

ELEVATION CERTIFICATE

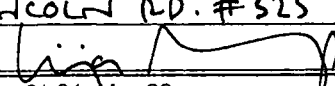
OMB No. 1660-0008
Expires March 31, 2012

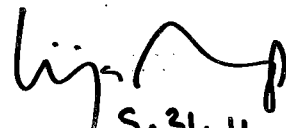
Important: Read the instructions on pages 1-9.

SECTION A - PROPERTY INFORMATION		For Insurance Company Use:
A1. Building Owner's Name JOSHUA GURWITZ ("3193 ROYAL PALM AVENUE, LLC")		Policy Number
A2. Building Street Address (including Apt., Unit, Suite, and/or Bldg. No.) or P.O. Route and Box No. 3193 ROYAL PALM AVENUE		Company NAIC Number
City MIAMI BEACH	State FL	ZIP Code 33140
A5. Property Description (Lot and Block Numbers, Tax Parcel Number, Legal Description, etc.) LOT 13, BLK 45, ORCHARD SUBDIV. NO. 1, P.B. 6, P. 111 02-3227-001-0590		
A4. Building Use (e.g., Residential, Non-Residential, Addition, Accessory, etc.) RESIDENTIAL		
A5. Latitude/Longitude: Lat. 25° 48' 32.92" Long. 80° 07' 45.60" Horizontal Datum: ☐ NAD 1927 ☒ NAD 1983		
A6. Attach at least 2 photographs of the building if the Certificate is being used to obtain flood insurance.		
A7. Building Diagram Number 8		
A8. For a building with a crawlspace or enclosure(s):		
a) Square footage of crawlspace or enclosure(s) 1,170 sq ft		
b) No. of permanent flood openings in the crawlspace or enclosure(s) within 1.0 foot above adjacent grade 6		
c) Total net area of flood openings in A8.b 648 sq in		
d) Engineered flood openings? ☒ Yes ☐ No		
A9. For a building with an attached garage:		
a) Square footage of attached garage _____ sq ft		
b) No. of permanent flood openings in the attached garage within 1.0 foot above adjacent grade _____		
c) Total net area of flood openings in A9.b _____ sq in		
d) Engineered flood openings? ☐ Yes ☐ No		

SECTION B - FLOOD INSURANCE RATE MAP (FIRM) INFORMATION					
B1. NFIP Community Name & Community Number CITY OF MIAMI BEACH, 1206SI		B2. County Name MIAMI-DADE		B3. State FLORIDA	
B4. Map/Panel Number 12086C0317	B5. Suffix L	B6. FIRM Index Date 9/11/09	B7. FIRM Panel Effective/Revised Date 9/11/09	B8. Flood Zone(s) AE	B9. Base Flood Elevation(s) (Zone AO, use base flood depth) 8.00'
B10. Indicate the source of the Base Flood Elevation (BFE) data or base flood depth entered in Item B9. ☐ FIS Profile ☒ FIRM Community Determined ☐ Other (Describe) _____					
B11. Indicate elevation datum used for BFE in Item B9: ☒ NGVD 1929 ☐ NAVD 1988 ☐ Other (Describe) _____					
B12. Is the building located in a Coastal Barrier Resources System (CBRS) area or Otherwise Protected Area (OPA)? ☐ Yes ☒ No Designation Date N/A ☐ CBRS ☐ OPA					

SECTION C - BUILDING ELEVATION INFORMATION (SURVEY REQUIRED)	
C1. Building elevations are based on: ☒ Construction Drawings* ☐ Building Under Construction* ☐ Finished Construction *A new Elevation Certificate will be required when construction of the building is complete.	
C2. Elevations - Zones A1-A30, AE, AH, A (with BFE), VE, V1-V30, V (with BFE), AR, AR/A, AR/AE, AR/A1-A30, AR/AH, AR/AO. Complete Items C2.a-h below according to the building diagram specified in Item A7. Use the same datum as the BFE. Benchmark Utilized 3403 Vertical Datum NGVD 1929 Conversion/Comments N/A	
Check the measurement used.	
a) Top of bottom floor (including basement, crawlspace, or enclosure floor)	4.51 ☒ feet ☐ meters (Puerto Rico only)
b) Top of the next higher floor	5.09 ☒ feet ☐ meters (Puerto Rico only)
c) Bottom of the lowest horizontal structural member (V Zones only)	N/A ☐ feet ☐ meters (Puerto Rico only)
d) Attached garage (top of slab)	N/A ☐ feet ☐ meters (Puerto Rico only)
e) Lowest elevation of machinery or equipment servicing the building (Describe type of equipment and location in Comments)	8.00 ☒ feet ☐ meters (Puerto Rico only)
f) Lowest adjacent (finished) grade next to building (LAG)	3.71 ☒ feet ☐ meters (Puerto Rico only)
g) Highest adjacent (finished) grade next to building (HAG)	4.53 ☒ feet ☐ meters (Puerto Rico only)
h) Lowest adjacent grade at lowest elevation of deck or stairs, including structural support	N/A ☐ feet ☐ meters (Puerto Rico only)

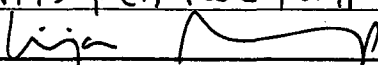
SECTION D - SURVEYOR, ENGINEER, OR ARCHITECT CERTIFICATION	
This certification is to be signed and sealed by a land surveyor, engineer, or architect authorized by law to certify elevation information. I certify that the information on this Certificate represents my best efforts to interpret the data available. I understand that any false statement may be punishable by fine or imprisonment under 18 U.S. Code, Section 1001.	
☒ Check here if comments are provided on back of form. Were latitude and longitude in Section A provided by a licensed land surveyor? ☒ Yes ☐ No	
Certifier's Name LISA MOSSCROP	License Number AR 92744
Title OWNER	Company Name MOSSCROP ASSOCIATES
Address 940 LINCOLN RD. #325	City MIAMI BEACH
State FL	ZIP Code 33139
Signature 	Date 5.31.11
Telephone 305.534.9779	


S.31.11

IMPORTANT: In these spaces, copy the corresponding information from Section A.			For Insurance Company Use:	
Building Street Address (including Apt., Unit, Suite, and/or Bldg. No.) or P.O. Route and Box No. 3193 ROYAL PALM AVENUE			Policy Number	
City MIAMI BEACH	State FL	ZIP Code 33140	Company NAIC Number	

SECTION D - SURVEYOR, ENGINEER, OR ARCHITECT CERTIFICATION (CONTINUED)

Copy both sides of this Elevation Certificate for (1) community official, (2) insurance agent/company, and (3) building owner.

Comments
LAT. & LONG. OBTAINED BY GOOGLE: CROWN OF ROAD ELEV.: 3.76' & E OF W. 34 ST AT
CENTER OF LOT. BM: B-313, LOCATOR: 3224 ELEV.: 4.31', EQUIPMENT LOCATION:
(2) AC UNITS & (1) POOL PUMP LOCATED ON SOUTH SIDE OF HOUSE TOWARDS EAST END.
Signature  Date 5.31.11 ☒ Check here if attachments (PHOTOS)

SECTION E - BUILDING ELEVATION INFORMATION (SURVEY NOT REQUIRED) FOR ZONE AO AND ZONE A (WITHOUT BFE)

For Zones AO and A (without BFE), complete Items E1-E5. If the Certificate is intended to support a LOMA or LOMR-F request, complete Sections A, B, and C. For Items E1-E4, use natural grade, if available. Check the measurement used. In Puerto Rico only, enter meters.

- E1. Provide elevation information for the following and check the appropriate boxes to show whether the elevation is above or below the highest adjacent grade (HAG) and the lowest adjacent grade (LAG).
- a) Top of bottom floor (including basement, crawlspace, or enclosure) is _____ feet ☐ meters ☐ above or ☐ below the HAG.
- b) Top of bottom floor (including basement, crawlspace, or enclosure) is _____ feet ☐ meters ☐ above or ☐ below the LAG.
- E2. For Building Diagrams 6-9 with permanent flood openings provided in Section A Items 8 and/or 9 (see pages 8-9 of Instructions), the next higher floor (elevation C2.b in the diagrams) of the building is _____ feet ☐ meters ☐ above or ☐ below the HAG.
- E3. Attached garage (top of slab) is _____ feet ☐ meters ☐ above or ☐ below the HAG.
- E4. Top of platform of machinery and/or equipment servicing the building is _____ feet ☐ meters ☐ above or ☐ below the HAG.
- E5. Zone AO only: If no flood depth number is available, is the top of the bottom floor elevated in accordance with the community's floodplain management ordinance? ☐ Yes ☐ No ☐ Unknown. The local official must certify this information in Section G.

SECTION F - PROPERTY OWNER (OR OWNER'S REPRESENTATIVE) CERTIFICATION

The property owner or owner's authorized representative who completes Sections A, B, and E for Zone A (without a FEMA-issued or community-issued BFE) or Zone AO must sign here. The statements in Sections A, B, and E are correct to the best of my knowledge.

Property Owner's or Owner's Authorized Representative's Name

Address City State ZIP Code

Signature Date Telephone

Comments

☐ Check here if attachments

SECTION G - COMMUNITY INFORMATION (OPTIONAL)

The local official who is authorized by law or ordinance to administer the community's floodplain management ordinance can complete Sections A, B, C (or E), and G of this Elevation Certificate. Complete the applicable item(s) and sign below. Check the measurement used in Items G8 and G9.

- G1. ☐ The information in Section C was taken from other documentation that has been signed and sealed by a licensed surveyor, engineer, or architect who is authorized by law to certify elevation information. (Indicate the source and date of the elevation data in the Comments area below.)
- G2. ☐ A community official completed Section E for a building located in Zone A (without a FEMA-issued or community-issued BFE) or Zone AO.
- G3. ☐ The following information (Items G4-G9) is provided for community floodplain management purposes.

G4. Permit Number	G5. Date Permit Issued	G6. Date Certificate Of Compliance/Occupancy Issued
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G7. This permit has been issued for: ☐ New Construction ☐ Substantial Improvement

G8. Elevation of as-built lowest floor (including basement) of the building _____ feet ☐ meters (PR) Datum _____

G9. BFE or (in Zone AO) depth of flooding at the building site _____ feet ☐ meters (PR) Datum _____

G10. Community's design flood elevation _____ feet ☐ meters (PR) Datum _____

Local Official's Name

Title

Community Name

Telephone

Signature

Date

Comments

☐ Check here if attachments

MEP ENGINEERING, INC.

MEMORANDUM

TO: Mr. ILIJ MOSSCROP, AIA

FIRM: MOSSCROP ASSOCIATES

FROM: ANTONIO F. NARANJO, P.E., LEED AP

FIRM: MEP ENGINEERING, INC.

RE: **3193 ROYAL PALM AVENUE RESIDENCE**
ADDRESS: 3193 ROYAL PALM AVENUE, MIAMI BEACH, FLORIDA 33140
PERMIT #: B1100804

SUBJECT: **RESPONSES TO ELECTRICAL AND PLUMBING COMMENTS FROM CITY OF MIAMI BEACH BUILDING DEPARTMENT**

DATE: MARCH 3, 2011

RESPONSES TO ELECTRICAL COMMENTS:

- 1.) MUST PROVIDE CIRCUIT IDENTIFICATION FOR SMOKE DETECTORS.
R. PROVIDED. PLEASE SEE REVISED SHEETS E-1 & E-2.
- 2.) PROVIDE CARBON MONOXIDE PROTECTION FOR 2ND FLOOR BEDROOMS SHALL HAVE AN OPERATIONAL CARBON MONOXIDE ALARM INSTALLED WITHIN 10 FEET OF EACH ROOM USED FOR SLEEPING PURPOSES.
R. PROVIDED. PLEASE SEE REVISED SHEETS E-1 AND E-2.
- 3.) MISSING SMOKE DETECTORS IN BEDROOMS.
R. PROVIDED. PLEASE SEE REVISED SHEETS E-1 & E-2.
- 4.) MISSING GFCI OUTLET IN NORTH SIDE BALCONY.
R. PROVIDED. PLEASE SEE REVISED SHEET E-2.

3193 ROYAL PALM AVENUE
RESPONSES TO ELECTRICAL AND PLUMBING COMMENTS

PAGE 1 OF 2

MEP ENGINEERING, INC.

5.) MUST PROVIDE NOTE ON PLANS "ALL OUTLETS IN KITCHEN AND BATHROOM SHALL COMPLY WITH NEC 210.52".

R. NOTE PROVIDED. PLEASE SEE REVISED SHEET E-3.

RESPONSES TO PLUMBING COMMENTS:

1.) CORRECT SIZE OF CLOTHES WASHING MACHINE BRANCH DRAIN TO 3".

R. PROVIDED. PLEASE SEE REVISED SHEET P-1 FOR CORRECTED DRAIN SIZES.

2.) PROVIDE SHOWER DETAIL.

R. ARCHITECT TO PROVIDE SHOWER DETAIL.

M O S S C R O P A S S O C I A T E S

ARCHITECTURE · INTERIOR DESIGN

To: City of Miami Beach
Building & Planning & Zoning Departments
1700 Convention Center Drive, 2nd Floor
Miami Beach, FL 33139

Attn.: Plans Reviewers

Re.: Permit Application Number: **B11-00804**
3193 Royal Palm Avenue, Miami Beach

Date: March 3, 2011

Dear Plans Reviewers:

I respectfully submit this narrative along with the revised permit plans in response to your comments regarding the above referenced project.

Planning & Zoning:

- 2.) See revised sheet A-01 for landscaping information (Plant species, irrigation layout, etc.)
- 3.) Porthole window has been reduced in size to match the 1938 postcard. See revised sheets A-06 and A-12
- 4.) Conditions 1b and 3 of HPB Final Order are described on elevation sheets A-06 & A-07 and in note number 3 on those same sheets.
- 5.) Window and door colors are described in added note 4, sheets A-06 & A-07
- 6.) Site fence detail elevation with notes and dims has been added on sheet A-01
- 7.) Swimming pool has been screened from public right-of-way with a 5' tall thryallis hedge on screened from neighbors to the east and south with a 5' high Rangoon Creeper Vine, see revised sheet A-01
- 8.) See attached survey
- 9.) Tops of A/C units is 6'-10" above grade. Bottoms of A/C units HAVE to be above flood elevation. I discussed the heights of these units with someone in zoning (Tui Pranich I think??) prior to drawing them up. Height to top of units is dimensioned on sheet A-06.

Building / Accessibility:

- 1.) To be submitted.
- 2.) Cover sheet (A-00), General Note number 1 has been revised to include the word "Existing".
- 3.) Demolition permit has already been issued and closed out. Demolition work is completed.
- 4.) Window sill heights have been added - see sheets A-06 & A-07.
- 5.) Note regarding separate permit for exterior doors & windows has been added to sheets A-06 & A-07 (Note 4)

(Continued on page 2)

Page 1 of 2

M O S S C R O P A S S O C I A T E S

ARCHITECTURE · INTERIOR DESIGN

6.) Guardrails DO comply with opening requirements. 4" limitation for residential applies only to the first 36" of guardrail height - thereafter no 4" restriction applies. See dimensioned guardrail elevation details, 3/A-07

7.) Steel stud reinforcement notes have been added to partition type details 1 & 2, sheet A-11

8.) Typical exterior wall section has been added to sheet A-08 (Drawing number 3). Please note: Florida Building Code does NOT require attic ventilation.

9.) Energy Calculations WERE attached - I will add yellow post-it notes to indicate where they are

10.) Category II safety glass note has been added to detail 1/A-09.

11.) Cement board or equivalent for wet areas has been noted on partition types 1, 2, and 3, sheet A-11.

12.) I have clouded and noted the roof overflow drains on roof plan, 2/A-03.

13.) CO detector has been added to electrical plans - see E-1 (Vestibule 106) and E-2 (Stair landing).

Electrical:

Please refer to Electrical engineer's written narrative.

Plumbing:

See revised sheet P-1 for 3" washing machine branch drain

For shower pan detail, see detail 1 on architectural sheet A-11 (Do not confuse detail 1 with partition type 1!!)

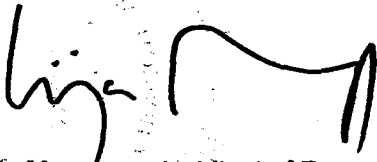
Structural:

Please refer to structural engineer's written narrative.

With regard to items 11.2 and 11.3, the architect will prepare elevations and details for the repair scope once we know what that will be. Once work begins on the structure we will have a better idea of the scope and nature of structural repairs required, such as spalling repair, rebar repair or replacement, etc.

Please feel free to contact me with any questions you may have.

Sincerely,



Ilija Moss crop, Architect of Record

C:\Program Files\ACAD2000\JOBS\GURWITZ\3193-ROYAL-PALM\CONSTRUCTION-DOCS\RPA-REV-01-NARRATIVE.doc

Residential System Sizing Calculation

Summary

Project Title:

3193 ROYAL PALM AVENUE
MIAMI BEACH, FL 33140-

3193 ROYAL PALM AVE AHU-1

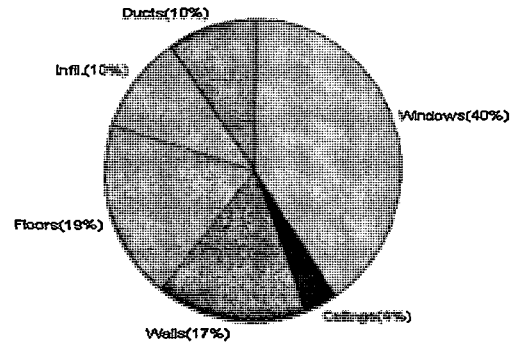
5/26/2010

Location for weather data: Miami Beach, FL - Defaults: Latitude(25.82) Altitude(10 ft.) Temp Range(L)			
Humidity data: Interior RH (50%) Outdoor wet bulb (77F) Humidity difference(59gr.)			
Winter design temperature(MJ8 99%)	48 F	Summer design temperature(MJ8 99%)	89 F
Winter setpoint	70 F	Summer setpoint	75 F
Winter temperature difference	22 F	Summer temperature difference	14 F
Total heating load calculation	33215 Btuh	Total cooling load calculation	52334 Btuh
Submitted heating capacity	% of calc Btuh	Submitted cooling capacity	% of calc Btuh
Total (Electric Strip Heat)	102.4 34000	Sensible (SHR = 0.75)	113.4 45000
		Latent	118.6 15000
		Total	114.6 60000

WINTER CALCULATIONS

Winter Heating Load (for 2068 sqft)

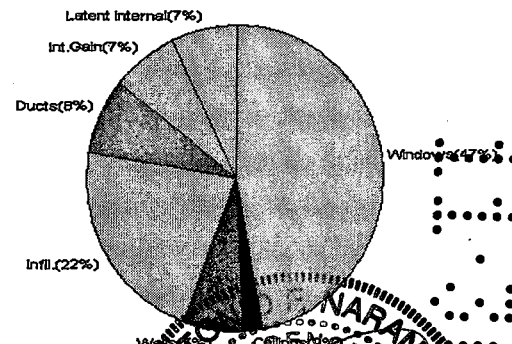
Load component		Load
Window total	545 sqft	13429 Btuh
Wall total	1895 sqft	5484 Btuh
Door total	0 sqft	0 Btuh
Ceiling total	1158 sqft	1280 Btuh
Floor total	2068 sqft	6438 Btuh
Infiltration	138 cfm	3335 Btuh
Duct loss		3248 Btuh
Subtotal		33215 Btuh
Ventilation	0 cfm	0 Btuh
TOTAL HEAT LOSS		33215 Btuh



SUMMER CALCULATIONS

Summer Cooling Load (for 2068 sqft)

Load component		Load
Window total	545 sqft	24567 Btuh
Wall total	1895 sqft	3490 Btuh
Door total	0 sqft	0 Btuh
Ceiling total	1158 sqft	1106 Btuh
Floor total		0 Btuh
Infiltration	207 cfm	3184 Btuh
Internal gain		3620 Btuh
Duct gain		3724 Btuh
Sens. Ventilation	0 cfm	0 Btuh
Blower Load		0 Btuh
Total sensible gain		39690 Btuh
Latent gain(ducts)		550 Btuh
Latent gain(infiltration)		8294 Btuh
Latent gain(ventilation)		0 Btuh
Latent gain(internal/occupants/other)		3800 Btuh
Total latent gain		12644 Btuh
TOTAL HEAT GAIN		52334 Btuh

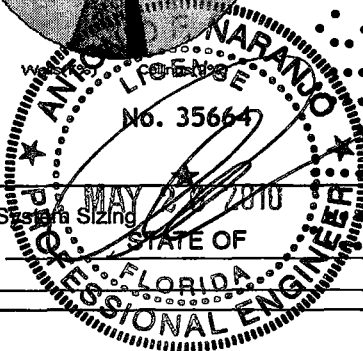


8th Edition

EnergyGauge® System Sizing

PREPARED BY:

DATE:



Residential System Sizing Calculation

Summary

Project Title:

3193 ROYAL PALM AVENUE
MIAMI BEACH, FL 33140-

3193 ROYAL PALM AVE AHU-2

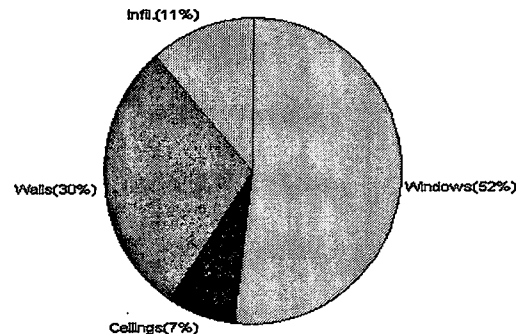
5/26/2010

Location for weather data: Miami Beach, FL - Defaults: Latitude(25.82) Altitude(10 ft.) Temp Range(L)			
Humidity data: Interior RH (50%) Outdoor wet bulb (77F) Humidity difference(59gr.)			
Winter design temperature(MJ8 99%)	48 F	Summer design temperature(MJ8 99%)	89 F
Winter setpoint	70 F	Summer setpoint	75 F
Winter temperature difference	22 F	Summer temperature difference	14 F
Total heating load calculation	13486 Btuh	Total cooling load calculation	22065 Btuh
Submitted heating capacity	% of calc Btuh	Submitted cooling capacity	% of calc Btuh
Total (Electric Strip Heat)	126.1 17000	Sensible (SHR = 0.75)	100.9 18000
		Latent	142.0 6000
		Total	108.8 24000

WINTER CALCULATIONS

Winter Heating Load (for 910 sqft)

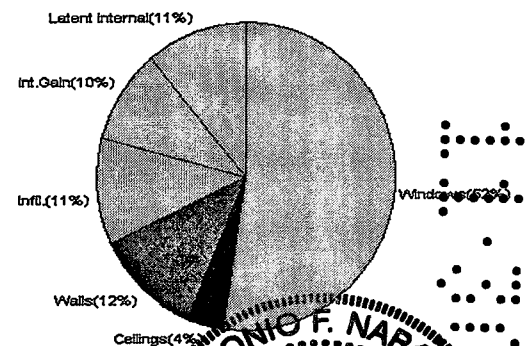
Load component		Load	
Window total	282 sqft	7014	Btuh
Wall total	1218 sqft	3998	Btuh
Door total	0 sqft	0	Btuh
Ceiling total	910 sqft	1006	Btuh
Floor total	1 sqft	0	Btuh
Infiltration	61 cfm	1468	Btuh
Duct loss		0	Btuh
Subtotal		13486	Btuh
Ventilation	0 cfm	0	Btuh
TOTAL HEAT LOSS		13486	Btuh



SUMMER CALCULATIONS

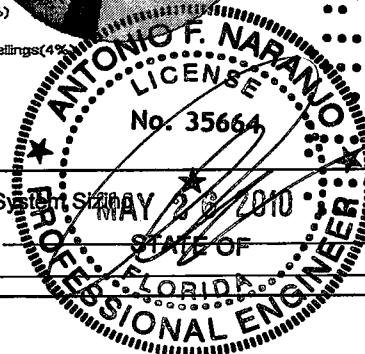
Summer Cooling Load (for 910 sqft)

Load component		Load	
Window total	282 sqft	11536	Btuh
Wall total	1218 sqft	2544	Btuh
Door total	0 sqft	0	Btuh
Ceiling total	910 sqft	869	Btuh
Floor total		0	Btuh
Infiltration	46 cfm	700	Btuh
Internal gain		2190	Btuh
Duct gain		0	Btuh
Sens. Ventilation	0 cfm	0	Btuh
Blower Load		0	Btuh
Total sensible gain		17840	Btuh
Latent gain(ducts)		0	Btuh
Latent gain(infiltration)		1825	Btuh
Latent gain(ventilation)		0	Btuh
Latent gain(internal/occupants/other)		2400	Btuh
Total latent gain		4225	Btuh
TOTAL HEAT GAIN		22065	Btuh



8th Edition

EnergyGauge® System Sizing
PREPARED BY: _____
DATE: _____



Building Photographs

See Instructions for Item A6.

For Insurance Company Use:

Building Street Address (including Apt., Unit, Suite, and/or Bldg. No.) or P.O. Route and Box No.

Policy Number

3193 ROYAL PALM AVE.

City

State

ZIP Code

Company NAIC Number

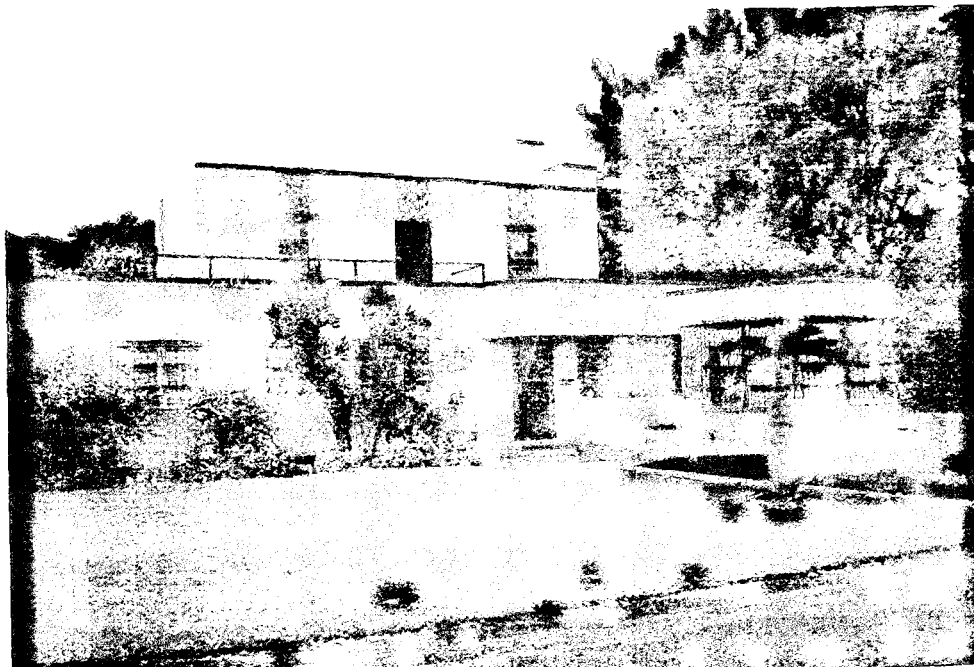
MIAMI BEACH

FLORIDA

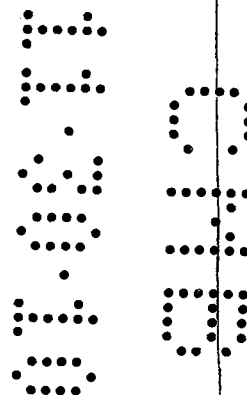
33140

If using the Elevation Certificate to obtain NFIP flood insurance, affix at least two building photographs below according to the instructions for Item A6. Identify all photographs with: date taken; "Front View" and "Rear View"; and, if required, "Right Side View" and "Left Side View." If submitting more photographs than will fit on this page, use the Continuation Page on the reverse.

DATE TAKEN: 3/10/10



FRONT VIEW



REAR VIEW

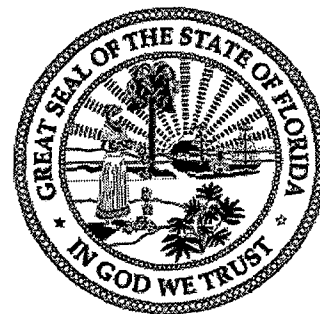
FLORIDA ENERGY EFFICIENCY CODE FOR BUILDING CONSTRUCTION**Florida Department of Community Affairs Residential Performance Method A**

Project Name: 3193 ROYAL PALM AVE Street: 3193 ROYAL PALM AVENUE City, State, Zip: MIAMI BEACH, FL, 33140- Owner: Design Location: FL, Miami Beach		Builder Name: Permit Office: MIAMI BEACH Permit Number: Jurisdiction: 231000	
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Glass/Floor Area: 0.278	Total As-Built Modified Loads: 71.88 Total Baseline Loads: 89.20	PASS
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I hereby certify that the plans and specifications covered by this calculation are in compliance with the Florida Energy Code. PREPARED BY: _____ DATE: _____ I hereby certify that this building, as designed, is in compliance with the Florida Energy Code. OWNER/AGENT: _____ DATE: _____	Review of the plans and specifications covered by this calculation indicates compliance with the Florida Energy Code. Before construction is completed this building will be inspected for compliance with Section 553.908 Florida Statutes. BUILDING OFFICIAL: _____ DATE: _____
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- Compliance requires certification by the air handler unit manufacturer that the air handler enclosure qualifies as certified factory-sealed in accordance with N1110.A.3.
- Compliance requires an air distribution system test report, by a Florida Class 1 Rater, confirming system leakage to outdoors is not greater than 89 cfm at 25 pascals pressure difference in accordance with N1110.A.2.

PROJECT

Title: 3193 ROYAL PALM AVE	Bedrooms: 3	Address Type: Street Address
Building Type: FLAsBuilt	Conditioned Area: 2978	Lot #
Owner:	Total Stories: 2	Block/SubDivision:
# of Units: 1	Worst Case: No	PlatBook:
Builder Name:	Rotate Angle: 0	Street: 3193 ROYAL PALM AV
Permit Office: MIAMI BEACH	Cross Ventilation:	County: DADE
Jurisdiction: 231000	Whole House Fan:	City, State, Zip: MIAMI BEACH ,
Family Type: Single-family		FL , 33140-
New/Existing: New (From Plans)		
Comment:		

CLIMATE

	Design Location	TMY Site	IECC Zone	Design Temp 97.5 %	Design Temp 2.5 %	Int Design Temp Winter	Int Design Temp Summer	Heating Degree Days	Design Moisture	Daily Temp Range
✓	FL, Miami Beach	FL_MIAMI_INTL_AP	1	51	90	75	70	149.5	58	Low

FLOORS

	#	Floor Type	Perimeter	R-Value	Area	Tile	Wood	Carpet
✓	1	Slab-On-Grade Edge Insulatio	248 ft	0	2068 ft²	1	0	0

ROOF

	#	Type	Materials	Roof Area	Gable Area	Roof Color	Solar Absor.	Tested	Deck Insul.	Pitch
✓	1	Flat	Concrete	2075 ft²	86 ft²	Medium	0.96	No	0	4.8 deg

ATTIC

	#	Type	Ventilation	Vent Ratio (1 in)	Area	RBS	IRCC
✓	1	No attic	Vented	300	2068 ft²	N	N

CEILING

	#	Ceiling Type	R-Value	Area	Framing Frac	Truss Type
✓	1	Cathedral/Single Assembly (Vented)	19	1158 ft²	0.11	Wood
	2	Cathedral/Single Assembly (Vented)	19	910 ft²	0.11	Wood

WALLS

	#	Omt	Adjacent To	Wall Type	Cavity R-Value	Area	Sheathing R-Value	Framing Fraction	Solar Absor.
✓	1	N	Exterior	Concrete Block - Int Insul	5	740 ft²		0	0.65
	2	S	Exterior	Concrete Block - Int Insul	5	860 ft²		0	0.65
	3	E	Exterior	Concrete Block - Int Insul	5	360 ft²		0	0.65
	4	W	Exterior	Concrete Block - Int Insul	5	360 ft²		0	0.65
	5	NW	Exterior	Concrete Block - Int Insul	5	60 ft²		0	0.65
	6	NE	Exterior	Concrete Block - Int Insul	5	60 ft²		0	0.65
	7	N	Exterior	Concrete Block - Int Insul	5	360 ft²		0	0.65
	8	S	Exterior	Concrete Block - Int Insul	5	360 ft²		0	0.65

WALLS

✓	#	Omt	Adjacent To	Wall Type	Cavity R-Value	Area	Sheathing R-Value	Framing Fraction	Solar Absor.
_____	9	E	Exterior	Concrete Block - Int Insul	5	50 ft²		0	0.65
_____	10	W	Exterior	Concrete Block - Int Insul	5	190 ft²		0	0.65
_____	11	N	Exterior	Frame - Steel	13	210 ft²		0	0.64999997
_____	12	S	Exterior	Frame - Steel	13	210 ft²		0	0.64999997
_____	13	E	Exterior	Frame - Steel	13	130 ft²		0	0.64999997

WINDOWS

Orientation shown is the entered, asBuilt orientation.

