERPROOF EXTERIOR SCONCES

FIRST FLOOR LIGHTING PLAN

1/4" = 1'-0"

T.B.D: CAMERA LOCATIONS
IPOD DOCKING
INTERCOM

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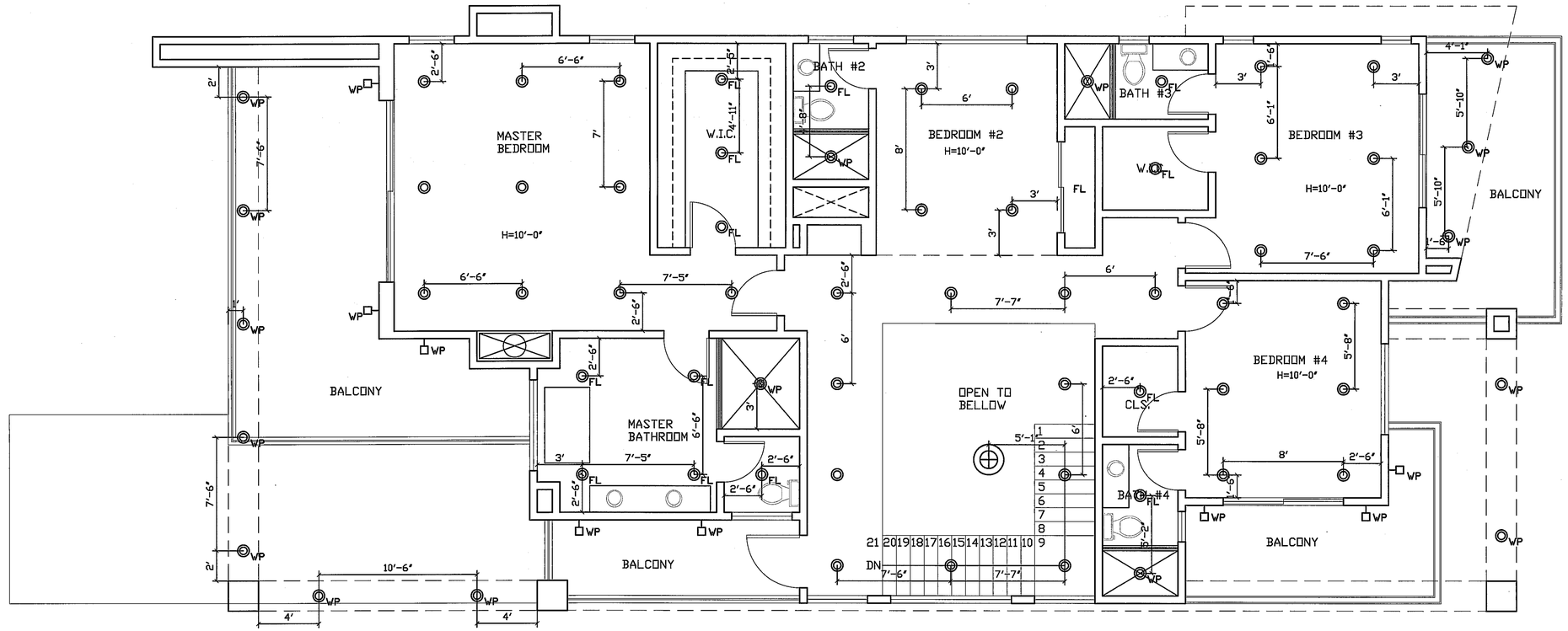
FIRST FLOOR LIGHTING PLAN

Project 12-553	Sheet A3.2
Date 02-04-13	
Scale 1/4"=1'-0"	



Legend :

- WP — 4" LOW VOLTAGE RECESSED FIXTURE
- META HIGHLIGHT
- CAMERA
- INTERCOM AND CAMERA
- FL — 4" FLUORESCENT RECESSED
- WP — 4" WATERPROOF RECESSED FIXTURE
- PLASMA
- CHANDELIER
- WP — WATERPROOF EXTERIOR SCONCES

SECOND FLOOR LIGHTING PLAN

1/4" = 1'-0"

T.B.D: CAMERA LOCATIONS
IPOD DOCKING
INTERCOM

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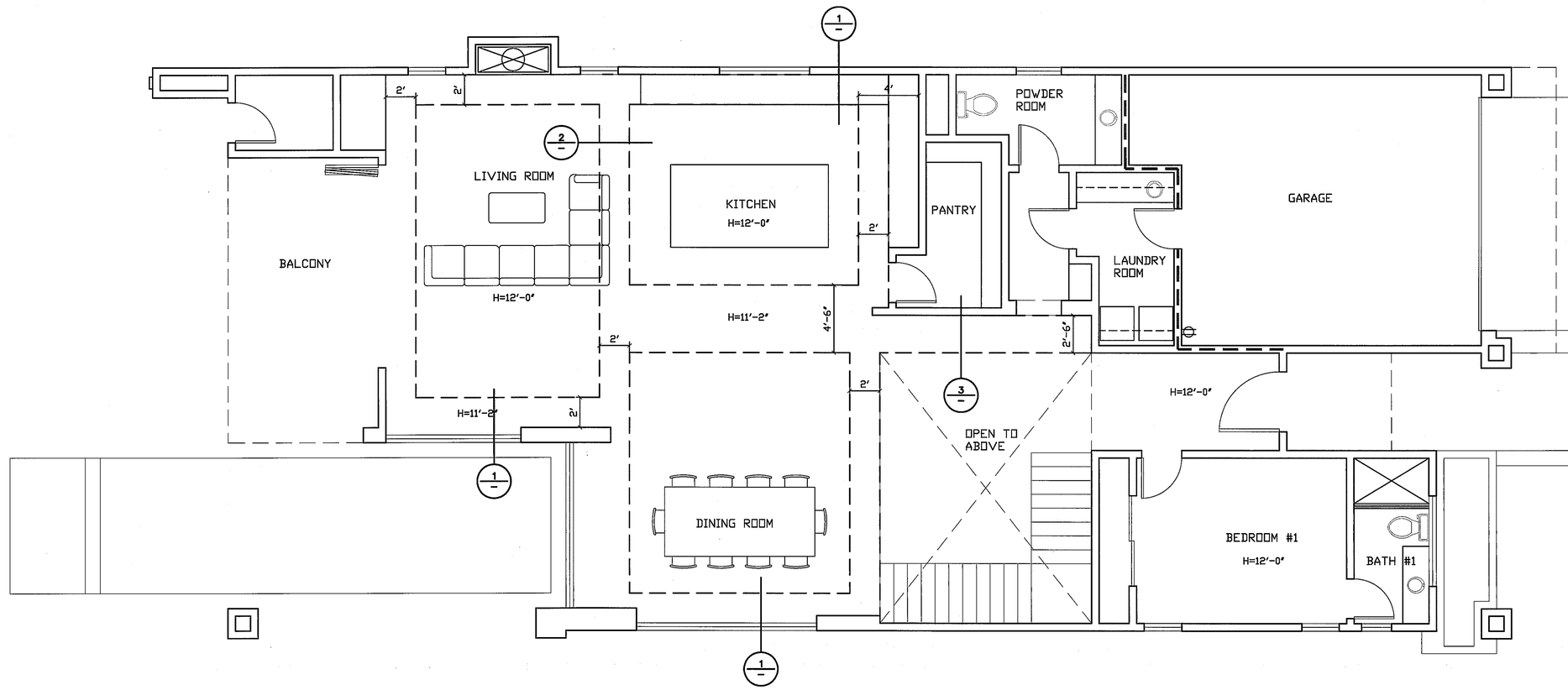
Drawing Title

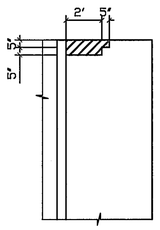
SECOND FLOOR LIGHTING PLAN

Project 12-553	Sheet A3.3
Date 02-04-13	
Scale 1/4"=1'-0"	



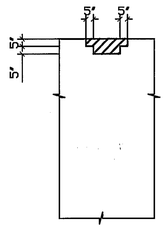
FIRST FLOOR CEILING PLAN

1/4" = 1'-0"



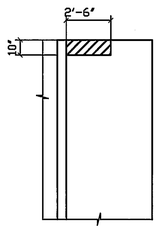
CEILING DETAIL 1

1/4" = 1'-0"



CEILING DETAIL 2

1/4" = 1'-0"



CEILING DETAIL 3

1/4" = 1'-0"

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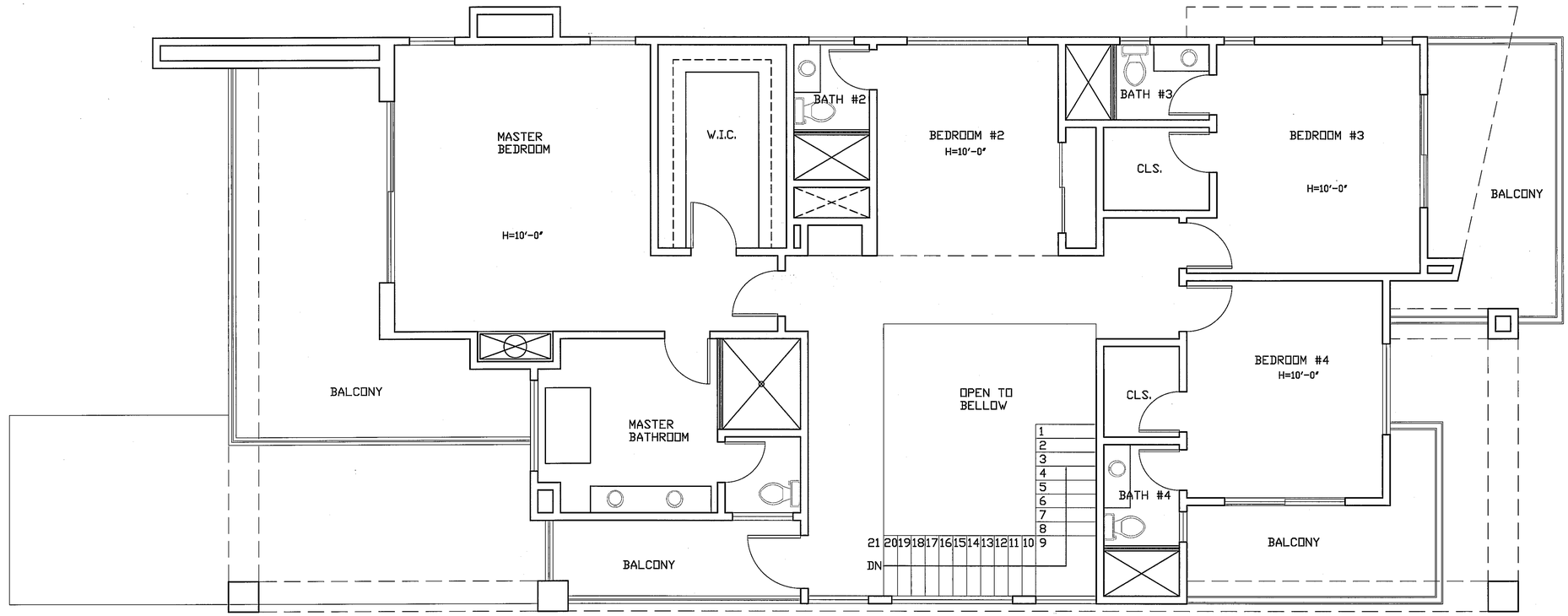
FIRST FLOOR REFLECTED CEILING PLAN

Project 12-553	Sheet A3.4
Date 02-04-13	
Scale 1/4"=1'-0"	



SECOND FLOOR REFLECTED CEILING PLAN

1/4" = 1'-0"

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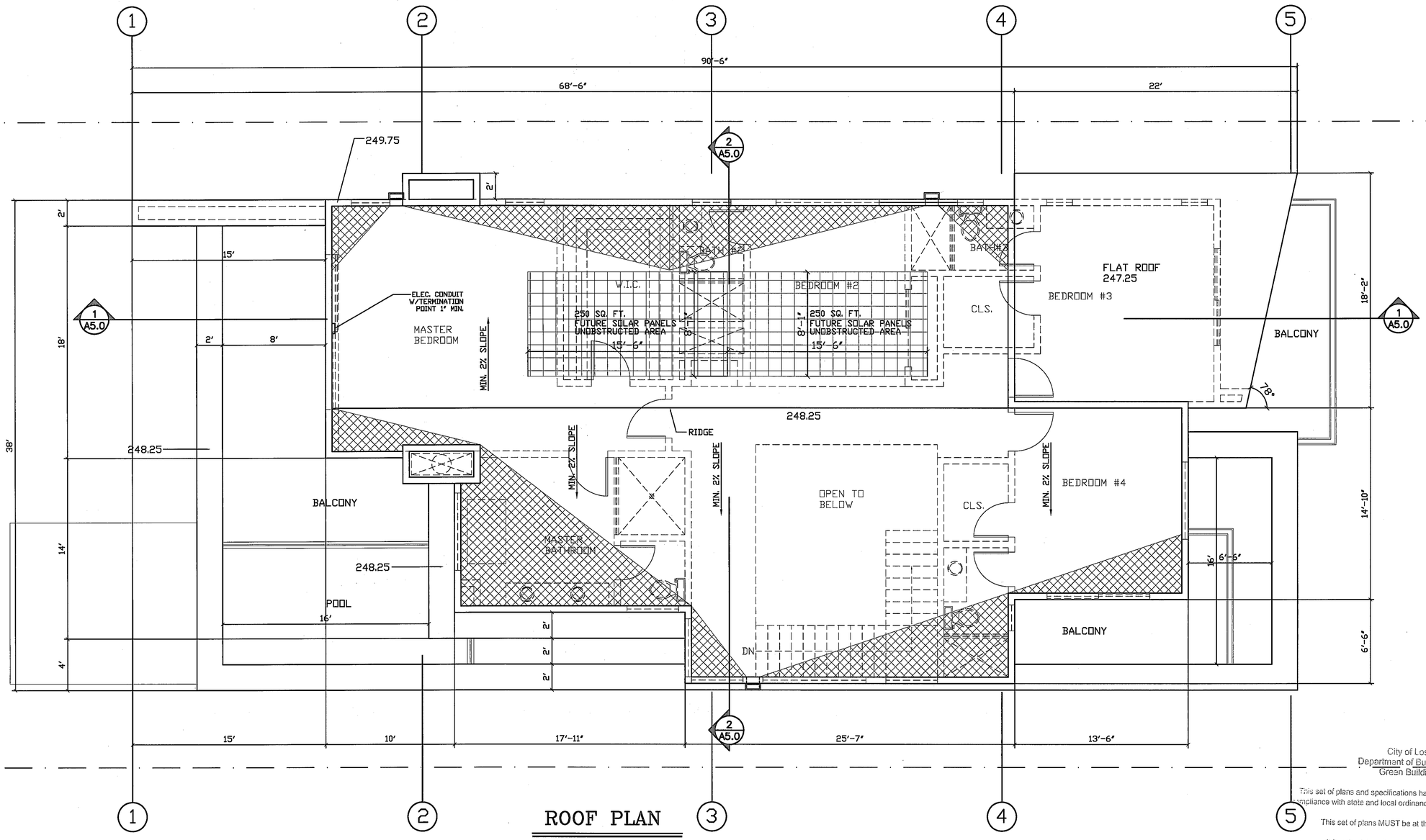
SECOND FLOOR REFLECTED CEILING PLAN

Project 12-553	Sheet A3.5
Date 02-04-13	
Scale 1/4"=1'-0"	



ROOF PLAN

1/4" = 1'-0"

Note :

1. MINIMUM ROOF SLOPE OF 3/8" PER FOOT SHALL BE PROVIDED AT ANY POINT OF THE ROOF. PROVIDE UNIFORM SLOPE TOWARD DOWNSPOUTS AND/OR SCUPPERS AS INDICATED ON ROOF PLAN. (REFER TO DETAILS FOR DOWNSPOUTS AND SCUPPERS INCLUDED IN THIS DRAWINGS.)
2. INSULATIONS SHALL BE INSTALLED AT BOTTOM OF JOISTS OR FRAMING UNDER ENTIRE ROOF. USE R-30 INSULATION WITH VAPOR BARRIER.
3. CHECK & VERIFY LOCATIONS & EXACT SIZES OF ALL A/C EQUIPMENT, REQUIRED OPENINGS & SUPPORTS WITH A/C CONTRACTORS BEFORE FRAMING BEGINS. ANY REWORKING REQUIRED TO ACCOMODATE EQUIPMENT IN QUESTION SHALL BE DONE AT NO ADDITIONAL COST TO THE OWNER.
4. PAINT ALL ROOF EQUIPMENTS. ALL ROOF METAL SHALL RECEIVE TWO (2) COATS OF EXTERIOR SEMI GLOSS PAINT. VERIFY COLOR W/ARCHITECT.
5. TELEVISION ANTENNA CROSSARMS OR OTHER ROOF OBSTRUCTIONS SHALL BE LOCATED 20'-0" MIN. FROM EDGE OF ROOF & 7'-0" MIN. ABOVE ROOF.
6. PROVIDE ATTIC DRAFT STOPS AS REQUIRED (SEE ROOF PLAN & DETAILS). DRAFT STOPS SHALL DIVIDE ATTIC SPACES INTO AREAS NOT TO EXCEED 3,000 SQ. FT. PER UBC SEC.3205 (8). SEE DETAILS FOR WOOD & GYP. BOARD DRAFT STOPS. PROVIDE 2" X ___ WOOD FRAMING AS REQUIRED TO COMPLETE ITS CONSTRUCTION.
7. PROVIDE AN APPROVED SPARK ARRESTER FOR THE CHIMNEY OF A FIREPLACE, STOVE OR BARBECUE.
8. PROVIDE GRAVITY TYPE ATTIC VENTILATORS AT ROOF IF TRUSSES ARE NOT OF SOLID WEB CONSTRUCTION. WHEN ATTIC DRAFT STOP ARE REQUIRED PROVIDE TWO (2) ROOF GRAVITY VENTILATORS FOR EACH DIVISION.
9. CONTRACTOR TO CONFIRM THAT ALL AREAS ARE PROVIDED WITH POSITIVE DRAINAGE PRIOR TO SHEATHING THE ROOF.
10. CRICKET WITH 1/2" PLYWOOD OVER 2" X ___" SLEEPERS TYPICAL.
11. THE ROOFS FOR THE MAIN BUILDING AND THE EXISTING BUILDING ARE TO BE INSPECTED BY A QUALIFIED ROOFING SPECIALIST TO VERIFY THAT:
    - A. ALL EXISTING ROOFING MATERIALS AND INSTALLATION METHODS HAVE BEEN PROPERLY INSTALLED AND MAINTAINED.
    - B. ASSOCIATED FLASHINGS AN SHEET METAL HAVE BEEN PROPERLY INSTALLED AND MAINTAINED.
    - C. THE ROOFS ARE TO BE FLOOD TESTED IN A MANNER APPROPRIATE TO THE TYPE EXISTING ROOFING SEE NOTE 12 BELOW.
    - D. ANY DEFICIENCIES OR LEAK CONDITIONS ARE TO BE CORRECTED TO INSURE A WATERTIGHT INSTALLATION FOR A PERIOD OF ONE YEAR FROM THE TIME OF PROJECT ACCEPTANCE BY THE TENNANT.
12. ROOF FLOOD TEST TO BE CONDUCTED IN THE PRESENCE OF THE BUILDING OWNER AND THE TENANT. CONTRACTOR TO PROVIDE MIN. 96 HRS. NOTICE TO BOTH PARTIES.
13. ATTIC NET VENTILATION AREA RATIO IS 1/150 OF ATTIC AREA ,VENTS WITH THE BALANCE OF THE REQUERED VENTILATION PROVIDED BY THE EAVE VENTS. OPENINGS SHALL HAVE 1/4 INCH CORROSION RESISTANT METAL MESH COVERING.

* PROVIDE RAIN GUTTERS AND CONVEY RAIN WATER TO THE STREET.

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Green Building Division

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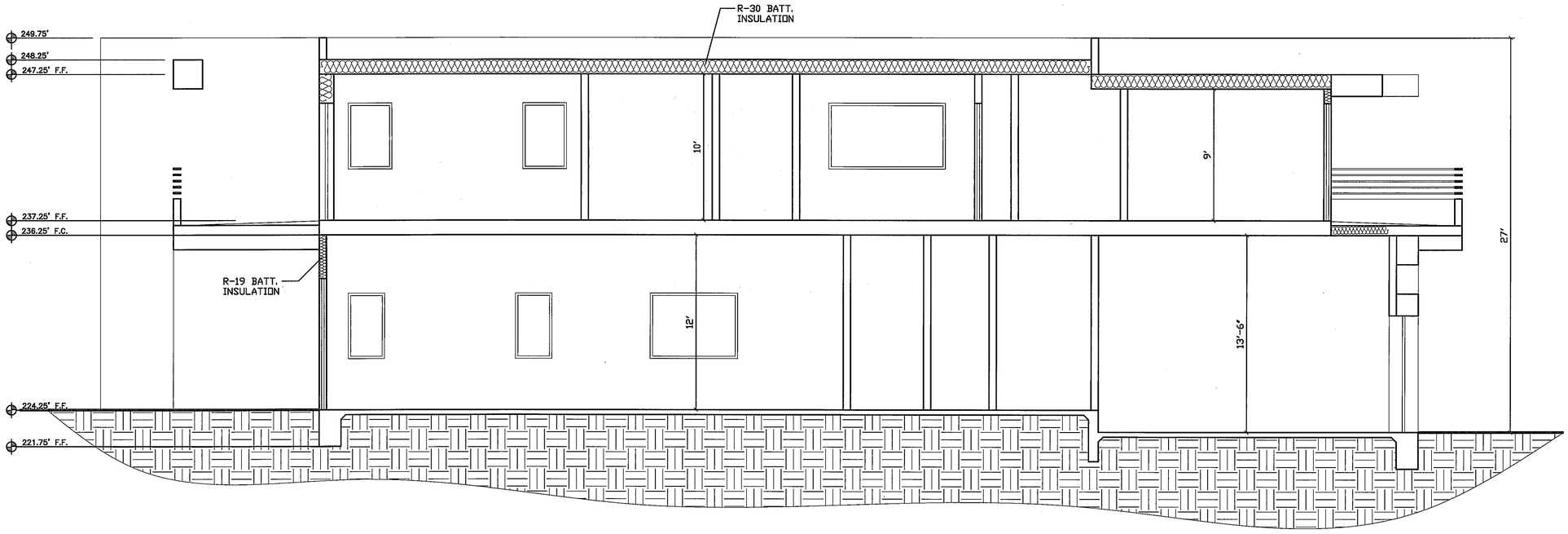
Drawing Title

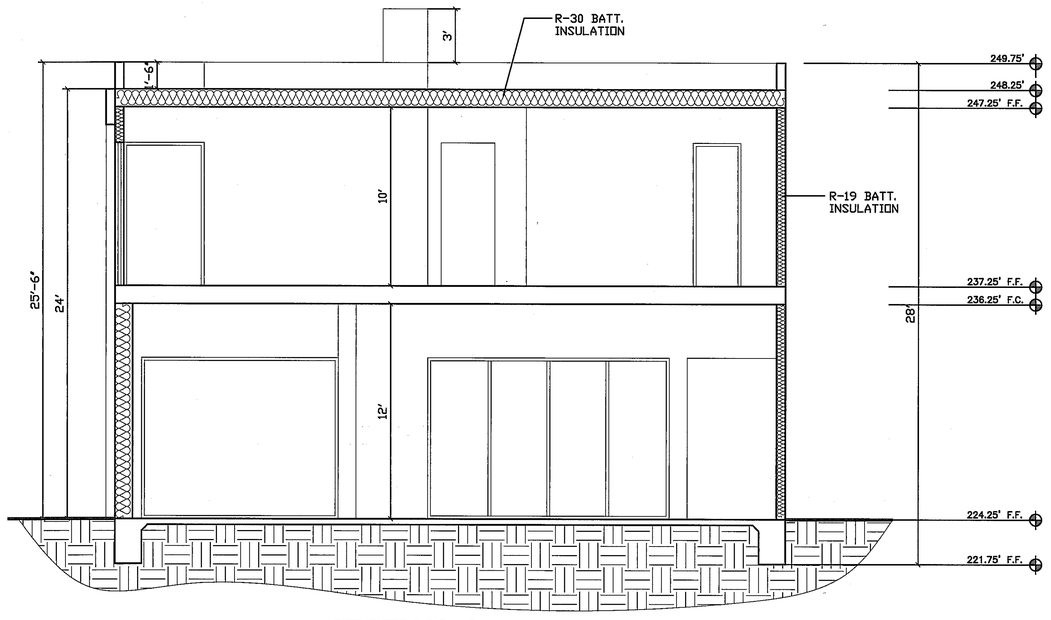
ROOF PLAN

Project	12-553
Date	02-04-13
Scale	1/4"=1'-0"
Sheet	A4.0



SECTION 1

1/4" = 1'-0"



SECTION 2

1/4" = 1'-0"

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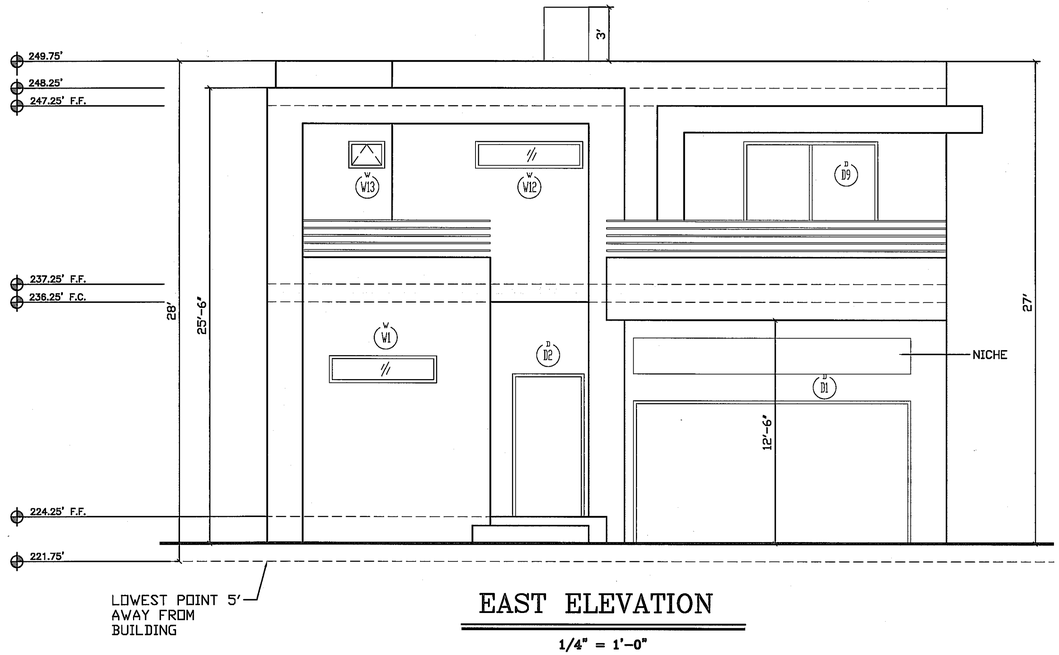
Drawing Title

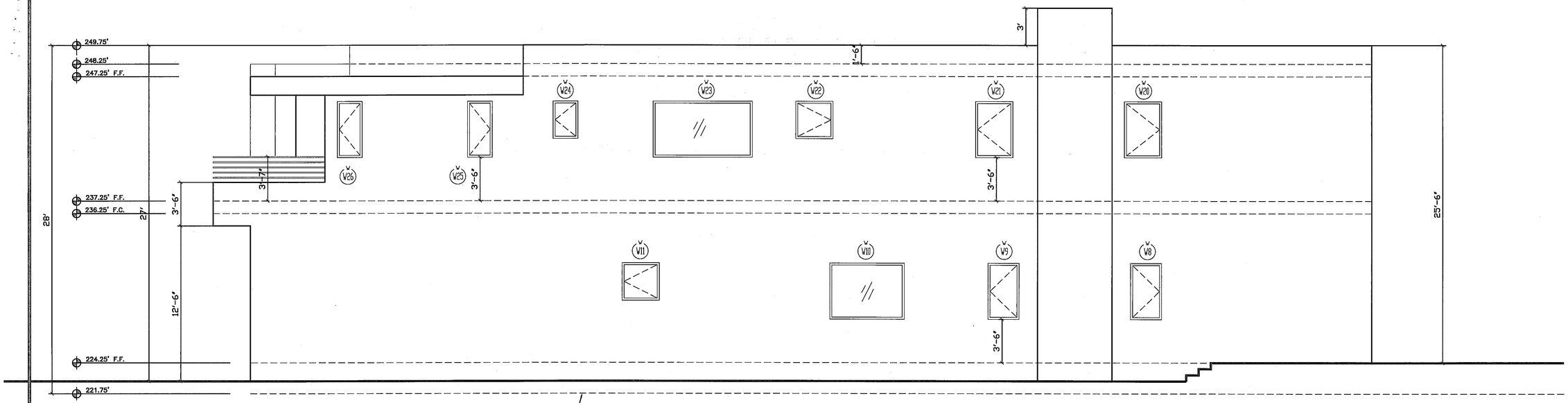
SECTIONS

Project 12-553	Sheet A5.0
Date 02-04-13	
Scale 1/4"=1'-0"	



EAST ELEVATION

1/4" = 1'-0"



NORTH ELEVATION

1/4" = 1'-0"

LOWEST POINT 5' AWAY FROM BUILDING

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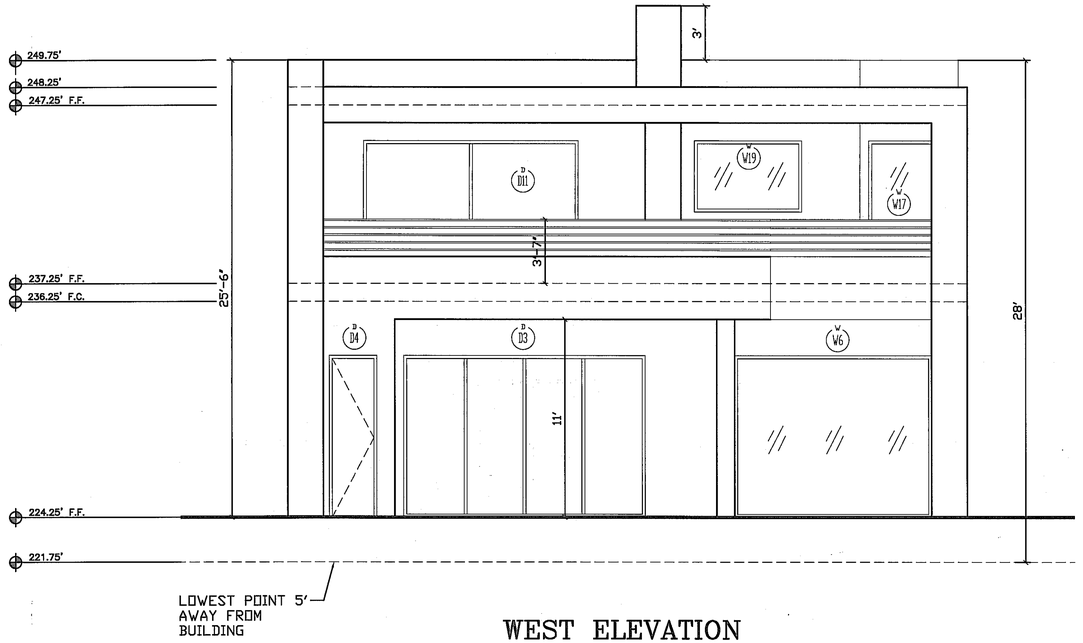
Drawing Title

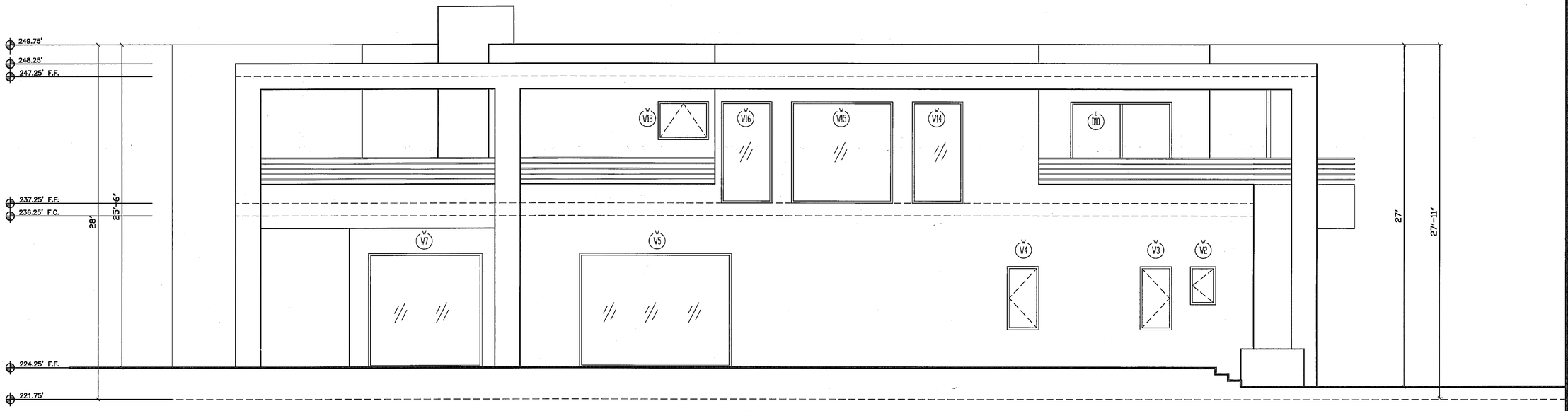
ELEVATIONS

Project 12-553	Sheet A6.0
Date 02-04-13	
Scale 1/4"=1'-0"	



WEST ELEVATION

1/4" = 1'-0"



SOUTH ELEVATION

1/4" = 1'-0"

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www.NEDESIGNSINC.com

General Notes

No.	Revision/Issue	Date

Project

901 N. LAUREL AVE.
LOS ANGELES, CA 90046

Drawing Title

ELEVATIONS

Project 12-553	Sheet A6.1
Date 02-04-13	
Scale 1/4"=1'-0"	

SPECIAL HAZARDS

GLAZING IN HAZARDOUS LOCATIONS SHALL BE TEMPERED (2406.4)
a. INGRESS AND EGRESS DOORS.
b. PANELS IN SLIDING OR SWINGING DOORS
c. DOORS AND ENCLOSURE FOR HOT TUB, BATHTUB, SHOWERS (ALSO GLAZING IN WALL ENCLOSING THESE COMPARTMENTS WITHIN 5' OF STANDING SURFACE)
d. IF WITHIN 2' VERTICAL EDGE OF CLOSED DOOR AND WITHIN 5' OF STANDING SURFACE
e. IN WALL ENCLOSING STAIWAY LANDING.
f. GLAZING 5'-0" FROM TOP OR BOTTOM OF STEPS WITH BOTTOM EDGE LESS THAN 60" ABOVE WALKING SURFACE.

U. SECURITY REQUIREMENTS

General:

1. All entry doors to dwelling units or guest rooms shall be arranged so that the occupant has a view of the area immediately outside the door without opening the door. Such view may be provided by a door viewer, through Windows located in the vicinity of the door or through view ports in the door or adjoining wall. 91.6706

2. Screens, barricades, of fences made of material which preclude human climbing shall be provided at every portion of every roof, balcony, or similar surface which is within 8ft. of the utility pole or similar structures. 91.6707

DOORS:

3. Wood flush-type doors shall be 1 3/8" thick minimum with solid core construction. 91.6709.1 — Door stops of in-swinging doors shall be of one-piece construction with the jamb or joined by rabbet to the jamb. 91.6709.4

4. Every door in a security opening for an apartment house shall be provided with a light bulb (60 watt min.) At a maximum height of 8 feet on the exterior. 91.6708

5. All pin-type door hinges accessible from outside shall have min. ¼" dia. Steel jamb stud with ¼" min. protection. The strike plate for latches and holding device for projecting dead bolts in wood construction shall be secured to the jamb and the wall framing with screws no less than 2-1/2" long. 91.6709.5, 91.6709.7

6. Provided dead bolts with hardened inserts; deadlocking latch with key-operated locks on exterior. Locks must be open able from inside without key, special knowledge or special effort (latch not required in B,F, and S occupancies. 91.6709.2)

7. Straight dead bolts shall have a min. throw of 1" and an embedment of not less than 5/8", and a hook-shaped or an expanding-lug deadbolt shall have a minimum throw of ?". 91.6709.2

8. The use of a locking system which consists of a deadlocking latch operated by a doorknob and a deadbolt operated by a non-removable thumb turn which is independent of the deadlocking latch and which must be separately operated, shall not be considered as a system which requires special knowledge or effort when used in dwelling units. The door knob and the thumb turn which operates the deadbolt shall not be separated by more than 8 inches.

9. Wood panel type doors must have panels at least 9/16 in. thick with shaped portions not less ¼ in. thick and individual panels must be no more than 300 sq. in. in area. Mullions shall be considered a part of adjacent panels except mullions not over 18 inches long may have an overall width of not less than 2 inches. Stiles and rails shall be of soled lumber in thickness with overall dimensions of not less than 1 3/8 inches and 3 inches in width. 91.6709.1 item 2

10. Sliding doors shall be provided with device in the upper channel of the moving panel in the closed or partially open position. 916710.

11. Sliding doors shall be equipped with locking devices and shall be so constructed and installed that tests specified in 91.6717.1

12. Metal or wooden overhead or sliding doors shall be secured with a cylinder lock, padlock with a min. 9/32" diameter hardened steel shackle and bolted , hardened steel hasps, metal slide board, bolt or equivalent device unless secured electrically operated. 91.6711

13. Provide metal guides at top and bottom of metal accordion grate or grille-type doors and cylinder locks or padlocks. Cylinder projects beyond the face of the door or is otherwise accessible to gripping tools. 91.6712

GLAZING:

14. In B, F, M, and S occupancies, panes of glazing with at least one dimension greater than 5 in. but less than 48 in, shall be construction of tempered or approved burglary-resistant material or protected with metal bars or grilles. 91.6714?Â

15. Glazed openings within 40" of the door lock when the door is in the closed position, shall be fully tempered glass or approved burglary resistant material, or shall be protected by metal bars, screens or grills having a maximum opening of 2". The provisions of the section shall not apply to view ports or windows which do not exceed 2" in their greatest dimensions. 91.6713

16. Louvered windows shall be protected by metal bars or grills with openings that have at least one dimension of 6" or less, which are constructed to preclude human entry. 91.6715.3

17. Other open able windows shall be provided with substantial locking devices. In B, F, M and S occupancies, such devices shall be glide bars, bolts cross-bars, and/or padlocks with minimum 9/32" hardened steel shackles and bolted, hardened steel hasps. 91.6715.2

18. Sliding windows shall be provided with a device in the upper channel of the moving panel to prohibit raising and removing of moving panel in the closed or partially open position. 91.6715.1

19. Sliding windows shall be equipped with locking device sand shall be so constructed and installed that they remain intact and engaged when subjected to the tests specified in 91.6717.2

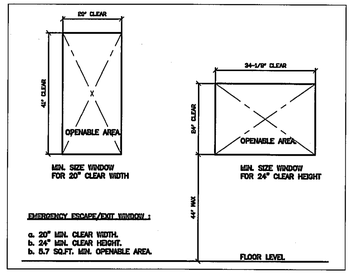
20. Any release for metal bars, grills, grates or similar devices constructed to preclude human entry that are installed shall be located on the inside of the adjacent room and at least 24 inches from the closest opening through such metal bars, grills, grates or similar devices that exceeds two inches in any dimension. 91.6715.4

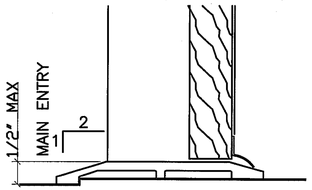
OPENINGS OTHER THAN DOORS OR GLAZED OPENINGS:

21. All other openings must be protected by metal bars or grilles with openings of not less than 6 inches in one dimension. 91.6716

23. THE CONSTRUCTION SHALL NOT RESTRICT A FIVE FOOT CLEAR AND UNOBSTRUCTED TO ANY WATER OR POWER DISTRIBUTION FACILITIES (POWER POLES, PULL BOXES, TRANSFORMERS, VAULTS, PUMPS, VALVES, METERS, APPURTENANCES, ETC) OR TO THE LOCATION OF THE HOOK-UP THE CONSTRUCTION SHALL NOT BE WITHIN TEN FEET OF ANY POWER LINES-WEHTER OR NOT THE LINES ARE LOCATED ON THE PROPERTY. FAILURE RO COMPLY MAY CAUSE COSNTRUCTION DELAYS AND/OR ADDITIONAL EXPENSES.

24. AN APPROVED SEISMIC GAS SHUTOFF VALVE WILL BE INSTALLED ON THE FUEL GAS LINE ON THE DOWN STREAM SIDE OF THE UTILITY METER AND BE RIFIDLY CONNECTED TO THE EXTERIOR OF THE BUILDING OR STRUCTURE CONTAINING THE FUEL GAS PIPING.





TRESHOLD AT ENTRY TYP.

DOOR SCHEDULE

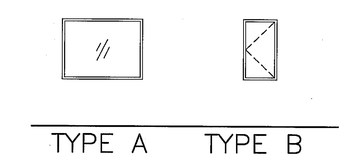
QTY	ID	WIDTH/HEIGHT	LOCATION	TYPE	THICK	FINISH	FRAME	REMARKS
1	D1	16'-0"x8'-0"	GARAGE	A				
1	D2	4'-0"x8'-0"	MAIN ENTRY	B				
1	D3	13'-6"x9'-0"	FAMILY ROOM	C				
1	D4	2'-8"x8'-0"	STORAGE	B				
1	D5	2'-8"x8'-0"	LAUNDRY	D				
1	D6	2'-8"x8'-0"	GARAGE	D				
1	D7	2'-8"x8'-0"	POWDER	D				
1	D8	2'-8"x8'-0"	PANTRY	D				
1	D9	7'-6"x8'-0"	BEDROOM #3	E				
1	D10	8'-0"x8'-0"	BEDROOM #4	E				
1	D11	12'-0"x8'-0"	MASTER BEDROOM	E				
1	D12	3'-0"x8'-0"	MASTER BEDROOM	D				
1	D13	3'-0"x8'-0"	W.I.C.	D				
1	D14	3'-0"x8'-0"	MASTER BATHROOM	D				
1	D15	2'-8"x8'-0"	MASTER BATHROOM	D				
1	D16	6'-0"x8'-0"	BEDROOM #2 CLOSET	F				
1	D17	2'-8"x8'-0"	BATHROOM #2	D				
1	D18	3'-0"x8'-0"	BEDROOM #4	D				
1	D19	2'-8"x8'-0"	CLOSET	D				
1	D20	2'-8"x8'-0"	BATHROOM #4	D				
1	D21	3'-0"x8'-0"	BEDROOM #3	D				
1	D22	2'-8"x8'-0"	BEDROOM #3 CLOSET	D				
1	D23	2'-8"x8'-0"	BATHROOM #3	D				
1	D24	2'-8"x8'-0"	BEDROOM #1	D				
1	D25	2'-8"x8'-0"	BEDROOM #1 CLOSET	F				
1	D28	2'-8"x8'-0"	BATHROOM #1	D				

WINDOW SCHEDULE

QTY	ID	WIDTH/HEIGHT	LOCATION	TYPE	GLAZING	FRAME MATL	FRAME FIN	REMARKS
1	W1	6'-0"x1'-6"	BATHROOM #1	A	DUAL			
1	W2	2'-0"x3'-0"	BATHROOM #1	B	DUAL			
1	W3	2'-8"x5'-0"	BEDROOM #1	B	DUAL			
1	W4	2'-8"x5'-0"	BEDROOM #1	B	DUAL			
1	W5	12'-0"x9'-0"	DINING ROOM	A	DUAL			
1	W6	11'-0"x9'-0"	DINING ROOM	A	DUAL			
1	W7	9'-0"x9'-0"	FAMILY ROOM	A	DUAL			
1	W8	2'-8"x4'-8"	FAMILY ROOM	B	DUAL			
1	W9	2'-8"x4'-8"	FAMILY ROOM	B	DUAL			
1	W10	8'-0"x4'-8"	KITCHEN	A	DUAL			
1	W11	3'-0"x3'-0"	POWDER	B	DUAL			
1	W12	6'-0"X1'-6"	BEDROOM #4	B	DUAL			
1	W13	2'-0"x1'-6"	BATHROOM #4	C	DUAL			
1	W14	4'-0"x8'-0"	STAIRS	B	DUAL			
1	W15	8'-0"x8'-0"	STAIRS	D	DUAL			
1	W16	4'-0"x8'-0"	STAIRS	C	DUAL			
1	W17	NOT USED	NOT USED		DUAL			
1	W18	4'-0"x4'-0"	MASTER BATHROOM	A	DUAL			
1	W19	6'-0"x4'-0"	MASTER BATHROOM	B	DUAL			
1	W20	3'-0"x4'-6"	MASTER BEDROOM	B	DUAL			
1	W21	3'-0"x4'-6"	MASTER BEDROOM	B	DUAL			
1	W22	3'-0"x3'-0"	BATHROOM #2	B	DUAL			
1	W23	8'-0"x4'-6"	BEDROOM #2	B	DUAL			
1	W24	2'-0"x3'-0"	BATHROOM #3	B	DUAL			
1	W25	2'-0"x4'-6"	BEDROOM #3	B	DUAL			
1	W26	2'-0"x4'-6"	BEDROOM #3	B	DUAL			

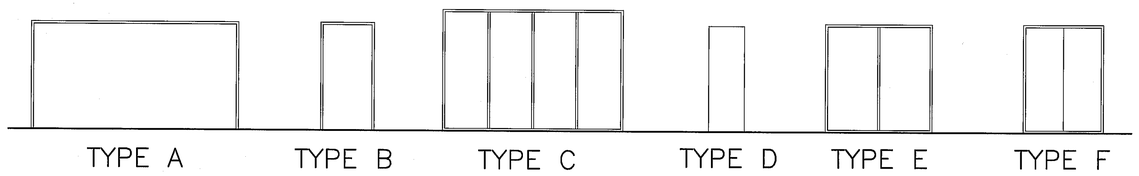
GL – GLASS
AL – ALUMINUM
ST – STEEL
SC – SOLID CORE
TEM – TEMPERED
MIR – MIRROR
AN – ANODIZE
PG – PAINT GLOSS
V.I.F. – VERIFY IN FIELD

DOOR TYPE



TYPE A TYPE B

WINDOW TYPE



TYPE A TYPE B TYPE C TYPE D TYPE E TYPE F

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General Notes

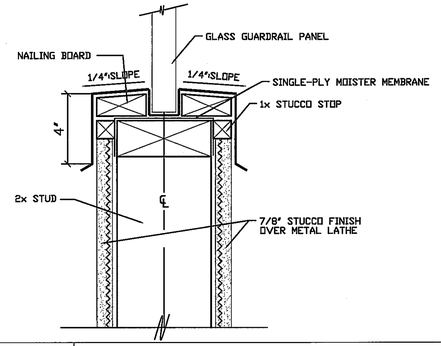
No.	Revision/Issue	Date

Project
901 N. LAUREL AVE.
LOS ANGELES, CA 90046

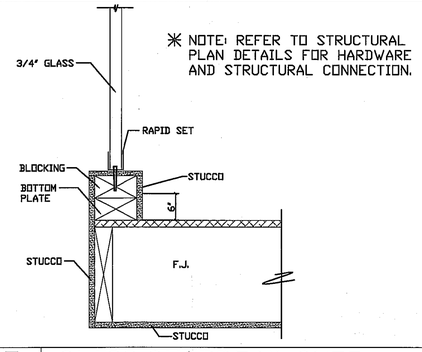
NEW 2 STORY HOUSE

Drawing Title
DOORS AND WINDOWS SCHEDULE

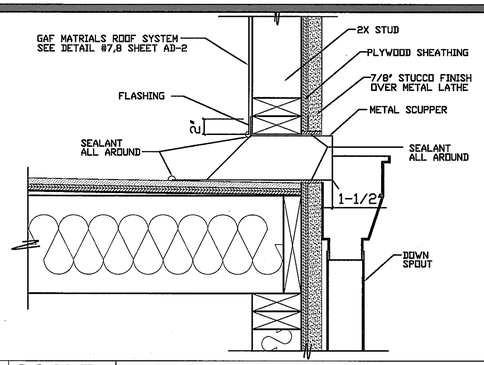
Project 12-553	Sheet A7.0
Date 02-04-13	
Scale N.T.S.	



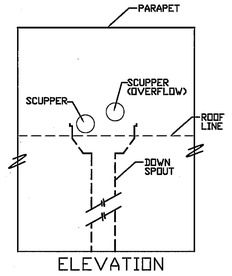
1 SCALE: N.T.S. **FLASHING AT GUARDRAIL PANEL**



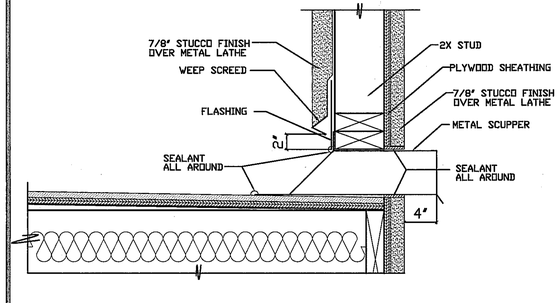
5 SCALE: N.T.S. **GLASS GUARDRAIL CURB DETAIL**



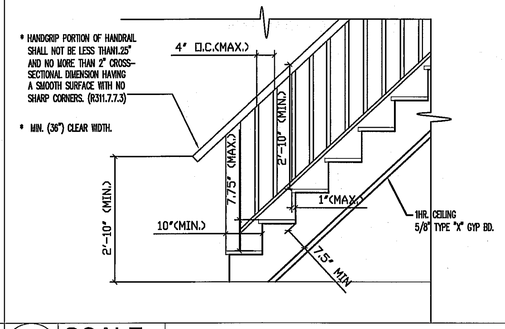
9 SCALE: N.T.S. **DOWN SPOUT DETAIL**



ELEVATION

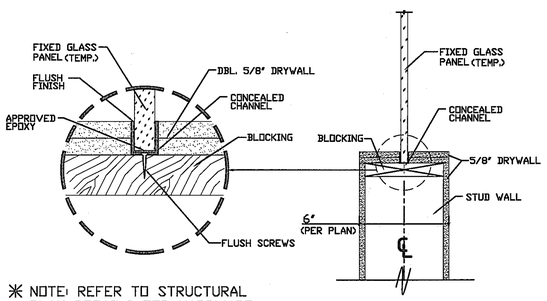


2 SCALE: N.T.S. **SCUPPER**



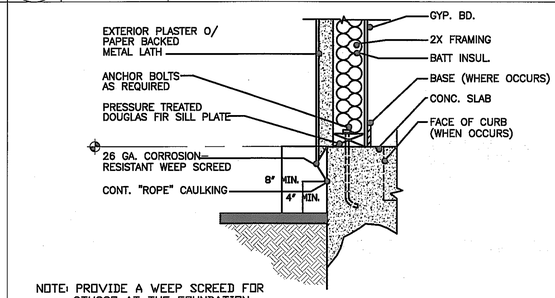
6 SCALE: N.T.S.

10 SCALE: N.T.S. **NOT USED**



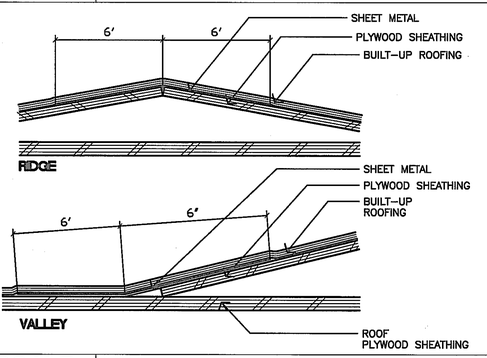
* NOTE: REFER TO STRUCTURAL PLAN DETAILS FOR HARDWARE AND STRUCTURAL CONNECTION.

3 SCALE: N.T.S. **GLASS FIXTURE SECTION DETAIL**

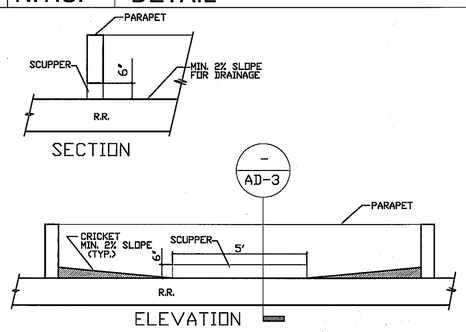


NOTE: PROVIDE A WEEP SCREED FOR STUCCO AT THE FOUNDATION PLATE LINE A MINIMUM OF 4" ABOVE THE EARTH OR 2" ABOVE PAVED AREAS. (2512.1.2)

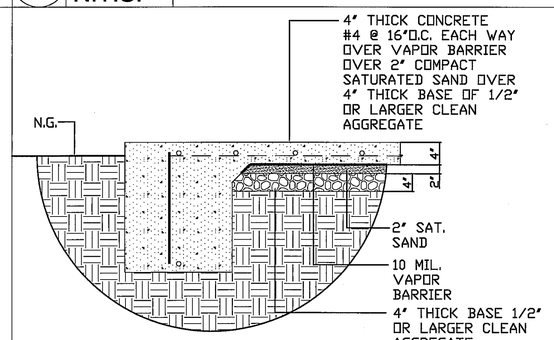
7 SCALE: N.T.S. **WEEP SCREED DETAIL**



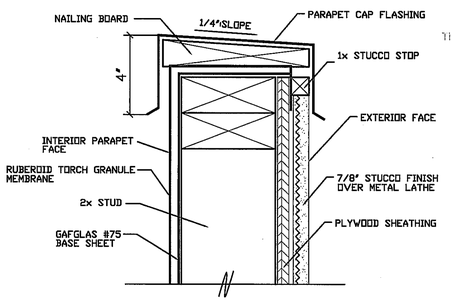
11 SCALE: N.T.S. **ROOF CRICKET**



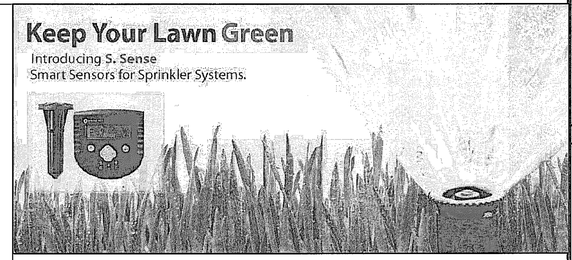
4 SCALE: N.T.S. **SCUPPER DETAIL**



8 SCALE: N.T.S. **FOUNDATION DETAIL**



12 SCALE: N.T.S. **PARAPET WALL CAP**



Receiver Technical Specifications

Works with all standard 24AC controllers
Automatic and Manual (Bypass) Operation
Large LCD with 64x128 pixel graphics for status and control
Easy-to-use six push button controls
Multiple language capabilities (English and Spanish)
Built-in memory maintains programming information in the absence of AC power (no battery required)
Durable plastic case (indoor use)
Unconditional four month warranty
Radio Frequency: 2.4GHz Spread Spectrum
Radio Range: 200ft Line-of-Sight (extendable)
Power Requirements: 24 V ac, 0.50 amps
Maximum common line current: 24 V ac, 1.8 amp (including master

Common line operation: normally closed

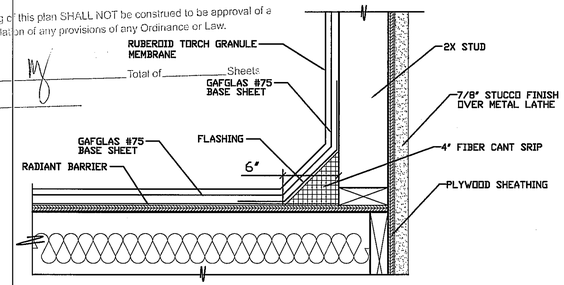
Operating temperature: 32°F to 130°F (0°C to 54°C)

Sensor Technical Specifications
Sensors: Soil moisture and temperature

Max Range: 200 feet line of sight (extendable)
Power: 3 AAA alkaline batteries (> 1 year operation)
Operating Temp: 32°F to 130°F (0°C to 54°C)

*NOTE:
OWNER TO PROVIDE SMART SENSOR SPRINKLER SYSTEM PER SPECIFICATIONS OR ITS EQUIVALENT.

13 SCALE: N.T.S. **SMART SENSOR SPRINKLER SYSTEM SPECIFICATION**



14 SCALE: N.T.S. **PARAPET FLASHING DETAIL**

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General Notes

No.	Revision/Issue	Date

Project

901 N. LAUREL AVE.
LOS ANGELES, CA 90046

NEW 2 STORY HOUSE

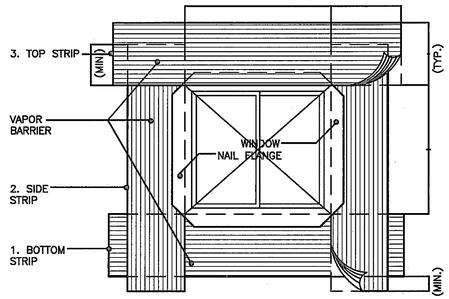
Drawing Title

DETAILS

Project 12-553	Sheet AD-1
Date 02-04-13	
Scale N.T.S.	

SECTION 1402.2 OF THE CODE STATES THAT THE EXTERIOR OPENINGS EXPOSED TO THE WEATHER SHALL BE FLASHED IN SUCH A MANNER AS TO MAKE THEM WEATHERPROOF.

SINCE METHODS OF FLASHING ARE NOT SPECIFIC IN THE CODE, THE FOLLOWING PROCEDURE WILL BE CONSIDERED AN ACCEPTABLE METHOD FOR THE FLASHING OF METAL WINDOWS IN WOOD FRAME EXTERIOR WALL CONSTRUCTION IN ALL CASES WHERE THE EXTERIOR WALL FINISH IS APPLIED OTHER BUILDING PAPER OR FELT. THIS PROCEDURE DOES NOT APPLY TO WEATHERPROOF PANEL TYPE SIDING.



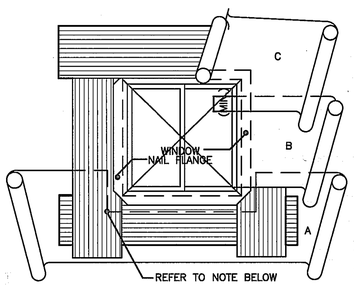
VAPOR BARRIER INSTALLATION

1. ATTACH SILL STRIP WITH TOP EDGE LEVEL WITH ROUGH SILL--EXTEND BEYOND EDGE OF ROUGH OPENING AT LEAST 8" SECURE ALL SISAL KRAFT OR SIMILAR APPROVED FLASHING MATERIAL WITH GALVANIZED NAILS OR POWER DRIVEN STAPLES.

2. ATTACH JAMB STRIPS WITH SIDE EDGE EVEN WITH ROUGH JAMB FRAMING START STRIP 1" BELOW LOWER EDGE OF SILL STRIP AND EXTEND 4" ABOVE LOWER EDGE OF LINTEL.

3. APPLY CONTINUOS SEAL TO THE MOUNTING FLANGES AT THE TOP (HEAD) AND SIDES (JAMB) OF WINDOW. INSTALL WINDOW INTO ROUGH OPENING WITH SILL AND JAMB FLANGE OVER PREVIOUSLY INSTALLED FLASHING OVER THE WINDOW FLANGE.

4. APPLY CONTINUOS SEAL ALONG THE TOP (HEAD) MOUNTING FLANGE EMBED BOTTOM OF HEAD FLASHING AGAINST SEALANT (FLASHING GOES OVER SEALANT).



BUILDING PAPER INSTALLATION

5. COMMENCING AT THE BOTTOM (SOLE PLATE) OF THE WALL , LAY BUILDING PAPER UNDER SILL STRIP.

NOTE: CUT ANY EXCESS BUILDING PAPER THAT MAY EXTEND ABOVE THE SILL FLANGE LINE ON EACH SIDE OF THE OPENING (SHOWN AS SHORT DASHED LINES). DO NOT SLICE BUILDING PAPER HORIZONTALLY SO THAT THE PAPER WILL LAP OVER THE JAMB STRIPS . INSTALL SUCCESSIVE LINES OF BUILDING PAPER (B.C.D. ETC) OVER JAMB AND HEAD FLANGES, LAPPING EACH COURSE.

NOTE: LINE-WIRE, WHEN USED AS BACKING TO SUPPORT BUILDING PAPER BENEATH WIRE LATH (NETTING) FOR PORTLAND CEMENT PLASTER (STUCCO), SHALL BE INSTALLED AS FOLLOWS.
1. WIRE GAUGE, SPACING AND ATTACHMENT SHALL BE IN ACCORDANCE WITH THE BUILDING NEWS ITEMS 47-1.
2. PERIPHERAL FLASHING AT ALL EDGES OF WALL OPENINGS, MUST COVER THE WIRE BACKING.
3. NO ATTACHMENT DEVICES NOR THE WIRE BACKING SHALL COVER OR PENETRATE THE FLASHING MATERIAL.
THE ABOVE METHOD APPLIES ONLY TO THE MOST COMMONLY USED TYPE OF METAL AND VINYL FRAMES (SURFACE MOUNTED). FOR OTHER TYPES OF FRAMES, SPECIAL ATTENTION MUST BE PAID TO THE MANUFACTURER'S RECOMMENDATIONS.

1 SCALE: N.T.S. **VAPOR BARRIER INSTALLATION**

City of Los Angeles
Department of Building and Safety
Green Building Division

This set of plans and specifications has been reviewed and is approved for compliance with state and local ordinances related to the Green Building Code.

This set of plans MUST be at the job site during construction.

It is unlawful to alter, change, or deviate from these plans.

The stamping of this plan SHALL NOT be construed to be approval of a violation of any provisions of any Ordinance or Law.

By:_____ Total of_____Sheets

Date:_____

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& INTERIOR DESIGN SERVICES

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www.NEDESIGNSINC.com

General Notes

No.	Revision/Issue	Date

Project

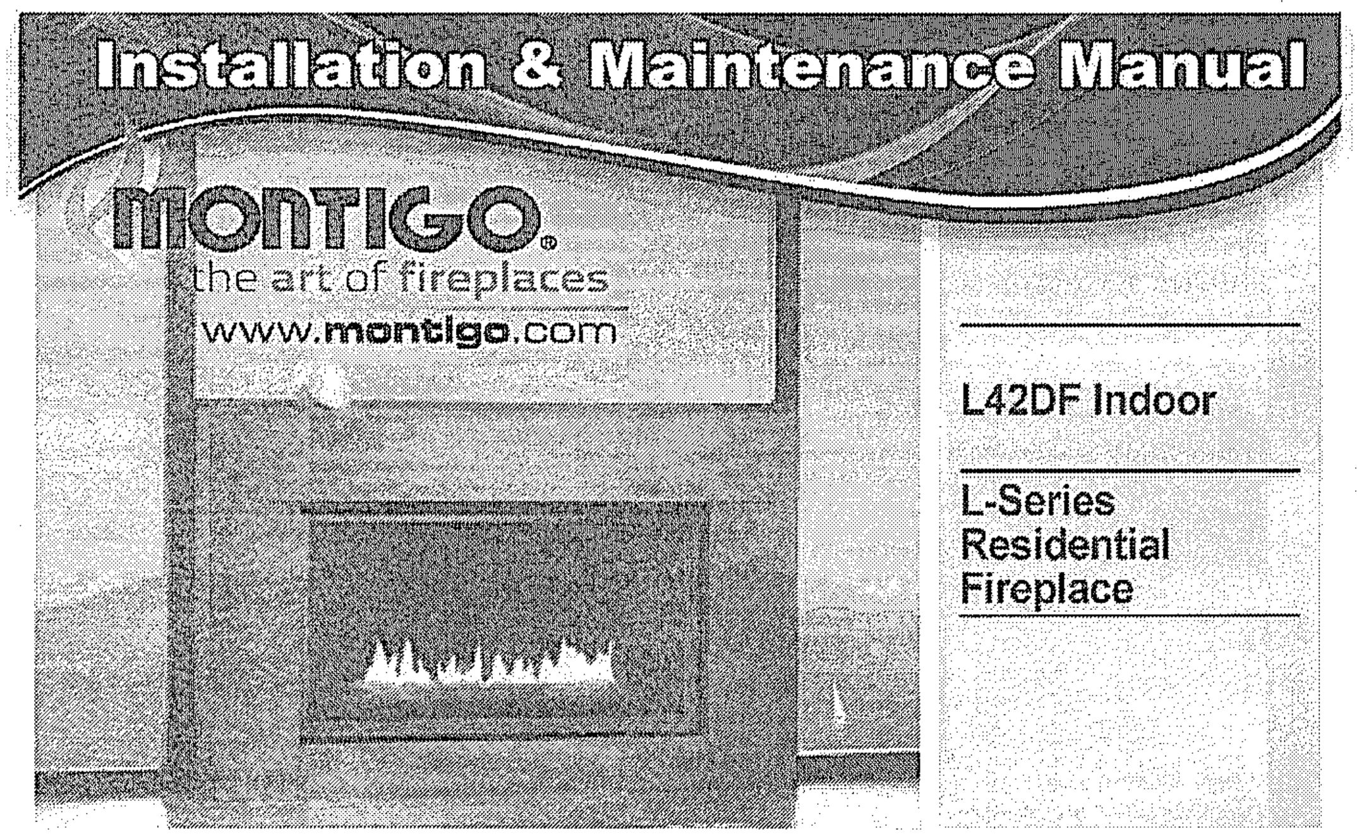
901 N. LAUREL AVE.
LOS ANGELES, CA 90046

NEW 2 STORY HOUSE

Drawing Title

DETAILS

Project 12-553	Sheet AD-2
Date 02-04-13	
Scale N.T.S.	



⚠ DANGER
Read and understand this manual. Improper installation, adjustment, alteration, service or maintenance can cause serious injury, property damage or even death. For assistance or additional information consult a qualified installer, service agency or the gas supplier.

⚠ CAUTION
Glass doors on gas fireplaces are **extremely hot** while the fireplace is on and remain hot even after the fireplace has been turned off. Safety screens are available and can reduce the risks of severe burns. Please keep children away from the fireplace at all times.

⚠ WARNING
Do not store or use gasoline or any other flammable vapors and liquids in the vicinity of this or any other gas burning appliance. A fire or explosion my occur causing serious injury, property damage or even death.

NOTICE
Installer: Leave this manual with the appliance. Do not remove.
Consumer: Retain this manual for maintenance and future reference. Do not Discard

DANGER
IF YOU SMELL GAS
⚠ Do not try to light any appliance.
⚠ Do not touch any electrical switch; do not use any phone in your building.
⚠ Immediately call your gas supplier from a neighbor's phone. Follow the gas supplier's instructions.
⚠ If you cannot reach your gas supplier, call the fire department.

C US

NOTICE
You must read and understand this manual prior to installation, operation or troubleshooting this appliance. Please retain this owner's manual for future reference and maintenance.