✓	#	Omt	Frame	Panes	NFRC	U-Factor	SHGC	Storms	Area	Overhang Depth	Separation	Int Shade	Screening
_____	1	N	Metal	Single (Tinted)	Yes	1.06	0.41	N	18 ft²	0 ft 0 in	0 ft 0 in	HERS 2006	None
_____	2	N	Metal	Single (Tinted)	Yes	1.06	0.41	N	25.55555	0 ft 0 in	0 ft 0 in	HERS 2006	None
_____	3	N	Metal	Single (Tinted)	Yes	1.06	0.41	N	52.11111	0 ft 0 in	0 ft 0 in	HERS 2006	None
_____	4	N	Metal	Single (Tinted)	Yes	1.06	0.41	N	7.763888	0 ft 0 in	0 ft 0 in	HERS 2006	None
_____	5	N	Metal	Single (Tinted)	Yes	1.06	0.41	N	26.66666	0 ft 0 in	0 ft 0 in	HERS 2006	None
_____	6	N	Metal	Single (Tinted)	Yes	1.06	0.41	N	18 ft²	0 ft 0 in	0 ft 0 in	HERS 2006	None
_____	7	S	Metal	Single (Tinted)	Yes	1.06	0.41	N	12.44444	0 ft 0 in	0 ft 0 in	HERS 2006	None
_____	8	S	Metal	Single (Tinted)	Yes	1.06	0.41	N	25.66666	0 ft 0 in	0 ft 0 in	HERS 2006	None
_____	9	S	Metal	Single (Tinted)	Yes	1.06	0.41	N	19.55555	0 ft 0 in	0 ft 0 in	HERS 2006	None
_____	10	S	Metal	Single (Tinted)	Yes	1.06	0.41	N	20.77777	0 ft 0 in	0 ft 0 in	HERS 2006	None
_____	11	S	Metal	Single (Tinted)	Yes	1.06	0.41	N	22.77777	0 ft 0 in	0 ft 0 in	HERS 2006	None
_____	12	E	Metal	Single (Tinted)	Yes	1.06	0.41	N	5.541666	0 ft 0 in	0 ft 0 in	HERS 2006	None
_____	13	E	Metal	Single (Tinted)	Yes	1.06	0.41	N	84 ft²	0 ft 0 in	0 ft 0 in	HERS 2006	None
_____	14	E	Metal	Single (Tinted)	Yes	1.06	0.41	N	6.041666	0 ft 0 in	0 ft 0 in	HERS 2006	None
_____	15	E	Metal	Single (Tinted)	Yes	1.06	0.41	N	36 ft²	0 ft 0 in	0 ft 0 in	HERS 2006	None
_____	16	W	Metal	Single (Tinted)	Yes	1.06	0.41	N	18 ft²	0 ft 0 in	0 ft 0 in	HERS 2006	None
_____	17	W	Metal	Single (Tinted)	Yes	1.06	0.41	N	25.66666	0 ft 0 in	0 ft 0 in	HERS 2006	None
_____	18	W	Metal	Single (Tinted)	Yes	1.06	0.41	N	12.83333	0 ft 0 in	0 ft 0 in	HERS 2006	None
_____	19	W	Metal	Single (Tinted)	Yes	1.06	0.41	N	36 ft²	0 ft 0 in	0 ft 0 in	HERS 2006	None
_____	20	NW	Metal	Single (Tinted)	Yes	1.06	0.41	N	36 ft²	0 ft 0 in	0 ft 0 in	HERS 2006	None
_____	21	NE	Metal	Single (Tinted)	Yes	1.06	0.41	N	36 ft²	0 ft 0 in	0 ft 0 in	HERS 2006	None
_____	22	N	Metal	Single (Tinted)	Yes	1.06	0.41	N	13.45833	0 ft 0 in	0 ft 0 in	HERS 2006	None
_____	23	N	Metal	Single (Tinted)	Yes	1.06	0.41	N	20.05555	0 ft 0 in	0 ft 0 in	HERS 2006	None
_____	24	N	Metal	Single (Tinted)	Yes	1.06	0.41	N	26.91666	0 ft 0 in	0 ft 0 in	HERS 2006	None
_____	25	N	Metal	Single (Tinted)	Yes	1.06	0.41	N	26.91666	0 ft 0 in	0 ft 0 in	HERS 2006	None
_____	26	S	Metal	Single (Tinted)	Yes	1.06	0.41	N	51.33333	0 ft 0 in	0 ft 0 in	HERS 2006	None
_____	27	S	Metal	Single (Tinted)	Yes	1.06	0.41	N	8.506944	0 ft 0 in	0 ft 0 in	HERS 2006	None
_____	28	S	Metal	Single (Tinted)	Yes	1.06	0.41	N	13.45833	0 ft 0 in	0 ft 0 in	HERS 2006	None
_____	29	S	Metal	Single (Tinted)	Yes	1.06	0.41	N	26.91666	0 ft 0 in	0 ft 0 in	HERS 2006	None
_____	30	E	Metal	Single (Tinted)	Yes	1.06	0.41	N	26.91666	0 ft 0 in	0 ft 0 in	HERS 2006	None
_____	31	E	Metal	Single (Tinted)	Yes	1.06	0.41	N	42 ft²	0 ft 0 in	0 ft 0 in	HERS 2006	None

WINDOWS

Orientation shown is the entered, asBuilt orientation.

✓	#	Ornt	Frame	Panes	NFRC	U-Factor	SHGC	Storms	Area	Overhang		Int Shade	Screening
										Depth	Separation		
✓	32	E	Metal	Single (Tinted)	Yes	1.06	0.41	N	12.83333	0 ft 0 in	0 ft 0 in	HERS 2006	None
✓	33	W	Metal	Single (Tinted)	Yes	1.06	0.41	N	12.83333	0 ft 0 in	0 ft 0 in	HERS 2006	None

INFILTRATION & VENTING

✓	Method	SLA	CFM 50	ACH 50	ELA	EqlA	— Forced Ventilation —		Run Time	Fan
							Supply CFM	Exhaust CFM	Fraction	Watts
✓	Default	0.00036	2812	5.67	154.4	290.3	0 cfm	0 cfm	0	0

COOLING SYSTEM

✓	#	System Type	Subtype	Efficiency	Capacity	Air Flow	SHR	Ducts
✓	1	Central Unit	Split	SEER: 15.1	58.5 kBtu/hr	1755 cfm	0.7	sys#1
✓	2	Central Unit	Split	SEER: 16.25	24.2 kBtu/hr	726 cfm	0.7	sys#2

HEATING SYSTEM

✓	#	System Type	Subtype	Efficiency	Capacity	Ducts
✓	1	Electric Strip Heat	None	COP: 1	34 kBtu/hr	sys#1
✓	2	Electric Strip Heat	None	COP: 1	17 kBtu/hr	sys#2

HOT WATER SYSTEM

✓	#	System Type	EF	Cap	Use	SetPnt	Conservation
✓	1	Natural Gas	0.82	1 gal	60 gal	120 deg	None

SOLAR HOT WATER SYSTEM

✓	FSEC	Company Name	System Model #	Collector Model #	Collector Area	Storage Volume	FEF
✓	Cert #						
✓	None	None			ft²		

DUCTS

✓	#	— Supply —			— Return —		Leakage Type	Air Handler	CFM 25	Percent Leakage	QN	RLF
		Location	R-Value	Area	Location	Area						
✓	1	Interior	6	510 ft²	Interior	105 ft²	Prop. Leak Free	Interior	89.34 cfm	3.60 %	0.03	0.60
✓	2	Attic	6	230 ft²	Interior	50 ft²	Prop. Leak Free	Interior	89.34 cfm	3.60 %	0.03	0.60

TEMPERATURES

Programable Thermostat: Y

Ceiling Fans:

Cooling	☒ Jan	☒ Feb	☒ Mar	☒ Apr	☒ May	☒ Jun	☒ Jul	☒ Aug	☒ Sep	☒ Oct	☒ Nov	☒ Dec
Heating	☒ Jan	☒ Feb	☒ Mar	☒ Apr	☒ May	☒ Jun	☒ Jul	☒ Aug	☒ Sep	☒ Oct	☒ Nov	☒ Dec
Venting	☒ Jan	☒ Feb	☒ Mar	☒ Apr	☒ May	☒ Jun	☒ Jul	☒ Aug	☒ Sep	☒ Oct	☒ Nov	☒ Dec

Thermostat Schedule: HERS 2006 Reference

Hours

Schedule Type		1	2	3	4	5	6	7	8	9	10	11	12
Cooling (WD)	AM	78	78	78	78	78	78	78	78	80	80	80	80
	PM	80	80	78	78	78	78	78	78	78	78	78	78
Cooling (WEH)	AM	78	78	78	78	78	78	78	78	78	78	78	78
	PM	78	78	78	78	78	78	78	78	78	78	78	78
Heating (WD)	AM	66	66	66	66	66	68	68	68	68	68	68	68
	PM	68	68	68	68	68	68	68	68	68	68	66	66
Heating (WEH)	AM	66	66	66	66	66	68	68	68	68	68	68	68
	PM	68	68	68	68	68	68	68	68	68	68	66	66

Code Compliance Checklist

Residential Whole Building Performance Method A - Details

ADDRESS: 3193 ROYAL PALM AVENUE
MIAMI BEACH, FL, 33140-

PERMIT #:

INFILTRATION REDUCTION COMPLIANCE CHECKLIST

COMPONENTS	SECTION	REQUIREMENTS FOR EACH PRACTICE	CHECK
Exterior Windows & Doors	N1106.AB.1.1	Maximum: .3 cfm/sq.ft. window area; .5 cfm/sq.ft. door area.	✓
Exterior & Adjacent Walls	N1106.AB.1.2	Caulk, gasket, weatherstrip or seal between: windows/doors & frames, surrounding wall; foundation & wall sole or sill plate; joints between exterior wall panels at corners; utility penetrations; between wall panels & top/bottom plates; between walls and floor. EXCEPTION: Frame walls where a continuous infiltration barrier is installed that extends from, and is sealed to, the foundation to the top plate.	✓
Floors	N1106.AB.1.2	Penetrations/openings > 1/8" sealed unless backed by truss or joint members. EXCEPTION: Frame floors where a continuous infiltration barrier is installed that is sealed to the perimeter, penetrations and seams.	✓
Ceilings	N1106.AB.1.2	Between walls & ceilings; penetrations of ceiling plane to top floor; around shafts, chases, soffits, chimneys, cabinets sealed to continuous air barrier; gaps in gyp board & top plate; attic access. EXCEPTION: Frame ceilings where a continuous infiltration barrier is installed that is sealed at the perimeter, at penetrations and seams.	✓
Recessed Lighting Fixtures	N1106.AB.1.2	Type IC rated with no penetrations, sealed; or Type IC or non-IC rated, installed inside a sealed box with 1/2" clearance & 3" from insulation; or Type IC with < 2.0 cfm from conditioned space, tested.	✓
Multi-story Houses	N1106.AB.1.2	Air barrier on perimeter of floor cavity between floors.	✓
Additional Infiltration reqts	N1106.AB.1.3	Exhaust fans vented to outdoors, dampers; combustion space heaters comply with NFPA, have combustion air.	✓

OTHER PRESCRIPTIVE MEASURES (must be met or exceeded by all residences.)

COMPONENTS	SECTION	REQUIREMENTS	CHECK
Water Heaters	N1112.AB.3	Comply with efficiency requirements in Table N1112.ABC.3 Switch or clearly marked circuit breaker (electric) or cutoff (gas) must be provided. External or built-in heat trap required.	✓
Swimming Pools & Spas	N1112.AB.2.3	Spas & heated pools must have covers (except solar heated). Non-commercial pools must have a pump timer. Gas spa & pool heaters must have a minimum thermal efficiency of 78%. Heat pump pool heaters shall have a minimum COP of 4.0.	✓
Shower heads	N1112.AB.2.4	Water flow must be restricted to no more than 2.5 gallons per minute at 80 PSIG.	✓
Air Distribution Systems	N1110.AB	All ducts, fittings, mechanical equipment and plenum chambers shall be mechanically attached, sealed, insulated and installed in accordance with the criteria of Section N1110.AB. Ducts in unconditioned attics: R-6 min. insulation.	✓
HVAC Controls	N1107.AB.2	Separate readily accessible manual or automatic thermostat for each system.	✓
Insulation	N1104.AB.1 N1102.B.1.1	Ceilings-Min. R-19. Common walls-frame R-11 or CBS R-3 both sides. Common ceiling & floors R-11.	✓

ENERGY PERFORMANCE LEVEL (EPL) DISPLAY CARD

ESTIMATED ENERGY PERFORMANCE INDEX* = 81

The lower the EnergyPerformance Index, the more efficient the home.

3193 ROYAL PALM AVENUE, MIAMI BEACH, FL, 33140-

1. New construction or existing	New (From Plans)	9. Wall Types	Insulation	Area
2. Single family or multiple family	Single-family	a. Concrete Block - Int Insul, Exterior	R=5.0	3400.00 ft²
3. Number of units, if multiple family	1	b. Frame - Steel, Exterior	R=13.0	550.00 ft²
4. Number of Bedrooms	3	c. N/A	R=	ft²
5. Is this a worst case?	No	d. N/A	R=	ft²
6. Conditioned floor area (ft²)	2978	10. Ceiling Types	Insulation	Area
7. Windows**	Description	a. Cathedral/Single Assembly (Vented)	R=19.0	2068.00 ft²
a. U-Factor:	Sgl, U=1.06	b. N/A	R=	ft²
SHGC:	SHGC=0.41	c. N/A	R=	ft²
b. U-Factor:	N/A	11. Ducts (combined)		
SHGC:		a. Sup: Attic Ret: Attic AH: Interior Sup. R= 6, 230 ft²		
c. U-Factor:	N/A	12. Cooling systems (combined)		
SHGC:		a. Central Unit	Cap: 82.7 kBtu/hr	
d. U-Factor:	N/A		SEER: 15.44	
SHGC:		13. Heating systems (combined)		
e. U-Factor:	N/A	a. Electric Strip Heat	Cap: 51.0 kBtu/hr	
SHGC:			COP: 1	
8. Floor Types	Insulation	Area		
a. Slab-On-Grade Edge Insulation	R=0.0	2068.00 ft²		
b. N/A	R=	ft²		
c. N/A	R=	ft²		
		14. Hot water systems		
		a. Natural Gas	Cap: 1 gallons	
			EF: 0.82	
		b. Conservation features		
		None		
		15. Credits		Pstat

I certify that this home has complied with the Florida Energy Efficiency Code for Building Construction through the above energy saving features which will be installed (or exceeded) in this home before final inspection. Otherwise, a new EPL Display Card will be completed based on installed Code compliant features.

Builder Signature: _____ Date: _____

Address of New Home: _____ City/FL Zip: _____



*Note: The home's estimated Energy Performance Index is only available through the EnergyGauge USA - FlaRes2008 computer program. This is not a Building Energy Rating. If your Index is below 100, your home may qualify for incentives if you obtain a Florida Energy Gauge Rating. Contact the Energy Gauge Hotline at (321) 638-1492 or see the Energy Gauge web site at energygauge.com for information and a list of certified Raters. For information about Florida's Energy Efficiency Code for Building Construction, contact the Department of Community Affairs at (850) 487-1824.

**Label required by Section 13-104.4.5 of the Florida Building Code, Building, or Section B2.1.1 of Appendix G of the Florida Building Code, Residential, if not DEFAULT.

FLORIDA ENERGY EFFICIENCY CODE FOR BUILDING CONSTRUCTION

Florida Department of Community Affairs Residential Performance Method A

Project Name: 3193 ROYAL PALM AVE
 Street: 3193 ROYAL PALM AVENUE
 City, State, Zip: MIAMI BEACH, FL, 33140-
 Owner:
 Design Location: FL, Miami Beach

Builder Name:
 Permit Office: MIAMI BEACH
 Permit Number:
 Jurisdiction: 231000

- | | |
|--|------------------|
| 1. New construction or existing | New (From Plans) |
| 2. Single family or multiple family | Single-family |
| 3. Number of units, if multiple family | 1 |
| 4. Number of Bedrooms | 3 |
| 5. Is this a worst case? | No |
| 6. Conditioned floor area (ft ²) | 2978 |

- | | | |
|--------------|-------------|------------------------|
| 7. Windows | Description | Area |
| a. U-Factor: | Sgl, U=1.06 | 827.55 ft ² |
| SHGC: | SHGC=0.41 | |
| b. U-Factor: | N/A | ft ² |
| SHGC: | | |
| c. U-Factor: | N/A | ft ² |
| SHGC: | | |
| d. U-Factor: | N/A | ft ² |
| SHGC: | | |
| e. U-Factor: | N/A | ft ² |
| SHGC: | | |

- | | | |
|----------------------------------|------------|-------------------------|
| 8. Floor Types | Insulation | Area |
| a. Slab-On-Grade Edge Insulation | R=0.0 | 2068.00 ft ² |
| b. N/A | R= | ft ² |
| c. N/A | R= | ft ² |

- | | | |
|---|------------|-------------------------|
| 9. Wall Types | Insulation | Area |
| a. Concrete Block - Int Insul, Exterior | R=5.0 | 3940.00 ft ² |
| b. N/A | R= | ft ² |
| c. N/A | R= | ft ² |
| d. N/A | R= | ft ² |

- | | | |
|---------------------------------------|------------|-------------------------|
| 10. Ceiling Types | Insulation | Area |
| a. Cathedral/Single Assembly (Vented) | R=19.0 | 2068.00 ft ² |
| b. N/A | R= | ft ² |
| c. N/A | R= | ft ² |

11. Ducts (combined)
 a. Sup: Attic Ret: Attic AH: Interior Sup. R= 6, 230 ft²

12. Cooling systems (combined)
 a. Central Unit Cap: 82.7 kBtu/hr
 SEER: 15.44

13. Heating systems (combined)
 a. Electric Strip Heat Cap: 51.0 kBtu/hr
 COP: 1

14. Hot water systems
 a. Natural Gas Cap: 1 gallons
 EF: 0.82

- b. Conservation features
 None

15. Credits Pstat

Glass/Floor Area: 0.278

Total As-Built Modified Loads: 70.58

Total Baseline Loads: 89.12

PASS

I hereby certify that the plans and specifications covered by this calculation are in compliance with the Florida Energy Code.

PREPARED BY: _____

DATE: _____

I hereby certify that this building, as designed, is in compliance with the Florida Energy Code.

OWNER/AGENT: _____

DATE: _____

Review of the plans and specifications covered by this calculation indicates compliance with the Florida Energy Code. Before construction is completed this building will be inspected for compliance with Section 553.908 Florida Statutes.



BUILDING OFFICIAL: _____

DATE: _____

- Compliance requires certification by the air handler unit manufacturer that the air handler enclosure qualifies as certified factory-sealed in accordance with N1110.A.3.
- Compliance requires an air distribution system test report, by a Florida Class 1 Rater, confirming system leakage to outdoors is not greater than 89 cfm at 25 pascals pressure difference in accordance with N1110.A.2.

PROJECT

Title: 3193 ROYAL PALM AVE	Bedrooms: 3	Address Type: Street Address
Building Type: FLAsBuilt	Conditioned Area: 2978	Lot #
Owner:	Total Stories: 2	SubDivision:
# of Units: 1	Worst Case: No	PlatBook:
Builder Name:	Rotate Angle: 0	Street: 3193 ROYAL PALM AV
Permit Office: MIAMI BEACH	Cross Ventilation:	County: DADE
Jurisdiction: 231000	Whole House Fan:	City, State, Zip: MIAMI BEACH , FL , 33140-
Family Type: Single-family		
New/Existing: New (From Plans)		
Comment:		

CLIMATE

✓	Design Location	TMY Site	IECC Zone	Design Temp 97.5 %	Design Temp 2.5 %	Int Design Temp Winter	Int Design Temp Summer	Heating Degree Days	Design Moisture	Daily Temp Range
✓	FL, Miami Beach	FL_MIAMI_INTL_AP	1	51	90	75	70	149.5	58	Low

FLOORS

✓	#	Floor Type	Perimeter	R-Value	Area	Tile	Wood	Carpet
✓	1	Slab-On-Grade Edge Insulatio	248 ft	0	2068 ft²	1	0	0

ROOF

✓	#	Type	Materials	Roof Area	Gable Area	Roof Color	Solar Absor.	Tested	Deck Insul.	Pitch
✓	1	Flat	Concrete	2075 ft²	86 ft²	Medium	0.96	No	0	4.8 deg

ATTIC

✓	#	Type	Ventilation	Vent Ratio (1 in)	Area	RBS	IRCC
✓	1	No attic	Vented	300	2068 ft²	N	N

CEILING

✓	#	Ceiling Type	R-Value	Area	Framing Frac	Truss Type
✓	1	Cathedral/Single Assembly (Vented)	19	1158 ft²	0.11	Wood
✓	2	Cathedral/Single Assembly (Vented)	19	910 ft²	0.11	Wood

WALLS

✓	#	Omt	Adjacent To	Wall Type	Cavity R-Value	Area	Sheathing R-Value	Framing Fraction	Solar Absor.
✓	1	N	Exterior	Concrete Block - Int Insul	5	740 ft²		0	0.5
✓	2	S	Exterior	Concrete Block - Int Insul	5	860 ft²		0	0.5
✓	3	E	Exterior	Concrete Block - Int Insul	5	360 ft²		0	0.5
✓	4	W	Exterior	Concrete Block - Int Insul	5	360 ft²		0	0.5
✓	5	NW	Exterior	Concrete Block - Int Insul	5	60 ft²		0	0.5
✓	6	NE	Exterior	Concrete Block - Int Insul	5	60 ft²		0	0.5
✓	7	N	Exterior	Concrete Block - Int Insul	5	560 ft²		0	0.5
✓	8	S	Exterior	Concrete Block - Int Insul	5	560 ft²		0	0.5

WALLS

✓	#	Omt	Adjacent To	Wall Type	Cavity R-Value	Area	Sheathing R-Value	Framing Fraction	Solar Absor.
✓	9	E	Exterior	Concrete Block - Int Insul	5	190 ft²		0	0.5
✓	10	W	Exterior	Concrete Block - Int Insul	5	190 ft²		0	0.5

WINDOWS

Orientation shown is the entered, asBuilt orientation.

✓	#	Omt	Frame	Panes	NFRC	U-Factor	SHGC	Storms	Area	Overhang Depth	Separation	Int Shade	Screening
✓	1	N	Metal	Single (Tinted)	Yes	1.06	0.41	N	18 ft²	0 ft 0 in	0 ft 0 in	HERS 2006	None
✓	2	N	Metal	Single (Tinted)	Yes	1.06	0.41	N	25.55555	0 ft 0 in	0 ft 0 in	HERS 2006	None
✓	3	N	Metal	Single (Tinted)	Yes	1.06	0.41	N	52.11111	0 ft 0 in	0 ft 0 in	HERS 2006	None
✓	4	N	Metal	Single (Tinted)	Yes	1.06	0.41	N	7.763888	0 ft 0 in	0 ft 0 in	HERS 2006	None
✓	5	N	Metal	Single (Tinted)	Yes	1.06	0.41	N	26.66666	0 ft 0 in	0 ft 0 in	HERS 2006	None
✓	6	N	Metal	Single (Tinted)	Yes	1.06	0.41	N	18 ft²	0 ft 0 in	0 ft 0 in	HERS 2006	None
✓	7	S	Metal	Single (Tinted)	Yes	1.06	0.41	N	12.44444	0 ft 0 in	0 ft 0 in	HERS 2006	None
✓	8	S	Metal	Single (Tinted)	Yes	1.06	0.41	N	25.66666	0 ft 0 in	0 ft 0 in	HERS 2006	None
✓	9	S	Metal	Single (Tinted)	Yes	1.06	0.41	N	19.55555	0 ft 0 in	0 ft 0 in	HERS 2006	None
✓	10	S	Metal	Single (Tinted)	Yes	1.06	0.41	N	20.77777	0 ft 0 in	0 ft 0 in	HERS 2006	None
✓	11	S	Metal	Single (Tinted)	Yes	1.06	0.41	N	22.77777	0 ft 0 in	0 ft 0 in	HERS 2006	None
✓	12	E	Metal	Single (Tinted)	Yes	1.06	0.41	N	5.541666	0 ft 0 in	0 ft 0 in	HERS 2006	None
✓	13	E	Metal	Single (Tinted)	Yes	1.06	0.41	N	84 ft²	0 ft 0 in	0 ft 0 in	HERS 2006	None
✓	14	E	Metal	Single (Tinted)	Yes	1.06	0.41	N	6.041666	0 ft 0 in	0 ft 0 in	HERS 2006	None
✓	15	E	Metal	Single (Tinted)	Yes	1.06	0.41	N	36 ft²	0 ft 0 in	0 ft 0 in	HERS 2006	None
✓	16	W	Metal	Single (Tinted)	Yes	1.06	0.41	N	18 ft²	0 ft 0 in	0 ft 0 in	HERS 2006	None
✓	17	W	Metal	Single (Tinted)	Yes	1.06	0.41	N	25.66666	0 ft 0 in	0 ft 0 in	HERS 2006	None
✓	18	W	Metal	Single (Tinted)	Yes	1.06	0.41	N	12.83333	0 ft 0 in	0 ft 0 in	HERS 2006	None
✓	19	W	Metal	Single (Tinted)	Yes	1.06	0.41	N	36 ft²	0 ft 0 in	0 ft 0 in	HERS 2006	None
✓	20	NW	Metal	Single (Tinted)	Yes	1.06	0.41	N	36 ft²	0 ft 0 in	0 ft 0 in	HERS 2006	None
✓	21	NE	Metal	Single (Tinted)	Yes	1.06	0.41	N	36 ft²	0 ft 0 in	0 ft 0 in	HERS 2006	None
✓	22	N	Metal	Single (Tinted)	Yes	1.06	0.41	N	13.45833	0 ft 0 in	0 ft 0 in	HERS 2006	None
✓	23	N	Metal	Single (Tinted)	Yes	1.06	0.41	N	20.05555	0 ft 0 in	0 ft 0 in	HERS 2006	None
✓	24	N	Metal	Single (Tinted)	Yes	1.06	0.41	N	26.91666	0 ft 0 in	0 ft 0 in	HERS 2006	None
✓	25	N	Metal	Single (Tinted)	Yes	1.06	0.41	N	26.91666	0 ft 0 in	0 ft 0 in	HERS 2006	None
✓	26	S	Metal	Single (Tinted)	Yes	1.06	0.41	N	51.33333	0 ft 0 in	0 ft 0 in	HERS 2006	None
✓	27	S	Metal	Single (Tinted)	Yes	1.06	0.41	N	8.506944	0 ft 0 in	0 ft 0 in	HERS 2006	None
✓	28	S	Metal	Single (Tinted)	Yes	1.06	0.41	N	13.45833	0 ft 0 in	0 ft 0 in	HERS 2006	None
✓	29	S	Metal	Single (Tinted)	Yes	1.06	0.41	N	26.91666	0 ft 0 in	0 ft 0 in	HERS 2006	None
✓	30	E	Metal	Single (Tinted)	Yes	1.06	0.41	N	26.91666	0 ft 0 in	0 ft 0 in	HERS 2006	None
✓	31	E	Metal	Single (Tinted)	Yes	1.06	0.41	N	42 ft²	0 ft 0 in	0 ft 0 in	HERS 2006	None
✓	32	E	Metal	Single (Tinted)	Yes	1.06	0.41	N	12.83333	0 ft 0 in	0 ft 0 in	HERS 2006	None
✓	33	W	Metal	Single (Tinted)	Yes	1.06	0.41	N	12.83333	0 ft 0 in	0 ft 0 in	HERS 2006	None

INFILTRATION & VENTING

✓	Method	SLA	CFM 50	ACH 50	ELA	EqLA	— Forced Ventilation — Supply CFM Exhaust CFM		Run Time Fraction	Fan Watts
_____	Default	0.00036	2812	5.67	154.4	290.3	0 cfm	0 cfm	0	0

COOLING SYSTEM

✓	#	System Type	Subtype	Efficiency	Capacity	Air Flow	SHR	Ducts
_____	1	Central Unit	Split	SEER: 15.1	58.5 kBtu/hr	1755 cfm	0.7	sys#1
_____	2	Central Unit	Split	SEER: 16.25	24.2 kBtu/hr	726 cfm	0.7	sys#2

HEATING SYSTEM

✓	#	System Type	Subtype	Efficiency	Capacity	Ducts
_____	1	Electric Strip Heat	None	COP: 1	34 kBtu/hr	sys#1
_____	2	Electric Strip Heat	None	COP: 1	17 kBtu/hr	sys#2

HOT WATER SYSTEM

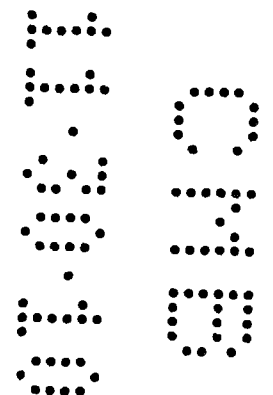
✓	#	System Type	EF	Cap	Use	SetPnt	Conservation
_____	1	Natural Gas	0.82	1 gal	60 gal	120 deg	None

SOLAR HOT WATER SYSTEM

✓	FSEC Cert #	Company Name	System Model #	Collector Model #	Collector Area	Storage Volume	FEF
_____	None	None			ft²		

DUCTS

✓	#	— Supply —			— Return —		Leakage Type	Air Handler	CFM 25	Percent Leakage	QN	RLF
		Location	R-Value	Area	Location	Area						
_____	1	Interior	6	510 ft²	Interior	105 ft²	Prop. Leak Free	Interior	89.34 cfm	3.60 %	0.03	0.60
_____	2	Attic	6	230 ft²	Interior	50 ft²	Prop. Leak Free	Interior	89.34 cfm	3.60 %	0.03	0.60



TEMPERATURES

Programable Thermostat: Y

Ceiling Fans:

Cooling	☒ Jan	☒ Feb	☒ Mar	☒ Apr	☒ May	☒ Jun	☒ Jul	☒ Aug	☒ Sep	☒ Oct	☒ Nov	☒ Dec
Heating	☒ Jan	☒ Feb	☒ Mar	☒ Apr	☒ May	☒ Jun	☒ Jul	☒ Aug	☒ Sep	☒ Oct	☒ Nov	☒ Dec
Venting	☒ Jan	☒ Feb	☒ Mar	☒ Apr	☒ May	☒ Jun	☒ Jul	☒ Aug	☒ Sep	☒ Oct	☒ Nov	☒ Dec

Thermostat Schedule: HERS 2006 Reference

Hours

Schedule Type		1	2	3	4	5	6	7	8	9	10	11	12
Cooling (WD)	AM	78	78	78	78	78	78	78	78	80	80	80	80
	PM	80	80	78	78	78	78	78	78	78	78	78	78
Cooling (WEH)	AM	78	78	78	78	78	78	78	78	78	78	78	78
	PM	78	78	78	78	78	78	78	78	78	78	78	78
Heating (WD)	AM	66	66	66	66	66	68	68	68	68	68	68	68
	PM	68	68	68	68	68	68	68	68	68	68	66	66
Heating (WEH)	AM	66	66	66	66	66	68	68	68	68	68	68	68
	PM	68	68	68	68	68	68	68	68	68	68	66	66

5/26/2010 11:02 AM

Code Compliance Checklist

Residential Whole Building Performance Method A - Details

ADDRESS: 3193 ROYAL PALM AVENUE
MIAMI BEACH, FL, 33140-

PERMIT #:

INFILTRATION REDUCTION COMPLIANCE CHECKLIST

COMPONENTS	SECTION	REQUIREMENTS FOR EACH PRACTICE	CHECK
Exterior Windows & Doors	N1106.AB.1.1	Maximum: .3 cfm/sq.ft. window area; .5 cfm/sq.ft. door area.	✓
Exterior & Adjacent Walls	N1106.AB.1.2.1	Caulk, gasket, weatherstrip or seal between: windows/doors & frames, surrounding wall; foundation & wall sole or sill plate; joints between exterior wall panels at corners; utility penetrations; between wall panels & top/bottom plates; between walls and floor. EXCEPTION: Frame walls where a continuous infiltration barrier is installed that extends from, and is sealed to, the foundation to the top plate.	✓
Floors	N1106.AB.1.2.2	Penetrations/openings > 1/8" sealed unless backed by truss or joint members. EXCEPTION: Frame floors where a continuous infiltration barrier is installed that is sealed to the perimeter, penetrations and seams.	✓
Ceilings	N1106.AB.1.2.3	Between walls & ceilings; penetrations of ceiling plane to top floor; around shafts, chases, soffits, chimneys, cabinets sealed to continuous air barrier; gaps in gyp board & top plate; attic access. EXCEPTION: Frame ceilings where a continuous infiltration barrier is installed that is sealed at the perimeter, at penetrations and seams.	✓
Recessed Lighting Fixtures	N1106.AB.1.2.4	Type IC rated with no penetrations, sealed; or Type IC or non-IC rated, installed inside a sealed box with 1/2" clearance & 3" from insulation; or Type IC with < 2.0 cfm from conditioned space, tested.	✓
Multi-story Houses	N1106.AB.1.2.5	Air barrier on perimeter of floor cavity between floors.	✓
Additional Infiltration reqts	N1106.AB.1.3	Exhaust fans vented to outdoors, dampers; combustion space heaters comply with NFPA, have combustion air.	✓

OTHER PRESCRIPTIVE MEASURES (must be met or exceeded by all residences.)

COMPONENTS	SECTION	REQUIREMENTS	CHECK
Water Heaters	N1112.AB.3	Comply with efficiency requirements in Table N112.ABC.3. Switch or clearly marked circuit breaker (electric) or cutoff (gas) must be provided. External or built-in heat trap required.	✓
Swimming Pools & Spas	N1112.AB.2.3	Spas & heated pools must have covers (except solar heated). Non-commercial pools must have a pump timer. Gas spa & pool heaters must have a minimum thermal efficiency of 78%. Heat pump pool heaters shall have a minimum COP of 4.0.	✓
Shower heads	N1112.AB.2.4	Water flow must be restricted to no more than 2.5 gallons per minute at 80 PSIG.	✓
Air Distribution Systems	N1110.AB	All ducts, fittings, mechanical equipment and plenum chambers shall be mechanically attached, sealed, insulated and installed in accordance with the criteria of Section N1110.AB. Ducts in unconditioned attics: R-6 min. insulation.	✓
HVAC Controls	N1107.AB.2	Separate readily accessible manual or automatic thermostat for each system.	✓
Insulation	N1104.AB.1 N1102.B.1.1	Ceilings-Min. R-19. Common walls-frame R-11 or CBS R-3 both sides. Common ceiling & floors R-11.	✓

ENERGY PERFORMANCE LEVEL (EPL) DISPLAY CARD

ESTIMATED ENERGY PERFORMANCE INDEX* = 79

The lower the Energy Performance Index, the more efficient the home.

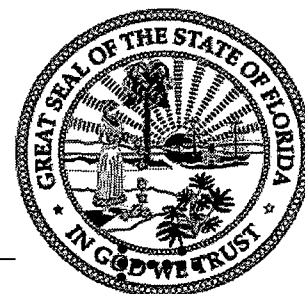
3193 ROYAL PALM AVENUE, MIAMI BEACH, FL, 33140-

1. New construction or existing	New (From Plans)	9. Wall Types	Insulation	Area
2. Single family or multiple family	Single-family	a. Concrete Block - Int Insul, Exterior	R=5.0	3940.00 ft ²
3. Number of units, if multiple family	1	b. N/A	R=	ft ²
4. Number of Bedrooms	3	c. N/A	R=	ft ²
5. Is this a worst case?	No	d. N/A	R=	ft ²
6. Conditioned floor area (ft ²)	2978	10. Ceiling Types	Insulation	Area
7. Windows**	Description	a. Cathedral/Single Assembly (Vented)	R=19.0	2068.00 ft ²
a. U-Factor:	Sgl, U=1.06	b. N/A	R=	ft ²
SHGC:	SHGC=0.41	c. N/A	R=	ft ²
b. U-Factor:	N/A	11. Ducts (combined)		
SHGC:		a. Sup: Attic Ret: Attic AH: Interior Sup. R= 6, 230 ft ²		
c. U-Factor:	N/A	12. Cooling systems (combined)		
SHGC:		a. Central Unit	Cap: 82.7 kBtu/hr	
d. U-Factor:	N/A		SEER: 15.44	
SHGC:		13. Heating systems (combined)		
e. U-Factor:	N/A	a. Electric Strip Heat	Cap: 51.0 kBtu/hr	
SHGC:			COP: 1	
8. Floor Types	Insulation	Area		
a. Slab-On-Grade Edge Insulation	R=0.0	2068.00 ft ²		
b. N/A	R=	ft ²		
c. N/A	R=	ft ²		
		14. Hot water systems		
		a. Natural Gas	Cap: 1 gallons	
			EF: 0.82	
		b. Conservation features		
		None		
		15. Credits		Pstat

I certify that this home has complied with the Florida Energy Efficiency Code for Building Construction through the above energy saving features which will be installed (or exceeded) in this home before final inspection. Otherwise, a new EPL Display Card will be completed based on installed Code compliant features.