Table of Contents

Safety Alert Key

⚠ DANGER
Indicates a hazardous situation which, if not avoided, WILL result in death or serious injury or property damage.

⚠ WARNING
Indicates a hazardous situation which, if not avoided, COULD result in death or serious injury or property damage.

⚠ CAUTION
Indicates a hazardous situation which, if not avoided, WILL result in minor or moderate injury.

NOTICE
Address practices that are important, but not related to personal injury.

Introduction

INTRODUCTION

Congratulations on your purchase of a Montigo Fireplace.

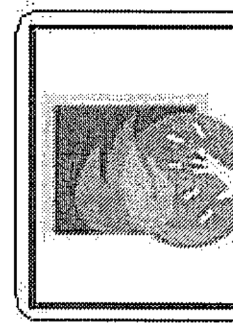
With over 30 years of experience, Montigo is committed to providing you with a gas fireplace that is not only a beautiful addition to your space, but that is also designed and manufactured to the highest safety, reliability and engineering standards.

We strongly encourage you to read and carefully follow the instructions laid out in this Installation, Operation and Maintenance Manual and retain it for your future reference. Pay special attention to all cautions, warnings, and notices throughout this manual intended to ensure your safety.

This manual covers installation, operation and maintenance. Lighting, operation and care of this fireplace can be easily performed by the homeowner. All installation and service work should be performed by a qualified or licensed installer, plumber or gas fitter as certified by the state, province, region or governing body where the fireplace is being installed.

This installation, operation and maintenance manual is applicable to the models described below. Refer to your rating plate to verify included options.

MODEL	Natural Gas	Liquid Propane	Gas Rating (BTU hr)	Traditional Burner / Logset	Contemporary Burner w/ River rock	Linear Burner w/ Glass media Accessories	Standing Pilot Ignition	Honeywell HSI Ignition	SIT Electronic Ignition
L42DFN	X		32,000			X	X		
L42DFNI	X		32,000			X			X
L42DFL		X	32,000			X	X		
L42DFLI		X	32,000			X			X



⚠WARNING
Hot glass will cause burns. Do not touch glass until unit is cooled. Never allow children to touch glass.

Warranty and Installation Information: (See Appendix B)

The Montigo warranty will be voided by, and Montigo disclaims any responsibility for, the following actions:

- Modification of the fireplace and/or components including Direct-Vent assembly or glass doors.
- Use of any component part not manufactured or approved by Montigo in combination with this Montigo fireplace system.
- Installation other than as instructed in this manual.

Consult your local Gas Inspection Branch on installation requirements for factory-built gas fireplaces. Installation & repairs should be done by a qualified contractor.

Installation

Section A: Before you Begin

IMPORTANT MESSAGE: SAVE THESE INSTRUCTIONS

The L42DF* Direct Vent fireplace must be installed in accordance with these instructions. Carefully read all the instructions in this manual first. Consult the Local Gas Branch to determine the need for a permit prior to starting the installation. It is the responsibility of the installer to ensure this fireplace is installed in compliance with the manufacturers instructions and all applicable codes.

BEFORE YOU START:

NOTICE
Installation and repairs should be done by an authorized gas fireplace service technician. The appliance should be inspected before use and at least annually by a professional. More frequent cleaning may be required due to excessive lint from carpeting, bedding material, ect. It is imperative that control compartments, burners and circulating air passageways of the fireplace are kept clean.

⚠ CAUTION
Due to high operating temperatures, this appliance should be located out of traffic & away from furniture and draperies.
Children and adults should be alerted to the hazards of the high surface temperature, which could cause burns or clothing ignition.
Young children should be carefully supervised when they are in the same room as the appliance.
Clothing or other flammable materials should not be placed on or near the appliance.

⚠ DANGER
When this appliance is installed directly on any combustible material other than wood flooring, it must be installed on a metal or wood panel extending the full width and depth of the appliance or a fire will occur causing serious injury, property damage or even death.

Installation Checklist

- Determine the desired install location of your fireplace.
- See **Section 1**, Dimensions on **Page 5**, and refer to the Framing **Section 2** for details.
- Select the location of your termination and resulting vent run.
- **Your selected termination location must be the highest point in the Direct Vent installation.**
- Should it be impossible to meet the venting requirements laid out in **Section 3**: Venting, please contact Montigo regarding the use of a Montigo Power Vent.
- Lay out the Vent run; calculating the required elbows and straight runs of 5"/8" flex or rigid pipe.
- Layout Electrical Requirements. Refer to **Section 4**: Wiring, for Details.
- Refer to **Section 5**: Installing the Gas Line, for details on the gas connection and access.
- Refer to local codes and guidelines for installation requirements.
- **Installation and repairs should be done by a qualified contractor and must conform to:**

• **Installations in Canada** must conform to the current CAN/CGA B-149.1 and .2 Gas Installation Code and local regulations.

• **Installations in the USA** must conform to local codes, or in the absence of local codes to the National Fuel Gas Code, ANSI Z223.1.

• **See Appendix C for installation within the State of Massachusetts.** This fireplace must comply with NFPA-54 Chapter 10.

Installation

Section 1: Installation Overview and Product Dimensions

Please review the Installation Checklist on Page 4 for general information on preparing for a successful installation of your fireplace.

The L42DF* fireplace may be installed in any location that maintains proper clearances to air conditioning ducts, electrical wiring and plumbing. Safety, as well as efficiency of operation, should be considered when selecting the fireplace location. Try to select a location that does not interfere with room traffic, has adequate ventilation and offers an accessible path for Direct Vent installation.

The fireplace dimensions are shown below:

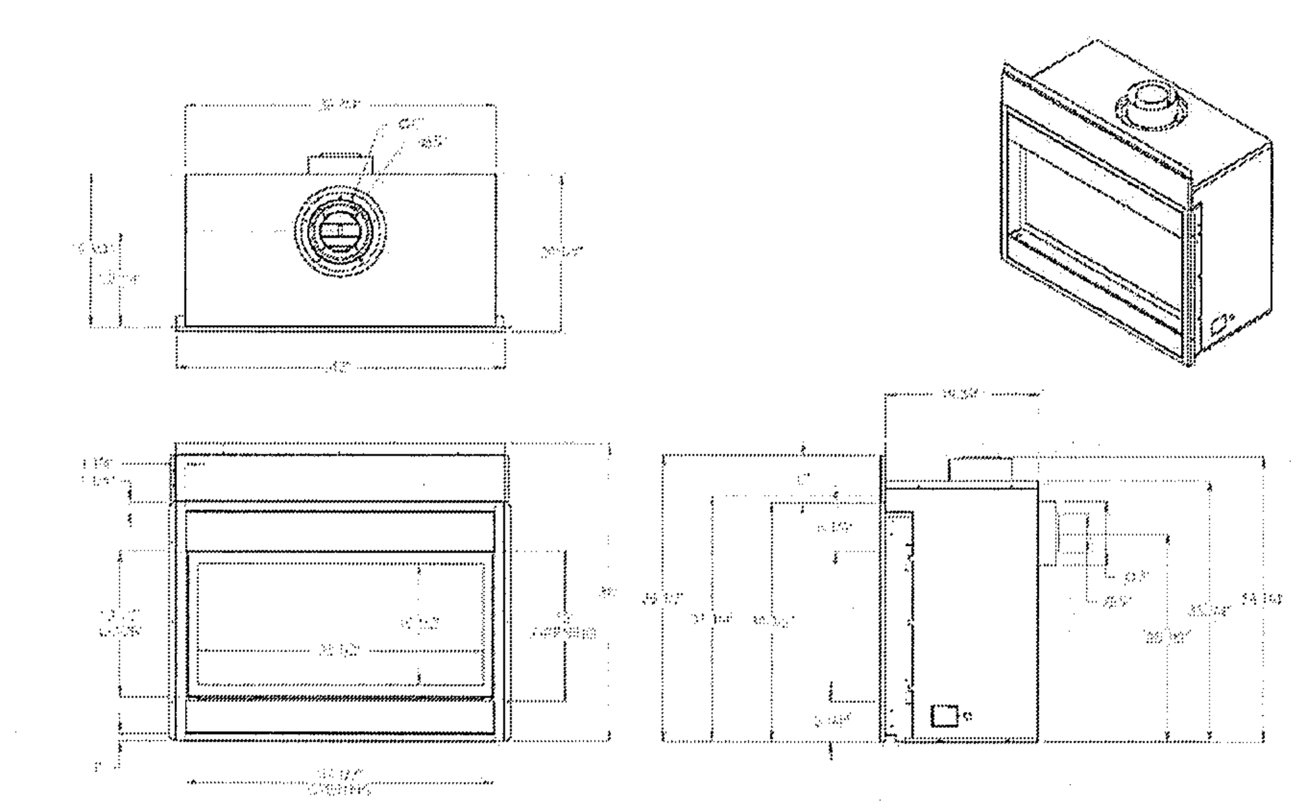


Figure 1: Unit Dimensions

Installation

Section 2: Framing

1) Frame in the enclosure for the unit with framing materials. The frame opening for the assembled fireplace is 42" wide, x 37" high x 22⅝" deep, see Figure 2.

NOTE: When constructing the framed opening, please ensure there is access to install the gas line when the unit is installed. See Figure 2.

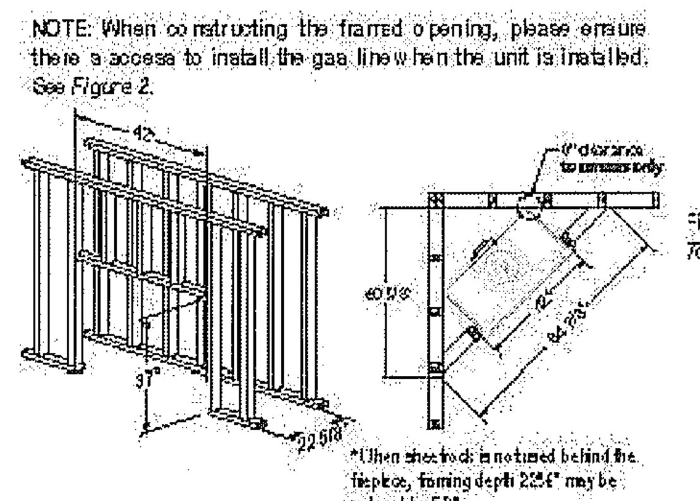


Figure 2. *Framing dimensions, (Straight wall & Corner Installation).*

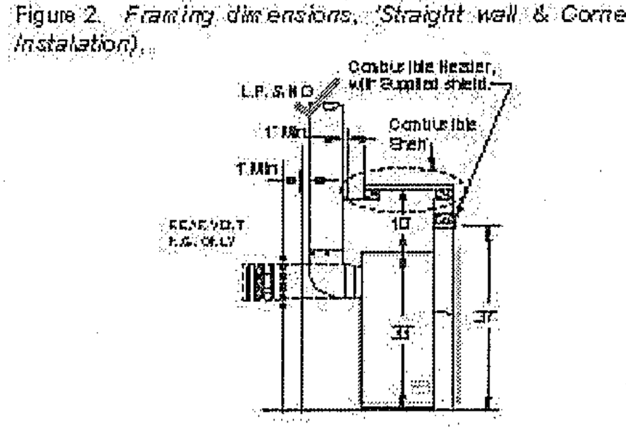


Figure 3. Combustible Framing for Top Vent, with shelf above fireplace.

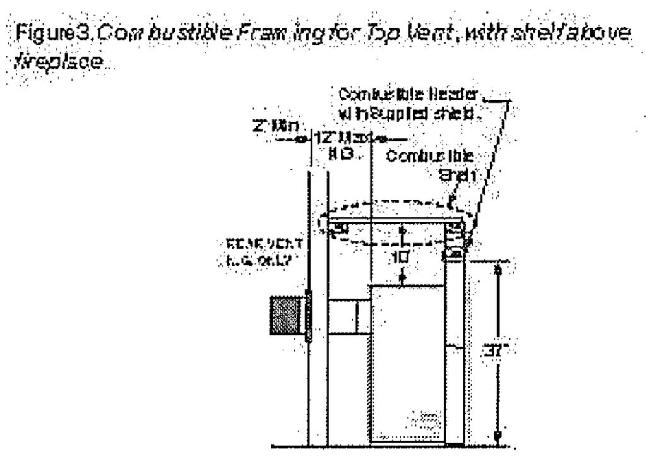


Figure 4. Combustible Framing for Rear Vent with shelf above the fireplace.

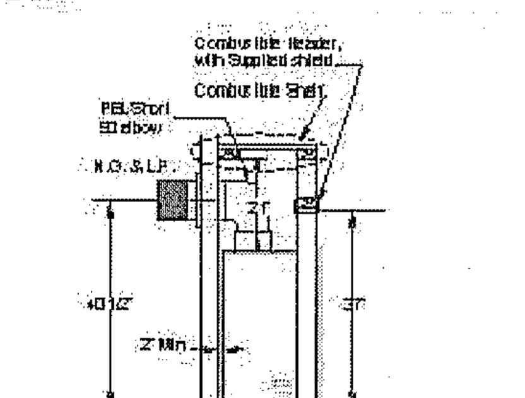


Figure 5. Combustible Framing for shelf over the fireplace, Top vent.

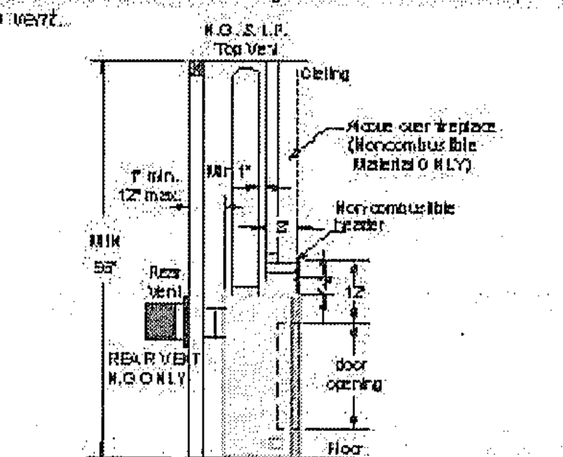


Figure 5a. Non Combustible Framing for Top Vent or Rear Vent, with alcove. Note: Straight through the wall rear vent available for Natural Gas only.

Clearances

When installing a shelf over the top of the fireplaces, the following guidelines must be adhered to:

For Rear Vent applications, the minimum clearance is 2" from the rear of the fireplace to a wall, or any combustible materials, and 10" clearance from the top of the fireplace to the underside of any combustible shelf materials.

For Top Vent applications, the minimum clearance is 2" from the rear of the fireplace to a wall, or any combustible materials, and 21" to the underside of any combustible shelf materials.

Minimum 2" clearance must still be maintained around the vent pipes.)

MODEL	Top - Rear vent	Top - Top vent	Back	Side	Floor	Mantel
L42DF*	10"	21"	2"	1"	0"	6"

Installation

Framing the Heat Shield

Included with the L42DF Gas fireplace, is a framing heat shield Kit. This Kit is fabricated from galvanized steel and arrives with three (3) pieces, as shown below. The shields protect all adjacent combustible materials, mantels and mouldings from excessive heat radiated by the fireplace. **NOTE: The shields must be installed as shown in *Figures 6 thru 6b*.**

Step 1. Fasten the two Side shield's (**L42FS01x2**) first, and ensure they are fastened in place as shown. These are installed with the Wide flanges facing the center of the fireplace opening, and the shallow flange toward inside of room. These are also fastened with nails or screws, flush with framing as shown in *Figure 6* and *Inset*.

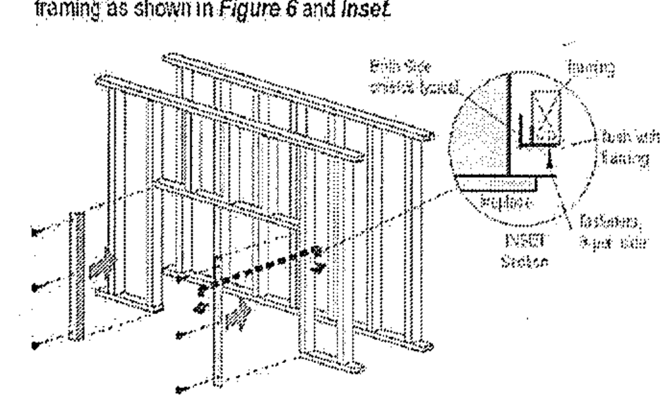


Figure 6. *Combustible Framing Side Heat Shield* **L42FS01x2**, *(two 2-pcs).*

Step 2. Next, fasten the Top shield (**L42FS02x1**), with the Wide flange face up, and the shallow flange toward inside of room, *Figure 6a*.

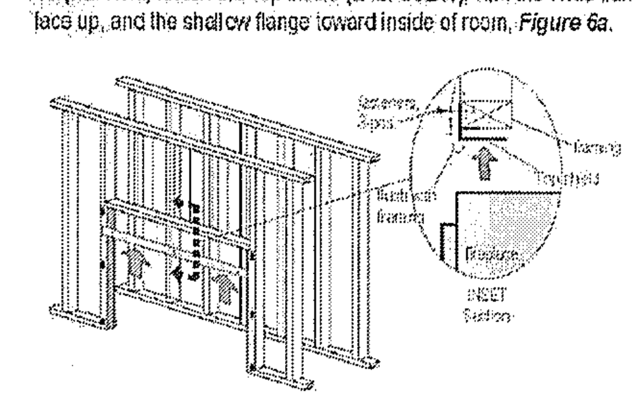


Figure 6a. *Combustible Framing Top Heat Shield* **L42FS02x1**, *(one 1-pc).*

Step 3. Nail or screw the top shield in place flush with framing, as shown in *figure 6b*.

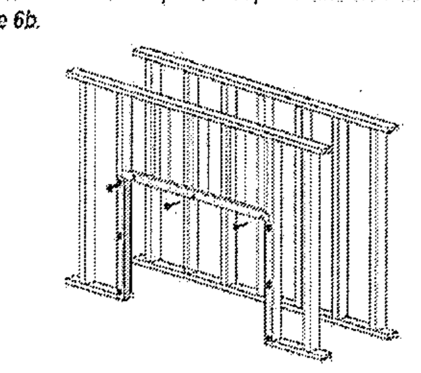


Figure 6b. *Combustible Framing Heat Shield, completed.*

Installation

Section 3: Venting

Montigo supplies a variety of direct venting and termination options. The direct vent termination location MUST be selected such that it is the highest point in the venting assembly. It should also be selected such that it provides the shortest vent run possible. Should it be impossible to ensure that the termination is the highest point or to meet the venting guidelines laid out below please contact your Montigo dealer to discuss power venting options.

NOTES FOR PLANNING VENTING:

Venting can originate from the unit through the top or through the rear. Venting can terminate through the roof or through an exterior wall.

Refer to Appendix A - Termination Locations to ensure the planned termination location is acceptable.

Once the termination location has been established, refer to the appropriate section below for installation details. All fireplaces shipped from the factory are Top vent. See Section 3-1 for converting the unit from top vent to rear vent.

Section 3-1: CONVERTING TO REAR VENT

Use the following instructions to convert an L42DF* for Rear Vent use:

1. Remove the Rear flue cover and gasket (5" and 8") on the flue outlet, as shown in *Figure 7*.
2. Next, Remove the Top flue collar's (5" and 8") on the flue outlet, as shown in *Figure 7*.

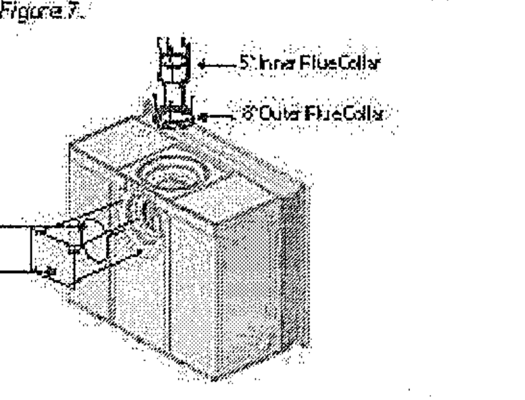


Figure 7. Flue cover and collar removal, Top Vented fireplace.

3. Install the (removed) Rear flue cover and gasket material, to the Top vent outlet. Fasten the cover with included hardware, as illustrated *Figure 8*.
4. Install the (5" and 8") collars to the rear vent outlet using the included hardware, as illustrated *Figure 8*.

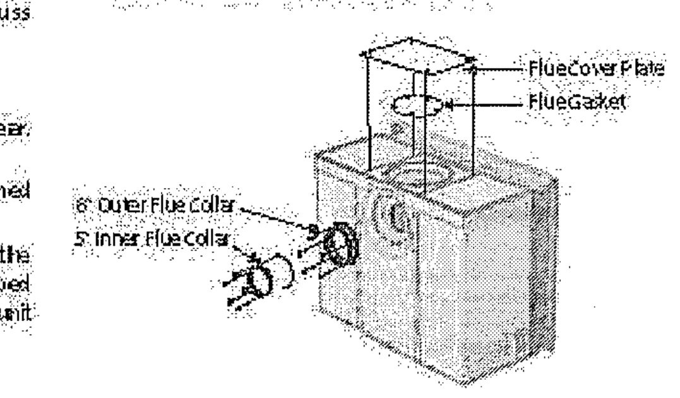


Figure 8. Flue cover and collar installation, Rear Vented fireplace.

City of Los Angeles
Department of Building and Safety
Green Building Division

This set of plans and specifications has been reviewed and is approved for compliance with state and local ... the Green Building Code.

This set of plans MUST be at the job site during construction.

It is unlawful to alter, change, or deviate from these plans.

The stamping of this plan SHALL NOT be construed to be approval of a violation of any provisions of any Ordinance or Law.

By: ______ Total of ______ Sheets

Date: ______

DESIGNS, INC.

RESIDENTIAL, COMMERCIAL & INTERIOR DESIGN SERVICES

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General Notes

No.	Revision/Issue	Date

Project

901 N. LAUREL AVE.
LOS ANGELES, CA 90046

NEW 2 STORY HOUSE

Drawing Title

DETAILS

Project 12-553	Sheet AD-3
Date 02-04-13	
Scale N.T.S.	

ES REPORT™

ESR-1274

Reissued April 1, 2008

This report is subject to re-examination in two years.

ICC Evaluation Service, Inc.
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DIVISION: 07—THERMAL AND MOISTURE PROTECTION
Section: 07550—Modified Bituminous Sheet Roofing

REPORT HOLDER:

GAF MATERIALS CORPORATION
1361 ALPS ROAD
WAYNE, NEW JERSEY 07470
(973) 628-3000
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EVALUATION SUBJECT:

RUBEROID® APP MODIFIED BITUMEN MEMBRANES, SBS MODIFIED BITUMEN MEMBRANES, SBS MODIFIED BITUMEN (HEAT-WELD) MEMBRANES, AND GAFGLAS® BUILT-UP ROOFING FELTS AND BASE SHEETS

1.0 EVALUATION SCOPE

Compliance with the following code:

2006 *International Building Code*® (IBC)

Properties evaluated:

- Physical properties
- Fire classification
- Wind uplift resistance
- Impact resistance

2.0 USES

RUBEROID® atactic polypropylene (APP) and styrene-butadiene-styrene (SBS) modified bitumen membranes are used as roof covering in Class A, B or C roof covering assemblies. GAFGLAS® built-up roofing felts and base sheets are used as base and ply sheets in modified bitumen membrane systems.

3.0 DESCRIPTION

3.1 General:

The RUBEROID® APP and SBS Modified Bitumen Membrane Roofing Systems consist of a modified bitumen membrane, insulation where used, flashing, mechanical fasteners, and construction adhesives that are installed on a combustible or noncombustible roof deck.

3.2 RUBEROID® APP Modified Bitumen Membranes:

3.2.1 RUBEROID® Torch: This membrane is a modified bitumen membrane with a core of nonwoven-polyester mat coated with APP polymer modified asphalt. It is available either smooth or surfaced with mineral granules and is manufactured in a thickness of 0.160 inch (4.0 mm). The membrane complies with ASTM D 6222, Type I.

3.2.2 RUBEROID® Torch Plus: This is a modified bitumen membrane with a core of nonwoven-polyester mat coated with APP polymer modified asphalt. It is surfaced with mineral granules and is manufactured in a thickness of 0.197 inch (5.0 mm). The membrane complies with ASTM D 6222, Type II.

3.2.3 RUBEROID® Torch FR: This is a modified bitumen membrane with a core of nonwoven-polyester mat coated with APP polymer modified asphalt. It is surfaced with mineral granules and is manufactured in a thickness of 0.197 inch (5.0 mm). The membrane complies with ASTM D 6222, Type II.

3.3 RUBEROID SBS Modified Bitumen Membranes:

3.3.1 RUBEROID Mop: This membrane is a modified bitumen membrane with a core of nonwoven-polyester mat coated with SBS polymer modified asphalt. It is available either smooth or surfaced with mineral granules and is manufactured in a thickness of 0.160 inch (4.1 mm). The membrane complies with ASTM D 6164, Type I.

3.3.2 RUBEROID® Mop Plus: This is a modified bitumen membrane with a core of nonwoven-polyester mat coated with SBS polymer modified asphalt. It is surfaced with mineral granules and is manufactured in a thickness of 0.160 inch (4.1 mm). The membrane complies with ASTM D 6164, Type II.

3.3.3 RUBEROID® Mop FR: This is a modified bitumen membrane with a core of nonwoven-polyester mat coated with SBS polymer modified asphalt. It is surfaced with mineral granules and is manufactured in a thickness of 0.160 inch (4.1 mm). The membrane complies with ASTM D 6164, Type II.

3.3.4 RUBEROID® Mop 170 FR: This is a modified bitumen membrane with a core of nonwoven-polyester mat coated with SBS polymer modified asphalt. It is surfaced with mineral granules and is manufactured in a thickness of 0.160 inch (4.1 mm). The membrane complies with ASTM D 6164, Type I.

3.3.5 RUBEROID® 20: This is a modified bitumen membrane with a core of nonwoven-glass-fiber mat coated with SBS polymer-modified asphalt. It is smooth-surfaced and is manufactured in a thickness of 0.082 inch (2.1 mm). The membrane complies with ASTM D 6163, Type I.

3.3.6 RUBEROID® 30: This is a modified bitumen membrane with a core of nonwoven-glass-fiber mat coated with SBS polymer-modified asphalt. It is surfaced with mineral granules and is manufactured in a thickness of 0.14 inch (3.6 mm). The membrane complies with ASTM D 6163, Type I.

3.3.7 RUBEROID® 30 FR: This is a modified bitumen membrane with a core of nonwoven-glass-fiber mat coated with SBS polymer-modified asphalt. It is surfaced with mineral granules and is manufactured in a thickness of 0.14 inch (3.6 mm). The membrane complies with ASTM D 6163, Type I.

3.3.8 RUBEROID® EnergyCap 30 FR: This is similar to the 30 FR except that it is surfaced with smaller granules and factory-coated with a white elastomeric coating.

3.3.9 RUBEROID® Modified Base Sheet: This is a roofing base sheet constructed with a glass fiber mat coated with SBS polymer-modified asphalt. It is manufactured in a roll size of 39.4 inches by 97.5 feet (1 m by 29.7 m). The base sheet complies with ASTM D 4601, Type II.

3.4 RUBEROID® SBS Modified Bitumen (Heat-Weld) Membranes:

3.4.1 RUBEROID® SBS Heat-Weld Plus: This is a heavy-duty SBS modified bitumen membrane that can be installed without the use of hot asphalt. It has a core of nonwoven-polyester mat, coated with a polymer-modified asphalt and surfaced with mineral granules. It is manufactured in a thickness of 0.16 inch (4.1 mm). The membrane complies with ASTM D 6164, Types I and II.

3.4.2 RUBEROID® SBS Heat-Weld Plus FR: This is a heavy-duty SBS modified bitumen membrane that can be installed without the use of hot asphalt. It has a core of nonwoven-polyester mat, coated with a polymer-modified asphalt and surfaced with mineral granules. It is manufactured in a thickness of 0.16 inch (4.1 mm). The membrane complies with ASTM D 6164, Types I and II.

3.4.3 RUBEROID® SBS Heat-Weld 170 FR: This is an SBS modified bitumen membrane that can be installed without the use of hot asphalt. It has a core of nonwoven-polyester mat, coated with polymer-modified asphalt and surfaced with mineral granules. It is manufactured in a thickness of 0.16 inch (4.1 mm). The membrane complies with ASTM D 6164, Type I.

3.4.4 RUBEROID® SBS Heat-Weld Granule: This is an SBS modified bitumen membrane that can be installed without the use of hot asphalt. It has a core of nonwoven-polyester mat, coated with a polymer-modified asphalt and surfaced with mineral granules. It is manufactured in a thickness of 0.16 inch (4.1 mm). The membrane complies with ASTM D 6164, Type I.

3.4.5 RUBEROID® SBS Heat-Weld Smooth: This is an SBS modified bitumen membrane with a core of nonwoven-polyester mat coated with a polymer-modified asphalt. It is smooth-surfaced and manufactured in a thickness of 0.16 inch (4 mm). The membrane complies with ASTM D 6164, Type I.

3.4.6 RUBEROID® SBS Heat-Weld 25: This is an SBS modified bitumen membrane with a core of nonwoven-glass mat coated with a polymer-modified asphalt. It is smooth-surfaced and manufactured in a thickness of 0.098 inch (2.5 mm). The membrane complies with ASTM D 6163, Type I.

3.5 GAFGLAS® Built-up Roofing Felts:

3.5.1 GAFGLAS® Ply 4: This roofing felt is constructed with a glass fiber mat coated with asphalt. It is manufactured in a roll size of 39.4 inches by 161.6 feet (1 m by 49.3 m). The membrane complies with ASTM D 2178, Type IV.

3.5.2 GAFGLAS® Flex Ply 6: This is a fiberglass roofing felt with a flexible, open-pore design. It is manufactured in a roll size of 39.4 inches by 161.6 feet (1 m by 49.3 m). The membrane complies with ASTM D 2178, Types IV and VI.

3.5.3 GAFGLAS® #75 Base Sheet: This is a roofing base sheet constructed with a glass mat coated with asphalt on both sides. It is manufactured in a roll size of 39.4 inches by 97.5 feet (1 m by 29.7 m). The membrane complies with ASTM D 4601, Type II.

3.5.4 GAFGLAS® Stratavent® Eliminator Base Sheet: This is a roofing base sheet constructed of glass fiber mat and asphalt. The bottom of the sheet is granule-surfaced. It is available for nailable or non-nailable substrates. It is manufactured in a roll size of 39.4 inches by 40.6 feet (1 m by 12.4 m). The membrane complies with ASTM D 4897, Type II.

3.6 Insulation:

Insulation must comply with the applicable material standards specified in IBC Table 1508.2. Foam plastic insulation, where used, must have a flame-spread index of not more than 75 when tested at the maximum thickness intended for use in accordance with ASTM E 84. See Tables 1 through 4 for insulations for use with specific roofing systems.

3.7 Fasteners:

Fasteners, used to mechanically fasten insulation and base sheets to the roof deck, must be Drill-Tec fasteners by Building Materials Corporation of America (BMCA). Spacing of fasteners must be in accordance with Table 4 of this report.

3.7.1 Drill-Tec Standard #12 Roofing Fastener: A steel screw with a corrosion-resistant coating, used in combination with Drill-Tec's fastening plates, to mechanically attach roofing insulation to steel or wood substrate. Fastener length must be sufficient to penetrate through the steel deck a minimum of $^{3}/_{4}$ inch (19.1 mm), and into the wood deck a minimum of 1 inch (25.4 mm).

3.7.2 Drill-Tec CD-10 Fastener: A hammer-in, nonthreaded steel fastener with a corrosion-resistant coating, used in combination with Drill-Tec's fastening plates, to mechanically attach roofing insulation to concrete roof deck. Fastener length must be sufficient to penetrate into the concrete deck a minimum of 1 inch (25.4 mm).

3.7.3 Drill-Tec 3-inch Galvalume Plate: A galvalume-coated 3-inch-diameter (76 mm) steel plate designed to be used with Drill-Tec fasteners to mechanically attach roofing insulation to the roof deck.

3.8 Asphalts and Adhesives:

Asphalts used to hot mop GAFGLAS® and RUBEROID® membranes must conform to ASTM D 312, Type III or Type IV. Adhesive, for cold application of RUBEROID® SBS membranes must be "No. 81" by Karnak Chemical Company or "No. 6180" by Gibson-Homan.

3.9 Impact Resistance:

The modified bitumen roofing membranes described in this report meet requirements for impact resistance based on testing in accordance with FM 4470.

4.0 INSTALLATION

4.1 General:

Installation of the RUBEROID® modified bitumen roofing membranes must comply with the applicable code, the manufacturer's published installation instructions and this report. The manufacturer's published installation instructions must be available at all times on the jobsite during installation.

The slope of the roof on which the single-ply membranes are installed must be minimum $^{1}/_{4}$:12 (2-percent slope) and must not be more than the maximum slope indicated for the particular assembly as listed in Tables 1 through 3.

Penetrations and terminations of the roof covering must be flashed and made weathertight in accordance with the requirements of the membrane manufacturer and Section 1503.2 of the IBC.

4.2 Fire Classification:

4.2.1 New Construction: Roof assemblies which include the RUBEROID® modified bitumen membrane roof coverings described in, and installed in accordance with, this report are classified as Class A, B or C roof assemblies in accordance with ASTM E 108 or UL 790, as noted in Tables 1 through 3.

4.2.2 Reroofing: Prior to installation of new roof coverings, inspection in accordance with IBC Section 1510, and approval from the code official having jurisdiction, are required.

Class A, B, or C roof coverings may be installed over existing classified roof assemblies under the following conditions without additional roof classification tests, provided the resulting classification is the lower of the new and existing roofing classification:

- New uninsulated roof coverings installed only over existing uninsulated assemblies.
- New insulated roof coverings installed over existing uninsulated assemblies only.

4.3 Wind Resistance:

4.3.1 New Construction: The maximum allowable wind uplift pressures for the RUBEROID® modified bitumen membrane as part of roof assemblies are noted in Table 4. Metal edge securement for roofing systems must be designed in accordance with ANSI/SPRI ES-1, complying with IBC Section 1504.5.

4.3.2 Reroofing: Roof coverings employing mechanical fasteners must be qualified, to the satisfaction of the code official, on the adequacy of fasteners penetrating through existing roof coverings into structural substrates. Since the composition and/or condition of any particular underlying existing roofing material can vary widely, reroofing with adhered systems is outside the scope of this report.

5.0 CONDITIONS OF USE

The RUBEROID® modified bitumen membranes and GAFGLAS® roofing felts and base sheets described in this report comply with, or are suitable alternatives to what is specified in, the code indicated in Section 1.0 of this report, subject to the following conditions:

5.1 Installation must comply with the applicable code, the manufacturer's published installation instructions and this report. The instructions within this report govern if there are any conflicts between the manufacturer's installation instructions and this report.

5.2 The RUBEROID® modified bitumen membrane roof covering must be installed by professional roofing contractors who are trained and approved by the manufacturer.

5.3 Foam plastic insulation must be separated from the interior of the building by an approved thermal barrier in accordance with IBC Section 2603.4.1.5 unless otherwise noted in an ICC-ES evaluation report on the foam plastic insulation.

5.4 For all above-deck insulation except foam plastics, the roof covering assembly, including such insulation, must have passed testing in accordance with UL 1256 or FM 4450.

5.5 Foam plastic insulation, where used, must bear the label of an approved agency indicating that the foam plastic has a flame-spread index of not more than 75 when tested at the maximum thickness intended for use in accordance with ASTM E 84. Except for applications where a thermal barrier is not required, total thickness of foam plastic insulation must be limited to the lesser of the maximum thickness allowed in Tables 1 through 4 or the maximum thickness that limits the flame-spread index to not more than 75 when tested in accordance with ASTM E 84.

5.6 Design wind uplift pressure on any roof area, including edge and corner zones, must not exceed the allowable wind-uplift pressure for the system installed in that particular area. Refer to allowable wind uplift pressures for systems as listed in Table 4.

5.7 The allowable wind uplift pressures listed in Table 4 are for the roof covering only. The deck and framing to which the roof covering is attached must be designed for the applicable components and cladding wind loads in accordance with the applicable code.

5.8 Calculations demonstrating that the required wind resistance is less than the allowable wind resistance must be submitted to the code official for approval.

5.9 When application is over existing roofs, documentation of the wind-uplift resistance of the composite roof construction must be submitted to the code official for approval at the time of permit application.

5.10 The membranes are manufactured under a quality control program with inspections by Underwriters Laboratories Inc. (AA-668) at GAF facilities in the following locations: Fontana, California; Stockton, California; Savannah, Georgia; Mount Vernon, Indiana; and North Branch, New Jersey.

6.0 EVIDENCE SUBMITTED

Data in accordance with the ICC-ES Acceptance Criteria for Membrane Roof-covering Systems (AC75), dated April 2007.

7.0 IDENTIFICATION

Each roofing membrane covered by this report is labeled with the product name; the manufacturer's name (GAF Materials Corporation) and address; the manufacturing location; the production date code; the evaluation report number (ESR-1274); and the name of the inspection agency (Underwriters Laboratories Inc.).

TABLE 1—CLASS A ROOFING SYSTEMS

SYSTEM NO.	SUBSTRATE[5]	MAX. ROOF SLOPE	INSULATION[1,2,3]	BASE SHEET[3,4]	PLY SHEET[3,4]	MEMBRANE[5]	SURFACING/ COATING[5]
1	Non-combustible	$^{1}/_{2}$:12	(Optional) Any thickness, 1 or more layers perlite, wood fiber, glass fiber, isocyanurate, urethane, perlite/isocyanurate composite, perlite/urethane composite, or wood fiber/isocyanurate composite	(Optional) 1 or more layers of Type G1 or G2[4]	—	1 or more layers of "Ruberoid Torch" (smooth or granule), "Ruberoid Torch Plus" (granule), "Ruberoid Mop" (smooth or granule), or "Ruberoid Mop Plus" (granule)	Gravel, 400 lbs/sq loose laid or applied in a flood coat of hot roofing asphalt
2	Non-combustible	$^{1}/_{2}$:12	—	(Optional) 1 or more layers of Type G1 or G2[4]	—	1 or more layers of "Ruberoid Torch" (smooth), or "Ruberoid Mop" (smooth)	Karnak No. 97, $1^{1}/_{2}$ - 3 gal/sq
3	Non-combustible	$^{1}/_{2}$:12	(Optional) Any thickness, 1 or more layers perlite, wood fiber, or glass fiber	(Optional) 1 or more layers of Type G1 or G2[4]	—	1 or more layers of "Ruberoid Torch" (smooth), or "Ruberoid Mop" (smooth)	Karnak No. 97, $1^{1}/_{2}$ -3 gal/sq
4	Combustible - $^{15}/_{32}$ inch plywood min.	$^{1}/_{2}$:12	One or more layers, $1^{1}/_{2}$ inch minimum thickness, perlite, glass fiber, isocyanurate, urethane, perlite/isocyanurate composite, or perlite/urethane composite (off-set from plywood joints 6 inches)	1 or more layers of Type G2[4]	(Optional) 1 or more layers of Type G1[4]	1 or more layers of "Ruberoid Torch" (smooth), or "Ruberoid Mop" (smooth)	Karnak No. 97, $1^{1}/_{2}$ - 3 gal/sq
5	Non-combustible	$^{1}/_{2}$:12	—	(Optional) 1 or more layers of Type G1 or G2[4]	—	1 or more layers of "Ruberoid Torch" (granule), "Ruberoid Torch Plus" (granule), "Ruberoid Mop" (granule) or "Ruberoid Mop Plus" (granule)	—
6	Combustible - $^{15}/_{32}$ inch plywood min.	$^{1}/_{2}$:12	1 or more layers perlite, glass fiber, $^{3}/_{4}$ inch minimum, isocyanurate, urethane, perlite/isocyanurate composite, or perlite/urethane composite, $1^{1}/_{2}$ inch min. thickness	(Optional) 1 or more layers of Type G1 or G2[4]	—	1 or more layers of "Ruberoid Torch" (smooth or granule), "Ruberoid Torch Plus" (granule), "Ruberoid Mop" (smooth or granule), or "Ruberoid Mop Plus" (granule)	Gravel, 400 lbs/sq loose laid or applied in a flood coat of hot roofing asphalt
7	Combustible - $^{15}/_{32}$ inch plywood min.	$^{1}/_{2}$:12	(Optional) 1 or more layers perlite, wood fiber, glass fiber, isocyanurate, urethane, perlite/isocyanurate composite, perlite/urethane composite, or wood fiber/isocyanurate composite	2 or more layers of Type G2[4]	(Optional) 1 or more layers of Type G1[4]	1 or more layers of "Ruberoid Torch" (smooth or granule), "Ruberoid Torch Plus" (granule), "Ruberoid Mop" (smooth or granule), or "Ruberoid Mop Plus" (granule)	Gravel, 400 lbs/sq loose laid or applied in a flood coat of hot roofing asphalt
8	Combustible - $^{15}/_{32}$ inch plywood min.	$^{1}/_{2}$:12	(Optional) 1 or more layers perlite, glass fiber, isocyanurate, urethane, perlite/isocyanurate composite, perlite/urethane composite or wood fiber/isocyanurate composite	(Optional) 1 or more layers of Type G2[4]	—	1 or more layers of "Ruberoid Torch" (smooth) or "Ruberoid Mop" (smooth)	Karnak No. 97, $1^{1}/_{2}$ - 3 gal/sq
9	Non-combustible	$^{1}/_{2}$:12	1 or more layers perlite, glass fiber, $^{3}/_{4}$ inch min., isocyanurate, urethane, perlite/isocyanurate composite, or perlite/urethane composite, $1^{1}/_{2}$ inch min.	1 or more layers of Type G1 or G2[4]	—	"Ruberoid Torch FR" (smooth)	"GAF Fibered Aluminum Coating" at 1 - 2 gal/sq
10	Combustible - $^{15}/_{32}$ inch plywood min.	$^{1}/_{2}$:12	1 or more layers perlite, glass fiber, $^{3}/_{4}$ inch min., isocyanurate, urethane, perlite/isocyanurate composite, or perlite/urethane composite, $1^{1}/_{2}$ inch min.	1 or more layers of Type G2 "GAFGLAS #75 Base Sheet," hot mopped or mechanically fastened in place	1 or more layers of Type G1 "GAFGLAS Ply 4" or "Ply 6" hot mopped in place.	"Ruberoid Mop FR" (granule)	—

(Continued)

TABLE 1—CLASS A ROOFING SYSTEMS (Continued)

SYSTEM NO.	SUBSTRATE[5]	MAX. ROOF SLOPE	INSULATION[1,2,3]	BASE SHEET[3,4]	PLY SHEET[3,4]	MEMBRANE[5]	SURFACING/ COATING[5]
11	Combustible - $^{15}/_{32}$ inch plywood min.	$^{1}/_{2}$:12	(Optional) 1 or more layers of isocyanurate, perlite, urethane, glass fiber, perlite/isocyanurate composite, or perlite/urethane composite	1 or more layers of Type G2 "GAFGLAS #75 Base Sheet," hot-mopped or mechanically-fastened in place.	1 or more layers of Type G1 "GAFGLAS Ply 4" or "Ply 6" hot mopped in place	"Ruberoid Torch 170FR" (granule)	(Optional) "GAF Fibered Aluminum Coating" at $1^{1}/_{2}$ gal/sq of GAF Weather Coat Emulsion at 3 gal/sq
12	Combustible - $^{15}/_{32}$ inch plywood min.	$^{1}/_{2}$:12	Isocyanurate, 2 inch min., wood fiber, perlite or glass fiber, $^{3}/_{4}$ in. min. thickness; hot-mopped or mechanically-fastened in place. Joints offset 6 inches.	1 or more layers of Type G2 "GAFGLAS #75 Base Sheet," hot-mopped or mechanically-fastened in place.	(Optional) 1 or more layers of Type G1 "GAFGLAS Ply 4" or "Ply 6" hot mopped in place.	"Ruberoid Torch FR" (granule)	—
13	Combustible - $^{15}/_{32}$ inch plywood min.	$^{1}/_{2}$:12	(Optional) Isocyanurate, perlite, or glass fiber, $^{3}/_{4}$ inch min. thickness, hot-mopped or mechanically-fastened in place. Joints off-set 6 inches.	1 or more layers of Type G2 "GAFGLAS #75 Base Sheet," hot-mopped in place.	(Optional) 1 or more layers of Type G1 "GAFGLAS Ply 4" or "Ply 6" hot-mopped in place.	"Ruberoid Torch FR" (granule)	—
14	Non-combustible	2:12	(Optional) Isocyanurate, wood fiber board, perlite, or glass fiber, $^{3}/_{4}$ inch min. thickness, hot-mopped or mechanically-fastened in place. Joints off-set 6 inches.	1 or more layers of Type G2[4] base sheet, hot-mopped or mechanically-fastened	(Optional) 1 or more layers of Type G1[4], hot-mopped in place.	"Ruberoid Torch FR" (granule).	—
15	Non-combustible	1:12	(Optional) Isocyanurate, wood fiberboard, perlite, or glass fiber, $^{3}/_{4}$ inch min. thickness, hot-mopped or mechanically-fastened in place. Joints offset 6 inches.	1 or more layers of Type G2[4] base sheet, hot-mopped or mechanically-fastened	(Optional) One or more layers of Type G1[4], hot-mopped in place.	1 layer of "Ruberoid Torch FR" (granule)	—
16	Combustible - $^{15}/_{32}$ inch plywood min.	1:12	(Optional) Perlite, fiber glass, isocyanurate, urethane, or perlite/isocyanurate composite	1 or more layers of Type G2[4] base sheet, hot-mopped or mechanically-fastened	(Optional) One or more layers of Type G1[4] hot-mopped in place.	"Ruberoid Mop FR," (granule).	—
17	Combustible - $^{15}/_{32}$ inch plywood min.	$^{1}/_{2}$:12	(Optional) Perlite, fiber glass, isocyanurate, urethane, or perlite/isocyanurate composite. Joints off-set 6 inches.	1 or more layers of Type G2[4] base sheet, hot-mopped or mechanically-fastened	(Optional) One or more layers of Type G1[4] hot-mopped in place.	One layer of "Ruberoid Mop" (smooth) and 1 layer of "Ruberoid Mop FR" (granule)	—
18	Non-combustible	1:12	(Optional) Perlite, fiber glass, isocyanurate, wood fiber board, urethane, or perlite/isocyanurate composite	1 or more layers of Type G2[4] base sheet, hot-mopped or mechanically-fastened	(Optional) One or more layers of Type G1[4] hot-mopped in place.	"Ruberoid Mop FR," (granule).	—
19	Non-combustible	1:12	(Optional) Perlite, fiber glass, isocyanurate, wood fiber board, urethane, or perlite/isocyanurate composite	1 or more layers of Type G2[4] base sheet, hot-mopped or mechanically-fastened	(Optional) One or more layers of Type G1[4] hot-mopped in place.	One layer of "Ruberoid Mop" (smooth) and 1 layer of "Ruberoid Mop FR" (granule)	—
20	Non-combustible	$^{1}/_{2}$:12	(Optional) 1 or more layers perlite, glass fiber, isocyanurate, urethane, perlite/isocyanurate composite, $^{3}/_{4}$ inch min. thickness.	1 or more layers of Type G1 or G2[4], hot-mopped or adhered w/Karnak Chemical Co. "No. 81" or Gibson-Homan "No. 6180" cold applied adhesive at $1^{1}/_{2}$ gal/sq	—	1 layer of "Ruberoid Mop FR," or "Ruberoid Mop 170FR" (granule) hot-mopped or adhered w/Karnak Chemical Co. "No. 81" or Gibson-Homan "No. 6180" cold-applied adhesive at $1^{1}/_{2}$ gal/sq	—
21	Combustible - $^{15}/_{32}$ inch plywood min.	$^{1}/_{2}$:12	Polyisocyanurate, $^{3}/_{4}$ inch min. thickness.	"GAFGLAS #75" (Type G2), mechanically-attached	—	1 or more layers of "Ruberoid Torch" (smooth), and 1 layer of "Ruberoid Torch 170FR" (granule)	—

(Continued)

TABLE 1—CLASS A ROOFING SYSTEMS (Continued)

SYSTEM NO.	SUBSTRATE[5]	MAX. ROOF SLOPE	INSULATION[1,2,3]	BASE SHEET[3,4]	PLY SHEET[3,4]	MEMBRANE[5]	SURFACING/ COATING[5]
22	Combustible - $^{15}/_{32}$ inch plywood min.	$^{1}/_{4}$:12	(Optional) Polyisocyanurate, wood fiber, perlite, or glass fiber, $^{3}/_{4}$ inch min. thickness, hot mopped or mechanically fastened	1 or more layers of Type G2 "GAFGLAS #75" or "Ruberoid 20" base sheets, hot mopped or mechanically fastened in place	—	1 or more layers of "Ruberoid 30 FR," hot-mopped in place.	—
23	Combustible - $^{15}/_{32}$ inch plywood min.	1:12	(Optional) Polyisocyanurate, wood fiber, perlite, or glass fiber, $^{3}/_{4}$ inch min. thickness, hot mopped or mechanically fastened in place	1 or more layers of Type G2 "GAFGLAS #75", hot-mopped or mechanically fastened in place	1 or more layers of "Ruberoid 20," hot-mopped in place.	1 or more layers of "Ruberoid 30 FR" hot-mopped in place.	—

For SI: 1 inch = 25.4 mm; 1 gal = 3.785 L; 1 lb = 0.454 kg; 1 square = 9.29 m².

[1]All foam plastic insulation must be UL-classified foamed plastic for roofing systems, and must be limited to the maximum thickness in accordance with Section 5.4 of this report or the maximum thickness in accordance with this table, whichever is less.
[2]Unless otherwise noted, the insulations are hot-mopped or mechanically-fastened.
[3]Unless otherwise noted, the base and ply sheets are solid-mopped, spot-mopped, or mechanically-fastened.
[4]Type G1 refers to GAFGLAS® Ply 4 or Flex Ply 6. Type G2 refers to GAFGLAS® #75 Base Sheet or GAFGLAS® Stratavent® Eliminator Base Sheet.
[5]Unless otherwise specified, the insulations, base sheets, ply sheets, adhesives, membranes and surface coatings must be UL classified for roofing systems.
[6]Wood deck must be minimum $^{15}/_{32}$-inch-thick (11.9 mm) plywood. Steel deck must be minimum No. 22 gage galvanized steel [0.030 inch (0.76 mm)]. Concrete must have a minimum compressive strength (f_c) of 2,500 psi.

TABLE 2—CLASS B ROOFING SYSTEMS

SYSTEM NO.	SUBSTRATE[1]	MAX. ROOF SLOPE	INSULATION[1,2,3]	BASE SHEET[1,2]	PLY SHEET[3,4]	MEMBRANE[5]	SURFACING/ COATING[5]
1	Combustible - $^{15}/_{32}$ inch plywood min.	$^{1}/_{2}$:12	(Optional) 1 or more layers, isocyanurate, wood fiber, perlite, glass fiber, urethane, perlite/isocyanurate composite, perlite/urethane composite, or wood fiber/isocyanurate composite, $^{3}/_{4}$ inch min. thickness.	2 or more layers of GAF Type G-1 or G-2[4] base sheet, hot-mopped or mechanically-fastened in place	—	1 or more layers of "Ruberoid Torch" (smooth), or "Ruberoid Mop" (smooth)	Karnak No. 97 applied at $1^{1}/_{2}$ gal/sq.
2	Combustible - $^{15}/_{32}$ inch plywood min.	1:12	(Optional) 1 or more layers, isocyanurate, wood fiber, perlite, glass fiber, urethane, perlite/isocyanurate composite, perlite/urethane composite or wood fiber/isocyanurate composite, $^{3}/_{4}$ inch min. thickness.	1 or more layers of Type G2[4]	(Optional) 1 or more layers of Type G1[4]	1 or more layers of "Ruberoid Torch" (smooth) or "Ruberoid Mop" (smooth)	Karnak No. 97 applied at $1^{1}/_{2}$ - 3 gal/sq.

For SI: 1 inch = 25.4 mm; 1 gal = 3.785 L; 1 lb = 0.454 kg; 1 square = 9.29 m².

[1]All foam plastic insulation must be UL-classified foamed plastic for roofing systems, and must be limited to the maximum thickness in accordance with Section 5.4 of this report or the maximum thickness in accordance with this table, whichever is less.
[2]Unless otherwise noted, the insulations are hot-mopped or mechanically-fastened.
[3]Unless otherwise noted, the base and ply sheets are solid-mopped, spot-mopped, or mechanically-fastened.
[4]Type G1 refers to GAFGLAS® Ply 4 or Flex Ply 6. Type G2 refers to GAFGLAS® #75 Base Sheet or GAFGLAS® Stratavent® Eliminator Base Sheet.
[5]Unless otherwise specified, the insulations, base sheets, ply sheets, adhesives, membranes and surface coatings must be UL classified for roofing systems.
[6]Wood deck must be minimum 15/32-inch-thick (11.9 mm) plywood.

TABLE 3—CLASS C ROOFING SYSTEMS

SYSTEM NO.	SUBSTRATE[1]	MAX. ROOF SLOPE	INSULATION[1,2]	BASE SHEET[3,4]	PLY SHEET[3,4]	MEMBRANE[5]	SURFACING/ COATING[5]
1	Combustible - $^{15}/_{32}$ inch plywood min.	2:12	1 or more layers of isocyanurate, wood fiber, perlite, glass fiber, urethane, perlite/isocyanurate composite, perlite/urethane composite, wood fiber/isocyanurate composite, or phenolic, $^{3}/_{4}$ inch min. thickness.	1 or more layers of Type G2[4]	(Optional) 1 or more layers of Type G1[4]	1 or more layers of "Ruberoid Torch" (smooth) or "Ruberoid Mop" (smooth)	Karnak No. 97 applied at 3 gal/sq.
2	Combustible - $^{15}/_{32}$ inch plywood min.	2:12	—	1 or more layers of Type G2[4]	(Optional) 1 or more layers of Type G1[4]	1 or more layers of "Ruberoid Torch" (smooth), or "Ruberoid Mop" (smooth)	Grundy Ind. "20F Emulsion" applied at 3 gal/sq.
3	Non-combustible	$^{1}/_{2}$:12	1 or more layers, perlite, glass fiber, or wood fiber, $^{3}/_{4}$ inch min. thickness.	(Optional) 1 or more layers of Type G1 or G2[4]	—	1 or more layers of "Ruberoid Torch" (smooth) or "Ruberoid Mop" (smooth)	(Optional) Karnak No. 97 or No. 169 applied at 1 - 3 gal/sq, or Grundy Ind. "20F Emulsion" at 3 gal/sq.
4	Combustible - $^{15}/_{32}$ inch plywood min.	1:12	1 or more layers perlite, glass fiber, wood fiber, isocyanurate, urethane, perlite/isocyanurate composite, perlite/urethane composite, or wood fiber/isocyanurate composite, $^{3}/_{4}$ inch min. thickness.	1 or more layers of Type G2[4]	(Optional) 1 or more layers of Type G1[4]	1 or more layers of "Ruberoid Torch" (smooth) or "Ruberoid Mop" (smooth)	Grundy Ind. "20F Emulsion" applied at 3 gal/sq.
5	Combustible - $^{15}/_{32}$ inch plywood min.	$^{1}/_{2}$:12	—	1 or more layers of Type G1 or G2[4]	—	1 or more layers of "Ruberoid Torch" (granule), "Ruberoid Torch Plus" (granule), "Ruberoid Mop" (granule) or "Ruberoid Mop Plus" (granule).	—
6	Non-combustible	$^{1}/_{2}$:12	—	1 or more layers of Type G1 or G2[4]	(Optional) 1 or more layers of Type G1[4]	1 or more layers of "Ruberoid Mop FR" adhered in a uniform coating of Karnak No. 81 or Gibson-Homan No. 6180-900 applied at 1 - 2 gal/sq.	—
7	Combustible - $^{15}/_{32}$ inch plywood min.	1:12	(Optional) Perlite, glass fiber, wood fiber, isocyanurate, $^{3}/_{4}$ inch min. thickness, hot-mopped or mechanically-fastened.	1 or more layers of Type G2[4]	1 or more layers of Type G2 "GAFGLAS #75" or "Ruberoid 20" base sheets, hot mopped or mechanically-fastened	1 or more layers of "Ruberoid 30", hot-mopped in place.	—
8	Non-combustible	$^{1}/_{2}$:12	—	1 or more layers of Type G1 or G2[4]	—	1 or more layers of "Ruberoid Mop FR" adhered in a uniform coating of Karnak No. 81 or Gibson-Homan No. 6180-900 applied at 1 - 2 gal/sq.	—
9	Combustible - $^{15}/_{32}$ inch plywood min.	1:12	(Optional) Polyisocyanurate, wood fiber, perlite, glass fiber, any thickness, hot-mopped or mechanically-fastened.	1 or more layers of "Ruberoid 30" or Type G2 "GAFGLAS #75" base sheets, hot-mopped or mechanically-fastened.	—	1 or more layers of "Ruberoid 30", hot-mopped in place.	—

For SI: 1 inch = 25.4 mm; 1 gal = 3.785 L; 1 lb = 0.454 kg; 1 square = 9.29 m².

[1]All foam plastic insulation must be UL-classified foamed plastic for roofing systems, and must be limited to the maximum thickness in accordance with Section 5.4 of this report or the maximum thickness in accordance with this table, whichever is less.
[2]Unless otherwise noted, the insulations are hot-mopped or mechanically-fastened.
[3]Unless otherwise noted, the base and ply sheets are solid-mopped, spot-mopped, or mechanically-fastened.
[4]Type G1 refers to GAFGLAS® Ply 4 or Flex Ply 6. Type G2 refers to GAFGLAS® #75 Base Sheet or GAFGLAS® Stratavent® Eliminator Base Sheet.
[5]Unless otherwise specified, the insulations, base sheets, ply sheets, adhesives, membranes and surface coatings must be UL classified for roofing systems.
[6]Wood deck must be minimum $^{15}/_{32}$-inch-thick (11.9 mm) plywood. Steel deck must be minimum No. 22 gage galvanized steel [0.030 inch (0.76 mm)]. Concrete must have a minimum compressive strength (f_c) of 2,500 psi.

TABLE 4—WIND RESISTANCE

SYSTEM NO.	ALLOWABLE WIND UPLIFT	DECK[3]	INSULATION[1,2]	INSULATION FASTENING[1]	BASE SHEET	MEMBRANE
1	45 psf	New Steel No. 22 gage MSG min.	One of the following insulations, 1-inch min. to 4-inch max. thickness: Atlas "ACFoam-II" or "ACFoam III," BMCA "EnergyGuard," "EnergyGuard Ultra," or "EnergyGuard Composite," BMCA "EnergyGuard Fiberboard" or "EnergyGuard High Density Fiberboard."	Drill-Tec Standard #12 Roofing Fastener with 3-inch Galvalume Plate at the rate of 6 fasteners per 3 ft × 4 ft board.	GAFGLAS Ply4, GAFGLAS Ply 6, or GAFGLAS #75 is adhered to the insulation with 3-inch wide side and 6-inch wide end laps in either solid mopping of steep roofing asphalt or with 8-inch-wide ribbons at 16 inches o.c. (50% coverage).	Ruberoid Mop applied with a nominal 25 lbs/sq ±20%, continuous coating of steep asphalt. The membrane is installed with 4-inch-wide side and 6-inch-wide end laps. A minimum $^{1}/_{4}$ inch flow out of asphalt past the edge of the seam is required.
2	45 psf	Existing Steel No. 22 gage MSG	One of the following insulations: fiberglas (max. 1 inch), perlite (max. 1 inch) or wood fiber (max. 1 inch).	Drill-Tec Standard #12 Roofing Fastener with 3-inch Galvalume Plate at the following rates: Fiberglass - 8 fasteners per 3 ft × 4 ft board. Perlite - 4 fasteners per 2 ft × 4 ft board. Wood fiber - 16 fasteners per 4 ft × 8 ft board.	A base sheet listed by Factory Mutual Research is adhered to the insulation with 3-inch-wide side and 6-inch-wide end laps in either a solid mopping of steep roofing asphalt or with 8-inch-wide ribbons at 16 inches o.c. (50% coverage)	Ruberoid Mop applied with a nominal 25 lbs/sq ±20%, continuous coating of steep asphalt. The membrane is installed with 4-inch-wide side and 6-inch-wide end laps. A minimum $^{1}/_{4}$ inch flow out of asphalt past the edge of the seam is required.
3	45 psf	New or Existing Structural Concrete	One of the following insulations, 1-inch min. to 4-inch max. thickness. Atlas "ACFoam-II" or "ACFoam III," BMCA "EnergyGuard," "EnergyGuard Ultra," or "EnergyGuard Composite," fiberglas (max. 1 inch), perlite (max. 1 inch) fastened at a rate of 4 fasteners per 2 ft × 4 ft board, or wood fiber (max. 1 inch) fastened at a rate of 18 fasteners per 4 ft × 8 ft board.	Drill-Tec CD-10 Fastener with 3-inch Galvalume Plate. Fasteners applied at a rate of 8 fasteners minimum per 3 ft × 4 ft board unless noted otherwise.	A base sheet listed by Factory Mutual Research is adhered to the insulation with 3-inch-wide side and 6-inch-wide end laps in either a solid mopping of steep roofing asphalt or with 8-inch-wide ribbons at 16 inches o.c. (50% coverage).	Ruberoid Mop applied with a nominal 25 lbs/sq ±20%, continuous coating of steep asphalt. The membrane is installed with 4-inch-wide side and 6-inch-wide end laps. A minimum $^{1}/_{4}$ inch flow out of asphalt past the edge of the seam is required.
4	45 psf	New or Existing Structural Concrete	One of the following insulations, 1-inch min. to 4-inch max. thickness: Atlas "ACFoam-II" or "ACFoam III," BMCA "EnergyGuard," "EnergyGuard Ultra," or "EnergyGuard Composite," fiberglas, perlite, or wood fiber	Attached to the roof deck with hot mop asphalt at a rate of 20 - 25 lbs./square. The concrete deck shall be primed with GAF Asphalt/Concrete primer prior to the application of the asphalt.	An FM-listed base sheet is adhered to the insulation with 3-inch-wide side and 6-inch-wide end laps in either a solid mopping of steep roofing asphalt or with 8-inch-wide ribbons at 16 inches o.c. (50% coverage).	Ruberoid Mop applied with a nominal 25 lbs/sq ±20%, continuous coating of steep asphalt. The membrane is installed with 4-inch-wide side and 6-inch-wide end laps. A minimum $^{1}/_{4}$ inch flow out of asphalt past the edge of the seam is required.
5	45 psf	New Structural Concrete	—	—	A GAFGLAS Base sheet is adhered to the primed concrete deck with hot asphalt (ASTM D 312, Type III or IV), applied at a nominal rate of 25 lbs/square. The concrete deck shall be primed with GAF Asphalt/Concrete Primer prior to the application of the asphalt.	Ruberoid Mop applied with a nominal 25 lbs/sq continuous coating of hot asphalt. Or Ruberoid Torch is applied as a cap membrane.
6	45 psf	New Structural Concrete	—	—	The concrete deck shall be primed with GAF Asphalt/Concrete Primer prior to the application of the base sheet. A GAFGLAS Stratavent Eliminator (Vent Ply) Perforated Base Sheet is laid dry over the primed concrete deck.	Ruberoid Mop applied with a nominal 25 lbs/sq continuous coating of hot asphalt.

[1]Insulation and fasteners must be FM-approved.
[2]All foam plastic insulation must be UL-classified foamed plastic for roofing systems, and must be limited to the maximum thickness in accordance with Section 5.4 of this report or the maximum thickness in accordance with this table, whichever is less.
[3]Steel deck must be minimum No. 22 gage galvanized steel [base metal thickness 0.030 inch (0.76 mm)]. Concrete must have a minimum compressive strength (f_c) of 2,500 psi. See Section 5.7 of this report.

GAF GAF MATERIALS CORPORATION

GAFGLAS® #75 BASE SHEET

Description
GAFGLAS#75 Base Sheet is a premium roofing base sheet constructed with a strong glass mat that is coated on both sides to assure a closed-sheet design to prevent asphalt bleed-through. The sealed sheet also serves as an effective flame retarder for the application of torch-applied modified bitumen membranes.

Uses
GAFGLAS#75 Base Sheet is engineered for use in the construction of GAFGLAS built-up and RUBEROID® modified bitumen roofs. It is suitable for nailable specifications, such as plywood, where bleed-through is a concern.

Advantages
- Extra strength for excellent nail-holding ability. Superb tensile strength and resilience and no bleed through, thereby reducing risks of splitting and cracking of membrane.
- Will not rot, curl, or shrink: dimensionally stable for improved membrane performance.
- Designed to meet UL Class A ratings.
- Rolls out flat for easy installation.
- System guarantees are available for up to 20 years.

Applicable Standards
Meets ASTM D4601, Type II
FM Approved
ICC ESR-1274
Miami-Dade County Product Control Approval
UL/ULc Listed

Product Specifications (nominal)
Roll Size: 3 squares (320.1 gross sq ft) (29.7m²)
Roll Length: 97.5' (29.7m)
Roll Width: 39.375" (1.0m)
Approx. Roll Weight: 68 lbs (30.8kg)

GAF GAF MATERIALS CORPORATION

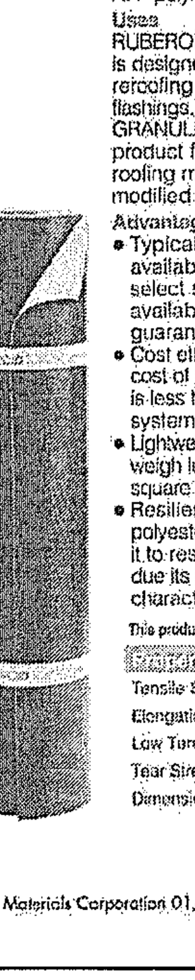
RUBEROID® TORCH GRANULE

Description
RUBEROID® TORCH GRANULE membrane is a tough, resilient modified bitumen membrane manufactured to stringent GAF Materials Corporation specifications. Its core is a strong, resilient, non-woven polyester mat that is coated with weather resistant APP polymer modified asphalt.

Uses
RUBEROID TORCH GRANULE is designed for new roofing and reroofing applications as well as flashings. RUBEROID TORCH GRANULE is also an ideal product for repairs of built-up roofing membrane or other modified bitumen systems.

Advantages
- Typical system guarantees available for up to 15 years, select system constructions available with up to 20 year guarantee coverage.
- Cost effective—the installed cost of RUBEROID TORCH is less than most single-ply systems on the market today.
- Lightweight—installed roof designs weigh less than 2 pounds per square foot.
- Resilient—RUBEROID TORCH's polyester mat, core allows it to resist splits and tears due its pliability and elongation characteristics.