Builder Signature: _____ Date: _____

Address of New Home: _____ City/FL Zip: _____



*Note: The home's estimated Energy Performance Index is only available through the EnergyGauge USA - FlaRes2008 computer program. This is not a Building Energy Rating. If your Index is below 100, your home may qualify for incentives if you obtain a Florida Energy Gauge Rating. Contact the Energy Gauge Hotline at (321) 638-1492 or see the Energy Gauge web site at energygauge.com for information and a list of certified Raters. For information about Florida's Energy Efficiency Code for Building Construction, contact the Department of Community Affairs at (850) 487-1824.

**Label required by Section 13-104.4.5 of the Florida Building Code, Building, or Section B2.1.1 of Appendix G of the Florida Building Code, Residential, if not DEFAULT.



MIAMI BEACH

Building Department
1700 Convention Center Drive, 2nd Flr
Miami Beach, FL 33139

NOTICE TO THE CITY OF MIAMI BEACH BUILDING DEPARTMENT OF EMPLOYMENT AS SPECIAL INSPECTOR UNDER THE FLORIDA BUILDING CODE

I have been retained by: JOSHUA GULWITZ to perform special inspector services under the Florida Building Code at the 3893 ROYAL PALM AVE. project on the below listed structures as of 6.6.11 (date). I am a professional engineer licensed in the State of Florida.

Process Number: B11-00804

Master Permit (IF APPLICABLE): _____

- ☐ Special Inspector for Pilings, FBC 1822.1.20
- ☐ Special Inspector for Lightweight Insulating Concrete, FBC 1917.2
- ☒ Special Inspector for Soil Compaction, FBC 1820.3.1
- ☐ Special Inspector for Precast Units and Attachments, FBC 1927.12.2 (By P.E. or R.A..)
- ☐ Special Inspector for Reinforced Masonry, FBC 2122.4 (By P.E. or R.A.)
- ☒ Special inspection for Steel Bolted & Welded Connections, FBC 2218.2 (By P.E. or R.A..)
- ☐ Special Inspector for Trusses over 35 feet long or 6 feet high, FBC 2319.17.2.4.2 (By P.E. or R.A..)
- ☐ Special Inspector for _____

NOTE: Only the marked boxes apply.

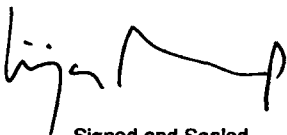
The following individual's employed by this firm or me are authorized representatives to perform inspections

- | | |
|----------|----------|
| 1. _____ | 2. _____ |
| 3. _____ | 4. _____ |

* Special inspectors utilizing authorized representatives shall insure the authorized representative is qualified by education or licensure to perform the duties assigned by the Special Inspector. The qualifications shall include: licensure as a professional engineer or architect; graduation from an engineering education program in civil or structural engineering; graduation from an architectural education program; successful completion of the NCEES Fundamentals Examination; or registration as a building inspector or general contractor.

I will notify the City of Miami Beach Building Department of any changes regarding authorized personnel performing inspection services.

I, understand that all mandatory inspections, as required by the Florida Building Code, shall be requested by the permit holder and approved by the Building Department Inspectors. Inspections performed by the Special Inspector hired by the Owner are in addition to the mandatory inspections performed by the Building Department. A Special Inspection Log for each building must be displayed in a convenient location on the site for inspection by the Building Department Inspectors. Further, upon completion of the work under each building permit, I will submit to the Building Department at the time of final inspection the completed Inspection Log form and sealed statement that, to the best of my knowledge, belief and professional judgment those portions outlined above meet the intent of the Florida Building Code and are in subsequent accordance with the approved plans.



Signed and Sealed

AR92744

License Number

Date: 6.6.11

Architect/Engineer Signature:

Architect/Engineer

Name Printed:

Address:

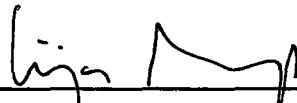
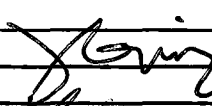
Phone Number:

Owner/Agent Signature:

Owner/Agent Name Printed:

Building Department

Accepted By:


ILIA MOSCROP
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JOSHUA GULWITZ
6-29-11

Joe
5/16/2011

FOR DECK: 100PSF LL - 15PSF PL

CYLINDRICAL 2X12 @ 16" O.C. OR 17'-8" SPAN.

@ 1'-4", USE $\frac{16}{2} = 8" O.C.$

TOTAL LOAD ON 2X12 $100PSF \times \frac{5}{2} = 100LB/FT$

$$\therefore M = (100)(17.67)^2 = 3903 LB-FT \quad S_R = \frac{3903 \times 12}{1200 \times 1.15} = 33.94$$

FOR 1'-4" T.L. = $115 \times 1.33 = 154$ PLF
 $M = \frac{154 \times 17.67^2}{8} = 5,982 LB-FT$

TRY 3X12 BEAM ON 2X12; $S_x = 12.73 in^3$

$$S_R = \frac{5982 \times 12}{975 \times 1.15} = 64.02 in^3$$

$$\therefore 12.73 + 31.64 = 44.37 in^3 > 33.94 in^3$$

$$1-2 \times 12 + 1-3 \times 12 = 52.73 + 31.64 = 84.37 OK$$

$$R = 850 < 2,450 \times 0.8 = 1,716 \text{ OK} \quad \text{HU312 W/G-1/4" x 1 3/4" STW/TRANS. BULDER}$$

WALL PROVISION: PAGE 2 OF PREVIOUSLY SUBMITTED CALCULATIONS, PAGE 16 AND 15 OF
ATTACHING ADDITIONAL DATA SHEETS FROM ORIGINAL ORIGINAL:

TRANSFER BOUNDARIES / SHORT
ROOF SHEAR TRANSFER @ BOUNDARIES (SHORT) = 375 LB/FT.

SHEAR CAPACITY = 1455 LB. - WEDGE BOLT, 3/8" x 3" EMBED.
SPACING @ 12" NO REDUCTION

EDGE @ 4" $12 \times 0.375 = 4.5$

$$80\% CAP \times 1455 = 1165 LB \quad \text{OK}$$

#14 TIES @ 6" O.C.; SEE ENCLOSED,

ALLOWABLE SHEAR = 642 LB. @ 6" O.C.

$$\therefore CAPACITY = 2 \times 662 = 1324 LB > 375 \text{ OK}$$

12 @ 6" TIES TO HSS TUBE; 12 @ 6" TO 1/4" TUBE

$$SHEAR CAPACITY = 2 \times 485 = 970 LB/FT.$$

$$> 375 \text{ OK}$$

Physical Structural Properties—6" C Studs

MEMBER							GROSS SECTION PROPERTIES							EFFECTIVE SECTION PROPERTIES							TORSIONAL PROPERTIES					
CODE	GAGE	Flange (in.)	Lip (in.)	Design Thickness (in.)	Minimum Thickness (in.)	Weight (lb./ft.)	Area (in ²)	I _x (in ⁴)	S _x (in ³)	I _y (in ⁴)	S _y (in ³)	I _{xy} (in ⁴)	33 KSI			50 KSI			X _u (in.)	J (in ⁴)	C _u (in ³)	r _x (in.)	r _y (in.)	r _z (in.)		
													I _x (in ⁴)	S _x (in ³)	M _x (in.-lb.)	I _y (in ⁴)	S _y (in ³)	M _y (in.-lb.)								
CWN	20	1-3/8	3/8	0.0346	0.0329	1.047	0.320	1.597	0.532	2.234	0.070	0.065	0.466	1.597	0.513	10145				-0.820	0.128	0.496	2.425	0.886		
	18	1-3/8	3/8	0.0451	0.0428	1.351	0.413	2.043	0.681	2.224	0.087	0.082	0.460	2.043	0.681	15016				-0.812	0.279	0.625	2.412	0.887		
	16	1-3/8	3/8	0.0566	0.0538	1.682	0.514	2.519	0.840	2.214	0.105	0.098	0.452	2.519	0.840	18991	2.519	0.819	27587	-0.804	0.550	0.758	2.398	0.888		
	14	1-3/8	3/8	0.0713	0.0677	2.091	0.639	3.094	1.031	2.200	0.125	0.117	0.443	3.094	1.031	24034	3.094	1.031	35649	-0.793	1.082	0.911	2.380	0.889		
CSJ	20	1-5/8	1/2	0.0346	0.0329	1.132	0.346	1.808	0.603	2.286	0.118	0.097	0.583	1.808	0.538	11516				-1.088	0.138	0.855	2.598	0.825		
	18	1-5/8	1/2	0.0451	0.0428	1.461	0.447	2.316	0.772	2.277	0.148	0.123	0.577	2.316	0.772	16764				-1.080	0.302	1.082	2.585	0.826		
	16	1-5/8	1/2	0.0566	0.0538	1.821	0.557	2.862	0.954	2.268	0.181	0.149	0.570	2.862	0.954	21175	2.862	0.928	30753	-1.071	0.595	1.318	2.572	0.826		
	14	1-5/8	1/2	0.0713	0.0677	2.266	0.693	3.524	1.175	2.255	0.218	0.180	0.561	3.524	1.174	26767	3.524	1.174	39811	-1.061	1.173	1.595	2.555	0.828		
	12	1-5/8	1/2	0.1017	0.0966	3.174	0.970	4.841	1.614	2.234	0.287	0.237	0.544	4.841	1.613	38533	4.841	1.613	57017	-1.034	3.344	2.102	2.521	0.832		
	10	1-5/8	1/2	0.1242	0.1180	3.833	1.171	5.773	1.924	2.220	0.333	0.275	0.533	5.773	1.924	47354	5.773	1.924	69858	-1.013	6.025	2.423	2.498	0.835		
CSW	20	2	5/8	0.0346	0.0329	1.246	0.381	2.090	0.697	2.343	0.211	0.148	0.745	2.051	0.610	12049				-1.474	0.152	1.583	2.867	0.736		
	18	2	5/8	0.0451	0.0428	1.609	0.492	2.683	0.894	2.336	0.268	0.188	0.739	2.683	0.874	17261				-1.467	0.333	2.011	2.855	0.736		
	16	2	5/8	0.0566	0.0538	2.006	0.613	3.322	1.107	2.327	0.329	0.230	0.732	3.322	1.107	24082	3.322	1.004	30057	-1.459	0.656	2.462	2.842	0.737		
	14	2	5/8	0.0713	0.0677	2.499	0.764	4.099	1.366	2.316	0.400	0.280	0.723	4.099	1.366	30395	4.099	1.337	44391	-1.448	1.293	2.995	2.826	0.737		
	12	2	5/8	0.1017	0.0966	3.507	1.072	5.656	1.885	2.297	0.536	0.375	0.707	5.656	1.885	43625	5.656	1.885	64788	-1.421	3.694	3.995	2.792	0.741		
	10	2	5/8	0.1242	0.1180	4.239	1.296	6.762	2.254	2.284	0.628	0.440	0.696	6.762	2.253	53499	6.762	2.253	79242	-1.399	6.663	4.646	2.768	0.744		
CSE	20	2-1/2	5/8	0.0346	0.0329	1.359	0.415	2.399	0.800	2.403	0.359	0.206	0.930	2.267	0.636	12577				-1.905	0.166	2.650	3.204	0.647		
	18	2-1/2	5/8	0.0451	0.0428	1.756	0.537	3.082	1.027	2.396	0.458	0.263	0.923	3.064	0.918	18149				-1.897	0.363	3.377	3.193	0.647		
	16	2-1/2	5/8	0.0566	0.0538	2.192	0.670	3.822	1.274	2.389	0.563	0.323	0.917	3.822	1.159	22909	3.636	1.069	32018	-1.889	0.716	4.148	3.180	0.647		
	14	2-1/2	5/8	0.0713	0.0677	2.733	0.835	4.726	1.575	2.379	0.688	0.395	0.908	4.726	1.522	33141	4.667	1.343	40195	-1.878	1.414	5.068	3.164	0.648		
	12	2-1/2	5/8	0.1017	0.0966	3.840	1.174	6.540	2.180	2.361	0.932	0.535	0.891	6.540	2.179	49029	6.540	2.090	70069	-1.851	4.045	6.818	3.130	0.650		
	10	2-1/2	5/8	0.1242	0.1180	4.646	1.420	7.834	2.611	2.349	1.100	0.631	0.880	7.834	2.610	59976	7.834	2.589	88453	-1.828	7.302	7.981	3.104	0.653		
CSS	20	3	1	0.0346	0.0329	1.557	0.476	2.831	0.944	2.439	0.656	0.340	1.174	2.489	0.634	12533				-2.619	0.190	5.724	3.767	0.516		
	18	3	1	0.0451	0.0428	2.014	0.616	3.644	1.215	2.433	0.841	0.435	1.169	3.436	0.997	19704				-2.613	0.417	7.317	3.756	0.516		
	16	3	1	0.0566	0.0538	2.516	0.769	4.526	1.509	2.426	1.039	0.537	1.162	4.486	1.366	26999	4.308	1.262	37788	-2.605	0.822	9.020	3.745	0.516		
	14	3	1	0.0713	0.0677	3.141	0.960	5.608	1.869	2.417	1.279	0.661	1.154	5.608	1.841	36376	5.597	1.701	50920	-2.596	1.625	11.072	3.730	0.516		
	12	3	1	0.1017	0.0966	4.422	1.351	7.790	2.597	2.401	1.753	0.906	1.139	7.790	2.595	57233	7.790	2.564	84479	-2.570	4.658	15.030	3.697	0.517		
	10	3	1	0.1242	0.1180	5.357	1.637	9.353	3.118	2.390	2.085	1.077	1.129	9.353	3.115	69959	9.353	3.115	104299	-2.547	8.420	17.708	3.671	0.519		
CSX	20	3-1/2	1	0.0346	0.0329	1.670	0.511	3.139	1.046	2.480	0.939	0.423	1.356	2.661	0.652	12876				-3.085	0.204	8.130	4.184	0.456		
	18	3-1/2	1	0.0451	0.0428	2.162	0.661	4.043	1.348	2.474	1.205	0.543	1.351	3.697	1.044	20634				-3.079	0.447	10.408	4.174	0.456		
	16	3-1/2	1	0.0566	0.0538	2.701	0.826	5.026	1.675	2.467	1.492	0.671	1.344	4.863	1.442	28491	4.643	1.324	39634	-3.071	0.883	12.851	4.163	0.456		
	14	3-1/2	1	0.0713	0.0677	3.374	1.031	6.234	2.078	2.459	1.840	0.827	1.336	6.234	1.947	38465	6.070	1.760	52689	-3.062	1.746	15.808	4.148	0.455		
	12	3-1/2	1	0.1017	0.0966	4.754	1.453	8.675	2.892	2.443	2.533	1.138	1.320	8.675	2.888	62765	8.675	2.537	75972	-3.036	5.008	21.543	4.115	0.456		
	10	3-1/2	1	0.1242	0.1180	5.763	1.761	10.425	3.475	2.433	3.022	1.358	1.310	10.425	3.473	76880	10.425	3.336	110054	-3.013	9.059	25.455	4.088	0.457		

6" Track

TSB	20	1-1/4" LEG	0.0346	0.0329	0.956	0.292	1.398	0.459	2.183	0.034	0.032	0.340	1.239	0.326	6435					-0.524	0.117	0.231	2.271	0.947				
	18	1-1/4" LEG	0.0451	0.0428	1.242	0.379	1.808	0.594	2.183	0.043	0.041	0.338	1.688	0.505	9970					-0.522	0.257	0.298	2.270	0.947				
	16	1-1/4" LEG	0.0566	0.0538	1.557	0.476	2.263	0.712	2.183	0.054	0.052	0.336	2.206	0.671	13257					-0.520	0.509	0.371	2.269	0.948				
	14	1-1/4" LEG	0.0713	0.0677	1.953	0.597	2.843	0.926	2.182	0.067	0.064	0.334	2.843	0.891	17611					-0.517	1.011	0.461	2.267	0.948				
	12	1-1/4" LEG	0.1017	0.0966	2.778	0.849	4.050	1.306	2.184	0.092	0.089	0.328	4.050	1.305	29367					-0.509	2.926	0.643	2.267	0.950				
	10	1-1/4" LEG	0.1242	0.1180	3.389	1.036	4.955	1.588	2.187	0.109	0.107	0.324	4.955	1.585	36426					-0.501	5.327	0.773	2.267	0.951				

NOTE: Reference typical notes on page 4.

Fastener Information

Suggested Design Loads for Screw Connections (lbs.)

Steel Gage	No. 12-14 Diameters = 0.210 in.		No. 10-16 Diameters = 0.190 in.		No. 8-10 Diameters = 0.160 in.	
	Shear	Pullout	Shear	Pullout	Shear	Pullout
12	662	408	466	369	—	—
14	625	266	466	242	—	—
16	500	189	423	177	359	166
18	400	138	362	125	305	118
20	256	85	243	75	229	71

NOTES:

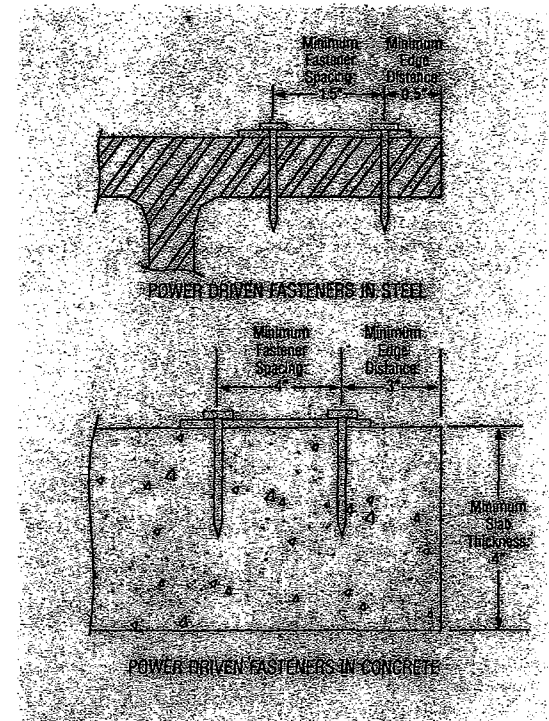
1. Shear and pullout strengths are based on average test results divided by a safety factor of 3.0 for shear and 4.0 for pullout. Reduced capacities based on a higher factor of safety can be used at your engineers discretion.
2. Screw spacing and edge distance shall not be less than 1.5" Dia. nor less than $P/6 \cdot F_y/t$ where P is the shear load per screw and t is the thickness of the steel sheet.
3. When connecting materials of different gage, use the loads shown for the lighter gage.
4. Screw capacities are based on $F_y = 33$ ksi for the steel sheet.
5. Ultimate screw capacities are per ITW Buildex Test No. 845.

Suggested Pullout or Shear Capacity for Power Driven Fasteners in Structural Steel (lbs.)

Steel Gage	Shank Diameter (in.)								
	.145			.177			.205		
	Steel Thickness (in.)								
	1/4	3/8	1/2	1/4	3/8	1/2	1/4	3/8	1/2
12	210	210	210	335	395	395	485	525	660
14	210	210	210	335	395	395	485	525	581
16	210	210	210	335	395	395	465	465	465
18	210	210	210	321	321	321	372	372	372
20	197	197	197	241	241	241	279	279	279

NOTES:

1. Capacities shown are uninspected shear values per Hilti ICBO Research Report No. 2388.
2. Tests were conducted with the fastener point driven completely through the back side of the hot rolled steel member. This was required to obtain proper gripping force.
3. Values may not be increased 1/3 for wind or seismic loads.
4. Bearing strength is based on the bearing area multiplied by 1.15 times 33 ksi.



connections @ sections A/S-2.0, A/S-1.1, B/S-1.1

Table A—Suggested Design Loads for Power Driven Fasteners in Concrete (lbs.)

Shank Diameter (in.)	Minimum Penetration (in.)	Loading	Concrete Comp. Strength (psi)			Shank Diameter (in.)	Steel Gage		
			2000	3000	4000		20	16	16
0.145	1-1/8	Pullout	90	115	145	0.145	207	—	—
		Shear	160	225	265				
0.177	1-7/16	Pullout	150	150	150	0.177	253	—	—
		Shear	250	285	330				
0.205	1-1/4	Pullout	150	150	150	0.205	293	390	488
		Shear	390	445	500				

NOTES:

1. Capacities are for stone aggregate concrete and are based on a low velocity shot.
2. Values may not be increased 1/3 for wind or seismic loads.
3. Capacities shown are based on uninspected values of Hilti ICBO Research Report No. 2388.
4. For Shear/Bearing, check Table A values versus Table B values and use the minimum value. If a value is left blank or is not listed in Table B, use the value in Table A.

Table B—Suggested Design Bearing Strength (lbs.)

Shank Diameter (in.)	Steel Gage		
	20	16	16
0.145	207	—	—
0.177	253	—	—
0.205	293	390	488

Suggested Design Loads for Fillet and Flare-Bevel Groove Welds

Steel Gage	Design Thickness (in.)	Weld Size (in.)	Weld Strength (lb./in.)	
			Fillet	Flare-bevel Groove
10	0.1242	3/16	1228	982
12	0.1017	5/32	1007	806
14	0.0713	1/8	706	565
16	0.0566	1/8	560	448
18	0.0451	1/8	447	358

WELD NOTES:

1. Welds can be positioned in shear or tension.
2. Weld strength for fillet = $.3 \cdot F_y \cdot t$.
3. Weld strength for flare-bevel groove = $.3 \cdot F_y \cdot t / 1.25$.
4. Values shown are for $F_y = 33$ ksi. For $F_y = 40$ ksi multiply tabulated values by 1.33. For $F_y = 50$ ksi multiply tabulated values by 1.52.
5. Flare-bevel groove welds occur between the outside radius of one piece and a flat surface of another piece.

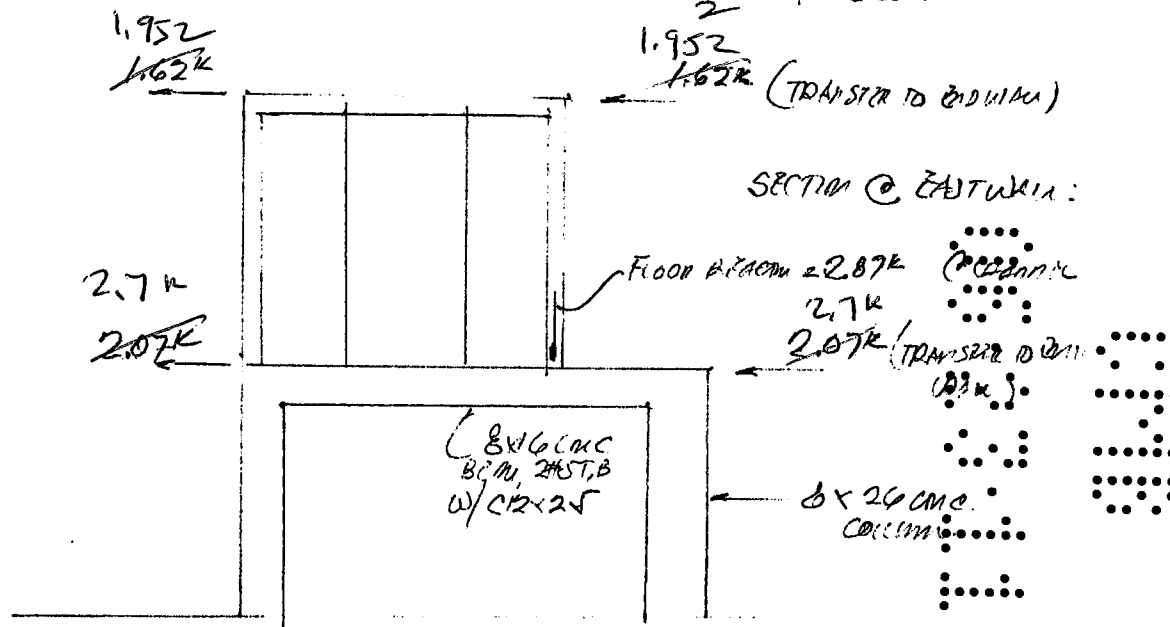
FIND SECOND FLOOR U/L:

ROOF TOP WIND FORCE TO TRANSFER @ ROOF U/L:

$$F = \left(\frac{10.75}{2} + 0.67 \right) \times 38.79 + 1.25 \times 66 = 317 \text{ LB/FT} \\ \times \frac{20.5}{2} = 3250$$

@ SECOND FLOOR

$$F = \left(\frac{10.75}{2} + \frac{4}{2} \right) \times 37.12 = 403.68 \text{ LB/FT} \\ \times \frac{20.5}{2} = 4136 \text{ LB}$$



FROM CALC'S DATED 4/28/10 + ARCH'L DWG'S

@ ROOF = $\left(\frac{10.75}{2} + 0.67 \right) 38.79 + 1.25 \times (66 + 44) = 392 \text{ lb/ft} \times \frac{21}{2} = 3905 \text{ \#}$

@ SECOND FLOOR = $\left(\frac{10.75}{2} + \frac{11}{2} \right) 37.12 = 515 \text{ pcf} \times \frac{21}{2} = 5,408 \text{ \#}$

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FastFrame 2-D Frame Analysis

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Nodes...

Node Label	Node Coordinates X ft	Y ft	X Restraint	Y Restraint	Z Restraint	Node Temp deg F
N1	0.000	0.000	Fixed	Fixed		0
N10	9.500	21.500				0
N11	13.500	21.500	Fixed	Fixed		0
N2	19.000	0.000				0
N3	0.000	11.000				0
N4	3.500	11.000				0
N5	9.500	11.000				0
N6	13.500	11.000				0
N7	19.000	11.000				0
N8	0.000	21.500				0
N9	3.500	21.500				0

Member...

Member Label	Property Label	Endpoint Nodes I Node J Node	Member Length ft	I End Releases X Y Z	J End Releases X Y Z
m1	columns	N1 N3	11.000		
m10	TS6x6x1/4	N9 N10	6.000		
m11	TS6x6x1/4	N10 N11	4.000		
m12	beam	N6 N7	5.500		
m13	columns	N2 N7	11.000		
m2	TS6x6x1/4	N3 N8	10.500		
m3	beam	N3 N4	3.500		
m4	beam	N4 N5	6.000		
m5	beam	N5 N6	4.000		
m6	TS6x2x3/8	N4 N9	10.500		
m7	TS6x2x3/8	N5 N10	10.500		
m8	TS6x6x1/4	N6 N11	10.500		
m9	TS6x6x1/4	N8 N9	3.500		

Member Stress Check Data...

Member Label	Unbraced Lengths Lu : Z ft Lu : XY	Slenderness Factors K : Z K : XY	AISC Bending & Stability Factors Cm Cb
m1	11.000 11.000	1.00 1.00	Internal Internal
m10	6.000 6.000	1.00 1.00	Internal Internal
m11	4.000 4.000	1.00 1.00	Internal Internal
m12	5.500 5.500	1.00 1.00	Internal Internal
m13	11.000 11.000	1.00 1.00	Internal Internal
m2	10.500 10.500	1.00 1.00	Internal Internal
m3	3.500 3.500	1.00 1.00	Internal Internal
m4	6.000 6.000	1.00 1.00	Internal Internal
m5	4.000 4.000	1.00 1.00	Internal Internal
m6	10.500 10.500	1.00 1.00	Internal Internal
m7	10.500 10.500	1.00 1.00	Internal Internal
m8	10.500 10.500	1.00 1.00	Internal Internal
m9	3.500 3.500	1.00 1.00	Internal Internal

Materials...

Member Label	Youngs ksi	Density kcf	Thermal in/100d	Yield ksi
Default	1.00	0.000	0.000000	1.00
Steel	29,000.00	0.490	0.000650	36.00
concrete	3,250.00	0.150	0.000067	3.00

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FastFrame 2-D Frame Analysis

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Section Sections...

Prop Label Group Tag	Material	Area	Depth Width	Tf Tw	Ixx Iyy
Default	Default	1.000 in2	0.000 in 0.000 in	0.000 in 0.000 in	1.00 in4 0.00 in4
TS6x2x1/4	Steel	3.590 in2	6.000 in 2.000 in	0.250 in 0.250 in	13.80 in4 2.31 in4
TS6x2x3/8	Steel	5.080 in2	6.000 in 2.000 in	0.375 in 0.375 in	17.80 in4 2.84 in4
TS6x6x1/4	Steel	5.590 in2	6.000 in 6.000 in	0.250 in 0.250 in	30.30 in4 30.30 in4
beam	concrete	128.000 in2	16.000 in 8.000 in	0.000 in 0.000 in	2,730.00 in4 0.00 in4
columns	concrete	208.000 in2	26.000 in 8.000 in	0.000 in 0.000 in	11,717.00 in4 0.00 in4

Node Loads....

Node Label	Concentrated Loads and Moments			Load Case Factors				
	X	Y	Moment	# 1	# 2	# 3	# 4	# 5
N11	1.620k			1.000				
N3	2.070k			1.000				
N7	2.070k			1.000				
N8	1.620k			1.000				

Member Distributed Loads....

Member Label	Load Magnitudes			Load Extents		Load Direction	Load Case Factors				
	Start	Finish		Start ft	Finish ft		# 1	# 2	# 3	# 4	# 5
m10	-0.050	-0.050	k/ft	0.000	6.000	Global Y	1.000				
m11	-0.050	-0.050	k/ft	0.000	4.000	Global Y	1.000				
m12	-0.055	-0.055	k/ft	0.000	5.500	Global Y	1.000				
m3	-0.055	-0.055	k/ft	0.000	3.500	Global Y	1.000				
m4	-0.055	-0.055	k/ft	0.000	6.000	Global Y	1.000				
m5	-0.055	-0.055	k/ft	0.000	4.000	Global Y	1.000				
m9	-0.050	-0.050	k/ft	0.000	3.500	Global Y	1.000				

Load Combinations...

Load Combination Description	Stress Increase	Gravity Load Factors		Load Combination Factors				
		X	Y	# 1	# 2	# 3	# 4	# 5
dIWL	1.000		-1.000	1.000				

Node Displacements & Reactions

Node Label	Load Combination	Node Displacements			Node Reactions		
		X in	Y in	Z Radians	X k	Y k	Z k-ft
N1	dIWL	3,027.E-014	0	-0.00266	-3.02670	-0.79354	0
N10	dIWL	0.57677	-0.01687	0.00058	0	0	0
N11	dIWL	0.57683	0.01517	-0.00039	0	0	0
N2	dIWL	4,353.E-014	0	-0.00276	-4.35330	10.83279	0
N3	dIWL	0.32021	0.00039	-0.00196	0	0	0
N4	dIWL	0.32028	-0.04642	-0.00039	0	0	0
N5	dIWL	0.32031	-0.01790	0.00077	0	0	0
N6	dIWL	0.32021	0.01739	0.00053	0	0	0
N7	dIWL	0.31985	-0.00188	-0.00176	0	0	0
N8	dIWL	0.57750	0.00026	-0.00149	0	0	0
N9	dIWL	0.57714	-0.04600	-0.00073	0	0	0

7:19AM, 16 MAY 11

FastFrame 2-D Frame Analysis

V 5.0.9 -

Page 3

Member End Forces...

Member Label	Load Combination	Node " I " End Forces			Node " J " End Forces		
		Axial k	Shear k	Moment ft-k	Axial k	Shear k	Moment ft-k
m1	dIWL	-0.79354	3.02670	0	3.17687	-3.02670	33.29373
m10	dIWL	0.83507	-0.77116	-4.05950	-0.83507	1.18529	-1.80986
m11	dIWL	-0.22175	-2.48268	-3.67373	0.22175	2.75877	-6.80917
m12	dIWL	2.28330	-7.41362	4.26282	-2.28330	8.44945	-47.88627
m13	dIWL	10.83279	4.35330	0	-8.44945	-4.35330	47.88627
m2	dIWL	0.25802	0.20821	0.81919	-0.05829	-0.20821	1.36701
m3	dIWL	-0.74849	-3.43489	-34.11293	0.74849	4.09405	20.93728
m4	dIWL	-0.17177	-3.68768	-24.08160	0.17177	4.81768	-1.43446
m5	dIWL	0.88504	-3.70179	-4.17852	-0.88504	4.45513	-12.13532
m6	dIWL	-0.40638	0.57672	3.14433	0.58788	-0.57672	2.91122
m7	dIWL	-1.11589	1.05682	5.61298	1.29739	-1.05682	5.48360
m8	dIWL	2.95849	1.39825	7.87250	-2.75877	-1.39825	6.80917
m9	dIWL	1.41179	0.05829	-1.36701	-1.41179	0.18328	1.14828

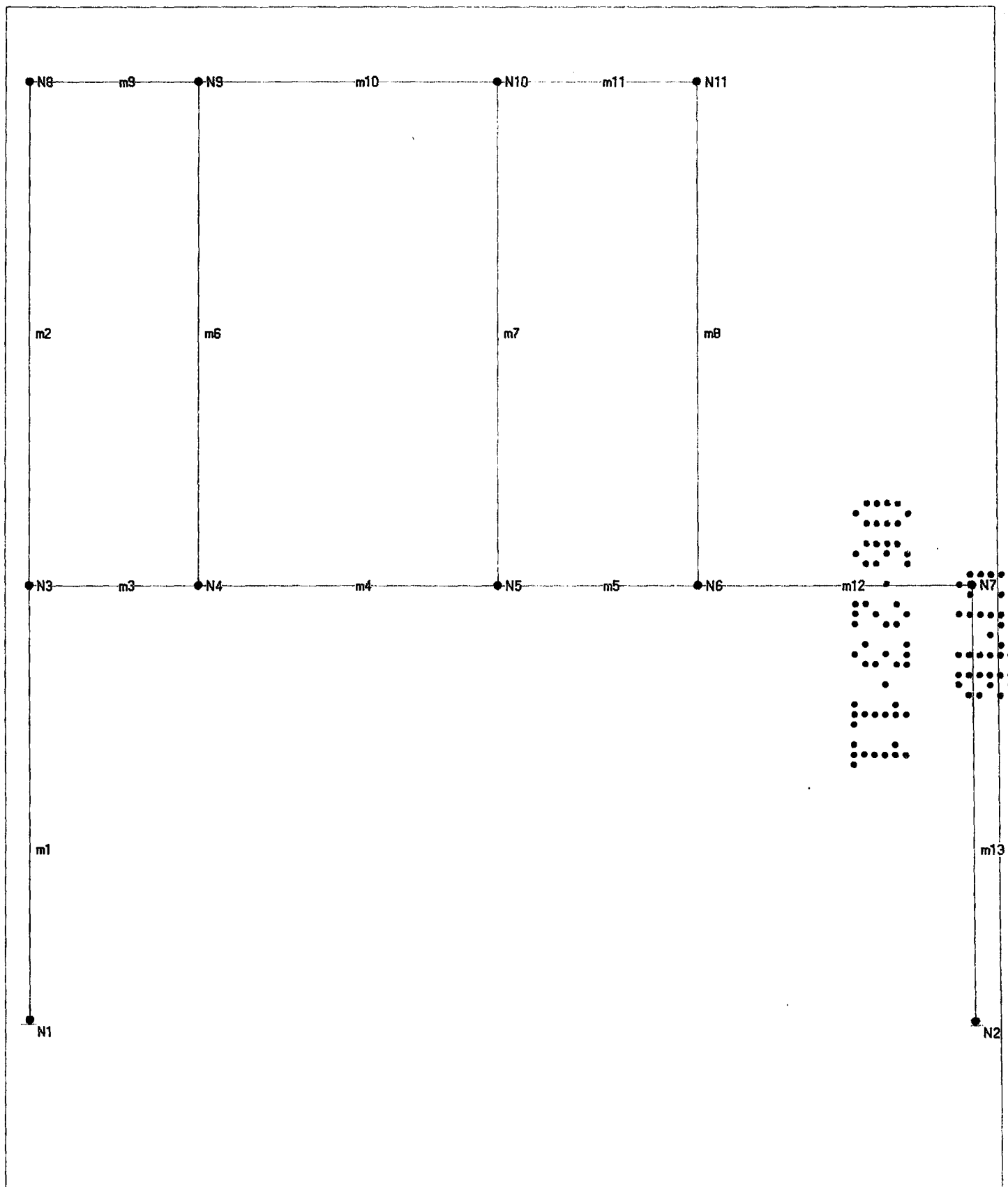
Steel Stress Checks...