Advantages (Continued)
- Durable—specially formulated modified asphalt for lasting performance.
- RUBEROID TORCH GRANULE is backed by GAF Materials Corporation, a company with over 100 years in the roofing business.
- Available in smooth surface and two granular colors: black and white



Applicable Standards
Meets ASTM D6222, Type I, Grade G
FM Approved
HUD Material Release #1216A
Miami-Dade County Product Control Approval
UL/ULc Listed
*See Ruberoid Application and Specification Manual or UL Directory for specific approval

Product Specifications (nominal)
Roll Size: 1 square (106.5 gross sq.ft.) (9.8m²)
Roll Length: 32.3' (9.8m)
Roll Width: 39.58" (1.005m)
Approx. Roll Weight: 99 lbs (44.9kg)
Product Thickness: 0.160" (4mm)

This product meets or exceeds the following ASTM D6222, Type I, Grade G, minimum requirements:

Property	Test Method	Value
Tensile Strength @ 0°F (min), lbf/in	ASTM D5147	60
Elongation @ 0°F (min), %	ASTM D5147	10
Low Temperature Flexibility (max), °F	ASTM D5147	32
Tear Strength (min), lbf	ASTM D5147	70
Dimensional Stability, (max) %	ASTM D5147	<0.5

DESIGNS, INC.

RESIDENTIAL, COMMERCIAL & INTERIOR DESIGN SERVICES

NATHALIE GISPAN 818.915.4119
ERAN GISPAN 818.915.4118

OFFICE 818.789.6439
FAX 818.789.6941

www.NEDESIGNSINC.com

General Notes

No.	Revision/Issue	Date

Project

901 N. LAUREL AVE.
LOS ANGELES, CA 90046

NEW 2 STORY HOUSE

Drawing Title

DETAILS

Project 12-553
Date 02-04-13
Scale N.T.S.
Sheet AD-4

BUILDING ENERGY ANALYSIS REPORT

PROJECT:

901 N. LAUREL AVE.
LOS ANGELES, CA 90046

Project Designer:

N.E. DESIGNS, INC.
15118 LA MAIDA ST.
SHERMAN OAKS, CA 91403
(818) 789-6439

Report Prepared by:

N.E. Designs, Inc.

Job Number:

12-553

Date:

1/24/2013

The EnergyPro computer program has been used to perform the calculations summarized in this compliance report. This program has approval and is authorized by the California Energy Commission for use with both the Residential and Nonresidential 2008 Building Energy Efficiency Standards.

This program developed by EnergySoft, LLC – www.energysoft.com.

TABLE OF CONTENTS

PERFORMANCE CERTIFICATE: Residential (Part 1 of 5) CF-1R

Project Name | Building Type: ☒ Single Family ☐ Addition Alone ☐ Multi Family ☐ Existing+ Addition/Alteration | Date 1/24/2013

Project Address	California Energy Climate Zone	Total Cond. Floor Area	Addition	# of Stories
901 N. LAUREL AVE. LOS ANGELES	CA Climate Zone 09	4,381	n/a	2

FIELD INSPECTION ENERGY CHECKLIST

☐ Yes ☒ No HERS Measures -- If Yes, A CF-4R must be provided per Part 2 of 5 of this form.

☒ Yes ☐ No Special Features -- If Yes, see Part 2 of 5 of this form for details.

INSULATION

Construction	Type	Cavity	Area (ft^2)	Special Features (see Part 2 of 5)	Status
Wall	Wood Framed	R-19	4,452	Ext=R-19.0	New
Slab	Unheated Slab-on-Grade	None	2,167	Perim = 256'	New
Roof	Wood Framed Attic	R-30	2,214	Ext=R-30.0 Radiant Barrier	New

FENESTRATION

Orientation	Area(ft^2)	U-Factor	SHGC	Overhang	Sidefins	Exterior Shades	Status
Front (E)	113.0	0.370	0.29	none	none	Bug Screen	New
Left (S)	424.0	0.370	0.29	none	none	Bug Screen	New
Rear (W)	358.5	0.370	0.29	none	none	Bug Screen	New
Right (N)	154.5	0.370	0.29	none	none	Bug Screen	New

HVAC SYSTEMS

Qty.	Heating	Min. Eff	Cooling	Min. Eff	Thermostat	Status
1	Central Furnace	81% AFUE	Packaged Air Condition	13.0 SEER	Setback	New

HVAC DISTRIBUTION

Location	Heating	Cooling	Duct Location	Duct R-Value	Status
HVAC System	Ducted	Ducted	Attic, Ceiling Ins, vented	8.0	New

WATER HEATING

Qty.	Type	Gallons	Min. Eff	Distribution	Status
1	Small Elec.	50	0.93	Kitchen Pipe Ins	New

PERFORMANCE CERTIFICATE: Residential (Part 2 of 5) CF-1R

Project Name | Building Type: ☒ Single Family ☐ Addition Alone ☐ Multi Family ☐ Existing+ Addition/Alteration | Date 1/24/2013

SPECIAL FEATURES INSPECTION CHECKLIST

The enforcement agency should pay special attention to the items specified in this checklist. These items require special written justification and documentation, and special verification to be used with the performance approach. The enforcement agency determines the adequacy of the justification, and may reject a building or design that otherwise complies based on the adequacy of the special justification and documentation submitted.

The Roof R-30 Roof Attic includes credit for a Radiant Barrier that is Continuous meeting eligibility and installation criteria as specified in Residential Appendix RA4.2.2.

HERS REQUIRED VERIFICATION

Items in this section require field testing and/or verification by a certified HERS Rater. The inspector must receive a completed CF-4R form for each of the measures listed below for final to be given.

PERFORMANCE CERTIFICATE: Residential (Part 3 of 5) CF-1R

Project Name | Building Type: ☒ Single Family ☐ Addition Alone ☐ Multi Family ☐ Existing+ Addition/Alteration | Date 1/24/2013

ANNUAL ENERGY USE SUMMARY

TDV (kBtu/ft^2-yr)	Standard	Proposed	Margin
Space Heating	9.37	5.08	4.29
Space Cooling	16.15	10.51	5.63
Fans	5.39	3.69	1.70
Domestic Hot Water	8.64	14.56	-5.92
Pumps	0.00	0.00	0.00
Totals	39.55	33.85	5.70
Percent Better Than Standard:			14.4 %

BUILDING COMPLIES - NO HERS VERIFICATION REQUIRED

		Ext. Walls/Roof	Wall Area	Fenestration Area
Building Front Orientation:	(E) 90 deg			
Number of Dwelling Units:	1.00	(E)	836	113
Fuel Available at Site:	Natural Gas	(S)	1,920	424
Raised Floor Area:	0	(W)	836	359
Slab on Grade Area:	2,167	(N)	1,920	155
Average Ceiling Height:	11.0	Roof	2,214	0
Fenestration Average U-Factor:	0.37		TOTAL:	1,050
Average SHGC:	0.29		Fenestration/CFA Ratio:	24.0 %

REMARKS

STATEMENT OF COMPLIANCE

This certificate of compliance lists the building features and specifications needed to comply with Title 24, Parts 1 the Administrative Regulations and Part 6 the Efficiency Standards of the California Code of Regulations.

The documentation author hereby certifies that the documentation is accurate and complete.

Documentation Author

Company N.E. Designs, Inc.
Address Name
City/State/Zip Phone Signed Date 1/24/2013

The individual with overall design responsibility hereby certifies that the proposed building design represented in this set of construction documents is consistent with the other compliance forms and worksheets, with the specifications, and with any other calculations submitted with this permit application, and recognizes that compliance using duct design, duct sealing, verification of refrigerant charge, insulation installation quality, and building envelope sealing require installer testing and certification and field verification by an approved HERS rater.

Designer or Owner (per Business & Professions Code)

Company N.E. DESIGNS, INC.
Address 15118 LA MAIDA ST. Name
City/State/Zip SHERMAN OAKS, CA 91403 Phone (818) 789-6439 Signed License # Date

CERTIFICATE OF COMPLIANCE: Residential (Part 4 of 5) CF-1R

Project Name | Building Type: ☒ Single Family ☐ Addition Alone ☐ Multi Family ☐ Existing+ Addition/Alteration | Date 1/24/2013

OPAQUE SURFACE DETAILS

Surface Type	Area	U-Factor	Insulation Cavity	Exterior	Frame	Interior	Frame	Azm	Tilt	Status	Joint Appendix 4	Location/Comments
Wall	415	0.035	R-19	19.0	Wood			90	90	New	4.3.1-A5	Zone 1
Wall	864	0.035	R-19	19.0	Wood			180	90	New	4.3.1-A5	Zone 1
Wall	236	0.035	R-19	19.0	Wood			270	90	New	4.3.1-A5	Zone 1
Wall	1,022	0.035	R-19	19.0	Wood			0	90	New	4.3.1-A5	Zone 1
Slab	2,167	0.730	None					0	180	New	4.4.7-A1	Zone 1
Wall	308	0.035	R-19	19.0	Wood			90	90	New	4.3.1-A5	Zone 2
Wall	632	0.035	R-19	19.0	Wood			180	90	New	4.3.1-A5	Zone 2
Wall	242	0.035	R-19	19.0	Wood			270	90	New	4.3.1-A5	Zone 2
Wall	744	0.035	R-19	19.0	Wood			0	90	New	4.3.1-A5	Zone 2
Roof	2,214	0.021	R-30	30.0	Wood			90	2	New	4.2.1-A20	Zone 2

FENESTRATION SURFACE DETAILS

ID	Type	Area	U-Factor[1]		SHGC[2]		Azm	Status	Glazing Type	Location/Comments
1	Window	41.0	0.370	NFRC	0.29	NFRC	90	New	Velux Comfort (75) Lowe2/Arg	Zone 1
2	Window	216.0	0.370	NFRC	0.29	NFRC	180	New	Velux Comfort (75) Lowe2/Arg	Zone 1
3	Window	220.5	0.370	NFRC	0.29	NFRC	270	New	Velux Comfort (75) Lowe2/Arg	Zone 1
4	Window	58.5	0.370	NFRC	0.29	NFRC	0	New	Velux Comfort (75) Lowe2/Arg	Zone 1
5	Window	72.0	0.370	NFRC	0.29	NFRC	90	New	Velux Comfort (75) Lowe2/Arg	Zone 2
6	Window	208.0	0.370	NFRC	0.29	NFRC	180	New	Velux Comfort (75) Lowe2/Arg	Zone 2
7	Window	138.0	0.370	NFRC	0.29	NFRC	270	New	Velux Comfort (75) Lowe2/Arg	Zone 2
8	Window	96.0	0.370	NFRC	0.29	NFRC	0	New	Velux Comfort (75) Lowe2/Arg	Zone 2

(1) U-Factor Type: 116-A = Default Table from Standards, NFRC = Labeled Value
(2) SHGC Type: 116-B = Default Table from Standards, NFRC = Labeled Value

EXTERIOR SHADING DETAILS

ID	Exterior Shade Type	SHGC	Window Hgt	Window Wd	Overhang Len	Overhang Hgt	Overhang LExt	Overhang RExt	Left Fin Dist	Left Fin Len	Left Fin Hgt	Right Fin Dist	Right Fin Len	Right Fin Hgt
1	Bug Screen	0.76												
2	Bug Screen	0.76												
3	Bug Screen	0.76												
4	Bug Screen	0.76												
5	Bug Screen	0.76												
6	Bug Screen	0.76												
7	Bug Screen	0.76												
8	Bug Screen	0.76												

CERTIFICATE OF COMPLIANCE: Residential (Part 5 of 5) CF-1R

Project Name | Building Type: ☒ Single Family ☐ Addition Alone ☐ Multi Family ☐ Existing+ Addition/Alteration | Date 1/24/2013

BUILDING ZONE INFORMATION

System Name	Zone Name	Floor Area (ft^2) New	Existing	Altered	Removed	Volume	Year Built
HVAC System	Room 1	2,167				26,004	
	Room 2	2,214				22,140	
	Totals	4,381	0	0	0		

HVAC SYSTEMS

System Name	Qty.	Heating Type	Min. Eff.	Cooling Type	Min. Eff.	Thermostat Type	Status
HVAC System	1	Central Furnace	81% AFUE	Packaged Air Conditione	13.0 SEER	Setback	New

HVAC DISTRIBUTION

System Name	Heating	Cooling	Duct Location	Duct R-Value	Ducts Tested?	Status
HVAC System	Ducted	Ducted	Attic, Ceiling Ins, vented	8.0	☐	New

WATER HEATING SYSTEMS

System Name	Qty.	Type	Distribution	Rated Input (Btuh)	Tank Cap. (gal)	Energy Factor or RE	Standby Loss or Pilot	Ext. Tank Insul. R-Value	Status
50 Gallon Electric	1	Small Elec.	Kitchen Pipe Ins	15,359	50	0.93	n/a	n/a	New

MULTI-FAMILY WATER HEATING DETAILS

Control	Qty.	HP	Hot Water Piping Length (ft) Plenum	Outside	Buried	Add 1/2" Insulation
						☐

HYDRONIC HEATING SYSTEM PIPING

System Name	Pipe Length	Pipe Diameter	Insul. Thick.

MANDATORY MEASURES SUMMARY: Residential (Page 1 of 3) MF-1R

Project Name | Date 1/24/2013

NOTE: Low-rise residential buildings subject to the Standards must comply with all applicable mandatory measures listed, regardless of the compliance approach used. More stringent energy measures listed on the Certificate of Compliance (CF-1R, CF-1R-ADD, or CF-1R-ALT Form) shall supersede the items marked with an asterisk (*) below. This Mandatory Measures Summary shall be incorporated into the permit documents, and the applicable features shall be considered by all parties as minimum component performance specifications whether they are shown elsewhere in the documents or in this summary. Submit all applicable sections of the MF-1R Form with plans.

Building Envelope Measures:

§116(a)1: Doors and windows between conditioned and unconditioned spaces are manufactured to limit air leakage.

§116(a)4: Fenestration products (except field-fabricated windows) have a label listing the certified U-Factor, certified Solar Heat Gain Coefficient (SHGC), and infiltration that meets the requirements of §10-111(a).

§117: Exterior doors and windows are weather-stripped; all joints and penetrations are caulked and sealed.

§118(a): Insulation specified or installed meets Standards for Insulating Material. Indicate type and include on CF-6R Form.

§118(i): The thermal emittance and solar reflectance values of the cool roofing material meets the requirements of §118(i) when the installation of a Cool Roof is specified on the CF-1R Form.

*§150(a): Minimum R-19 insulation in wood-frame ceiling or equivalent U-factor.

§150(b): Loose fill insulation shall conform with manufacturer's installed design labeled R-Value.

*§150(c): Minimum R-13 insulation in wood-frame wall or equivalent U-factor.

*§150(d): Minimum R-13 insulation in raised wood-frame floor or equivalent U-factor.

§150(f): Air retarding wrap is tested, labeled, and installed according to ASTM E1677-95(2000) when specified on the CF-1R Form.

§150(g): Mandatory Vapor barrier installed in Climate Zones 14 or 16.

§150(l): Water absorption rate for slab edge insulation material alone without facings is no greater than 0.3%; water vapor permeance rate is no greater than 2.0 perm/inch and shall be protected from physical damage and UV light deterioration.

Fireplaces, Decorative Gas Appliances and Gas Log Measures:

§150(e)1A: Masonry or factory-built fireplaces have a closable metal or glass door covering the entire opening of the firebox.

[illegible]

Space Conditioning, Water Heating and Plumbing System Measures:

[illegible]

MANDATORY MEASURES SUMMARY: Residential (Page 2 of 3) MF-1R

Project Name | Date 1/24/2013

[illegible]

Pool and Spa Heating Systems and Equipment Measures:

[illegible]

Residential Lighting Measures:

[illegible]

MANDATORY MEASURES SUMMARY: Residential (Page 3 of 3) MF-1R

Project Name | Date 1/24/2013

[illegible]

N.E. DESIGNS, INC.

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www.NEDESIGNSINC.com

General Notes

No.	Revision/Issue	Date

Project

901 N. LAUREL AVE.
LOS ANGELES, CA 90046

NEW 2 STORY HOUSE

Drawing Title

TITLE 24

Project 12-553	Sheet AD-5
Date 02-04-13	
Scale N.T.S.	

STRUCTURAL OBSERVATION SPECIFICATIONS

DESIGNATION OF STRUCTURAL OBSERVER

LA DBS DEPARTMENT OF BUILDING AND SAFETY

Los Angeles Regional Uniform Code Program
Committee I-3: Structural Observation

LARUCP

STRUCTURAL OBSERVATION PROGRAM AND DESIGNATION OF THE STRUCTURAL OBSERVER

PROJECT ADDRESS: 901 Laurel Cyn., LA, CA 90046 permit no.: _____

Description of Work: Two Story S.F.R.

Owner: L.I. Investments, LLC Architect: None Engineer: Ross Downey

STRUCTURAL OBSERVATION
(only checked items are required)

Firm or Individual to be responsible for the Structural Observation:
Name: HRD Engineering, Ross Downey Phone: (818) 764-2245 Calif. Registration: SE 2628

FOUNDATION	WALL	FRAME	DIAPHRAGM
☒ Footing, Stem Walls, Piers	☐ Concrete	☒ Steel Moment Frame	☐ Concrete
☐ Mat Foundation	☐ Masonry	☐ Steel Braced Frame	☐ Steel Deck
☐ Caisson, Piles, Grade Beams	☒ Wood	☐ Concrete Moment Frame	☒ Wood
☐ Stepp'g,Retaining Foundation, Hillside Special Anchors	☐ Others:	☐ Masonry Wall Frame	☐ Others:
☐ Others:		☒ Others: Cant. Col.	

DECLARATION BY OWNER
I, the Owner of the Project, declare that the above listed firm or individual is hired by me to be the Structural Observer.

Signature Date

DECLARATION BY architect or engineer of record (required if the Structural Observer is different from the Architect or Engineer of Record)
I, the Architect or Engineer of record for the project, declare that the above listed firm or individual is designated by me to be responsible for the Structural Observation.

Signature License No. Date

CITY OF LOS ANGELES
DEPARTMENT OF BUILDING & SAFETY

GENERAL NOTES FOR STRUCTURAL OBSERVATION

1. STRUCTURAL OBSERVATION IS REQUIRED FOR THE STRUCTURAL SYSTEM IN ACCORDANCE WITH MSD 110, structural OBSERVATION IS THE VISUAL OBSERVATION OF THE ELEMENTS AND CONNECTIONS OF THE STRUCTURAL SYSTEM AT SIGNIFICANT CONSTRUCTION STAGES AND THE COMPLETED STRUCTURE FOR GENERAL CONFORMANCE TO THE APPROVED PLANS AND SPECIFICATIONS. STRUCTURAL OBSERVATION DOES NOT WAIVE THE RESPONSIBILITY FOR THE INSPECTIN REQUIRED OF THE BUILDING INSPECTOR OR THE DEPUTY INSPECTOR.

2. THE OWNER SHALL EMPLOY A CIVIL OR STRUCTURAL ENGINEER OR ARCHITECT TO PERFORM THE STRUCTURAL OBSERVATION. THE ENGINEER OR ARCHITECT SHALL BE REGISTERED OR LICENSED IN THE STATE OF CALIFORNIA. THE DEPARTMENT OF BUILDING AND SAFETY RECOMMENDS THE USE OF THE ENGINEER OR ARCHITECT RESPONSIBLE FOR THE STRUCTURAL DESIGN WHEN THEY ARE INDEPENDENT OF THE CONTRACTOR

3. THE STRUCTURAL OBSERVER SHALL PROVIDE EVIDENCE OF EMPLOYMENT BY THE OWNER, A LETTER FROM THE OWNER OR A COPY OF THE AGREEMENT FOR SERVICES SHALL BE SENT TO THE BUILDING BEFORE THE FIRST SITE VISIT. THE STRUCTURAL OBSERVER SHALL ALSO INFORM THE OWNER OF THE REQUIREMENTS FOR A RECONSTRUCTION MEETING AND SHALL PRESIDE OVER THIS MEETING.

3. THE OWNER OR OWNER'S REPRESENTATIVE SHALL COORDINATE AND CALL FOR A MEETING BETWEEN THE ENGINEER OR ARCHITECT RESPONSIBLE FOR THE STRUCTURAL DESIGN, STRICTURAL OBSERVER, CONTRACTOR, AFFECTED SUBCONTRACTORS AND DEPUTY INSPECTORS. THE PURPOSE OF THE MEETING SHALL BE TO IDENTIFY THE MAJOR STRUCTURAL ELEMENTS AND CONNECTIONS THAT AFFECT THE VERTICAL AND LATERAL LOAD SYSTEMS OF THE STRUCTURE AND TO REVIEW SCHEDULING OF THE REQUIRED OBSERVATIONS. A RECORD OF THE MEETING SHALL BE INCLUDED IN THE FIRST OBSERVATION REPORT SUBMITTED TO THE BUILDING INSPECTOR.

4. THE STRUCTURAL OBSERVER SHALL PERFORM SITE VISITS AT THOSE STEPS IN THE PROGRESS OF THE WORK THAT ALLOW FOR CORRECTION OF DEFICIENCIES WITHOUT SUBSTANTIAL EFFORT OR UNCOVERING OF THE WORK INVOLVED. AT A MINIMUM, THE FOLLOWING SIGNIFICANT CONSTRUCTION STAGES REQUIRE A SITE VISIT AND AN OBSERVATION REPORT FROM THE STRUCTURAL OBSERVER:

	CONSTRUCTION STAGES	ELEMENTS TO BE OBSERVED
a)	PRE-CONSTRUCTION	/ REVIEW S.O. (*STRUCTURAL DESIGNER, CONTRACTOR, SUB'S AND DEPUTY(S) MUST ATTEND)
b)	FOUNDATION	/ AFTER FOOTINGS DUG/REINF. PLACED, BEFORE CONC. POURED
c)	FRAMING	/ AFTER ALL FRAMING IS INSTALLED, BEFORE FINAL
d)	SHEAR WALL NAILING	/ AFTER INSTALLED
e)	EDGE DIST. A.B./HD'S	/ AFTER INSTALLED
e)	FINAL	/ AFTER ALL STRUCTURAL / ROUGH IS INSTALLED

* STRUCTURAL DESIGNER IS THE ENGINEER OF RECORD, ROSS DOWNEY

6. THE STRUCTURAL OBSERVER SHALL PREPARE A REPORT ON THE DEPARTMENT FORM B & S 261 FOR EACH SIGNIFICANT STAGE OF CONSTRUCTION OBSERVED. THE ORIGINAL OF THE OBSERVATION REPORT SHALL BE SENT TO THE BUILDING INSPECTORS OFFICE AND SHALL BE SIGNED AND SEALED (WET STAMP) BY THE RESPONSIBLE STRUCTURAL OBSERVER. ONE COPY OF THE OBSERVATION REPORT SHALL BE ATTACHED TO THE APPROVED PLANS. THE COPY ATTACHED TO THE PLANS NEED NOT BE SEALED BUT SHALL BE SIGNED BY THE RESPONSIBLE STRUCTURAL OBSERVER OR THE DESIGNEE. COPIES OF THE REPORT SHALL ALSO BE GIVEN TO THE OWNER, CONTRACTOR, AND DEPUTY INSPECTOR.

7. A FINAL OBSERVATION REPORT MUST BE SUBMITTED WHICH SHOWS THAT ALL OBSERVED DEFIENCIES WERE RESOLVED AND THE STRUCTURAL SYSTEM GENERALLY CONFORMS WITH THE APPROVED PLANS AND SPECIFICATIONS. THE DEPARTMENT OF BUILDING AND SAFETY WILL NOT ACCEPT THE STRUCTURAL WORK WITHOUT THIS FINAL OBSERVATION REPORT AND THE CORRECTION OF SPECIFIC DEFICIENCIES NOTED DURING NORMAL BUILDING AND DEPUTY INSPECTION.

8. THE STRUCTURAL OBSERVER SHALL SEND THE ORIGINAL OBSERVATION REPORT TO THE FOLLOWING OFFICE:

INSPECTION GROUP NAME _____
STREET ADDRESS _____
COMMUNITY OF LA, CA, ZIP CODE _____

8. WHEN THE OWNER ELECTS TO CHANGE THE STRUCTURAL OBSERVER OF RECORD THE OWNER SHALL:

a) NOTIFY THE BUILDING INSPECTOR IN WRITING BEFORE THE NEXT INSPECTION,
b) CALL AN ADDITIONAL PRE-CONSTRUCTION MEETING, AND
c) FURNISH THE REPLACEMENT STRUCTURAL OBSERVER WITH A COPY OF ALL PREVIOUS OBSERVATION REPORTS.

THE REPLACEMENT OBSERVER SHALL APPROVE THE CORRECTION OF THE ORIGINAL DEFICITENCIES UNLESS OTHERWISE APPROVED BY PLAN CHECK SUPERVISION. THE DEPARTMENT SHALL BE TO CORRECT ANY PROPERLY NOTED DEFICIENCIES WITHOUT CONSIDERATION OF THEIR SOURCE.

8. THE ENGINEER OR ARCHITECT OF RECORD SHALL DEVELOP ALL CHANGES RELATING TO THE STRUCTURAL SYSTEMS. THE BUILDING DEPARTMENT SHALL REVIEW AND APPROVE ALL CHANGES TO THE APPROVED PLANS AND SPECIFICATIONS.

RESPONSIBILITIES

OWNER: - SHALL EMPLOY S.O. ENGINEER. S.O. ENGINEER TO BE ENGINEER OF RECORD UNLESS NOT POSSIBLE OR PRACTICAL.
- SHALL CALL FOR AND COORDINATE PRE-CONST. MEETING.
- SHALL NOTIFY CITY INSPECTOR FOR ANY S.O. ENGR. CHANGES (IN WRITING).
- SHALL CALL FOR AND COORDINATE NEW PRE-CONST. MEETING FOR NEW S.O. ENGR. WHEN A CHANGE OCCURS.
- SHALL PROVIDE NEW S.O. ENGR. WITH ALL RECORD COPIES OF ALL S.O. REPORTS.
- SHALL CONSULT S.O. ENGR. AND ENGR. OF RECORD ON ALL DISCHARGES OF DEPUTY INSPECTORS. DISCHARGE MUST BE JUSTIFIED (DISCHARGE FOR DOING HIS/HER JOB IS NOT AN ACCEPTABLE REASON). REPLACEMENT MUST BE APPROVED BY THE ENGR. OF RECORD.

STRUCTURAL DESIGNER: - SHALL ATTEND PRE-CONSTRUCTION MEETING WHETHER OR NOT HE/SHE IS THE S.O. ENGR.
- SHALL REMAIN RESPONSIBLE PARTY FOR ALL CHANGES EVEN IF NOT S.O. ENGINEER.

S.O. ENGR.: - SHALL SUBMIT VERIFICATION OF EMPLOYMENT BY OWNER TO INSPECTOR AT BEGINNING OF PROJECT BEFORE FIRST MEETING.
- SHALL PRESIDE OVER PRE-CONST. AND ALL OTHER MEETINGS.
- SHALL MAKE A RECORD OF ALL MEETINGS TO INCLUDE ATTENDEES OF THE PRE-CONSTRUCTION MEETING.
- SHALL PROVIDE REPORT OF THE PRE-CONSTR. MEETING.
- SHALL MAKE SITE VISIT AT ALL SIGNIFICANT STAGES OF CONSTRUCTION EVEN IF NOT LISTED IN CONST. STAGES ABOVE.
- SHALL IDENTIFY ALL GROSS ERRORS AND OMISSIONS IN THE MAJOR ELEMENTS AND CONNECTIONS OF THE STRUCTURE.
- SHALL PREPARE ALL REPORTS ON CITY FORM (B&S 261).
- SHALL MAIL S.O. REPORTS TO CITY INSPECTOR.
- SHALL ATTACH FIELD COPY TO APPROVED PLANS.
- SHALL DISTRIBUTE COPIES OF S.O. REPORT TO OWNER, CONTRACTOR AND DEPUTY (WHEN APPROPRIATE).

CONTRACTOR: - SHALL ATTEND THE PRE-CONSTRUCTION MEETING ALONG WITH ALL PARTIES OF HIS/HER BUSINESS THAT MAY WORK ON PROJECT IN CAPACITY OF SUPERVISOR, FOREMAN OR SUPER INTENDENT
- SHALL CONSTRUCT STRUCTURAL SYSTEM AND MAKE STRUCTURAL CHANGES ONLY AFTER THEY ARE APPROVED IN WRITING BY ENGR. OF RECORD (CHANGES PROPOSED BY THE S.O. ENGR. IF DIFFERENT FROM ENGR. OF RECORD DOES NOT CONSTITUTE APPROVAL.)
- SHALL NOTIFY S.O. ENGR. WHEN DESIGNATED STAGES OCCUR(S).
- SHALL STOP WORK PROGRESS UNTIL REQ. SITE VISIT, REPORT AND CITY INSPECTION IS COMPLETED SATISFACTORILY.
- SHALL CORRECT ALL DEFICIENCIES NOTED BY S.O. ENGR. AND/OR ENGINEER OF RECORD.
- SHALL CONSULT OWNER, S.O. ENGR. AND ENGR. OF RECORD ON ON ALL DISCHARGES OF DEPUTY INSPECTORS. DISCHARGE MUST BE JUSTIFIED (DISCHARGE FOR DOING HIS/HER JOB IS NOT AN ACCEPTABLE REASON). REPLACEMENT MUST BE APPROVED BY THE ENGR. OF RECORD.

DEPUTY INSPECTOR: - SHALL ATTEND PRE-CONSTRUCTION MEETING(S).
- SHALL CONTINUOUSLY INSPECT STRUCTURAL SYSTEM FOR COMPLIANCE WITH THE APPROVED PLANS.
- SHALL BE RESPONSIBLE TO THE S.O. ENGR. (AND OWNER) NOT THE CONTRACTOR. IF DISCHARGED BY CONTRACTOR AND/OR OWNER BEFORE HIS/HER WORK IS COMPLETED, DEPUTY INSPECTOR SHALL CONTACT S.O. ENGR. AND/OR ENGR. OF RECORD FOR FINAL APPROVAL OF DISCHARGE (SEE NOTES UNDER OWNER AND AT LEFT FOR ADDITIONAL INFORMATION).
- SHALL IDENTIFY ALL ERRORS AND OMISSIONS TO THE S.O. ENGR. AND ENGR. OF RECORD (IF DIFFERENT) IN ADDITION TO CONTRACTOR.

CITY INSPECTOR: - SHALL INSPECT PROJECT FOR COMPLIANCE WITH THE APPROVED PLANS.
- SHALL INSPECT TO VERIFY THAT ALL REPORTED DEFICIENCIES REPORTED ARE CORRECTED.
- SHALL REFER ALL DISPUTED DEFICIENCIES TO PLAN CHECK SUPERVISOR.
- SHALL NOTIFY ARCH. AND/OR ENGR. FOR ALL CODE VIOLATIONS WHETHER OR NOT REPORTED AS DEFICIENCIES.
- SHALL NOTIFY CONTRACTOR WHEN AN ADDITIONAL S.O. SITE VISIT IS REQ.
- SHALL ALLOW WORK TO PROGRESS IF REPORTED DEFICIENCIES ARE CORRECTED AND MINOR IN NATURE WITH OUT FOLLOW-UP S.O. WHEN CITY INSPECTOR HAS VERIFIED THE CORRECTIONS BY INSPECTION.
- SHALL APPROVE FINAL ONLY AFTER FINAL S.O. REPORT IS RECEIVED FROM S.O. ENGR. INDICATING "FINAL" (OR IF WRITTEN LETTER).

REVISIONS | BY

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STRUCTURAL OBSERVATION

TWO STORY SINGLE FAMILY RESIDENCE
901 LAUREL CYN.
LA, CA 90046 FOR:
L.I. INVESTMENTS, LLC

REGISTERED PROFESSIONAL ENGINEER
ROSS DOWNEY
No. SE2628
12-31-13
STATE OF CALIFORNIA

Date 12-18-12
Scale
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Of

MISC. / GENERAL

1. SHORING OF STRUCTURAL SYSTEMS AND FOUNDATION EXCAVATIONS IS THE RESPONSIBILITY OF THE CONTRACTOR. COMPLETE SHORING PLANS AND CALCULATIONS (WHEN REQUIRED BY BUILDING AND SAFETY) SHALL BE SUBMITTED FOR PLAN-CHECK PRIOR TO THAT WORK STARTING FOR THE NECESSARY APPROVALS.

2. SUBSTITUTIONS OF STRUCTURAL MATERIALS, MANUFACTURERS, FABRICATORS, ETC. IS NOT PERMITTED WITHOUT WRITTEN APPROVAL BY THE STRUCTURAL ENGINEER AND BUILDING DEPARTMENT(S) WITH APPROPRIATE JURISDICTION. SINCE THE STRUCTURAL NEEDS OF THE PUBLIC TAKE PRECEDENCE AND SINCE IT IS BEYOND THE CAPABILITY OF THIS ENGINEER TO INCLUDE ALL MANUFACTURERS IN ITS SPECIFICATIONS, SUBSTITUTIONS REQUIRE REVIEW SUCH THAT EACH SUBSTITUTION DOES IN FACT MEET THE STRUCTURAL NEEDS OF THE STRUCTURE FOR WHICH THESE PLANS AND SPECIFICATIONS ARE PREPARED. ARCHITECT(S), CONTRACTOR(S), OWNER(S), ETC. SHALL PROVIDE MANUFACTURER(S) SPECIFICATIONS AND ANY OTHER PERTINENT INFORMATION, STRUCTURAL OR OTHERWISE, ALONG WITH ALL PERTINENT ICBO REPORTS (IN L.A. CITY, RR'S SHALL ALSO BE PROVIDED) TO THE STRUCTURAL ENGINEER FOR APPROVAL. ALLOW LEAD TIME AS THESE MATERIALS REQUIRE REVIEW AND MAY IN SOME CASES REQUIRE ADDITIONAL STRUCTURAL CALCULATIONS.

3. CONTRACTOR SHALL VERIFY ALL DIMENSIONS BETWEEN ALL PLANS AND REPORT ANY DISCREPANCIES TO THE ARCHITECT AND/OR STRUCTURAL ENGINEER FOR REVIEW PRIOR TO PLACEMENT OF ANY CONCRETE OR ANY OTHER MATERIAL.

4. CONTRACTOR SHALL COORDINATE ALL SUB-TRADES FOR LOCATIONS OF OPENINGS, INSERTS, CASTS, PASS THROUGH(S), ETC. TO INCLUDE BUT NOT LIMITED TO PLUMBING, ELECTRICAL, MECHANICAL, ETC. PRIOR TO PLACEMENT OF ANY CONCRETE OR OTHER MATERIALS.

ABBREVIATIONS

ONLY STANDARD ABBREVIATIONS ARE USED AND LISTED HERE FOR CLARITY. MANUFACTURER'S NOMENCLATURE (AS IN TYPE OR MODEL NO.) WHICH USE ABBREVIATIONS ARE NOT LISTED. UNLESS SPECIFIED OTHERWISE, ALL HARDWARE NOT IDENTIFIED IS ASSUMED TO BE SIMPSON. EX. AN MST48 IS A MEDIUM STRAP 48" LONG. IT IS NOT LISTED BELOW BECAUSE IT IS A SIMPSON HARDWARE.

BECAUSE INTERPRETATION IS ALWAYS A CONCERN, THESE ABBREVIATIONS ARE LISTED TO MINIMIZE ERROR IN INTERPRETATIONS. IF AN ITEM OF CONCERN IS LOT LISTED BELOW OR IS NOT FULLY UNDERSTOOD BY THE PLANS, SPECIFICATIONS AND/OR DETAILS, THEN THE CONTRACTOR, SUBCONTRACTOR OR OWNER SHOULD CALL THE STRUCTURAL ENGINEER FOR CLARIFICATION.

A.B.	ANCHOR BOLT
A.S.T.M.	AMERICAN STANDARD TESTING MATERIAL
BLK.	BLOCK (WOOD FRAMING OR MASONRY UNITS)
BLKG.	BLOCKING (WOOD FRAMING)
BM.	BEAM
BOTT.	BOTTOM
B.W.	ELEVATION BOTTOM OF WALL (AS IN FINISHED GRADES)
C/C	CENTER TO CENTER OR ON CENTER
C.J.	CEILING JOIST
CANT.	CANT CANTILEVER
CLR.	CLEAR
CONC.	CONCRETE
CONT.	CONTINUOUS
DBL.	DOUBLE
D.F.	DOUGLAS FIR
DIAM.	DIAMETER
E OR (E)	EXISTING
E.W.	EACH WAY
F.J.	FLOOR JOIST
F.G.	FINISH GRADE
FLR.	FLOOR
FRM.	FRAME AS IN STEEL FRAME OR WOOD FRAMING
FRMG.	FRAMING
FT.	FOOT OR FEET
FTG	FOOTING(S)
GR.	GRADE
HNGR.	HANGER (JOIST OR BEAM HANGER)
I.C.B.O.	INTERNATION CONFERENCE OF BUILDING OFFICIALS
JST.	JOIST
LBS.	POUNDS
MAX.	MAXIMUM
MIN.	MINIMUM
M.L.	TRUSS JOIST MICRO-LAM (PLYWOOD BEAM)
N OR (N)	NEW (AS IS TYPICALLY USED IN REMODELS)
N/A	NOT APPLICABLE OR NOT APPROPRIATE
N.T.S.	NOT TO SCALE
O/C	ON CENTER OR CENTER TO CENTER
PC	PIPE COLUMN
PLF	POUNDS PER LINEAR FOOT
P.S.I.	POUNDS PER SQUARE INCH
R.J.	ROOF JOIST (FLAT ROOFS)
R.R.	ROOF RAFTER (SLOPED ROOFS)
REINF.	REINFORCEMENT
REQ.,REQ'D.	REQUIRED
SIMP.	SIMPSON
SPECS.	SPECIFICATIONS
SQ.	SQUARE
SQ FT	SQUARE FOOT (OR FEET)
S.S.	SELECT STRUCTURAL
STL.	STEEL
S.W.	SHEAR WALL
T & G	TOUNGUE AND GROOVE
T.N.	TOE NAIL
TS	TUBE STEEL
TJ	TRUSS JOIST
T.JI	TRUSS JOIST "I" PLYWOOD WEB
T.JL	TRUSS JOIST "L" OPEN WEB
T.O.C.	ELEVATION TOP OF CONC.
T.O.W.	ELEVATION TOP OF WALL (AS IN FINISH GRADES)
TYP.	TYPICAL
U.N.O.	UNLESS NOTED OTHERWISE
WBX10	IS A WIDE FLANGE STL BM, 8" NOMINAL DEPTH AND 10 LBS/FT

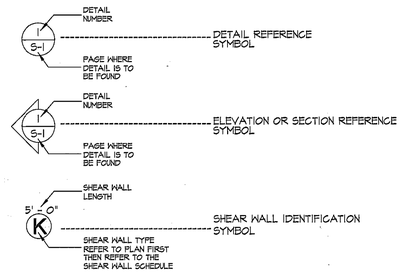
SYMBOLS

SYMBOLS AS ABBREVIATIONS

℄ ---------- CENTER LINE Φ ---------- DIAMETER

d ---------- PENNY □ ---------- SQUARE

SYMBOLS



CONCRETE:

1. CONCRETE STRENGTHS AT 28 DAYS SHALL BE AS FOLLOWS:
   - A. CONTINUOUS FOOTINGS ---------- 2500 PSI
   - B. PAD FOOTINGS ---------- 2500 PSI
   - C. GRADE BEAMS ---------- 3000 PSI (DEPUTY INSPECTION REQ.)
2. CEMENT SHALL BE TESTED, TYPE I PORTLAND CEMENT.
3. AGGREGATE SHALL BE MAXIMUM OF 1 1/2" FOR FOOTINGS AND 1" FOR ALL OTHER WORK AND SHALL CONFORM TO ASTM-C33.
4. REINFORCEMENT SHALL CONFORM TO ASTM-A615 (EXCEPT THAT REINF. THAT REQUIRES WELDING SHALL BE ASTM-A706 WELDABLE) AND SHALL BE BILLET STEEL, CLEAN AND UNRUSTED AND BE OF THE FOLLOWING GRADES:
   - A. FOOTINGS #5 AND SMALLER ---------- GRADE 40
   - #6 AND LARGER ---------- GRADE 60
   - B. TIES AND STIRRUPS ---------- GRADE 40
   - C. WALL DOWELS FOOTG TO WALL/WALL TO DECK ---------- GRADE 40
   - D. ALL OTHER REINFORCEMENT #6 AND LARGER ---------- GRADE 60
5. REINFORCEMENT LAPS SHALL BE AS FOLLOWS:
   - 40 GRADE #6 AND SMALLER ---------- 40 X DIA.
   - #7 AND LARGER ---------- 40 X DIA.
   - 60 GRADE #5 AND SMALLER ---------- 40 X DIA.
   - #6, #7 AND #8 ---------- 50 X DIA.
   - #9 AND LARGER ---------- 60 X DIA. *

   * REDUCE TO 50 DIAMETERS WHEN USED IN 3000 PSI OR HIGHER CONCRETE GRADES
6. DOWELS SHALL BE PROVIDED FOR ALL VERTICAL & HORIZONTAL REINFORCEMENT IN WALLS, COLUMNS, ETC. OF SAME SIZE AND NUMBER OF THE LARGER OF TWO ITEMS BEING DOWELDED FROM, SUCH AS FOOTINGS, COLUMNS, SLABS, ETC. ALSO DOWELS ARE REQUIRED ACROSS ALL COLD JOINTS AND BETWEEN STEPS AND WALLS/SLABS ETC.
7. WELDED WIRE FABRIC SHALL CONFORM TO ASTM-A185 AND LAP MIN. OF 6" ALL EDGES.
8. REINFORCEMENT CLEARANCES SHALL BE AS FOLLOWS:
   - CONCRETE AGAINST EARTH (UNFORMED) ---------- 3" CLEAR
   - CONCRETE AGAINST EARTH (FORMED) ---------- 2" CLEAR
   - BETWEEN BARS
   - #8 AND SMALLER ---------- 1" CLEAR
9. BEFORE PLACING ANY CONCRETE, CONTRACTOR SHALL COORDINATE WITH ALL TRADES TO ENSURE PROPER PLACEMENT OF ALL OPENINGS, SLEEVES, INSERTS, DEPRESSIONS, ETC.
10. REMOVAL OF FORMS SHALL CONFORM TO THE FOLLOWING:
    - A. VERTICAL SURFACES ---------- 7 DAYS
    - B. HORIZONTAL SURFACES ---------- 56 DAYS *

* THE OWNER WISHES TO LEAVE FORM UP LONGER DUE TO INCREASED PERFORMANCE OF DECK DEFLECTION. REMOVE PLYWOOD AND RESHORE WITH 50% PROPS WITHIN 3 HOURS ONE BAY AT A TIME OKAY AFTER 15 DAYS. COMPRESSION TEST RESULTS OVER 3000 PSI DOES NOT CONSTITUTE AUTHORITY TO REMOVE SHORING EARLY.

TIMBER:

A. LUMBER GRADES / STRESSES

1. ALL LUMBER SHALL BE STRESS GRADED DOUGLAS FIR (COASTAL REGION) UNLESS NOTED OTHERWISE AND CONFORM TO:
   - A. 2X4, 3X4, 2X6 & 4X4 STUDS (STUD GRADE) -- fb = 675 PSI E = 1400 KSI
   - B. 4X4, 4X6, 4X8 POST (NO. 1) ---------- fb = 1000 PSI E = 1700 KSI
   - C. 2X4, 3X4, 4X4 JOIST (NO. 2) ---------- fb = 1510 PSI E = 1600 KSI
   - 2X6 JOIST (NO. 2) ---------- fb = 1310 PSI E = 1600 KSI
   - 2X8 JOIST (NO. 2) ---------- fb = 1210 PSI E = 1600 KSI
   - 2X10 JOIST (NO. 2) ---------- fb = 1105 PSI E = 1600 KSI
   - 2X12 JOIST (NO.2) ---------- fb = 1005 PSI E = 1600 KSI
   - D. 4X, BEAMS AND STRINGERS (NO. 2) --------- fb = 875 PSI E = 1600 KSI
   - E. 4X, BEAMS AND STRINGERS (NO. 1) --------- fb = 1000 PSI E = 1600 KSI
   - F. 6X, 8X, 10X, BEAMS AND STRINGERS (NO. 1)---- fb = 1350 PSI E = 1600 KSI
   - G. 6X, 8X, 10X, POSTS (NO. 1) ---------- fb = 1200 PSI E = 1600 KSI
   - H. GLU-LAMINATED BEAMS (S.S. GRADE) 24F-E12 fb = 2400 PSI E = 1800 KSI

   NOTE: GRADE SHOWN ABOVE ARE MINIMUM, BETTER GRADES ARE ALLOWED WITHOUT WRITTEN PERMISSION BASED UPON THE FOLLOWING ORDER, UTILITY BEING WORST AND SELECT STRUCTURAL BEING BEST 2X, 3X, & 4X 6X AND LARGER
   - a. SS (SELECT STRUCTURAL)
   - b. NO. 1
   - c. NO. 2
   - d. NO. 3
   - e. STUD
   - f. STANDARD
   - g. UTILITY
2. fb STRESSES SHOWN ARE WITHOUT ANY FACTORS.

B. FRAMING

1. ALL STUDS ARE 2X4 @ 16" O/C U.N.O. FIRST FLOOR OF A THREE OR MORE STORY BUILDING SUPPORTING TWO FLOORS (OR MORE) AND A ROOF SHALL BE 3X4 OR 2X6 STUDS @ 16" O/C.
2. EXTERIOR WALLS OVER 10'-0" CLEAR UP TO 14'-0" SHALL BE 2X6 STUDS @ 16" O/C U.N.O.; UP TO 16'-0" SHALL BE 2X6 STUDS @ 12" O/C; OVER 16'-0" SHALL BE 2X8 STUDS @ 16" O/C. EXTERIOR WALLS OVER 20'-0" SHALL BE AS SPECIFIED IN PLANS.
3. INTERIOR WALLS UP TO 14'-0" SHALL BE 2X4 STUDS @ 16" O/C U.N.O.; UP TO 20'-0" SHALL BE 2X6 @ 16" O/C. OVER 20'-0" SHALL BE AS INDICATED IN PLANS.
4. ALL LUMBER IN DIRECT CONTACT WITH CONCRETE OR MASONRY SHALL BE PRESSURE TREATED DOUGLAS FIR WITH STRESS GRADES AS SPECIFIED ABOVE.
5. ALL FLUSH FRAMING SHALL BE SEATED IN AN APPROVED SIMPSON JOIST HANGER OR EQUIVALENT (SEE SUBSTITUTION NOTES).
6. BEAMS LAMINATED OR MULTIPLE JOIST SHALL CONFORM TO THE FOLLOWING:
   - A. TWO JOISTS SHALL BE SPIKED WITH 16d SINKERS @ 12" O/C STAGGERED.
   - B. THREE OR MORE JOISTS SHALL BE BOLTED WITH 1/2" DIA. BOLTS @ 18" O/C STAGGERED.
   - C. LAMINATED BEAMS CONFORMING TO ITEM 1.F ABOVE MAY BE SUBSTITUTED FOR ANY BEAM OF EQUAL NET SIZE WITHOUT WRITTEN APPROVAL BY THE ENGINEER PROVIDED THEY ARE BOLTED WITH 1/2" DIA. BOLTS @ 16" O/C FOR 4X OR LARGER AND/OR FOLLOWS A. & B. ABOVE FOR MULTIPLE JOISTS.
7. POSTS MAY SEAT ON SILL PLATE U.N.O.
8. ALL FLOOR JOISTS UNDER PARALLEL PARTITIONS (NONBEARING) SHALL BE DOUBLED AS SPECIFIED IN ITEM 6A. ABOVE. PARALLEL WALLS 6'-0" OR LESS IN LENGTH NEED NOT BE CONSIDERED FOR DOUBLED JOIST, HOWEVER WHERE TWO OR MORE WALLS PARALLEL AND COINCIDE WITH A COMBINED LENGTH OF OVER 6'-0" SHALL BE DOUBLED EVEN IF EACH WALL IS LESS THAN 6'-0".
9. USE DOUBLE STUDS UNDER ALL 4X AND DOUBLED JOIST BEAMS (NOT NECESSARY AT HEADERS U.N.O.) AND THREE STUDS UNDER ALL 6X BEAMS U.N.O.
10. GABLE END WALLS TO HAVE CONT. STUDS TO ROOF. EXCEPTION: WHEN CEILING JOIST ARE PROVIDED WHERE WALL LENGTH BET. CROSS WALLS DO NOT EXCEED 12' AND NOMINAL WALL PLATES ARE BRACED TO RIDGE WITH 2X6 @ 45 DEG. & 3-16d EA. END.

C. WSP / DIAPHRAGMS

1. ALL WSP SHALL COMPLY WITH THE FOLLOWING:
   - A. ALL WSP SHEATHING SHALL BE MARKED C.D.X. BY THE D.F.P.A.
   - B. ALL HORIZONTAL WSP DIAPHRAGMS (I.E., ROOFS AND FLOORS) SHALL BE LAID FACE GRAIN PERPENDICULAR TO JOIST AND STAGGERED (SEE WSP LAYOUT DETAILS IN PLANS).
   - C. ALL FLOOR SHEATHING SHALL BE ONE OF THE FOLLOWING, UNLESS NOTED OTHERWISE IN PLANS (WHERE NOTED IN PLANS THAT BLOCKING IS REQUIRED, IT IS REQUIRED FOR STRESS PURPOSES AND SUBSTITUTION BY ONE OF THE OTHER TWO BELOW IS NOT ALLOWED).
     - a. T & G WSP OR
     - b. 1 1/2" LIGHT WEIGHT CONCRETE OR REGULAR CONCRETE OR
     - c. BLOCK ALL EDGES (BLOCKING SPECIFIED IN PLANS TAKES PRECEDENCE).
   - D. ALL WSP SHALL BE PS 1-95, DOUGLAS FIR-LARCH
   - E. ALL ROOF SHEATHING SHALL BE CDX WSP AND NAILED AS FOLLOWS:

     LIGHT WEIGHT ROOF (ASPHALT, WOOD, METAL, BUILT-UP, ETC.) USE 1/2" WSP USE 8d COMMON AT 4" O/C BOUNDARY
     6" O/C EDGES
     12" O/C FIELD

     HEAVY ROOF (NORMAL WEIGHT OR MEDIUM WEIGHT CONCRETE TILE OR CLAY TILE OR ROOFS OVER 650 LB. PER 100 SQ. FT.) USE 3/4" WSP USE 10d COMMON AT 4" O/C BOUNDARY
     6" O/C EDGES
     12" O/C FIELD
   - F. ALL FLOOR SHEATHING SHALL BE CDX WSP AND NAILED AS FOLLOWS: 3/4" WSP USE 16d COMMON AT 4" O/C BOUNDARY
     6" O/C EDGES
     12" O/C FIELD
     - a. NOTE: FOR ROOF AND FLOOR SHEATHING, 8d COMMON NAILS FOR 1/2" WSP AND SMALLER AND 10d COMMON NAILS FOR THICKER WSP SHALL BE USED.

D. HARDWARE

1. ALL JOIST HANGERS SHOWN ON PLANS ARE BASED UPON APPROVED SIMPSON (MANUFACTURED BY SIMPSON FASTENERS, INC.). OTHER MANUFACTURED ITEMS MAY BE SUBSTITUTED PROVIDED THEY ARE OF EQUAL RATED TYPES AND ARE APPROVED BY LOCAL BUILDING DEPARTMENTS WITH APPROPRIATE ICBO (IN LOS ANGELES CITY, RR IS ALSO REQUIRED), SEE ADDITIONAL NOTES UNDER MISC. SECTION, APPROVAL BY THE STRUCTURAL ENGINEER IS REQUIRED.

F. BOLTS / SCREWS

1. ALL BOLTS IN WOOD SHALL BE A-307 STANDARD BOLTS WITH STANDARD CUT WASHERS EXCEPT WHEN USED WITH STEEL PLATES OR OTHER STEEL SHAPES. HOLES SHALL BE NOT MORE THAN 1/16" LARGER THAN THE BOLT DIAMETER.
2. LAG SCREWS SHALL BE TURNED NOT DRIVEN INTO PRE HOLE 2/3 TIMES SHANK DIAMETER.
3. BOLTS TO RETIGHTENED PRIOR TO COVERING BUILDING WITH PLASTER OR PLYWOOD.
17. 8d COMMON, 10d COMMON AND 16d SINKER CAN BE GUN NAILS AND/OR VINYL COATED.
17. MINIMUM DISTANCE FROM THE END OF A BOLTED TIMBER TO THE CENTER OF THE NEAREST BOLT HOLE SHALL BE SEVEN TIMES THE BOLT DIAMETER. MINIMUM DISTANCE FROM THE EDGE OF A BOLTED TIMBER TO THE CENTER OF THE NEAREST BOLT HOLE SHALL BE 1 1/2 TIMES THE BOLT DIAMETER FOR PARRALEL TO GRAIN LOADING AND FOUR TIMES THE BOLT DIAMETER FOR PERPENDICULAR TO THE GRAIN LOADING, AT THE LOADED EDGE ONLY.

E. NAILING

1. ALL NAILS SHALL BE APPROVED BY LOCAL BUILDING DEPARTMENT. ALSO, EXCEPT FOR PLYWOOD SHEAR WALLS AND FLOOR/ROOF DIAPHRAGMS, WHICH ARE COMMON (SEE NOTE 4a BELOW FOR PLYWOOD NAILING REQUIREMENTS), ALL NAILS SPECIFIED IN THESE PLANS ARE ASSUMED TO BE SINKERS OR SIMILAR COATED NAILS WITH DIAMETERS AND LENGTHS LESS THAN COMMON OR BOX, THEREFORE A 15% REDUCTION IN DESIGN VALUES IS TAKEN INTO ACCOUNT FOR THESE PLANS. AS FOR PLYWOOD NAILING, GUN NAILS ARE APPROVED PROVIDED THEY MEET CODE FOR PENETRATIONS. IN ADDITION, THE PLYWOOD NAILING FOR PLYWOOD SHEAR WALLS 'K' THROUGH '0' IN SHEAR WALL TYPE SCHEDULE (SEE PLANS) HAS SPECIFIC INFORMATION PERTAINING TO THE ISSUE OF SINKER OR GUN NAILS IN-LIEU-OF COMMON/BOX.
2. ALL NAILS FOR PLYWOOD FLOORS, ROOF, BALCONIES, ETC. (HORIZONTAL DIAPHRAGMS AND PLYWOOD SHEAR WALLS (VERTICAL DIAPHRAGMS) SHALL USE COMMON NAILS ONLY. ALL 8d COMMON NAILS SHALL HAVE A PENETRATION INTO BASE MATERIAL OF NOT LESS THAN 1 1/2 INCHES AND HAVE A DIAMETER EQUAL TO THAT OF US WIRE GAUGE 10 1/4 OR 0.131 INCHES AND ALL 10d NAILS SHALL HAVE A MINIMUM PENETRATION INTO BASE MATERIAL OF NOT LESS THAN 1 5/8 INCHES AND HAVE A DIAMETER EQUAL TO THAT OF US WIRE GAUGE 9 OR 0.148 INCHES. GUN NAILS ARE PERMITTED PROVIDED THEY MEET THESE MINIMUM REQUIREMENTS (SEE ALSO SHEAR WALL SCHEDULE).

G. NAILING SCHEDULE

1. UNLESS NOTED OTHERWISE IN THE PLANS (SEE NOTE 4a, 6E AND 6F ABOVE) ALL NAILS SHALL BE SINKERS AND CONFORM TO THE FOLLOWING NAILING SCHEDULE. NOTE THAT A 15% REDUCTION HAS BEEN TAKEN IN THE FOLLOWING SCHEDULE.
   - 1. JOIST TO SILL OR GIRDER, TOENAIL ---------- 3-10d
   - 2. BRIDGING TO JOIST, TOENAIL EACH END ---------- 2-10d
   - 3. 1X6 SUBTILER OR LESS TO EACH JOIST, FACE NAIL ---------- 2-10d
   - 4. WIDER THAN 1X6 SUB FLOOR TO EACH JOIST, FACE NAIL ---------- 3-10d
   - 5. 2" SUB FLOOR TO JOIST, BLIND AND FACE NAIL ---------- 2-16d
   - 6. SOLE PLATE TO JOIST OR BLOCKING, FACE NAILING 16d @ 16" o/c
   - 7. TOP PLATE TO STUD, END NAIL ---------- 2-16d
   - 8. STUD TO SOLE PLATE ---------- 4-10d TOE OR 2-16d END NAIL
   - 9. DOUBLE STUDS, FACE NAIL ---------- 16d @ 24" o/c
   - * 10. DOUBLED TOP PLATES, FACE NAIL ---- 16d @ 6" o/c
   - 11. TOP PLATES, LAPS AND INTERSECTIONS, FACE NAIL ---------- 2-16d
   - 12. CONTINUOUS HEADER, TWO PIECES (ALONG EACH EDGE) ---------- 16d @ 24" o/c
   - 13. CEILING JOIST TO PLATE, TOENAIL ---- 3-10d
   - 14. CONTINUOUS HEADER TO STUD TOENAIL ---------- 4-10d
   - 15. CEILING JOIST, LAPS OVER PARTITIONS, FACE NAIL ---------- 3-16d
   - 16. CEILING JOIST PARALLEL RAFTERS, FACE NAIL ---------- 3-16d
   - 17. RAFTER TO PLATE, TOENAIL ---------- 3-10d
   - 18. 1" BRACE TO EACH STUD AND PLATE, FACE NAIL ---------- 2-10d
   - 19. 1X8 SHEATHING OR LESS TO EACH BEARING, FACE NAIL ---------- 2-10d
   - 20. WIDER THAN 1X8 SHEATHING TO EACH BEARING, FACE NAIL ---------- 3-10d
   - 21. BUILT-UP CORNER STUDS ---------- 16d @ 24" o/c
   - 22. 2" PLANKING (AT EACH BEARING) ---------- 2-16d

* MIN. 16' LENGTHS W/ 8' LAPS (TYP.) ALL EXT. WALLS AND SHEAR WALL LINES

EQUIVALENCY OF WOOD STRUCTURAL PANELS

EVERY MENTION OF PLYWOOD IN THE 1991 UBC HAS NOW BEEN REPLACED WITH THE TERM "WOOD STRUCTURAL PANEL". THIS INCLUDES THE IMPORTANT DIAPHRAGM AND SHEAR WALL TABLES. THE CODE NOW RECOGNIZES PROPERLY GRADE STAMPED ORIENTED STRAND BOARD, WAFER BOARD, AND COMPOSITE PANELS AS EQUAL IN PERFORMANCE CHARACTERISTICS TO ALL VENEER PLYWOOD. THIS DOES NOT MEAN THAT SUBSTITUTIONS CAN BE MADE IN THE FIELD OR PLAN CHECK WITHOUT THE ENGINEER OR ARCHITECT OF RECORD'S APPROVAL. THESE PLANS REFLECT THE RECENT CHANGE IN TERMINOLOGY AND WILL NOW REFER TO PLYWOOD WITH THE ACRONYM "WSP" WHICH IS SHORT FOR "WOOD STRUCTURAL PANEL".

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REGISTERED PROFESSIONAL ENGINEER
ROSS DOLLEY
No: SE2628
STRUCTURAL
1-31-13
STATE OF CALIFORNIA

Date	12-18-12
Scale	
Drawn	hrd
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Of	

FOUNDATIONS:

1. THE FOLLOWING APPLIES TO THIS PROJECT:

A) THIS PROJECT WAS PREPARED WITHOUT SOILS REPORT. SOIL IS ASSUMED CLAYEY AND EXPANSIVE.

THE DESIGN WAS BASED UPON THE FOLLOWING:

B) BEARING: FOR CONTINUOUS FOOTINGS: A SOIL BEARING VALUE OF 1000 PSF WAS USED IN ACCORDANCE WITH CODE. NO INCREASE FOR WIDTH OR DEPTH ALLOWED.

C) BEARING: FOR ISOLATED PAD FOOTINGS: A SOIL BEARING VALUE 1000 PSF WAS USED IN ACCORDANCE WITH CODE. NO INCREASE FOR WIDTH OR DEPTH ALLOWED.

D) PASSIVE: 300 PER SQUARE FOOT PER FOOT OF DEPTH TO A MAX. PASSIVE 3000.

E) COEFFICIENT OF FRICTION: .3

2. ALL EXCAVATIONS AND FOUNDATION WORK SHALL BE DONE UNDER THE DIRECTION OF THE SOILS ENGINEER.

3. THE SOILS ENGINEER SHALL INSPECT ALL FOOTING EXCAVATIONS PRIOR TO PLACING OF ANY CONCRETE.

4. ALL FOOTING SHALL BE 24" INTO COMPACT FILL.

5. ALL BACKFILL SHALL BE RECOMPACTED UNDER THE DIRECTION OF THE SOILS ENGINEER. RECOMPACTION SHALL BE IN 6" LIFTS AND COMPACTED TO 90% OF MAX. DENSITY AS DETERMINED BY A.S.T.M. METHOD D-11557. SOILS ENGINEER TO PROVIDE DENSITY TESTING OF ALL COMPACTED FILL.

6. THE CONTRACTOR SHALL VERIFY ALL FIELD CONDITIONS PRIOR TO BIDDING PLANS.

7. THE SOILS ENGINEER IS TO APPROVE THE KEY AND/OR BOTTOM AND LEAVE A CERTIFICATE ON THE SITE FOR THE GRADING INSPECTOR. THE GRADING INSPECTOR IS TO BE NOTIFIED FOR BOTTOM INSPECTION BEFORE ANY FILL IS PLACED.

8. THE CITY GRADING INSPECTOR IS TO BE NOTIFIED BEFORE ANY GRADING BEGINS.

9. ALL CONCENTRATED DRAINAGE INCLUDING ROOF WATER SHALL BE CONDUCTED TO THE STREET IN AN APPROVED NON-EROSIVE NON COROSIVE DEVICE AT 2% MIN.

10. CONSTRUCTION CUTS SHALL CONFORM TO THE FOLLOWING:

A) IN ____N/A____, EXCAVATED VERTICAL CUTS TO A MAXIMUM DEPTH OF __N/A__ FEET. DEEPER CONSTRUCTION CUTS SHOULD BE LAID BACK AT A SLOPE OF N/A:1 (HORIZONTAL:VERTICAL).

B) IN ____N/A____, EXCAVATED VERTICAL CUTS TO A MAXIMUM DEPTH OF __N/A__ FEET. DEEPER CONSTRUCTION CUTS SHOULD BE LAID BACK AT A SLOPE OF N/A:1 (HORIZONTAL:VERTICAL).

11. NOT USED.

12. STAKE AND FLAG PROPERTY LINES IN ACCORDANCE WITH A LICENSED SURVEYOR.

13. NOT USED.

14. CONCRETE SUB-CONTRACTOR SHALL REVIEW FOUNDATION SOILS REPORT AND BE FAMILIAR WITH ITS CONTENTS. COPIES ARE AVAILABLE FOR REVIEW UPON REQUEST. CONTACT GENERAL CONTRACT, ARCHITECT, OWNER,ETC.

15. ALL FOUNDATION EXCAVATIONS SHALL BE CLEAN AND FREE OF LATENTS AND WATER (EXCEPT PRE-WATERING OF SOIL IN ACCORDANCE WITH THESE PLANS, SPECIFICATIONS AND SOILS REPORT). BEFORE EXCAVATING FOOTINGS, SCARIFY AND TREAT SOIL WITH TERMINIX OR APPROVED EQUAL.

16. ALL EXISTING UTILITIES THAT INTERFERE WITH THE STRUCTURAL FOUNDATIONS SHALL BE REMOVED AND RELOCATED OR BRIDGED OVER.

17. DIMENSIONS ON FOUNDATION PLANS ARE FOR CAST AGAINST FORMS, NOT EARTH CONDITIONS. NOTE: FOUNDATION CONTRACTOR IS TO SUPPLY ALL FORMING MATERIAL FOR HIS TRADE AND REMOVE SAME FROM PREMISES UPON COMPLETION OF CONCRETE AND/OR FOUNDATION.

18. FOUNDATION ANCHOR BOLTS SHALL BE 5/8" - O X 14 WITH 9" MINIMUM EMBEDMENT AND SPACED 48"O.C. MAXIMUM, 1'-0" FROM ENDS OF WALLS UNLESS NOTED OTHERWISE. SEE FOUNDATION PLANS. MINIMUM OF 2 ANCHOR BOLTS IN ANY ONE PLATE LENGTH.

MICRO-LAM (ML) AND VERSA-LAM (VL & VLP):

1. TRUSS JOIST MICRO-LAM'S: ALL BEAMS REFERRED TO AS MICRO-LAM (ML) SHALL BE TRUSS JOIST PLYWOOD LAMINATED SOLID WOOD BEAMS HAVING SECTIONS PROPERTIES FOR THE FOLLOWING ITEMS: (a) E = 2.0 MILLION PSI (b) BENDING FIBER STRESS = 2800 PSI (c) TENSION STRESS = 1850 PSI (d) COMPRESSION STRESS = 2700 PSI (e) PERPENDICULAR TO GRAIN BEARING STRESS = 500 PSI AND (f) SHEAR STRESS = 285 PSI.

ALL TRUSS JOIST ML'S USED WITHIN THE CITY OF LOS ANGELES, SHALL ALSO COMPLY WITH R.R. #24297 & R.R. #24317.

2. IN ADDITION TO THIS, ALL ML BEAMS SHALL CONFORM TO SPECIFICATIONS AND RECOMMENDATIONS OF THE MANUFACTURER(S) AND LOCAL BUILDING CODES, ICBO AND/OR OTHER RESEARCH REPORTS AS APPLICABLE. ANY DEVIATIONS FORM TRUSS JOIST OR BOISE CASCADE MANUFACTURERS OR THEIR ALLOWABLE STRESS (SEE 1 & 2 ABOVE) SHALL BE REPORTED TO THE STRUCTURAL ENGINEER FOR WRITTEN APPROVAL AND/OR SIZE CHANGES.

3. FOR DOUBLE ML BEAMS USE 2 ROWS OF 16d NAILS @ 12" O/C FOR BEAMS LESS THAN 14" DEEP AND 3 ROWS OF 16d @ 12" O/C FOR BEAMS 14" OR DEEPER.

4. FOR THREE OR MORE ML USE 1/2" DIAMETER BOLTS @ 16" O/C.

5. TRUSS JOIST PARALAMS (PL) OF EQUAL (OR EQUIVALENT SIZE) MAY BE SUBSTITUTED WITHOUT AUTORIAZATION PROVIDED THE TOTAL WIDTH AND DEPTH OF THE PL IS EQUAL OR GREATER THAN THE ML. L.A. CITY LICENSED FABRICATOR REQUIRED.

STRUCTURAL STEEL:

NOTE: ALL MOMENT FRAME MEMBERS (I.E. WIDE FLANGE COLUMNS AND BEAMS) SHALL BE IN ACCORDANCE WITH NOTES ON S-1.3A - SEE NOTES S-1.3A FOR STEEL SPECIFICATIONS AND OTHER RELATED COMPONENTS AND SHALL TAKE PRESCIDENCE OVER NOTES BELOW.