Member Label	Load Combination	Overall Maximum	@ Left End	1/4 Span	1/2 Span	3/4 Span	@ Right End	Shear
m1	dIWL	0.329	0.000	0.000	0.000	0.000	0.00	0.061
m10	dIWL	0.210	0.210	0.151	0.088	0.019	0.08	0.025
m11	dIWL	0.335	0.186	0.065	0.063	0.188	0.33	0.062
m12	dIWL	0.335	0.000	0.000	0.000	0.000	0.00	0.062
m13	dIWL	0.335	0.000	0.000	0.000	0.000	0.00	0.062
m2	dIWL	0.070	0.043	0.017	0.014	0.040	0.07	0.005
m3	dIWL	0.070	0.000	0.000	0.000	0.000	0.00	0.005
m4	dIWL	0.070	0.000	0.000	0.000	0.000	0.00	0.005
m5	dIWL	0.070	0.000	0.000	0.000	0.000	0.00	0.005
m6	dIWL	0.271	0.271	0.147	0.023	0.109	0.25	0.009
m7	dIWL	0.488	0.488	0.260	0.032	0.216	0.47	0.016
m8	dIWL	0.418	0.418	0.241	0.064	0.163	0.36	0.032
m9	dIWL	0.082	0.080	0.082	0.081	0.079	0.07	0.003

Member Overall Envelope Summary

Member Label	Section	Axial k	Shear k	Moment ft-k	Deflection in	Maximum Stress Ratio
m1	columns	0.796	3.027	33.294	0.322	0.329
m10	TS6x6x1/4	0.835	1.071	4.060	0.029	0.210
m11	TS6x6x1/4	0.222	2.683	6.657	0.034	0.335
m12	beam	2.283	7.717	45.872	0.016	0.335
m13	columns	10.833	4.353	47.886	0.322	0.335
m2	TS6x6x1/4	0.258	0.208	1.367	0.258	0.070
m3	beam	0.748	3.628	34.113	0.048	0.070
m4	beam	0.172	4.018	24.082	0.028	0.070
m5	beam	0.885	3.922	11.070	0.036	0.070
m6	TS6x2x3/8	0.407	0.577	3.144	0.256	0.271
m7	TS6x2x3/8	1.116	1.057	5.613	0.256	0.488
m8	TS6x6x1/4	2.958	1.398	7.873	0.254	0.418
m9	TS6x6x1/4	1.412	0.117	1.401	0.047	0.082

→ Deflection values listed are the maximum of a sampling of 31 points across the member



MOMENT CONNECTIONS @ ROOF LEVEL: DIRECT WELDED FR MOMENT CONNECTIONS

$F_u = 58 \text{ ksi}$ HSS $6 \times 6 \times 1/4$ HORIZONTAL BEAM -

HSS $6 \times 2 \times 3/8$ $S_y = 2.77 \text{ in}^3$

MOMENT @ N8, N9, N10, N11 IN BEAM

$$M_x = 2.77 \times 30.4 = 84.2 \text{ k-ft} \\ = 7.02 \text{ k-ft}$$

MAXIMUM @ N11 $M_x = 6.58 \text{ k-ft}$

HSS $6 \times 6 \times 1/4$ - $F_b = 0.66 \times 46 = 30.4 \text{ ksi}$

$$S_x = 9.54 \text{ in}^3$$

$$A = 5.24 \text{ in}^2$$

$$\therefore M_k = 30.4 \text{ ksi} \times 9.54 \text{ in}^3 = 290 \text{ k-in} \\ = 24.2 \text{ k-ft} >> 6.58 \text{ k-ft (OK)}$$

$$\text{FOR } T = C = \frac{M}{C} = \frac{6.58 \text{ k-ft}}{6.0 - 0.25} = 13.72 \text{ kips FLANGE FORCE}$$

FOR TRANSFER TO COLUMN @ HSS $6 \times 6 \times 1/4$ $M = 6.58 \text{ k-ft}$

FOR FULL PENETRATION WELD AT FLANGES; $1/4" \text{ WELD} = 4/16"$

$$\frac{R_n}{\phi} = 0.928(4)(6) = 22.27 \text{ kips}$$

$$\text{WELD STRENGTH} = 70(4/16 \times 0.707) \times 0.3 = 3.71 \text{ k/in}$$

$$\text{TOTAL STRENGTH} = 3.71 \times 6 = 22.27 \text{ kips} > 13.73 \text{ kips OK}$$

CHECK WELD METAL IN COLUMN $F_u = 58 \text{ ksi}$

$$t_{min} = \frac{3.09 \times 4}{58 \text{ ksi}} = 0.21 \text{ in} \quad \text{OK} \quad t = 0.25 \text{ in}$$

CHECK HSS-HSS MOMENT CONNECTIONS - NEXT PAGE

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 DATE: _____
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 JOB NO.: _____

FOR HSS-H11 MOMENT CONNECTION - RECTANGULAR SECTIONS

$$M_n = 0.5 F_y t (H_b + 5t)^2 = 0.5 (46) (0.25) (6 + 5(0.25))^2 = 302.23 \text{ K-in.}$$

$$= 25.19 \text{ K-ft}$$

 LIMIT STATE OF CHORD, SIDEWALL
 LOCAL YIELDING
FOR ASD $\phi = 1.5$

$$\frac{25.19}{1.5} = 16.8 \text{ K-ft} > 6.58 \text{ K-ft}$$

$$M_n = F_y b \left[t_b - (1 - b_{oc}/B_b) B_b H_b t_b \right]$$

$$= 46 \left[11.2 - (1 - b_{oc}/6.0) 6.0 \times 6 \times 0.25 \right]$$

$$= 46 \left[11.2 - (1 - b_{oc}/6.0) (9) \right]$$

$$= 46 \left[11.2 - (0.58) (9) \right] =$$

$$= 46 (5.98) = 275 \text{ K-in}$$

$$b_{oc} = \left[\frac{10}{24} \right] \left[\frac{11.5}{11.5} \right] 6.8$$

$$= 2.5$$

$$\frac{M_n}{\phi} = \frac{275}{1.58} = 174$$

$$= 14.5 \text{ K-ft} > 6.58 \text{ K-ft}$$

INGELMO

ASSOCIATES • PA

 COMP BY: PINGELMO
 CHK BY: _____
 DATE: _____
 SHEET NO.: 11
 JOB NO.: _____

TRANSFER C BASE PLATE:

MAXIMUM MOMENT = 8.15 K-FT. @ HJUGX6X1/4

$$M_H = 24.2 \text{ K-FT} \quad \textcircled{B}$$

BASE PLATE:

$$M = 7.60 \text{ K-FT}$$

TRY 6X2

$$0.25/t = 750 \text{ PSI} = 0.75 \text{ KSI}$$

$$\frac{7.60 \text{ K-FT} \times 12}{8(12)^2/6} = \pm 0.47 \text{ KSI} \quad \text{OK} < 0.75 \text{ KSI}$$

$$\text{PROJECTION} = (12 - 6)/2 = 3"$$

$$t = \sqrt{\frac{3 \times 0.47(3)^2}{27}} = 0.68 \text{ USE } 3/4"$$

$$\text{FOR ANCHORS, } \frac{7.60}{10/12} = 9.1 \text{ KIPS FOR EACH} = 4.55 \text{ KIPS}$$

FOR 5/8" WELDED STUDS — 6" MINIMUM

$$\text{COLUMN CAPACITY} = 41.5 \text{ K} \times 0.89 = 39.5 \text{ KIPS}$$

$$\text{STUD CAPACITY} = 16.5 \text{ K} >> 4.55 \text{ KIPS}$$

$$\text{REDUCTION: } \phi_c = 0.71 \text{ AND } 0.42$$

$$\therefore \frac{39.5 \text{ K}}{1.7} \times 0.71 \times 0.42 = 6.93 \text{ KIPS} > 4.55 \text{ KIPS} \quad \textcircled{D}$$

USE TYPICAL FOR 4 BASE PLATES.

FOUNDATION - CONSIDERED LOAD @ CORNER OF BUDG -

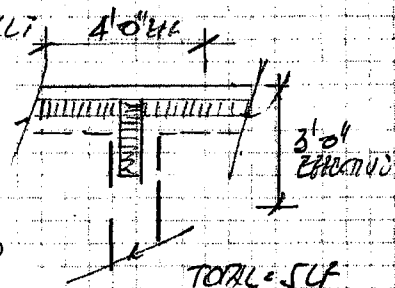
FROM UMB/DL: MAXIMUM REACTION = 10.67 KIP

WALL DL: $11 \times 0.070 + 11(0.020) = 1.04 \text{ KLF}$

USE 5 LF OF 24" FOOTING @ END

TOTAL LOAD = $10.67 + (1.04 \times 5) = 15.87 \text{ K}$

ALLOWABLE = $5 \times 4 \text{ KLF} = 20 \text{ KIP}$ - OK



TRANSFER BEAM = MAX. MOMENT = 23 K-FT. FROM UMB/DL

EXISTING 8x16 W/ 2#5 TAB

$$\rho = \frac{0.62}{8 \times 16} \times 0.0055 \quad f_u = 280$$

$$M_u = \frac{280(8)(14.5)^2}{12000} = 39.8 \text{ K-FT}$$

NEW C12x25

$$M = 0.6 \times (36) \times 24.1 = 520.56 \text{ K-IN}$$

$$\text{MAX } M = 23 \times 1.6 = 36.8 \text{ K-FT} < 39.3$$

$$= 52.4 \text{ K-FT}$$

FOR C12x25 - STEEL BEAM IS BEARING, CALCULATIONS PREVIOUSLY ENCLOSED

MAXIMUM PRESSURE ON EXISTING FOOTING (WALL):

SOUTH WALL -

$$(10 \times 0.070) + \left(\frac{13.5}{2} \times 0.60\right) + 1.2(0.020) + \left(\frac{13.5}{2} \times 0.050\right)$$

$$= 0.7 \text{ KLF} + 0.405 + 0.24 + 0.34$$

$$= 1.69 \text{ KLF}$$

FOR W24: CAPACITY = 4 KLF

OK

PARAMET:

MAX POL DUNE = 77.7 DSF.

$$M = \frac{(1.5^2)(98)}{2} = 0.0878 \text{ K-FT} = 10.53 \text{ LB-M.}$$

6" - 16 GAGE STEEL @ 16" O.C - $M_x = 18991 \left(\frac{12}{16} \right) = 14243 \text{ LB-M}$ (13)

TUBE SECTION HUS 6x6 x 1/4 : SEE ALSO PAGE 19 (ORIGINAL CALCULATIONS)

TORSION ON SECTION FROM CRACKED: $M = 8352 \text{ LB-M/FT}$ UPLIFT CONTROL

∴ SEE EVALUATION ON NEXT PAGE:

$$\begin{aligned} \text{MAXIMUM TORSION} &= 8352 \text{ LB-M/FT} \times \frac{6}{2} \\ &= 25056 \text{ LB-M} = 25.056 \text{ K-M} \\ &= 2.1 \text{ K-FT} \\ &= (75 \times 1.0) + \frac{(25 \times 5)}{9} (6)^2 = 0.8 \text{ K-FT} \\ &= 9.58 \text{ K-FT} \end{aligned}$$

ADD MOMENT

TOP MOMENT STRENGTH: HUS 6x6 x 1/4

$$F_c = 0.6(46) = 27.6 \text{ ksi}$$

$$T_n = 276 C = 27.6(15.4) = 425.04 \text{ K-M.} > 25.1 \text{ K-M.}$$

$$M = 0.8 \text{ K-FT} \times 12 = 9.6 \text{ K-IN.}$$

$$M_n = 9.54 (0.66 \times 16) = 289.7$$

$$\therefore \frac{88.6}{289.7} + \frac{25.1}{425} = 0.31 + .06 = 0.38 < 1.0$$

(13)

FOR LONG DIRECTION WIND LOADS ON MUFTS: PG 11: ORIG CALC. $p = 38.8 \text{ PSF}$

(PARALLEL TO RIDGE) $\therefore$ TOTAL LOAD $\left(\frac{11}{2} + 0.67\right) \times 46.92 + 1.25(66) = 372 \text{ LB/FT}$

FOR $\frac{13.5}{2} \times 372 = 2511 \text{ LB}$

LENGTH OF WALL = 20.5 $\therefore \frac{2511}{12 \text{ FT}} = 210 \text{ LB/FT}$

$< 380 \text{ OR } 431 \text{ LB}$
(SEE ENCLOSED PLUMB)

OUT OF PLANE WIND LOADING ON STUDS: 48.7 PSF (21 SF)

ROOF DL + LL = $\frac{13.5}{2} \left(\frac{DL}{20} + \frac{LL}{30}\right) + \frac{11}{2} \times 20 \text{ PSF} = 447.5 \text{ PSF}$

$\therefore$ PER STUD - AXIAL = $\frac{16}{12} \times 447.5 = 597 \text{ LB}$

WIND = $\frac{16}{12} \times 48.7 = 65 \text{ PSF}$

SEE TABLE FOR 50 PSF WIND, NEXT PAGE

FOR 6" - 1 3/8" FLANGE STUDS SPACED 16" O.C. FOR 50 PSF
16 GAGE STUD.
FOR NET SPAN.

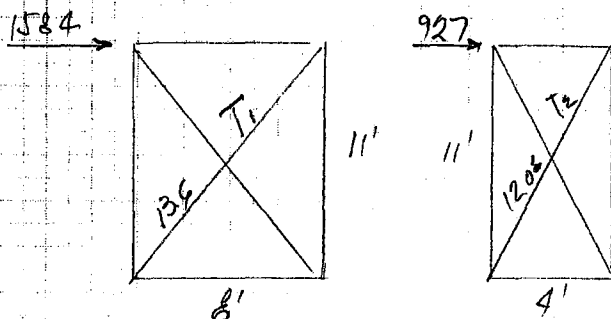
ALLOWABLE LOAD = $\frac{4.341 + 3.316}{2} = 382.8 \text{ LB} > 597$

ED

SEE ADDITIONAL CALCULATIONS ON PG. 2 AND 3 OF FEB 4, 2011 CALC.
AND PG 14/15 OF ORIGINAL.

LATERAL LOAD TO LONG SECOND FLOOR WALLS — $P = 2511 \text{ LBS.}$ —

FOR SOLID WALL AREA = $8 \text{ FT} + 4 \text{ FT.}$; PROVIDE FLAT TENSION STRAPPING;



$$\frac{2511}{12} = 210 \text{ LBS/FT.}$$

$$0.58 + 0.33 = 0.92$$

$$T_1 = 2693 \text{ LBS}$$

$$T_2 = 2793 \text{ LBS}$$

$$\therefore \text{FLAT STRAP, } F_y = 33 \text{ KSI}$$

$$F_t = 0.6(33) = 19.8 \text{ KSI}$$

$$\text{FOR } \frac{2793}{19800} = 0.14 \text{ in}^2$$

$$\text{FOR 16 GAGI STRAP} - \frac{0.14}{0.56} = 2.49 \text{ in.}$$

USE A 3" x 16 GAGI STRAP

$$\text{TENSION C SUPPLEMENT} = 1584 \text{ LBS (MAX)}$$

USE - 1-7/8" x 16 GAGI STRAP

4" EMBLEMMENT =

$$\therefore \frac{1584}{3690} + \frac{1584}{3690} = 0.49 + 0.43 = 0.92$$

C.I. O

OP



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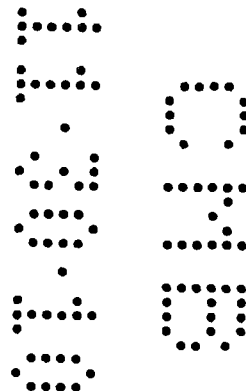
Residence at 3193 Royal Palm Avenue
Miami Beach, Florida
Additions and Renovations

Structural Calculations:

INGELMO ASSOCIATES PA
250 Catalonia Avenue, Suite 301
Coral Gables, Florida 33134

A handwritten signature in black ink, appearing to read "Paul Ingelmo", with a date "4/29/2010" written below it.

Paul Ingelmo, P.E.
FL. No. 29310
CA: 26864



INGELMO

ASSOCIATES • PA

COMP. BY: P. INGELMO

CHK BY:

DATE: APRIL 30, 2010

SHEET NO.: 1/

JOB NO.:

3193 ROYAL PALM

MIAMI BEACH, FEB 2007, ASCE 7-2005

Terrace LL = 100

Roof LL = 50

LIVE: FLOOR - 40 PSF TERR 100

DEAD: SECOND FLOOR - 20 PSF

ROOF - 15 PSF

Roof LL

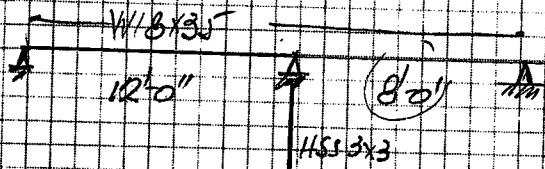
TRIBUTARY AREA TO STEEL BEAM @ LIVING ROOM; $22\frac{1}{2} = 11\frac{1}{2}$ FT.

$$\therefore \text{TOTAL W} = \text{GROSS} \times \text{H} = 660 \text{ LB/FT.}$$

$$\text{SPAN} = 16\text{'-}2\text{'}$$

$$\text{DL} = 220$$

$$\text{LL} = 440$$



REACTIONS - 597K @ LEFT END

16.74K

367K

$$\text{WALL DL} = 10 \times 2.5 = 0.25$$

$$\text{FLOOR DL} = 10 \times 20 = 0.2$$

$$\text{FLOOR LL} = 10 \times 40 = 0.4$$

$$\text{ROOF DL} = 8 \times 20 = 0.16$$

$$\text{ROOF LL} = 8 \times 30 = 0.24$$

$$\text{TOTAL DL} = 0.61 \text{ K/FT}$$

$$\text{LL} = 0.64$$

$$\text{FOUNDATION } A_{FE} = 15.85 / 2.01 = 7.9 \text{ FT.}$$

USE 3x3x1'-0"

W/ 5 #5 BOTTOM EACH WAY.

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Title :
Dsgnr:
Description :
Scope :

Job #
Date: 7:53AM, 4 MAY 10

2/

Rev: 680005
User: K:\0604904_Ver 5.8.0, 1-Dec-2003
(c)1983-2003 ENERCALC Engineering Software

Steel Beam Design

Description 3193 Royal Palm-Steel beam at Living Room

General Information

Code Ref: AISC 9th ASD, 1997 UBC, 2003 IBC, 2003 NFPA 5000

Steel Section : W8X18

Center Span 16.15 ft
Left Cant. 0.00 ft
Right Cant 0.00 ft
Lu : Unbraced Length 2.00 ft

Pinned-Pinned
Bm Wt. Added to Loads
LL & ST Act Together

Fy 50.00ksi
Load Duration Factor 1.00
Elastic Modulus 29,000.0 ksi

Distributed Loads

Note! Short Term Loads Are WIND Loads.

	# 1	# 2	# 3	# 4	# 5	# 6	# 7	
DL	0.220							k/ft
LL	0.440							k/ft
ST								k/ft
Start Location								ft
End Location								ft

Summary

Beam OK
Static Load Case Governs Stress

Using: W8X18 section, Span = 16.15ft, Fy = 50.0ksi
End Fixity = Pinned-Pinned, Lu = 2.00ft, LDF = 1.000

	Actual	Allowable		
Moment	22.100 k-ft	41.800 k-ft	Max. Deflection	-0.578 in
fb : Bending Stress	17.448 ksi	33.000 ksi	Length/DL Defl	955.5 : 1
fb / Fb	0.529 : 1		Length/(DL+LL Defl)	335.3 : 1
Shear	5.474 k	37.444 k		
fv : Shear Stress	2.924 ksi	20.000 ksi		
fv / Fv	0.146 : 1			

Force & Stress Summary

	Maximum	DL Only	LL @ Center	LL+ST @ Center	LL @ Cants	LL+ST @ Cants	
Max. M +	22.10 k-ft	7.76	22.10				k-ft
Max. M -							k-ft
Max. M @ Left							k-ft
Max. M @ Right							k-ft
Shear @ Left	5.47 k	1.92	5.47				k
Shear @ Right	5.47 k	1.92	5.47				k
Center Defl.	-0.578 in	-0.203	-0.578	-0.578	0.000	0.000	in
Left Cant Defl	0.000 in	0.000	0.000	0.000	0.000	0.000	in
Right Cant Defl	0.000 in	0.000	0.000	0.000	0.000	0.000	in
...Query Defl @	0.000 ft	0.000	0.000	0.000	0.000	0.000	in
Reaction @ Left	5.47	1.92	5.47	5.47			k
Reaction @ Rt	5.47	1.92	5.47	5.47			k

Fa calc'd per Eq. E2-1, $K^*L/r < C_c$

I Beam Passes Table B5.1, Fb per Eq. F1-1, Fb = 0.66 Fy

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Title :
Dagnr:
Description :

Scope :

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Date: 7:53AM, 4'

Rev: 580005
User: KV-0504804, Ver 5.8.0, 1-Dec-2003
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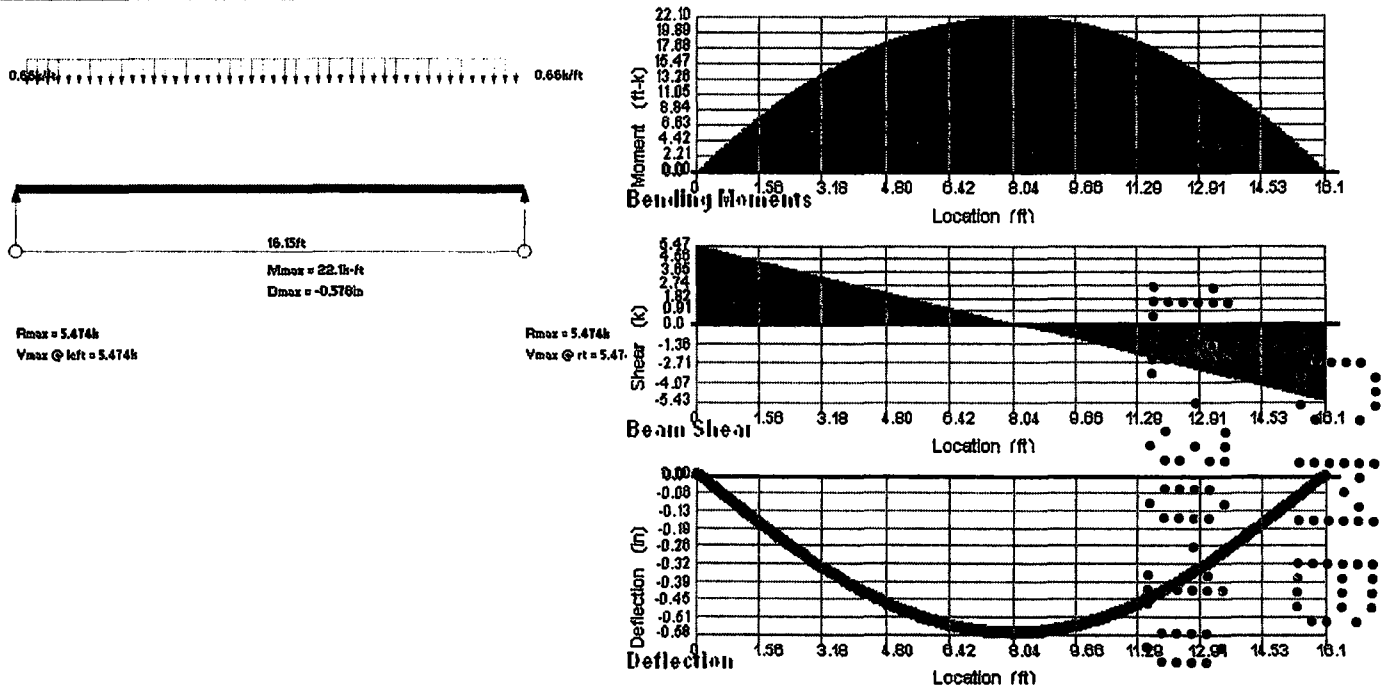
Steel Beam Design

Description 3193 Royal Palm-Steel beam at Living Room

Section Properties W8X18

Depth	8.140 in	Weight	17.87 #/ft
Web Thick	0.230 in	Ixx	61.900 in4
Width	5.250 in	Iyy	7.970 in4
Flange Thick	0.330 in	Sxx	15.200 in3
Area	5.26 in2	Syy	3.040 in3
Rt	1.390 in	Rxx	3.430 in
		Ryy	1.230 in
Values for LRFD Design....			
J	0.170 in4	Zx	17.000 in3
Cw	122.00 in6	Zy	4.660 in3
		K	0.630 in

Sketch & Diagram



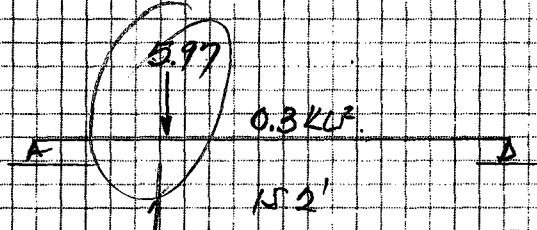
CHANNEL C, EAST BEAM (CONCRETE) OVER 15'-2" OPENING -

EXISTING BEAM OK FOR DL BEAM + PARALLEL. - PRELIMINARY

CALCULATE CHANNEL FOR ADDITIONAL CAPACITY

REACTION FROM NEW STEEL BEAM = 3.9 KIPS.

NEW SECOND FLOOR WALL = $10 \times 25 = 10 \times 0.25 \text{ KSF} = 0.25 \text{ KLF}$



SELECT NEW CHANNEL REINFORCING

TRY C10 x 25 OK

SHEAR MAX = 6.23 KIPS.

CONNECT TO CONCRETE BEAM WITH $\frac{1}{8}$ " DIA EPOXY ANCHORS

SPACE C 12" O.C. STAGGERED

PROVIDE 2 - $\frac{1}{8}$ " C COLLIMIN

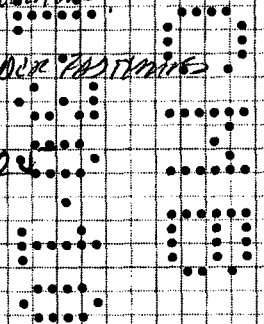
NO REDUCING FOR 12" SPACING

MINIMUM 5" EMBEDMENT

AC108 PLUS - POWER FACTORING

SEE FOLLOWING CALCULATION

USE A C12 x 25



FOR NEW FOUNDATION:

$$g = 2000 \text{ PSI}$$

$$R_{\text{ALLOW}} = 16.74 \text{ KIP} \quad @ 2 \text{ KSJ}$$

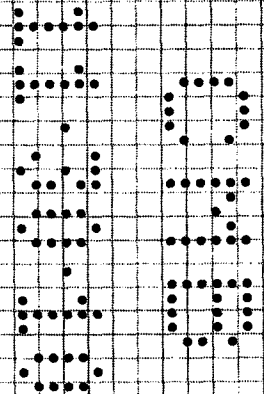
$$A_c = 8.37 \text{ FT}^2$$

$$\text{USE } 3'0" \times 3'0" \times 12" \\ \text{W/ 4\#5 EW}$$

$$\text{EXISTING FOUNDATION (EXISTS)} = 10'2" \times 4'2"$$

$$\text{OK, } g = 2 \text{ KSJ}$$

$$\text{LOAD CAPACITY} = 4 \text{ KIP}$$



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Title :
Dsgnr:
Description :
Scope :

Job #
Date: 2:11PM, 4 MAY 10

Rev: 680006
User: KV-0604804, Ver 5.8.0, 1-Dec-2003
(c)1993-2003 ENERCALC Engineering Software

Steel Beam Design

Description Channel reinforcing

General Information

Code Ref: AISC 9th ASD, 1997 UBC, 2003 IBC, 2003 NFPA 5000

Steel Section : C12X25

Center Span 15.20 ft
Left Cant. 0.00 ft
Right Cant 0.00 ft
Lu : Unbraced Length 1.00 ft

Pinned-Pinned
Bm Wt. Added to Loads
LL & ST Act Together

Fy 36.00ksi
Load Duration Factor 1.00
Elastic Modulus 29,000.0ksi

Distributed Loads

Note! Short Term Loads Are WIND Loads.

	# 1	# 2	# 3	# 4	# 5	# 6	# 7	
DL	0.150							k/ft
LL	0.300							k/ft
ST								k/ft
Start Location								ft
End Location								ft

Point Loads

Note! Short Term Loads Are WIND Loads.