1. ALL WIDE FLANGES, CHANNELS, ANGLES AND PLATES SHALL BE A-36 STEEL, IDENTIFIED WITH MARK AND MILL CERTIFICATION. ALL FOREIGN STEEL SHALL BE TESTED FOR CHEMICAL AND PHYSICAL PROPERTIES.

2. ALL PIPE COLUMNS SHALL BE A-53 STEEL (SEE 1 ABOVE FOR ADDITIONAL REQUIREMENTS).

3. ALL TUBES SHALL BE A-36 STEEL (SEE 1 ABOVE FOR ADDITIONAL REQUIREMENTS).

4. LIGHT STEEL SHALL BE A-245 OR A-246.

5. ALL BOLTS SHALL BE UNFINISHED AMERICAN STANDARD REGULAR MINIMUM 1/2" DIAMETER WHEN USED IN CONJUNCTION WITH WOOD AND 3/4" DIAMETER WHEN USED IN CONJUNCTION WITH STEEL (U.N.O.). ALL BOLTS IDENTIFIED AS ANCHOR BOLTS (A.B.) SHALL BE HOOKED, MINIMUM 1/2" DIAMETER OR MACHINE BOLTS WITH PLATE WASHERS 2-1/2" SQUARE X 1/4" THICK, TACK WELDED TO BOLT HEAD.

6. ALL WELDING SHALL BE ARC TYPE AND SHALL CONFORM TO ASTM-A233 USING APPROVED PROCEDURE AND FOLLOWING THE RECOMMENDATIONS OF THE AISC AND AWS. THE WELDER SHALL BE A QUALIFIED ARC WELDER CERTIFIED BY THE LOCAL BUILDING DEPARTMENT.

7. FIELD TOUCH-UP PAINT ALL DAMAGED PAINTED AREAS, BOLTS AND WELDS.

8. FABRICATION BY CITY LICENSED FABRICATOR (BY CITY HAVING JURISDICTION OF CONSTRUCTION, AS REQUIRED BY CITY ORDINANCE).

9. FIELD WELDING SHALL HAVE SPECIAL (DEPUTY) INSPECTION U.N.O. L.A. CERTIFIED DEPUTY REQUIRED.

SPECIAL (DEPUTY) INSPECTIONS:

CONCRETE:

	Verification and Inspection Task:	Continuous	Periodically	References:
X	1. Inspection of reinforcing steel (including prestressing tendons) and placement of same.	-	X	ACI318:3.5, 7.1-7.7 (CBC 1913.4)
	2. Inspection of reinforcing steel welding in accordance with Table 1704.3, Item 5b.	-	X	AWS D1.4 ACI318:3.5.2
	3. Inspect bolts to be installed in concrete prior to and during placement of concrete where allowable loads have been increased (i.e. 2500 psi is base and does not require Special Inspection, therefore all grades higher than 2500 psi do require Special Inspection).	X	-	(CBC 1911.5)
	4. Verifying use of required design mix	-	X	ACI318: Ch. 4,5.2-5.4 (CBC 19104.2.2, 1913.2, 1913.3)
X	5. At the time fresh concrete is sampled to fabricate specimens for strength tests, perform slump and air content tests and determine the temperature of the concrete (for concrete 3000 psi or greater).	X	-	ASTM C172, C31 ACI318:5.6, 5.8 (CBC 1913.10)
X	6. Inspection of concrete and ~~shotcrete~~ placement for proper application techniques.	X	-	ACI318:5.9, 5.10 (CBC 1913.6, 1913.7, 1913.8)
	7. Inspection for maintenance of specified curing temperature and techniques.	-	X	ACI318:5.11-5.13 (CBC 1913.6, 1913.7, 1913.8)
	8. Not used:			
	9. Not used:			
	10. Not used:			
X	11. Inspect form work for shape, location and dimensions of the concrete being formed.	-	X	ACI318:5.11-5.13 (CBC 1913.6, 1913.7, 1913.8)

STRUCTURAL STEEL:

	Verification and Inspection Task:	Continuous	Periodically	References:
	1. Material Verification of High-Strength Bolts, Nuts and Washers:			Applicable ASTM, AISC 360, Sect. A3.3
X	a. Identification markings to conform to ASTM standards specified in the approved construction documents.	-	X	
X	b. Manufacturer's certificate of compliance req.	-	X	
	2. Inspection of High-Strength Bolting:			
X	a. Bearing type connection. specified in the approved construction documents.	-	X	AISC 360, Sect. M2.5 (CBC 1704.3.3)
	b. Slip-Critical connections:	X	X	
	3. Material verification of Structural Steel:			
X	a. Identification markings to conform to ASTM standards specified in the approved construction documents.	-	-	ASTM A6 or A568 (CBC 1708.4)
X	b. Manufacturer's certificate of mill test reports.	-	-	ASTM A6 or A568 (CBC 1708.4)
	4. Material verification of Weld Filler Material:			
X	a. Identification markings to conform to AWS specifications in the approved construction documents.	-	-	AISC 360, Sect. A3.5
X	b. Manufacturer's certificate of compliance req.	-	-	
	5. Inspection of Welding:			
X	a. Structural Steel:			
	1. Complete & Partial Penetration Groove Welds.	X	-	AWS D1.1 (CBC 1704.3.1)
	2. Multipass Fillet Welds.	X	-	
	3. Single-pass Fillet Welds > 5/16"	X	-	
	4. Single-pass Fillet Welds ≤ 5/16"	-	X	AWS D1.3
	5. Multipass Fillet Welds.	-	X	
	b. Reinforcing Steel (Rebar):			AWS D1.4 & ACI318:3.5.2
	1. Verification of weldability of reinf. steel other than ASTM A706 and verification that when specified A706 to be used that it is fact used.	-	X	
	2. Reinforcing steel-resisting flexural and axial forces in Intermediate (IMRF) and Special (SMRF) Moment Resisting Frames and boundary elements of special concrete shear walls and shear reinforcement.	X	-	
	3. Shear Reinforcement	X	-	
	4. Other Reinforcement	-	X	
	6. Inspection of steel joint details for compliance with approved construction documents:	-	X	(CBC 1704.3.2)
X	a. Details such as bracing and stiffening.			
X	b. Member locations.			
X	c. Application of joint details at each connection.			

a) Item 2. b. Slip-Critical (Friction) type bolts not used and moment frames have shear plates welded to beams, which precludes these types of bolts.

b) All items above can and should be performed by a Calif. Licensed Deputy Inspector and welding by both Ca. Lic. Deputy and Licensed by AWS Registered Deputy Inspector pre-approved by the City of Los Angeles, Owner and Engineer of Record.

REVISIONS	BY

HRD ENGINEERING
STRUCTURAL DESIGN AND DRAFTING
7463 VARNA AVE., SECOND FLOOR
N. HOLLYWOOD, CA 91605
PHONE NO. (805) 431-5415 - FAX NO. (805) 888-4840

STRUCTURAL SPECIFICATIONS

TWO STORY SINGLE FAMILY RESIDENCE
901 LAUREL CYN.
LA, CA 90046 FOR:
L.I. INVESTMENTS, LLC

REGISTERED PROFESSIONAL ENGINEER
ROSS DOWNEY
No: SE2628
STRUCTURAL
3-31-14
STATE OF CALIFORNIA

Date 12-18-12
Scale
Drawn hrd
Job
Sheet S-1.2
Of

STANDARD QUALITY ASSURANCE PLAN

I. PURPOSE

This Standard Quality Assurance (QA) Plan provides specifications, procedures, and illustrative details to comply with the requirements of the 2002 Los Angeles Building Code. The Quality Assurance requirements described in this Standard QA Plan are intended to promote public safety and welfare by standardizing inspections, tests, and all other applicable measures that ensure substantial compliance with the code performance objectives of steel moment frame connections.

II. HOW TO USE THIS STANDARD QA PLAN

To use this Standard QA Plan, follow the seven steps outlined below:

1. Standard QA Plan shall be attached to and made part of the structural Plans.
2. Engineer of Record shall identify the type of steel moment frame to be used in the building or structure by placing an "X" mark in the box below:

   ☐ SPECIAL MOMENT FRAME (SMF)

   ☐ INTERMEDIATE MOMENT FRAME (IMF)

   ☐ ORDINARY MOMENT FRAME (OMF)

3. All of the Quality Assurance components listed in this Standard QA Plan shall be applied to special moment frames, intermediate moment frames, and ordinary moment frames, unless noted otherwise herein.
4. Engineer of Record shall place the following note on the structural plans stating "All specifications, tables, and notes in the City of Los Angeles' Standard Quality Assurance Plan for Steel Moment Frames shall be part of these approved structural plans."
5. Engineer of Record shall sign and stamp the Standard QA Plan in the box provided at the lower right corner of each sheet.
6. Organize all reports to be reviewed and submitted to the City Building Inspector as required by Table 1 on Sheet 2.
7. Any deviations in the quality assurance program from this Standard Plan shall require a separate written approval by the Engineer of Record and the Department. The procedures, specifications and illustrative details as described in this Standard QA Plan shall not exempt the Engineer of Record from using engineering judgment in determining the suitability of applying this Standard QA Plan to any welded connection.

III. GENERAL REQUIREMENTS

1. Codes
   The design and construction of steel moment frames shall be in compliance with the following codes:
   a. 2002 City of Los Angeles Building Code,
   b. AISC Seismic Provisions for Structural Steel Buildings, Part I (LRFD) and Part III (ASD), dated May 21, 2002, and
   c. AWS D1.1/D1.1M:2002 Structural Welding Code - Steel.

2. Material Specifications
   a. Structural steel shall comply with UBC Standard 22-1 and the following ASTM standard specifications:
      i. Wide flange shapes......................ASTM A572 (50), A913 (50), A992
      ii. Continuity, doubler and column base plates, shear tabs....ASTM A36
      iii. Anchor bolts at column base plates................................ASTM F1554
      iv. Fabricate and erect structural steel in compliance with either the 2001 Edition of AISC "Load and Resistance Factor Design Specification for Structural Steel Buildings" or 1989 Edition of the AISC "Allowable Stess Design Specification for Structural Steel Buildings."
   b. High strength bolts shall comply with the following requirements and ASTM standard specifications:
      i. High strength bolts, nuts, and washers.................ASTM A325, A490
      ii. Shall be installed in accordance with the "Specifications for Structural Joints using ASTM A325 or A490 Bolts."
      iii. Shall be tighten to a snug tight condition that is at least the minimum proper tension and verified using a calibrated tension measuring device.
      iv. Shall be slip critical high strength bolts.
      v. All faying surfaces of connections with high strength fasteners shall be prepared as required for Class A per the 2002 AISC Seismic Provision, Section 7.2.
   c. Filler metal properties and specifications shall be as follows:
      i. Electrodes shall be of a low-hydrogen type conforming to AWS specifications as referenced in Table 7 on Sheet 2.
      ii. Filler metals shall be classified for nominal 70 ksi tensile strength.
      iii. The maximum permitted electrode diameter shall be per Table 5 on Sheet 2.
      iv. Filler metals shall have a minimum Charpy V-Notch (CVN) toughness of 20 ft-lbf at -20°F using AWS A5 classification test methods.
      v. The use of intermixed welds shall not occur unless it can be demonstrated by testing in accordance with AWS D1.1/D1.1M:2002 Section 4.
      vi. The parameters established by the electrode manufacturer shall be reflected in the WPS.
   d. Other materials not listed in UBC Standard 22-1 or LABC Chapter 35 are not permitted without specific approval from the Department. Steel having dual ASTM designation shall be clearly identified on each specific plan detail.

3. Welding Processes
   Structural welding shall be limited to the Shielded Metal Arc Welding or Flux Cored Arc Welding processes.

4. Base Metal Repairs or Restorations
   Any repair or restoration of base metal shall comply with all of the following:
   a. AWS D1.1/D1.1M:2002, Section 5.26, and ASTM A6/A6M-02, Section 9.2, 9.3, 9.4 and 9.5,
   b. Engineer of Record shall review and approve the WPS for repair procedures prior to welding,
   c. All welding shall be performed using low-hydrogen process or with SMAW using low-hydrogen electrodes,
   d. Provide continuous visual inspection by the Deputy Inspector, and
   e. Provide non-destructive testing.

5. Deviations From the Standard Quality Assurance Plan
   When deviations from the Standard QA Plan are made, comply with all of the following:
   a. Deviations from this Standard QA Plan shall be approved by the Deputy Inspector and City Building Inspector prior to commencement of work.
   b. Alternate procedures, specifications, or details shall be reviewed and approved by the Engineer of Record.
   c. Supplemental testing and additional specifications may be required to approve alternate procedures, specifications, or details.
   d. Conformance with all applicable provisions of the 2002 LABC and AWS D1.1/D1.1M:2002 is required.

IV. QUALITY ASSURANCE

1. Certification
   a. Inspectors shall be LADBS Certified Deputy Inspectors per LABC Section 1701.2 and Information Bulletin P/BC 2002-035 "Regulations Regarding Registration for Deputy and Controlled Activities Inspection." Employment shall be in accordance with Information Bulletin P/BC 2002-034 "Employment and Duties of a Registered Deputy Inspector."
   b. Welders shall be LADBS Certified Welders for the Structural Steel classification per LABC Section 1701.18.1, 2205.10, and Information Bulletin P/BC 2002-045 "Welder Certification Rules and Regulations."
   c. Shop welds shall be performed in an LADBS certified Fabricator's Shop per LAMC Section 96.204(g) and Information Bulletin P/BC 2002-042 "Application for Approval as Fabricator."
   d. Technicians performing NDT shall be certified for Level II in accordance with ASNT SNT-TC-1A 2001 Edition by a Testing Agency approved per LAMC Section 98.0503 and Information Bulletin P/BC 2002-058 "Guidelines for Recognition of Testing Agencies."

2. Pre-Construction Meeting
   a. The Owner (or owner's representative) shall arrange a pre-construction meeting(s) with the Engineer of Record (or Structural Observer designated by the Engineer of Record), the Contractor (or affected Sub-Contractor), and the Deputy Inspector to discuss and review welding procedures, bolting procedures, and inspection requirements for all welding and bolting operations.
   b. The City Building Inspector shall be notified of such meeting(s) and may participate at his/her discretion.
   c. Meeting record(s) shall be included in the first report submitted to the City Building Inspector.

3. Structural Observation
   Structural observation shall be performed in accordance with Information Bulletin P/BC 2002-024. The Structural Observer shall:
   a. Perform structural observation listed in Table 6 on Sheet 2.
   b. Perform structural observation prior to placement of decking, covering by fireproofing, encasement in concrete or placement of other finishes.
   c. Submit observation report(s) to the City Building Inspector at each stage observed and upon completion of the structural system.
   d. State in the report that the steel moment frame system substantiallya conforms with the approved structural plans and specifications.
   e. Use the Department's Structural Observation Report Form to report all observations. Structural Observation Report Form can be obtained at www.ladbs.org, keyword "Information Bulletin P/BC 2002-024".

4. Deputy Inspection
   The following are the basic Quality Assurance responsibilities of the Deputy Inspectors:
   a. Arrive on the job in sufficient time to verify the permit information, check for prior inspections and/or approvals by the City Building Inspector or previous Deputy Inspectors, check the quality of all materials and become familiar with the approved structural plans and specifications.
   b. Verify that structural steel delivered is from a fabricator currently licensed by the Department.
   c. Identify material from an offsite fabricator in accordance with LABC Section 2203 and compare to the approved plans and specifications.
   d. Verify that each steel piece is labeled with the approved fabricator's shop name and license number.
   e. Visual check shop welds, joint preparation, faying surfaces, indent stamps and color codes of high strength steel, excessive mill scale or lamination, and dimensional conformity with the approved plans.
   f. Ensure that welding complies with AWS D1.1/D1.1M:2002.
   g. Inspect, before any welding begins, joint preparation, fit-up, condition of surfaces to be welded, storage and use of electrodes, current license of all welders, and voltage/amperage of welding machines.
   h. Measure voltage/amperages near the arc with a hand held calibrated averaging type meter. The meter shall be calibrated not less than once a year. This equipment shall be used by the Fabricator, Erector, and Deputy Inspector.
   i. During welding operation, provide continuous inspection particularly on multiple pass welds to assure that each pass has been prepared correctly, preheat and interpass temperatures are maintained and that finished welds shall be the correct size and without rejectable discontinuities.
   j. Verify type and size of bolts and washers, check mill certificates, and verify faying surfaces are free of burrs, scale, rust, grease or anything that may inhibit full contact.
   k. Verify connections involving high strength bolts and welds are fabricated and erected in a sequence specified by the Engineer of Record.
   l. Verify high strength bolts are not welded or damaged by preheating.
   m. Verify washers are always installed with all bolts, except A-490 bolts which require washers under both elements.
   n. Verify that any deficiency noted in the Structural Observation Report Form has been corrected.
   o. Verify the Engineer of Record has approved the written welding procedure specification (WPS) prepared by the Fabricator or Erector. The WPS shall include the following:
      i. All applicable code requirements, this Standard Plan, and any other information necessary to produce the welds.
      ii. List the applicable base metal types and thicknesses.
      iii. List the welding joint details, including joint type, weld type, joint geometry, and applicable dimensions. Individual weld passes shall be identified in sketches and numbered to identify the sequence of their deposition (see Detail 13 on Sheet 3 for example). The sketches shall identify the maximum layer thicknesses and bead widths. In no case shall layer thicknesses exceed 1/4 inch nor shall the maximum bead widths exceed 5/8 inch.
      iv. List the welding processes.
      v. Specify the required welding positions.
      vi. List the filler metal per AWS D1.1 for electrode specification and classification (see Table 7 on Sheet 2), as well as information regarding shielding material to be used.
      vii. Indicate the minimum preheat and interpass temperatures (see Table 4 on Sheet 2) and post weld heat treatment.
      viii. List all applicable electrical characteristics for the welding process employed. WPS shall clearly indicate the specific values required for each welding pass. These electrical characteristics shall include at minimum the following:
         (1) Electrode diameter (see Table 5 on Sheet 2),
         (2) Type of current, and acceptable ranges of current measured in amperage,
         (3) Voltage,
         (4) Travel speed (range), and
         (5) Amperage, voltage and electrode extension (as applicable) shall be within the filler metal manufacturer's recommendations.
      ix. A copy of the electrode manufacturer's technical information with ID # listed shall be attached to the WPS .
   p. Weld joints not conforming to Chapter 3 of AWS D1.1/D1.1M:2002 must be tested by an approved testing agency and accepted by both the Engineer of Record and the Department's Material Control Section before the weld is performed. Material Control Section can be contacted at:

      LADBS Material Control Section
      221 N. Figueroa St., Suite 1540
      Los Angeles, CA 90012
      (213) 482-0380 or 1-888-LA-4BUILD

   q. Notify the Contractor, Engineer of Record, and City Building Inspector of any deviations or non-compliance with the approved WPS, plans or specifications.
   r. "Deputy Inspection Report Form B-94" shall be submitted on a weekly basis to the City Building Inspector and Engineer of Record, unless determined otherwise by the City Building Inspector.
   s. During the execution of the work, the Deputy Inspector shall not undertake or engage in any other task or occupation which will interfere with the proper performance of the duties of such inspection.

5. Electrode Storage and Atmospheric Exposure
   a. Electrodes are considered to be exposed to the atmoshpere if:
      i. the manufacturer's sealed electrode containers or packagings are opened or damaged, or
      ii. outside of baking or storage ovens.
   b. Modification or lubrication of electrodes are not permitted.
   c. Drying of electrodes in baking or storage ovens are permitted as recommended by the manufacturer.
   d. Electrodes shall be identified to facilitate monitoring of total atmospheric exposure time.
   e. Storage and atmospheric exposure of AWS A5.1-91/A5.5-96 low-hydrogen SMAW electrodes shall be in accordance with AWS D1.1/D1.1M:2002 Section 5.3.2.
   f. FCAW electrodes not consumed within 24 hrs of accumulated atmospheric exposure time shall not be used. Manufacturer's recommendations that show that drying effectively removes moisture and restores electrodes to their designated diffusible hydrogen levels are permitted.
   g. FCAW electrode welding suspended more than 8 hrs shall be removed from the machines and stored in an electrode wire baking or storage oven maintained at a temperature between 250° and 550°F, or as recommended by the electrode manufacturer.

6. Plastic Hinging Zone Protection
   a. The plastic hinging zone shall be identified diagrammatically, as illustrated in Detail 15 on Sheet 3, on the structural plans by the Engineer of Record.
   b. The Engineer of Record and Contractor shall be responsible for reviewing shop drawings of ALL relevant trades to ensure compliance. This shall be discussed and documented in pre-construction meetings.
   c. The Contractor shall be responsible for developing a program to ensure that all workers on the project, including their subcontractors, are aware of and understand this requirement. Failure to comply with these requirements may cause the replacement of steel.
   d. Plastic hinging zones shall be defined by permanent markings such as paint or ink.
   e. A note, as illustrated in Detail 15 on Sheet 3, shall be prominently placed on the structural plans (general note sheet and adjacent to moment frame detail) and the construction documents of ALL trades.
   f. Welded, bolted, screwed, or shot-in (powder driven) attachments for perimeter edge angles, shear studs, exterior facades, partitions, duct work, piping, or other connections shall not be permitted within the plastic hinging zones.
   g. Any penetrations or damage from temporary welded attachments within the plastic hinging zones shall be repaired as required by the Engineer of Record.
   h. Initially, the plastic hinging zone "Warning Sign", as illustrated in Detail 15 on Sheet 3, may be temporary. However, the temporary "Warning Sign" shall be replaced by a permanent "Warning Sign" before project completion. This sign and identification of the plastic hinging zone shall be maintained during construction; and may require repair after operations such as fireproofing.
   i. Signs shall be affixed to the beam and located within the plastic hinging zone. The City Building Inspector may accept alternate methods of attaching the "Warning Sign" to the plastic hinging zone.

7. Additional Charpy V-Notch Toughness (not required for OMF)
   Welds at the locations indicated below shall be made with filler metal having a CVN toughness of 20 ft-lbf at -20°F AND 40 ft-lbf at 70°F as determined by test procedure prescribed in the AISC Seismic Provisions, Appendix X "Weld Metal / Welding Procedure Specification Toughness Verification Test."
   a. Beam flanges to columns,
   b. Single plate shear connections to columns,
   c. Beam webs to columns, and
   d. Column splices.

8. Non-Destructive Testing (NDT) Requirements
   a. The minimum non-destructive testing at each weld joints or parts shall be conducted at the locations and frequencies as specified in Table 2 and Table 3 on Sheet 2 respectively.
   b. A copy of each NDT report shall be provided to the Contractor, Engineer of Record, Deputy Inspector, and City Building Inspector with the following information:
      i. Document the accepted and rejected welds, parts, or joints.
      ii. Identify the tested weld by piece mark and location in the piece.
      iii. Identify the tested weld location in the structure.
   c. NDT Technician shall perform the following tasks:
      i. Coordinate the NDT scope and schedule with the Deputy Inspector.
      ii. Perform NDT in a timely manner, so as not to hinder construction work, and to detect welding problems soon after occurrence so that corrective measures will be taken by the Contractor.
      iii. Mark the inspected and accepted welds, parts, and joints with a distinguishing mark o die stamp.
   d. Reduction Rate for NDT
      i. The rate of UT testing on CJP groove welds may be reduced if approved by the Engineer of Record and the Department. The NDT rate for an individual welder or welding operator may be reduced to 25%, provided the reject rate is demonstrated to be 5% or less of the welds tested for the welder or welding operator. A sampling of at least 40 completed welds for a job shall be made for such reduction evaluation.
      ii. The rate of MT testing on CJP groove welds may be reduced if approved by the Engineer of Record and the Department. The MT rate for an individual welder or welding operator may be reduced to 10%, provided the reject rate is demonstrated to be 5% or less of the welds tested for the welder or welding operator. A sampling of at least 20 completed welds for a job shall be made for such reduction evaluation. This reduction is not permitted on welds in the k-area, at repair sites, weld tab and backing removal sites and access holes.
      iii. Reject rate shall mean the number of welds containing rejectable defects divided by the number of welds completed.

9. Documentations
   The reports listed in Table 1 on Sheet 2 shall be submitted to the City Building Inspector.

V. WELDING PROCEDURES

1. Bottom Beam Flange Moment Connection Welding
   Welding the bottom flange to the column flange shall be completed in the flat welding position with the following sequence:
   a. Start welding from Side A (one side of the beam) with a maximum 1/4 inch thick root pass beyond the center of the joint on Side B (other side of the beam), reaching past the beam web through the weld access hole.
   b. After the arc is initiated, electrode travel shall progress toward the edge of the Side A beam flange, terminating on the Side A weld tab.
   c. The Side A root pass, and the root pass deposit on Side B, shall be thoroughly cleaned to allow the Deputy Inspector to verify that the resulting bead profile is suitable for obtaining good fusion by the subsequent root pass to be initiated from Side B. If the profile is not conducive to good fusion, the start of the first root pass shall be grounded, gouged, chipped, or otherwise prepared to ensure adequate profile to achieve fusion.
   d. Complete the root pass on Side B before any other weld passes are performed.
   e. The arc shall be initiated at the start of the first Side A root pass, and electrode travel shall progress toward the edge of the Side B beam flange, terminating on the Side B weld tab.
   f. The above sequence shall be repeated for subsequent weld layers, and each weld layer shall be completed on both sides of the joint before a new layer is deposited. The order of operations (Side A, then Side B, or vice versa) is not restricted and may vary for each weld layer. Weld passes shall be placed in horizontal layers. Each pass shall be thoroughly cleaned of slag and wire brushed. Each pass shall be visually inspected by the Deputy Inspector, as described above in Step (c).

2. Sequence for Welding at Multiple Locations
   When welding occur at multiple locations of welded steel moment frame connections, the following sequence shall be followed:
   a. Weld both top and bottom beam flanges prior to any supplemental welding to the beam web or shear tab.
   b. Engineer of Record shall review and approve all field welding sequences prior to the start of work.
   c. Field welding of web shear plates with bolts shall occur after field welding of beam flanges to column flange.
   d. High strength bolts shall be in the snug tight condition prior to welding.
   e. High strength bolts shall be fully tensioned upon completion of all welding activities.

3. Welding Technique
   a. Stringer beads shall be used during all welding operations. Maximum bead width, bead thickness, and layer thickness shall be considered. Weaving is not permitted, except when the WPS approved by the Engineer of Record limits electrode oscillation transverse to the weld axis to a maximum of:
      i. 3d for 1G/1F, 2G/2F, and 4G/4F weld positions, or
      ii. 5d for the 3G/3f position, where d = electrode diameter.
   b. Welding layers should progress from the face of the column flange outward toward the groove face of the beam flange as illustrated in Detail 13 on Sheet 3.

4. Preheat and Interpass Temperature
   a. The minimum preheat and interpass temperature requirements in Table 4 of Sheet 2 shall be observed. Special attention shall be given to AWS D1.1/D1.1M:2002 Section 3.5.1 and Section 5.6 for the thickness of the base metal to be welded.
   b. Preheat and all subsequent interpass temperatures shall be maintained during the welding operation for a distance at least equal to the thickness of the thicker welded part, but not less than 3", in all directions from the point of welding.
   c. Where plates are of different thickness, the higher minimum preheat and interpass temperature requirements of the thicker plate shall govern.
   d. Maximum preheat and interpass temperature shall not exceed the lesser of:
      i. 550°F, or
      ii. The maximum temperature recommended by the manufacturer.

5. Post Weld Heat Treatment
   Post weld heat treatment may reduce cracking tendencies due to possible hydrogen embrittlement. Post weld heat treatment shall be provided as follows:
   a. Apply heat in the 400°F to 600°F range after completion of welding.
   b. Complying with the conditions of AWS D1.1/D1.1M:2002 Section 3.14 and Section 5.8.
   c. Alternatively, the use of insulating blankets after the completion of welding is permitted to control the cooling of the connection to ambient temperature.

VI. WELDING AND FABRICATION DETAILS

1. Base Metal Joint Preparation
   a. Base metal preparation shall be in comply with AWS D1.1/D1.1M:2002 Section 5.15.
   b. All beam flange to column flange welds are to be made with an AWS prequalified CJP groove welded joint detail.
   c. Bevel, fit-up and detail tolerances shall be as required by the selected prequalified welded joint detail.
   d. Whenever possible, use the AWS prequalified CJP groove welded joint detail as illustrated in Detail 14 on Sheet 3 and the following:
      i. Use single bevel CJP groove welds made with a 30° groove angle or double bevel CJP groove welds when flange thickness exceed 1-1/2 inch.
      ii. "As Fit-Up" and "As Detailed" shall be the maximum tolerances.
      iii. Meet all prequalified WPS variables in Table 5 on Sheet 2.

2. Weld Access Hole
   a. Where weld access holes are provided, they shall be detailed as illustrated in Detail 12 on Sheet 3.
   b. Notches and gouges shall be repaired following a WPS approved by ther Engineer of Record.
   c. Weld access holes shall be prepared by grinding to a suitable finish in accordance with AISC LRFD Specification Section J1.6 and provided with a minimum radius of 3/8 inch as illustrated in Detail 12 on Sheet 3.

3. Backing Bar
   a. Backing bar used in connections with a CJP groove weld of beam flange to column flange shall be removed except that top flange backing bar attached to the column by a continuous fillet weld on the edge below thee CJP groove weld need not be removed.
   b. Following removal of backing bar, the root pass shall be backgouged to sound weld metal, and back welded. A reinforcing fillet weld with a minimum leg size of 5/16 inch or the root opening plus 1/16 inch, whichever is larger, shall be provided. The reinforcing fillet weld need not be grounded.
   c. When backing bar is other than AWS D1.1/D1.1M:2002 Table 3.1 and Section 5.2.2 approved base metal is used, the following shall apply:
      i. Ceramic, flux or glass tape may be used provided the manufacture's recommendations are followed.
      ii. When a non-metallic backing bar is used, the WPS and the Welder shall be qualifed using the type of backing bar intended for welding.
      iii. Nonferrous metallic (e.g. copper) backing materials are not permitted.

4. Weld Tab
   a. Weld tabs shall be aligned parallel to the joint preparation.
   b. No weld dams are allowed.
   c. Weld tabs shall extend beyond the edge of the joint a minimum distance equal to the part thickness, but not less than one inch.
   d. Weld tab shall be removed upon completion of the welded joint as follows:
      i. No more than 1/8 inch beyond the edge of the joint shall remain, except at continuity plate where up to 1/4 inch is acceptable.
      ii. Edges of the weld tab shall be finished to a surface roughness value of 500 micro inch or better. Grinding to a flush condition is not required.
   e. Gouges and notches are not permitted. The transitional slope of any area where gouges and notches have been removed shall not exceed 1:5.
   f. Material removed by grinding that extends more than 1/16 inch below the surface of the base metal shall be filled with weld metal. The contour of the weld at the ends shall provide a smooth transition, free of notches and sharp corners.

5. Continuity Plate
   a. Continuity plates shall be detailed as illustrated in Detail 11 on Sheet 3.
   b. The weld attaching the continuity plate to the column flange shall be as follows:
      i. Use a CJP groove weld for the full length of the groove preparation.
      ii. When backing bars are omitted, the root shall be backgouged and back welded.
      iii. When backing bars are used and remain in place, backing bars shall be attached to the column flanges with a reinforcing fillet weld.
      iv. Fillet weld shall not be used to connect backing bars to continuity plates.
      v. The fillet weld size need not exceed the minimum size requirements of AWS D1.1/D1.1M:2002 Table 5.8.

REVISIONS	BY

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STANDARD QUALITY ASSURANCE PLAN
For Steel Moment Frames

The specifications and illustrative details presented in this Standard Quality Assurance Plan have been prepared in accordance with recognized engineering principles and are for general information only. This Standard Quality Assurance Plan should not be used or relied upon for any specific application without competent professional examination and verification of its accuracy, suitability, and applicability by the Engineer or Architect of Record. By signing and sealing this Standard Quality Assurance Plan, the Engineer or Architect of Record assumes full responsibility for its application of all of the specifications and illustrative details associated with the specific project. Furthermore, by signing and sealing this Standard Quality Assurance Plan, the Engineer or Architect of Record acknowledge that the City of Los Angeles assumes no responsibility for the application of any of the specifications and illustrative details contained in this Standard Quality Assurance Plans and all liability arising from such use.

Engineer of Record

TWO STORY SINGLE FAMILY RESIDENCE
901 LAUREL CYN.
LA, CA 90046 FOR:
L.I. INVESTMENTS, LLC

REGISTERED PROFESSIONAL ENGINEER — ROSS DOOLEY — No. SE2628 — STRUCTURAL — 3-31-14 — STATE OF CALIFORNIA

Date: 02/28/2005	Date: 11-27-12
Scale: Not to Scale	Scale
Sheet:	Drawn: hrd
Sheet 1 of 3 (Cont. S1.3B)	Job
	Sheet: S-1.3A
	of

CONTINUED FROM SHEET 1

c. Weld terminations near the end of the column flange tips may be completed using weld tabs as follows:
   i. Weld tabs may be steel or nonfusible material.
   ii. Weld terminations near the radius of the column need not be made using weld tabs. The use of small nonfusible weld tabs to assist in weld terminations is permitted.
   iii. Weld tabs shall be removed following completion of welding.
d. Continuity plates may be welded to the column web with groove welds, fillet welds, or a combination of the two. Fillet welds shall terminate a minimum distance of 1/4 inch from each end of the joint.

6. Doubler Plate
   Web doubler plates, as illustrated in Detail 2, 3, or 4 on Sheet 3, shall be welded using either Detail 5, 6, or 7 on Sheet 3.

7. Requirements for "k" Area
   Welds shall terminate short of the "k" area for continuity plates as illustrated in Detail 11 on Sheet 3.

VII. EXEMPTIONS

1. Reduction from certain Quality Assurance components of this Standard Quality Assurance Plan, as listed in Part VII Item 2, are permitted for the following buildings or structures:
   a. One or two family dwellings not more than 1 story in height and 2,500 sf of floor area,
   b. Buildings or structures accessory to residential uses (such as carport, storage, garage), and
   c. Miscellaneous structures (such as walkway, canopy, patio cover, gazebo, storage rack).

2. Buildings or structures, as listed in Part VII Item 1, are exempt from providing the following Quality Assurance components:
   a. Electrode Storage and Atmospheric Exposure, Part IV, Item 5(f) and 5(g),
   b. Plastic Hinging Zone Protection, Part IV, Item 6,
   c. Additional CVN Notch Toughness Testing, Part IV, Item 7,
   d. Non-Destructive Testing, Part IV, Item 8,
   e. Preheat and Interpass Temperature, Part V, Item 4, or
   f. Post Weld Heat Treatment, Part V, Item 5.

Table 7. PREQUALIFIED BASE METAL - FILLER METAL COMBINATIONS FOR MATCHING STRENGTH (1, 2, 3, 4)

BASE METAL		FILLER METAL		
Group	Steel Specification	Welding Process	AWS Electrode Specification	Electrode Classification
I	ASTM A36 < 3/4 in.	SMAW	A5.1	E70XX
			A5.5 (6)	E70XX-X
		FCAW	A5.20 (5)	E70XT-X, E7XT-XM
			A5.29 (6)	E70XTX-X, E7XTX-XM
II	ASTM A36 $ 3/4 in. ASTM A572 Grade 50 ASTM A913 Grade 50 ASTM A992	SMAW	A5.1	E7015, E7016, E7018, E7028
			A5.5 (6)	E70XX-X
		FCAW	A5.20 (5)	E70XT-X, E7XT-XM
			A5.29 (6)	E70XTX-X, E7XTX-XM

RELATIONSHIP	BASE METAL(S)	FILLER METAL STRENGTH RELATIONSHIP REQUIRED
Matching	Any steel to itself or any steel to another in the same group	Any filler metal listed in the same group
	Any steel in one group to any steel in another	Any filler metal listed for a lower strength group [SMAW electrodes shall be the low-hydrogen classification]
Under-Matching	Any steel to any steel to any group	

NOTES:
1. The base metal/filler metal strength relationships above shall be used to determine whether matching or under-matching filler metals are required. Refer to AWS D1.1/D1.1M:2002, Section 3.3.
2. Preheating of joints involving base metals of different groups shall be in conformance with the requirements applicable to the higher strength group.
3. When welds are to be stress-relieved, the deposited weld metal shall not exceed 0.05 percent vanadium.
4. Adapted with permission from the AWS D1.1 Committee on Structural Welding, Structural Welding Code - Steel, AWS D1.1/D1.1M: 2002, Miami: American Welding Society, Table 3.1.
5. FCAW electrodes with the -2, -2M, -3, -4, -7, -10, -11, -13, -14, G, -GS suffix shall be excluded and electrodes with the -11 suffix shall be excluded for thicknesses greater than 1/2 in.
6. Filler metals of alloy group B3, B3L, B4, B4L, B5, B5L, B6, B6L, B7, B7L, B8, B8L, B9, or any BXH grade in AWS A5.5 or A5.29 are not prequalified for use in the as-weld condition.

Table 5. PREQUALIFIED WPS REQUIREMENTS (1, 2, 3)

VARIABLE	POSITION OF WELD	WELD TYPE	SMAW	FCAW
Maximum Electrode Diameter	Flat (F)	Fillet (4)	5/16 in.	1/8 in.
		Groove (4)	1/4 in.	
		Root Pass	3/16 in.	
	Horizontal (H)	Fillet	1/4 in.	1/8 in.
		Groove	3/16 in.	
	Vertical (V)	All	3/16 in.	3/32 in.
	Overhead (OH)	All	3/16 in.	5/64 in.
Maximum Current	All	Fillet	Within the range of recommended operation by the filler metal manufacturer and a WPS approved by engineer of record.	Within the range of recommended operation by the filler metal manufacturer and a WPS approved by engineer of record.
	All	Groove weld root pass with opening		
		Groove weld root pass without opening		
		Groove weld fill passes		
		Groove weld cap pass		
Maximum Root Pass Thickness (5)	Flat (F)	All	3/8 in.	3/8 in.
	Horizontal (H)		5/16 in.	5/16 in.
	Vertical (V)		1/2 in.	1/2 in.
	Overhead (OH)		5/16 in.	5/16 in.
Maximum Fill Pass Thickness	All	All	3/16 in.	1/4 in.
Maximum Single Pass Fillet Weld Size	Flat (F)	Fillet	3/8 in.	1/2 in.
	Horizontal (H)		5/16 in.	3/8 in.
	Vertical (V)		1/2 in.	1/2 in.
	Overhead (OH)		5/16 in.	5/16 in.
Maximum Single Pass Layer Width	All	Root opening >1/2 in.	Not applicable.	Split layers
		Any layer of width w		(6)

NOTES:
1. Applicable provisions of AWS D1.1/D1.1M:2002 Section 3 "Prequalification of WPSs" must be maintained for prequalified status of SMAW and FCAW WPSs.
2. Refer to Detail 13 on Sheet 3 for diagram of weld pass sequence.
3. Adapted with permission from the AWS D1.1 Committee on Structural Welding, Structural Welding Code - Steel, AWS D1.1/D1.1M: 2002, Miami: American Welding Society, Table 3.7.
4. Except root passes.
5. See AWS D1.1/D1.1M:2002, Section 3.7.2, for width-to-depth limitations.
6. In the F, H, or OH positions for nontubulars, split layers when the layer width w > 5/8 inch. In the V position for nontubulars or the 5G or 6G for tubulars, split layers when the width w > 1 inch.

Table 6. STRUCTURAL OBSERVATION CHECKLIST

STRUCTURAL OBSERVATION PROGRAM (Steel Moment Frame for Seismic Application)
□ Orientation and placement of connected components.
□ Removal of backing bars, as required on the plans.
□ Removal of runoff tabs, as required on the plans.
□ Presence of continuity plates, as required on the plans.
□ Presence of doubler plates, as required on the plans.
□ Configuration and finish of weld access holes, if applicable.
□ Contour of RBS profile, if applicable.
□ Verify that no welded attachments occur in the plastic hinging region.
□ Review NDT and deputy inspection reports for general compliance.

NOTES:
1. Weld qualities shall be verified by the Deputy Inspector.
2. The structural observations listed in this Table are in addition to the structural observations that may be required on the structural plans.

Table 1. REPORTS TO BE SUBMITTED TO THE CITY BUILDING INSPECTOR

	PREPARED BY	TYPE OF REPORT
1.	Structural Observer(s)	□ Structural Observation Reports
2.	Deputy Inspector(s)	□ Deputy Inspection Reports
3.	NDT Technician(s)	□ Non-Destructive Testing Reports

Table 2. NON-DESTRUCTIVE TEST LOCATIONS

	REQUIRED LOCATIONS	OMF	IMF	SMF
1.	CJP Groove Weld Ultrasonic test shall be performed on all CJP groove welds in materials 5/16 inch (8 mm) thick or greater. In addition, magnetic particle test shall be performed on all beam-to-column CJP groove welds.	B	A	A
2.	"k" Area When welding of doubler plates, continuity plates, or stiffeners has been performed in the k-area, the web shall be tested for cracks using magnetic particle testing. The magnetic particle test area shall include the k-area base metal within 3 in. (75 mm) of the weld.	C	B	B
3.	Beam Cope and Access Hole At welded splices and connections, thermally cut surfaces of beam copes and access holes shall be tested using magnetic particle testing, when the flange thickness exceeds 1-1/2 in. (38 mm) for rolled shapes.	C	B	B
4.	Reduced Beam Section Repair Magnetic particle testing shall be performed on any weld and adjacent area of the RBS plastic hinge region that has been repaired by welding, or on the base metal of the RBS plastic hinge region if a sharp notch has been removed by grinding.	B	B	A
5.	Base Metal Lamellar Tearing and Laminations at CJP Groove Weld Base metal thicker than 1-1/2 in. (38 mm) shall be ultrasonically tested for discontinuities behind and adjacent to the fusion line when the base metal is loaded in tension in the through thickness direction in tee and corner joints and the connected material is greater than 3/4 in. (19 mm). Any base metal discontinuities found within t/4 of the steel surface shall be accepted or rejected on the basis of criteria of AWS D1.1 Table 6.2, where t is the thickness of the part subjected to the through-thickness strain.	B	B	A
6.	End of Weld at Weld Tab Removal Site Magnetic particle testing shall be performed on the end of welds from which the weld tabs have been removed, except for continuity plate weld tabs.	C	B	B
7.	PJP Groove Weld Ultrasonic testing shall be performed on PJP groove welds used in column splices with an effective throat of 3/4 in. (19.1 mm) thick or greater.	C	B	A

NOTE: A, B, and C are the frequencies of non-destructive tests listed in Table 3.

Table 3. NON-DESTRUCTIVE TEST FREQUENCY

	Frequency Designation		
	A	B	C
Ultrasonic Testing (UT)	100% of joints	50% of joints	25% of joints
Magnetic Particle Testing (MT)	50% of joints	25% of joints	Not Required

NOTES:
1. Refer to Table 2 for locations of non-destructive testing.
2. Rate of non-destructive testing may be reduced as permitted in Sheet 1, Part IV, Item 8(d).

Table 4. PREQUALIFIED MINIMUM PREHEAT AND INTERPASS TEMPERATURE

STEEL SPECIFICATION	WELDING PROCESS	THICKNESS OF THICKEST PART AT POINT OF WELDING (in.)	MINIMUM PREHEAT AND INTERPASS TEMPERATURE (°F)
ASTM A36 ASTM A572 Grade 50 ASTM A913 Grade 50 ASTM A992	SMAW with low-hydrogen electrodes, FCAW	1/8 to 3/4 incl.	32
		Over 3/4 to 1-1/2 incl.	50
		Over 1-1/2 to 2-1/2 incl.	150
		Over 2-1/2	225

NOTES:
1. Surfaces to be welded and surfaces adjacent to welds shall be free of moisture pursuant to AWS D1.1/D1.1M:2002 Section 5.15. Use a higher preheat temperature from this Table to remove moisture.
2. Adapted with permission from the AWS D1.1 Committee on Structural Welding, Structural Welding Code - Steel, AWS D1.1/D1.1M: 2002, Miami: American Welding Society, Table 3.2.

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STANDARD QUALITY ASSURANCE PLAN
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Engineer of Record

Date: 02/28/2005
Scale: Not to Scale
Sheet: Sheet 2 of 3 (Cont. S1.3C)

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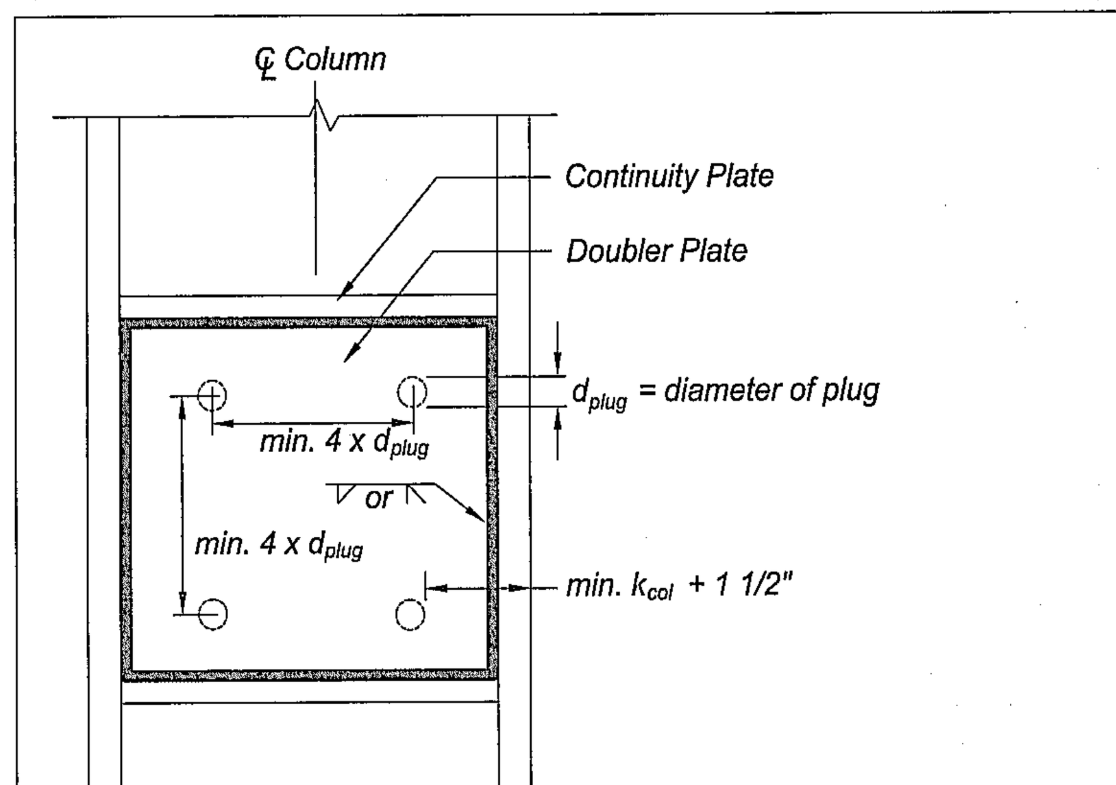
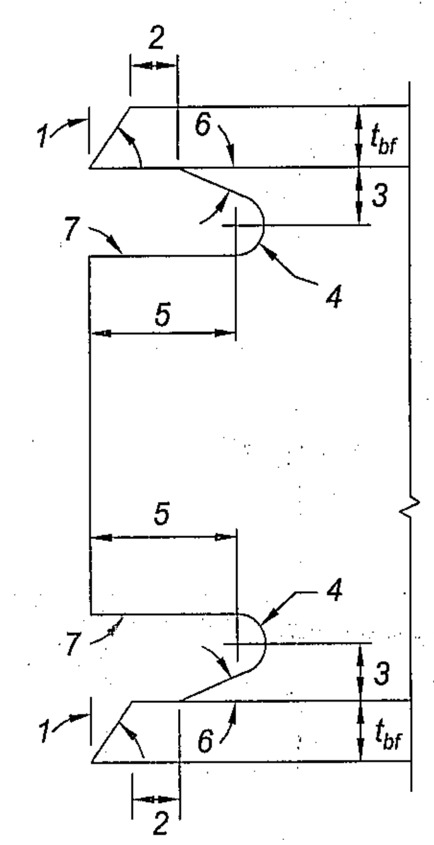
REGISTERED PROFESSIONAL ENGINEER
ROSS DOWNEY
No. SE2628
STRUCTURAL
3-31-14
STATE OF CALIFORNIA

Date 11-27-12
Scale
Drawn hrd
Job
Sheet S-1.3B
Of



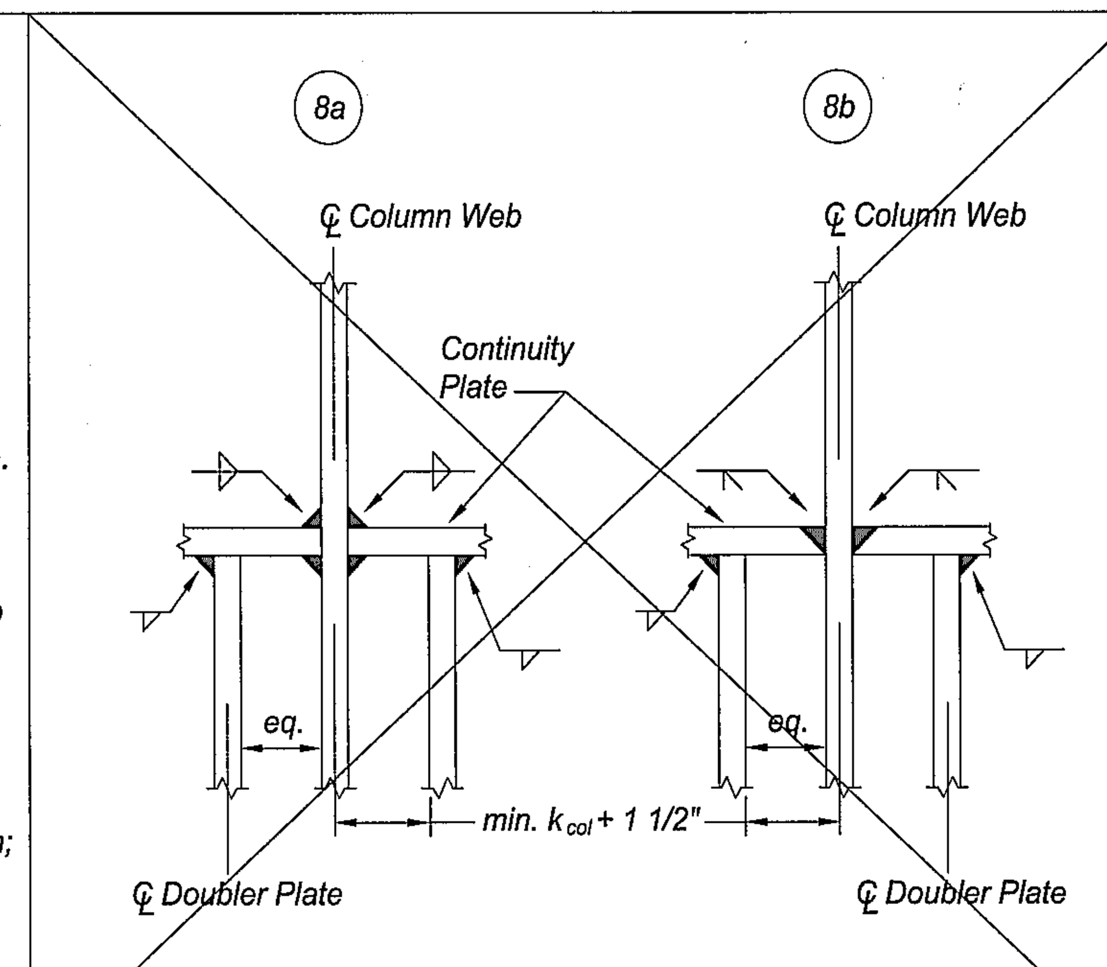
Note:
This detail is intended to illustrate plug welding of doubler plate to column web, when required.

Plug Welding of Doubler Plate to Column
Detail 16
Scale: Not to Scale

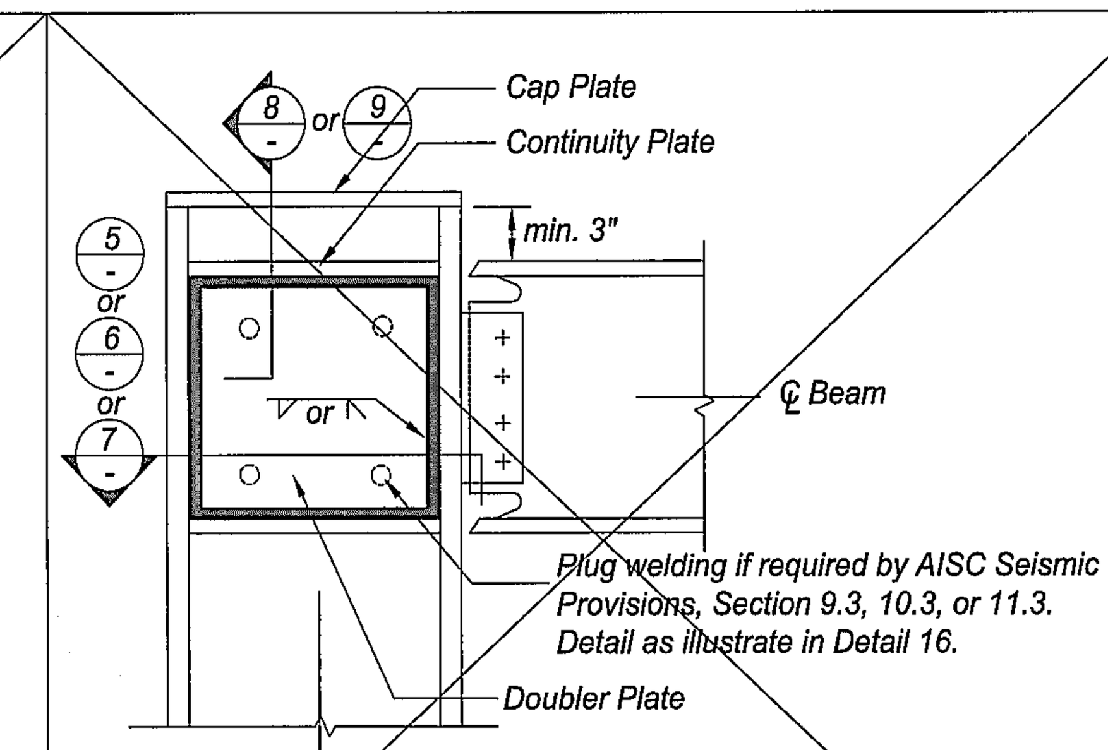


Notes:
1. Bevel as required by a selected AWS prequalified CJP groove welded joint detail.
2. Larger of t_{bf} or 1/2" (plus 1/2 t_{bf}, or minus 1/4 t_{bf}).
3. 3/4 t_{bf} to t_{bf}, 3/4" minimum (± 1/4").
4. 3/8" minimum radius (plus not limited, or minus 0).
5. 3 t_{bf} (±1/2").
6. Tolerances shall not accumulate to the extent that the angle of the access hole cut to the flange surface exceed 25°.
7. Weld access hole shall be ground smooth to a surface roughness value not to exceed 500 micro inch; and shall be free of notches and gouges.

Weld Access Hole Detail
Detail 12
Scale: Not to Scale



Doubler Plate Welds to Continuity Plate
Detail 8
Scale: Not to Scale



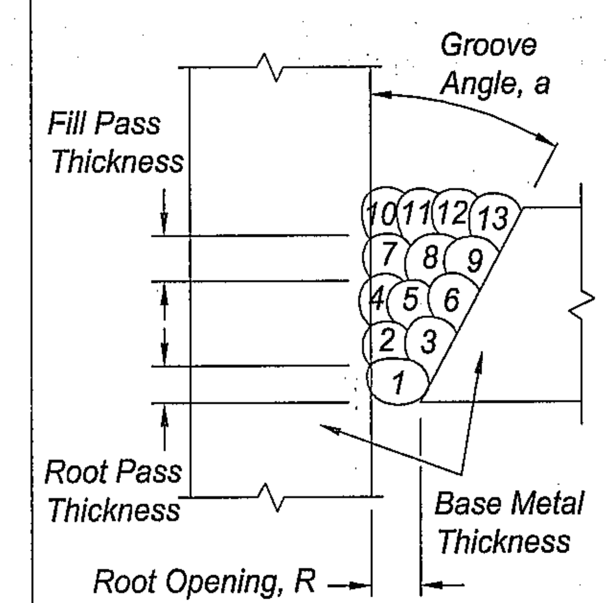
Note:
This detail is intended to illustrate doubler plate connection to column. Top and bottom of doubler plate terminates at the continuity plates.

Web Doubler Plate Detail
Detail 4
Scale: Not to Scale

TYPICAL SHEET 3 GENERAL NOTES:

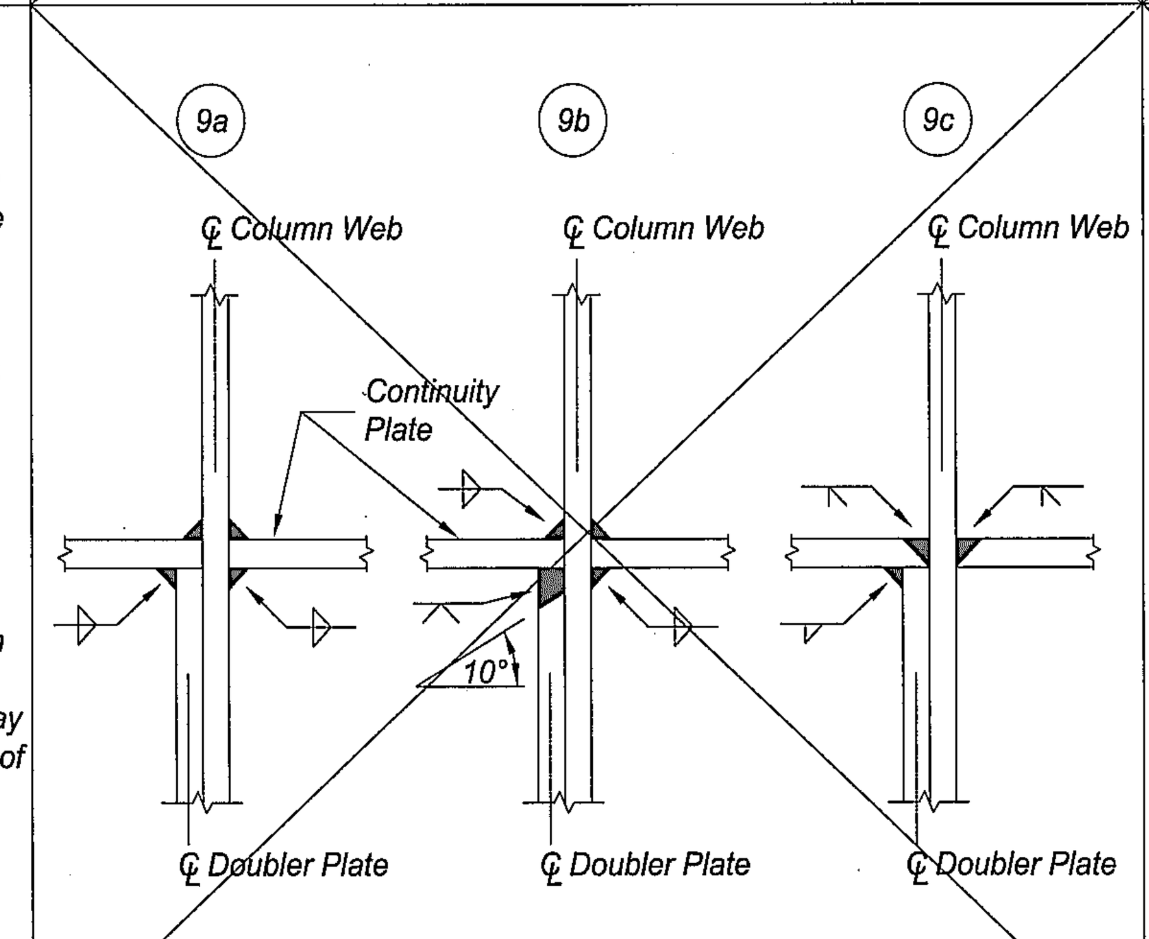
1. The size of columns or beams, continuity or doubler plate thickness, size and length of fillet welds, beam to column moment connections, steel column frame to foundation connections, and length of plastic hinging zone shall be determined by the Engineer or Architect of Record.
2. The Engineer or Architect of Record shall appropriately dimension and specify the minimum detailing information illustrated on this Sheet to the structural plans. The details illustrated herein shall not be used to substitute for actual structural details.
3. The details provided herein are intended to illustrate the minimum fabrication and welding details that shall be reflected on the structural plans and details.

Typical Sheet 3 Notes

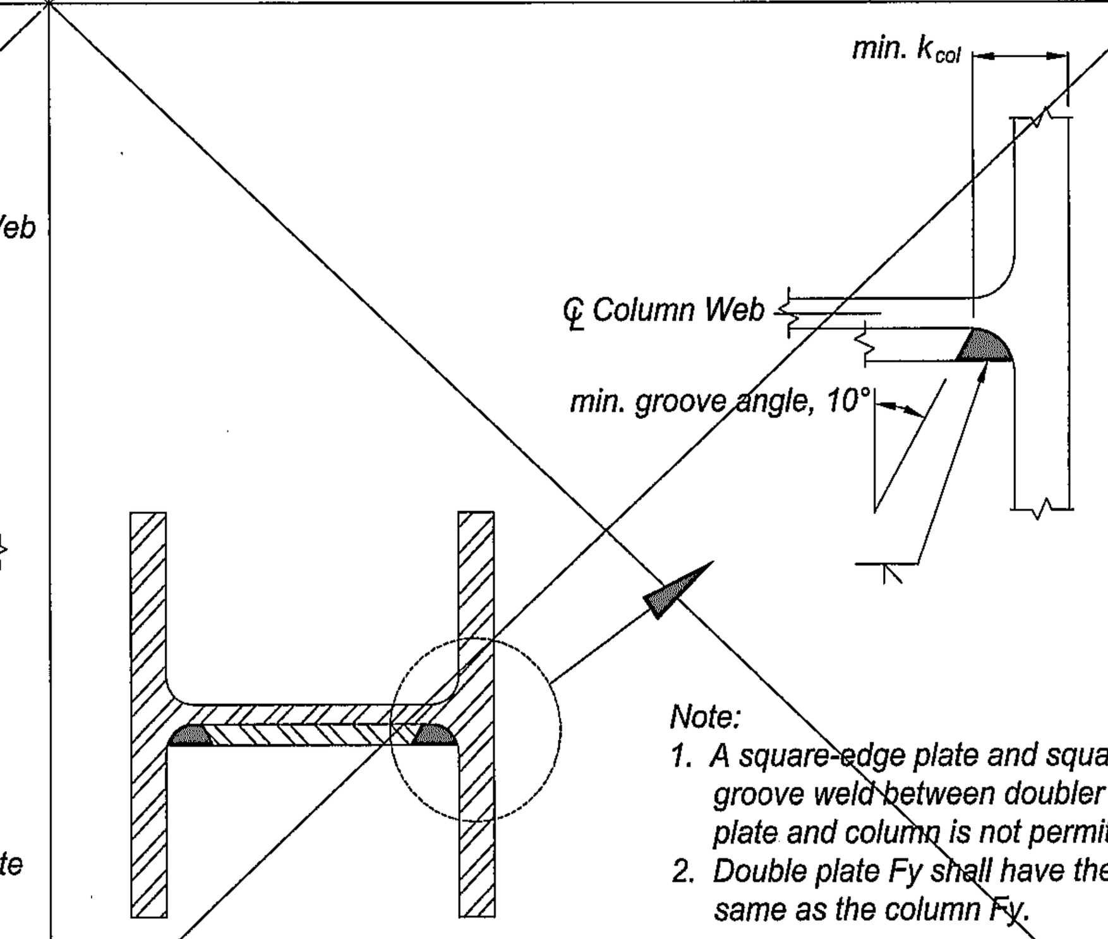


Notes:
1. For maximum fill pass thickness, see Table 5 on Sheet 2.
2. For moment connection at bottom beam flange to column flange, the maximum root pass thickness shall not exceed 1/4" per Part V, Item 1. For welded connection at all other locations, see Table 5 on Sheet 2 for maximum root pass thickness.
3. Root Opening, R, and Groove Angle, a, shall be per selected AWS prequalified CJP groove welded joint detail.
4. Welding pass numbers are shown diagrammatically to indicate sequence. Quantity of passes may vary due to depth and/or position of weld. This figure is intended to illustrate recommended welding sequence for FCAW and SMAW welding process only.

Weld Pass Sequence
Detail 13
Scale: Not to Scale

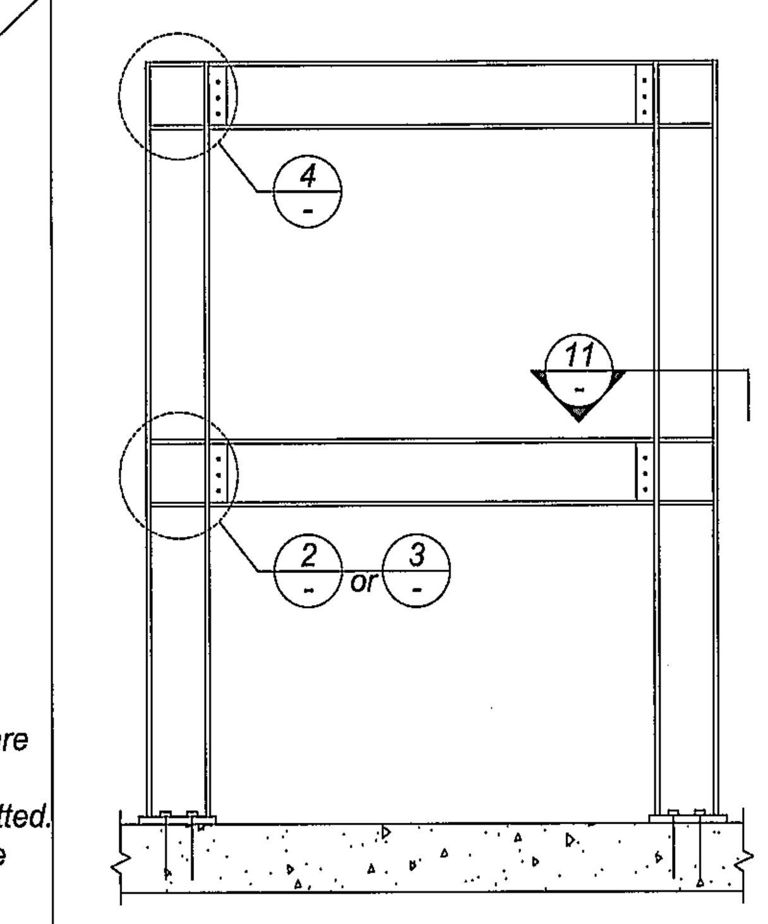


Doubler Plate Welds to Continuity Plate
Detail 9
Scale: Not to Scale



Note:
1. A square-edge plate and square groove weld between doubler plate and column is not permitted.
2. Double plate Fy shall have the same as the column Fy.

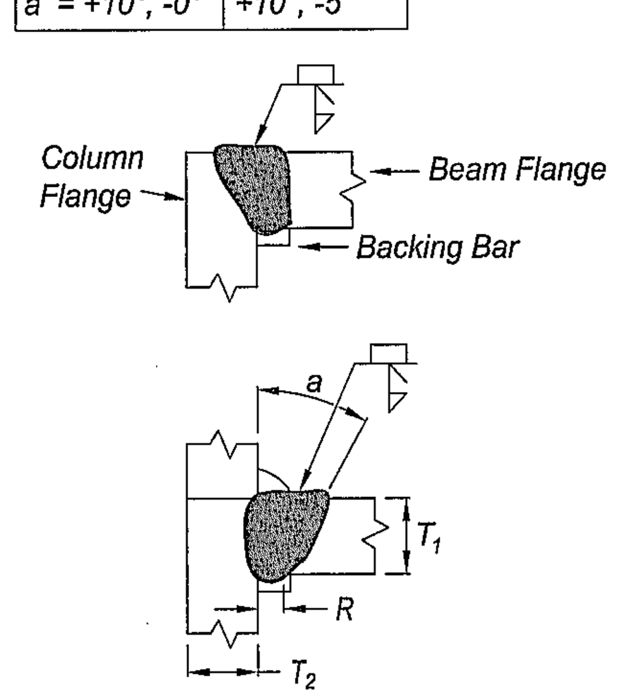
Groove Welded Doubler Plate
Detail 5
Scale: Not to Scale



Note:
This detail is for illustrative purpose only. Refer to the structural plans for actual frame connections and details.

Sample Steel Moment Frame
Detail 1
Scale: Not to Scale

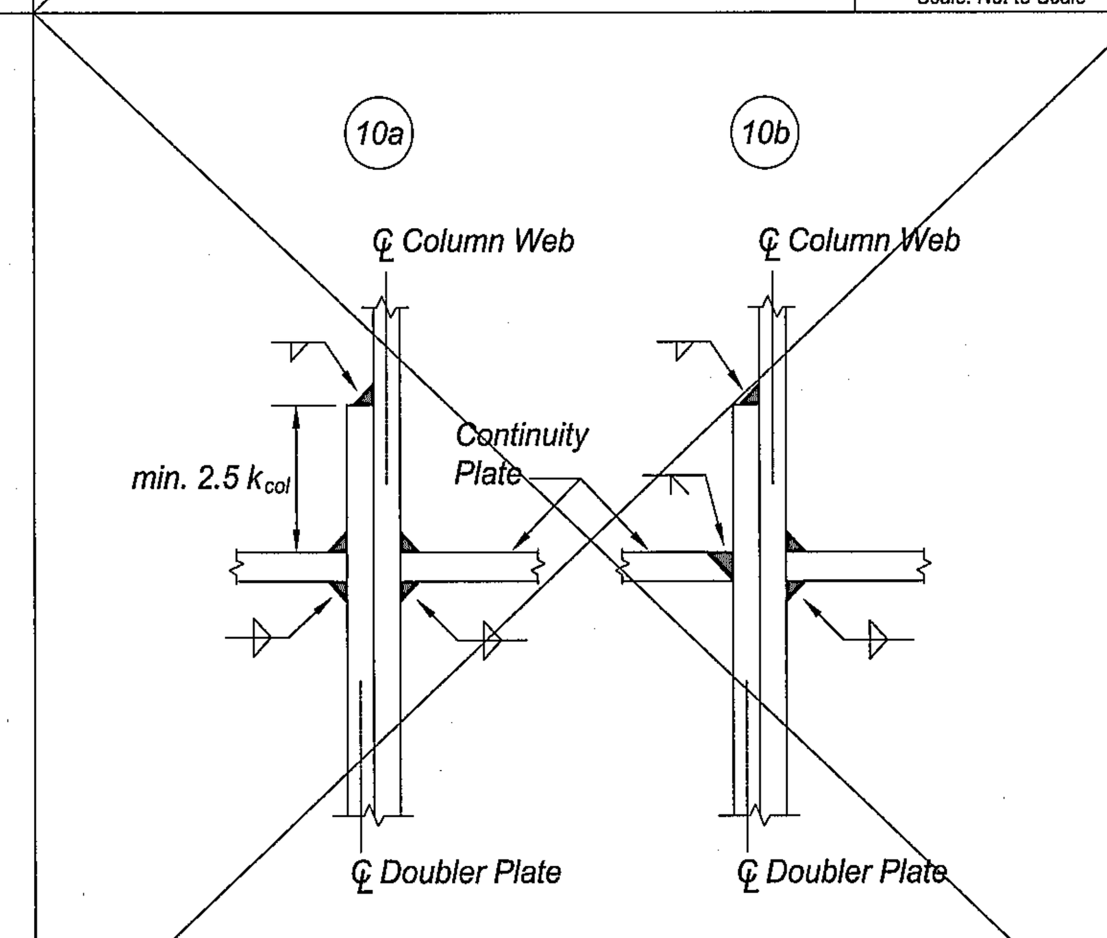
TOLERANCES	
R = +1/16, -0	+1/4, -1/16
a = +10°, -0°	+10°, -5°



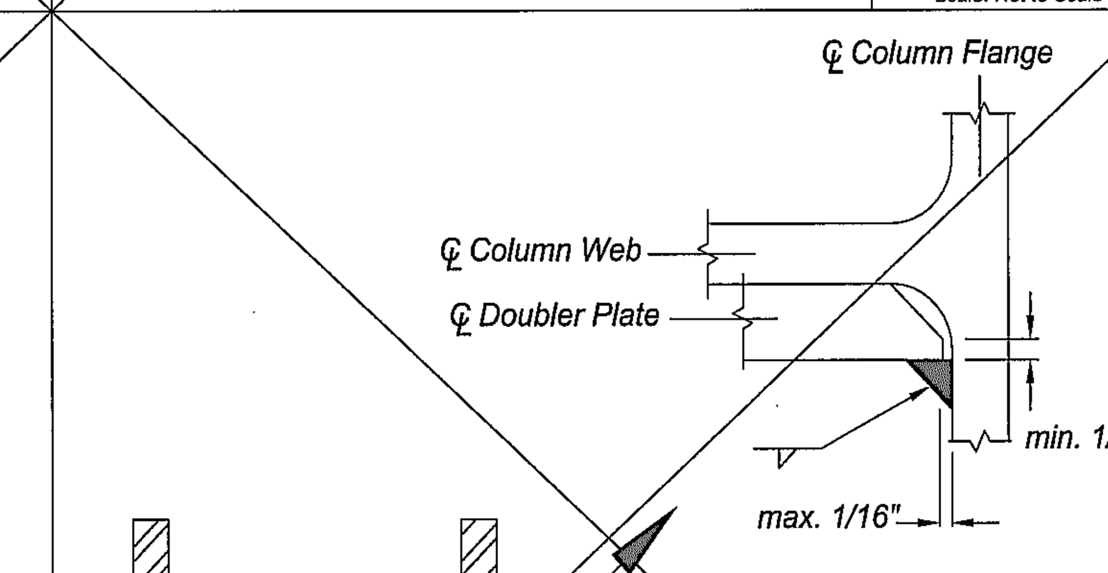
Welding Process	Joint Designation	Base Metal Thickness (U = unlimited) T_1	T_2	Groove Preparation Root Opening	Groove Angle	Allowed Welding Positions	Gas Shielding for FCAW
SMAW	TC-U4a	U	U	R = 1/4	a = 45°	All	-
				R = 3/8	a = 30°	F, V, OH	-
FCAW	TC-U4a-GF	U	U	R = 3/16	a = 30°	All	Required
				R = 3/8	a = 30°	F	Not required
				R = 1/4	a = 45°	All	Not required

Notes:
1. Groove welds in corner and T-joints of cyclically loaded structures shall be reinforced with fillet welds equal to T_1 /4, but need not exceed 3/8 inch.
2. For corner joints, the outside groove preparation may be in either or both members, provided the basic groove configuration is not changed and adequate edge distance is maintained to support the welding operations without excessive edge melting.
3. Adapted with permission from the AWS D1.1 Committee on Structural Welding, Structural Welding Code - Steel, AWS D1.1/D1.1M: 2002, Miami: American Welding Society, Figure 3.4 pg. 92 (top left).

AWS Prequalified CJP Groove Welded Joint Detail
Detail 14
Scale: Not to Scale

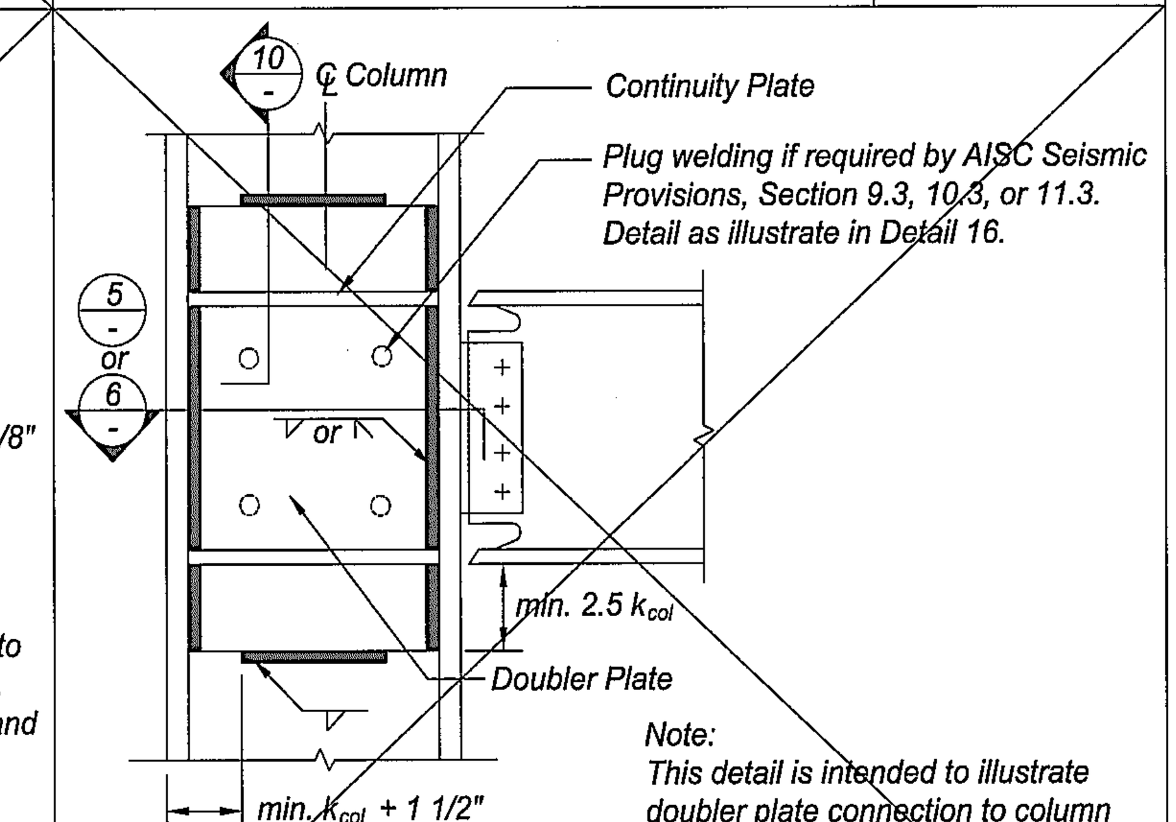


Doubler Plate Welds to Continuity Plate
Detail 10
Scale: Not to Scale



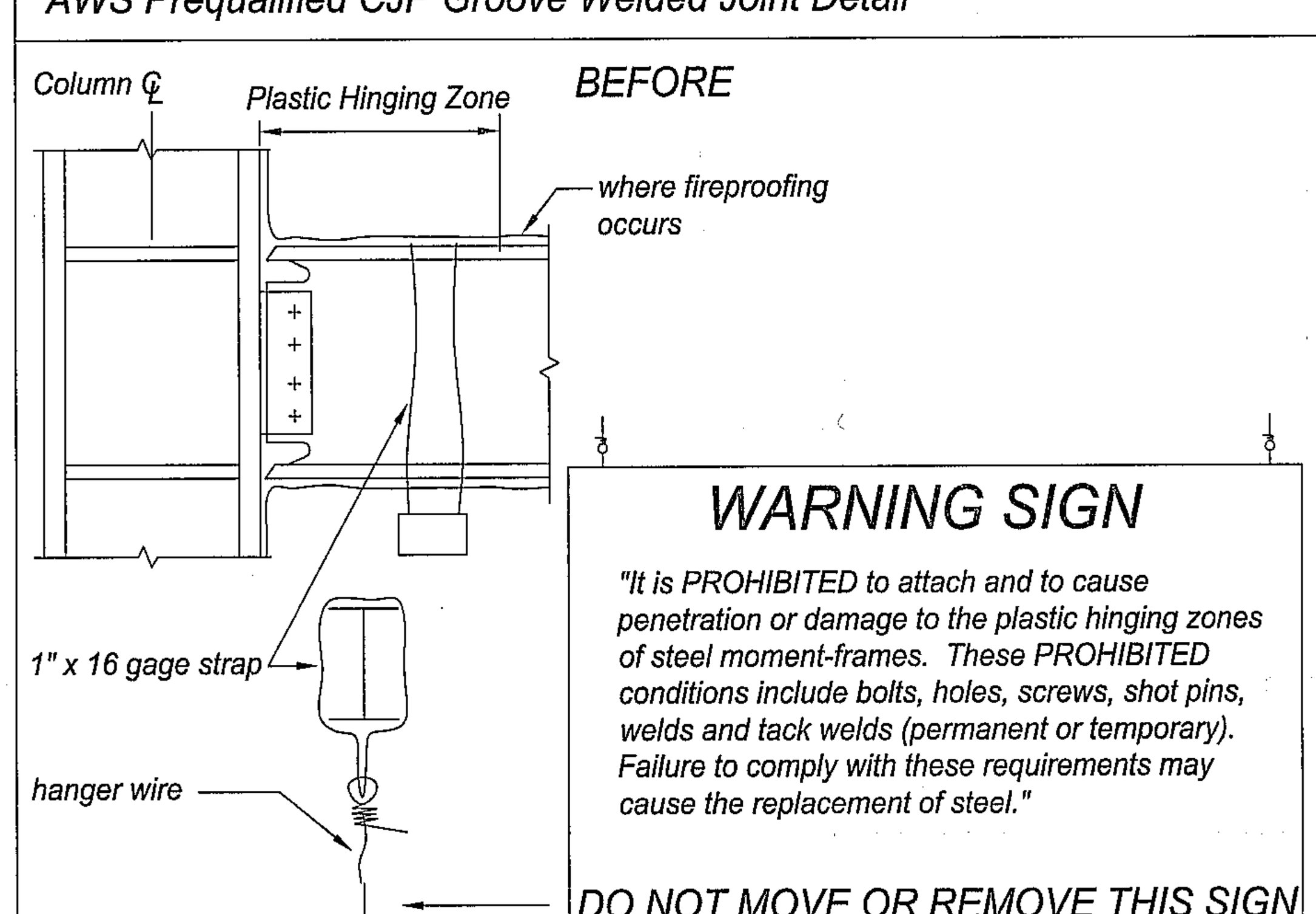
Notes:
1. The plate shall be chamfered to miss the radius of the column.
2. The fillet weld, in both throat and leg size shall be equal to or larger than the chamfer dimensions used for the plate.
3. Double plate Fy shall have the same as the column Fy.

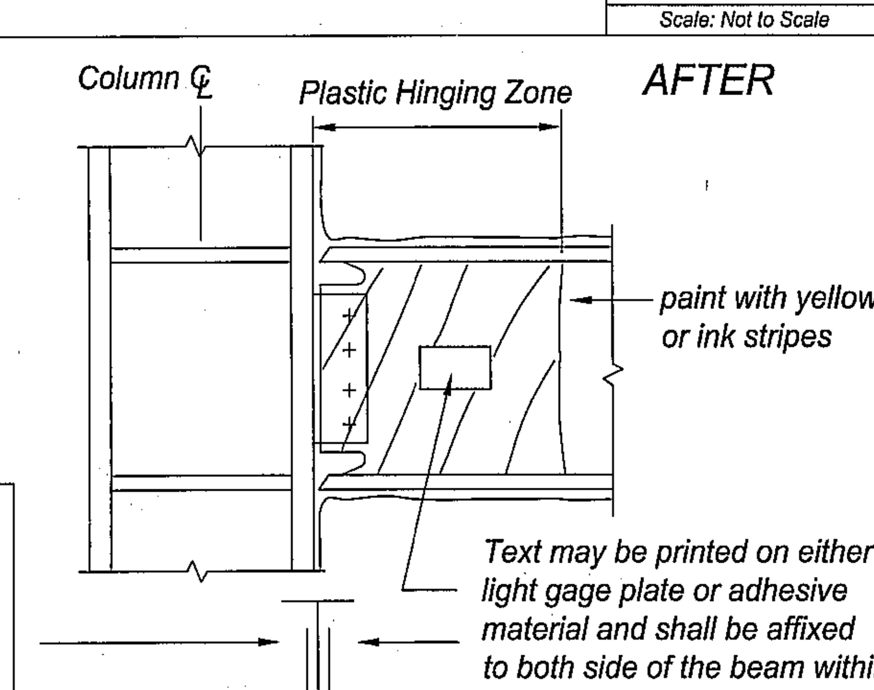
Fillet Welded Doubler Plate
Detail 6
Scale: Not to Scale



Note:
This detail is intended to illustrate doubler plate connection to column web. Doubler plate extend beyond continuity plate a distance not less than min. 2.5 k_{col}.

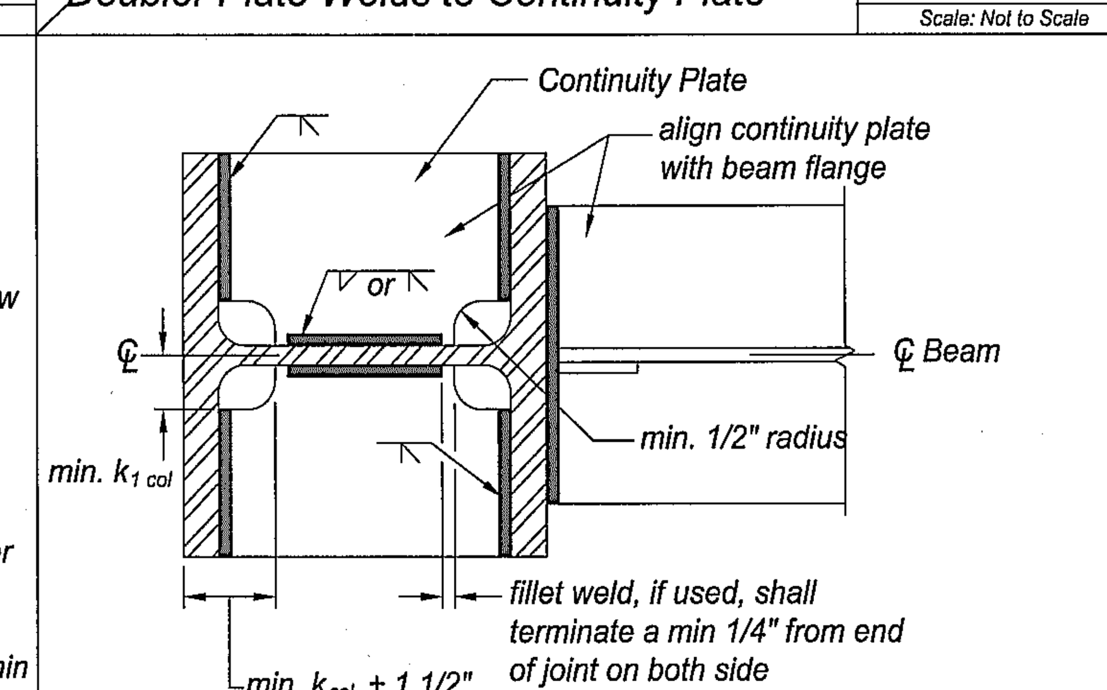
Web Doubler Plate Detail
Detail 2
Scale: Not to Scale





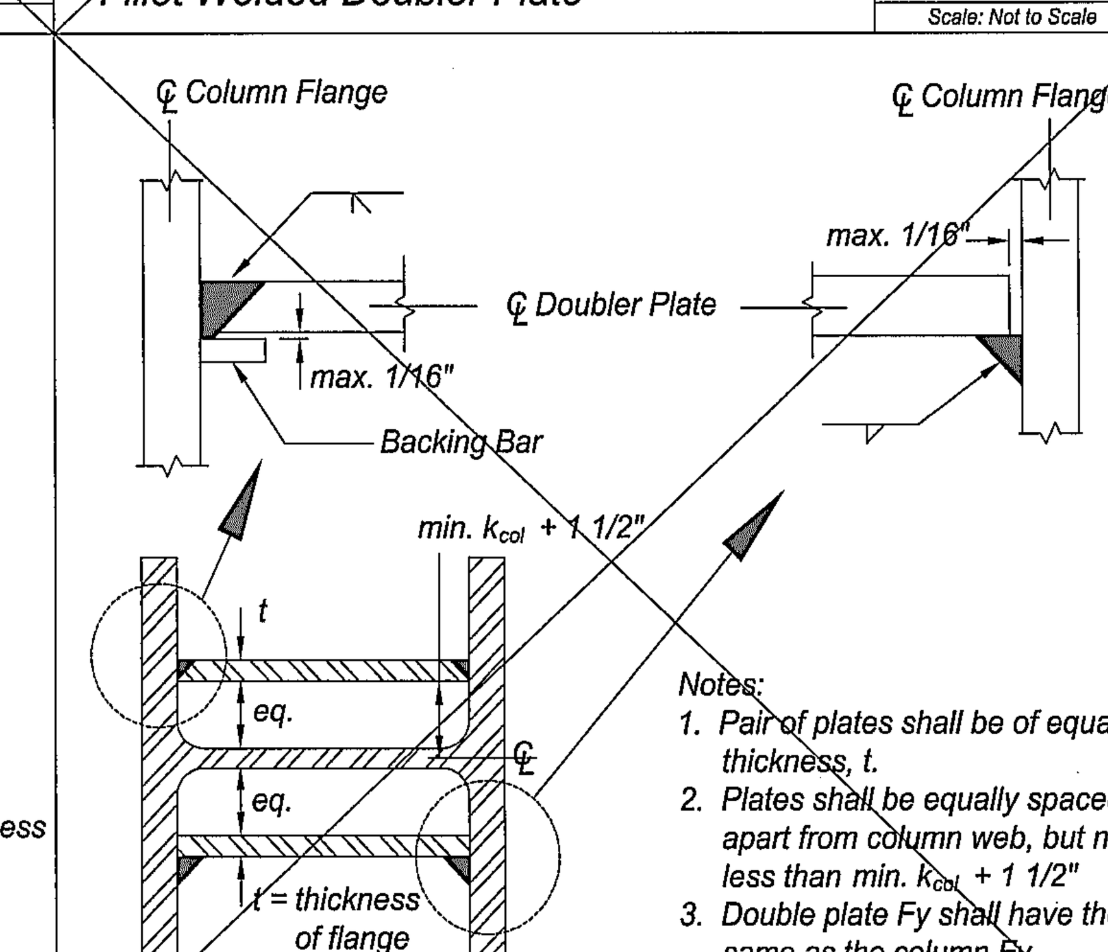
Notes:
1. This detail is intended to illustrate the location of the "Warning Sign" at the plastic hinging zone.
2. "Warning Sign" shall be provided as required by Part IV Item 6 on Sheet 1.
3. Length of the plastic hinging zone shall be a min. of 2 x beam depth, unless noted otherwise on the structural plans.

Warning Sign at Plastic Hinging Zone
Detail 15
Scale: Not to Scale



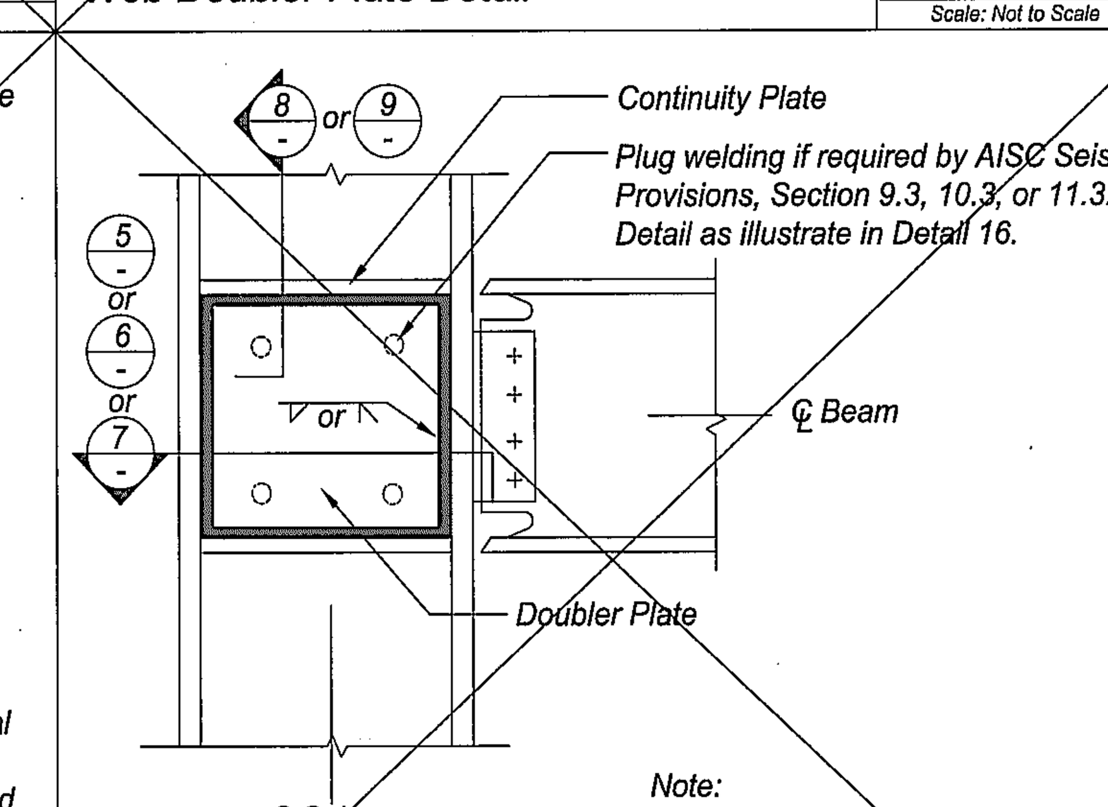
Note:
Continuity plate shall have a thickness greater than or equal to the beam flange or beam flange connection plate.

Continuity Plate Detail
Detail 11
Scale: Not to Scale



Notes:
1. Pair of plates shall be of equal thickness, t.
2. Plates shall be equally spaced apart from column web, but not less than min. k_{col} + 1 1/2"
3. Double plate Fy shall have the same as the column Fy.

Groove or Fillet Welded Doubler Plate
Detail 7
Scale: Not to Scale



Note:
This detail is intended to illustrate doubler plate connection to column. Top and bottom of doubler plate terminates at the continuity plates.

Web Doubler Plate Detail
Detail 3
Scale: Not to Scale

SITE ADDRESS:

OWNER:

STANDARD QUALITY ASSURANCE PLAN
For Steel Moment Frames

The specifications and illustrative details presented in this Standard Quality Assurance Plan have been prepared in accordance with recognized engineering principles and are for general information only. This Standard Quality Assurance Plan should not be used or relied upon for any specific application without competent professional examination and verification of its accuracy, suitability, and applicability by the Engineer or Architect of Record. By signing and sealing this Standard Quality Assurance Plan, the Engineer or Architect of Record assumes full responsibility for the application of all of the specifications and illustrative details associated with the subject property. Furthermore, by signing and sealing this Standard Quality Assurance Plan, the Engineer or Architect of Record acknowledge that the City of Los Angeles assumes no responsibility for the application of any of the specifications and illustrative details contained in this Standard Quality Assurance Plans and all liability arising from such use.

Engineer of Record

Date: 02/28/2005
Scale: Not to Scale
Sheet:
Sheet 3 of 3

TWO STORY SINGLE FAMILY RESIDENCE
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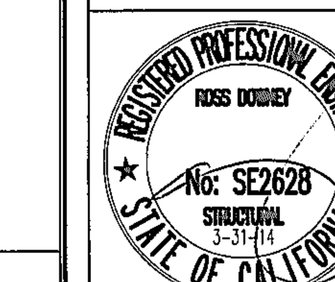
LA, CA 90046 FOR:
L.I. INVESTMENTS, LLC



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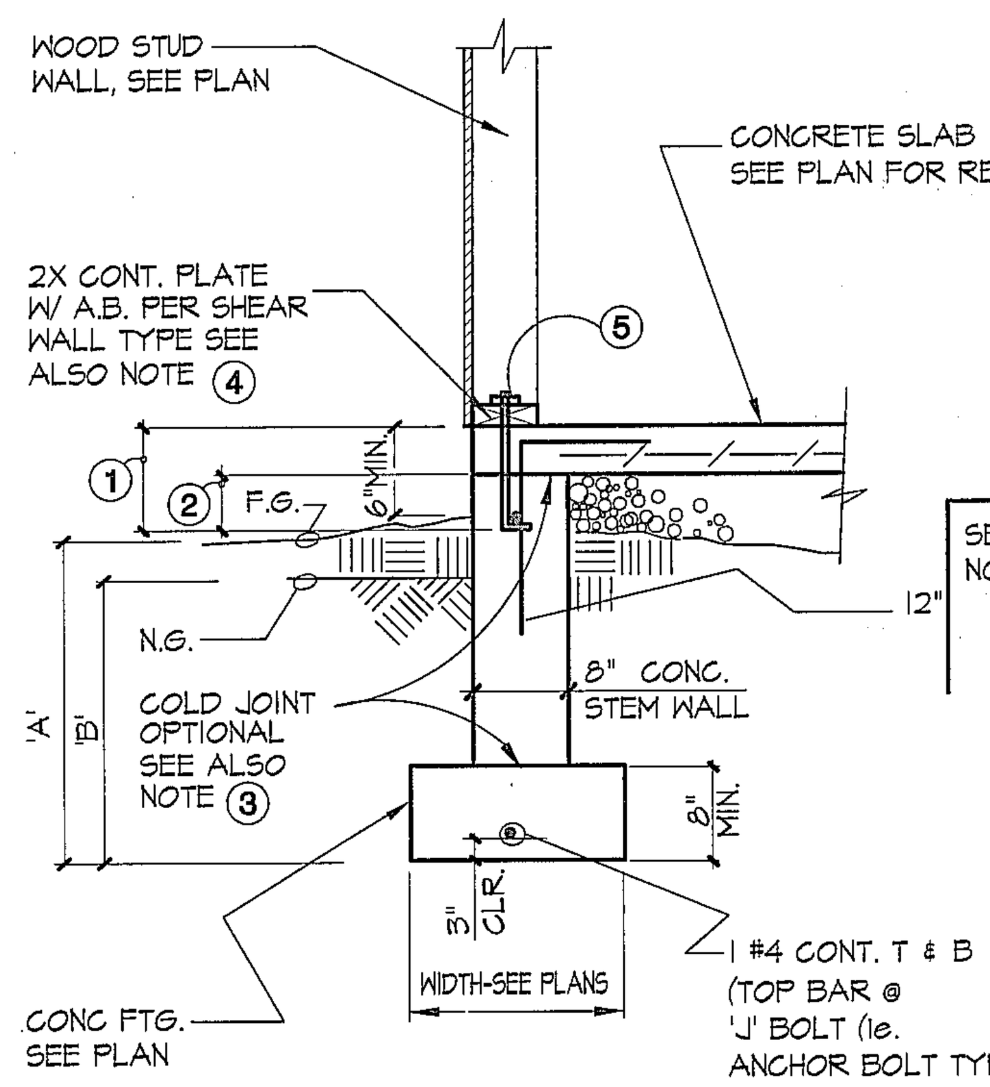
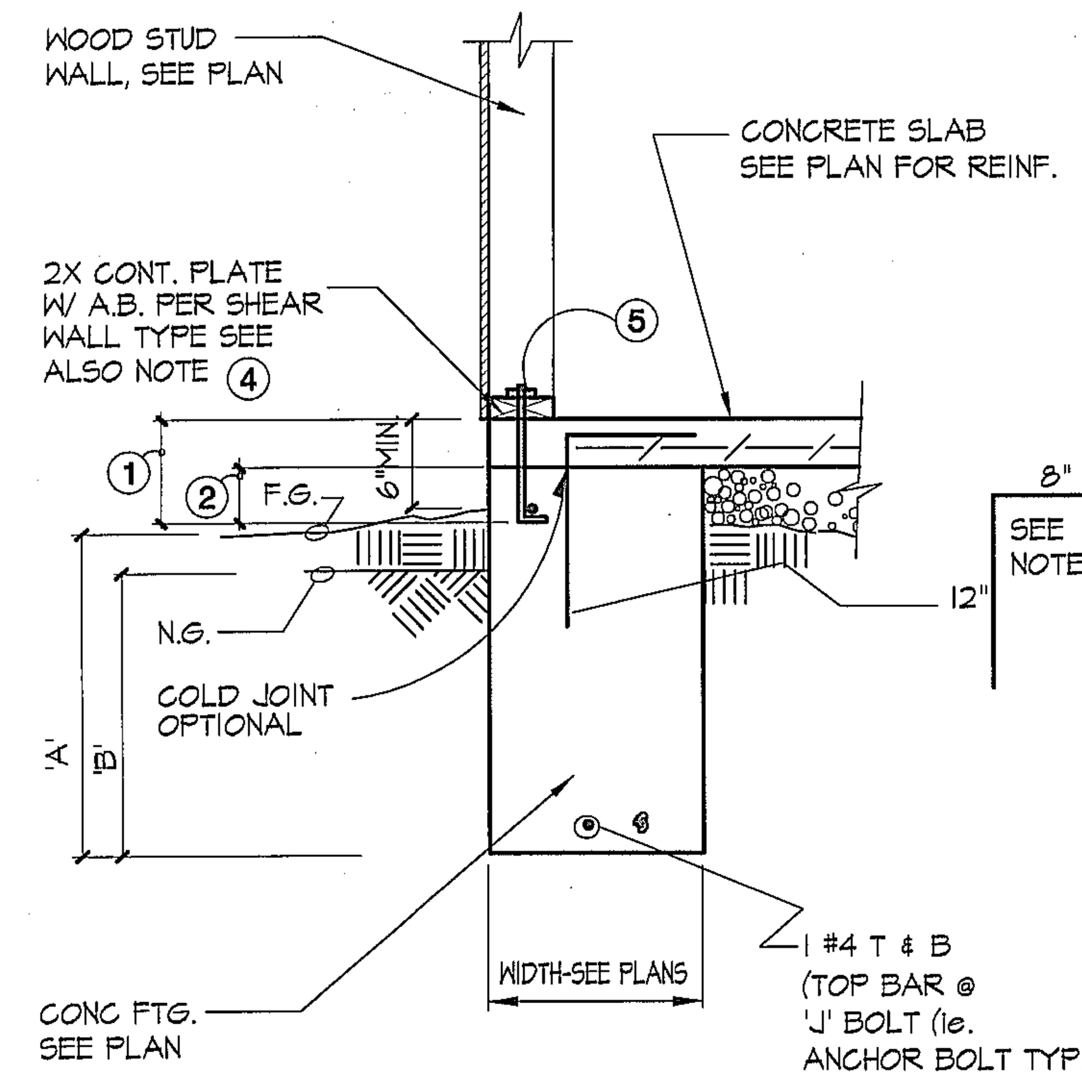
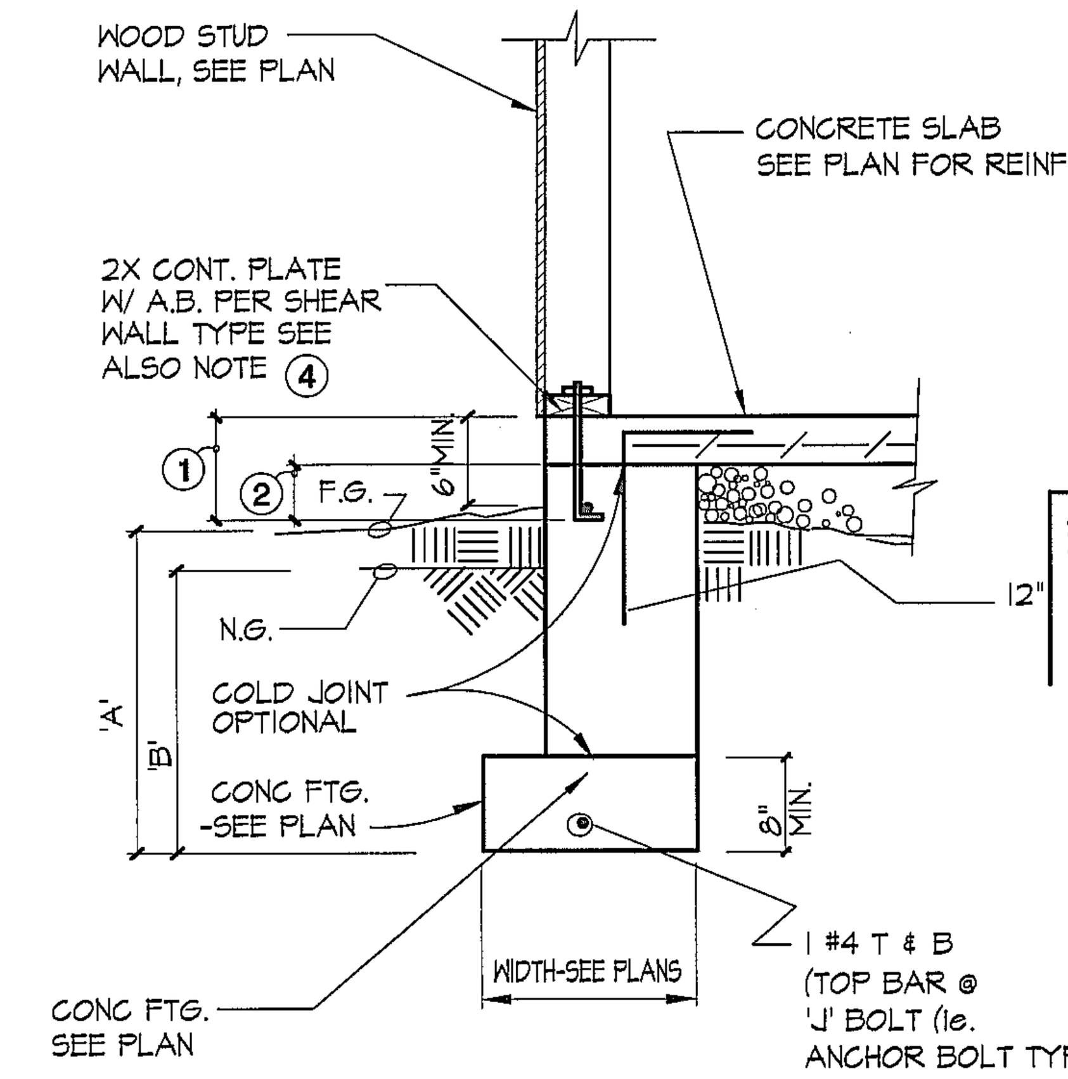


OPTION 1



OPTION 2



OPTION 3

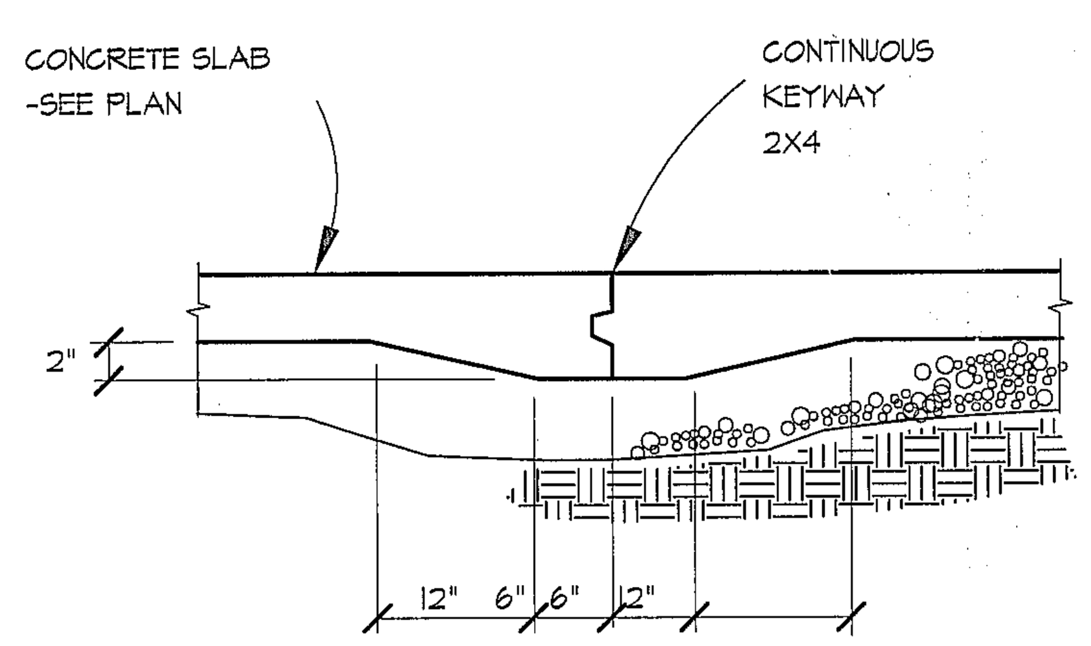
NOTES:
SEE ADDITIONAL INFORMATION IN STRUCTURAL SPECIFICATIONS, GENERAL NOTES AND SOILS REPORT (IF AVAILABLE). SITE PREPARATION PER SOILS REPORT, TAKES PRECEDENCE OVER ALL OTHER WORK (SEE SOILS ENGINEER).

DEPTH BELOW FINISH GRADE 'A'	DEPTH BELOW NATURAL GRADE 'B'
SEE STRUCTURAL SPECIFICATIONS	24" MIN.

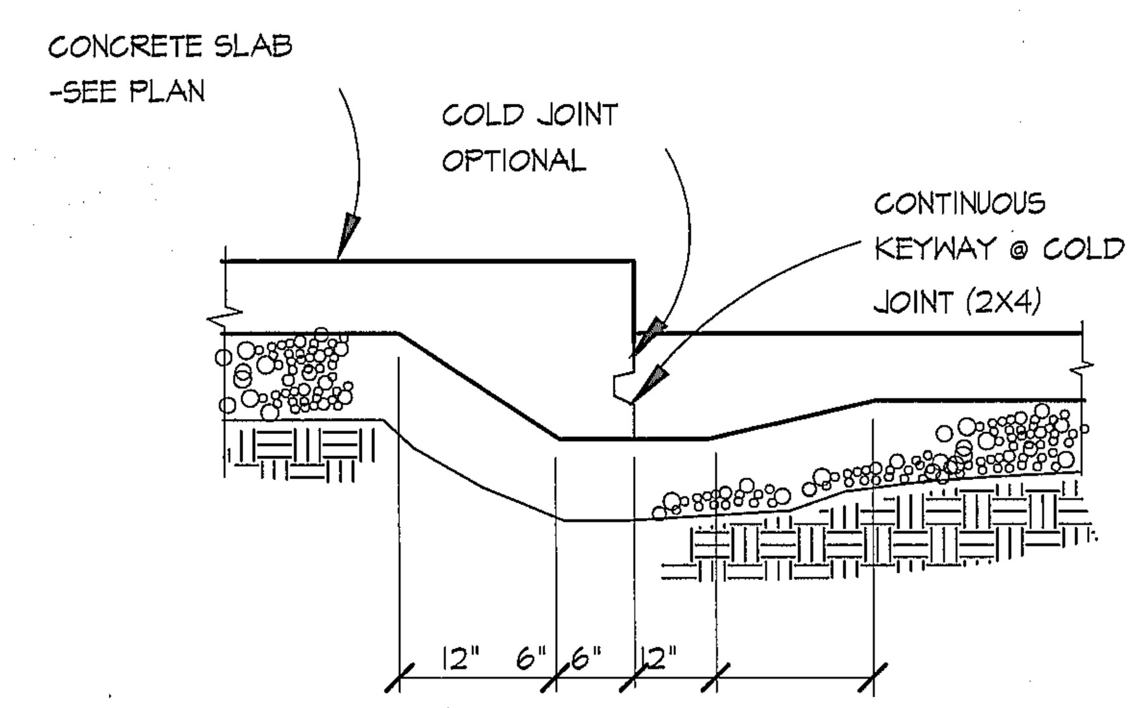
CONCRETE FOOTING NOTES

1. EMBED ANCHOR BOLT 9" MIN. BELOW THE TOP OF THE SLAB WHERE NO COLD JOINT IS USED.
2. EMBED ANCHOR BOLT 7" MIN. BELOW THE COLD JOINT LINE WHERE A COLD JOINT IS USED.
3. WHERE A COLD JOINT (DOUBLE POUR) IS USED PARTICULAR ATTENTION TO THE CLEANLINESS OF THE TOP OF THE FOOTING IS NEEDED, I.E. CLEAN (WIRE BRUSH PREFERRED) AND REMOVE LOOSE SAND, DEBRIS, ETC. FROM THE TOP OF THE LOWER POUR TYP. WHERE A DOUBLE POUR SYSTEM IS USED.
4. USE 3X P.T. SILL TYP. AT "M", "N", "O" & "P" TYPE SHEAR WALLS.
5. A STEEL PLATE WASHER IS REQUIRED AT SHEAR WALL ANCHOR BOLTS FOR SIZE SEE DETAIL #12 ON SHEET S-5.1
6. WHERE A COLD JOINT (DOUBLE POUR) IS USED INSTALL #4 DOWELS AT 8' - 0" O.C. WITH BAR SIZE / SHAPE AS SHOWN.

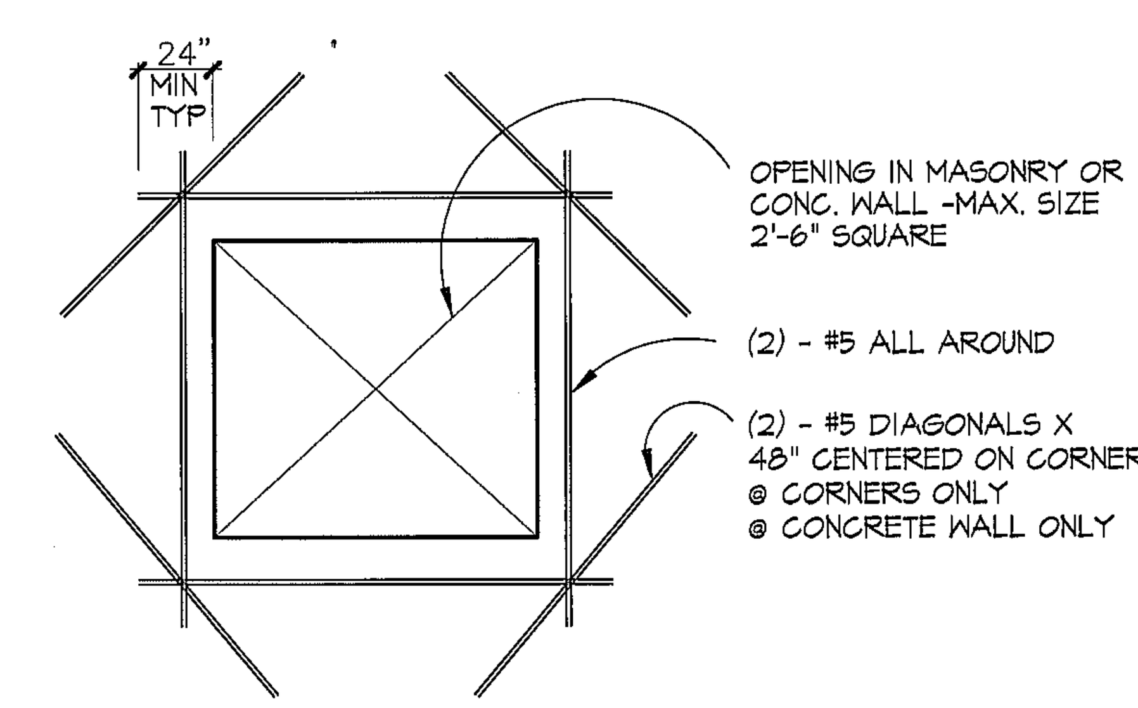
EXTERIOR FOUNDATION AT SLAB ON GRAGE OPTION 1, 2 OR 3 (SEE PLANS & SPECIFICATIONS FOR REFERENCE) 1



CONSTRUCTION JOINT IN SLAB ON GRADE 11

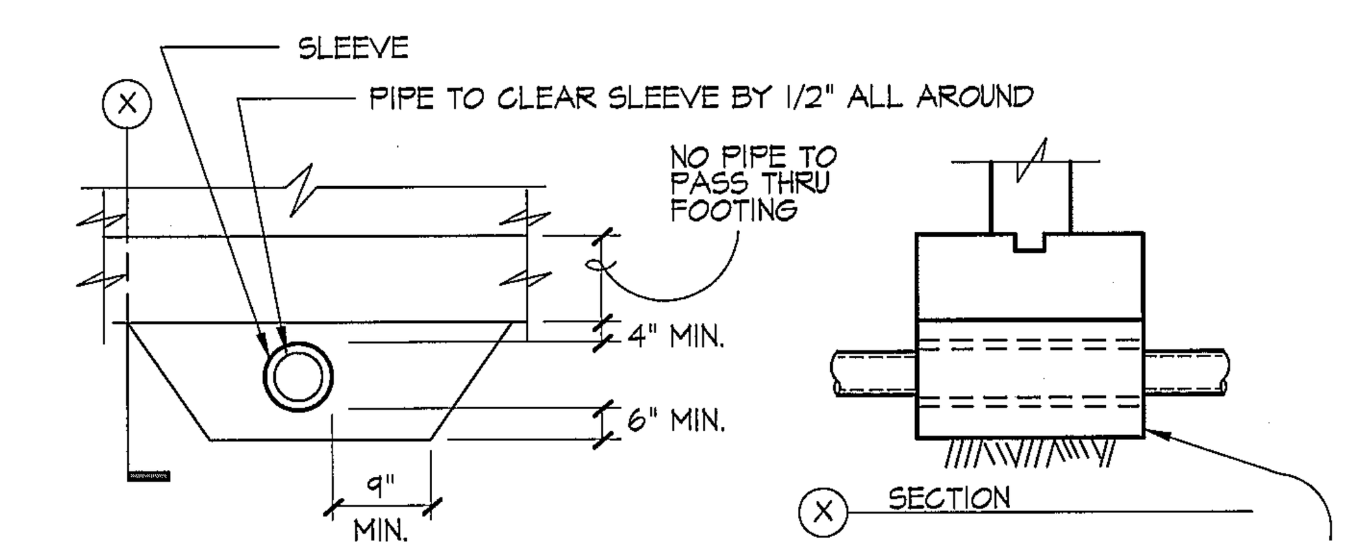


DEPRESSION IN SLAB ON GRADE 8



NOTE:
NO REINFORCEMENT NEEDED FOR OPENINGS LESS THAN 1'-6" WIDE. @ CONC. WALL ONLY WIDE.

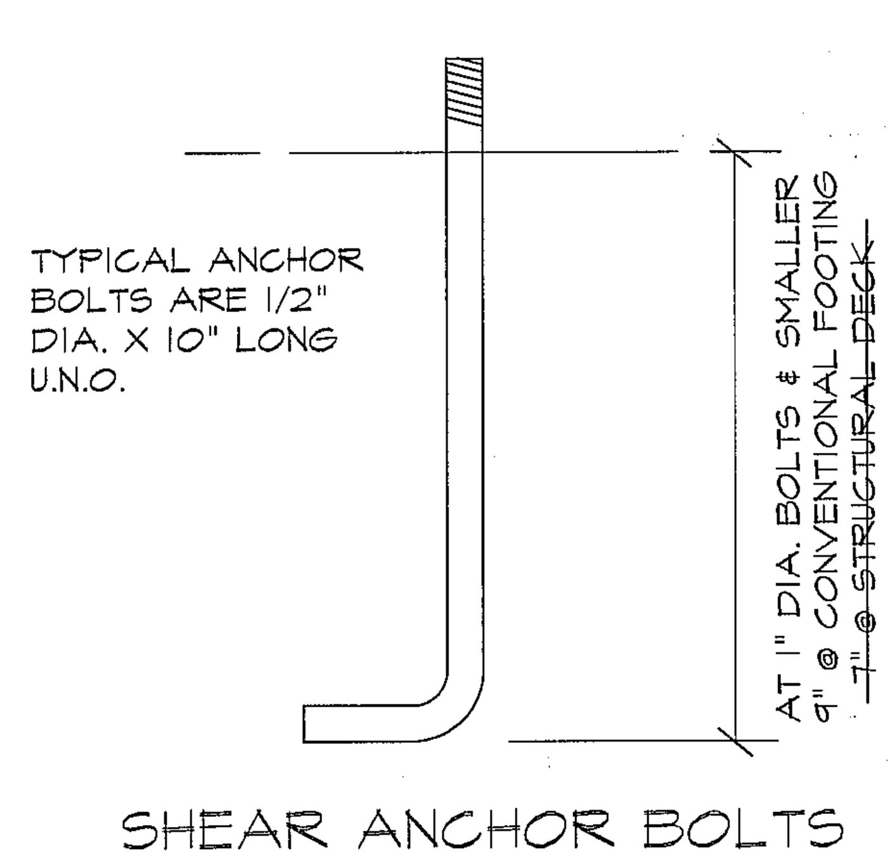
OPENING IN MASONRY OR CONC. WALL 5



NOTE:
NO PIPE WILL PASS THROUGH COLUMN FOOTINGS OR UNDER COLUMN FOOTINGS.

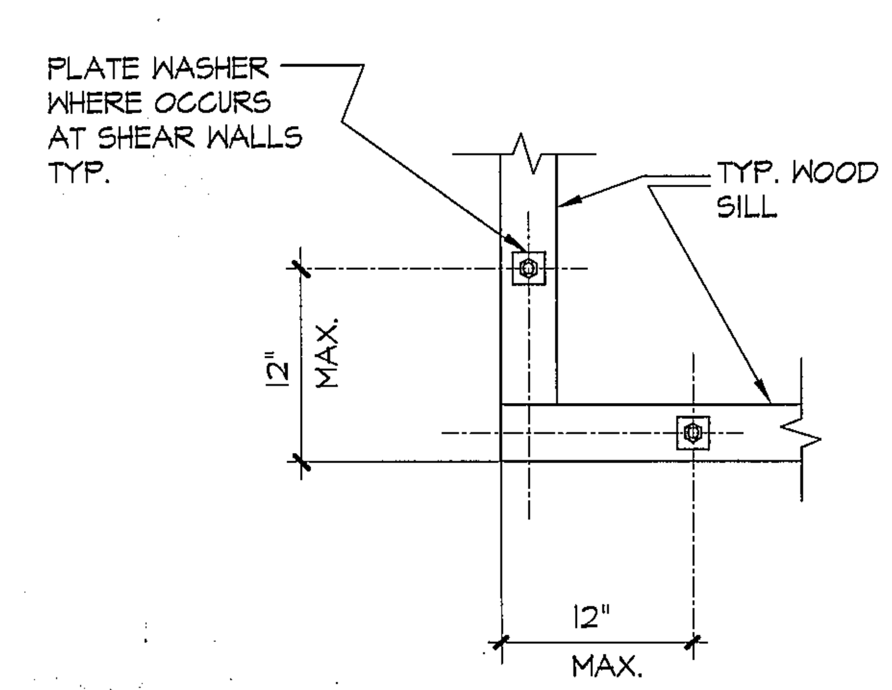
CONCRETE FILL IS TO BE PLACED BEFORE FOOTING IS POURED. MAKE SAME WIDTH AS FOOTING.

PIPE THROUGH FOUNDATIONS 2

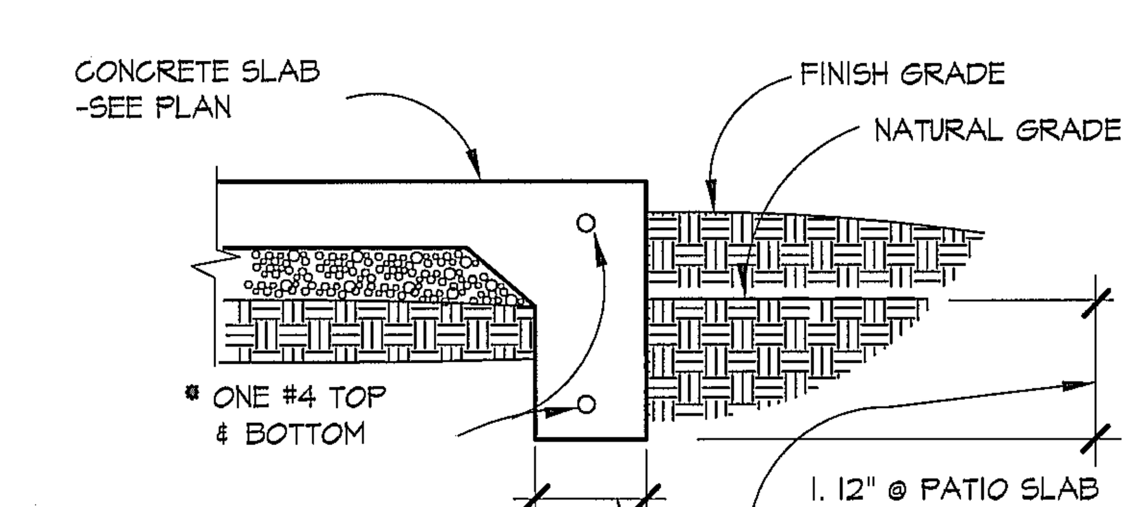


SHEAR ANCHOR BOLTS

ANCHOR BOLT DETAIL FOR SHEAR ANCHORS 12



TYP. ANCHOR BOLT PLACEMENT 9

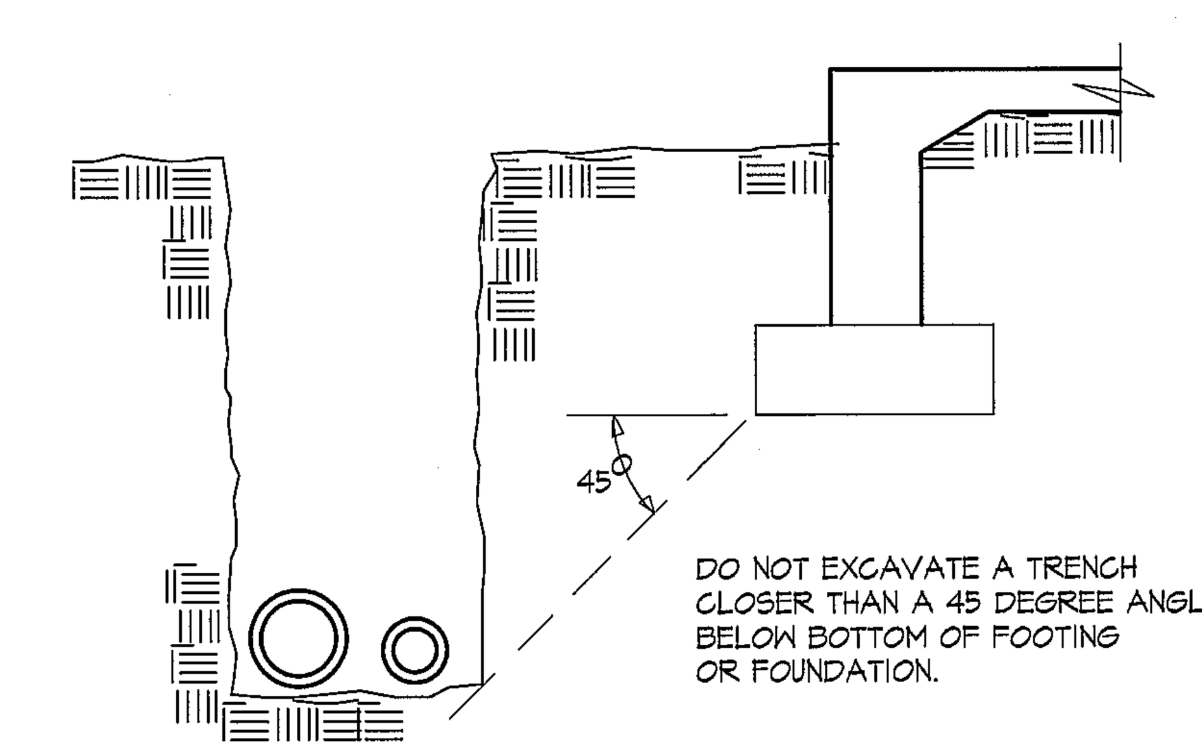


1. 8" @ PATIO SLAB
2. 12" @ PATIO SLAB W/ EXPANSIVE SOILS
3. PER PLANS @ HOUSE SLAB-SEE PLANS

1. 12" @ PATIO SLAB
2. 24" @ PATIO SLAB W/ EXPANSIVE SOILS
3. PER PLANS @ HOUSE SLAB-SEE PLANS

* ONE #4 BOTTOM AT PATIO W/ OUT EXPANSIVE SOILS ONLY

TURNDOWN @ EXTERIOR SLAB ON GRADE 6



DO NOT EXCAVATE A TRENCH CLOSER THAN A 45 DEGREE ANGLE BELOW BOTTOM OF FOOTING OR FOUNDATION.

TRENCH PARALLEL TO FOUNDATION 3

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LA, CA 90046 FOR:
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REGISTERED PROFESSIONAL ENGINEER
No. SE2628
STRUCTURAL
STATE OF CALIFORNIA

Date 12-18-12
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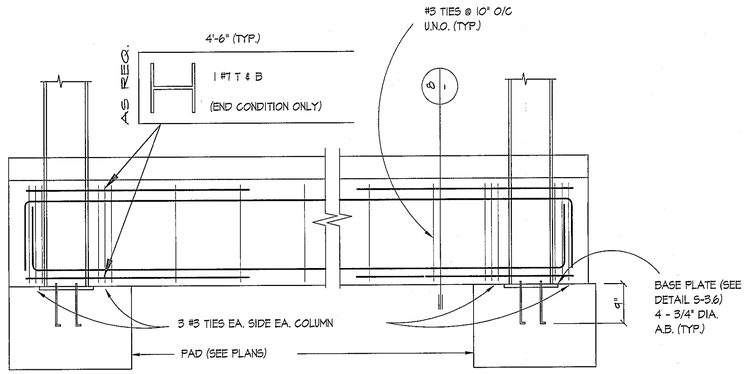
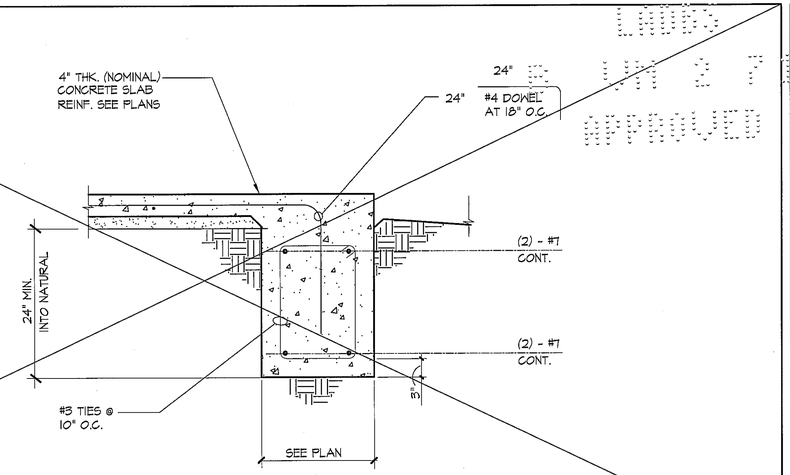


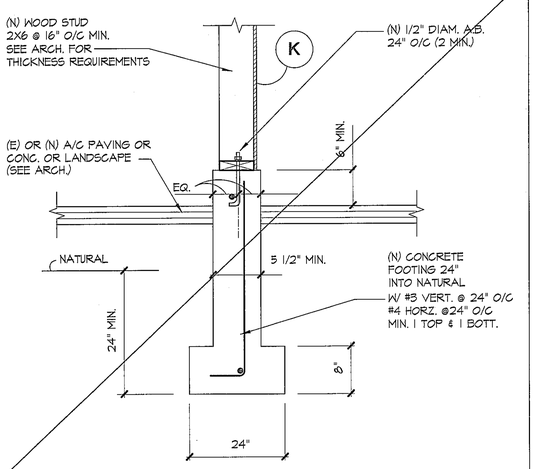
SEQUENCE OF CONSTRUCTION

1. EXCAVATE AND POUR PADS. NOTE: POUR 1 1/2" LOW FOR LEVELING.
2. PLACE COLUMN, LEVEL AND DRYPACK UNDER.
3. PLACE GRADE BEAM REINFORCEMENT. HAVE GRADE BEAM DEPUTY INSPECTED (3000 PSI CONCRETE).
4. POUR GRADE BEAM. NOTE: BY CODE, THERE CAN NOT BE TWO GRADES OF CONCRETE AT SITE AT SAME TIME. STAGGER POUR SUCH THAT GRADE BEAMS ARE POURED SEPERATELY FROM ALL OTHER FOOTING (2000 PSI).
5. POUR SLAB OVER GRADE BEAM.