	# 1	# 2	# 3	# 4	# 5	# 6	# 7	
Dead Load	2.500							k
Live Load	3.500							k
Short Term								k
Location	5.000							ft

Summary

Beam OK
Static Load Case Governs Stress

Using: C12X25 section, Span = 15.20ft, Fy = 36.0ksi
End Fixity = Pinned-Pinned, Lu = 1.00ft, LDF = 1.000

	Actual	Allowable		
Moment	32.208 k-ft	47.520 k-ft	Max. Deflection	-0.291 in
fb : Bending Stress	16.104 ksi	23.760 ksi	Length/DL Defl	1,591.8 : 1
fb / Fb	0.678 : 1		Length/(DL+LL Defl)	627.2 : 1
Shear	7.636 k	66.874 k		
fv : Shear Stress	1.644 ksi	14.400 ksi		
fv / Fv	0.114 : 1			

Force & Stress Summary

<-- These columns are Dead + Live Load placed as noted -->

	Maximum	DL Only	LL @ Center	LL+ST @ Center	LL @ Cants	LL+ST @ Cants	
Max. M +	32.21 k-ft	12.83	32.21				k-ft
Max. M -							k-ft
Max. M @ Left							k-ft
Max. M @ Right							k-ft
Shear @ Left	7.64 k	3.01	7.64				k
Shear @ Right	5.58 k	2.15	5.58				k
Center Defl.	-0.291 in	-0.115	-0.291	-0.291	0.000	0.000 in	in
Left Cant Defl	0.000 in	0.000	0.000	0.000	0.000	0.000 in	in
Right Cant Defl	0.000 in	0.000	0.000	0.000	0.000	0.000 in	in
...Query Defl @	0.000 ft	0.000	0.000	0.000	0.000	0.000 in	in
Reaction @ Left	7.64	3.01	7.64	7.64			k
Reaction @ Rt	5.58	2.15	5.58	5.58			k

Fa calc'd per Eq. E2-1, $K^*L/r < C_c$
I Beam Passes Table B5.1, Fb per Eq. F1-1, Fb = 0.66 Fy

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Title :
Dsgnr:
Description :

Job #
Date: 2:11PM, 4 MAY 10

Scope :

Rev: 580006
User: KW-0804804, Ver 5.8.0, 1-Dec-2003
(c)1983-2003 ENERCALC Engineering Software

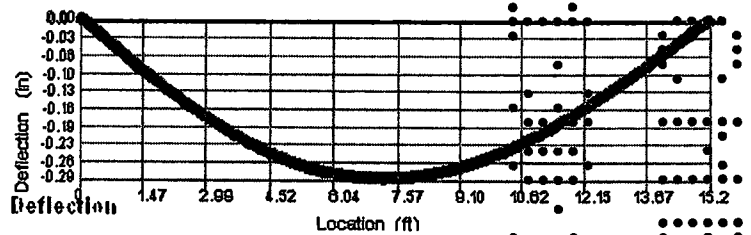
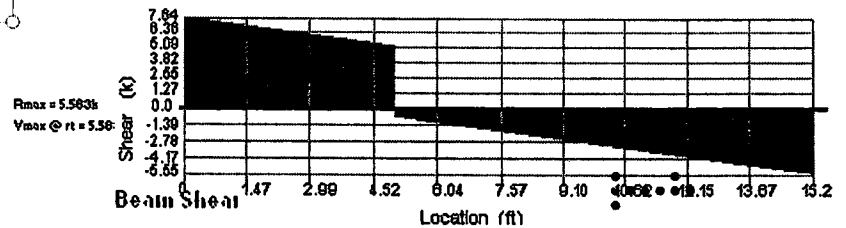
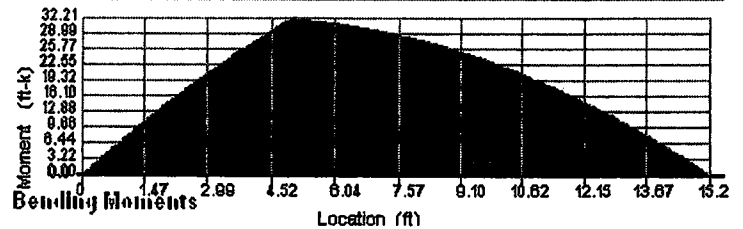
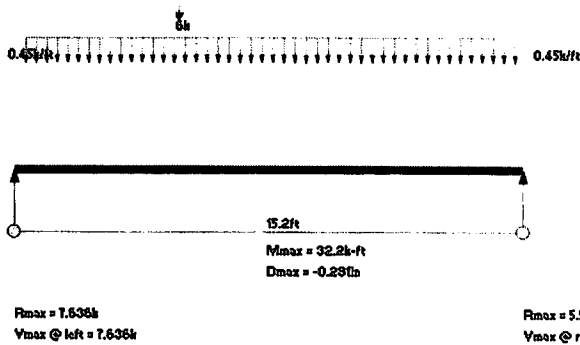
Steel Beam Design

Description Channel reinforcing

Section Properties C12X25

Depth	12.000 in	Weight	24.93 #/ft
Web Thick	0.387 in	Ixx	144.000 in4
Width	3.050 in	Iyy	4.450 in4
Flange Thick	0.501 in	Sxx	24.000 in3
Area	7.34 in2	Syy	1.870 in3
Xcg Dist.	0.674 in	R-xx	4.430 in
Values for LRFD Design....		R-yy	0.779 in
J	0.538 in4	Zx	29.400 in3
Cw	130.00 in6	Zy	3.820 in3
		K	1.125 in

Sketch & Diagram



MECAWind Version 2.0.2.8 per ASCE 7-05

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Date : 5/6/2010 Project No. :
Company Name : Ingelmo Associates Designed By : IA
Address : 250 Catalonia Avenue 301 Description : wind pressure-Mossdrop Assoc
City : Coral Gables Customer Name : 3193 Royal Palm Residence
State : Florida Proj Location : Miami Beach
File Location: C:\Program Files\MECAWind\mossdrop-gurwitz.wnd

User Input Data:

Basic Wind Speed(V)	=	146.00 mph	Structure Type	=	Building
Structural Category	=	II	Exposure Category	=	C
Natural Frequency	=	N/A	Flexible Structure	=	No
Importance Factor	=	1.00	Kd Directional Factor	=	1.00
Alpha	=	9.50	Zg	=	900.00 ft
At	=	0.11	Bt	=	1.00
Am	=	0.15	Bm	=	0.65
Cc	=	0.20	l	=	500.00 ft
Epsilon	=	0.20	Zmin	=	15.00 ft
Slope of Roof	=	0 : 12	Slope of Roof(Theta)	=	.00 Deg
Ht: Mean Roof Ht	=	24.00 ft	Type of Roof	=	Monoslope
RHt: Ridge Ht	=	24.00 ft	Eht: Eave Height	=	24.00 ft
OH: Roof Overhang at Eave	=	.00 ft	Roof Area	=	1500.00 ft^2
Bldg Length Along Ridge	=	25.00 ft	Bldg Width Across Ridge	=	60.00 ft

Main Wind Force Resisting System(MWFRS)

Figure 6-5 Internal Pressure Coefficients for Buildings, GCpi

Enclosed Bldg +GCpi = 0.18 Enclosed Bldg -GCpi = -0.18

Figure 6-6 External Pressure Coefficients

Cp - Loads on Main Wind-Force Resisting Systems(Method 2)

MWFRS-Wall Pressures Perpendicular to Ridge

Wall		Cp	+GCpi (psf)	-GCpi (psf)
-----		-----	-----	-----
Leeward Walls		-0.28	-21.38	-2.97
Side Walls		-0.70	-39.63	-21.22

Top Elev	Bot Elev	Kz	Kzt	qz	-Windward Wall-	Total	Shear	Moment
ft	ft			psf	+GCpi	-GCpi +/-GCpi	Kip	K-ft
24.00	14.00	0.94	1.00	51.14	25.57	43.98	46.95	4.7
20.00	10.00	0.90	1.00	49.21	24.26	42.67	45.64	16.1
10.00	.00	0.85	1.00	46.32	22.29	40.70	43.67	27.0

Note: 1) Total = Leeward GCpi + Windward GCpi

2) Shear and Moment are sum of forces (Leeward+Windard) acting at 'Bot Elev'

Roof - Dist from Windward Edge	Cp	+GCpi (psf)	-GCpi (psf)
-----	-----	-----	-----
0.0 ft to 12.0 ft	-0.90	-48.33	-29.92
12.0 ft to 24.0 ft	-0.90	-48.33	-29.92
24.0 ft to 48.0 ft	-0.50	-30.94	-12.53
48.0 ft to 60.0ft	-0.30	-22.25	-3.84

MWFRS-Wall Pressures Parallel to Ridge

Wall	Cp	+GCpi (psf)	-GCpi (psf)
-----	-----	-----	-----

Leeward Walls	-0.50	-30.94	-12.53
Side Walls	-0.70	-39.63	-21.22

Top Elev ft	Bot Elev ft	Kz	Kzt	qz psf	-Windward Wall- +GCpi	-GCpi	Total +/-GCpi	Shear Kip	Moment K-ft
24.00	14.00	0.94	1.00	51.14	25.57	43.98	56.51	13.6	27.1
20.00	10.00	0.90	1.00	49.21	24.26	42.67	55.20	46.7	328.4
10.00	.00	0.85	1.00	46.32	22.29	40.70	53.23	78.6	954.9

Note: 1) Total = Leeward GCpi + Windward GCpi
2) Shear and Moment are sum of forces (Leeward+Windard) acting at 'Bot Elev'

Roof - Dist from Windward Edge	Cp	+GCpi (psf)	-GCpi (psf)
0.0 ft to 12.0 ft	-1.03	-53.93	-35.52
12.0 ft to 24.0 ft	-0.72	-40.33	-21.92
24.0 ft to 25.0 ft	-0.68	-38.94	-20.53

Parapet:

Qp: Pressure at Top of Parapet = 51.8 psf
Type of Parapet = Solid Top Elev. of Parapet = 1.50 ft
Parapet-Windward = 77.70 psf Parapet-Leeward Press = -51.80 psf

Low Rise Bldg Provisions per Fig. 6-10: MWFRS Transverse Direction

Building Surface	GCpf	+GCpi	-GCpi	qh psf	Min P psf	Max P psf
1	0.4	0.18	-0.18	51.14	11.25	29.66
2	-0.69	0.18	-0.18	51.14	-44.49	-26.08
3	-0.37	0.18	-0.18	51.14	-28.13	-9.72
4	-0.29	0.18	-0.18	51.14	-24.04	-5.63
5	-0.45	0.18	-0.18	51.14	-32.22	-13.81
6	-0.45	0.18	-0.18	51.14	-32.22	-13.81
1E	0.61	0.18	-0.18	51.14	21.99	40.40
2E	-1.07	0.18	-0.18	51.14	-63.93	-45.51
3E	-0.53	0.18	-0.18	51.14	-36.31	-17.90
4E	-0.43	0.18	-0.18	51.14	-31.20	-12.79
1T	*	*	*	*	2.81	7.42
2T	*	*	*	*	-11.12	-6.52
3T	*	*	*	*	-7.03	-2.43
4T	*	*	*	*	-6.01	-1.41

Low Rise Bldg Provisions per Fig. 6-10: MWFRS Longitudinal Direction

Building Surface	GCpf	+GCpi	-GCpi	qh psf	Min P psf	Max P psf
1	0.4	0.18	-0.18	51.14	11.25	29.66
2	-0.69	0.18	-0.18	51.14	-44.49	-26.08
3	-0.37	0.18	-0.18	51.14	-28.13	-9.72
4	-0.29	0.18	-0.18	51.14	-24.04	-5.63
5	-0.45	0.18	-0.18	51.14	-32.22	-13.81
6	-0.45	0.18	-0.18	51.14	-32.22	-13.81
1E	0.61	0.18	-0.18	51.14	21.99	40.40
2E	-1.07	0.18	-0.18	51.14	-63.93	-45.51
3E	-0.53	0.18	-0.18	51.14	-36.31	-17.90
4E	-0.43	0.18	-0.18	51.14	-31.20	-12.79
1T	*	*	*	*	2.81	7.42
2T	*	*	*	*	-11.12	-6.52
3T	*	*	*	*	-7.03	-2.43
4T	*	*	*	*	-6.01	-1.41

Wind Pressure on Components and Cladding

Description	Width of Pressure Coefficient Zone "a" = 3 ft							
	Width ft	Span ft	Area ft ²	Zone	Max GCp	Min GCp	Max P psf	Min P psf
window	2.00	5.00	10.00	4	0.900	-0.990	55.232	-59.835
window	2.00	5.00	10.00	5	0.900	-1.260	55.232	-73.643
doors	3.00	7.00	21.00	4	0.849	-0.939	52.613	-57.216
doors	3.00	7.00	21.00	5	0.849	-1.158	52.613	-68.404

Qp: Pressure at top of Parapet = 51.80 psf

Parapets Components & Cladding (Para 6.5.12.4.4)Parapet Case A

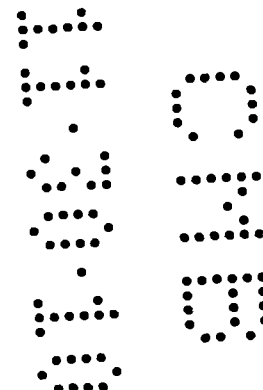
Case A: Total Force on Parapet - Edge (Wall Zone 4 + Roof Zone 2) = 139.85 psf

Case A: Total Force on Parapet - Corner (Wall Zone 5 + Roof Zone 3) = 191.65 psf

Parapet Case B

Case B: Total Force on Parapet - Edge Zone 4 (Back + Front) = 97.90 psf

Case B: Total Force on Parapet - Corner Zone 5 (Back + Front) = 111.88 psf



MECAWind Version 2.0.2.8 per ASCE 7-05

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Date : 5/6/2010 Project No. :
 Company Name : Ingelmo Associates Designed By : IA
 Address : 250 Catalonia Avenue 301 Description : wind pressure-Moss crop Assoc
 City : Coral Gables Customer Name : 3193 Royal Palm Residence
 State : Florida Proj Location : Miami Beach
 File Location: C:\Program Files\MECAWind\moss crop3193royal.wnd

User Input Data:

Basic Wind Speed(V)	= 146.00 mph	Structure Type	= Building
Structural Category	= II	Exposure Category	= C
Natural Frequency	= N/A	Flexible Structure	= No
Importance Factor	= 1.00	Kd Directional Factor	= 0.85
Alpha	= 9.50	Zg	= 900.00 ft
At	= 0.11	Bt	= 1.00
Am	= 0.15	Bm	= 0.65
Cc	= 0.20	l	= 500.00 ft
Epsilon	= 0.20	Zmin	= 15.00 ft
Slope of Roof	= 0 : 12	Slope of Roof(Theta)	= .00 Deg
Ht: Mean Roof Ht	= 24.00 ft	Type of Roof	= Monoslope
RHt: Ridge Ht	= 24.00 ft	Eht: Eave Height	= 24.00 ft
OH: Roof Overhang at Eave	= .00 ft	Roof Area	= 1500.00 ft^2
Bldg Length Along Ridge	= 25.00 ft	Bldg Width Across Ridge	= 60.00 ft

Main Wind Force Resisting System(MWFRS)

Figure 6-5 Internal Pressure Coefficients for Buildings, GCpi

Enclosed Bldg +GCpi = 0.18 Enclosed Bldg -GCpi = -0.18

Figure 6-6 External Pressure Coefficients

Cp - Loads on Main Wind-Force Resisting Systems(Method 2)

MWFRS-Wall Pressures Perpendicular to Ridge

Wall	Cp	+GCpi(psf)	-GCpi(psf)
Leeward Walls	-0.28	-18.17	-2.52
Side Walls	-0.70	-33.69	-18.04

Top Elev ft	Bot Elev ft	Kz	Kzt	qz psf	-Windward Wall- +GCpi	Total -GCpi	Shear Kip	Moment K-ft
24.00	14.00	0.94	1.00	43.47	21.73	39.91	4.0	8.0
20.00	10.00	0.90	1.00	41.83	20.62	38.79	13.7	96.4
10.00	.00	0.85	1.00	39.37	18.95	34.60	23.0	279.7

Note: 1) Total = Leeward GCpi + Windward GCpi

2) Shear and Moment are sum of forces (Leeward+Windard) acting at 'Bot Elev'

Roof - Dist from Windward Edge	Cp	+GCpi(psf)	-GCpi(psf)
0.0 ft to 12.0 ft	-0.90	-41.08	-25.43
12.0 ft to 24.0 ft	-0.90	-41.08	-25.43
24.0 ft to 48.0 ft	-0.50	-26.30	-10.65
48.0 ft to 60.0ft	-0.30	-18.91	-3.26

MWFRS-Wall Pressures Parallel to Ridge

Wall	Cp	+GCpi(psf)	-GCpi(psf)
------	----	------------	------------

Leeward Walls	-0.50	-26.30	-10.65
Side Walls	-0.70	-33.69	-18.04

Top Elev ft	Bot Elev ft	Kz	Kzt	qz psf	-Windward +GCpi	Wall- -GCpi	Total +/-GCpi	Shear Kip	Moment K-ft
24.00	14.00	0.94	1.00	43.47	21.73	37.38	48.03	11.5	23.1
20.00	10.00	0.90	1.00	41.83	20.62	36.27	46.92	39.7	279.1
10.00	.00	0.85	1.00	39.37	18.95	34.60	45.25	66.8	811.7

Note: 1) Total = Leeward GCpi + Windward GCpi

2) Shear and Moment are sum of forces (Leeward+Windard) acting at 'Bot Elev'

Roof - Dist from Windward Edge	Cp	+GCpi (psf)	-GCpi (psf)
0.0 ft to 12.0 ft	-1.03	-45.84	-30.19
12.0 ft to 24.0 ft	-0.72	-34.28	-18.63
24.0 ft to 25.0 ft	-0.68	-33.10	-17.45

Parapet:

Qp: Pressure at Top of Parapet = 44.03 psf
 Type of Parapet = Solid Top Elev. of Parapet = 1.50 ft
 Parapet-Windward = 66.04 psf Parapet-Leeward Press = -44.03 psf

Low Rise Bldg Provisions per Fig. 6-10: MWFRS Transverse Direction

Building Surface	GCpf	+GCpi	-GCpi	qh psf	Min P psf	Max P psf
1	0.4	0.18	-0.18	43.47	9.56	25.21
2	-0.69	0.18	-0.18	43.47	-37.82	-22.17
3	-0.37	0.18	-0.18	43.47	-23.91	-8.26
4	-0.29	0.18	-0.18	43.47	-20.43	-4.78
5	-0.45	0.18	-0.18	43.47	-27.39	-11.74
6	-0.45	0.18	-0.18	43.47	-27.39	-11.74
1E	0.61	0.18	-0.18	43.47	18.69	34.34
2E	-1.07	0.18	-0.18	43.47	-54.34	-38.69
3E	-0.53	0.18	-0.18	43.47	-30.86	-15.21
4E	-0.43	0.18	-0.18	43.47	-26.52	-10.87
1T	*	*	*	*	2.39	6.30
2T	*	*	*	*	-9.45	-5.54
3T	*	*	*	*	-5.98	-2.06
4T	*	*	*	*	-5.11	-1.20

Low Rise Bldg Provisions per Fig. 6-10: MWFRS Longitudinal Direction

Building Surface	GCpf	+GCpi	-GCpi	qh psf	Min P psf	Max P psf
1	0.4	0.18	-0.18	43.47	9.56	25.21
2	-0.69	0.18	-0.18	43.47	-37.82	-22.17
3	-0.37	0.18	-0.18	43.47	-23.91	-8.26
4	-0.29	0.18	-0.18	43.47	-20.43	-4.78
5	-0.45	0.18	-0.18	43.47	-27.39	-11.74
6	-0.45	0.18	-0.18	43.47	-27.39	-11.74
1E	0.61	0.18	-0.18	43.47	18.69	34.34
2E	-1.07	0.18	-0.18	43.47	-54.34	-38.69
3E	-0.53	0.18	-0.18	43.47	-30.86	-15.21
4E	-0.43	0.18	-0.18	43.47	-26.52	-10.87
1T	*	*	*	*	2.39	6.30
2T	*	*	*	*	-9.45	-5.54
3T	*	*	*	*	-5.98	-2.06
4T	*	*	*	*	-5.11	-1.20

Wind Pressure on Components and Cladding

Description	Width of Pressure Coefficient Zone "a" = 3 ft							
	Width ft	Span ft	Area ft^2	Zone	Max GCp	Min GCp	Max P psf	Min P psf
window	2.00	5.00	10.00	4	0.900	-0.990	46.947	-50.859
window	2.00	5.00	10.00	5	0.900	-1.260	46.947	-62.596
doors	3.00	7.00	21.00	4	0.849	-0.939	44.721	-48.633
doors	3.00	7.00	21.00	5	0.849	-1.158	44.721	-58.144
joists	2.00	13.00	56.33	1	0.225	-0.925	17.602	-48.031
joists	2.00	13.00	56.33	2	0.225	-1.274	17.602	-63.225
joists	2.00	13.00	56.33	3	0.225	-1.524	17.602	-74.059

Qp: Pressure at top of Parapet = 44.03 psf

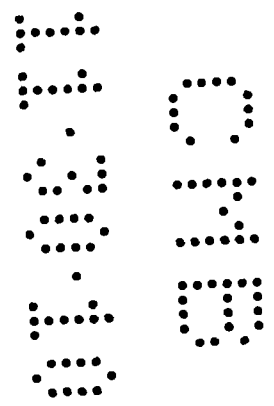
Parapets Components & Cladding (Para 6.5.12.4.4)

Parapet Case A

Case A: Total Force on Parapet - Edge (Wall Zone 4 + Roof Zone 2) = 118.88 psf
 Case A: Total Force on Parapet - Corner (Wall Zone 5 + Roof Zone 3) = 162.90 psf

Parapet Case B

Case B: Total Force on Parapet - Edge Zone 4 (Back + Front) = 83.21 psf
 Case B: Total Force on Parapet - Corner Zone 5 (Back + Front) = 95.10 psf



ASCE 7-2005; DESIGN OF EXTERIOR WALLS, SECOND FLOOR ADDITION.

FOR $V = 1.4 \text{ K}$
 $I = 1.0$
 $K_1 = 1.0$

EXTERIOR WALL SYSTEM: USE $\{2 \times 11\}$ SF

PROVIDED = 57.3 PSF ZONE 4

" - 68.4 PSF ZONE 5

FOR 16" O.C.

$$w = 68.4 \times \frac{16}{12} = 92 \text{ LB/FT}$$

$\ell = 16' - 6"$

$$M = \frac{92 \text{ LB/FT} (16.5)^2}{8} = 1268 \text{ LB-FT} = 15215 \text{ LB-M.}$$

Connection
 for
 Bottom

FOR 6" C STUDS; USE DIETRICH, 16646 CWN.

$$M_x = 18991 \text{ LB-M.}$$

OK

FOR PARTIAL COMPRESSION — 0.205 POWER DRAWN REINFORCING,

14646 INTO 1/4" STEEL — 485 LB/FT REINFORCING.

$$\text{TOTAL SHEAR TRANSFER/FT} = 68.4 \times \frac{11}{2} = 376 \text{ LB/FT}$$

$$2 - 0.205 @ 8" O.C. = \text{PROVIDED} = 2 \times 485 \times \frac{12}{8} = 1455 \text{ LB/FT}$$

OK

ROOF C-STUDS:
 @ 16" O.C.

DL = 25 PSF

LL = 30 PSF

$$M = \frac{(16)(15)(13)^2}{8} = 1550 \text{ LB-FT} = 18600 \text{ LB-M.}$$

WIND: - 63.3 PSF

USE 8" C JOIST.

CWN - 16646

$$M = 23909 \text{ LB-M.}$$

$$\text{UPPER } M = 21,396 \text{ LB-M.} \quad \text{OK}$$

Physical Structural Properties—6" C Studs

MEMBER							GROSS SECTION PROPERTIES							EFFECTIVE SECTION PROPERTIES						TORSIONAL PROPERTIES							
CODE	GAGE	Flange (in.)	t _f (in.)	Design Thickness (in.)	Minimum Thickness (in.)	Weight (lb./ft.)	Area (in. ²)	I _x (in. ⁴)	S _x (in. ³)	I _y (in. ⁴)	S _y (in. ³)	R _y (in.)	33 KSI			50 KSI			J _x (in. ⁴)	J _y (in. ⁴)	I _{xy} (in. ⁴)	R _p (in.)	I _p (in. ⁴)	I _{p0} (in. ⁴)	I _{p1} (in. ⁴)	I _{p2} (in. ⁴)	
													I _x (in. ⁴)	S _x (in. ³)	M _x (in. ³ ·lb.)	I _y (in. ⁴)	S _y (in. ³)	M _y (in. ³ ·lb.)									
CWN	20	1-3/8	3/8	0.0346	0.0329	1.047	0.320	1.597	0.532	2.234	0.070	0.065	0.466	1.597	0.513	10145							-0.820	0.128	0.496	2.425	0.886
	18	1-3/8	3/8	0.0451	0.0428	1.351	0.413	2.043	0.681	2.224	0.087	0.082	0.460	2.043	0.681	15016							-0.812	0.279	0.625	2.412	0.887
	16	1-3/8	3/8	0.0566	0.0538	1.682	0.514	2.519	0.840	2.214	0.105	0.098	0.452	2.519	0.840	18991	2.519	0.819	27587				-0.804	0.550	0.758	2.398	0.888
	14	1-3/8	3/8	0.0713	0.0677	2.091	0.639	3.094	1.031	2.200	0.125	0.117	0.443	3.094	1.031	24034	3.094	1.031	35649				-0.793	1.082	0.911	2.380	0.889
CSJ	20	1-5/8	1/2	0.0346	0.0329	1.132	0.346	1.808	0.603	2.286	0.118	0.097	0.583	1.808	0.538	11516							-1.088	0.138	0.855	2.598	0.825
	18	1-5/8	1/2	0.0451	0.0428	1.461	0.447	2.316	0.772	2.277	0.148	0.123	0.577	2.316	0.772	16764							-1.080	0.302	1.082	2.585	0.826
	16	1-5/8	1/2	0.0566	0.0538	1.821	0.557	2.862	0.954	2.268	0.181	0.149	0.570	2.862	0.954	21175	2.862	0.928	30753				-1.071	0.595	1.318	2.572	0.826
	14	1-5/8	1/2	0.0713	0.0677	2.266	0.693	3.524	1.175	2.255	0.218	0.180	0.561	3.524	1.174	26767	3.524	1.174	39811				-1.061	1.173	1.595	2.555	0.828
	12	1-5/8	1/2	0.1017	0.0966	3.174	0.970	4.841	1.614	2.234	0.287	0.237	0.544	4.841	1.613	38533	4.841	1.613	57017				-1.034	3.344	2.102	2.521	0.832
	10	1-5/8	1/2	0.1242	0.1180	3.833	1.171	5.773	1.924	2.220	0.333	0.275	0.533	5.773	1.924	47354	5.773	1.924	69858				-1.013	6.025	2.423	2.498	0.835
CSW	20	2	5/8	0.0346	0.0329	1.246	0.381	2.090	0.697	2.343	0.211	0.148	0.745	2.051	0.610	12049							-1.474	0.152	1.583	2.867	0.736
	18	2	5/8	0.0451	0.0428	1.609	0.492	2.683	0.894	2.336	0.268	0.188	0.739	2.683	0.874	17261							-1.467	0.333	2.011	2.855	0.736
	16	2	5/8	0.0566	0.0538	2.006	0.613	3.322	1.107	2.327	0.329	0.230	0.732	3.322	1.107	24082	3.322	1.004	30057				-1.459	0.656	2.462	2.842	0.737
	14	2	5/8	0.0713	0.0677	2.499	0.764	4.099	1.366	2.316	0.400	0.280	0.723	4.099	1.366	30395	4.099	1.337	44391				-1.448	1.293	2.995	2.826	0.737
	12	2	5/8	0.1017	0.0966	3.507	1.072	5.656	1.885	2.297	0.536	0.375	0.707	5.656	1.885	43625	5.656	1.885	64788				-1.421	3.694	3.995	2.792	0.741
	10	2	5/8	0.1242	0.1180	4.239	1.296	6.762	2.254	2.284	0.628	0.440	0.696	6.762	2.253	53499	6.762	2.253	79242				-1.399	6.663	4.646	2.768	0.744
CSE	20	2-1/2	5/8	0.0346	0.0329	1.359	0.415	2.399	0.800	2.403	0.359	0.206	0.930	2.267	0.636	12577							-1.905	0.166	2.650	3.204	0.647
	18	2-1/2	5/8	0.0451	0.0428	1.756	0.537	3.082	1.027	2.396	0.458	0.263	0.923	3.064	0.918	18149							-1.897	0.363	3.377	3.193	0.647
	16	2-1/2	5/8	0.0566	0.0538	2.192	0.670	3.822	1.274	2.389	0.563	0.323	0.917	3.822	1.159	22909	3.636	1.069	32018				-1.889	0.716	4.148	3.180	0.647
	14	2-1/2	5/8	0.0713	0.0677	2.733	0.835	4.726	1.575	2.379	0.688	0.395	0.908	4.726	1.522	33141	4.667	1.343	40195				-1.878	1.414	5.068	3.164	0.648
	12	2-1/2	5/8	0.1017	0.0966	3.840	1.174	6.540	2.180	2.361	0.932	0.535	0.891	6.540	2.179	49029	6.540	2.090	70069				-1.851	4.045	6.818	3.130	0.650
	10	2-1/2	5/8	0.1242	0.1180	4.646	1.420	7.834	2.611	2.349	1.100	0.631	0.880	7.834	2.610	59976	7.834	2.589	88453				-1.828	7.302	7.981	3.104	0.653
CSS	20	3	1	0.0346	0.0329	1.557	0.476	2.831	0.944	2.439	0.656	0.340	1.174	2.489	0.634	12533							-2.619	0.190	5.724	3.767	0.516
	18	3	1	0.0451	0.0428	2.014	0.616	3.644	1.215	2.433	0.841	0.435	1.169	3.436	0.997	19704							-2.613	0.417	7.317	3.756	0.516
	16	3	1	0.0566	0.0538	2.516	0.769	4.526	1.509	2.426	1.039	0.537	1.162	4.486	1.366	26999	4.308	1.262	37788				-2.605	0.822	9.020	3.745	0.516
	14	3	1	0.0713	0.0677	3.141	0.960	5.608	1.869	2.417	1.279	0.661	1.154	5.608	1.841	36376	5.597	1.701	50920				-2.596	1.625	11.072	3.730	0.516
	12	3	1	0.1017	0.0966	4.422	1.351	7.790	2.597	2.401	1.753	0.906	1.139	7.790	2.595	57233	7.790	2.564	84479				-2.570	4.658	15.030	3.697	0.517
	10	3	1	0.1242	0.1180	5.357	1.637	9.353	3.118	2.390	2.085	1.077	1.129	9.353	3.115	69959	9.353	3.115	104299				-2.547	8.420	17.708	3.671	0.519
CSX	20	3-1/2	1	0.0346	0.0329	1.670	0.511	3.139	1.046	2.480	0.939	0.423	1.356	2.661	0.652	12876							-3.085	0.204	8.130	4.184	0.456
	18	3-1/2	1	0.0451	0.0428	2.162	0.661	4.043	1.348	2.474	1.205	0.543	1.351	3.697	1.044	20634							-3.079	0.447	10.408	4.174	0.456
	16	3-1/2	1	0.0566	0.0538	2.701	0.826	5.026	1.675	2.467	1.492	0.671	1.344	4.863	1.442	28491	4.643	1.324	39634				-3.071	0.883	12.851	4.163	0.456
	14	3-1/2	1	0.0713	0.0677	3.374	1.031	6.234	2.078	2.459	1.840	0.827	1.336	6.234	1.947	38465	6.070	1.760	52689				-3.062	1.746	15.806	4.148	0.455
	12	3-1/2	1	0.1017	0.0966	4.754	1.453	8.675	2.892	2.443	2.533	1.138	1.320	8.675	2.888	62765	8.675	2.537	75972				-3.036	5.008	21.543	4.115	0.456
	10	3-1/2	1	0.1242	0.1180	5.763	1.761	10.425	3.475	2.433	3.022	1.358	1.310	10.425	3.473	76680	10.425	3.336	110054				-3.013	9.059	25.455	4.088	0.457

6" Track

TSB	20	1-1/4" LEG	0.0346	0.0329	0.956	0.292	1.393	0.459	2.183	0.034	0.032	0.340	1.239	0.326	6435								-0.524	0.117	0.231	2.271	0.947
	18	1-1/4" LEG	0.0451	0.0428	1.242	0.379	1.808	0.594	2.183	0.043	0.041	0.338	1.688	0.505	9970								-0.522	0.257	0.298	2.270	0.947
	16	1-1/4" LEG	0.0566	0.0538	1.657	0.476	2.267	0.742	2.183	0.054	0.052	0.336	2.206	0.671	13257								-0.520	0.509	0.371	2.269	0.948
	14	1-1/4" LEG	0.0713	0.0677	1.953	0.597	2.843	0.926	2.182	0.067	0.064	0.334	2.843	0.891	17611								-0.517	1.011	0.461	2.267	0.948
	12	1-1/4" LEG	0.1017	0.0966	2.778	0.849	4.050	1.306	2.184	0.092	0.089	0.328	4.050	1.305	29367								-0.509	2.926	0.643	2.267	0.950
	10	1-1/4" LEG	0.1242	0.1180	3.389	1.036	4.955	1.686	2.187	0.109	0.107	0.324	4.955	1.585	36426								-0.501	5.327	0.773	2.267	0.951

NOTE: Reference typical notes on page 4.

MECAWind Version 2.0.2.8 per ASCE 7-05

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Date : 5/15/2010 Project No. :
Company Name : Ingelmo Associates Designed By : IA
Address : 250 Catalonia Avenue 301 Description : wind pressure-Mossdrop Assoc
City : Coral Gables Customer Name : 3193 Royal Palm Residence
State : Florida Proj Location : Miami Beach
File Location: C:\Program Files\MECAWind\mossdrop3193royal.wnd

User Input Data:

Basic Wind Speed(V)	=	146.00 mph	Structure Type	=	Building
Structural Category	=	II	Exposure Category	=	C
Natural Frequency	=	N/A	Flexible Structure	=	No
Importance Factor	=	1.00	Kd Directional Factor	=	1.00
Alpha	=	9.50	Zg	=	900.00 ft
At	=	0.11	Bt	=	1.00
Am	=	0.15	Bm	=	0.65
Cc	=	0.20	l	=	500.00 ft
Epsilon	=	0.20	Zmin	=	15.00 ft
Slope of Roof	=	0 : 12	Slope of Roof(Theta)	=	.00 Deg
Ht: Mean Roof Ht	=	24.00 ft	Type of Roof	=	Monoslope
RHt: Ridge Ht	=	24.00 ft	Eht: Eave Height	=	24.00 ft
OH: Roof Overhang at Eave	=	4.00 ft	Roof Area	=	1600.00 ft ²
Bldg Length Along Ridge	=	25.00 ft	Bldg Width Across Ridge	=	60.00 ft

Main Wind Force Resisting System(MWFRS)

Figure 6-5 Internal Pressure Coefficients for Buildings, GCpi

Enclosed Bldg +GCpi = 0.18 Enclosed Bldg -GCpi = -0.18

Figure 6-6 External Pressure Coefficients

Cp - Loads on Main Wind-Force Resisting Systems(Method 2)

MWFRS-Wall Pressures Perpendicular to Ridge

Wall		Cp	+GCpi (psf)	-GCpi (psf)					
-----		-----	-----	-----					
Leeward Walls		-0.28	-21.38	-2.97					
Side Walls		-0.70	-39.63	-21.22					
Top Elev	Bot Elev	Kz	Kzt	qz	-Windward Wall-	Total	Shear	Moment	
ft	ft			psf	+GCpi	-GCpi	+/-GCpi	Kip	K-ft

24.00	14.00	0.94	1.00	51.14	25.57	43.98	46.95	4.7	9.4
20.00	10.00	0.90	1.00	49.21	24.26	42.67	45.64	16.1	113.4
10.00	.00	0.85	1.00	46.32	22.29	40.70	43.67	27.0	329.0

Note: 1) Total = Leeward GCpi + Windward GCpi

2) Shear and Moment are sum of forces (Leeward+Windard) acting at 'Bot Elev'

Roof - Dist from Windward Edge	Cp	+GCpi (psf)	-GCpi (psf)
0.0 ft to 12.0 ft	-0.90	-48.33	-29.92
12.0 ft to 24.0 ft	-0.90	-48.33	-29.92
24.0 ft to 48.0 ft	-0.50	-30.94	-12.53
48.0 ft to 60.0ft	-0.30	-22.25	-3.84

MWFRS-Wall Pressures Parallel to Ridge

Wall	Cp	+GCpi (psf)	-GCpi (psf)
------	----	-------------	-------------

MWFRS

Leeward Walls	-0.50	-30.94	-12.53
Side Walls	-0.70	-39.63	-21.22

Top Elev ft	Bot Elev ft	Kz	Kzt	qz psf	-Windward +GCpi	Wall- -GCpi	Total +/-GCpi	Shear Kip	Moment K-ft
24.00	14.00	0.94	1.00	51.14	25.57	43.98	56.51	13.6	27.1
20.00	10.00	0.90	1.00	49.21	24.26	42.67	55.20	46.7	328.4
10.00	.00	0.85	1.00	46.32	22.29	40.70	53.23	78.6	954.9

Note: 1) Total = Leeward GCpi + Windward GCpi
 2) Shear and Moment are sum of forces (Leeward+Windard) acting at 'Bot Elev'

Roof - Dist from Windward Edge	Cp	+GCpi(psf)	-GCpi(psf)
0.0 ft to 12.0 ft	-1.03	-53.93	-35.52
12.0 ft to 24.0 ft	-0.72	-40.33	-21.92
24.0 ft to 25.0 ft	-0.68	-38.94	-20.53

Parapet:

Qp: Pressure at Top of Parapet = 51.8 psf
 Type of Parapet = Solid Top Elev. of Parapet = 1.50 ft
 Parapet-Windward = 77.70 psf Parapet-Leeward Press = -51.80 psf

Low Rise Bldg Provisions per Fig. 6-10: MWFRS Transverse Direction

Building Surface	GCpf	+GCpi	-GCpi	qh psf	Min P psf	Max P psf
1	0.4	0.18	-0.18	51.14	11.25	29.66
2	-0.69	0.18	-0.18	51.14	-44.49	-26.08
3	-0.37	0.18	-0.18	51.14	-28.13	-9.72
4	-0.29	0.18	-0.18	51.14	-24.04	-5.63
5	-0.45	0.18	-0.18	51.14	-32.22	-13.81
6	-0.45	0.18	-0.18	51.14	-32.22	-13.81
1E	0.61	0.18	-0.18	51.14	21.99	40.40
2E	-1.07	0.18	-0.18	51.14	-63.93	-45.51
3E	-0.53	0.18	-0.18	51.14	-36.31	-17.90
4E	-0.43	0.18	-0.18	51.14	-31.20	-12.79
1T	*	*	*	*	2.81	7.42
2T	*	*	*	*	-11.12	-6.52
3T	*	*	*	*	-7.03	-2.43
4T	*	*	*	*	-6.01	-1.41