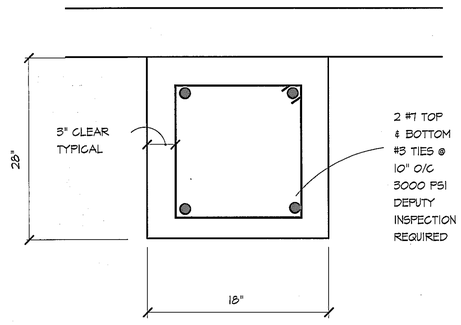
LATERAL (WIND/SEISMIC) SUPPORT COLUMN / GRADE BEAM CONNECTION DETAIL TYPICAL | 7



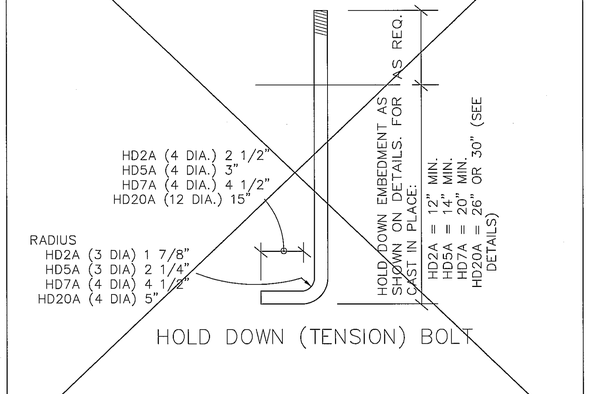
GRADE BEAM AT GARAGE ENTRANCE | 1



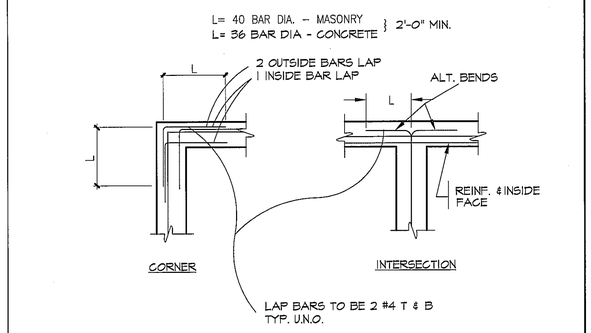
FOOTING AT GARAGE WALL | 11



BELOW GRADE TIE FOOTING | 8

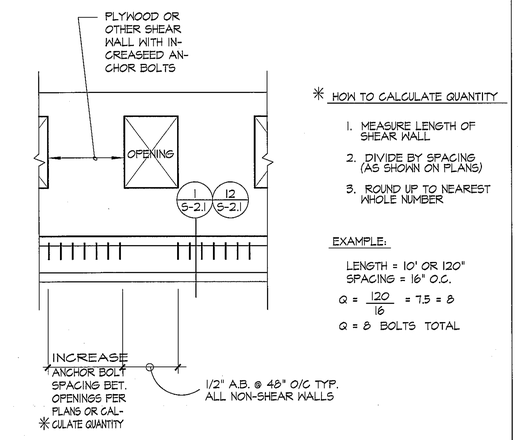


ANCHOR BOLT AT HOLD DOWN | 5

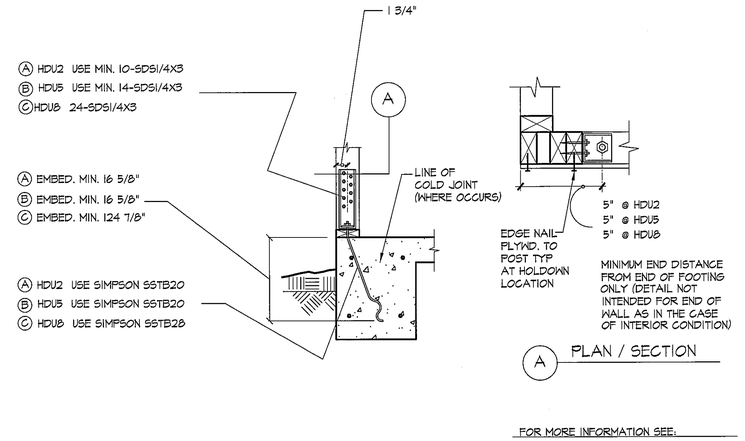


FOOTING CORNER/INTERSECTION REINF. LAP | 2

12



ADDED ANCHOR BOLTS AT SHEAR WALLS | 9



HOLDDOWN AT SLAB ON GRADE | 3

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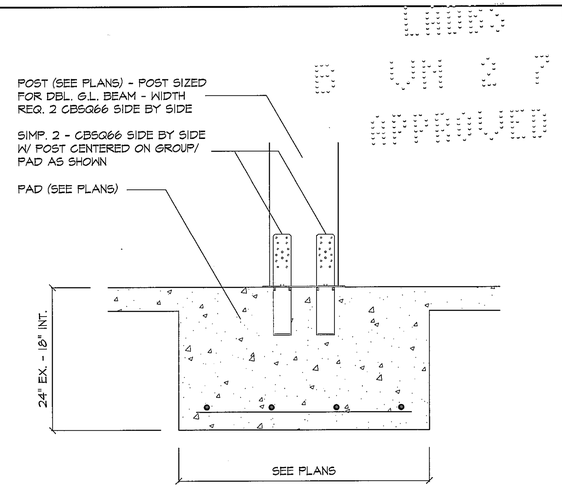
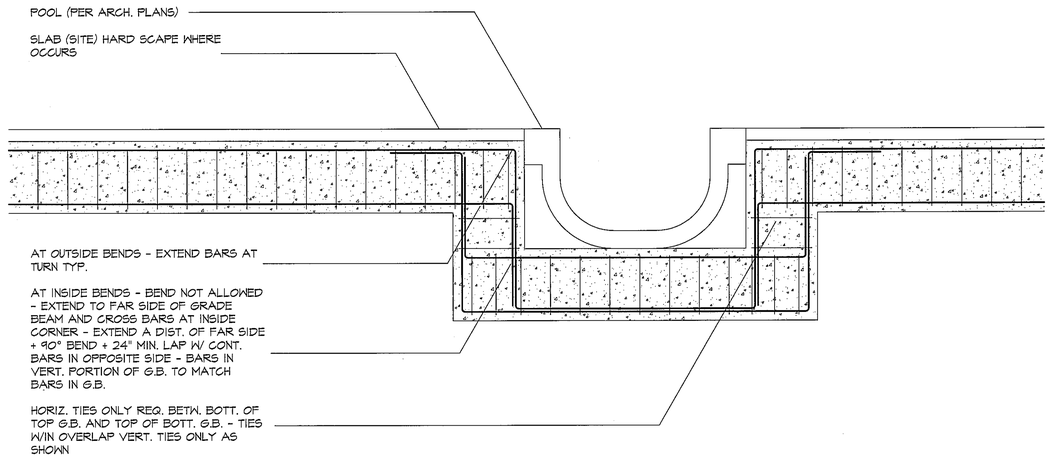


	10		7		4	DET. DBL. CB	1



	11		8			GRADE BEAM JOG AT POOL DET.	2

	12		9		6		3

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Date	12-18-12
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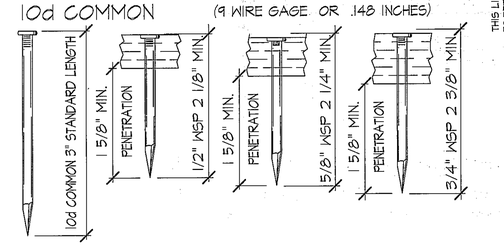
NOTE: COMMON NAILS HAVE ALWAYS BEEN REQUIRED FOR WSP SHEAR WALLS AND THEIR USE IS NOW BEING ENFORCED. THE FOLLOWING NAILS ARE DRAWN AT FULL SCALE WITH SPECIFICATIONS TO ASSIST THE CONTRACTOR IN DETERMINING WHETHER OR NOT THE NAILS BEING USED ARE THE CORRECT SIZE.

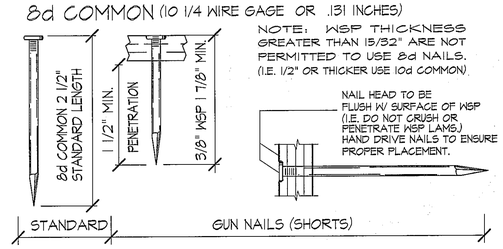
THIS LINE IS 2 INCHES LONG, TO DETERMINE IF THIS DRAWING HAS BEEN PLOTTED OR REDUCED. SCALE THIS LINE BEFORE USING.

NOTE: USE THIS DRAWING TO MATCH YOUR NAIL SIZE, TO ASSIST IN YOUR EFFORTS TO DETERMINE IF THE NAIL YOU ARE USING IS CORRECT.

10d COMMON (9 WIRE GAGE OR .148 INCHES)



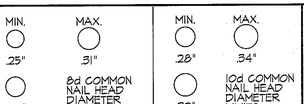
8d COMMON (10 1/4 WIRE GAGE OR .131 INCHES)



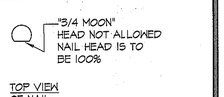
NOTE: WSP THICKNESS GREATER THAN 15/32" ARE NOT PERMITTED TO USE 8d NAILS. (I.E. 1/2" OR THICKER USE 10d COMMON)

SCALE: 1"=1"

A REQUIRED SHEAR WALL NAIL LENGTHS AND PENETRATION INTO FRAMING



B APPROVED NAIL HEAD DIAMETER(S) / SHAPE(S)



C NOT APPROVED NAIL HEAD DIAMETER / SHAPE

SHEAR WALL NAIL(S) INFORMATION 10

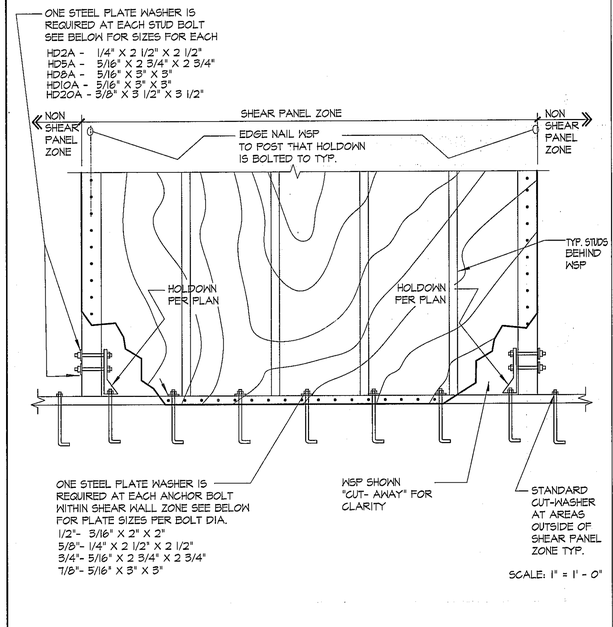
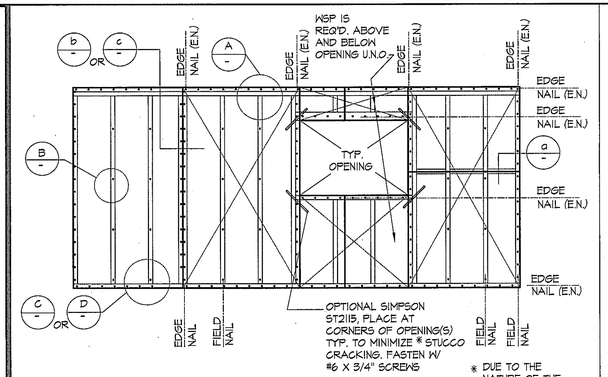
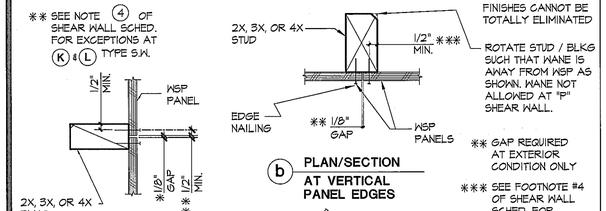


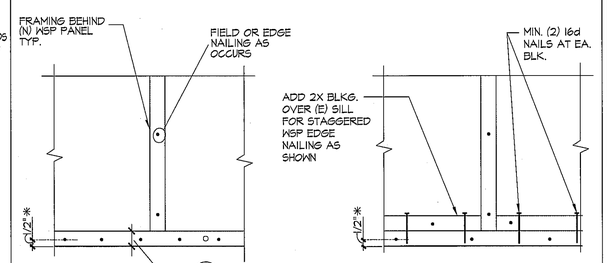
PLATE WASHERS AT HD AND ANCHOR BOLTS 12



SHEAR PANEL NAILING DIAGRAM

* DUE TO THE NATURE OF THE FORCES INVOLVED CRACKING OF FINISHES CANNOT BE TOTALLY ELIMINATED



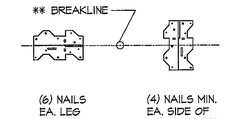


SHEAR PANEL NAILING CONDITIONS 6

SHEAR WALL SCHEDULE

MARK	MATERIAL (17)(22)	LAYERS	SIDES	NAILING	BLOCKING REQ. / SIZE	SILL CONNECTION (1)(2) WOOD TO WOOD (23) NAILING / LAGS 16d NAILS	3/8" X 5"	A35 (4)(16) 3/8" X 6"	SCREWS	WOOD TO CONC A.B. (1)(14) NAILS	5/8" DIA. A.B.	(9)(16) DESIGN LOAD CAPACITY	REMARKS (NOTES) (1)(2)(3) TYP.
K	3/8" CDX WSP (20)	1	1	8d COMMON @ 6" O/C EDGES 12" O/C FIELD	YES 2X	2 1/2" o/c	16" O/C	24" O/C	16" O/C	24" O/C	32" O/C	140 PLF	(4)(23)
L	1/2" STRUCT I WSP (20)	1	1	8d COMMON @ 4" O/C EDGES 12" O/C FIELD	YES 2X	1 3/4" o/c	12" O/C	12" O/C	12" O/C	16" O/C	24" O/C	242 PLF	(4)(12)(20)
M	1/2" STRUCT I WSP (20)	1	1	10d COMMON @ 4" O/C EDGES 12" O/C FIELD	YES 3X	NA	8" O/C	12" O/C	8" O/C	12" O/C	24" O/C	323 PLF	(3)(10)(12)(13)(16)
N	1/2" STRUCT I WSP (20)	1	1	10d COMMON @ 3" O/C EDGES 12" O/C FIELD	YES 3X	NA	8" O/C	8" O/C	8" O/C	8" O/C	16" O/C	425 PLF	(3)(10)(12)(13)(16)
O	1/2" STRUCT. I WSP (20)	1	1	10d COMMON @ 2" O/C EDGES 12" O/C FIELD	YES 3X	NA	6" O/C	6" O/C	6" O/C	8" O/C	12" O/C	553 PLF	(3)(10)(12)(13)(16)
P	1/2" STRUCT. I WSP (20)	1	2	10d COMMON @ 3" O/C EDGES 12" O/C FIELD	YES 4X	NA	4" O/C	5" O/C	4" O/C	6" O/C	3/4" DIA. @ 12" O.C.	723 PLF	(10)(12)(13)(15)(16)
Q	1/2" STRUCT. I WSP (20)	1	2	10d COMMON @ 3" O/C EDGES 12" O/C FIELD	YES 4X	NA	4" O/C	5" O/C	4" O/C	6" O/C	3/4" DIA. @ 10" O.C.	786 PLF	(24)(10)(12)(13)(15)(16)
R	1/2" STRUCT. I WSP (20)	1	2	10d COMMON @ 3" O/C EDGES 12" O/C FIELD	YES 4X	NA	4" O/C	5" O/C	4" O/C	6" O/C	3/4" DIA. @ 8" O.C.	850 PLF	(25)(10)(12)(13)(15)(16)

NOTES:
(1) ANCHOR BOLTS ARE REQUIRED AT ALL EXTERIOR WALLS AND INTERIOR SHEAR WALLS, SHOT PINS ARE NOT ALLOWED AT SHEAR WALLS AND EXTERIOR WALLS TYPICAL.
(2) 'RED HEAD' OR OTHER TYPE WEDGE ANCHOR MAY BE SUBSTITUTED FOR A.B. EXCEPT THAT WHERE EDGE DISTANCE IS LESS THAN 4", DRILL & EPOXY (SEE SPECS. ELSEWHERE) IS REQUIRED (CARE SHALL BE TAKEN NOT TO DAMAGE CONCRETE DURING DRILLING APPLICATION) AT EDGES < 4". NOT ALLOWED
(3) 3X MEMBERS ARE REQUIRED FOR NEW CONSTRUCTION AT:
A. MUDSILL, SEE NOTE #21 BELOW (3X NOT REQUIRED AT NON-SHEAR WALLS)
B. COMMON EDGE(S), STUDS, POSTS
C. ALL REQUIRED BLOCKING
(4) AT (K) & (L) NAILS SHALL BE PLACED AT LEAST 3/8" FROM PANEL EDGES AND AT LEAST 1/4" FROM THE EDGE OF THE FRAMING MEMBER(S) (STUD, PLATE SILL, BLKG, ETC.).
(5) NOT USED
(6) NOT USED
(7) SEE SHEAR WALL LAYOUT PLAN(S), & DETAILS AND SPECIFICATIONS FOR ADDITIONAL INFORMATION.
(8) WHERE SEISMIC LOADS CONTROL DESIGN FOR ZONES 3 & 4, DRYWALL DESIGN LOAD CAPACITIES HAVE BEEN REDUCED TO 30 PLF
(9) SEE DETAILS OTHER SHEETS FOR SHEAR TRANSFER, HOLD DOWNS AND DRAG STRUT INSTALLATIONS, ETC.
(10) (AT EARTHQUAKE REPAIRS ONLY) STAGGERED NAILING AT ADDED 2X BLKG OVER EXISTING BOTTTOM PLATE BETWEEN (E) STUDS O.K. IN-LIEU-OF REQ'D. 3X , SEE DETAILS
(11) THE ABOVE ALLOWABLE WSP VALUES ARE 75% OF TABLE 25K-I BASED UPON CURRENT INDUSTRY STANDARDS AND THE CALIF. STATE CODE.
(12) 4 PLY MIN. WSP IS REQUIRED FOR SHEAR WALLS OVER 200 PLF.
(13) STRUCTURAL OBSERVATION IS REQUIRED (SEE NOTE ELSEWHERE ON THIS SHEET AND OTHER SHEETS)
(14) HOLD DOWN POST BOLT AND SHEAR WALL ANCHOR BOLTS SHALL BE PROVIDED WITH "PLATE" WASHER NOT STANDARD "CUT" WASHER AND SHALL BE AS SHOWN IN DETAIL #12 OF THIS SHEET.
(15) 3X WALL REQ., I.E. 3 X 4 STUDS, 3 X 4 SILL 3 X 4 TOP/TOP PLATE END POST, ETC.
(16) PRE-DRILL OR SCREW ALL A35s W/ SPACING LESS THAN 8" O.C.
(17) DOUGLAS-FIR OR SOUTHERN PINE FRAMING (S.G. 0.49 MINIMUM). ALL PANEL EDGES FASTENED TO FRAMING.
(18) ALL PANEL EDGES BACKED WITH 2-INCH NOMIMAL OR WIDER FRAMING. WSP INSTALLED EITHER HORIZONTALLY OR VERTICALLY
(19) WHERE WSP. IS INSTALLED ON BOTH FACES OF A WALL AND NAIL SPACING IS LESS THAN 6 INCHES ON CENTER ON EITHER SIDE PANEL JOINTS SHALL BE OFFSET TO FALL ON DIFFERENT FRAMING MEMBERS OR FRAMING SHALL BE 3-INCH OR THICKER AND NAILS ON EACH SIDE SHALL BE STAGGERED.
(20) WSP IS AN ABBREVIATION FOR WOOD STRUCTURAL PANEL WHICH IS DEFINED AS "WOOD STRUCTURAL PANEL" WHICH IS TO INCLUDE PROPERLY GRADE STAMPED, (OSB) ORIENTED STRAND BOARD, WAFERBOARD, COMPOSITE PANELS, AND CONVENTIONAL VENEER PLYWOOD. NOTE THAT PANEL(S) SHOULD BE INSTALLED SUCH THAT THE GRADE STAMP IS EASILY VISIBLE FROM BLDG. EXTERIOR PANEL(S) INSTALLED WITHOUT GRADE STAMP ARE SUBJECT TO REMOVAL BY ENGINEER DURING STRUCTURAL OBSERVATION VISIT(S)
(21) MUDSILL IS DEFINED AS THE SILL WHICH RESTS ON CONCRETE, (FTG, DECK, SLAB ETC.) AND E.N., WSP AND HAS WSP E.N. TO SAME (I.E. A.B. & E.N. TO SAME MEMBER WHETER OR NOT IT IS PRESSURE TREATED.
(22) 15/32" OR 5/8" WSP CAN BE SUBSTITUTED WITHOUT WRITTEN APPROVAL PROVIDED REQUIRED NAIL PENETRATION IS ACHIEVED AND ALL OTHER SPECIFICATIONS ARE FULFILLED.
(23) SEE ALSO DETAIL 9/S-3.2 FOR ALTERNATE LAG SCREWS AT SILL CONNECTIONS
(24) REDUCE OPENING FROM 15% TO 7 1/2% (1/2 VALUES SHOWN IN TABLE 2/S-3.2)
(25) FULL VALUE USED IN CALCULATIONS, NO REDUCTION ALLOWED (STRUCT. OBSERV. ENGR. NOTE % ON PLANS)



FASTENED W/ NAILS		
SHEAR WALL TYPE	HORIZONTAL * ORIENTATION SEE DETAIL "A"	VERTICAL ORIENTATION SEE DETAIL "B"
(K)	24"	16"
(L)	16"	12"
(M)	12"	8"
(N) & (O)	8"	6"
(P)	8"	6"

FASTENED W/ SCREWS		
SHEAR WALL TYPE	HORIZONTAL * ORIENTATION SEE DETAIL "A"	VERTICAL ORIENTATION SEE DETAIL "B"
(K)	24"	16"
(L)	16"	12"
(M)	12"	8"
(N) & (O)	8"	6"
(P)	8"	6"

SPACING SHOWN HERE IS THE SPACING * SHOWN ON THE SCHEDULE AND IS THE CORRECT ORIENTATION.

** BREAKLINE IS A JOINT, EDGE ETC. USUALLY OF TWO SEPARATE ITEMS

SHEAR WALL SCHEDULE, FOOTNOTES & A35 ORIENTATION OPTIONS 2

HOLDOWN & POST SCHEDULE (1)(4)(6)

CALLOUT (MODEL NO. & RATING)	ANCHOR DIAM.	NO SPECIAL INSPECTION: SET INTO WET CONCRETE (5)	NO SPECIAL INSPECTION: DRILLED AND EPOXY SET	WITH SPECIAL INSPECTION: SET INTO WET CONCRETE	WITH SPECIAL INSPECTION: DRILLED AND EPOXY SET (7): 6" CONCRETE STEM WALL	WITH SPECIAL INSPECTION: DRILLED AND EPOXY SET (7): 8" STEM WALL & SLAB FTG.	ANCHOR BOLT EMBEDMENT: SET INTO WET CONCRETE	ANCHOR BOLT EMBEDMENT: DRILLED AND EPOXY 6" STEM	ANCHOR BOLT EMBEDMENT: DRILLED AND EPOXY 8" STEM & 12" "Z" ON GRADE FTG	MIN. POST	POST SCREWS	LOAD CAP. (LBS)
PHD2	5/8"	2,464	NOT ALLOWED	2,464	2,464	2,464	12"	10"	8"	(2) 2 X 4	10-SDS1/4X3	2,464
PHD5	3/4"	3,375	NOT ALLOWED	3,375	3,375	3,375	15"	13"	11"	(2) 2 X 4	14-SDS1/4X3	3,375
PHD8	7/8"	5,340	NOT ALLOWED	5,340	5,340	5,340	20"	18"	18"	4 X 4	20-SDS1/4X3	5,340
DBL. PHD8 (LOW)	7/8"	8,010	NOT ALLOWED	8,010	8,010	8,010	24"	24"	24"	4 X 6	48-SDS1/4X3 (24-SCREWS EA.)	8,010
DBL. PHD8 (HIGH)	7/8"	10,680	NOT ALLOWED	10,680	10,680	10,680	30"	30"	30"	4 X 6	48-SDS1/4X3 (24-SCREWS EA.)	10,680

(ALLOWABLE LOADS FOR SIMPSON STRONG-TIE® HOLDOWN HARDWARE IN POUNDS) (2)

FOOTNOTES:
(1) INFORMATION SHOWN HERE IS FROM L.A. BLDG. & SAFETY "HOLDOWN QUICK REFRENCE CHART" WHICH REFERENCES TABLE 26-E (TENSION ONLY) OF THE LOS ANGELES CITY BUILDING CODE.
(2) VALUES SHOWN ARE IN COMPLIANCE WITH BLDG. DEPT. MEMO DATED MAY 20, 1994 WHICH REQUIRES:
1. BOLTS HOLES IN WOOD POST MIN. 1/32" TO MAX 1/16" LARGER THAN POST BOLT DIA.
2. HOLDOWN CONNECTORS TO BE TIGHTENED JUST PRIOR TO COVERING WALL FRAMING
(5) BLDG. DEPT. MEMO DATED NOV. 30, 1994 REQUIRES "APPROVED PLATE WASHERS" IN-LIEU-OF CUT WASHERS FOR THE HOLDOWN CONNECTOR BOLTS AT THE POST (SEE ALSO 3/S-3.1)
(4) SEE SPECIFICATION SHEET(S) S-1.1 OR S-1.2 FOR ADDITIONAL SIMPSON STRONG-TIE® HARDWARE INFORMATION.
(5) VALUES FOR WET CONCRETE ARE BASED UPON ALTHREAD W/ PL. WASHER ANCHOR AND TRIDITIONAL A.B. OR SSTB A.B. NOT ALLOWED.
(6) SEE ADDITIONAL SIMPSON STRONG-TIE SPECIFICATIONS ON SHEET S-1.1 OR S-1.2 VALUES ASSUME A.B. PLACED AT CENTER OF SLAB ON GRADE FOOTING, IF NOT CENTER OR IF RAISED WOOD FLOOR USE VALUES TWO COLUMNS TO THE LEFT ("2 X 4 AT FTG. EDGE").
(7) DRILL EPOXY INTO STEM WALLS TO BE AT THE CENTER OF THE WALL AND 1 3/4" FOR SLAB ON GRADE DRILLED 1:6 DIAGONALLY FOR 3" AVERAGE (SEE FOOTING DETAILS).

HOLDOWN AND POST SCHEDULE 3

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SHEAR WALL SCHEDULE

TWO STORY SINGLE FAMILY RESIDENCE
901 LAUREL CYN.
LA, CA 90046 FOR:
L.I. INVESTMENTS, LLC

REGISTERED PROFESSIONAL ENGINEER ROSS DOWNEY No. SE2628 STRUCTURAL 3-31-13 STATE OF CALIFORNIA

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STRUCTURAL OBSERVATION CHECKLIST

THE FOLLOWING CHECKLIST IS PROVIDED TO SHOW THE CONTRACTOR/SUBCONTRACTOR(S) WHAT THIS OFFICE WILL BE LOOKING FOR DURING STRUCTURAL OBSERVATION(S).

I. PLYWOOD

I. PLYWOOD THICKNESS
2. PLYWOOD SIZE (EACH PIECE)
3. PLYWOOD GRADE

II. NAILS

I. NAIL SIZE
2. NAIL SHANK DIAMETER
3. NAIL HEAD DIAMETER

III. FRAMING

I. PLYWOOD BOUNDARY FRAMING 3X WHERE REQUIRED
2. PLYWOOD EDGE BLOCKING/FRAMING 3X WHERE REQUIRED

IV. APPLICATION (NOTE: 15% MARGIN OF ERROR ALLOWED)

I. NAIL PENETRATION INTO FRAMING
2. NAIL HEAD PENETRATION INTO PLYWOOD LAMS.
3. NAIL SPACING
4. EDGE DISTANCE
5. SHEAR WALL LENGTH
6. EXTERIOR PLYWOOD GAPPED 1/8" BETWEEN SHEETS

V. SHEAR TRANSFER TOP AND DRAG CONNECTIONS

I. ANGLE CLIPS SPACING
2. ANGLE CLIPS NAILED CORRECTLY
3. DRAG CONNECTION TO SHEAR WALL

VI. SHEAR TRANSFER BOTTOM

I. SILL NAILING OR ANCHOR BOLTING
2. ANCHOR BOLT PLATE WASHERS
3. ANCHOR BOLT NUT TIGHT AND ALL THREADS ENGAGED

VII. HOLD DOWN

I. PLYWOOD EDGE NAILED TO POST WITH HOLD DOWN
2. ANCHOR BOLT SIZE / EMBEDMENT
3. HOLD DOWN SIZE
4. HOLES DRILLED IN POST 1/16" MAX. LARGER THAN BOLT DIAMETER
5. HOLD DOWN POST BOLTS WITH CORRECT PLATE WASHERS
6. HOLD DOWN NUTS TIGHT AND ALL THREADS ENGAGED

VIII. OPENINGS IN PLYWOOD PANEL

I. HOLES / NOTCHING OF PLYWOOD

IX. MISC.

I. WANE NOT A PROBLEM (SEE FOOT NOTE 1)
2. ALL PLYWOOD EDGES BLOCKED CORRECTLY
3. ADJOINING PANEL EDGES A SINGLE PIECE (3X WHERE REQUIRED)
4. 2-2X NAILED TOGETHER AT ADJOINING PANEL EDGES (SEE FOOT NOT 4.)
5. PLYWOOD CONTINUOUS AT INTERSECTING WALL(S)
6. SHEAR TRANSFER CLIP ANGLES WITH CORRECT ORIENTATION
7. CUTTING / NOTCHING FRAMING MEMBER(S)
8. SHEAR TRANSFER CLIP ANGLES ORIENTED CORRECTLY
9. PLYWOOD EDGE NAILED TO BOTTOM OF DOUBLE SILL PLATE (IF DOUBLED)
10. PLYWOOD EDGE NAILED TO TOP OF DOUBLE TOP PLATE?
11. SHEAR WALL LENGTH AS SHWON ON PLANS
12. PLYWOOD TWO SIDES WITH STAGGERED ADJOINING PANEL EDGES
13. EDGE NAILS STAGGERED
14. PLATES PROPER GRADE (D.F.) NOTE THAT SOMETIMES P.T. SILLS ARE H.F.
15. HOLD DOWN ORIENTATION
16. METAL STRAPS/CLIPS OVER/UNDER PLYWOOD PER PLANS

NOTE:

1. WANE IS THE CORNER OF THE STUD/PLATE THAT IS MISSING BECAUSE THIS IS THE FACE OF THE TREE AT THE BARK). PIECE OF WOOD WAS CUT AT THE EDGE OF THE LOG (IE. THE WANE SURFACE
2. D.F. IS DOUGLAS FIR
3. H.F. IS HEM FIR
4. DUE TO SEISMIC DAMAGE ONLY
   2 - 2X NOT ALLOWED FOR NEW CONSTRUCTION, ONLY RETROFIT OR UPGRADES

NOTE: ANY "NOT TO CODE / PLANS" RESPONSE TO ANY ITEM CONSTITUTES A FAILED WALL. SEE PLANS AND SPEC'S FOR SPECIFIC INFO. A FAILED WALL REQUIRES EVALUATION BY ENGINEER FOR CORRECTIVE ACTION

ADDITIONAL STRUCTURAL OBSERVATION NOTES

THE CONTRACTOR IS RESPONSIBLE FOR NOTIFYING THIS OFFICE 72 HOURS IN ADVANCE OF REQUIRED OBSERVATION(S) FOR SCHEDULING PURPOSES. FAILURE TO MEET OBSERVATION SCHEDULES MAY REQUIRE REMOVAL FOR OBSERVATION PURPOSES ANY FINISHES THAT HAVE BEEN SUBSEQUENTLY INSTALLED. APPROVAL BY THE CITY INSPECTOR DOES NOT PRECLUDE OBSERVATION BY THE STRUCTURAL ENGINEER. REMOVAL AND REPLACEMENT OF ANY FINISHES AND/OR FRAMING DAMAGED BY THE FINISH REMOVAL PROCESS OR AS REQUIRED FOR CORRECTIVE ACTION SHALL BE AT THE CONTRACTOR'S EXPENSE (NOT THE OWNER, STRUCTURAL ENGINEER OR THIS OFFICE), FOR FAILURE TO COMPLY WITH THESE PLANS AND SPECIFICATIONS, NAMELY THAT THE STRUCTURAL ENGINEER SHALL PROVIDE STRUCTURAL OBSERVATION FOR PLYWOOD SHEAR WALLS OVER 300 PLF. THE ENGINEER OR THIS OFFICE DOES NOT GUARANTEE THE PERFORMANCE OF AND SHALL HAVE NO RESPONSIBILITY FOR, THE ACTS, ERRORS AND/OR OMISSIONS OF ANY CONTRACTOR, SUBCONTRACTOR, SUPPLIER AND/OR ANY OTHER ENTITY FURNISHING MATERIALS OR PERFORMING ANY WORK ON THIS PROJECT.

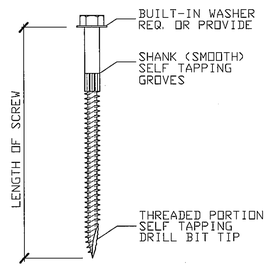
15% TABLE

LENGTH	0"	3"	6"	9"
2'-	3 5/8"	4"	4 1/2"	5"
3'-	5 1/2"	5 7/8"	6 3/8"	6 3/4"
4'-	7 1/4"	7 5/8"	8 1/8"	8 1/2"
5'-	9"	9 1/2"	9 7/8"	10 3/8"
6'-	10 7/8"	11 1/4"	11 3/4"	12 1/8"
7'-	12 5/8"	13"	13 1/2"	14"
8'-	14 3/8"	14 7/8"	15 3/8"	15 3/4"
9'-	16 1/4"	16 5/8"	17 1/8"	17 1/2"
10'-	18"	18 3/8"	18 7/8"	19 3/8"

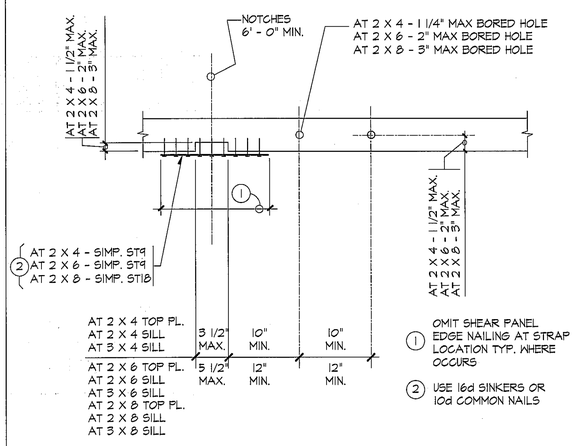
EXAMPLE #1: IF SHEAR WALL LENGTH IS 4'- 9" MAXIMUM OPENING ALLOWED IS 8 1/2"

EXAMPLE #2: IF SHEAR WALL LENGTH IS 12' - 3" , MAXIMUM OPENING ALLOWED IS 22" (BECAUSE 12'- 3"= 10'- 0" + 2'- 3", THEREFORE 18" + 4" = 22"

SHEAR WALL	LAG SCREW	
	1/4" X 5"	1/4" X 6"
K	7"	14"
L	4"	8"
M	3 1/2"	7"
N	3"	6"
O	2"	4"
P	N/A	N/A
Q	N/A	N/A



OPTIONAL SELF-DRILL (SELF-TAPPING) SILL CONN. SCREWS DET.

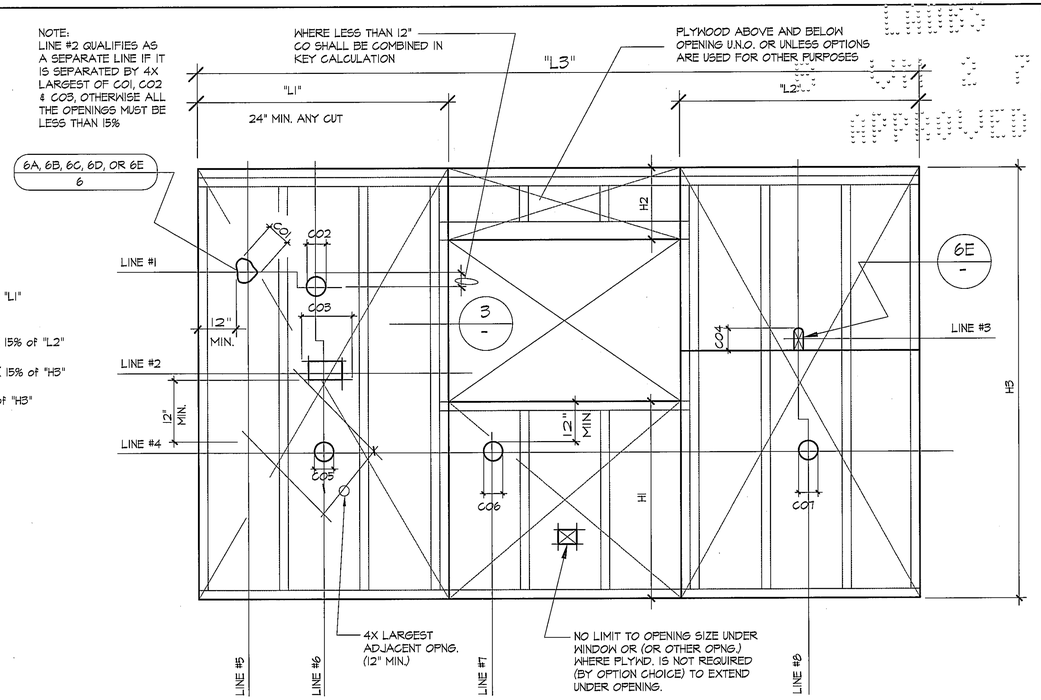


TOP / SILL PLATE NOTCHING AT SHEAR WALLS

NOTE:
LINE #2 QUALIFIES AS A SEPARATE LINE IF IT IS SEPARATED BY 4X LARGEST OF CO1, CO2 & CO3, OTHERWISE ALL THE OPENINGS MUST BE LESS THAN 15%

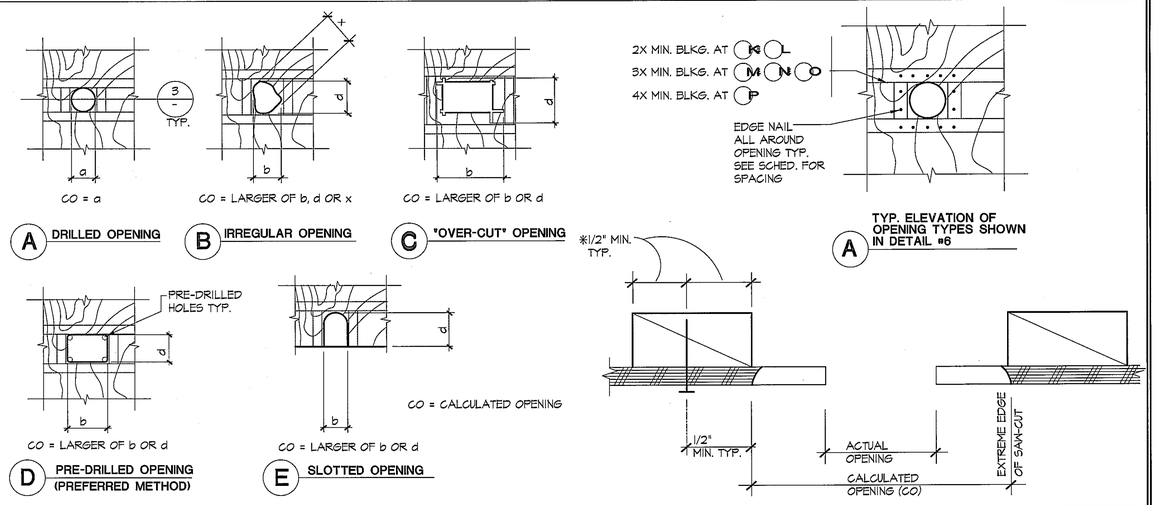
KEY

LINE #1 = CO1 + CO2 < 15% of "L1"
LINE #2 = CO3 < 15% of "L1"
LINE #3 = CO4 < 15% of "L2"
LINE #4 = CO5 + CO6 + CO7 < 15% of "L2"
LINE #5 = CO1 < 15% of "H3"
LINE #6 = CO2 + CO3 + CO5 < 15% of "H3"
LINE #7 = CO6 <15% of "H1"
LINE #8 = CO4 + CO7 < 15% of "H3"



ABBREVIATIONS

(E) = EXISTING
GA = GAUGE
PLF = POUNDS PER LINEAL FOOT
REQ. = REQUIRED
O.C. = ON CENTER
ϕ = DIAMETER
CO = CALCULATED OPENING



SHEAR WALL DETAILS

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REGISTERED PROFESSIONAL ENGINEER ROSS DOMER No. SE2628 STRUCTURAL STATE OF CALIFORNIA

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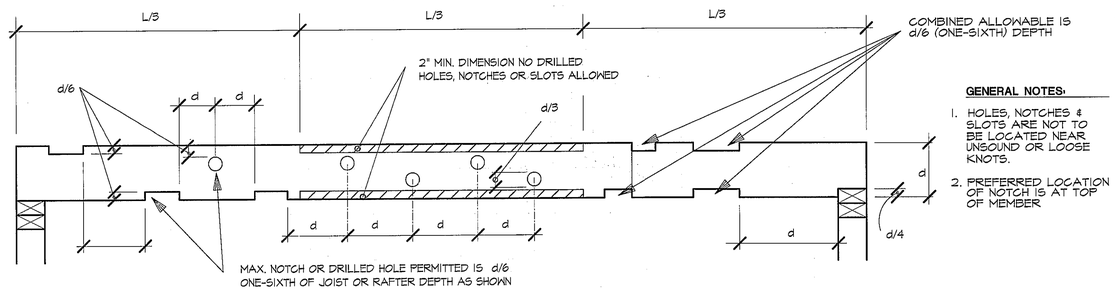
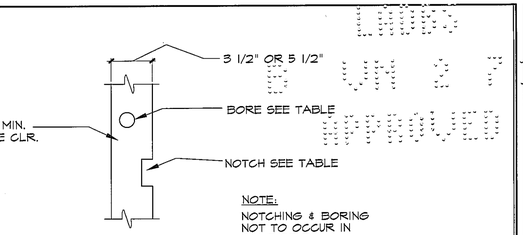


GENERAL NOTES:

1. HOLES, NOTCHES & SLOTS ARE NOT TO BE LOCATED NEAR UNSOUND OR LOOSE KNOTS.
2. PREFERRED LOCATION OF NOTCH IS AT TOP OF MEMBER

NOMINAL	ACTUAL	d/6	d/4	d/3
4"	3 1/2"	9/16"	7/8"	1 1/8"
6"	5 1/2"	7/8"	1 3/8"	1 13/16"
8"	7 1/4"	1 3/16"	1 13/16"	2 7/16"
10"	9 1/4"	1 1/2"	2 5/16"	3 1/16"
12"	11 1/4"	1 7/8"	2 13/16"	3 3/4"
14"	13 1/4"	2 3/16"	3 5/16"	4 7/16"

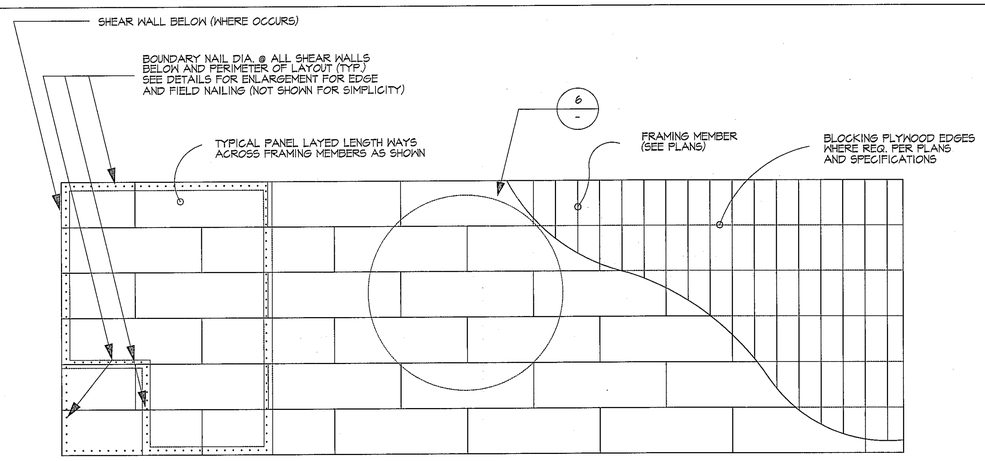
FLOOR JOIST (RESIDENTIAL ONLY), ROOF JOIST AND ROOF RAFTERS - NOTCHING AND BORING TYPICAL | 4



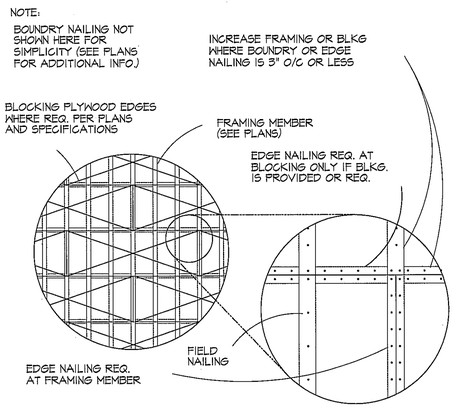
NOTE:
NOTCHING & BORING NOT TO OCCUR IN SAME STUD

	MULTIPLE STUDS	SINGLE STUDS	
		BEARING	NON-BEARING
BORE	60% MAX	40% MAX	60% MAX
2 X 4	2 1/8"	1 3/8"	2 1/8"
2 X 6	3 3/8"	2 1/4"	3 3/8"
NOTCH	NA	25% MAX	40% MAX
2 X 4	NA	7/8"	1 3/8"
2 X 6	NA	1 3/8"	2 1/4"

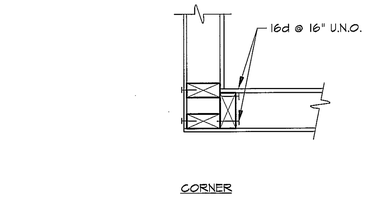
TYP. CUTTING & BORING STUDS | 1



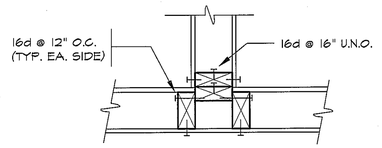
HORIZONTAL PLYWOOD SUBFLOOR/ROOF DIAPHRAGM LAYOUT PLAN (TYP.) | 8



HORZ. PLYWD. LAYOUT NAILING PATTERN (TYP.) | 5

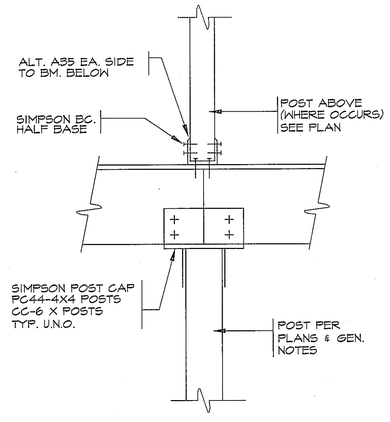


CORNER

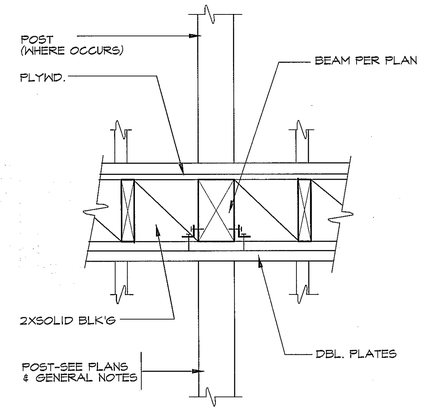


INTERSECTION

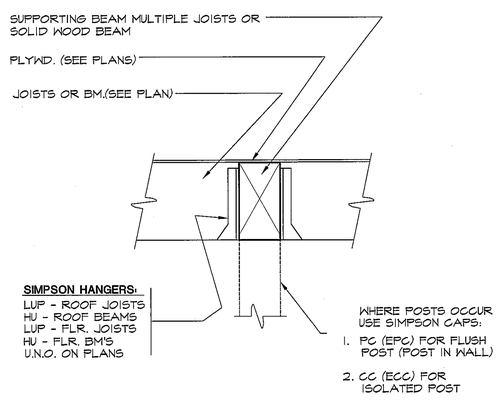
TYP. WALL CORNER/INTERSECTION | 2



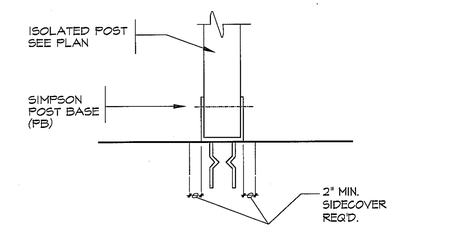
TYP. BEAM TO ISOLATED POST | 12



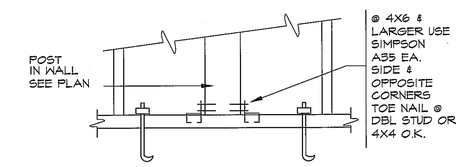
TYP. BEAM TO POST IN WALL | 9



FLUSH BEAM/JOIST DTL. TYP. | 6



WITHOUT SILL PLATE



WITH SILL PLATE

TYP. POST BASE W/ & W/O SILL | 3

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FRAMING DETAILS

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LA, CA 90046 FOR:
L.I. INVESTMENTS, LLC

REGISTERED PROFESSIONAL ENGINEER
ROSS DOMBY
No. SE2628
STRUCTURAL
STATE OF CALIFORNIA

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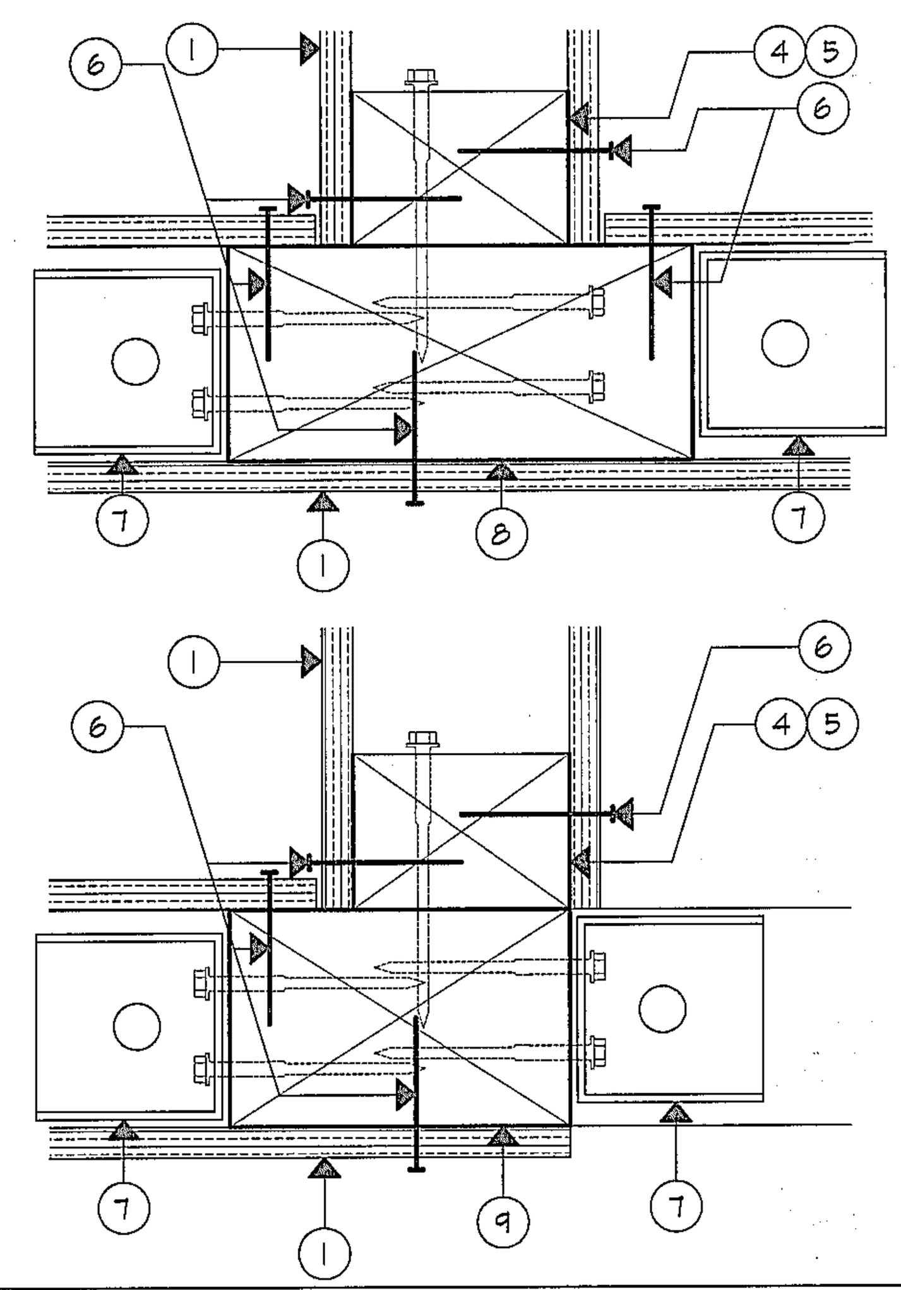
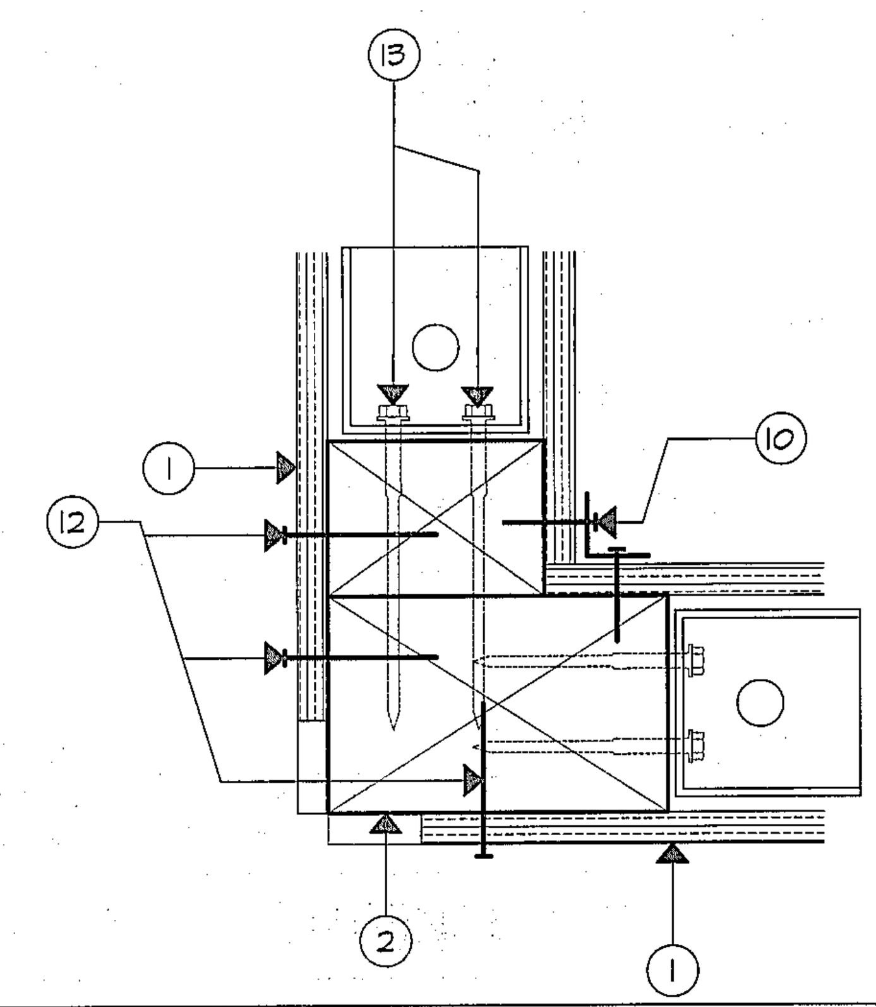
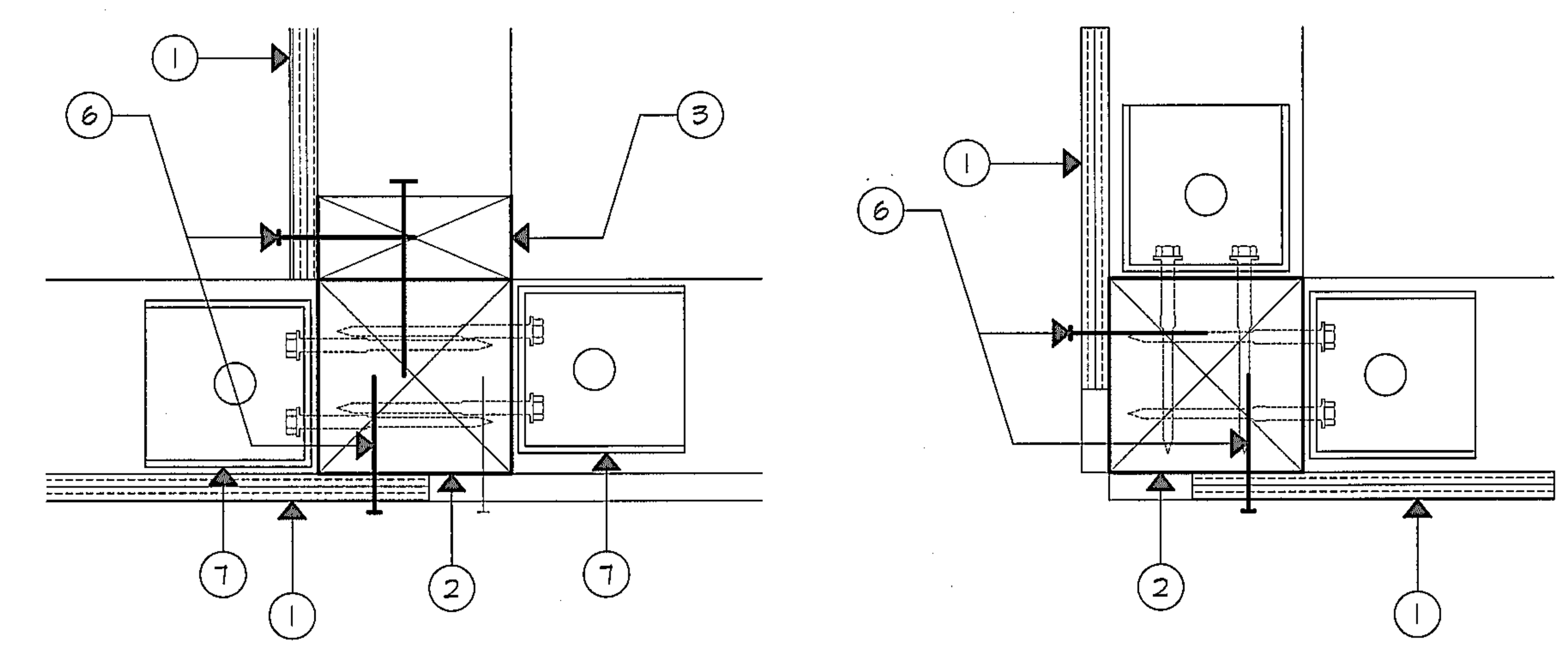
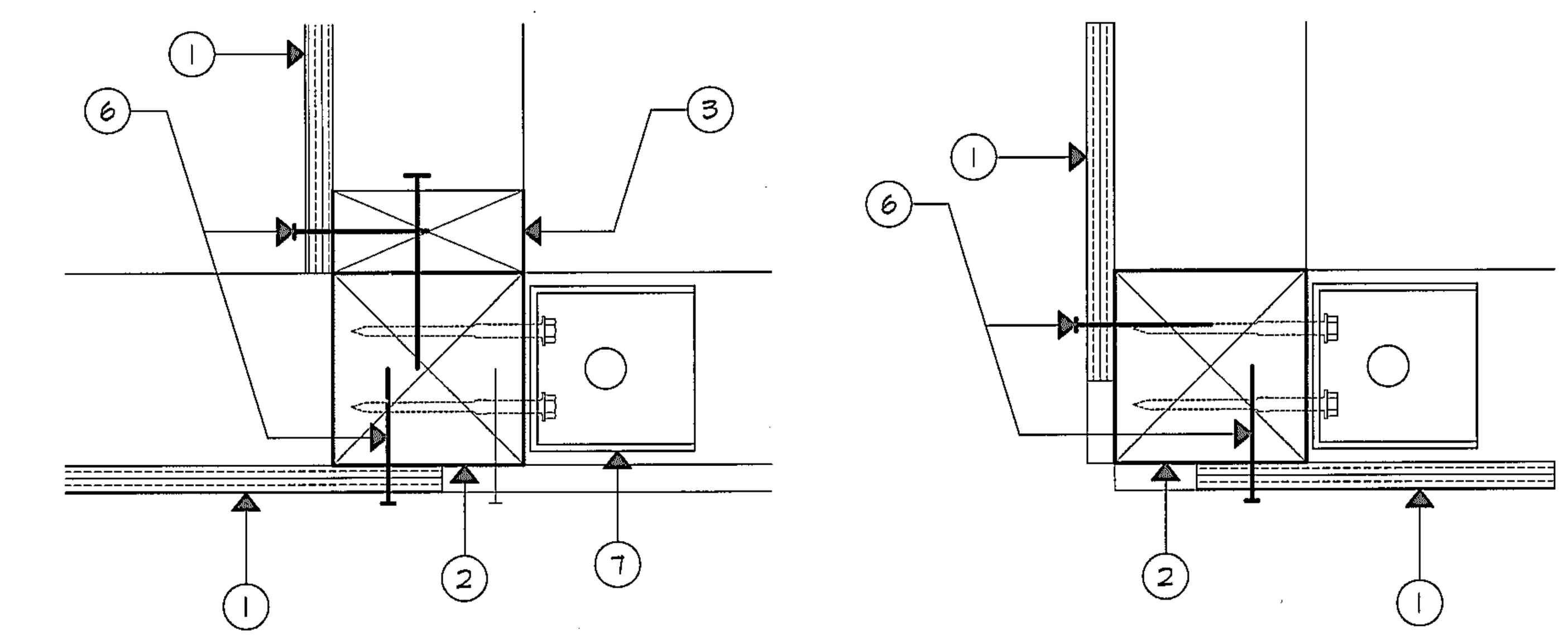




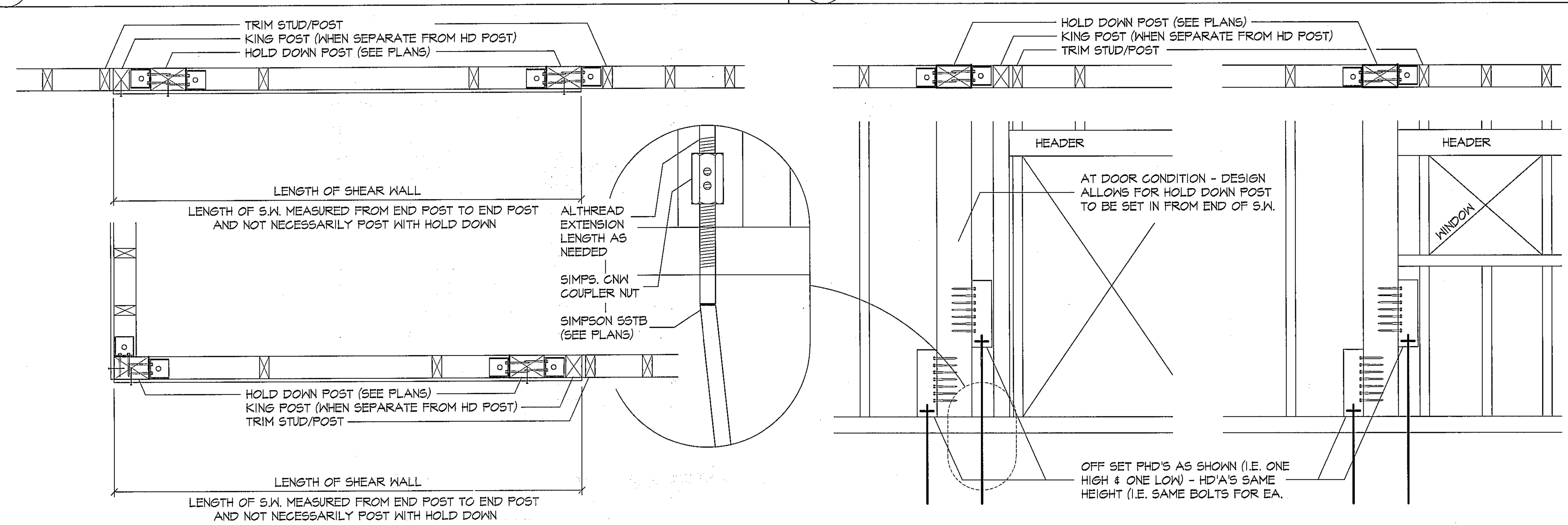
C DOUBLE PLYWD. TO DBL. PLYWD. DBL. PHD



B SINGLE PLYWD. TO SNGL. PLYWD. DBL.. PHD



A SINGLE PLYWD. TO SNGL. PLYWD. SNGL. PHD (OR NO PHD)



M DBL. HOLD DOWN LAYOUT AT DOOR(S)/WINDOW(S)

I. CALL OUT NOTES FOR DETAILS THIS SHEET

SYMBOL:	DESCRIPTION:
(1)	PLYWOOD (SEE PLANS & S-3.1) - 4 PLY OR OSB ALLOWED - GRADE STAMP REQUIRED.
(2)	HOLD DOWN POST 4X4, 4X6, 6X6, 4X8, ETC. (SEE PLANS - DETAILS)
(3)	CROSS WALL 2X W/ S.T. NAILING (SCHEDULE X)
(4)	CROSS WALL 3X W/ S.T. SCREWS (SEE SCHEDULE Y)
(5)	CROSS WALL 4X W/ S.T. SCREWS (SEE SCHEDULE Z)
(6)	8d COMMON (.131" DIA.) OR 10d COMMON (.148" DIA.) PLYWOOD NAILS SPACED AS E.N. (EDGE NAIL) AT ENDS & HD POSTS, PER PLANS AND SPECIFICATIONS (SEE FRAMING PLANS & S-3.1)
(7)	HOLD DOWN, PHD OR HD (SEE PLANS & SPECIFICATIONS)
(8)	4X6 @ 4X CROSS WALL, 4X8 @ 6X CROSS WALL (4X WALL), 6X6 @ 4X CROSS WALL, (4X WALL), ETC.
(9)	4X8 @ 4X CROSS WALL, 4X10 @ 6X CROSS WALL (4X WALL), 6X8 @ 4X CROSS WALL, (6X WALL), ETC.
(10)	A35'S SPACED AT DBL. SPACING AS SHOWN IN SCH. S-3.1 FOR EA. SIDE, I.E. IF ONLY ONE SIDE AT DBL. SIDED S.W. (EX. IF "P" S.W. PER SCH. A35'S @ 6" O/C, THEREFORE AT ONE -OR EACH SIDE- TO BE 12" O/C, I.E. DBL. SPACING OR 1/2 AS MANY PER SIDE)
(11)	3X SPACER IN RETURN WALL AT COMMON CORNER
(12)	10d COMMON (.148" DIA.) PLYWOOD NAILS SPACED AS E.N. (EDGE NAIL) STAGGERED EACH FRAMING AT ENDS & HD POSTS, PER PLANS AND SPECIFICATIONS (SEE FRAMING PLANS & S-3.1)
(13)	INCREASE SCREWS FROM 3" TO 4 1/2" AT RETURN STUD POST AT COMMON CORNER OR SIMILAR

II. SUBSTITUTIONS ALLOWED

ITEM	DESCRIPTION:
1.	SDS1/4 SCREWS FOR 16d COMMON. NAILS
2.	AT SINGLE HOLD DOWN (I.E. PHD, HD'A, ETC.) O.K. TO LOCATE ON OPPOSITE SIDE OF POST (I.E. SIDE NOT CRITICAL).
3.	WHERE HOLD DOWN IS SHOWN TWICE AT A CORNER OR INTERSECTION THE SMALLER CAN BE DELETED PROVIDED THE CROSS (INTERSECTING) WALLS TIE BOTH TOGETHER FOR ALL PANELS (I.E. S.T. ALL TO POST W/ HOLD DOWN). NOTE: S.T. CAN BE ACHIEVED IN MAY DIFFERENT WAYS - THESE DETAILS ARE PROVIDED TO SHOW MOST COMMON, BUT NOT ALWAYS THE ONLY METHOD POSSIBLE. ALTERNATE METHODS ARE POSSIBLE - STRUCTURAL OBSERVATION TO ADDRESS ALL ALTERNATES NOT SHOWN HERE PROVIDED S.T. (I.E. LOAD PATH) IS ACHIEVED WITHIN CODE AND SPECIFIC DESIGN SHOWN HERE, I.E. IN THESE PLANS).

SCHEDULE Z 4X SIDE MEMBER

(4X SIDE MEMBER TO 4X OR LARGER S.T. POST, STUD OR BLKG.)

SHEAR WALL:	ITEM: (a) 16d BOX NAILS	SUBSTITUTION ITEM: (b) 16d COMM. NAILS	SUBSTITUTION ITEM: (c) SIMPSON SDS1/4X3 CAN BE USED AS FOLLOWS: 3" LONG	4 1/2" LONG	6" LONG
K & L	4" O/C	5 1/2" O/C	(d) N/A	(d) N/A	9" O/C
M	4" O/C	4 1/2" O/C	(d) N/A	(d) N/A	7 1/2" O/C
N	3" O/C	3 1/2" O/C	(d) N/A	(d) N/A	5" O/C
O	2" O/C	2 1/4" O/C	(d) N/A	(d) N/A	4" O/C
P	1 1/2" O/C	1 3/4" O/C	(d) N/A	(d) N/A	3" O/C
Q	1" O/C	1 1/2" O/C	(d) N/A	(d) N/A	3" O/C
R	1" O/C	1 1/2" O/C	(d) N/A	(d) N/A	3" O/C

(a) .162" DIA. X 3 1/2" LONG - CONSULT ENGR. WHEN USING SMALLER OR SHORTER NAILS
(b) .135" DIA. X 3 1/2" LONG - CONSULT ENGR. WHEN USING SMALLER OR SHORTER NAILS
(c) .242" DIA. X LENGTH SHOWN - CONSULT ENGR. WHEN USING SMALLER OR SHORTER SCREWS OR OTHER THAN SDS1/4
(d) N/A = NOT ALLOWED

Z NAIL OPTIONS SCHEDULE 4X SIDE MEMBER

SCHEDULE Y 3X SIDE MEMBER

(3X SIDE MEMBER TO 3X OR LARGER S.T. POST, STUD OR BLKG.)

SHEAR WALL:	ITEM: (a) 16d BOX NAILS	SUBSTITUTION ITEM: (b) 16d COMM. NAILS	SUBSTITUTION ITEM: (c) SIMPSON SDS1/4X3 CAN BE USED AS FOLLOWS: 3" LONG	4 1/2" LONG	6" LONG
K & L	4" O/C	5 1/2" O/C	(d) N/A	9" O/C	11" O/C
M	4" O/C	4 1/2" O/C	(d) N/A	7 1/2" O/C	9" O/C
N	3" O/C	3 1/2" O/C	(d) N/A	5" O/C	6" O/C
O	2" O/C	2 1/4" O/C	(d) N/A	4" O/C	5" O/C
P	1 1/2" O/C	1 3/4" O/C	(d) N/A	3" O/C	3 1/2" O/C
Q	1" O/C	1 1/2" O/C	(d) N/A	3" O/C	3 1/2" O/C
R	1" O/C	1 1/2" O/C	(d) N/A	3" O/C	3 1/2" O/C

(a) .162" DIA. X 3 1/2" LONG - CONSULT ENGR. WHEN USING SMALLER OR SHORTER NAILS
(b) .135" DIA. X 3 1/2" LONG - CONSULT ENGR. WHEN USING SMALLER OR SHORTER NAILS
(c) .242" DIA. X LENGTH SHOWN - CONSULT ENGR. WHEN USING SMALLER OR SHORTER SCREWS OR OTHER THAN SDS1/4
(d) N/A = NOT ALLOWED

Y NAIL OPTIONS SCHEDULE 3X SIDE MEMBER

SCHEDULE X 2X SIDE MEMBER

(2X SIDE MEMBER TO 2X OR LARGER S.T. POST, STUD OR BLKG.)

SHEAR WALL:	ITEM: (a) 16d BOX NAILS	SUBSTITUTION ITEM: (b) 16d COMM. NAILS	SUBSTITUTION ITEM: (c) SIMPSON SDS1/4X3 CAN BE USED AS FOLLOWS: 3" LONG	4 1/2" LONG	6" LONG
K & L	4" O/C	5 1/2" O/C	9" O/C	11" O/C	(d) N/A
M	4" O/C	4 1/2" O/C	7 1/2" O/C	9" O/C	(d) N/A
N	3" O/C	3 1/2" O/C	5" O/C	6" O/C	(d) N/A
O	2" O/C	2 1/4" O/C	4" O/C	5" O/C	(d) N/A
P	1 1/2" O/C	1 3/4" O/C	3" O/C	3 1/2" O/C	(d) N/A
Q	1" O/C	1 1/2" O/C	3" O/C	3 1/2" O/C	(d) N/A
R	1" O/C	1 1/2" O/C	3" O/C	3 1/2" O/C	(d) N/A

(a) .162" DIA. X 3 1/2" LONG - CONSULT ENGR. WHEN USING SMALLER OR SHORTER NAILS
(b) .135" DIA. X 3 1/2" LONG - CONSULT ENGR. WHEN USING SMALLER OR SHORTER NAILS
(c) .242" DIA. X LENGTH SHOWN - CONSULT ENGR. WHEN USING SMALLER OR SHORTER SCREWS OR OTHER THAN SDS1/4
(d) N/A = NOT ALLOWED

X NAIL OPTIONS SCHEDULE 2X SIDE MEMBER

N SPECIFICATIONS & GENERAL NOTES:

INTERSECTING SHEAR WALLS - TIE-IN CONNECTION DETAILS, SPECIFICATIONS AND SHEAR WALL LENGTHS (TYP.) 3

APPROVED

REVISIONS	BY

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LA, CA 90046 FOR:
L.I. INVESTMENTS, LLC

REGISTERED PROFESSIONAL ENGINEER No. SE2628 STRUCTURAL STATE OF CALIFORNIA

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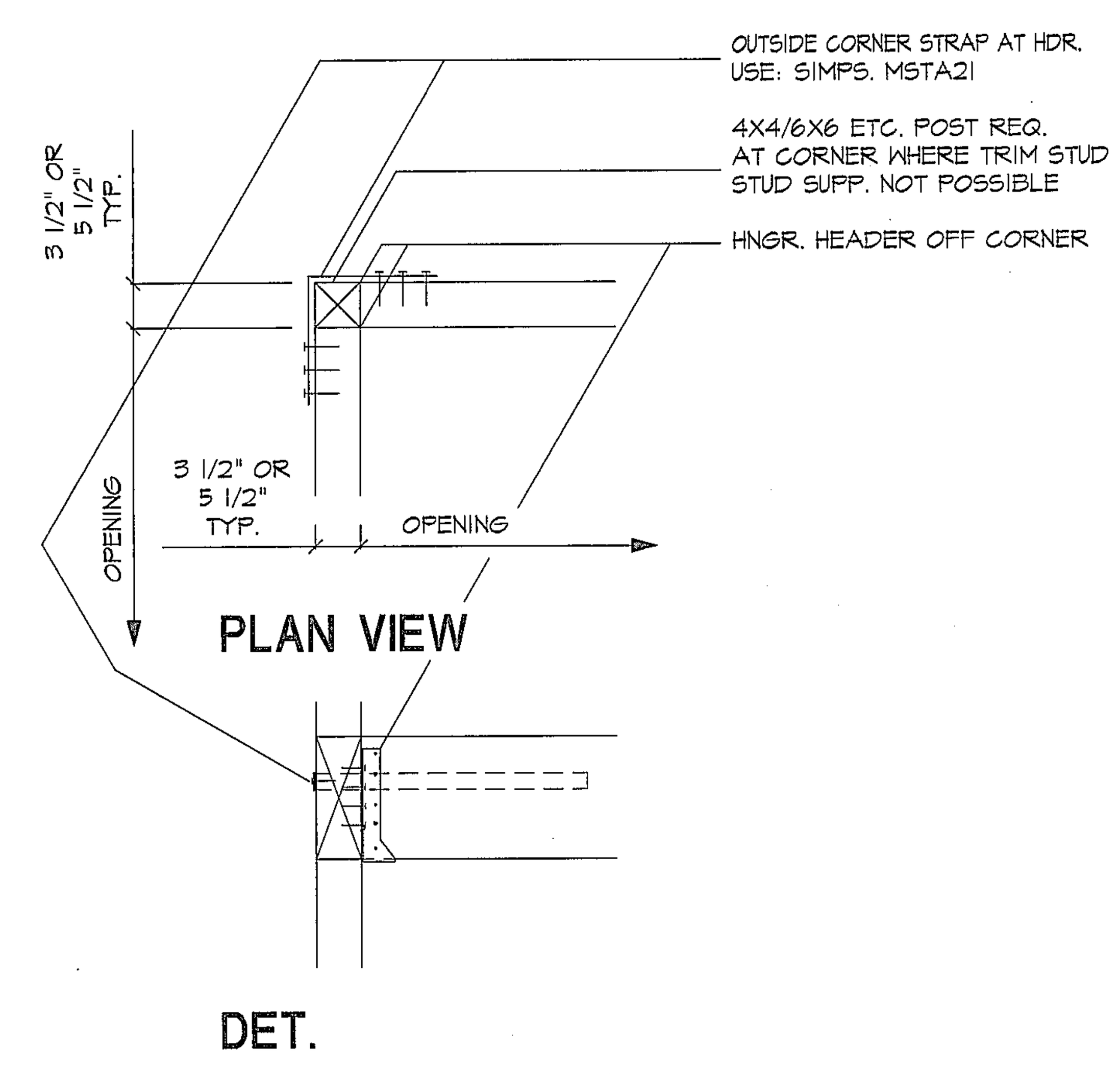
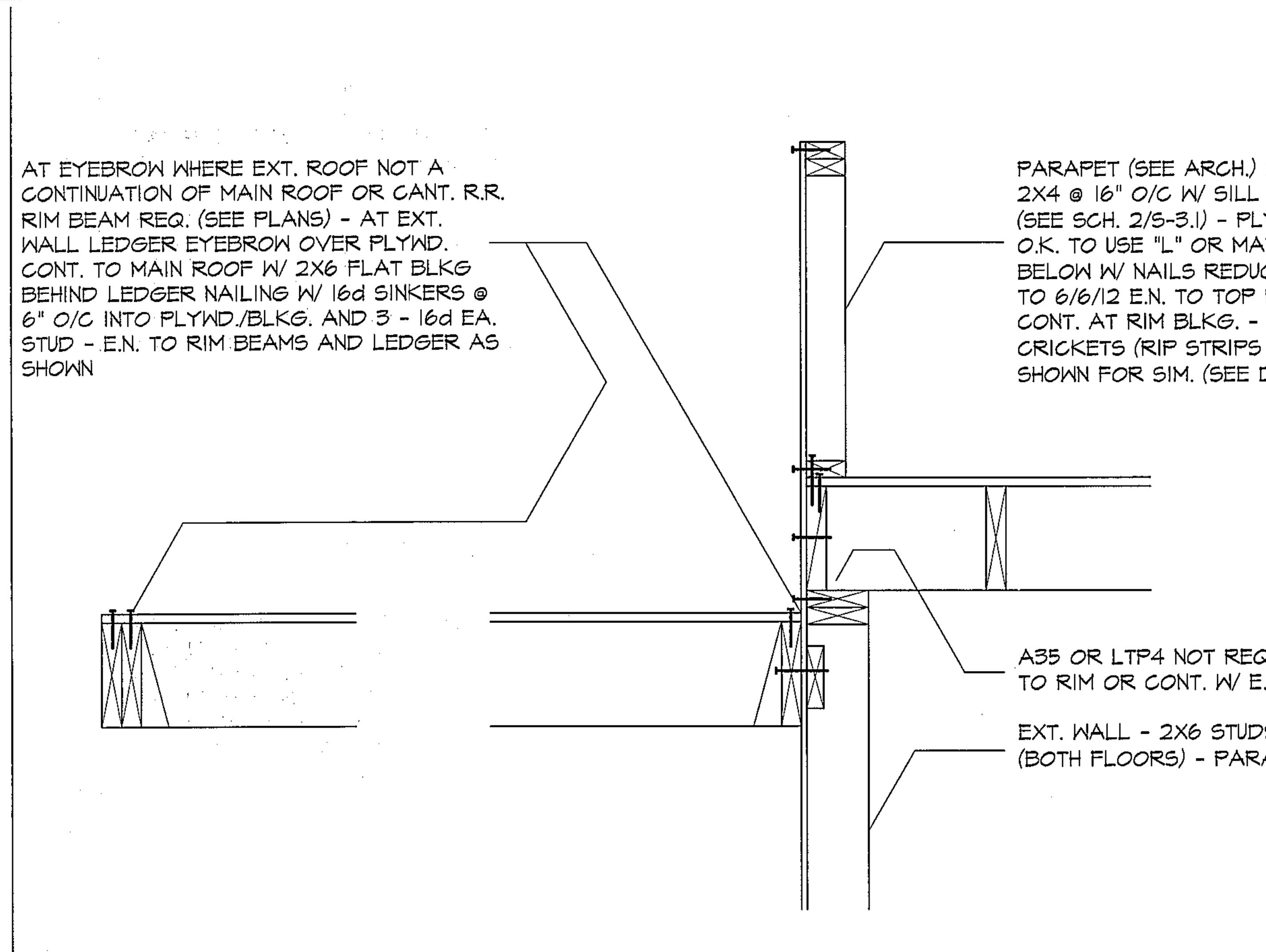
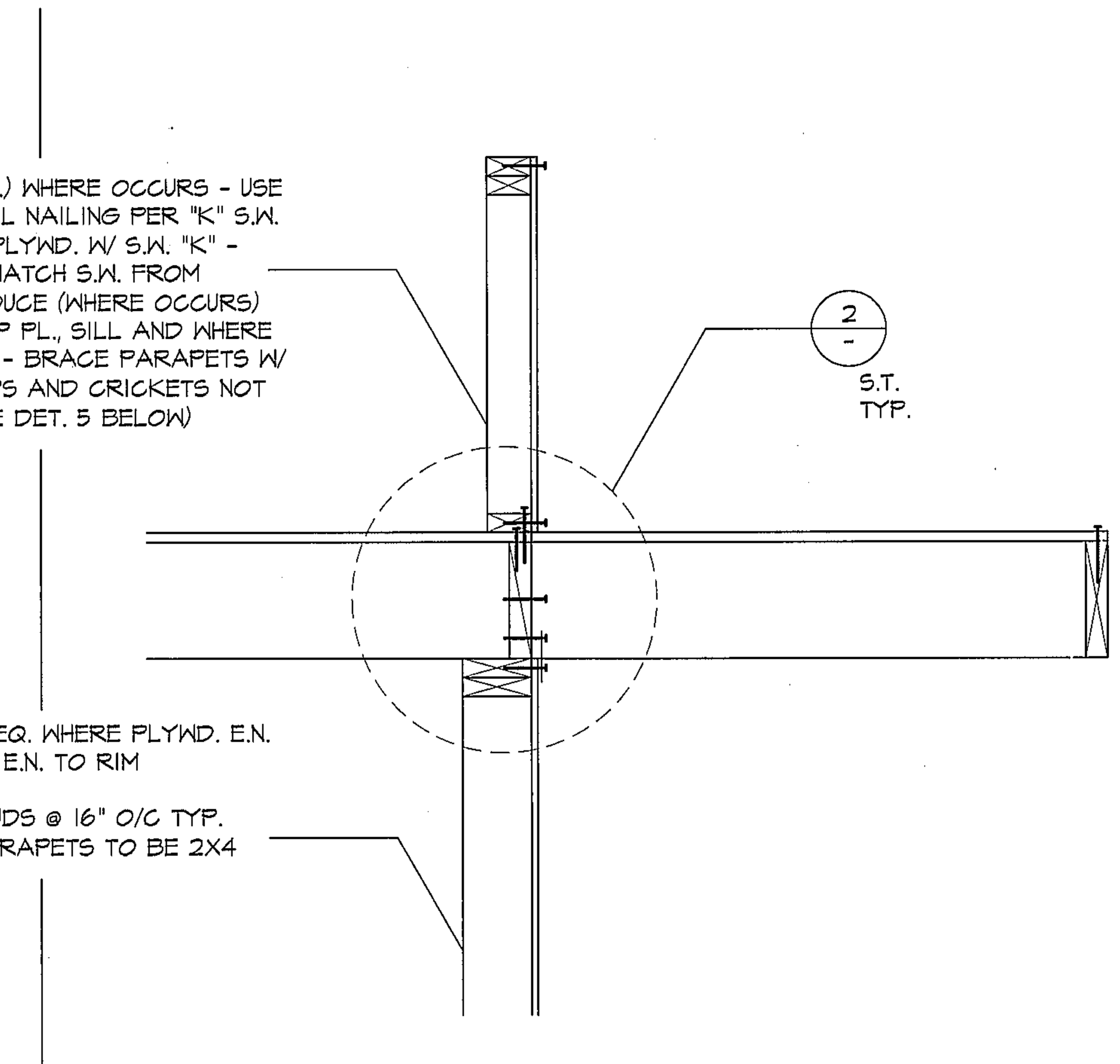


WIND. HDR. SUPPORT @ CORNER POST CONDITION 10

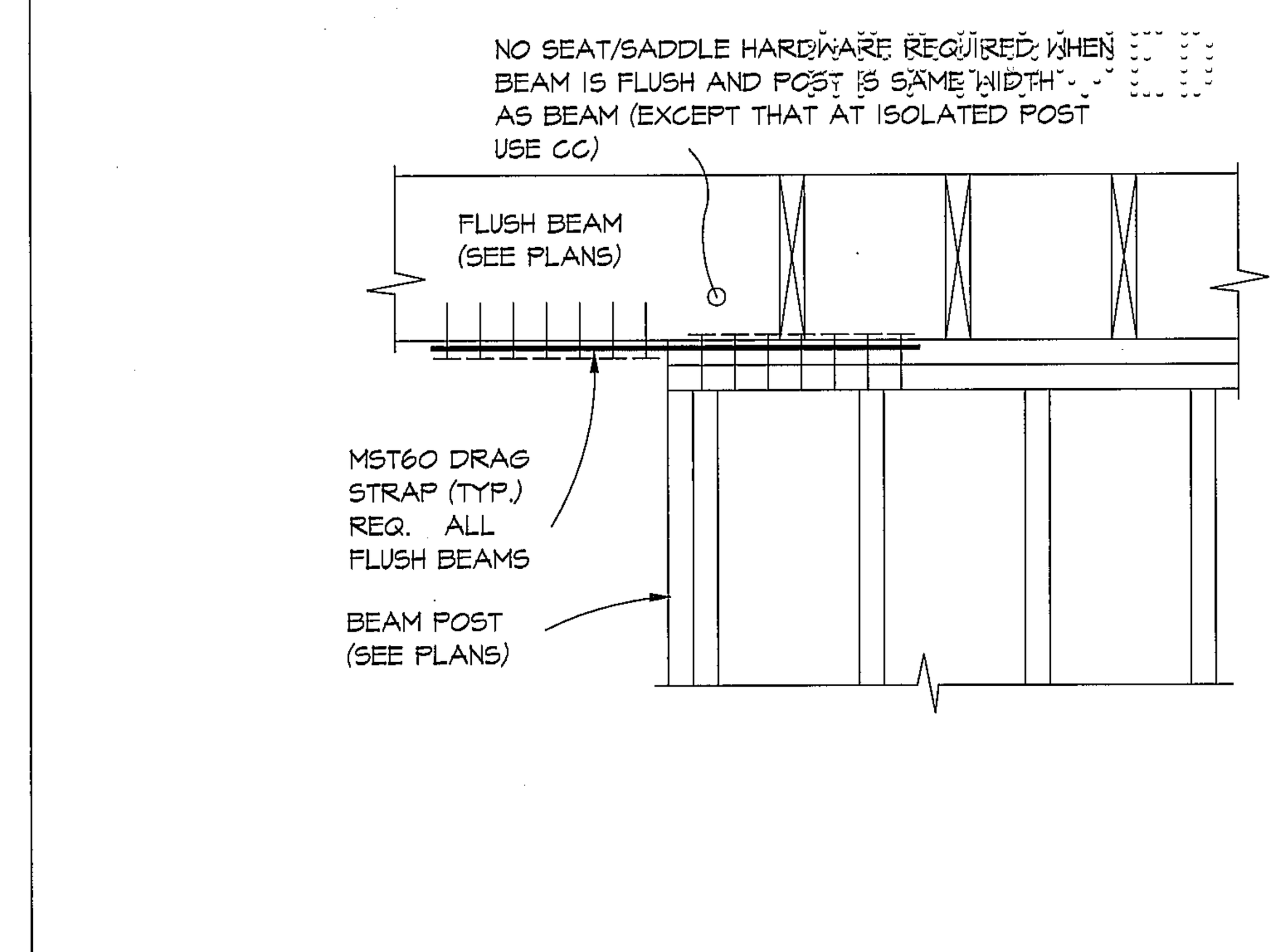


S.T. AT EYEBROW ROOF (TYP.) 7



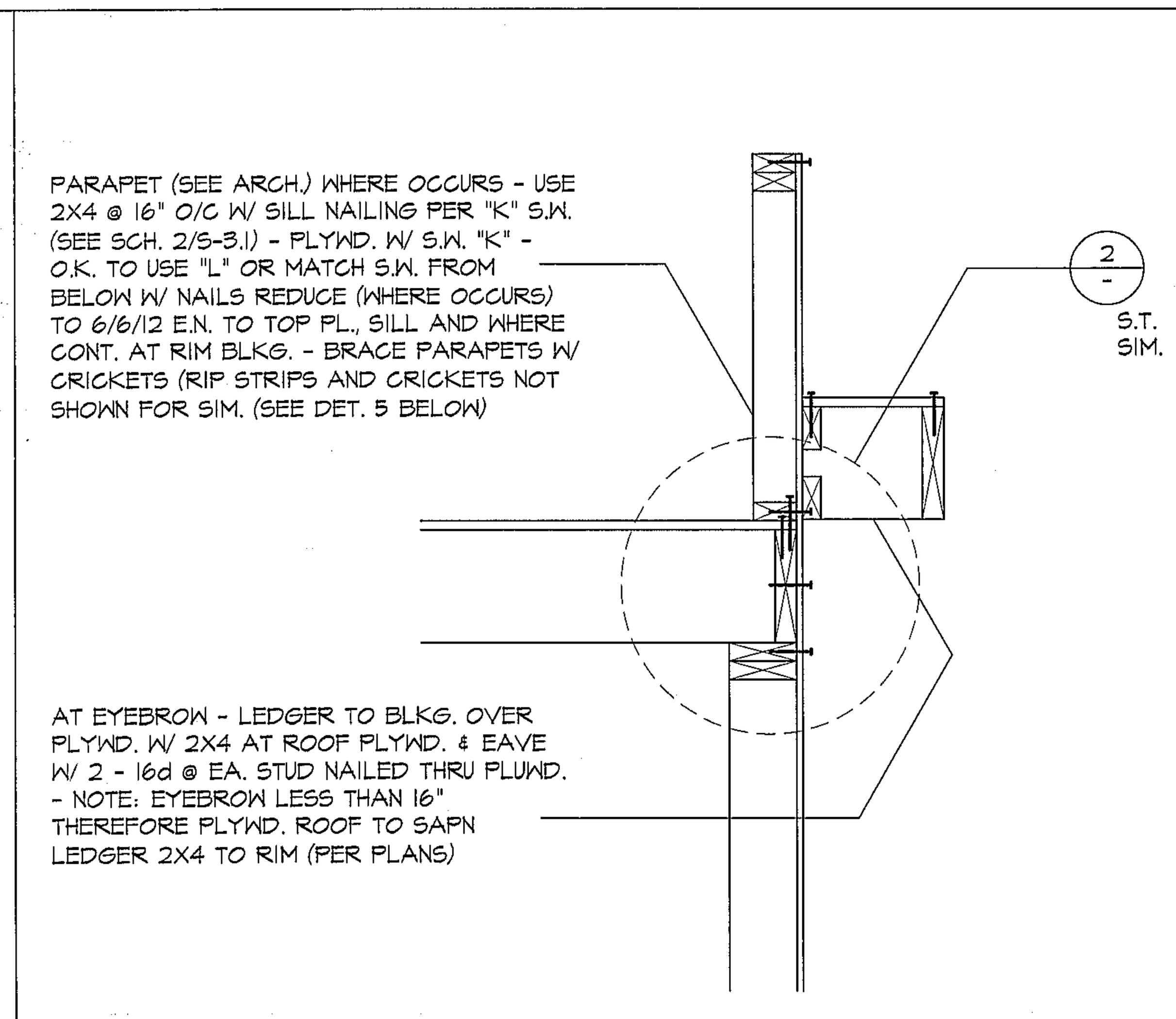
S.T. AT CANT. ROOF (TYP.) 4

LADBS
B JUN 2 7 13

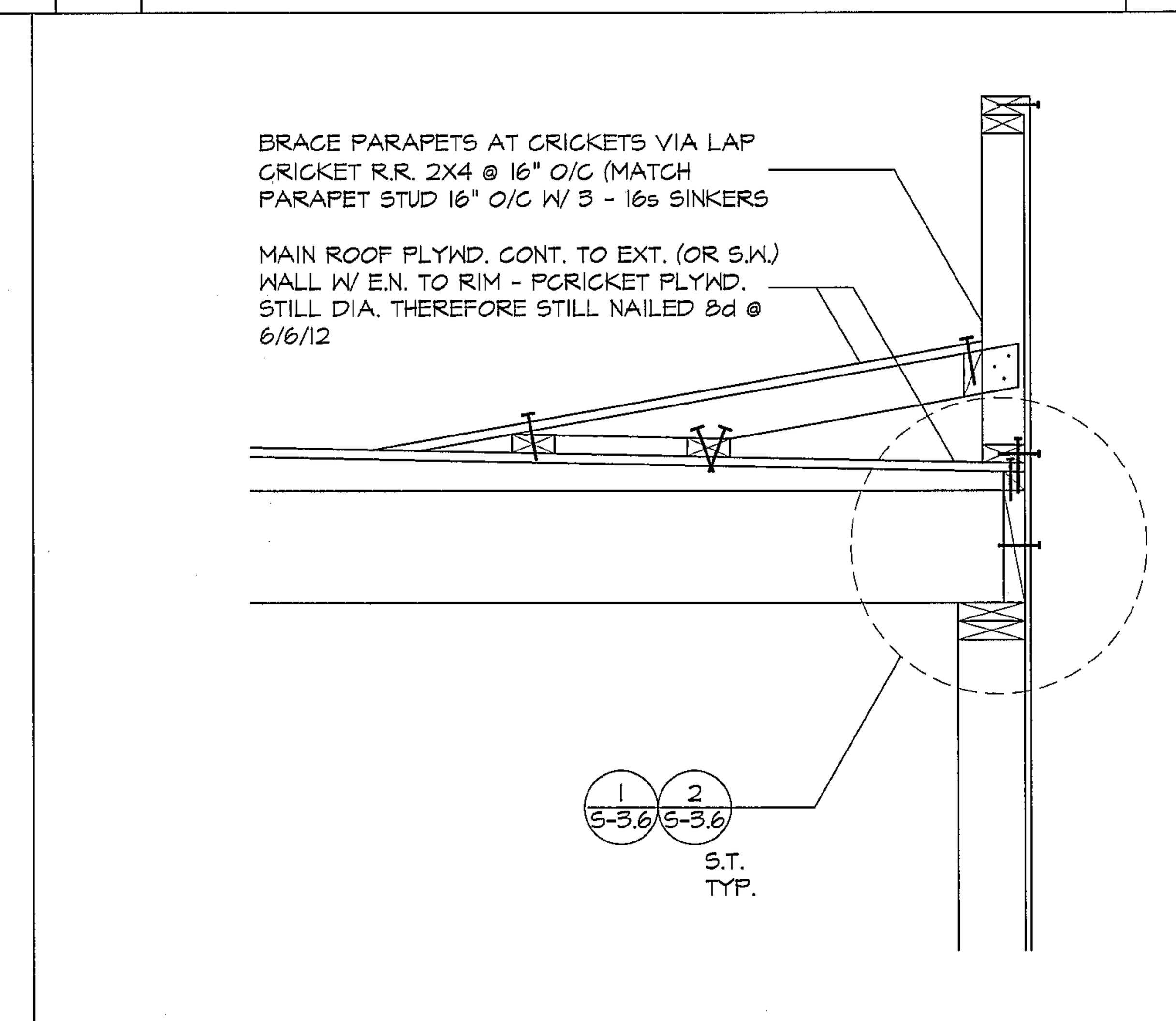


DRAG STRAP CONN. DETAIL 1

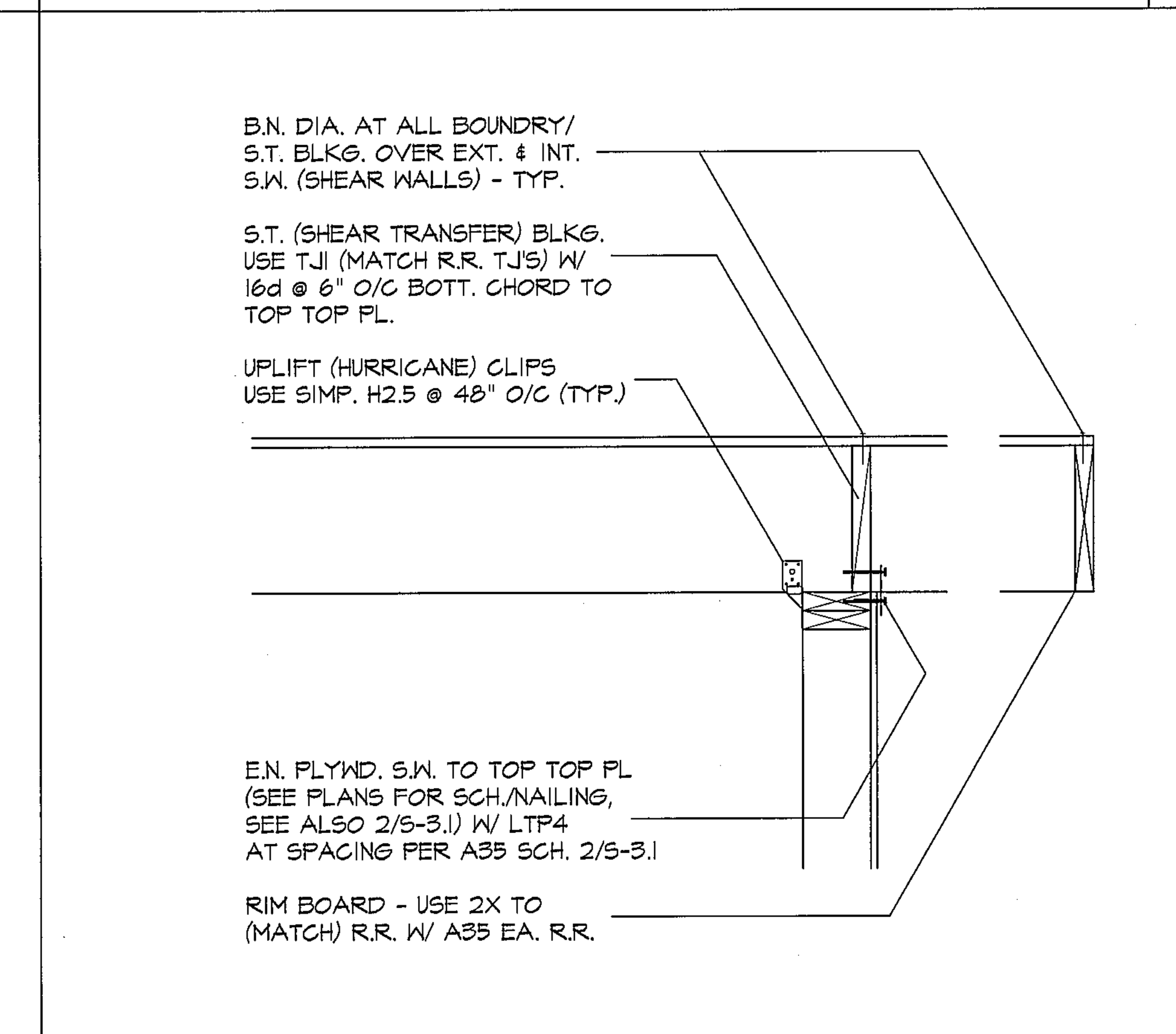
11



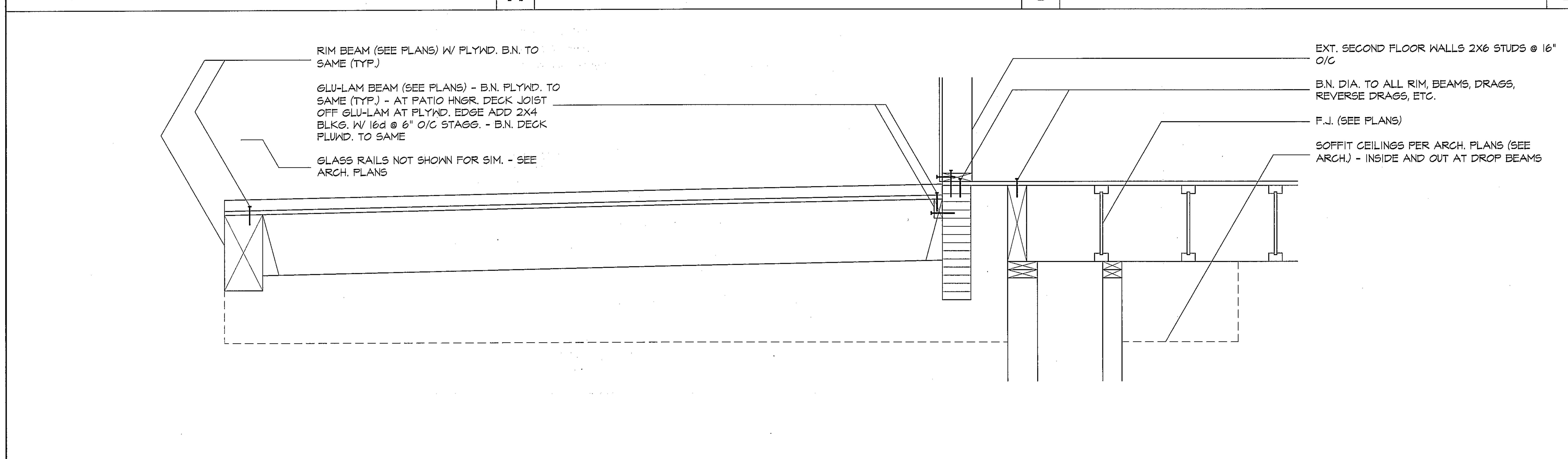
S.T. AT CANT. ROOF (TYP.) 8



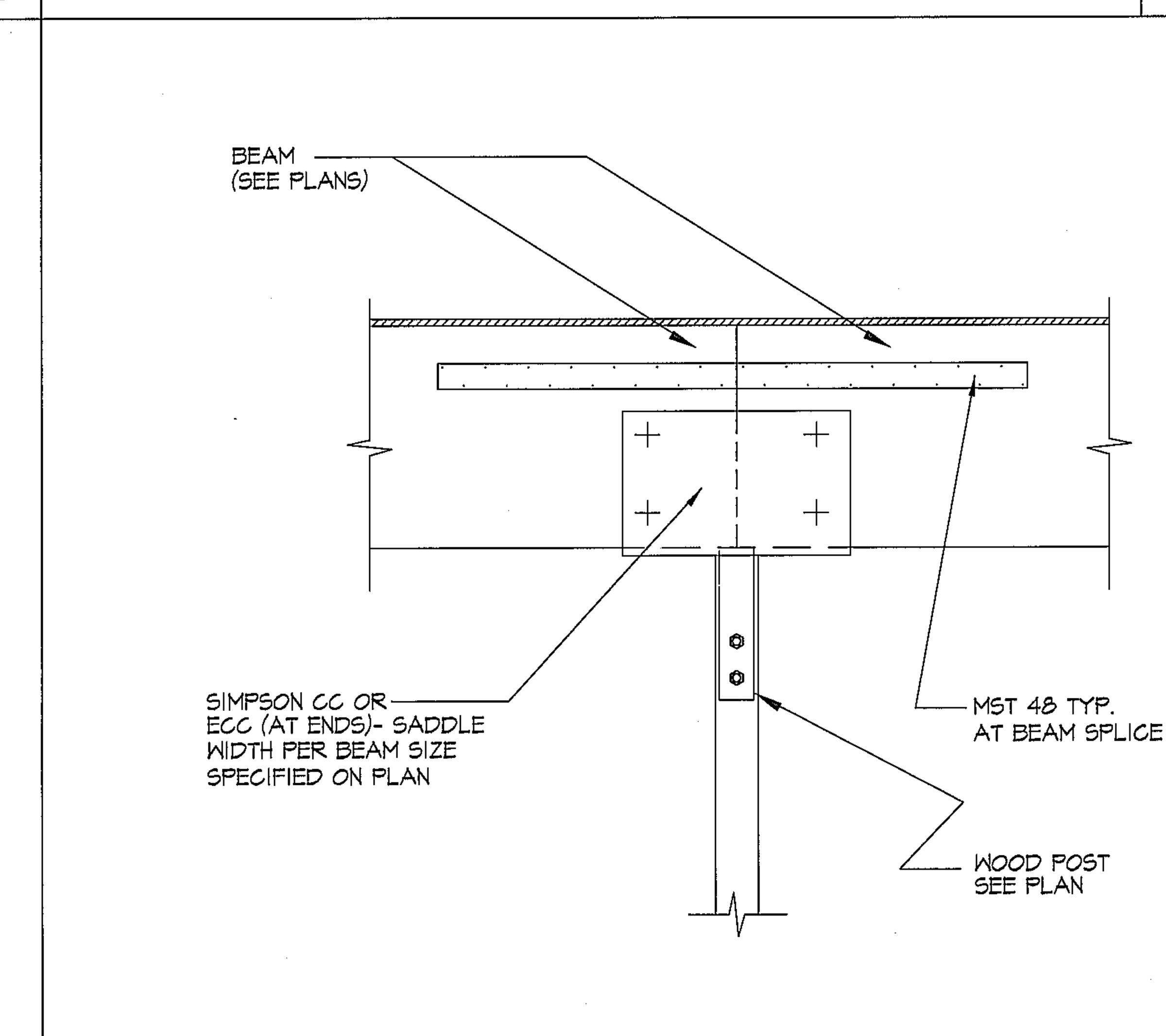
CRICKET AT FLAT ROOF (TYP.) 5



S.T. (SHEAR TRANSFER) AT ROOF (TYP.) 2



FRAMING SECTION AT PATIO 6



TYP. RIDGE BEAM TO WOOD POST 3

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FRAMING DETAILS

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L.I. INVESTMENTS, LLC

REGISTERED PROFESSIONAL ENGINEER
ROSS DOUDEY
No. SE2628
STRUCTURAL
STATE OF CALIFORNIA

Date 11-27-12
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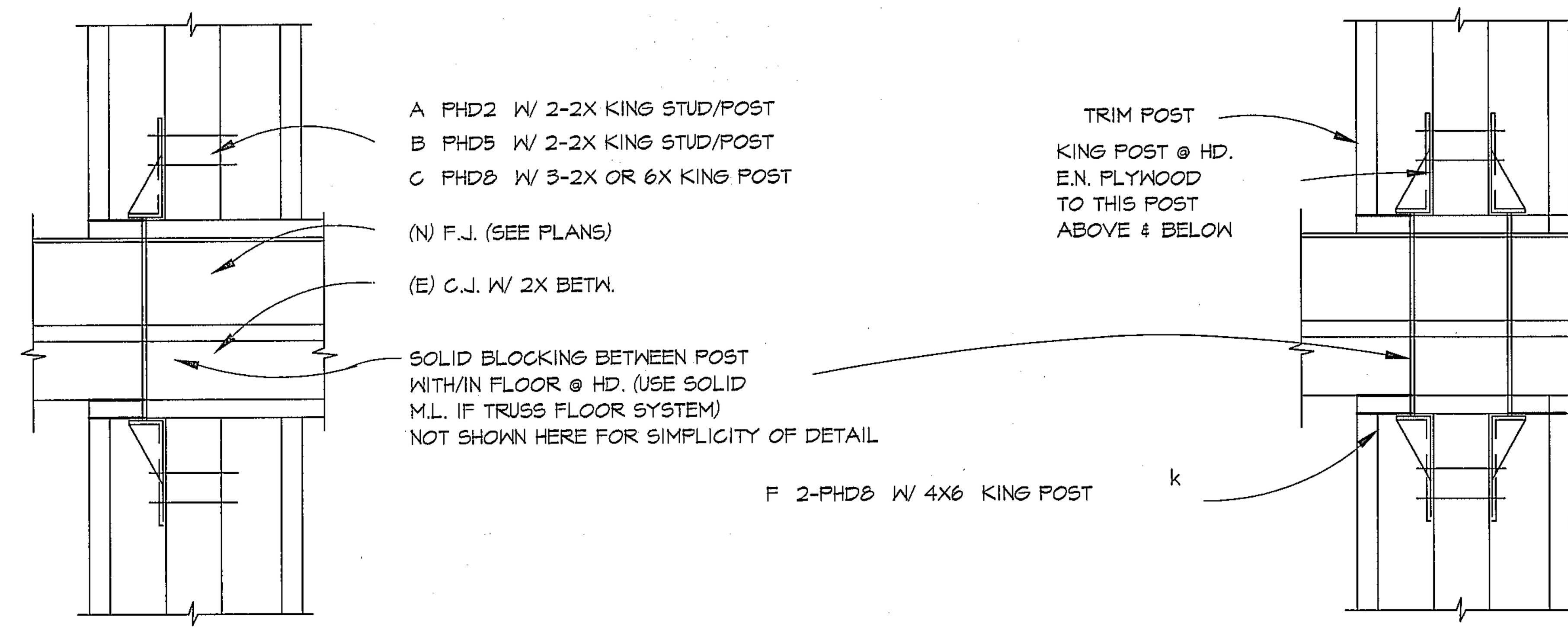
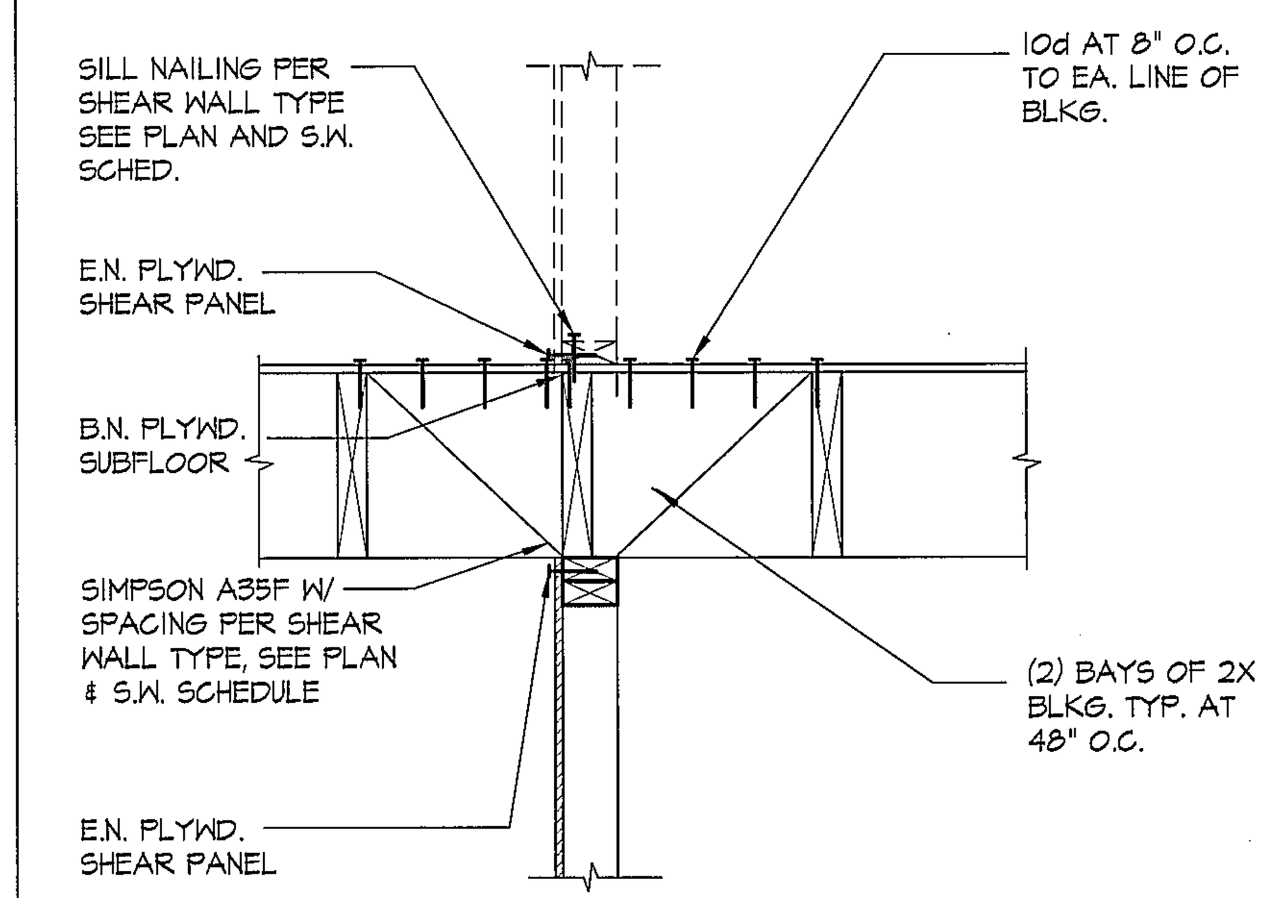
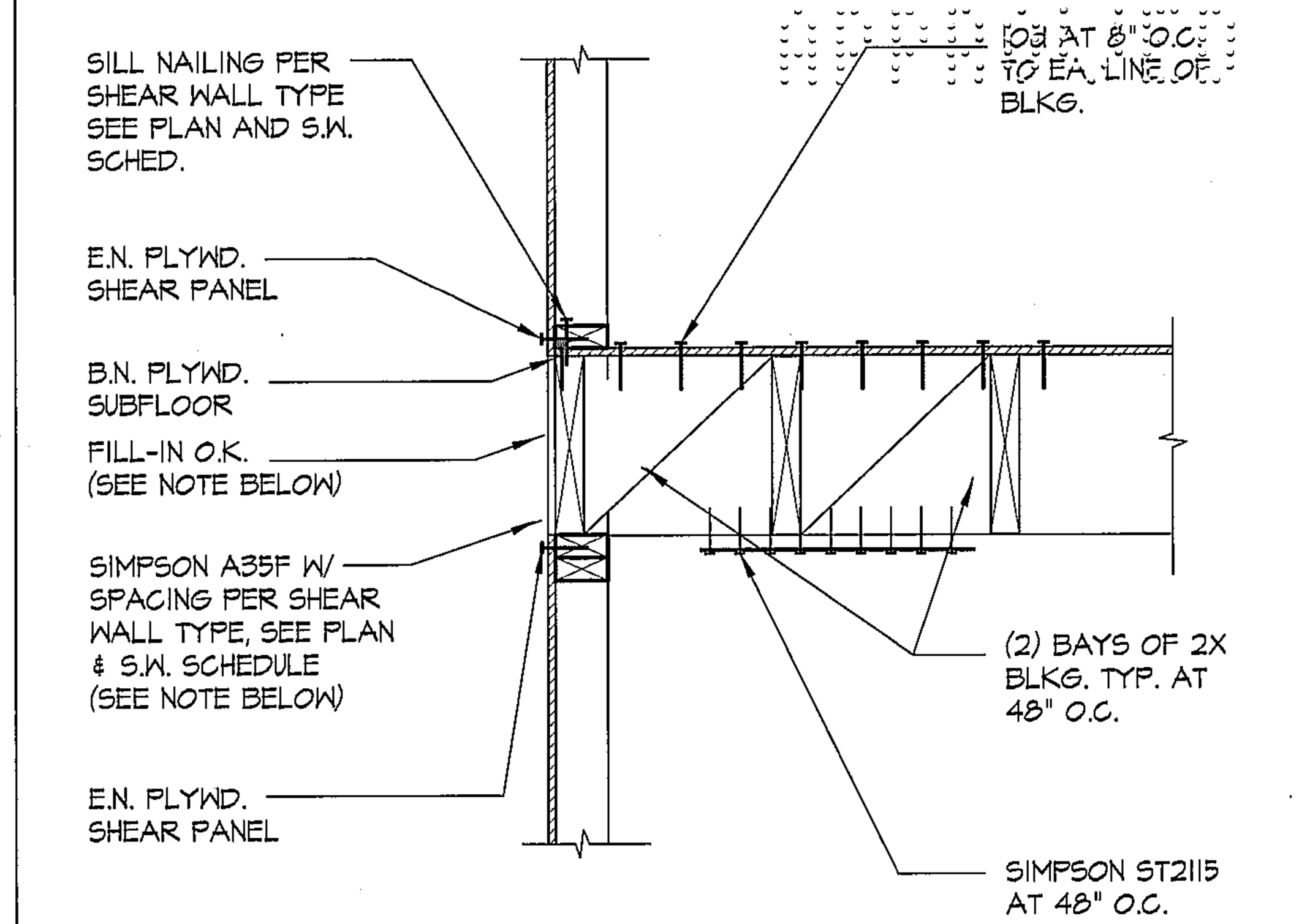


HOLD DOWN FLOOR TO FLOOR 7

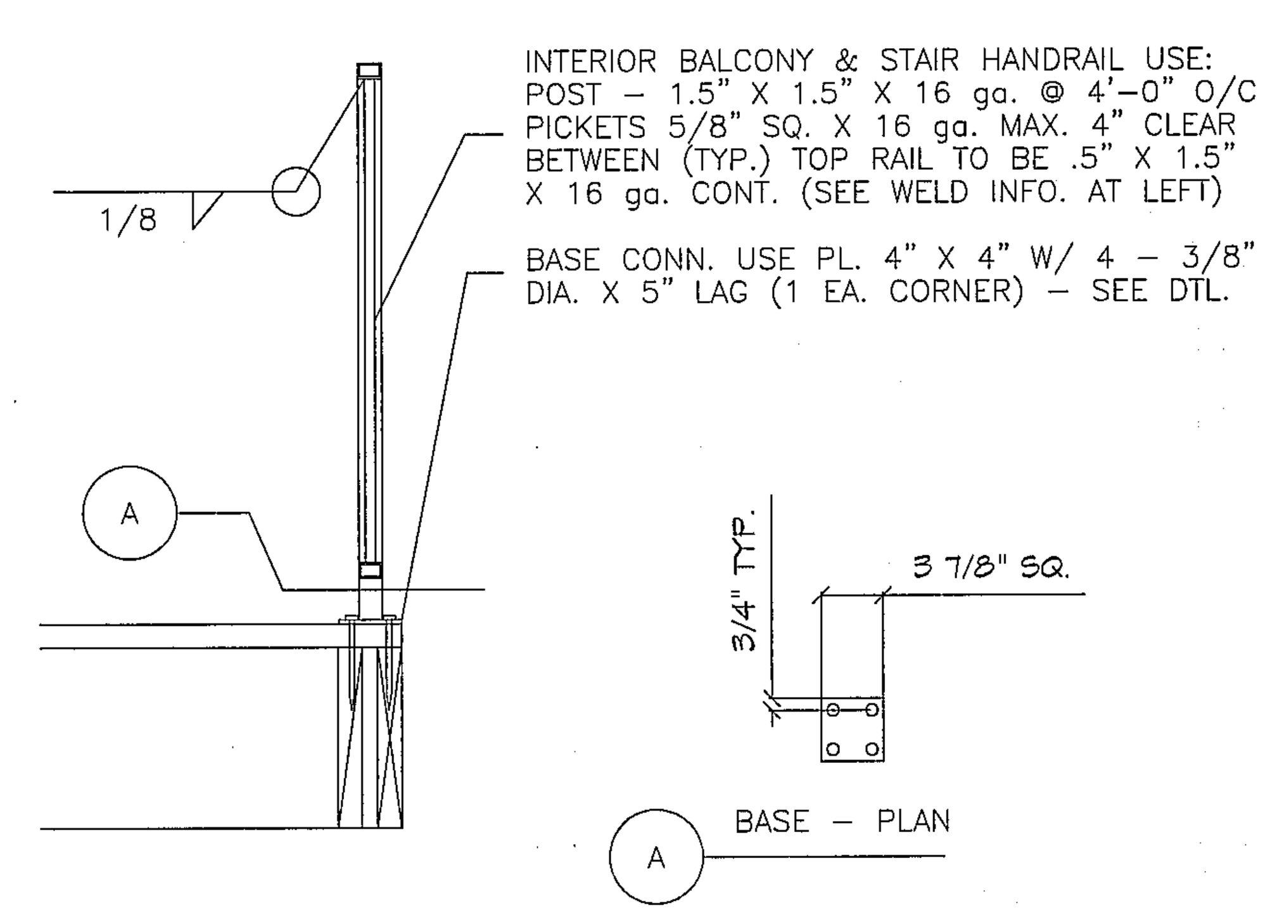


SHEAR TRANSFER AT INTERIOR WALL 4

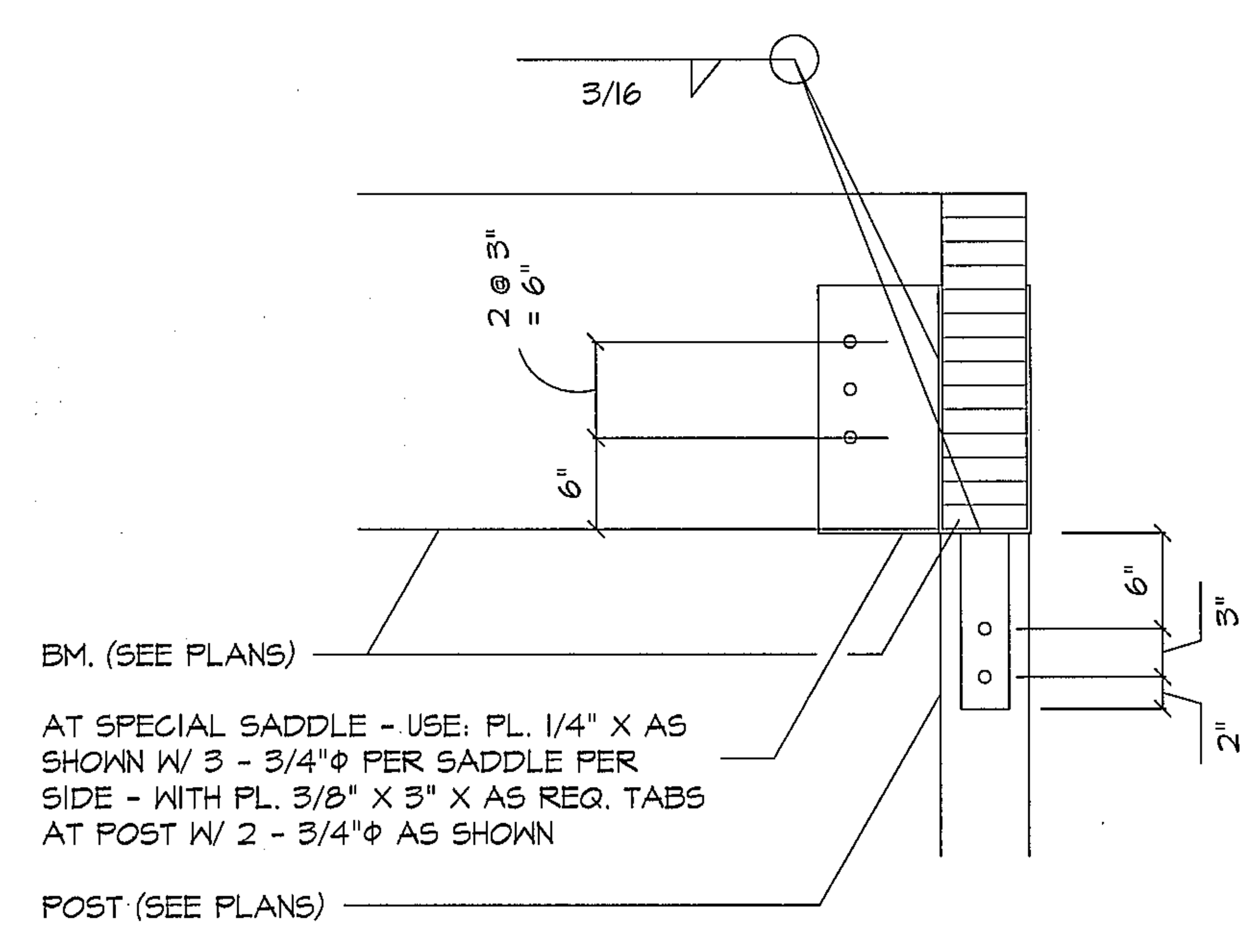


NOTE:
SHEAR TRANSFER (S.T.) CAN BE ACHIEVED IN SEVERAL DIFFERENT WAYS. HARDWARE IS REQ. WHEN PLYWOOD BREAKS AT PLATES, HOWEVER WHEN PLYWOOD BREAKS ON RIM JOIST/BLKG. HARDWARE CAN BE DELETED. E.N. TO SAME RIM JST./BLK., SILL & TOP PL. REQ.

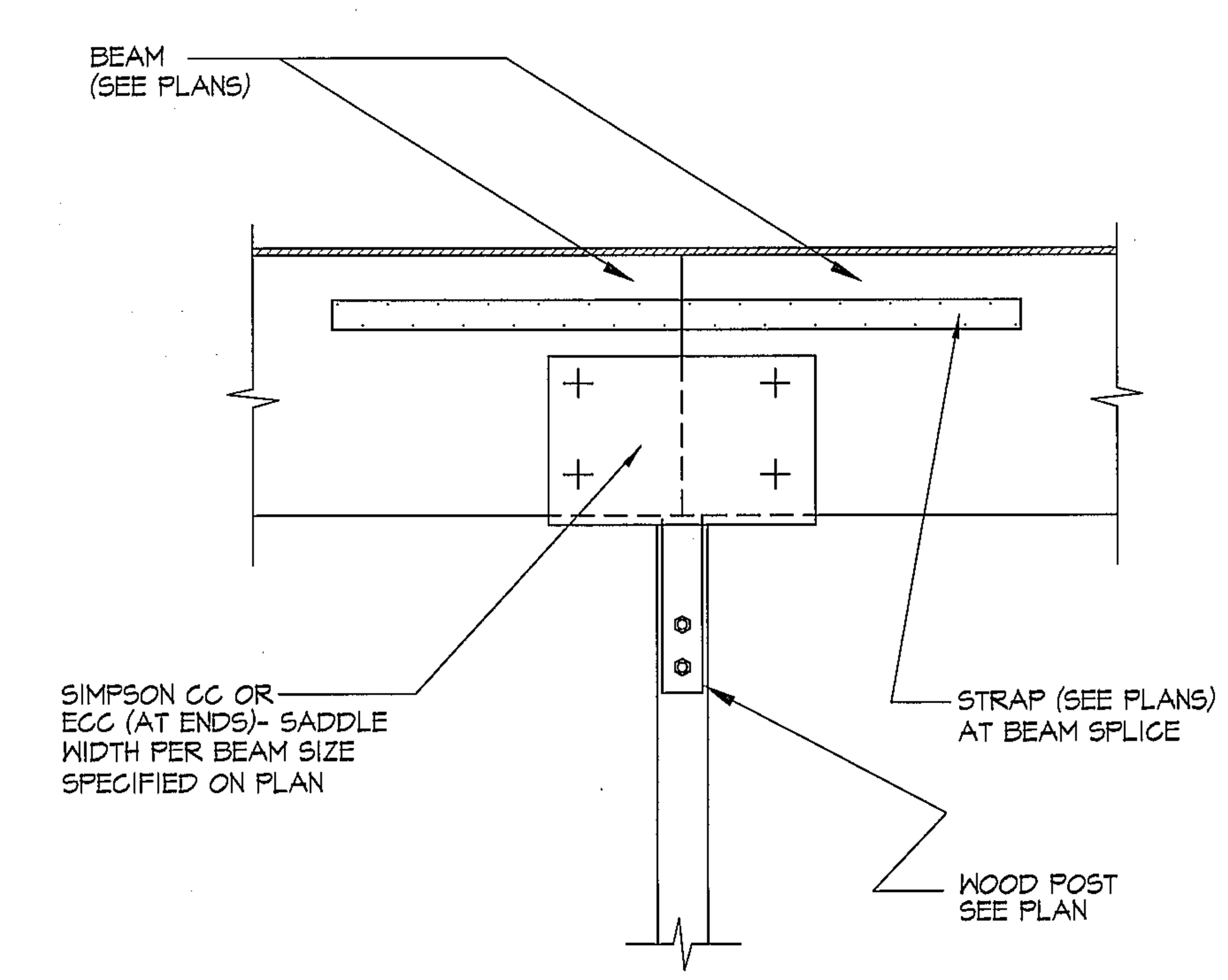
SHEAR TRANSFER AT F.J. PARALLEL TO WALL 1



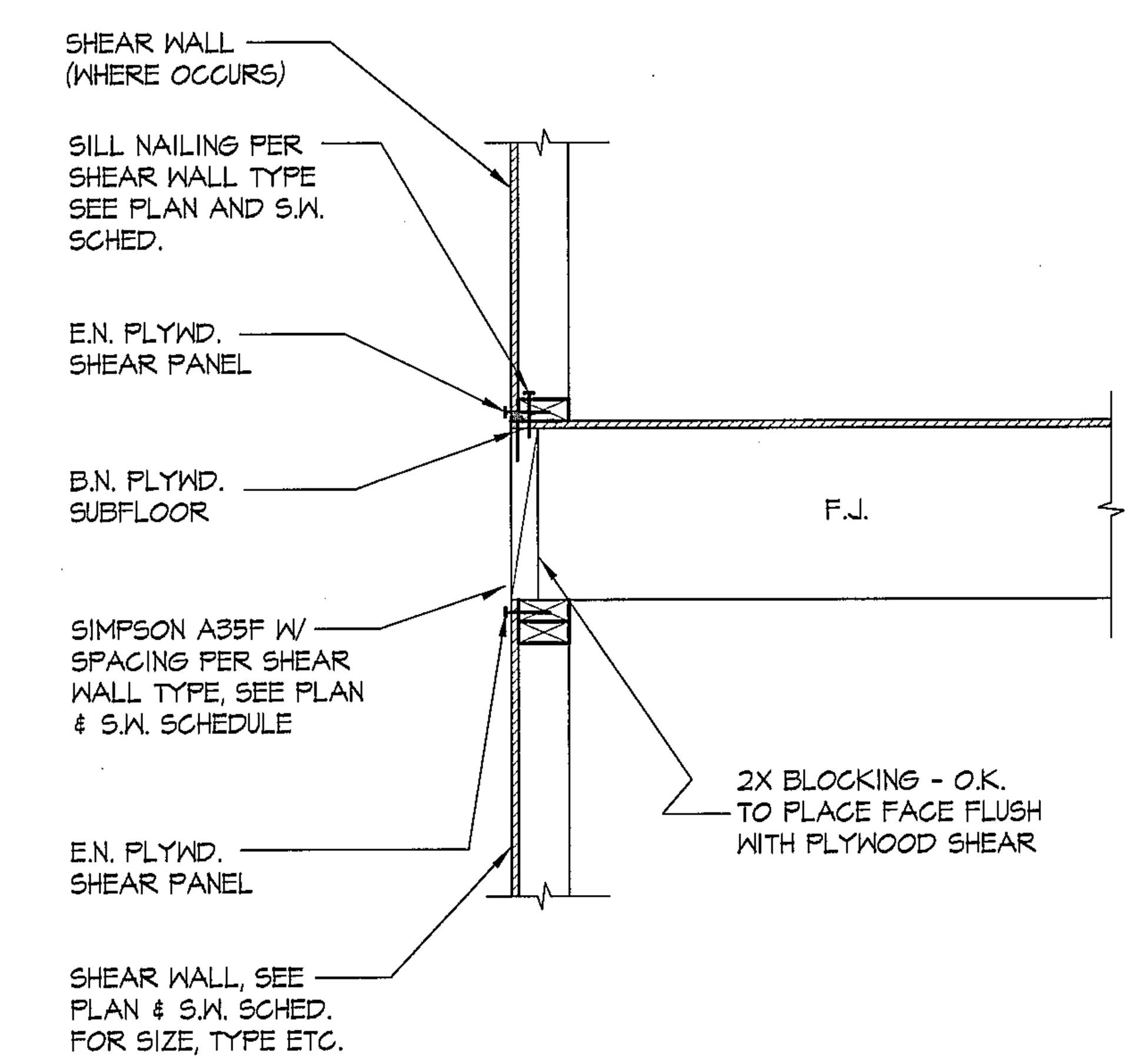
TYP. HANDRAIL DETAIL 11



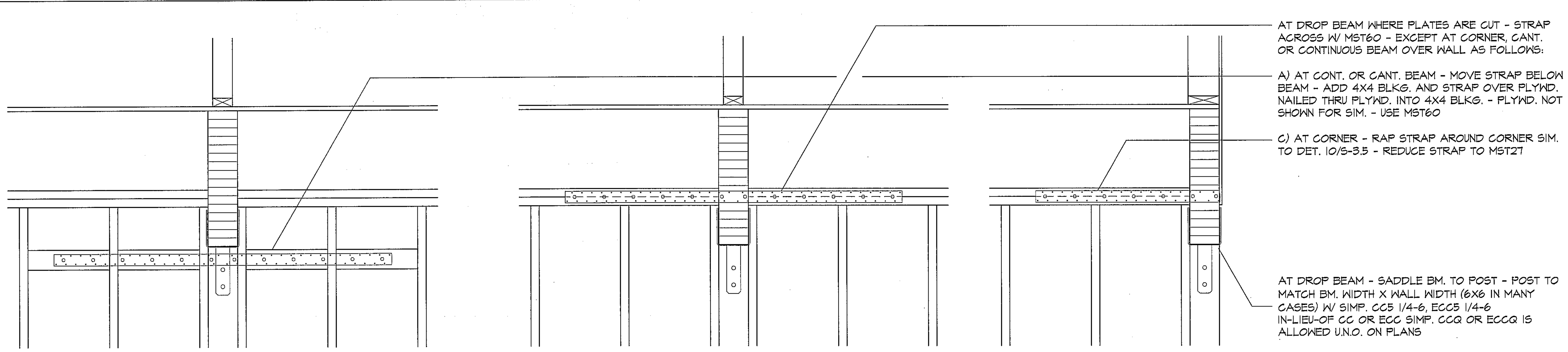
BM. TO BM./POST SADDLE DET. 8



TYP. BEAM TO WOOD POST W/ DRAG 5



SHEAR TRANSFER AT F.J. PARALLEL TO WALL 2

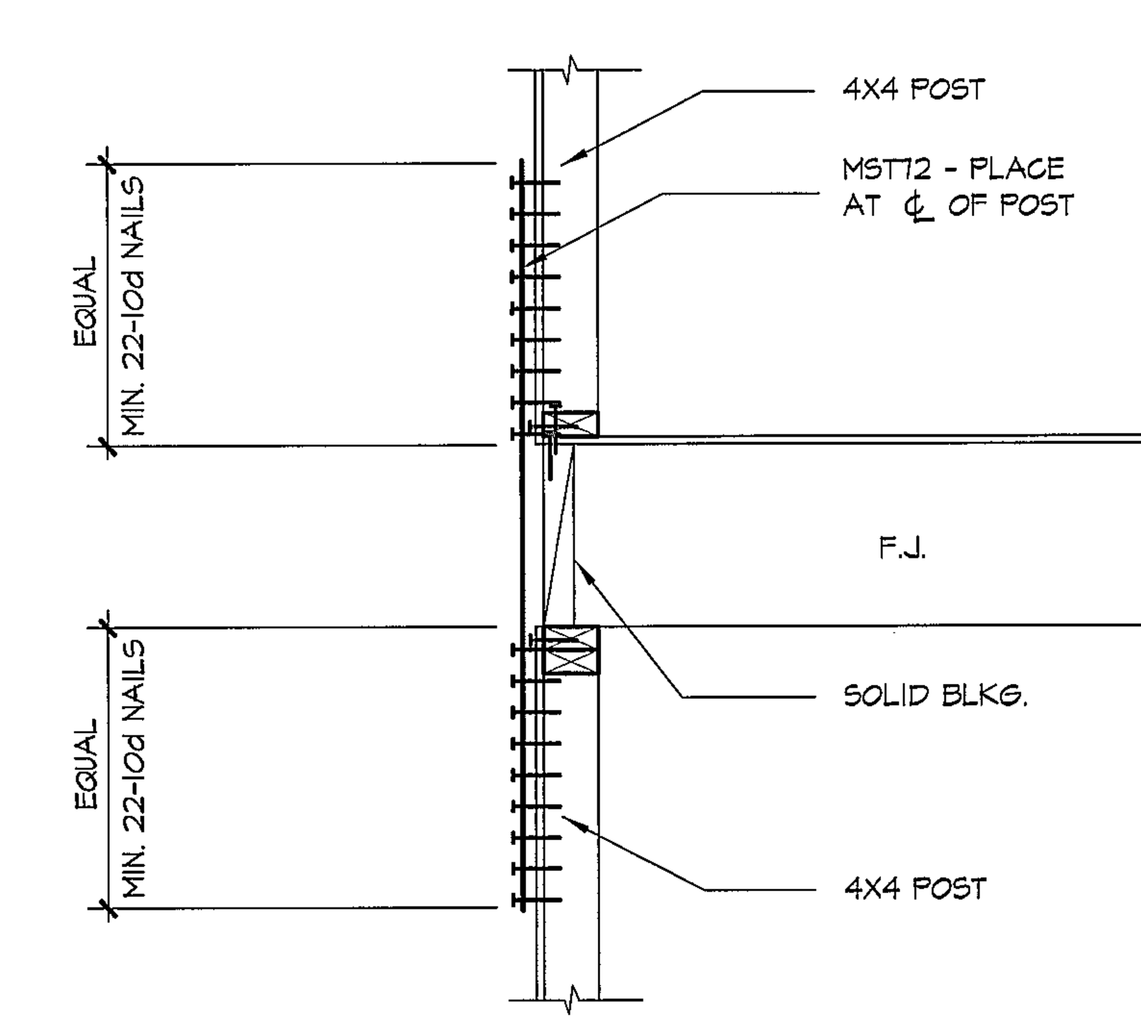


(A) ALTERNATE STRAP DET.