Low Rise Bldg Provisions per Fig. 6-10: MWFRS Longitudinal Direction

Building Surface	GCpf	+GCpi	-GCpi	qh psf	Min P psf	Max P psf
1	0.4	0.18	-0.18	51.14	11.25	29.66
2	-0.69	0.18	-0.18	51.14	-44.49	-26.08
3	-0.37	0.18	-0.18	51.14	-28.13	-9.72
4	-0.29	0.18	-0.18	51.14	-24.04	-5.63
5	-0.45	0.18	-0.18	51.14	-32.22	-13.81
6	-0.45	0.18	-0.18	51.14	-32.22	-13.81
1E	0.61	0.18	-0.18	51.14	21.99	40.40
2E	-1.07	0.18	-0.18	51.14	-63.93	-45.51
3E	-0.53	0.18	-0.18	51.14	-36.31	-17.90
4E	-0.43	0.18	-0.18	51.14	-31.20	-12.79
1T	*	*	*	*	2.81	7.42
2T	*	*	*	*	-11.12	-6.52
3T	*	*	*	*	-7.03	-2.43
4T	*	*	*	*	-6.01	-1.41

Wind Pressure on Components and Cladding

Description	Width of Pressure Coefficient Zone "a" = 3 ft							
	Width ft	Span ft	Area ft ²	Zone	Max GCp	Min GCp	Max P psf	Min P psf
window	2.00	5.00	10.00	4	0.900	-0.990	55.232	-59.835
window	2.00	5.00	10.00	5	0.900	-1.260	55.232	-73.643
doors	3.00	7.00	21.00	4	0.849	-0.939	52.613	-57.216
doors	3.00	7.00	21.00	5	0.849	-1.158	52.613	-68.404
overhang	2.00	5.00	10.00	1H	0.300	-1.700	15.342	-86.939
overhang	2.00	5.00	10.00	2H	0.300	-1.700	15.342	-86.939
overhang	2.00	5.00	10.00	3H	0.300	-2.800	15.342	-143.194

Qp: Pressure at top of Parapet

= 51.80 psf

Parapets Components & Cladding (Para 6.5.12.4.4)**Parapet Case A**

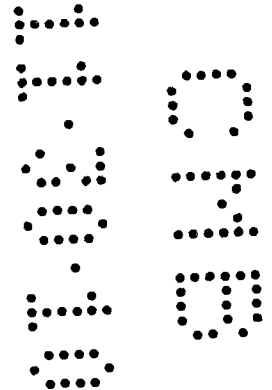
Case A: Total Force on Parapet - Edge (Wall Zone 4 + Roof Zone 2) = 139.85 psf

Case A: Total Force on Parapet - Corner (Wall Zone 5 + Roof Zone 3) = 191.65 psf

Parapet Case B

Case B: Total Force on Parapet - Edge Zone 4 (Back + Front) = 97.90 psf

Case B: Total Force on Parapet - Corner Zone 5 (Back + Front) = 111.88 psf



For 4'-0" overhang: neglect any DL

WIND
LOAD = 87.0 psf

$$\therefore M_{\text{at support}} = 87 \times 4 \text{ ft} \times \frac{4}{2} = 696 \text{ lb-ft} = 8352 \text{ lb-in/ft}$$

FOR MOMENT; Full penetration weld @ riber section.

$$S_{\text{reqd}} = \frac{8352 \times 2}{15000} = 1.12 \text{ in}^3$$

try a C4x4.5

$$S_x = 1.83 \text{ in}^3$$

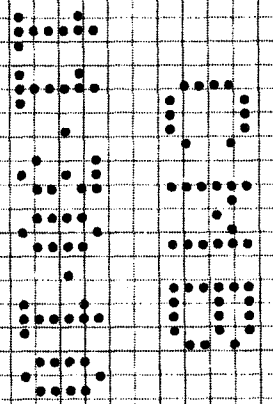
$$I = 3.65 \text{ in}^4$$

CHECK DEFLECTION @ end =

$$\Delta = \frac{0.149 (0.696 \times 2) (4)^2}{3.65} = 0.091 \text{ in.}$$

(OK)

Fig
Lip
Bottom



• FOR EXHAUST COMPRESSOR/DOOR OPENING: USE $P = 73.7 \text{ PSF}$

① EAST OPENING (EXISTING GARAGE DOOR)

$$W = 73.7 (4 \text{ FT.}) = 0.45 \text{ KLF.}$$

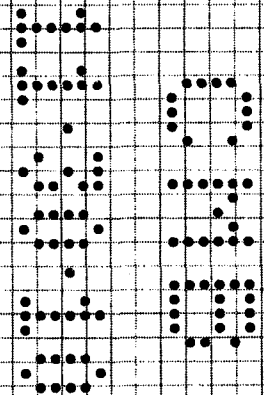
$$M = 0.45 (7.5)^2 / 8 = 3.2 \text{ K-FT}$$

$$S_x = \frac{3.2 (12)}{0.66 (40)} = 1.3$$

USE HSS $6 \times 2 \times 1/4$ $S_x = 4.60 \text{ in}^3$
 (10)

$$\Delta = \frac{1006 (3.2) (7.5)^2}{13.8} = 0.08 \text{ in}$$

(10)



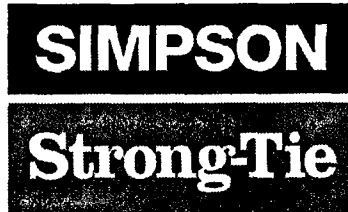
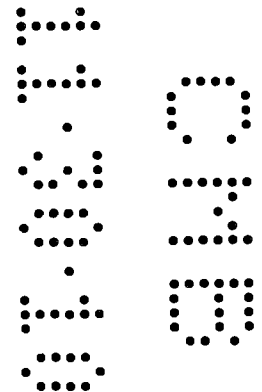
SIM200802

Used for Florida State Wide Product Approval #

FL11473

Products on this Report which are approved:

Product	FL#	Product	FL#
DETAL20	11473.1	LGUM210-2-SDS	11473.12
FGTR	11473.2	LGUM210-3-SDS	11473.13
FGTRE	11473.2	LGUM210-4-SDS	11473.14
FGTRHL	11473.2	LGUM26-2-SDS	11473.12
FGTRHR	11473.2	LGUM26-3-SDS	11473.13
HETA12	11473.3	LGUM26-4-SDS	11473.14
HETA16	11473.3	LGUM28-2-SDS	11473.12
HETA20	11473.3	LGUM28-3-SDS	11473.13
HETA24	11473.4	LGUM28-4-SDS	11473.14
HETA40	11473.4	LGUM410-SDS	11473.15
HETAL12	11473.5	LGUM46-SDS	11473.15
HETAL16	11473.5	LGUM48-SDS	11473.15
HETAL20	11473.5	LTA1	11473.16
HGAM10	11473.6	META12	11473.17
HGUM5.25	11473.7	META14	11473.17
HGUM5.50	11473.7	META16	11473.17
HGUM7.00	11473.8	META18	11473.17
HGUM7.25	11473.8	META20	11473.18
HGUM9.00	11473.8	META22	11473.18
HHETA12	11473.9	META24	11473.18
HHETA16	11473.9	META40	11473.18
HHETA20	11473.9	MSTAM24	11473.19
HHETA24	11473.10	MSTAM36	11473.19
HHETA40	11473.10	MSTCM40	11473.19
HM9	11473.6	MSTCM60	11473.19
HTSM16	11473.11	MTSM16	11473.2
HTSM20	11473.11	MTSM20	11473.2



SIMPSON STRONG-TIE COMPANY, INC



Jax Apex Technology, Inc.
FBPE CA NO. 7547
4745 Sutton Park Court, Suite 402
Jacksonville, FL 32224/ 904/821-5200

Evaluation reports are the opinion of the engineer who prepared the report, based on the findings, and in no way constitute or imply approval by a local building authority. The engineer, in review of the data submitted, finds that, in his opinion, the product, material, system, or method of construction specifically identified in this report conforms with or is a suitable alternate to that specified in the Florida Building Code, **SUBJECT TO THE LIMITATIONS IN THIS REPORT**

Jeffrey P. Arneson, an employee of Jax Apex Technology, Inc. (Apex Technology), is the authorized evaluating engineer of this report. Apex Technology is the prime professional, as defined in Florida Rule 61G-30.002, authorized to sell the engineering services performed by Jeffrey P. Arneson, and is in no way acting, nor attempting to act, as an approved evaluation entity. Neither Jeffrey P. Arneson, nor any other employee of Apex Technology, has performed calculations or testing for the products listed in this report. This evaluation is based solely upon the review, under the direct supervision of Jeffrey P. Arneson, of testing and/or calculations submitted by the manufacturer.

The capacities listed in this report are based on the limiting capacities as determined from the substantiating data. We reviewed the substantiating data to a degree that allowed us to determine whether or not the work performed is consistent with the intended use of the product, and that the methods used are in compliance with, or meet the intent of, the Florida Building Code. All test reports were prepared by an approved testing laboratory.

REPORT NO.: SIM200802

CATEGORY: Structural Components

SUB CATEGORY: Metal Connectors

SUBMITTED BY:

SIMPSON STRONG-TIE COMPANY, INC.
5956 W. LAS POSITAS BOULEVARD
PLEASANTON, CA 94588

1. CERTIFICATION OF INDEPENDENCE:

Jeffrey P. Arneson, the Florida engineer who prepared this report, and Apex Technology have no financial interest in the manufacturing, sales, or distribution of the products included in this report. Jeffrey P. Arneson and Apex Technology comply with all criteria as stated in Florida Administrative Code Chapter 9B-72.110.

2. PRODUCT NAME

Truss to Wall Connectors
MTSM16, MTSM20, HTSM16, HTSM20, HM9, HGAM10

Embedded Truss Anchors

META12, META14, META16, META18, META20, META22, META24, META40,
HETA12, HETA16, HETA20, HETA24, HETA40, HETAL12, HETAL16, HETAL20,
HHETA12, HHETA16, HHETA20, HHETA24, HHETA40, LTA1, DETAL

Wood to Masonry Straps

MSTAM24, MSTAM36, MSTCM40, MSTCM60

Girder Tiedowns

FGTR, FGTRH, FGTRHL, FGTRHR

Wood to Masonry Hangers

LGUM26-2, LGUM28-2, LGUM210-2, LGUM26-3, LGUM28-3, LGUM210-3,
LGUM26-4, LGUM28-4, LGUM210-4, LGUM46, LGUM48, LGUM410,
HGUM5.25, HGUM5.50, HGUM7.00, HGUM7.25, HGUM9.00

3. SCOPE OF EVALUATION

Load Evaluation as a Structural Component using the requirements of the *Florida Building Code, Building*.

4. DESCRIPTION:

4.1 MTSM16 and MTSM20 Twist Straps for Wood to Masonry. The MTSM16 and MTSM20 are used to anchor wood trusses, rafters, or beams to masonry or concrete walls. The MTSM fastens to the wood member with 10d common nails, and fastens to the wall with either ¼×2¼" Titen Masonry Screws for a masonry wall, or ¼×1¾" Titen Masonry Screws for a concrete wall. These connectors are manufactured from 16 gauge steel meeting ASTM A653 SS Grade 33. The galvanized coating complies with the G90 requirements of ASTM A653. Twist strap fastener schedules, dimensions and allowable loads are shown in Table 1. See Figure 1 for additional details of twist straps for masonry.

4.2 HTSM16 and HTSM20 Twist Straps for Wood to Masonry. The HTSM16 and HTSM20 are used to anchor wood trusses, rafters, or beams to masonry or concrete walls. The HTSM fastens to the wood member with 10d common nails, and fastens to the wall with either ¼×2¼" Titen Masonry Screws for a masonry wall, or ¼×1¾" Titen Masonry Screws for a concrete wall. These connectors are manufactured from 14 gauge steel meeting ASTM A653 SS Grade 50, Class 1. The galvanized coating complies with the G90 requirements of ASTM A653. Twist strap fastener schedules, dimensions and allowable loads are shown in Table 1. See Figure 1 for additional details of twist straps for masonry.

4.3 HM9 Hurricane Tie. The HM9 is used to anchor wood trusses, rafters, or beams to masonry or concrete walls. The HM9 fastens to the wood member with Simpson ¼ X 1½" SDS screws (provided with the part), and fastens to the wall with either ¼×2¼" Titen Masonry Screws for a masonry wall, or ¼×1¾" Titen Masonry Screws for a concrete wall. The HM9 is manufactured from 18 gauge steel meeting ASTM A653 SS Grade 33. The galvanized coating complies with the G90 requirements of ASTM A653. Hurricane tie fastener schedule, dimensions and allowable loads are shown in Table 1. See Figure 2 for additional details of the HM9.

4.4 HGAM10 Hurricane Gusset Angle. The HGAM10 is used to anchor wood trusses, rafters, or beams to masonry or concrete walls. The HGAM10 fastens to the wood member with Simpson ¼ X 1½" SDS screws (provided with the part), and fastens to the wall with ¼×2¼" Titen Masonry Screws. Allowable loads are shown in Table 2. The HGAM10 is manufactured from 14 gauge steel meeting ASTM A653 SS Grade 33. The galvanized coating complies with the G90 requirements of ASTM A653. Angle

fastener schedule, dimensions and allowable loads are shown in Table 1. See Figure 3 for additional details of the HGAM10.

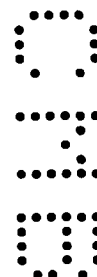
4.5 META, HETA, HETAL, HHETA Embedded Truss Anchors. Embedded Truss Anchors are used to anchor a wood member (usually a truss) to a masonry or concrete wall. Embedded truss anchors fasten to a single-ply wood truss with 10d×1½ nails or to a multiple-ply truss with 16d common nails. They are embedded in the masonry or concrete wall to a depth indicated on the side of the anchor (4" for META, HETA, and HETAL, and 5⅛" for HHETA). The strap portion of the anchor is 1½" wide. The anchors are manufactured from steel meeting ASTM A653 SS Grade 50, Class 1, with the exception of the truss seat of the HETAL which is manufactured from steel meeting ASTM A653 SS Grade 33. Steel thickness is as specified in Table 9. The galvanized coating complies with the G90 requirements of ASTM A653. Embedded truss anchor fastener schedule, dimensions and allowable loads are shown in Table 2 for single installations and Table 3 for double installations. See Figures 4 and 6 for additional details of single and double embedded truss anchors.

4.6 LTA1 Lateral Truss Anchor. The LTA1 is used to anchor wood trusses, rafters, or beams to masonry or concrete walls. The LTA1 fastens to the wood member with 10d×1½" common nails and has legs which are embedded into the wall system. Allowable loads are shown in Table 2. The LTA1 is manufactured from 18 gauge steel meeting ASTM A653 SS Grade 33. The galvanized coating complies with the G90 requirements of ASTM A653. Truss anchor fastener schedule, dimensions and allowable loads are shown in Table 2. See Figure 5 for additional details of the LTA1.

4.7 DETAL20 Double Embedded Truss Anchor. The DETAL is a high capacity connector used to anchor single-ply wood trusses or rafters to masonry or concrete walls. The DETAL fastens to the wood members with 10d×1½" nails. They are embedded in the masonry or concrete wall to a depth of 4½ inches. The strap portion of the anchor is 1½" wide. The strap anchors are manufactured from steel meeting ASTM A653 SS Grade 50, Class 1, and the truss seat is manufactured from steel meeting ASTM A653 SS Grade 33. The strap anchors are 16 ga. steel and the seat is 18 ga. steel. The galvanized coating complies with the G90 requirements of ASTM A653. Embedded truss anchor fastener schedule, dimensions and allowable loads are shown in Table 3. See Figure 6 for additional details of the DETAL.

4.8 MSTAM, MSTCM Wood to Masonry Strap Tie. The MSTAM and MSTCM Strap Tie models are used to provide a tension connection between wood members and a masonry or concrete structure. The MSTAM Straps are 1¼" wide for use on 1½" and larger members. They are installed with 10d common nails to the wood and either ¼×2¼" Titen Masonry Screws to masonry, or ¼×1¼" Titen Masonry Screws to concrete. The MSTCM Strap is 3" wide for use on doubled 2-by or single 4-by and larger members. They are installed with 16d sinker nails to the wood and either ¼×2¼" Titen Masonry Screws to masonry, or ¼×1¼" Titen Masonry Screws to concrete. The MSTCM Strap has countersunk nail slots for a lower nailing profile and coined edges for safer handling. The straps are manufactured from steel meeting ASTM A653 SS Grade 50, Class 1, of a thickness as specified in Table 4. The galvanized coating complies with the G90 requirements of ASTM A653. Masonry strap fastener schedule, dimensions and allowable loads are shown in Table 4. See Figure 7 for additional details of wood to masonry straps.

4.9 FGTR, FGTRH, FGTRHL, FGTRHR Face Mount Girder Tie Down. The FGTR is a non-pitch specific girder tie down that can be used in new construction or retrofit applications to tie down a girder truss or beam to a concrete or masonry wall. The



FGTR can be installed in a single application or can be doubled to achieve a higher uplift capacity. The FGTR fastens to the truss with Simpson Strong-Tie SDS $\frac{1}{4}$ " wood screws, and fastens to the masonry or concrete wall with Simpson Strong-Tie $\frac{1}{2}$ " diameter Titen HD fasteners, which are supplied with the connector. The FGTR uses a strap that is oriented with its flat dimension parallel to the truss for placement at the end of walls when the truss is parallel to the wall. The FGTRHL and FGTRHR are designed with the flat dimension of the strap at a 45 degree angle to the truss for anchorage of hip trusses. The FGTR straps are manufactured from 7 gauge ASTM A-1011 Grade 33 steel having $F_y=33\text{ksi}$ and $F_u=52\text{ksi}$ and the plates are made from 3 gauge ASTM A-1011 Grade 33 steel having $F_y=33\text{ksi}$ and $F_u=52\text{ksi}$. They have a gray powder coat finish. Girder tie down fastener schedule, dimensions and allowable loads are shown in Table 5. See Figure 8 for additional details of face mount girder tie down connectors.

4.10 LGUM, HGUM Masonry Girder Hangers. LGUM and HGUM girder hangers are high capacity joist hangers that are used to connect wood girders and beams to masonry or concrete walls. The LGUM and HGUM use Simpson Strong-Tie Titen HD anchors to attach to the masonry or concrete wall, and Strong-Drive Screws (which are provided) to attach the beam to the hanger. To install the Titen HD anchors, drill holes of the same diameter as the anchor into the masonry or concrete. Holes should be $\frac{1}{2}$ " deeper than the specified Titen HD length. The SDS screws are installed best with a low-speed $\frac{1}{2}$ " drill and a $\frac{3}{8}$ " hex head driver. Predrilling holes for SDS screws is not required. The LGUM is manufactured from galvanized steel complying with ASTM A 653 SS Grade 40 with minimum yield and tensile strengths of 40 and 55 ksi (275 and 379 MPa), respectively. The HGUM is manufactured from galvanized steel complying with ASTM A 653 SS Grade 33 with minimum yield and tensile strengths of 33 and 45 ksi (228 and 310 MPa), respectively. The galvanized coating complies with the G90 requirements of ASTM A 653. The steel thicknesses are 0.099" (2.51 mm) for the LGUM, and 0.173" (4.39 mm) for the HGUM. Girder hanger fastener schedule, dimensions and allowable loads are shown in Table 6. See Figure 9 for additional details of masonry girder hangers.

5. MATERIALS

5.1 Steel. Steel specifications for each product listed in this evaluation report shall be as indicated in the previous section.

5.2 Wood. Wood members to which these connectors are fastened shall be solid sawn lumber, glued-laminated lumber, or structural composite lumber having dimensions consistent with the connector dimensions shown in Tables 1 through 6. Unless otherwise noted, lumber shall be Southern Pine or Douglas Fir-Larch having a minimum specific gravity of 0.50. Where indicated by SPF, lumber shall be Spruce-Pine-Fir having a minimum specific gravity of 0.42.

5.3 Nails and Bolts. Unless noted otherwise, nails shall be common nails. Nails shall comply with ASTM F 1667 and shall have the minimum bending yield strengths F_{yb} :

Common Nail Pennyweight	Nail Shank Diameter (inch)	F_{yb} (psi)
10d	0.148	90,000
16d sinker	0.148	90,000
16d	0.162	90,000

Fasteners for galvanized connectors in pressure-preservative treated wood shall be hot-dipped zinc coated galvanized steel with coating weights in accordance with ASTM A153. Fasteners for stainless steel connectors shall be stainless steel.

5.4 Concrete/Masonry. Concrete and Masonry design specifications shall be the stricter of the specifications by the engineer of record, the Florida Building Code minimum standards, the following, or as noted in the report:

Material	Specification	Minimum Compressive Strength
Concrete, f_c	-	2500 psi
Masonry, f_m	ASTM E447	1500 psi
Masonry Unit	ASTM C90	1900 psi
Mortar	ASTM C270 Type S	1800 psi (or by proportions)
Grout	ASTM C476	2000 psi (or by proportions)

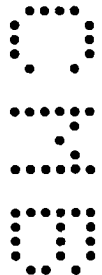
6. INSTALLATION

Installation shall be in accordance with this report and the most recent edition of the Simpson Strong-Tie *Wood Construction Connectors* catalog. The Information in this report supercedes any conflicting information between information provided in this report and the catalogue.

7. SUBSTANTIATING DATA

Test data submitted by Testing Engineers Inc. and Product Testing, Inc., and signed and sealed calculations performed by Jeremy Gilstrap, P.E., and Samuel Hensen, P.E., performed in accordance with the 2007 Florida and Residential Building Codes.

Product	Test Number	Date Tested
MTSM	B845, H756	2/27/90, 12/6/00
HTSM	02-3667	1/30/02
HM9 Uplift	02-3793	5/15/02
HM9 F1 Direction	02-3793	5/15/02
HM9 F2 Direction	02-3793	5/15/02
HGAM10 Uplift	02-3884	7/29/02
HGAM10 F1 Direction	H046	3/25/99
HGAM10 F2 Direction	H141	6/22/99
META Uplift	02-3674, 02-3802, 02-3861, 04-4675	6/4/02, 6/8/02, 7/24/02, 2/8/04
META F1	02-3674, 02-3802	6/4/02, 6/8/02
META F2	02-3674, 02-3802, 02-3861	6/4/02, 6/8/02, 7/24/02
HETA Uplift	02-3803, 02-3862, 04-4676	6/10/02, 7/26/02, 2/8/04
HETA F1	02-3803	6/10/02
HETA F2	02-3803, 02-3862	6/10/02, 7/26/02,
HHETA Uplift	02-3676, 02-3863, 04-4674	6/4/02, 7/29/02, 2/7/04
HHETA F1	02-3676	6/4/02
HHETA F2	02-3676, 02-3863	6/4/02, 7/29/02
HETAL Uplift	02-3803, 02-3862, 04-4676	6/10/02, 7/26/02, 2/8/04
HETAL F1	D793	3/17/94



Florida Building Code, Residential 2007 Edition

R101.2.1	Scope
R4407	HVHZ Masonry
R4408	HVHZ Steel
R4409	HVHZ Wood

11. ALLOWABLE LOADS:

The tables that follow reference the allowable loads for the aforementioned products.

TABLE 1 ALLOWABLE LOADS AND FASTENERS FOR TRUSS TO MASONRY OR CONCRETE WALL CONNECTORS							
Model No.	Ga	Length (in.)	Fasteners			Allowable Uplift Loads (160)	
			Truss/Rafter	CMU (Titen)	Concrete (Titen)	Southern Pine/Douglas Fir-Larch	Spruce-Pine-Fir
MTSM16	16	16	7-10d	4- $\frac{1}{4}$ ×2 $\frac{1}{4}$	4- $\frac{1}{4}$ ×1 $\frac{3}{4}$	875	755
MTSM20	16	20	7-10d	4- $\frac{1}{4}$ ×2 $\frac{1}{4}$	4- $\frac{1}{4}$ ×1 $\frac{3}{4}$	875	755
HTSM16	14	16	8-10d	4- $\frac{1}{4}$ ×2 $\frac{1}{4}$	4- $\frac{1}{4}$ ×1 $\frac{3}{4}$	1175	1010
HTSM20	14	20	10-10d	4- $\frac{1}{4}$ ×2 $\frac{1}{4}$	4- $\frac{1}{4}$ ×1 $\frac{3}{4}$	1175	1010
HM9 ²	18	-	4-SDS $\frac{1}{4}$ ×1 $\frac{1}{2}$	5- $\frac{1}{4}$ ×2 $\frac{1}{4}$	5- $\frac{1}{4}$ ×1 $\frac{3}{4}$	805	690
HGAM10 ^{3,6}	14	-	4-SDS $\frac{1}{4}$ ×1 $\frac{1}{2}$	4- $\frac{1}{4}$ ×2 $\frac{1}{4}$	4- $\frac{1}{4}$ ×2 $\frac{1}{4}$	850	850

Notes:

1. Loads include a 60% load duration increase on the fastener capacity for wind loading where allowed by the Florida Building Code. Loads do not include a stress increase on the strength of the steel. No further increases are permitted. Reduce loads where other loads govern.
2. HM9 allowable F1 load shall be 635 lbs (DFL/SYP) & 545 lbs (SFP), and allowable F2 load shall be 200 lbs (DFL/SYP) & 170 lbs (SFP).
3. HGAM10 allowable F1 load shall be 1005 lbs (DFL/SYP) & 870 lbs (SFP), and allowable F2 load shall be 1105 lbs (DFL/SYP) & 950 lbs (SFP).
4. Allowable loads for the HGAM10 are for one connector. A minimum rafter thickness of 2 $\frac{1}{2}$ " must be used when framing anchors are installed on each side of the joist or truss.

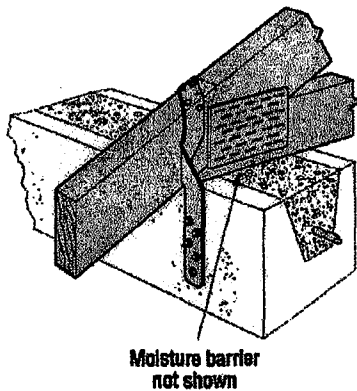


Figure 1
Typical MTSM/HTSM Application

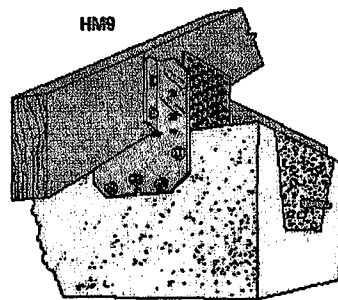


Figure 2
Typical HM9 Installation

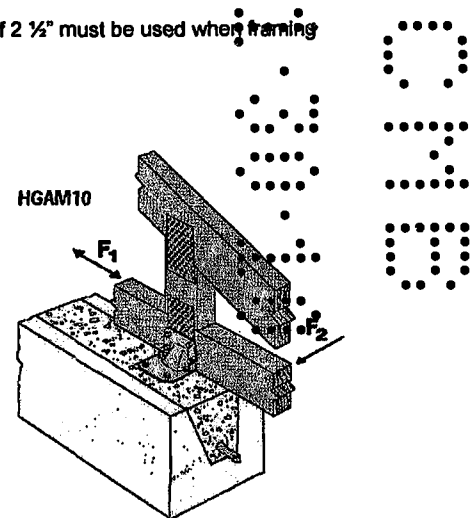


Figure 3
Typical HGAM10 Installation

ESR-2549

Used for Florida State Wide Product
Approval #

FL10655

Products on this Report which are
approved:

Product	FL#	Product	FL#
HHUS210-2	10655.1	HU36	10655.42
HHUS26-2	10655.2	HU38	10655.43
HHUS28-2	10655.3	HU410	10655.44
HHUS410	10655.4	HU412	10655.45
HHUS46	10655.5	HU414	10655.46
HHUS48	10655.6	HU416	10655.47
HSUL210-2	10655.7	HU44	10655.48
HSUL214-2	10655.8	HU46	10655.49
HSUL26-2	10655.9	HU48	10655.50
HSUL410	10655.10	HU610	10655.51
HSUL414	10655.11	HU612	10655.52
HSUL46	10655.12	HU614	10655.53
HSUR210-2	10655.13	HU616	10655.54
HSUR214-2	10655.14	HU66	10655.55
HSUR26-2	10655.15	HU68	10655.56
HSUR410	10655.16	HUC210-2	10655.57
HSUR414	10655.17	HUC210-3	10655.58
HSUR46	10655.18	HUC212-2	10655.59
HU210	10655.19	HUC212-3	10655.60
HU210-2	10655.20	HUC214-2	10655.61
HU210-3	10655.21	HUC214-3	10655.62
HU212	10655.22	HUC216-2	10655.63
HU212-2	10655.23	HUC216-3	10655.64
HU212-3	10655.24	HUC24-2	10655.65
HU214	10655.25	HUC26-2	10655.66
HU214-2	10655.26	HUC28-2	10655.67
HU214-3	10655.27	HUC310	10655.68
HU216-3	10655.29	HUC310-2	10655.69
HU24-2	10655.30	HUC312	10655.70
HU26	10655.31	HUC312-2	10655.71
HU26-2	10655.32	HUC314	10655.72
HU28	10655.33	HUC314-2	10655.73
HU28-2	10655.34	HUC316	10655.74
HU310	10655.35	HUC34	10655.75
HU310-2	10655.36	HUC36	10655.76
HU312-2	10655.37	HUC38	10655.77
HU314	10655.38	HUC410	10655.78
HU314-2	10655.39	HUC412	10655.79
HU316	10655.40	HUC414	10655.80
HU34	10655.41	HUC416	10655.81

SIMPSON

Strong-Tie

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SIMPSON STRONG-TIE COMPANY,
INC

Product	FL#	Product	FL#
HUC44	10655.82	SUL210	10655.122
HUC46	10655.83	SUL210-2	10655.123
HUC48	10655.84	SUL214	10655.124
HUC610	10655.85	SUL24	10655.125
HUC612	10655.86	SUL26	10655.126
HUC614	10655.87	SUL26-2	10655.127
HUC616	10655.88	SUL414	10655.128
HUC66	10655.89	SUR210	10655.129
HUC68	10655.90	SUR210-2	10655.130
HUS210	10655.91	SUR214	10655.131
HUS210-2	10655.92	SUR24	10655.132
HUS212-2	10655.93	SUR26	10655.133
HUS26	10655.94	SUR26-2	10655.134
HUS26-2	10655.95	SUR414	10655.135
HUS28	10655.96	U210	10655.136
HUS28-2	10655.97	U210-2	10655.137
HUS410	10655.98	U210-3	10655.138
HUS412	10655.99	U210R	10655.139
HUS46	10655.100	U214	10655.140
HUS48	10655.101	U24	10655.141
LU210	10655.102	U24-2	10655.142
LU24	10655.103	U24R	10655.143
LU26	10655.104	U26	10655.144
LU28	10655.105	U26-2	10655.145
LUS210	10655.106	U26R	10655.146
LUS210-2	10655.107	U310	10655.147
LUS214-2	10655.108	U314	10655.148
LUS24	10655.109	U34	10655.149
LUS24-2	10655.110	U36	10655.150
LUS26	10655.111	U410	10655.151
LUS26-2	10655.112	U410R	10655.152
LUS28	10655.113	U414	10655.153
LUS28-2	10655.114	U44	10655.154
LUS410	10655.115	U44R	10655.155
LUS414	10655.116	U46	10655.156
LUS44	10655.117	U46R	10655.157
LUS46	10655.118	U610	10655.158
LUS48	10655.119	U610R	10655.159
MUS26	10655.120	U66	10655.160
MUS28	10655.121	U66R	10655.161

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DIVISION: 06—WOOD AND PLASTICS
Section: 06090—Wood and Plastic Fastenings

REPORT HOLDER:

SIMPSON STRONG-TIE COMPANY, INC.
5956 WEST LAS POSITAS BOULEVARD
PLEASANTON, CALIFORNIA 94588
(800) 925-5099
www.strongtie.com

EVALUATION SUBJECT:

SIMPSON STRONG-TIE FACE-MOUNT HANGERS FOR WOOD FRAMING

1.0 EVALUATION SCOPE

Compliance with the following codes:

- # 2006 *International Building Code*® (IBC)
- # 2006 *International Residential Code*® (IRC)
- # Other Codes (see Section 8.0)

Properties evaluated:

Structural

2.0 USES

The Simpson Strong-Tie face-mount hangers described in this report are used as wood framing connectors in accordance with Section 2304.9.3 of the IBC. The products may also be used in structures regulated under the IRC when an engineered design is submitted in accordance with Section R301.1.3 of the IRC.

3.0 DESCRIPTION

3.1 General:

The Simpson Strong-Tie face-mount hangers described in this report are U-shaped hangers that have prepunched holes for the installation of nails into the face of the supporting wood header or beam or ledger.

3.1.1 LU Series Hangers: The LU series hangers are formed from No. 20 gage galvanized steel. See Table 1 for hanger dimensions, required fasteners, and allowable loads; and Figure 1 for a drawing of a typical LU series hanger.

3.1.2 U Series Hangers: The U series hangers are formed from No. 16 gage galvanized steel. See Table 2 for the hanger dimensions, required fasteners, and allowable loads; and Figure 2 for a drawing of a typical U series hanger.

3.1.3 HU/HUC Series Hangers: The HU and HUC series hangers are formed from No. 14 gage galvanized steel. HU

hangers having a width equal to or greater than 2⁹/₁₆ inches (65 mm) are available with concealed flanges and are specified with the model designation HUC. See Table 3 for the hanger dimensions, required fasteners, and allowable loads; and Figure 3a for a drawing of a typical HU series hanger and Figure 3b for an HUC hanger.

3.1.4 LUS Series Hangers: The LUS series hangers are formed from No. 18 gage galvanized steel. The hangers have prepunched holes for the installation of nails that are driven at a 45-degree angle through the joist and into the header, which is described as double shear nailing in the installation instructions. See Table 4 for the hanger dimensions, required fasteners, and allowable loads; and Figure 4 for a drawing of a typical LUS series hanger.

3.1.5 MUS Joist Hanger: The MUS series hangers are formed from No. 18 gage galvanized steel. The U-shaped portion of the hangers has prepunched holes for the installation of joist nails that are driven at an angle through the joist and into the header, which is described as double shear nailing in the installation instructions. See Table 5 for the hanger dimensions, required fasteners, and allowable loads; Figure 5 for a drawing of a typical MUS series hanger.

3.1.6 HUS Series Hangers: The HUS series hangers are formed from No. 14 gage galvanized steel with the exception of the HUS26, HUS28 and HUS210 hangers, which are formed from No. 16 gage galvanized steel. The hangers have prepunched holes for the installation of joist nails that are driven at an angle through the joist and into the header, which is described as double shear nailing in the installation instructions. See Table 6 for the hanger dimensions, required fasteners, and allowable loads; and Figure 6 for a drawing of a typical HUS series hanger.

3.1.7 HHUS Series Hangers: The HHUS series hangers are formed from No. 14 gage galvanized steel. The hangers have prepunched holes for the installation of joist nails that are driven at an angle through the joist and into the header, which is described as double shear nailing in the installation instructions. See Table 7 for the hanger dimensions, required fasteners, and allowable loads; Figure 7 for a drawing of a typical HHUS series hanger.

3.1.8 SUR/L Series Hangers: The SUR/L series hangers are formed from No. 16 gage galvanized steel. SUR and SUL are mirror-image identical hangers, skewed at 45 degrees right and left, respectively. See Table 8 for the hanger dimensions, required fasteners, and allowable loads; and Figure 8 for a drawing of typical SUR/L series hangers.

3.1.9 HSUR/L Series Hangers: The HSUR/L series hangers are formed from No. 14 gage galvanized steel. HSUR and HSUL are mirror-image identical hangers, skewed at 45 degrees right and left, respectively. See Table 9 for the hanger dimensions, required fasteners, and allowable loads; and Figure 9 for a drawing of typical HSUR/L series hangers.

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3.2 Materials:

3.2.1 Steel: The hangers described in this report are manufactured from galvanized steel complying with ASTM A 653, SS designation, Grade 33, with a minimum yield strength, F_y , of 33,000 psi (227 MPa) and a minimum tensile strength, F_u , of 45,000 psi (310 MPa). Minimum base-metal thicknesses for the hangers in this report are as follows:

NOMINAL THICKNESS (gauge)	MINIMUM BASE-METAL THICKNESS (Inch)
No. 14	0.0685
No. 16	0.0555
No. 18	0.0445
No. 20	0.0335

For SI: 1 inch = 25.4 mm.

The hangers have a minimum G90 zinc coating specification in accordance with ASTM A 653. Some models (designated with a model number ending with Z) are available with a G185 zinc coating specification in accordance with ASTM A 653. Some models (designated with a model number ending with HDG) are available with a hot-dip galvanization, also known as "batch" galvanization, in accordance with ASTM A 123, with a minimum specified coating weight of 2.0 ounces of zinc per square foot of surface area (600 g/m²), total for both sides. Model numbers in this report do not include the Z or HDG ending, but the information shown applies. The lumber treater or holder of this report (Simpson Strong-Tie Company) should be contacted for recommendations on minimum corrosion resistance of steel connectors in contact with the specific proprietary preservative treated or fire retardant treated lumber.

3.2.2 Wood: Wood members with which the connectors are used must be either sawn lumber or engineered lumber having a minimum specific gravity of 0.50 (minimum equivalent specific gravity of 0.50 for engineered lumber), and having a maximum moisture content of 19 percent (16 percent for engineered lumber) except as noted in Section 4.1. The thickness of the supporting wood member (header, beam, or ledger) must be equal to or greater than the length of the fasteners specified in the tables in this report, or as required by wood member design, whichever is greater.

3.2.3 Fasteners: Nails used for hangers described in this report must comply with ASTM F 1667 and have the following minimum fastener dimensions and bending yield strengths (F_y):

COMMON NAIL SIZE	SHANK DIAMETER (Inch)	FASTENER LENGTH (Inches)	F_y (psi)
10d x 1 1/2	0.148	1 1/2	90,000
10d	0.148	3	90,000
16d x 2 1/2	0.162	2 1/2	90,000
16d	0.162	3 1/2	90,000

For SI: 1 inch = 25.4 mm, 1 psi = 6.895 kPa.

Fasteners used in contact with preservative treated or fire retardant treated lumber must comply with IBC Section 2304.9.5 or IRC Section R319.3, as applicable. The lumber treater or this report holder (Simpson Strong-Tie Company) should be contacted for recommendations on minimum corrosion resistance of fasteners and connection capacities of fasteners used with the specific proprietary preservative treated or fire retardant treated lumber.

4.0 DESIGN AND INSTALLATION

4.1 Design:

The tabulated allowable loads shown in this report are based on allowable stress design (ASD) and include the load

duration factor, C_D , corresponding with the applicable loads in accordance with the NDS.

Tabulated allowable loads apply to products connected to wood used under dry conditions and where sustained temperatures are 100°F (37.8°C) or less. When products are installed to wood having a moisture content greater than 19 percent (16 percent for engineered wood products), or where wet service is expected, the allowable loads must be adjusted by the wet service factor, C_M , specified in the NDS. When connectors are installed in wood that will experience sustained exposure to temperatures exceeding 100°F (37.8°C), the allowable loads in this report must be adjusted by the temperature factor, C_t , specified in the NDS.

Connected wood members must be analyzed for load-carrying capacity at the connection in accordance with the NDS.

4.2 Installation:

Installation of the connectors must be in accordance with this evaluation report and the manufacturer's published installation instructions. In the event of a conflict between this report and the manufacturer's published installation instructions, this report governs.

5.0 CONDITIONS OF USE

The Simpson Strong-Tie face-mount hangers for wood-framed construction described in this report comply with, or are suitable alternatives to what is specified in, those codes listed in Section 1.0 of this report, subject to the following conditions:

- 5.1 The connectors must be manufactured, identified and installed in accordance with this report and the manufacturer's published installation instructions. A copy of the instructions must be available at the jobsite at all times during installation.
- 5.2 Calculations showing compliance with this report must be submitted to the code official. The calculations must be prepared by a registered design professional where required by the statutes of the jurisdiction in which the project is to be constructed.
- 5.3 Adjustment factors noted in Section 4.1 and the applicable codes must be considered, where applicable.
- 5.4 Connected wood members and fasteners must comply, respectively, with Sections 3.2.2 and 3.2.3 of this report.
- 5.5 Use of connectors with preservative treated or fire retardant treated lumber must be in accordance with Section 3.2.1 of this report. Use of fasteners with preservative treated or fire retardant treated lumber must be in accordance with Section 3.2.3 of this report.

6.0 EVIDENCE SUBMITTED

Data in accordance with the ICC-ES Acceptance Criteria for Joist Hangers and Similar Devices (AC13), dated October 2006 (corrected March 2007).

7.0 IDENTIFICATION

The products described in this report are identified with a die-stamped label indicating the name of the manufacturer, (Simpson Strong-Tie), the model number, and the number of an index evaluation report (ESR-2523) that is used as an identifier for the products recognized in this report.

8.0 OTHER CODES

8.1 Evaluation Scope:

In addition to the codes referenced in Section 1.0, the products in this report were evaluated for compliance with the requirements of the following codes:

- # 2003 *International Building Code*® (2003 IBC)
- # 2003 *International Residential Code*® (2003 IRC)
- # 2000 *International Building Code*® (2000 IBC)
- # 2000 *International Residential Code*® (2000 IRC)
- # 1997 *Uniform Building Code*™ (UBC)

The products described in this report comply with, or are suitable alternatives to what is specified in, the codes listed above, subject to the provisions of Sections 8.2 through 8.7.

8.2 Uses:

8.2.1 2003 IBC, 2003 IRC, 2000 IBC, and 2000 IRC: See Section 2.0 of this report.

8.2.2 UBC: Replace the information in Section 2.0 with the following: Simpson Strong-Tie face-mount hangers are used as wood framing connectors in accordance with Section 2318.4.8 of the UBC.

8.3 Description:

8.3.1 2003 IBC and 2003 IRC: See Section 3.0 of this report.

8.3.2 2000 IBC and 2000 IRC: See Section 3.0 of this report, except modify Section 3.2.3 of this report to reference Section R323.3 of the IRC.

8.3.3 UBC: See Section 3.0 of this report, except modify the first sentence in the last paragraph of Section 3.2.3 as follows: Fasteners used in contact with preservative treated

or fire retardant treated lumber must, as a minimum, comply with UBC Section 2304.3.

8.4 Design and Installation: 2003 IBC, 2003 IRC, 2000 IBC, 2000 IRC, and UBC:

See Section 4.0 of his report.

8.5 Conditions of Use:

8.5.1 2003 IBC, 2003 IRC 2000 IBC, and 2000 IRC: The Simpson Strong-Tie products described in this report comply with, or are suitable alternatives to what is specified in, those codes listed in Section 8.0, subject to the same conditions of use indicated in Section 5.0 of this report.

8.5.2 UBC: The Simpson Strong-Tie products described in this report comply with, or are suitable alternatives to what is specified in, the UBC, subject to the same conditions of use indicated in Section 5.0 of this report, except the last sentence of Section 5.5 is replaced with the following: Fasteners used in contact with preservative treated or fire retardant treated lumber must, as a minimum, comply with UBC Section 2304.3.

8.6 Evidence Submitted: 2003 IBC, 2003 IRC 2000 IBC, 2000 IRC, and UBC:

See Section 6.0 of this report.

8.7 Identification: 2003 IBC, 2003 IRC 2000 IBC, 2000 IRC, and UBC:

See Section 7.0 of this report.

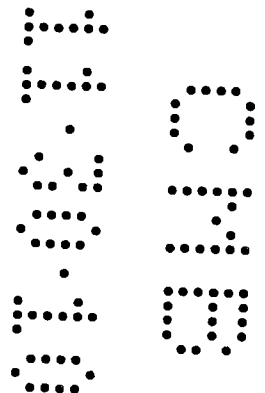


TABLE 4—ALLOWABLE LOADS FOR THE LUS SERIES JOIST HANGERS

MODEL NO.	DIMENSIONS ¹ (Inches)			COMMON NAILS ² (Quantity-Type)		ALLOWABLE LOADS ^{3,4} (lbs)			
	W	H	B	Header	Joist ⁵	Uplift ⁶	Download		
						$C_D = 1.33$ or $= 1.6$	$C_D = 1.0$	$C_D = 1.15$	$C_D = 1.25$
LUS24	$1\frac{9}{16}$	$3\frac{1}{8}$	$1\frac{3}{4}$	4-10d	2-10d	465	640	735	800
LUS26	$1\frac{9}{16}$	$4\frac{3}{4}$	$1\frac{3}{4}$	4-10d	4-10d	930	830	955	1,040
LUS28	$1\frac{9}{16}$	$6\frac{5}{8}$	$1\frac{3}{4}$	6-10d	4-10d	930	1,055	1,215	1,320
LUS210	$1\frac{9}{16}$	$7\frac{13}{16}$	$1\frac{3}{4}$	8-10d	4-10d	930	1,275	1,465	1,595
LUS24-2	$3\frac{1}{8}$	$3\frac{1}{8}$	2	4-16d	2-16d	440	765	880	960
LUS26-2	$3\frac{1}{8}$	$4\frac{15}{16}$	2	4-16d	4-16d	1,140	1,000	1,150	1,250
LUS28-2	$3\frac{1}{8}$	7	2	6-16d	4-16d	1,140	1,265	1,455	1,585
LUS210-2	$3\frac{1}{8}$	$8\frac{15}{16}$	2	8-16d	6-16d	1,710	1,765	2,030	2,210
LUS214-2	$3\frac{1}{8}$	$10\frac{15}{16}$	2	10-16d	6-16d	1,710	2,030	2,335	2,540
LUS44	$3\frac{9}{16}$	3	2	4-16d	2-16d	440	765	880	960
LUS46	$3\frac{9}{16}$	$4\frac{3}{4}$	2	4-16d	4-16d	1,140	1,000	1,150	1,250
LUS48	$3\frac{9}{16}$	$6\frac{3}{4}$	2	6-16d	4-16d	1,140	1,265	1,455	1,585
LUS410	$3\frac{9}{16}$	$8\frac{3}{4}$	2	8-16d	6-16d	1,710	1,765	2,030	2,210
LUS414	$3\frac{9}{16}$	$10\frac{3}{4}$	2	10-16d	6-16d	1,710	2,030	2,335	2,540

For **St**: 1 inch = 25.4 mm, 1 lbf = 4.45 N.

1. Refer to Figure 4 (this page) for definitions of hanger nomenclature (W, H, B).
2. Refer to Section 3.2.3 of this report for nail sizes and required minimum physical properties.
3. Tabulated allowable loads must be selected based on duration of load as permitted by the applicable building code.
4. When LUS Series hangers support joists, they provide torsional resistance, which is defined as a moment of not less than 75 pounds (334 N) times the depth of the joist at which the lateral movement of the top or bottom of the joist with respect to the vertical position of the joist is 0.125 inch (3.2 mm).
5. Joist nails must be driven at a 45 degree angle through the joist into the header/beam (double shear nailing) to achieve the tabulated loads.
6. Allowable uplift loads have been increased for wind or earthquake loading with no further increase is allowed. The allowable uplift loads must be reduced when other load durations govern.

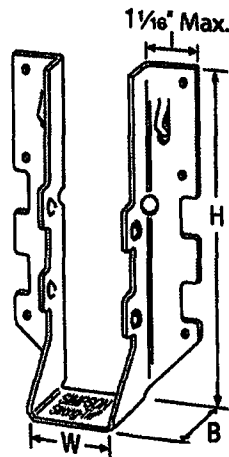
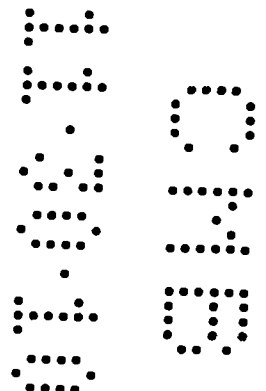


FIGURE 4—LUS SERIES HANGER



PARAPET DESIGN (MEAN ROOF HEIGHT < 60 FT)
 MAIN WIND-FORCE RESISTING SYSTEM

ASCE 7 04

Sec. 6.5.12.2.4

146 MPH WIND

CATAGORY I=

1

EXPOSURE = C

Kd=0.85

Kzt =

1.00

Roof slope= 0 in./Ft.

90%

GCpi=+ 0

No interior pressure

PRESSURE = $Qz(GCp+GCpi)$

Elevation top of parapet =

24 FT

Kz

= 0.94

0.211 $2/\alpha$

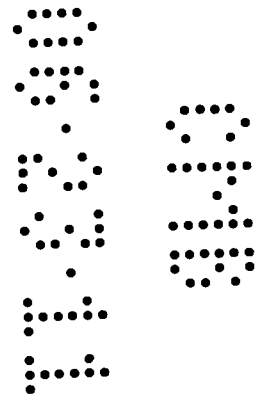
Q = 43.4696 PSF

900 Zg

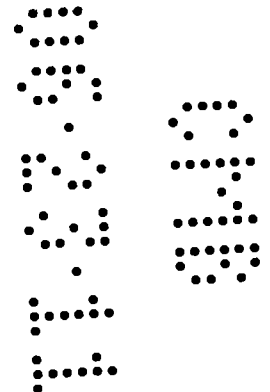
$Pp = Qp GCpn = 43.5 \times 1.5 = 65$ Windward
 $43.5 \times -1.0 = -43$ Leeward



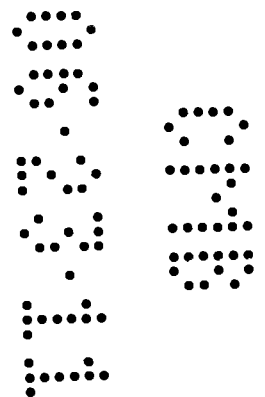
Total Shear Force = 90.5254 Lb/Ft



Action	Comments	By	Date
DN	B1100804 1. Provide Drawings of existing Building. Including :roof and floor framing. Verify if roof framing is designed for a Roof Terrace (LL=100 PSF) or a Roof only (LL= 30 psf) ; indicate what is to be removed and what is to be reinforced 1.1 Provide roof and floor framing plans that are fully dimensioned and to scale 2. New beam over bedroom 109 is not shown on section 1/A08 Is this beam replacing a Bearing wall ??? 3. Design calc.s for w8X18 call for lateral support at 24" but there is no lateral support for 16 ft 3.1 Provide design Calc.s and details for connections of 8X18 and HSS to column and to walls 3.1 check existing foundation for the added loads 4. Provide design Calc.s and details for guard rails 5. Provide design Calc.s and details for framing connections with #10 TEK screws 6. Provide design Calc.s and details for roof diaphragm; Include wind load on parapets per ASCE 7 section 6.15.12.2.4. Use Diaphragm tables per APA, ISANTA or other Approved Agency 6.1 Provide design Calc.s and details for shear connections between roof & walls 7. End wall in second floor is not a shear wall. Design wind bracing an design connection to floor diaphragm and vertical reactions to channel C12X25 8. Provide design Calc.s and details first floor diaphragm and connections to transfer the increased shear to the end wall ; 9. provide design calc.s revised end as a shear wall and check the existing foundation for increased compression 10 Provide design Calc.s and details for 4 ft cantilever roof on A/S2.1 10.1 Check 6X6 tube and its supports for torsion 10.2 Cantilever is 4ft 6in on A06 Continued below	RL Valdes	12/23/2010



DN	continued review of B1100804 11 Dwg. S2 Indicates Concrete repairs. If repairs are part of this permit Provide a report in or letter as required FBC 2007-Existing Building Section . 506 by a Registered Engineer or Architect after a preliminary inspection, describing existing conditions of the building and indicating if the structure is in: a) Dangerous Condition, b) Substantial Structural Damage, c) Less than Substantial Structural Damage 11.1 A special inspector form signed by the owner and signed and sealed by Registered Engineer or Architect shall be submitted. This Special Inspector will inspect damage after the loose material is removed and before the damage is covered. The Special Inspector shall determine if reinforcing is to be replaced and if the extent of damage exceeds expectation. 1.2. A Florida Licensed Professional Engineer or Registered Architect shall prepare. plans and/or elevations indicating locations of observed damage or deterioration and describing extent of damage observed. 11.3 A Florida Licensed Professional Engineer or Registered Architect shall prepare a procedure and repair details required for various degrees of damage 11.4. A special inspector form signed by the owner and signed and sealed by Registered Engineer or Architect shall be submitted. This Special Inspector will inspect damage after the loose material is removed and before the damage is covered. The Special Inspector shall determine if reinforcing is to be replaced and if the extent of damage exceeds expectation. 12 Detail 4/S2 all splices must be per ACI 318, Section 12.2.3	RL Valdes	12/23/2010
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Civil/
Structural
Engineering
Design
Consulting
C.A. No. 26864

pingelmo@ingelmo.biz
www.ingelmo.biz

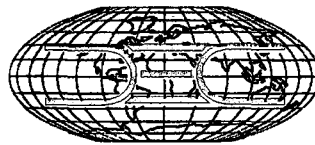
City of Miami Beach Building Department
3193 Royal Palm Avenue, Miami Beach

The following are our responses to the structural comments-

1. Architect to provide existing drawings. 1.1- Additional dimensions added, also refer to Architectural drawings. Existing 2x12 will support the one family residence live load requirement of 60psf.
2. This is replacing a wood bearing partition. Structural steel beam and connection shown on sheet S-1.0. Architect to provide coordination.
3. The compression flange is supported at 2 ft on center. There is no uplift on this beam so that the tension flange is not subject to reversal of stress. 3.1- Calculations added on new submittal. 3.2- foundation checked for added loads, see additional calculations.
4. Railing shop drawings and calculations are to be provided by Architect, all signed and sealed.
5. Framing capacity shown; see note 4 for Lightgage metal framing requirements to provide shop drawings and calculations signed and sealed by a PE.
6. Roof diaphragm calculations added; use HUD tables.
7. Second floor wall is attached to an existing 8x16 concrete beam, not to C12.
8. Calculations provided.
9. Calculations provided.
10. Calculations provided, see sheet 19. 10.1- new calculations provided. 10.2- It is 4'-0" as per structural plans.
11. Architect is to provide this information.
12. Changed to 48 bar dia.



Ingelmo Associates, PA
Paul Ingelmo, PE.



DYNATECH ENGINEERING CORP.

Miami, July 12, 2010

Mr. Ilija Moss crop
MOSSCROP AND ASSOCIATES
940 Lincoln Road, Suite # 325
Miami Beach, FL 33139

Re: Proposed Pool @
3193 Royal Palm Avenue
Miami Beach, FL 33140

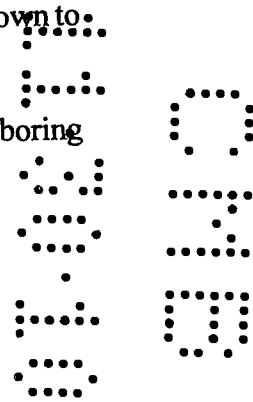
Dear Mr. Moss crop:

Pursuant to your request, DYNATECH ENGINEERING CORP. completed a Subsoil Investigation on July 12, 2010 for the above referenced project. The purpose of our investigation was to verify the subsoil conditions relative to the proposed pool.

A total of (2) standard penetration boring tests were performed according to ASTM D-1586 down to an average depth of 15' below existing ground surface.

The following graph was developed as a general condition for the subject site: (Refer to field boring logs for exact locations and soil condition):

<u>Depth</u>		<u>Description</u>
<u>From</u>	<u>To</u>	
0'-0"	0'-6"	Topsoil and grass
0'-6"	2'-0"	Brown sand
2'-0"	11'-0"	Tan beach sand
11'-0"	15'-0"	Light gray beach sand



Groundwater table elevation was measured immediately at the completion of each boring and was found at an average depth of 3'-6" below existing ground surface. Fluctuation in water level should be anticipated due to seasonal variations and run off as well as varying ground elevations construction dewatering and pumping activities in the area. Site contractor must familiarize himself with site conditions in the event groundwater controls and dewatering is needed. Surface flooding may result under hurricane conditions and should be taken into consideration in the design of the project. The contractor shall make sure that groundwater levels on adjacent properties are not affected due to the contractors dewatering activities. Specialty groundwater contractors shall be consulted for all work below the groundwater level.

750 West 84 Street, Hialeah, FL 33014-3618 • Phone: (305) 828-7499 • Fax: (305) 828-9598

E-Mail: Dynatech@Bellsouth.net

Based on our field logs it is our opinion that the proposed pool be designed for a shallow foundation system with a permissible soil bearing pressure not to exceed 2000 P.S.F.

The following soil parameters shall be used for retaining wall designs:

- Soil unit weight moist: 110 pcf. Buoyant: 60 Pcf.
- Angle of internal friction : 30°
- Earth pressure coefficient Ka: 0.33; Kp: 3.0
- Angle of wall friction: 30° for steel piles, 20° for concrete or brick walls; 15° uncoated steel.

Excavations shall not extend within 1 foot of the angle of repose, next to existing footings or structures, unless underpinned. Trenching shall be in compliance with the Florida Building Code, OSHA and Trench Safety Act. Shorings shall be designed and inspected by Florida licensed professional engineer.

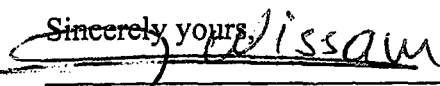
Provisions shall be made by the architect, engineer of record and contractor to address differential settlements when tying in new to existing structures.

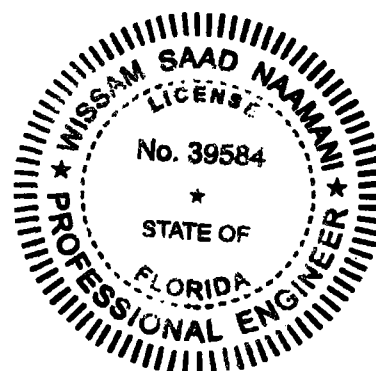
Also note that as a common engineering practice for existing and new construction; outside ground surfaces must be sloped away from the structure as to avoid water accumulation and ponding. Rain gutters shall be installed and all rain water shall be discharged over splash guards a minimum of 5 feet away from building foundations. Verify all water, sewer, plumbing, sprinkler and drainage lines are properly functioning with no leaks in the vicinity of the foundations.

The boring log (s) attached present (s) a detailed description of the soils encountered at test location (s). The soil stratification shown on the boring log (s) is based on the examination of the recovered soil samples and interpretation of the driller's field log (s). It indicates only the approximate boundaries between soil types. The actual transitions between adjacent soil types may be gradual. Regardless of the thoroughness of a geotechnical exploration there is always the possibility that conditions may be different from those of the test locations; therefore, DYNATECH ENGINEERING CORP. does not guarantee any subsoil conditions between the bore test holes. In accepting and using this report the client understands that all data from the borings are strictly for foundation analysis only and are not to be used for excavation or back filling estimates and pricing. Owner and site contractor must familiarize himself with site conditions prior to bidding for Environmental due diligence a Phase I and Phase II Environmental Site Assessments is recommended. As a mutual protection to clients, the public and ourselves, all reports are submitted as the confidential property of clients, and authorization for publication of statements, conclusions or extracts from or regarding our reports is reserved pending our written approval. All work must be conducted under the supervision of our geotechnical engineer. The discovery of any site or subsurface conditions during construction which deviate from the information obtained from our subsoil investigation is always likely and should be reported to us for our evaluation. All work shall be conducted in compliance with the Florida Building Code FBC and OSHA workers protection rules and all applicable Federal, State, County and City rules and regulations.

It has been a pleasure serving you at this phase of your project and look forward to do so in the near future.

Sincerely yours,


Wissam Naamani, P.E.
DYNATECH ENGINEERING CORP.
Florida Reg. No. 39584
Special Inspector No. 757



DYNATECH

ENGINEERING CORP.

750 WEST 84TH STREET
HIALEAH, FL 33014
(305) 828-7499

TEST BORING REPORT

CLIENT : MOSSCROP AND ASSOCIATES
PROJECT : Proposed Pool @
ADDRESS : 3193 Royal Palm Avenue, Miami Beach, FL.
LOCATION : See attached plan

DATE: July 7, 2010
HOLE NO.: B-1
DRILLER: AS & LD

DEPTH	DESCRIPTION OF MATERIALS	SAMPLE NO.	HAMMER BLOWS ON SAMPLER	"N"
<u>1</u>		2	Hand	H
<u>2</u>				
<u>3</u>	0'-0" to 0'-6" TOPSOIL AND GRASS	4	Hand	H
<u>4</u>				
<u>5</u>	0'-6" to 1'-0" BROWN FINE SAND	6	6 5	13
<u>6</u>			8 11	
<u>7</u>	1'-0" to 4'-0" TAN BEACH SAND	8	12 10	21
<u>8</u>			11 13	
<u>9</u>	4'-0" to 5'-0" GRAYISH / TAN FINE SAND	10	10 12	27
<u>10</u>			15 13	
<u>11</u>	5'-0" to 11'-0" TAN BEACH SAND	12	16 12	23
<u>12</u>			11 10	
<u>13</u>	11'-0" to 15'-0" LIGHT GRAY BEACH SAND	14	13 14	26
<u>14</u>			12 15	
<u>15</u>		16	18 16	
<u>16</u>				
<u>17</u>		18		
<u>18</u>				
<u>19</u>		20		
<u>20</u>				
<u>21</u>		22		
<u>22</u>				
<u>23</u>		24		
<u>24</u>				
<u>25</u>		26		
<u>26</u>				
<u>27</u>		28		
<u>28</u>				
<u>29</u>		30		
<u>30</u>				
<u>31</u>		32		
<u>32</u>				
<u>33</u>		34		
<u>34</u>				
<u>35</u>		36		
<u>36</u>				
<u>37</u>		38		
<u>38</u>				

H: HAND AUGER

A: HOLLOWSTEM AUGER

Water Level: 3'-6" Below Surface As a mutual protection to clients, the public and ourselves, all reports are submitted as the confidential property of client and authorization for publication of statement conclusions or extracts from or regarding our reports is reserved pending on our written approval.. H.A.: HANDAUGER; A: AUGER; R: REFUSAL.

750 WEST 84TH STREET
HIALEAH, FL 33014
(305) 828-7499

TEST BORING REPORT

CLIENT : MOSSCROP AND ASSOCIATES
PROJECT : Property @
ADDRESS : 3193 Royal Palm Avenue, Miami Beach, FL.
LOCATION : See attached plan

DATE: July 7, 2010
HOLE NO.: B-2
DRILLER: AS & LD

DEPTH	DESCRIPTION OF MATERIALS	SAMPLE NO.	HAMMER BLOWS ON SAMPLER	"N"
<u>1</u>	0'-0" to 0'-6" TOPSOIL AND GRASS	2	Hand	H
<u>2</u>				
<u>3</u>		4	Hand	H
<u>4</u>	0'-6" to 2'-0" DARK BROWN FINE SAND	6	8 6	11
<u>5</u>			5 5	
<u>6</u>		8	11 10	22
<u>7</u>	2'-0" to 11'-6" TAN BEACH SAND		12 14	
<u>8</u>		10	16 10	20
<u>9</u>			10 11	
<u>10</u>	11'-6" to 15'-0" LIGHT GRAY BEACH SAND	12	12 11	26
<u>11</u>			15 15	
<u>12</u>		14	16 13	24
<u>13</u>			11 12	
<u>14</u>		16	10 11	
<u>15</u>				
<u>16</u>		18		
<u>17</u>				
<u>18</u>		20		
<u>19</u>				
<u>20</u>		22		
<u>21</u>				
<u>22</u>		24		
<u>23</u>				
<u>24</u>		26		
<u>25</u>				
<u>26</u>		28		
<u>27</u>				
<u>28</u>		30		
<u>29</u>				
<u>30</u>		32		
<u>31</u>				
<u>32</u>		34		
<u>33</u>				
<u>34</u>		36		
<u>35</u>				
<u>36</u>		38		
<u>37</u>				
<u>38</u>				

H: HAND AUGER

A: HOLLOW STEM AUGER

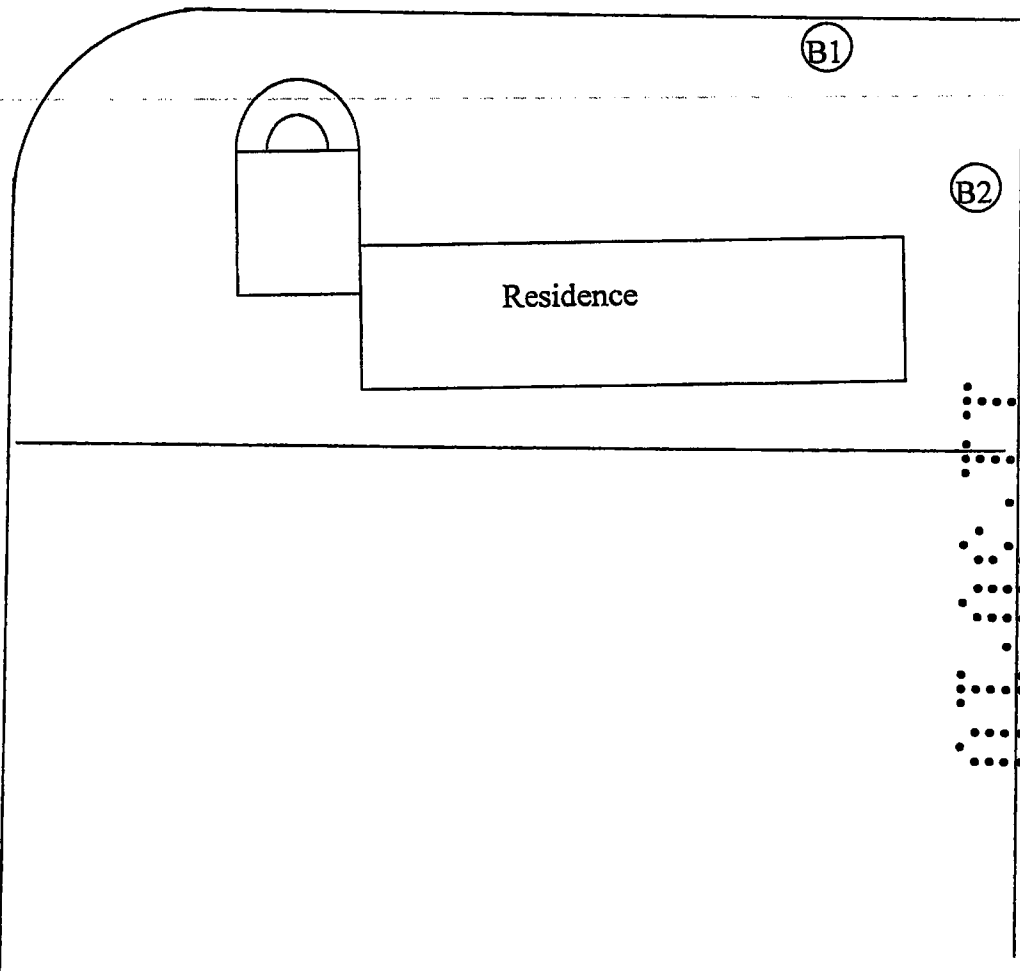
Water Level: 3'-6" Below Surface As a mutual protection to clients, the public and ourselves, all reports are submitted as the confidential property of client and authorization for publication of statement conclusions or extracts from or regarding our reports is reserved pending on our written approval.. H.A.: HANDAUGER; A: AUGER; R: REFUSAL.

Boring Location #



West 34th Street

Royal Palm Avenue



DYNATECH ENGINEERING CORP.

Client: MOSSCROP AND ASSOCIATES

Scale: N.T.S.

Project: 3193 Royal Palm Avenue, Miami Beach, Florida 33140

Date: July 13, 2010

GENERAL NOTES

Soil borings on unmarked vacant property should be considered preliminary with further boring(s) to be drilled after building pad(s) are staked out.

Soil borings on existing structures that are to be demolished should be considered preliminary and additional borings would need to be performed after the structure(s) has been demolished and proposed new building staked out.

As a mutual protection to clients, the public and ourselves, all reports are submitted as confidential property of clients, and authorization for publication of statements, conclusions, extracts from or regarding our reports is reserved pending our written approval.

KEY CLASSIFICATION & SYMBOLS

<u>Correlation of Penetration Resistance With Relative Density and Consistency</u>				<u>Particle Size</u>	
	<u>Cone Penetration Tests (Kg/cm²)</u>	<u>Standard Penetration (Blows/ft.)</u>	<u>Relative Density</u>		
Sands	0-16	0-4	Very Loose	Boulders	> 12 in.
	17-40	5-10	Loose	Cobble	3 in. to 1 in.
	41-80	11-20	Firm	Gravel	4.76 mm to 3 in.
	81-120	21-30	Very Firm	Sand	0.07 mm to 4.67 mm.
	Over 120	31-50	Dense	Silt	0.005 mm. to 0.074 mm
Silts & Clay	0-3	0-2	Very Loose	Clay	< 0.005 mm.
	4-9	3-4	Soft		
	10-17	5-8	Firm		
	18-31	9-15	Stiff		
	32-60	16-30	Very Stiff		
	Over 60	31-50	Hard		

Modifiers

5% - 10 %	Slightly Silty or Clayey
10% - 30%	Silty or Clayey
30% - 50%	Very Silty or Very Clayey
0% - 5%	Slightly Trace
6% - 10%	Trace
11% - 20%	Little
21% - 35%	Some
> 35% And	

Rock Hardness Description

Soft	Rock core crumbles when handled
Medium	Can break with your hands.
Moderate Hard	Thin edges of rock core can be broken with fingers
Hard	Thin edges of rock core cannot be broken with fingers
Very Hard	Rock core rings when struck with hammer (chairs)

City of Miami Beach Building Department
3193 Royal Palm Avenue, Miami Beach

The following are our responses to the structural comments-

1. Architect to provide existing drawings. 1.1- Additional dimensions added, also refer to Architectural drawings. Existing 2x12 will support the one family residence live load requirement of 60psf.
2. This is replacing a wood bearing partition. Structural steel beam and connection shown on sheet S-1.0. Architect to provide coordination.
3. The compression flange is supported at 2 ft on center. There is no uplift on this beam so that the tension flange is not subject to reversal of stress. 3.1- Calculations added on new submittal. 3.2- foundation checked for added loads, see additional calculations.
4. Railing shop drawings and calculations are to be provided by Architect, all signed and sealed.
5. Framing capacity shown; see note 4 for Lightgage metal framing requirements to provide shop drawings and calculations signed and sealed by a PE.
- 6. Roof diaphragm calculations added; use HUD tables. ←
- 7. Second floor wall is attached to an existing 8x16 concrete beam, not to C12. ←
8. Calculations provided.
9. Calculations provided.
10. Calculations provided, see sheet 19. 10.1- new calculations provided. 10.2- It is 4'-0" as per structural plans.
11. Architect is to provide this information.
12. Changed to 48 bar dia. — not per ACI

*Wind
Bresen*



3/1/2017

Ingelmo Associates, PA
Paul Ingelmo, PE.