(B) PRIMARY STRAP DET.

(C) CORNER BEAM/POST STRAP DET.

CUT PLATES DRAG/CHORD SPLICE CONN STRAP DET. 6



HOLD DOWN STRAP FLOOR TO FLOOR 3

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REGISTERED PROFESSIONAL ENGINEER ROSS DOWEY No. SE2628 STRUCTURAL 3-31-14 STATE OF CALIFORNIA

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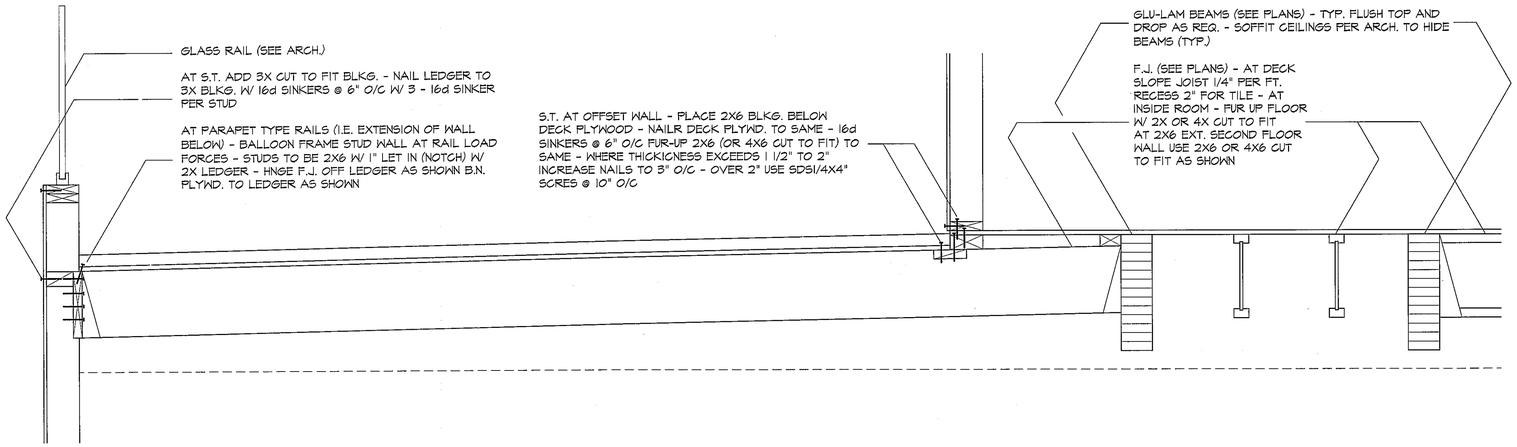
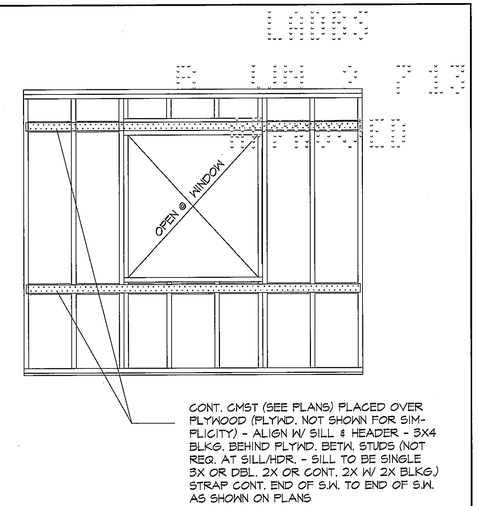


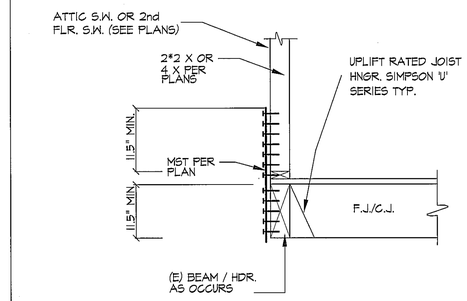
FRAMING SECTION/DET. AT TOP OF STAIRS PATIO | 4



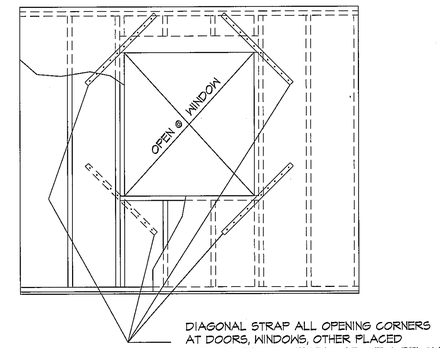
SHEAR WALL W/ OPENING INSIDE | 1

11

8



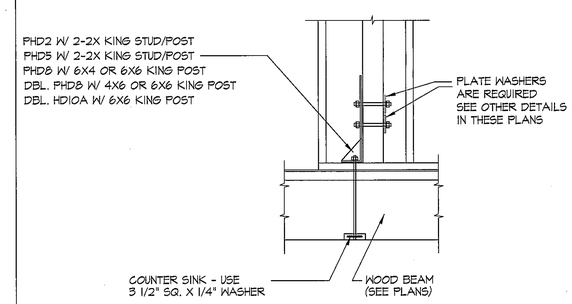
HOLD DOWN STRAP TO FLUSH BM. | 5



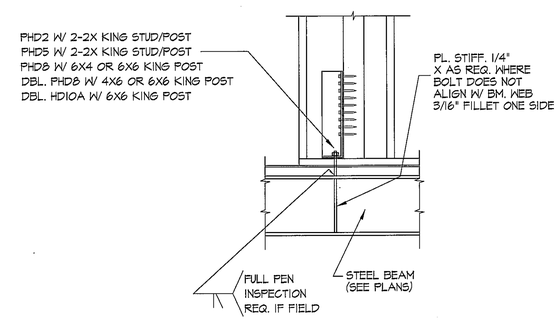
DIAGONAL STRAPS AT OPEN'G CORNERS (TYP.) | 2

12

9



A HD AT WOOD BEAM



B HD AT STEEL BEAM

HOLD DOWN AT WOOD/STEEL BEAM BELOW | 3

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FRAMING DETAILS

TWO STORY SINGLE FAMILY RESIDENCE
901 LAUREL CYN.
LA, CA 90046 FOR:
L.I. INVESTMENTS, LLC

REGISTERED PROFESSIONAL ENGINEER
ROSS DIDIEU
No. SE2628
STRUCTURAL
3-31-14
STATE OF CALIFORNIA

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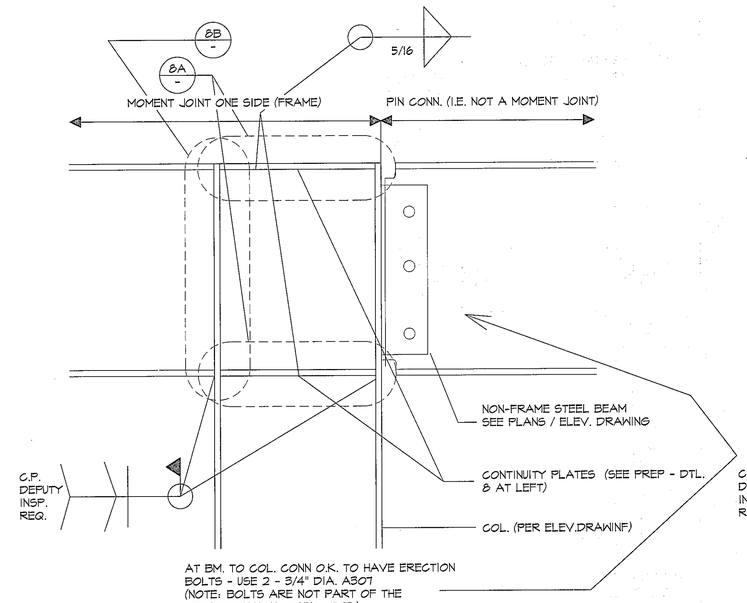
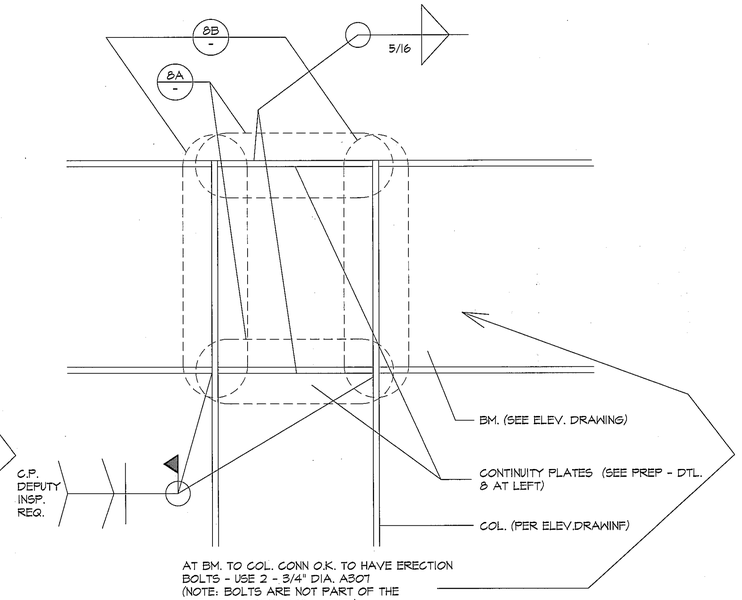
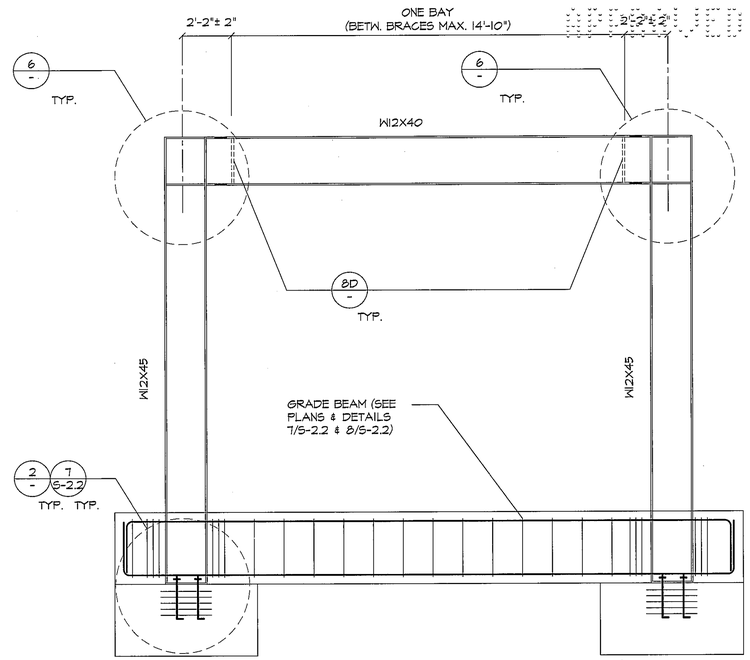


B MOMENT JOINT ONE SIDE CONDITION

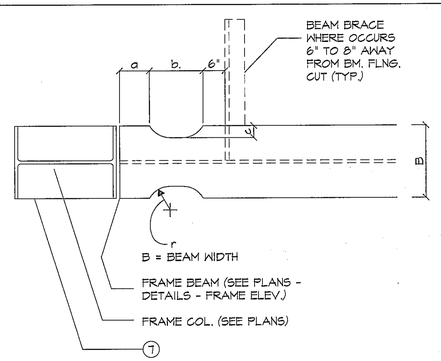


A MOMENT JOINT TWO SIDES CONDITION



MOMENT JOINT CONN. DETAIL INTER. FOR IMF-RBS COL. TO BEAM (TYP.) | 7

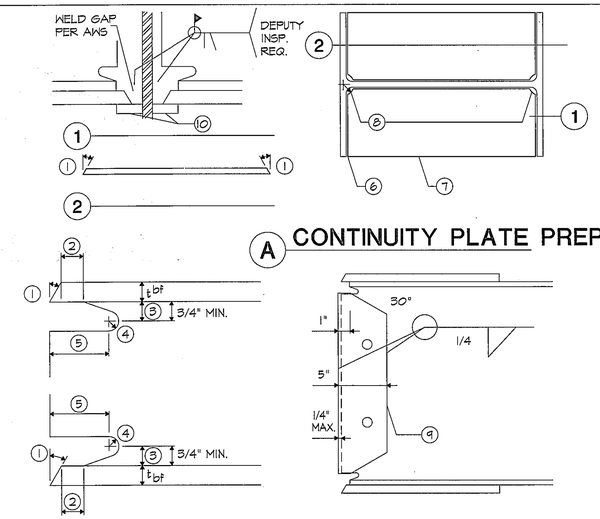
FRAME ELEVATION GRID LINE 2 PARCEL 1 | 1



D BEAM END PREP

	CODE REQ.:	W12X40
a	DIST. TO CUT	5"
b	EXTENT OF CUT	8"
c	DEPTH OF CUT	1 5/8"
r	RADIUS	5 3/4"

D REDUCED BEAM SECTION PROPERTIES



A CONTINUITY PLATE PREP

B BEAM END PREP

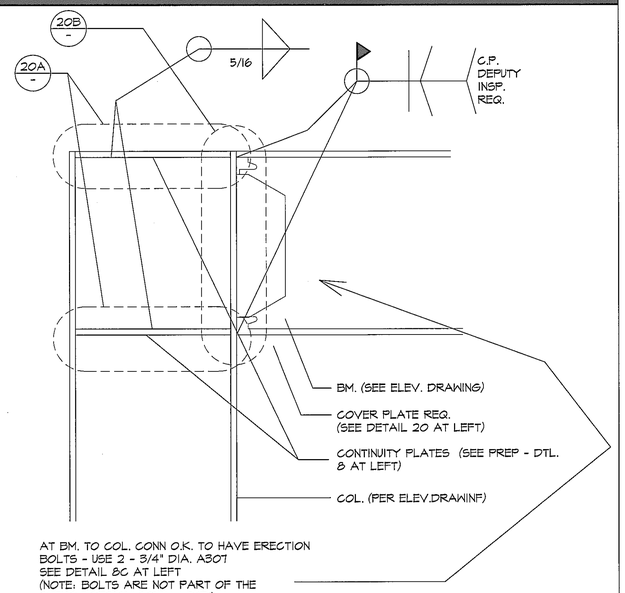
	CODE REQ.:	USE AS OPTIMUM:
1	BEVEL AS REQ. BY AWS.	30°
2	MIN. 5/8" - MAX. 7/8"	3/4"
3	MIN. 1/2" - MAX. 1"	3/4"
4	MIN. RADIUS = 3/8"	1/2"
5	MIN. 1 1/4" - MAX. 2 1/4"	2"
6	PL. WIDTH TO MATCH BM. WIDTH	

C SHEAR TAB

	CODE REQ.:	USE AS OPTIMUM:
7	CONTINUITY PLATE TO MATCH BEAM FLANGE THICK. MIN.	1/2" @ W12X40 9/16" @ W12X53 5/8" @ W14X48
8	TRIM CUT RADIUS TO CLEAR INSIDE WEB/FLANGE THROAT	7/8"
9	SHEAR TAB THICK. MATCH BM. WEB	3/8"
10	BACKUP BAR PER AWS	1/4" MIN.
~~11~~	~~FLANGE PLATE (COVER PLATE)~~	~~3/4" MIN.~~

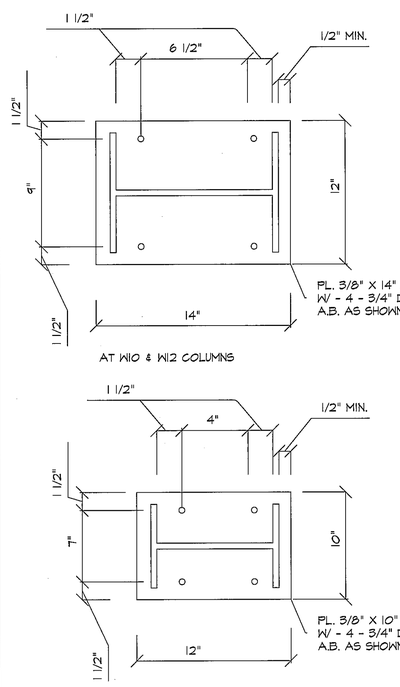
RBS GEOMETRY AND WELD PREP (BEAM TO COL.) FOR SMF | 8

SEE ALSO SHEETS S1.3A, S1.3B & S1.3C



IMF RBS = INTERMEDAITE MOMENT FRAME REDUCED BEAM SECTION
IN ACCORDANCE WITH WITH FEMA350 AND 2002 AISC "SEISMIC
PROVISIONS FOR STRUCTURAL STEEL BUILDING"

MOM. JOINT CONN. DTL. IMF RBS BM. TO COL. | 6



BASE PLATE DETAIL | 2

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FRAMING DETAILS

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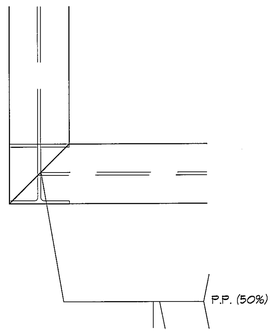
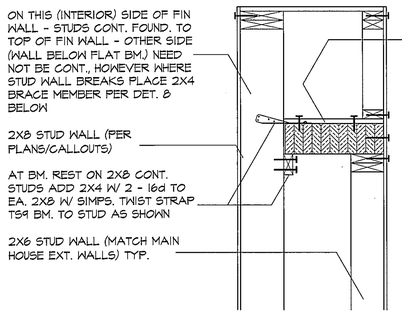
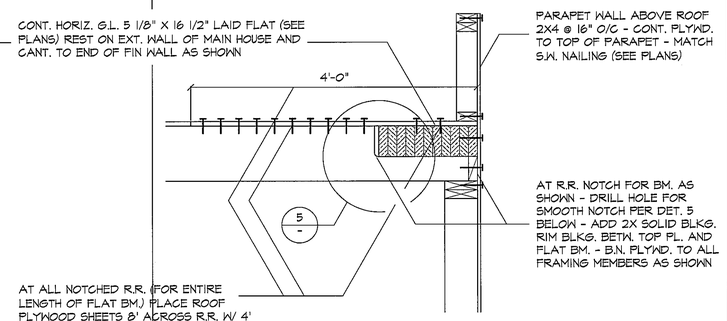


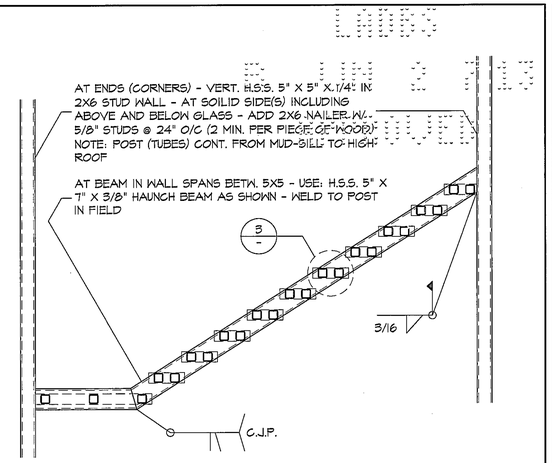
CORNER BM. TO BM. MITTER CONN. DET. 10



CANT. HORIZ. BM. AT FIN WALL 7

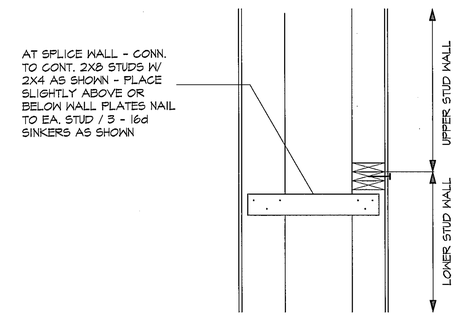


CANT. HORIZ. BM. AT FIN AT MAIN ROOF 4

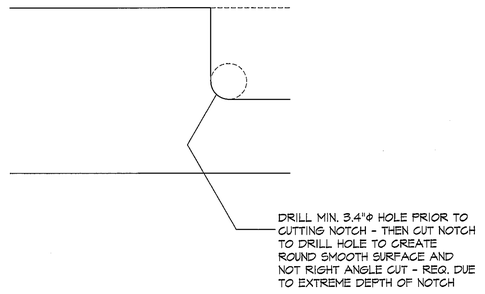


FLOATING STAIRS ELEV VIEW 1

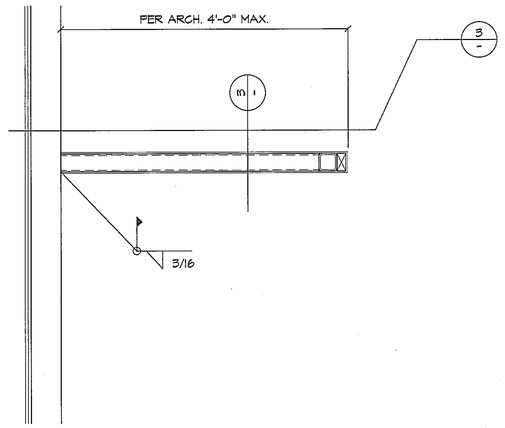
11



2X6 STUD WALL SPLICE OPTION 8

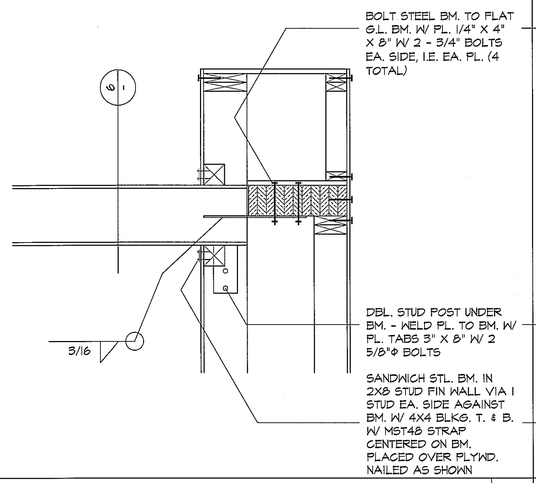


DET. DRILLED HOLE NOTCH SPEC. 5

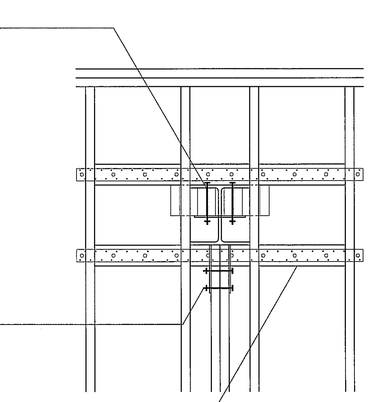


FLOATING STAIRS WALL SECTION 2

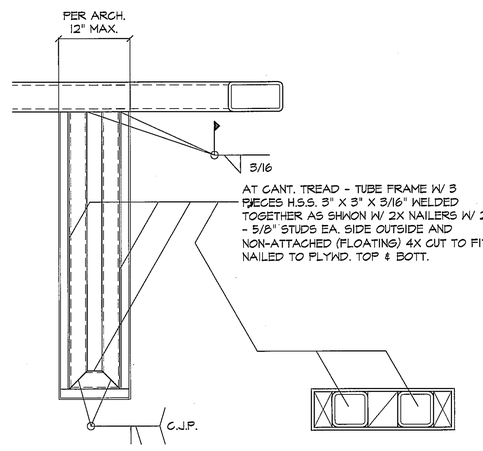
12



STEEL BM. AT FIN WALL SECTION 9



STEEL BM. AT FIN WALL ELEV. 6



FLOATING STAIRS TREAD ASSEMBLY 3

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FRAMING DETAILS

TWO STORY SINGLE FAMILY RESIDENCE
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REGISTERED PROFESSIONAL ENGINEER
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Date 1-14-13
Scale
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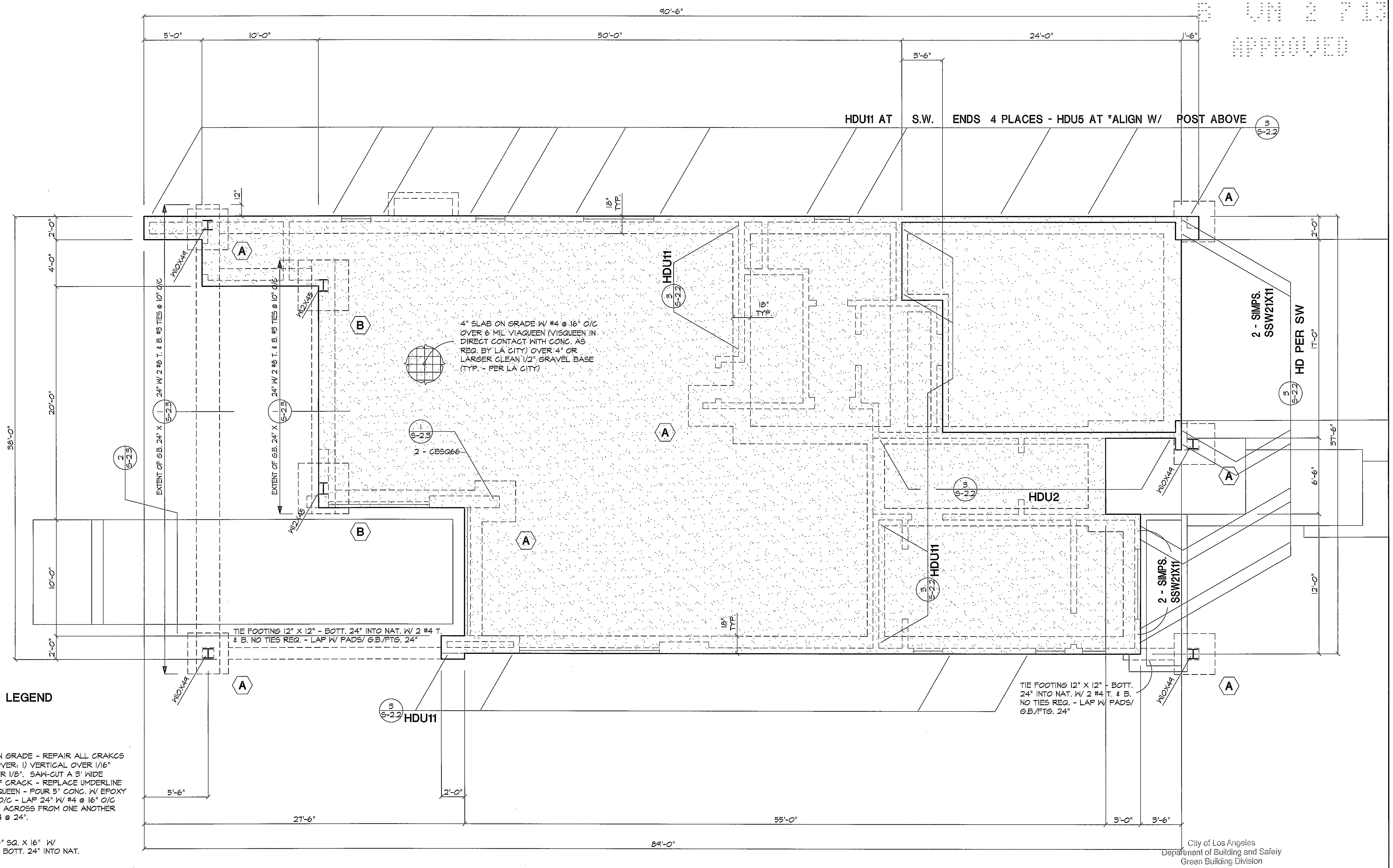
Of



LADBS
JUN 2 7 13
APPROVED

FOUNDATION LEGEND

NOTE:

1. EXIST'G SLAB ON GRADE - REPAIR ALL CRAKCS W/ SEPARATIONS OVER: 1) VERTICAL OVER 1/16" AND 2) HORIZ. OVER 1/8". SAW-CUT A 3' WIDE STRIP X LENGTH OF CRACK - REPLACE UNDERLINE SOILS/SAND & VISQUEEN - POUR 5" CONC. W/ EPOXY DOWELS #4 @ 24" O/C - LAP 24" W/ #4 @ 16" O/C E.W. - WHERE BARS ACROSS FROM ONE ANOTHER LAP 24" DELETE #4 @ 24".

(A) PAD 5'-6" SQ. X 16" W/ 5 #4 E.W. BOTT. 24" INTO NAT.

(B) PAD 4'-6" SQ. X 18" W/ 5 #4 E.W. BOTT. 24" INTO NAT.

1/S-5.1 ***FOUNDATION FRAMING PLAN***

SCALE: 1/4"=1'-0"

City of Los Angeles
Department of Building and Safety
Green Building Division

This set of plans and specifications has been reviewed and is approved for compliance with state and local ordinances related to the Green Building Code.

This set of plans MUST be at the job site during construction.

It is unlawful to alter, change, or deviate from these plans.

The stamping of this plan SHALL NOT be construed to be approval of a violation of any provisions of any Ordinance or Law.

By: ________ Total of ________ Sheets

Date: ________

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FOUNDATION PLAN

TWO STORY SINGLE FAMILY RESIDENCE
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No. SE2628
STRUCTURAL
STATE OF CALIFORNIA

Date	12-18-12
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SECOND FLOOR FRAMING LEGEND

14" TJI/210 F.J. @ 16" O/C U.N.O.

14" TJI/360 F.J. @ 16" O/C U.N.O.

2X12 #2 F.J. @ 16" O/C U.N.O.

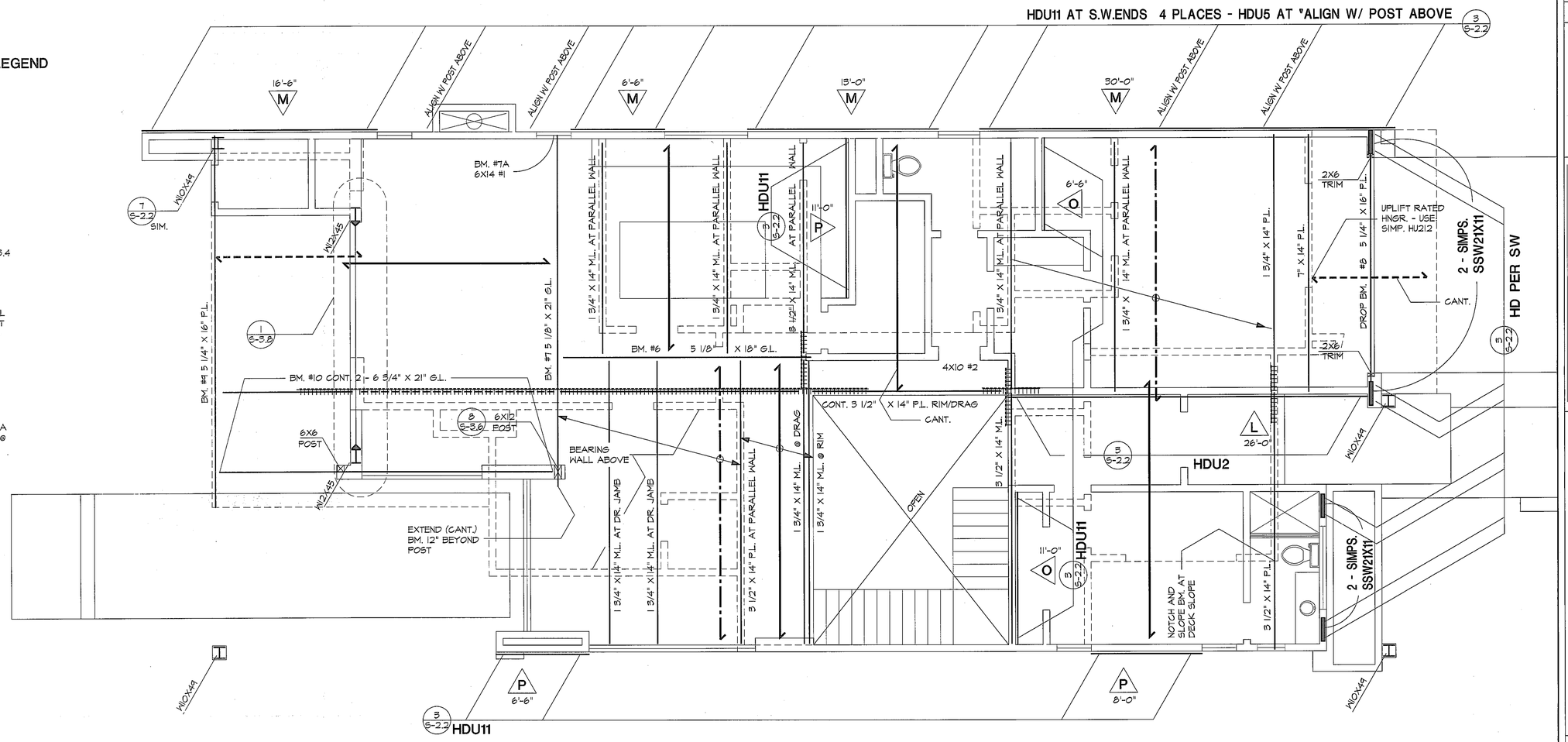
MSTI2 (U.N.O.) SEE DTL. 8/S-3.4

NOTES:

1. ALL EXT. WALLS TO BE 2X6 @ 16" O/C - ALL INTERIOR WALLS TO BE 2X4 @ 16" O/C, EXCEPT FOR SHEAR WALLS - USE: 3X4 OR 2X6 STUDS @ 16" O/C.

2. ALL G.L. (GLULAM) BEAMS TO HAVE STANDARD CAMBER RADIUS 2000' (ALTERNATE RADIUS ALLOWED WHEN APPROVED IN WRITING IN ADVANCE OF INSTALLATION).

3. HIGH STRESSED DIAPHRAGM HATCHED AREA HERE - 4X4 BLKG. ALL EDGES W/ 10d COMM. @ 2/3/10



SECOND FLOOR FRAMING PLAN

SCALE: 1/4"=1'-0"

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SECOND FLOOR FRAMING PLAN

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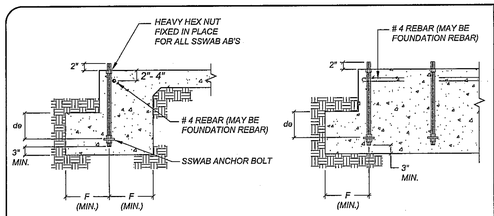


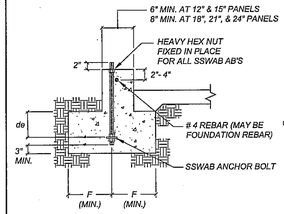
SECTION

ELEVATION

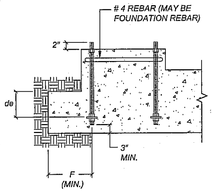
NOTE:
1. REFER TO EMBEDMENT SCHEDULE ON DETAIL 4
2. FOUNDATION AND STEM WALL (SIZE AND REINFORCEMENT) BY OTHERS

ENGINEER OF RECORD IS PERMITTED TO MODIFY DETAILS FOR SPECIFIC CONDITIONS.

SSW ANCHORAGE (SLAB ON GRADE) 1



SECTION

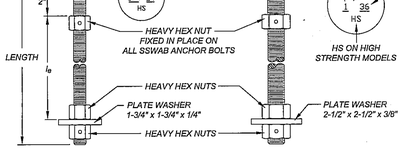


ELEVATION

NOTE:
1. REFER TO EMBEDMENT SCHEDULE ON DETAIL 4
2. FOUNDATION AND STEM WALL(SIZE AND REINFORCEMENT) BY OTHERS

ENGINEER OF RECORD IS PERMITTED TO MODIFY DETAILS FOR SPECIFIC CONDITIONS.

SSW ANCHORAGE (CURB / STEM WALL) 2



FOR 12" WIDE STEEL STRONG-WALL MODELS

FOR 15", 18", 21", AND 24" WIDE STEEL STRONG-WALL MODELS

MODEL NO.	DIA.	TOTAL LENGTH	l_e
SSWAB3/4x24	3/4"	24"	20"
SSWAB3/4x24HS	3/4"	24"	20"
SSWAB3/4x36HS	3/4"	36"	32"

MODEL NO.	DIA.	TOTAL LENGTH	l_e
SSWAB1x24	1"	24"	20"
SSWAB1x24HS	1"	24"	20"
SSWAB1x36HS	1"	36"	32"

STEEL STRONG-WALL ANCHOR BOLT 3

Embedment Schedule for 1997 UBC Loads[a]

Wall Model	Wind 2500 psi da	Wind 2500 psi F	Wind 3000 psi da	Wind 3000 psi F	Seismic 2500 psi da	Seismic 2500 psi F	Seismic 3000 psi da	Seismic 3000 psi F
phi = 0.65 (reinforcement not provided per Sect. 1923.3.2)								
12" Wall	12"	12"	12"	12"	11"	11"	10"	10"
15" Wall	13"	13"	12"	12"	11"	11"	10"	10"
18" Wall	15"	15"	15"	15"	14"	14"	13"	13"
21" Wall	16"	16"	15"	15"	14"	14"	13"	13"
24" Wall	16"	16"	15"	15"	14"	14"	13"	13"
phi = 0.85 (reinforcement provided per Sect. 1923.3.2)								
12" Wall	10"	10"	10"	10"	10"	10"	9"	9"
15" Wall	11"	11"	11"	11"	10"	10"	9"	9"
18" Wall	13"	13"	13"	13"	12"	12"	11"	11"
21" Wall	14"	14"	13"	13"	12"	12"	12"	12"
24" Wall	14"	14"	13"	13"	12"	12"	12"	12"

a. Assumes no special inspection and a multiplier of 2 (anchor not embeded in tension zone of member) on the concrete per Section 1923.2.

Embedment Schedule for 2000 IBC Loads[b]

Wall Model	SDC A & B or Wind 2500 psi da	SDC A & B or Wind 2500 psi F	SDC A & B or Wind 3000 psi da	SDC A & B or Wind 3000 psi F	SDC C through F 2500 psi da	SDC C through F 2500 psi F	SDC C through F 3000 psi da	SDC C through F 3000 psi F
12" Wall	10"	15"	10"	15"	11"	17"	10"	15"
15" Wall	12"	18"	11"	17"	15"	23"	15"	23"
18" Wall	14"	21"	14"	21"	16"	23"	15"	23"
21" Wall	16"	23"	14"	21"	16"	23"	15"	23"
24" Wall	15"	23"	14"	21"	15"	23"	15"	23"

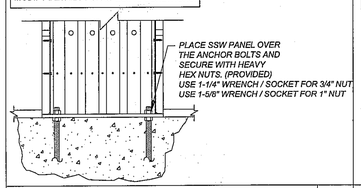
b. Assumes cracked concrete with no supplementary reinforcement.

Anchor Bolt Embedment Schedule General Notes

1. Anchor bolts shall be high strength ASTM A449 or equivalent. Nuts shall be heavy hex ASTM A563 Grade DH or heavy hex ASTM A194 Grade 2H.
2. Where justified by analysis, the registered design professional may specify alternate embedment or bolt grade.
3. Footing dimensions and rebar requirements are for anchorage only.

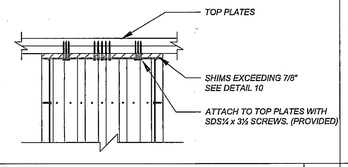
SSW EMBEDMENT SCHEDULE 4

ENGINEER OF RECORD IS PERMITTED TO MODIFY DETAILS FOR SPECIFIC CONDITIONS.



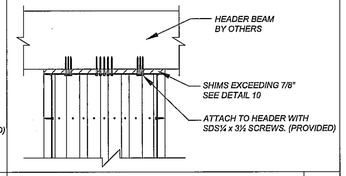
SSW BASE PLATE CONNECTION 5

ENGINEER OF RECORD IS PERMITTED TO MODIFY DETAILS FOR SPECIFIC CONDITIONS.

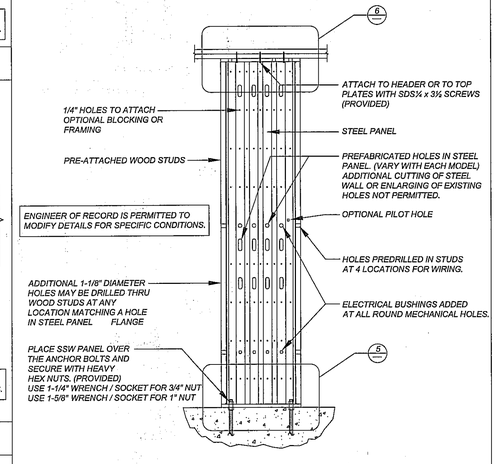


SSW TOP PLATE CONNECTION 6

ENGINEER OF RECORD IS PERMITTED TO MODIFY DETAILS FOR SPECIFIC CONDITIONS.

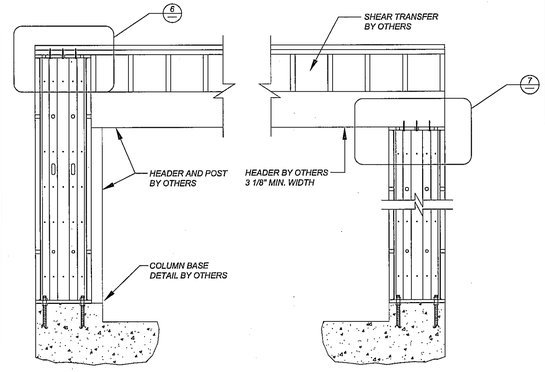


SSW HEADER CONNECTION 7



ENGINEER OF RECORD IS PERMITTED TO MODIFY DETAILS FOR SPECIFIC CONDITIONS.

STEEL STRONG-WALL 8



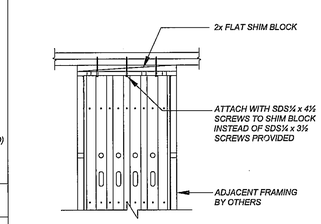
GARAGE WALL OPTION 1

GARAGE WALL OPTION 2

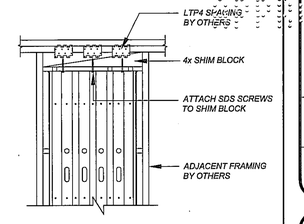
NOTE:
STEEL STRONG-WALL NOMINAL 7FT. HEIGHT WALLS ARE 80", 2" TALLER THAN ORIGINAL WOOD STRONG-WALL SHEARWALLS

ENGINEER OF RECORD IS PERMITTED TO MODIFY DETAILS FOR SPECIFIC CONDITIONS.

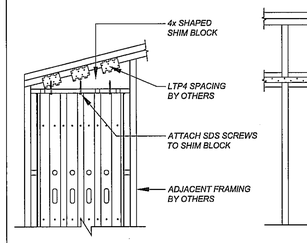
STEEL STRONG-WALL AT GARAGE 9



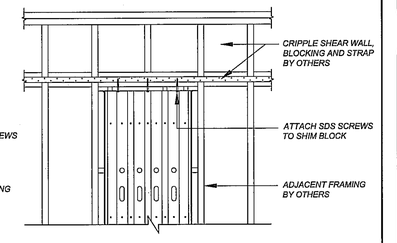
2x FLAT SHIM BLOCK



4x SHIM BLOCK



RAKE WALL

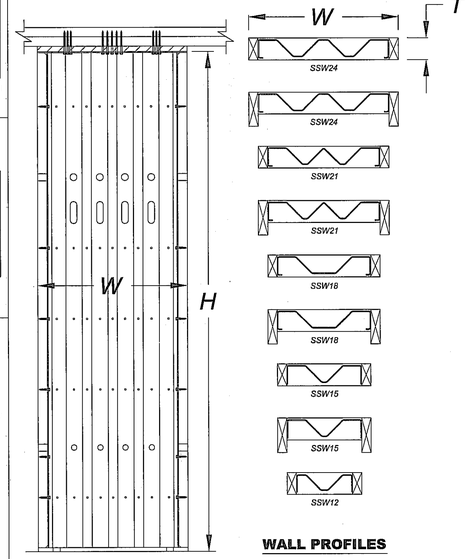


CRIPPLE WALL

ENGINEER OF RECORD IS PERMITTED TO MODIFY DETAILS FOR SPECIFIC CONDITIONS.

ENGINEER OF RECORD SHALL DESIGN FOR:
1. SHEAR TRANSFER
2. OUT OF PLANE LOADING EFFECT
3. INCREASED OVERTURNING AND DRIFT DUE TO ADDITIONAL HEIGHT.

STEEL STRONG-WALL HEIGHT ADJUSTMENTS 10

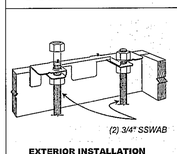


WALL PROFILES

STEEL STRONG-WALL MODELS

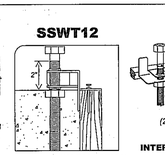
MODEL NO.	W (in)	H (in)	T (in)	HOLDOWN ANCHOR BOLTS	QTY. OF TOP OF WALL SCREWS[1]
SSW12x7	12	80	3 1/2	(2) 3/4" H.S.	4
SSW12x8	12	93 1/4	3 1/2	(2) 3/4" H.S.	4
SSW12x9	12	105 1/4	3 1/2	(2) 3/4" H.S.	4
SSW12x10	12	117 1/4	3 1/2	(2) 3/4" H.S.	4
SSW15x7	15	80	3 1/2	(2) 1" H.S.	6
SSW15x8	15	93 1/4	3 1/2	(2) 1" H.S.	6
SSW15x9	15	105 1/4	3 1/2	(2) 1" H.S.	6
SSW15x10	15	117 1/4	3 1/2	(2) 1" H.S.	6
SSW15x11	15	129 1/4	5 1/2	(2) 1" H.S.	6
SSW15x12	15	141 1/4	5 1/2	(2) 1" H.S.	6
SSW18x7	18	80	3 1/2	(2) 1" H.S.	9
SSW18x8	18	93 1/4	3 1/2	(2) 1" H.S.	9
SSW18x9	18	105 1/4	3 1/2	(2) 1" H.S.	9
SSW18x10	18	117 1/4	3 1/2	(2) 1" H.S.	9
SSW18x11	18	129 1/4	5 1/2	(2) 1" H.S.	9
SSW18x12	18	141 1/4	5 1/2	(2) 1" H.S.	9
SSW18x13	18	153 1/4	5 1/2	(2) 1" H.S.	9
SSW21x7	21	80	3 1/2	(2) 1" H.S.	12
SSW21x8	21	93 1/4	3 1/2	(2) 1" H.S.	12
SSW21x9	21	105 1/4	3 1/2	(2) 1" H.S.	12
SSW21x10	21	117 1/4	3 1/2	(2) 1" H.S.	12
SSW21x11	21	129 1/4	5 1/2	(2) 1" H.S.	12
SSW21x12	21	141 1/4	5 1/2	(2) 1" H.S.	12
SSW21x13	21	153 1/4	5 1/2	(2) 1" H.S.	12
SSW24x7	24	80	3 1/2	(2) 1" H.S.	14
SSW24x8	24	93 1/4	3 1/2	(2) 1" H.S.	14
SSW24x9	24	105 1/4	3 1/2	(2) 1" H.S.	14
SSW24x10	24	117 1/4	3 1/2	(2) 1" H.S.	14
SSW24x11	24	129 1/4	5 1/2	(2) 1" H.S.	14
SSW24x12	24	141 1/4	5 1/2	(2) 1" H.S.	14
SSW24x13	24	153 1/4	5 1/2	(2) 1" H.S.	14

1. SDS¼ x 3½ SCREWS PROVIDED WITH WALL

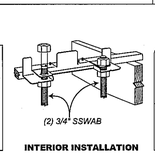


EXTERIOR INSTALLATION

SSWT12

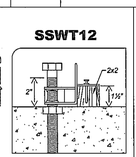


EXTERIOR INSTALLATION ANCHOR BOLT HEIGHT

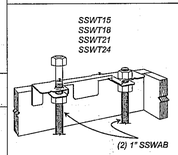


INTERIOR INSTALLATION

SSWT12

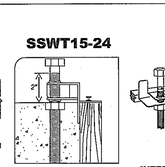


INTERIOR INSTALLATION ANCHOR BOLT HEIGHT

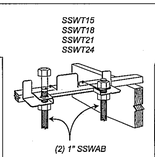


EXTERIOR INSTALLATION

SSWT15-24

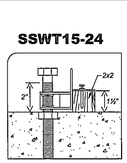


EXTERIOR INSTALLATION ANCHOR BOLT HEIGHT



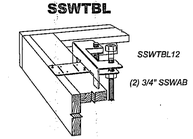
INTERIOR INSTALLATION

SSWT15-24



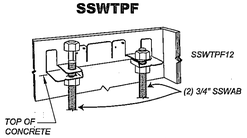
INTERIOR INSTALLATION ANCHOR BOLT HEIGHT

SSWTBL

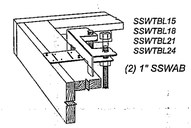


BRICK LEDGE INSTALLATION

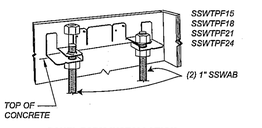
SSWTPF



PANEL FORM INSTALLATION



BRICK LEDGE INSTALLATION



PANEL FORM INSTALLATION

STEEL STRONG-WALL TEMPLATES 11

STEEL STRONG-WALL SPECIFICATIONS & WALL PROFILES 12

1. *STEEL STRONG-WALL SHEARWALL (ICC-ES ESR-1679) IS MANUFACTURED AND TRADEMARKED BY "SIMPSON STRONG-TIE COMPANY, INC." HOME OFFICE: 4120 DUBLIN BLVD. , # 400, DUBLIN, CA 94568 TEL: (800)999-5099, FAX: (925) 875-0826 "SIMPSON STRONG-TIE COMPANY, INC." IS AN ISO 9001 REGISTERED COMPANY.*
2. *USE OF THIS PRODUCT IS SUBJECT TO THE APPROVAL OF THE LOCAL BUILDING DEPARTMENT.*
3. *THIS PRODUCT IS PART OF THE OVERALL LATERAL FORCE RESISTING SYSTEM OF THE STRUCTURE. DESIGN OF THE BUILDING'S LATERAL FORCE RESISTING SYSTEM, INCLUDING THE LOAD PATH TO TRANSFER LATERAL FORCES FROM THE STRUCTURE TO THE GROUND, IS THE RESPONSIBILITY OF THE SPECIFIER.*
4. *THE CONTRACTOR SHALL VERIFY ALL DIMENSIONS, CONDITIONS, ELEVATIONS, ETC. PRIOR TO INSTALLATION OF ANY COMPONENTS FOR THE STEEL STRONG-WALL SYSTEM. IF ANY DISCREPANCIES ARE FOUND, THEY SHALL BE BROUGHT TO THE ATTENTION OF THE SPECIFIER FOR CLARIFICATION PRIOR TO CONSTRUCTION.*
5. *INSTALLATION OF PRODUCT SHALL BE DONE IN CONFORMANCE TO THESE DRAWINGS. THE PERFORMANCE OF MODIFIED PRODUCTS OR ALTERED INSTALLATION PROCEDURES ARE THE SOLE RESPONSIBILITY OF THE SPECIFIER.*
6. *SIMPSON STRONG-TIE COMPANY, INC. RESERVES THE RIGHT TO CHANGE SPECIFICATIONS, DESIGNS, AND MODELS WITHOUT NOTICE OR LIABILITY FOR SUCH CHANGES.*
7. *ALL HARDWARE CALLED OUT IS SIMPSON STRONG-TIE.*

NOTES 13

REVISIONS	BY

NO.	DATE	REVISIONS:

HRD ENGINEERING
STRUCTURAL DESIGN AND DRAFTING
7463 VARNA AVE., SECOND FLOOR
N. HOLLYWOOD, CA 91605
PHONE NO. (805) 431-5415 - FAX NO. (805) 888-4840

SIMPSON STRONG-TIE COMPANY, INC.
HOME OFFICE: 4120 DUBLIN BLVD., #400, DUBLIN, CA 94568
Tel: (800) 999-5099 Fax: (925) 875-0826
SIMPSON Strong-Tie® THERE IS NO EQUAL.

STEEL STRONG-WALL
ENGINEERED WALL APPLICATIONS

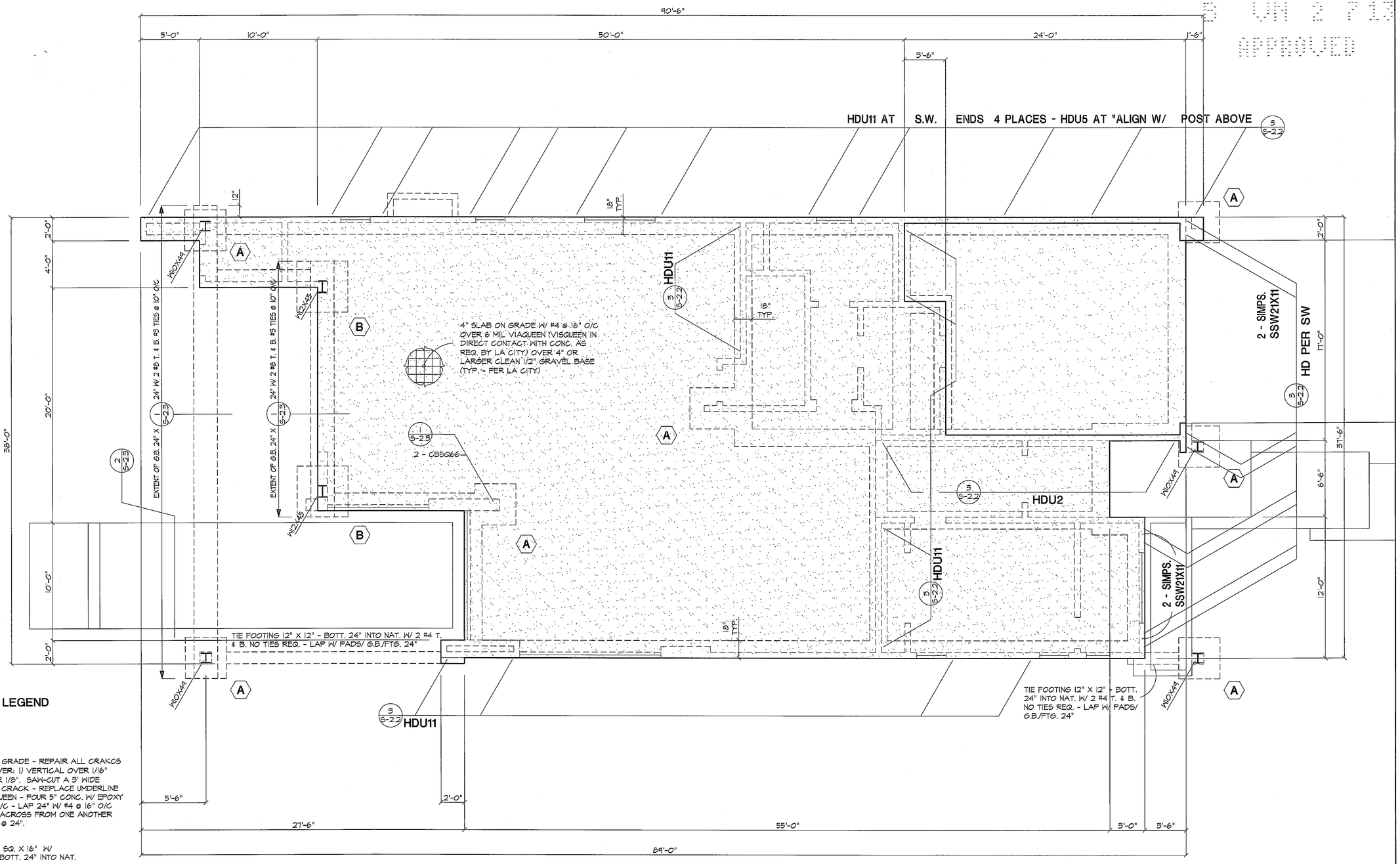
NAME	B.H.
DATE	10-04-05
SCALE	NO SCALE
CHECKED	R. A.
SHEET	SSW1
OF	SHEETS
JOB NO.	

TWO STORY SINGLE FAMILY RESIDENCE
901 LAUREL CYN.
LA., CA 90046 FOR:
L.I. INVESTMENTS, LLC

REGISTERED PROFESSIONAL ENGINEER
ROSS MOSLEY
No. SE2628
STRUCTURAL
7-31-14
STATE OF CALIFORNIA

Date	12-18-12
Scale	
Drawn	hrd
Job	
Sheet	SSW1
Of	

SSW (STEEL STRONG WALL)



FOUNDATION LEGEND

NOTE:

1. EXIST'G SLAB ON GRADE - REPAIR ALL CRACKS W/ SEPARATIONS OVER: 1) VERTICAL OVER 1/16" AND 2) HORIZ. OVER 1/8". SAW-CUT A 3' WIDE STRIP X LENGTH OF CRACK - REPLACE UNDERLINE SOILS/SAND & VISQUEEN - POUR 5" CONC. W/ EPOXY DOWELS #4 @ 24" O/C - LAP 24" W/ #4 @ 16" O/C E.W. - WHERE BARS ACROSS FROM ONE ANOTHER LAP 24" DELETE #4 @ 24".

(A) PAD 3'-6" SQ. X 16" W/ 5 #4 E.W. BOTT. 24" INTO NAT.

(B) PAD 4'-6" SQ. X 18" W/ 5 #4 E.W. BOTT. 24" INTO NAT.

1 S-5.1 FOUNDATION FRAMING PLAN

SCALE: 1/4"=1'-0"

REVISIONS	BY

HRD ENGINEERING
STRUCTURAL DESIGN AND DRAFTING
7463 VARNA AVE., SECOND FLOOR
N. HOLLYWOOD, CA 91605
PHONE NO. (805) 431-5415 - FAX NO. (805) 888-4840

FOUNDATION PLAN

TWO STORY SINGLE FAMILY RESIDENCE
901 LAUREL CYN.
LA, CA 90046 FOR:
L.I. INVESTMENTS, LLC

REGISTERED PROFESSIONAL ENGINEER
ROSS DOOLEY
No: SE2628
STRUCTURAL
12-31-13
STATE OF CALIFORNIA

Date	12-18-12
Scale	
Drawn	hrd
Job	
Sheet	S-4.1
	Of

AT FIN WALL (SEE DET.) - 2X8 STUDS ON INTERIOR SIDE OF WALL CONT. FOUND. TO TOP OF FIN WALL (APPROX. 25 1/2 FEET (F.V.) - NO CUTS, LAPS ALLOWED - STUDS CONT. REQUIRED BY ARCHITECTURAL FEATURE

ROOF FRAMING LEGEND

2X10 #2 R.J. @ 16" O/C U.N.O.

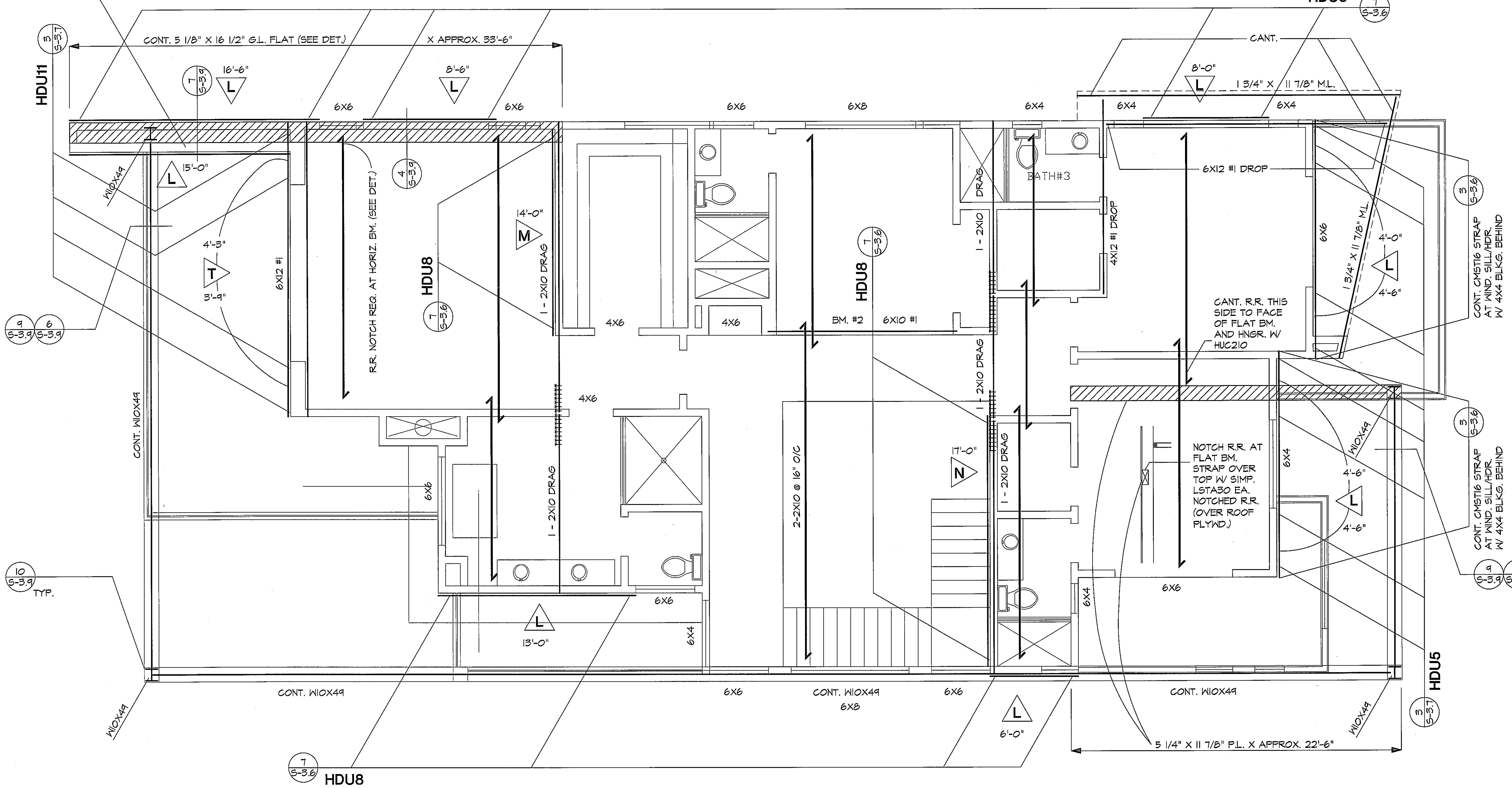
2X8 #2 R.R. @ 16" O/C U.N.O.

MSTI72 (U.N.O.) SEE DTL. 8/S-3.3

CMSTI6 CONT. STRAP FOR DIST. SHOWN

NOTES:

1. ALL EXT. WALLS TO BE 2X6 @ 16" O/C - ALL INTERIOR WALLS TO BE 2X4 @ 16" O/C, EXCEPT FOR SHEAR WALLS - USE: 3X4 OR 2X6 STUDS @ 16" O/C.



ROOF FRAMING PLAN

1 / S-5.2

SCALE: 1/4"=1'-0"

REVISIONS	BY

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N. HOLLYWOOD, CA 91605
PHONE NO. (805) 431-5415 - FAX NO. (805) 888-4840

ROOF FRAMING PLAN

TWO STORY SINGLE FAMILY RESIDENCE
901 LAUREL CYN.
LA, CA 90046 FOR:
L.I. INVESTMENTS, LLC

REGISTERED PROFESSIONAL ENGINEER No: SE2628 STRUCTURAL STATE OF CALIFORNIA

Date 12-18-12
Scale
Drawn hrd
Job
Sheet S-5.2
Of