INGELMO

ASSOCIATES • PA

 COMP BY: P. Ingelmo
 CHK BY: FEB 4 2011
 DATE: 1/18
 SHEET NO.: 1/18
 JOB NO.:

3193 ROYAL PALM AVE

RESIDENCE: ADDT. CALCULATIONS

W8X18 FLOOR FRAMING

SPAN = 16'-3"

DL = 15 PSF

LL = 40 PSF

 PL INCLUDE
 CLOSET WALL
 FLOOR & CEILING

$$\therefore \text{REACTIONS @ SUPPORT} = \left(\frac{16.25}{2} \right) [55 \times 9 + 25] = 4.23 \text{ KIP}$$

$$\text{TRIBUTARY AREA} = \frac{12+6}{2} = 9 \text{ FT.}$$

 STD FRAME CONNECTION @ BOTTOMS, W/ $t = \frac{1}{4}"$

$$(\text{CAPACITY}) = 17.7 \text{ KIP}$$

CHECK EPOXY ANCHORS - $\sqrt{3}" \phi$

$$\text{SPACING} = 4\frac{1}{2}"$$

$$\text{EDGE} = 3\frac{1}{2}"$$

 HULT 150 ALLOWABLE - 4610 LBS SHEAR
 5149 LBS TENSION

 100% @ E/SPACING
 @ 7.5" EDGE DISTANCE

$$\underline{LL = 100 \text{ PSF}}$$

$$\therefore \text{SHEAR} = 4.610 \times \frac{4.5}{5} \times \frac{3.5}{7.5} = 1.93 \text{ KIP}$$

$$\therefore \text{TOTAL CAPACITY} = 1.93 \times 4 = 7.75 \text{ KIP. OK}$$

$$2 \text{ ANCHORS @ 4}$$

$$\text{HSJ: LOAD} = (55 \times 9 + 15) \left(\frac{16.25}{2} \right) = 1340 \text{ LBS. REACTION}$$

$$4 \times 4 \times \frac{1}{4}, \quad S_x = \frac{(0.25)(8)}{6} = 0.0833 \text{ in}^3$$

$$M = 0.833(36 \times 0.75) = 2.25 \text{ K-in}$$

$$M = 1.34 \times 1.5 = 2.01 \text{ K-in} \quad (\text{OK})$$

$$k = 0.58$$

$$\text{MOMENT ARM FOR ANCHORS} = 0.575 + 1.5 = 2.08 \quad \therefore M = 2.08 \times 1.34 = 2.78 \text{ K-in}$$

$$\text{TENSION} = \frac{2.78}{2.25} = 1.23 \text{ KIP} \quad \text{SHEAR} = 1.34 \text{ KIP}$$

∴ EACH ANCHOR —

$$TENSION = \frac{1.23}{2} = 0.62 \text{ K}$$

$$SHEAR = \frac{1.34}{2} = 0.68 \text{ K}$$

$$\frac{0.62}{5.49 \times \frac{3.5}{7.5}} + \frac{0.68}{4.610 \times \frac{3.5}{7.5}} = 0.26 + 0.31 = 0.57 / 1.0 \text{ OK}$$

EXISTING 24" WIDE FOUNDATIONS, ALLOWABLE = $2 \text{ KIP} \times 2 = 4 \text{ KLF}$

$$\begin{aligned} 8" \text{ CM CONCRETE} &= 22 \text{ FT} \times 0.070 = 1.54 \text{ KLF} \\ \text{ROOF DL+LL} &= 9.5 \text{ FT} \times 0.056 = 0.48 \\ \text{FLOOR DL+LL} &= 1.0 \text{ FT} \times 0.055 = 0.06 \text{ KLF} \end{aligned} \quad \left. \vphantom{\begin{aligned} 8" \text{ CM CONCRETE} \\ \text{ROOF DL+LL} \\ \text{FLOOR DL+LL} \end{aligned}} \right\} 2.08 \text{ KLF}$$

*check
load
support
w/ 4x16 & HSS 4x4
plus roof
load*

INCREASED LOAD FROM W 8x18 = 4.23 KIPS

$$\text{DISTRIBUTE OVER 3 FT. OF FOUNDATION} = \frac{4.23}{3} = 1.41 \text{ KLF}$$

$$\therefore \text{TOTAL LOAD} = 2.08 + 1.41 = 3.49 \text{ KLF} < 4.0 \text{ KLF}$$

#10 TIE SECTIONS ARE THE TYPICAL INTER CONNECTION FOR THE LIGHTGAGE METAL FORMING SYSTEM;

FOR 16 GAG (17 RD), TYPICAL SHEAR CAPACITY (ALLOWABLE) = 423 LB (SHEAR)
177 LB (TENSION)

#12 TIE 500 LB (SHEAR)
189 LB (TENSION)

* WIND LOADING
SECOND FLOOR ADDITION: SHORT DIMENSION

$$g = 47 \text{ PSF:} \quad \text{TOTAL LOAD} = 11.0 \times 21.0$$

$$\therefore \text{SHEAR TO WALL} = 47 \text{ PSF} \left(\frac{11 \times 20}{2} \right) = 5170 \text{ KIPS}$$

$$\text{SHEAR TRANSFER (DIAPHRAGM)} = \frac{5170}{13} = 398 \text{ LB/FT}$$

11'
40'-6" TO 21'-6"

SHEAR @ WALL (LONG DIRECTION) $(\frac{11}{2}) 47 + 1.5 \times (25 + 30) \#$
 $= 47(\frac{11 \times 13}{2}) = 3361 \text{ LB}$
 ASCE 7 6.5.11.5

SHEAR TRANSFER (SHORTEN) $= \frac{3361}{21} = 160 \text{ LB/FT.}$

FOR STUD @ 16" O.C. - TRANSFER SHEAR @ WALL -

423 LB/FT. 2-NO. 10 SCREWS PER STUD;

$\therefore$ 1#10 @ 8" O.C.

SHEAR CAPACITY $= 423 \text{ LB} \times \frac{12}{8} = 635 \text{ LB/FT.}$ (OK)

LONG DIRECTION - DOES NOT CONTROL

FLOOR SHEAR TRANSFER = $46 \text{ PSF} (\frac{10 \times 20}{2}) = 4600 \text{ LB} = 4.6 \text{ K}$
 SHORT DIRECTION

SHEAR TRANSFER @ WALL $= \frac{4600}{13} = 354 \text{ LB/FT.}$

FOR $\frac{3}{4}"$ REINFORCED - 2-NO. WOOD JOIST @ 16" O.C.

USE ECCENTRIC DIAPHRAGM - WITH 6" NAIL SPACING
 4" @ BOUNDARIES.

CAPACITY $= 385 \text{ LB/FT.}$ 10' DIAPHRAGM.

USE $\frac{1}{8}"$ DIA. BOLTS @ 24" O.C.

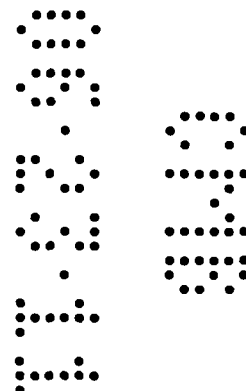
SHEAR $= 4610/2 = 2305 \text{ LB/FT.}$ OK, NO SPACING OR
 EDGE REINFORCEMENT.



U.S. Department of Housing and Urban Development
Office of Policy Development and Research



INNOVATIVE RESIDENTIAL FLOOR CONSTRUCTION: HORIZONTAL DIAPHRAGM VALUES FOR COLD-FORMED STEEL FRAMING



1.0 Introduction

For centuries home builders in the United States have made wood their material of choice because of its satisfactory performance, abundant supply, and relatively low cost. However, over the past several years, lumber prices have experienced unpredictable price fluctuations that affect affordability. Builders have also voiced concerns with lumber quality. Consequently, builders and other providers of affordable housing are seeking functional and competitive alternative building materials and methods.

Use of cold-formed steel framing in the residential market has increased over the past several years because of previous cooperative efforts by HUD and industry to implement cost-effective alternative materials and methods. However, its use is still very limited, partly because steel is just beginning a process of being integrated into the conventional framing systems of homes. Properly focusing this process is crucial to the reasonable use of this technology in the home building industry.

Cold-formed steel is particularly suitable for residential floor framing systems. Conventional floor systems are usually constructed of more expensive, older growth lumber to meet the loading and span requirements. In addition, floor systems are often excluded from energy efficiency considerations since they are mostly contained within the building thermal envelope. Therefore, cold-formed steel (CFS) floor framing represents an effective utilization of this material within the context of traditional home building practice in the United States. However, there are some technical barriers that unnecessarily limit the use of CFS residential floor construction such as the lack of horizontal diaphragm shear values used to design for wind and earthquake forces.

This report establishes appropriate design values for CFS horizontal diaphragms in support of safe and affordable housing design. Very few, if any, horizontal diaphragm tests have been performed on CFS floor systems. The need for diaphragm shear values has been primarily identified in instances where buildings are required to be engineered for higher risk regions of the United States (i.e. hurricane-prone coastlines and earthquake-prone areas). Furthermore, the steel joists used to construct the floor diaphragms contain large pre-formed holes to support an effort to develop a highly functional CFS floor system that meets both engineering and certain constructability requirements such as the routing of ductwork and large sanitary drain pipes. These innovative CFS joists provide similar structural performance in resisting gravity loads to those without holes as confirmed in a separate study [1].

2.0 Background and Literature Review

Function of a Horizontal Diaphragm

When used in light-frame construction such as homes, cold-formed steel (CFS) floor joists are often overlaid with plywood or oriented-strand-board (OSB) sheathing. The sheathing serves the primary function of a subfloor surface while transmitting live, dead, and construction loads into the structure. Roof sheathing performs a similar function in roof construction. Since the sheathing is typically fastened (with screws, pins, etc.) to the steel joists, it also forms shear-

resistant system known as a “horizontal diaphragm”, which is used to resist in-plane forces arising from wind or earthquake loads. The diaphragm’s ability to resist in-plane loads is dependent on its stiffness and ultimate shear strength.

A diaphragm is a horizontal structural assembly that acts in a manner analogous to a deep beam, where the panels act as a “web” resisting shear and the diaphragm edge members perform the function of “flanges” to resist bending stresses. These edge members are commonly called chords in diaphragm design. Cold-formed steel floor assemblies are relatively new shear resisting systems for residential buildings in the United States. However, the use of plywood or oriented-strand-board (OSB) as shear-resistance material is not new, and has been widely accepted in the design of wood-framed roof and floor diaphragms for housing.

Review of Existing Test Data

A literature review of similar work was performed prior to testing. Little information pertaining to the design values of CFS horizontal diaphragms was found in the literature. Extensive data exist for roof diaphragms constructed with purlins and steel decks [2][3][4][5]. Shear values for vertical diaphragms (shear walls) can also be readily found [6][7].

The use of structural wood panel sheathing as a shear-resistant material for wood floors has been well established in previous testing by the American Plywood Association (APA) [8]. APA developed empirical and mechanics-based equations to predict the strength, stiffness, and deflections of wood-frame diaphragms [8]. In addition to the research done at APA, structural wood panel diaphragms have been tested at other laboratories including the Forest Products Laboratory (FPL) and Oregon State University. Although dated, a comprehensive listing of wood and plywood diaphragm tests has been published by the American Society of Civil Engineers [9].

Table 1 summarizes the design unit shear values (in pounds per foot) for unblocked horizontal diaphragms using structural wood panels and dimensional lumber. Unblocked diaphragms refer to situations where blocking is not provided at sheathing joints perpendicular to the floor joists.

Table 8
Load-Slip Response of No. 8 Screw Connecting OSB to CFS Joists¹

Screw Edge Distance (in.)	Mean Ultimate Load (lb.)	Mean Joint Slip @ Ultimate load (in.)	Mean Ultimate Load /2.5 (lb.)	Mean Joist Slip @ Ultimate Load / 2.5 (in.)
1/2	595	0.285	238	0.051
1/2	612	0.298	245	0.058
3/8	497	0.311	199	0.048
3/8	532	0.239	213	0.050
Average	559	0.283	224	0.052
COV	0.096	0.111	0.096	0.084

For SI: 1 inch = 25.4 mm, 1 lb. = 4.5 N

¹ OSB thickness is 23/32-inches (18.3 mm) and steel thickness is 54 mil (1.37 mm)

Diaphragm Tests

Only the diaphragm action of the floor sheathing was considered in the tests. Ceiling finish materials were not included so that the test results would not be dependent on particular ceiling finish. The addition of shear resistant ceiling material (such as gypsum board) would have likely increased the diaphragm stiffness and strength under monotonic loading. The additive shear... resistance of assemblies fabricated with different or dissimilar materials has been shown during previous testing of shear walls [6].

The size and thickness of the CFS floor joists had an insignificant impact on the ultimate shear capacity of the floor diaphragms. The only difference was that FD8-43-1 and FD8-43-2 floor... diaphragms showed signs of OSB panel joint separation at lower loads (about 10-20% lower) than FD12-54-1 and FD12-54-2. All floor diaphragm failures were abrupt in nature.

Table 9 gives recommended design unit shear values for CFS horizontal diaphragms for the conditions tested. A safety factor of 2.5 (or resistance factor of 0.55) is recommended to be consistent with CFS shear walls currently recognized in Volume II of the Uniform Building Code [7]. Table 10 shows the nominal load per fastener based on the ultimate shear load of the floor diaphragm.

Table 9
Recommended Allowable Unit Shear Values for Unblocked CFS Diaphragms Sheathed with Structural Wood Panels¹

Screw Size ²	Edge Fastener Spacing	Intermediate Fastener Spacing	Minimum Sheathing Thickness ³	Allowable Unit Shear Capacity ⁴ (plf)
#8	6"	12"	23/32"	489

For SI: 1 inch = 25.4 mm, 1 plf = 1.488 Kg/m

Values apply to 16 gauge (54 mil) and 18-gauge (43 mil) steel floor joists at a maximum spacing of 24 inches on-center.

² Minimum head diameter of 0.29 in.

³ Applies to APA rated structural panel sheathing only.

⁴ Average ultimate shear capacity divided by a factor of safety of 2.5.

Table 10
Fastener Load

Floor Diaphragm Average Ultimate Shear Load (plf)	Average Ultimate Load per Perimeter Screw ¹ (lb.)	Average Ultimate Load per Individual Screw ² (lb.)
1,222	543	559

For SI: 1 plf = 15 N/m, 1 lb. = 4.5 N

¹ An average of 2.25 screws per foot is used to account for actual number of end panel screws (1,222/2.25 = 543 lbs.)

² Based on individual fastener test data (Table 5) with 3/8-inch and 1/2-inch edge distance.

The diaphragm mid-span deflection can be estimated using the deflection equation in [15] with a modified screw slip coefficient, as shown below in Equation 1. The calculation of the modified coefficient of the deflection portion of the equation due screw slip can be found in Appendix A. The screw slip coefficient is based on individual fastener and diaphragm test results. Predicted and actual deflections for the diaphragm tests are shown in Table 11 (with screw joint slippage, e_n , obtained from Table 12).

$$\Delta = \frac{5VL^3}{8EAb} + \frac{VL}{4Gt} + 0.23Le_n + \frac{\Sigma(\Delta_c X)}{2b} \quad \text{[Equation 1]}$$

Where

V = maximum unit shear in the direction under consideration plf (kg/m)

L = diaphragm length, ft (m)

b = diaphragm width, ft (m)

A = net area of track cross section, in.² (mm²)

E = elastic modulus of joist, psi (MPa)

G = modulus of rigidity of sheathing, psi (MPa)

t = effective thickness of sheathing for shear, in. (mm)

e_n = screw joint slippage at load per screw on perimeter of interior panel, in. (mm)
(refer to Table 12 for e_n values. These values are obtained from Figure B9)

$\Sigma(\Delta_c X)$ = sum of individual joist splice slip values on both sides of the diaphragm, each multiplied by its distance (ft) to the nearest support.

Δ = calculated deflection at mid-point of diaphragm, in. (mm).

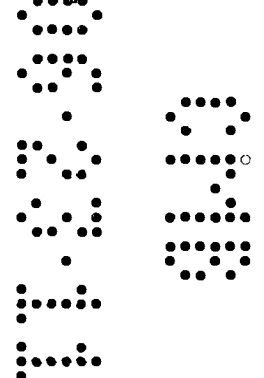


Table 11
Predicted vs. Calculated Diaphragm Deflection

	Deflection @ Peak Load (in.)	Deflection @ 55% of Ultimate Capacity (in.)	Deflection @ 40% of Ultimate Capacity (in.)
Actual	2.24	0.59 ¹	0.49
Using Equation 1 ¹	2.13	0.71	0.52

For SI: 1 inch = 25.4 mm.

¹ Based on Equation 1 with e_n from Table 12 for #8 screw and 23/32-inch (18.3 mm) thick OSB.

Table 12
Screw Joint Slippage (e_n) Values

INGELMO

ASSOCIATES • PA

 COMP BY: P. INGELMO
 CHK BY: _____
 DATE: _____
 SHEET NO.: 9
 JOB NO.: _____
PARABOL: MAX POS LOAD = 77.7 PSF.

$$M = \frac{(1.5^2)(77.7)}{2} = 0.0878 \text{ K-FT} = 10.53 \text{ LB-M.}$$

$$6'' \text{ - 16 GAGE STUD @ } 16'' \text{ O.C. - } M_x = 18991 \left(\frac{12}{16} \right) = 14243 \text{ LB-M. (OK)}$$

TUBE SECTION HSJ 6x6 x 1/4 : SEE ALSO PAGE 19 (ORIGINAL CALCULATIONS)

TORSION ON SECTION FROM CANTILEVER: $M = 8352 \text{ LB-M/FT}$ UPLIFT CONTROL.

∴ SEE ELEVATION ON NEXT PAGE:

$$\begin{aligned} \text{MAXIMUM TORSION} &= 8352 \text{ LB-M/FT} \times \frac{6}{2} \\ &= 25056 \text{ LB-M} = 25.06 \text{ K-M} \\ &= 2.1 \text{ K-FT} \\ \text{MOMENT} &= \frac{(75 \times 10) + (25.06) \left(\frac{6}{2} \right)^2}{9} = 0.8 \text{ K-FT} \end{aligned}$$

TORSION STRENGTH: HSJ 6x6 x 1/4 —

$$\frac{f}{E} = 0.25 \quad \frac{f}{E} = 24 \quad (215.4 \text{ IN}^3)$$

$$F_c = 0.6(46) = 27.6 \text{ KSI}$$

$$T_n = 276 C = 27.6(15.4) = 425.04 \text{ K-M.} > 25.1 \text{ K-M.}$$

$$M = 0.8 \text{ K-FT} \times 12 = 9.6 \text{ K-IN.}$$

$$M_n = 9.54(0.66 \times 46) = 289.7$$

$$\therefore \frac{9.6}{289.7} + \frac{25.1}{425} = 0.04 + 0.06 = 0.10 < 1.0$$

(OK)

10:46AM, 6 FEB 11

FastFrame 2-D Frame Analysis

V 5.0.9 -

Page 1

Nodes...

Node Label	Node Coordinates		X Restraint	Y Restraint	Z Restraint	Node Temp deg F
	X ft	Y ft				
N1	0.000	0.000	Fixed	Fixed	Fixed	0
N10	9.500	22.000				0
N11	13.000	22.000	Fixed	Fixed	Fixed	0
N2	19.000	0.000				0
N3	0.000	11.000				0
N4	3.500	11.000				0
N5	9.500	11.000				0
N6	13.000	11.000				0
N7	19.000	11.000				0
N8	0.000	22.000				0
N9	3.500	22.000				0

Member...

Member Label	Property Label	Endpoint Nodes		Member Length ft	I End Releases			J End Releases		
		I Node	J Node		X	Y	Z	X	Y	Z
m1	columns	N1	N3	11.000						
m10	TS6x6x1/4	N9	N10	6.000						
m11	TS6x6x1/4	N10	N11	3.500						
m12	beam	N6	N7	6.000						
m13	columns	N2	N7	11.000						
m2	TS6x6x1/4	N3	N8	11.000						
m3	beam	N3	N4	3.500						
m4	beam	N4	N5	6.000						
m5	beam	N5	N6	3.500						
m6	TS6x2x1/4	N4	N9	11.000						
m7	TS6x2x1/4	N5	N10	11.000						
m8	TS6x6x1/4	N6	N11	11.000						
m9	TS6x6x1/4	N8	N9	3.500						

Member Stress Check Data...

Member Label	Unbraced Lengths		Slenderness Factors		AISC Bending & Stability Factors	
	Lu : Z ft	Lu : XY	K : Z	K : XY	Cm	Cb
m1	11.000	11.000	1.00	1.00	Internal	Internal
m10	6.000	6.000	1.00	1.00	Internal	Internal
m11	3.500	3.500	1.00	1.00	Internal	Internal
m12	6.000	6.000	1.00	1.00	Internal	Internal
m13	11.000	11.000	1.00	1.00	Internal	Internal
m2	11.000	11.000	1.00	1.00	Internal	Internal
m3	3.500	3.500	1.00	1.00	Internal	Internal
m4	6.000	6.000	1.00	1.00	Internal	Internal
m5	3.500	3.500	1.00	1.00	Internal	Internal
m6	11.000	11.000	1.00	1.00	Internal	Internal
m7	11.000	11.000	1.00	1.00	Internal	Internal
m8	11.000	11.000	1.00	1.00	Internal	Internal
m9	3.500	3.500	1.00	1.00	Internal	Internal

Materials...

Member Label	Youngs ksi	Density kcf	Thermal in/100d	Yield ksi
Default	1.00	0.000	0.000000	1.00
Steel	29,000.00	0.490	0.000650	36.00
concrete	3,250.00	0.150	0.000067	3.00

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Section Sections...

Prop Label Group Tag	Material	Area	Depth Width	Tf Tw	Ixx Iyy
Default	Default	1.000 in2	0.000 in 0.000 in	0.000 in 0.000 in	1.00 in4 0.00 in4
TS6x2x1/4	Steel	3.590 in2	6.000 in 2.000 in	0.250 in 0.250 in	13.80 in4 2.31 in4
TS6x6x1/4	Steel	5.590 in2	6.000 in 6.000 in	0.250 in 0.250 in	30.30 in4 30.30 in4
beam	concrete	128.000 in2	16.000 in 8.000 in	0.000 in 0.000 in	2,730.00 in4 0.00 in4
columns	concrete	208.000 in2	26.000 in 8.000 in	0.000 in 0.000 in	11,717.00 in4 0.00 in4

Node Loads....

Node Label	Concentrated Loads and Moments			Load Case Factors				
	X	Y	Moment	# 1	# 2	# 3	# 4	# 5
N11	-1.410k			1.000				
N3	-2.400k			1.000				
N7	-2.920k			1.000				
N8	-1.300k			1.000				

Member Distributed Loads....

Member Label	Load Magnitudes			Load Extents		Load Direction	Load Case Factors				
	Start	Finish		Start ft	Finish ft		# 1	# 2	# 3	# 4	# 5
m10	-0.050	-0.050	k/ft	0.000	6.000	Global Y	1.000				
m11	-0.050	-0.050	k/ft	0.000	3.500	Global Y	1.000				
m12	-0.055	-0.055	k/ft	0.000	6.000	Global Y	1.000				
m3	-0.055	-0.055	k/ft	0.000	3.500	Global Y	1.000				
m4	-0.055	-0.055	k/ft	0.000	6.000	Global Y	1.000				
m5	-0.055	-0.055	k/ft	0.000	3.500	Global Y	1.000				
m9	-0.050	-0.050	k/ft	0.000	3.500	Global Y	1.000				

Load Combinations...

Load Combination Description	Stress Increase	Gravity Load Factors		Load Combination Factors				
		X	Y	# 1	# 2	# 3	# 4	# 5
dIWL	1.000		-1.000	1.000				

Node Displacements & Reactions

Node Label	Load Combination	Node Displacements			Node Reactions		
		X in	Y in	Z Radians	X k	Y k	Z k-ft
N1	dIWL	-4.507.E-014	0	0	4.50727 ✓	7.81304 ✓	-36.15695
N10	dIWL	-0.30041	-0.02296	-0.00010	0	0	0
N11	dIWL	-0.30055	-0.02101	0.00076	0	0	0
N2	dIWL	-3.523.E-014	0	0	3.52273 ✓	2.11647 ✓	-32.61915
N3	dIWL	-0.05389	-0.00129	0.00047	0	0	0
N4	dIWL	-0.05403	0.00232	-0.00019	0	0	0
N5	dIWL	-0.05417	-0.02105	-0.00018	0	0	0
N6	dIWL	-0.05419	-0.02220	0.00014	0	0	0
N7	dIWL	-0.05409	-0.00018	0.00055	0	0	0
N8	dIWL	-0.30055	-0.00262	0.00078	0	0	0
N9	dIWL	-0.30041	0.00287	-0.00005	0	0	0

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Member End Forces...

Member Label	Load Combination	Node "I" End Forces			Node "J" End Forces		
		Axial k	Shear k	Moment ft-k	Axial k	Shear k	Moment ft-k
m1	dIWL	7.81304	-4.50727	-36.15695	-5.42970	4.50727	-13.42297
m10	dIWL	-0.00084	0.79012	2.01111	0.00084	-0.37599	1.48721
m11	dIWL	0.55239	1.80932	1.53392	-0.55239	-1.56775	4.37595
m12	dIWL	-0.60273	1.39687	-1.13973	0.60273	-0.26687	6.13093
m13	dIWL	2.11647	-3.52273	-32.61915	0.26687	3.52273	-6.13093
m2	dIWL	1.73823	-0.75243	-4.30750	-1.52899	0.75243	-3.96924
m3	dIWL	1.35484	3.69148	17.73047	-1.35484	-3.03231	-5.96384
m4	dIWL	0.80811	3.39523	9.00729	-0.80811	-2.26523	7.97410
m5	dIWL	0.25488	0.69752	-4.90976	-0.25488	-0.03836	6.19755
m6	dIWL	-0.36292	-0.54673	-3.04344	0.49730	0.54673	-2.97058
m7	dIWL	1.56771	-0.55322	-3.06434	-1.43333	0.55322	-3.02113
m8	dIWL	-1.35851	-0.85761	-5.05781	1.56775	0.85761	-4.37595
m9	dIWL	-0.54757	1.52899	3.96924	0.54757	-1.28742	0.95947

Steel Stress Checks...

Member Label	Load Combination	Overall Maximum	@ Left End	1/4 Span	1/2 Span	3/4 Span	@ Right End	Shear
m1	dIWL	0.228	0.000	0.000	0.000	0.000	0.00	0.046
m10	dIWL	0.101	0.101	0.046	0.003	0.047	0.09	0.018
m11	dIWL	0.229	0.081	0.006	0.077	0.149	0.22	0.042
m12	dIWL	0.229	0.000	0.000	0.000	0.000	0.00	0.042
m13	dIWL	0.229	0.000	0.000	0.000	0.000	0.00	0.042
m2	dIWL	0.230	0.230	0.130	0.030	0.099	0.21	0.017
m3	dIWL	0.230	0.000	0.000	0.000	0.000	0.00	0.017
m4	dIWL	0.230	0.000	0.000	0.000	0.000	0.00	0.017
m5	dIWL	0.230	0.000	0.000	0.000	0.000	0.00	0.017
m6	dIWL	0.339	0.339	0.179	0.020	0.149	0.33	0.013
m7	dIWL	0.357	0.357	0.196	0.034	0.168	0.35	0.013
m8	dIWL	0.264	0.264	0.150	0.036	0.100	0.23	0.020
m9	dIWL	0.203	0.203	0.139	0.077	0.017	0.05	0.035

Member Overall Envelope Summary

Member Label	Section	Axial k	Shear k	Moment ft-k	Deflection in	Maximum Stress Ratio
m1	columns	7.813	4.507	36.157	0.053	0.228
m10	TS6x6x1/4	0.001	0.790	2.011	0.024	0.101
m11	TS6x6x1/4	0.552	1.809	4.492	0.004	0.229
m12	beam	0.603	1.397	8.529	0.023	0.229
m13	columns	2.116	3.523	32.619	0.053	0.229
m2	TS6x6x1/4	1.738	0.752	4.307	0.246	0.230
m3	beam	1.355	3.691	17.730	0.006	0.230
m4	beam	0.808	3.395	10.372	0.022	0.230
m5	beam	0.255	0.698	7.013	0.002	0.230
m6	TS6x2x1/4	0.363	0.547	3.043	0.246	0.339
m7	TS6x2x1/4	1.568	0.553	3.064	0.246	0.357
m8	TS6x6x1/4	1.359	0.858	5.058	0.245	0.264
m9	TS6x6x1/4	0.548	1.529	3.969	0.008	0.203

-> Deflection values listed are the maximum of a sampling of 31 points across the member

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Description....

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Nodes...

Node Label	Node Coordinates		X Restraint	Y Restraint	Z Restraint	Node Temp deg F
	X ft	Y ft				
N1	0.000	0.000	Fixed	Fixed	Fixed	0
N10	9.500	22.000				0
N11	13.000	22.000				0
N2	19.000	0.000	Fixed	Fixed	Fixed	0
N3	0.000	11.000				0
N4	3.500	11.000				0
N5	9.500	11.000				0
N6	13.000	11.000				0
N7	19.000	11.000				0
N8	0.000	22.000				0
N9	3.500	22.000				0

Member...

Member Label	Property Label	Endpoint Nodes		Member Length ft	I End Releases			J End Releases		
		I Node	J Node		X	Y	Z	X	Y	Z
m1	columns	N1	N3	11.000						
m10	TS6x8x1/4	N9	N10	6.000						
m11	TS6x6x1/4	N10	N11	3.500						
m12	beam	N6	N7	6.000						
m13	columns	N2	N7	11.000						
m2	TS6x6x1/4	N3	N8	11.000						
m3	beam	N3	N4	3.500						
m4	beam	N4	N5	6.000						
m5	beam	N5	N6	3.500						
m6	TS6x2x1/4	N4	N9	11.000						
m7	TS6x2x1/4	N5	N10	11.000						
m8	TS6x6x1/4	N6	N11	11.000						
m9	TS6x6x1/4	N8	N9	3.500						

Member Stress Check Data...

Member Label	Unbraced Lengths		Slenderness Factors		AISC Bending & Stability Factors	
	Lu : Z ft	Lu : XY	K : Z	K : XY	Cm	Cb
m1	11.000	11.000	1.00	1.00	Internal	Internal
m10	6.000	6.000	1.00	1.00	Internal	Internal
m11	3.500	3.500	1.00	1.00	Internal	Internal
m12	6.000	6.000	1.00	1.00	Internal	Internal
m13	11.000	11.000	1.00	1.00	Internal	Internal
m2	11.000	11.000	1.00	1.00	Internal	Internal
m3	3.500	3.500	1.00	1.00	Internal	Internal
m4	6.000	6.000	1.00	1.00	Internal	Internal
m5	3.500	3.500	1.00	1.00	Internal	Internal
m6	11.000	11.000	1.00	1.00	Internal	Internal
m7	11.000	11.000	1.00	1.00	Internal	Internal
m8	11.000	11.000	1.00	1.00	Internal	Internal
m9	3.500	3.500	1.00	1.00	Internal	Internal

Materials...

Member Label	Youngs ksi	Density kcf	Thermal in/100d	Yield ksi
Default	1.00	0.000	0.000000	1.00
Steel	29,000.00	0.490	0.000650	36.00
concrete	3,250.00	0.150	0.000067	3.00

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Section Sections...

Prop Label Group Tag	Material	Area	Depth Width	Tf Tw	lxx lyy
Default	Default	1.000 in2	0.000 in 0.000 in	0.000 in 0.000 in	1.00 in4 0.00 in4
TS6x2x1/4	Steel	3.590 in2	6.000 in 2.000 in	0.250 in 0.250 in	13.80 in4 2.31 in4
TS6x6x1/4	Steel	5.590 in2	6.000 in 6.000 in	0.250 in 0.250 in	30.30 in4 30.30 in4
beam	concrete	128.000 in2	16.000 in 8.000 in	0.000 in 0.000 in	2,730.00 in4 0.00 in4
columns	concrete	208.000 in2	26.000 in 8.000 in	0.000 in 0.000 in	11,717.00 in4 0.00 in4

Node Loads...

Node Label	Concentrated Loads and Moments			Load Case Factors				
	X	Y	Moment	# 1	# 2	# 3	# 4	# 5
N11	1.410k			1.000				
N3	2.400k			1.000				
N7	2.920k			1.000				
N8	1.300k			1.000				

Member Distributed Loads...

Member Label	Load Magnitudes			Load Extents		Load Direction	Load Case Factors				
	Start	Finish		Start ft	Finish ft		# 1	# 2	# 3	# 4	# 5
m10	-0.050	-0.050	k/ft	0.000	6.000	Global Y	1.000				
m11	-0.050	-0.050	k/ft	0.000	3.500	Global Y	1.000				
m12	-0.055	-0.055	k/ft	0.000	6.000	Global Y	1.000				
m3	-0.055	-0.055	k/ft	0.000	3.500	Global Y	1.000				
m4	-0.055	-0.055	k/ft	0.000	6.000	Global Y	1.000				
m5	-0.055	-0.055	k/ft	0.000	3.500	Global Y	1.000				
m9	-0.050	-0.050	k/ft	0.000	3.500	Global Y	1.000				

Load Combinations...

Load Combination Description	Stress Increase	Gravity Load Factors		Load Combination Factors				
		X	Y	# 1	# 2	# 3	# 4	# 5
dIWL	1.000		-1.000	1.000				

Node Displacements & Reactions

Node Label	Load Combination	Node Displacements			Node Reactions		
		X in	Y in	Z Radians	X k	Y k	Z k-ft
N1	dIWL	2.633.E-014	0	0	-2.63306	2.58862	29.19168
N10	dIWL	0.30787	-0.01899	0.00014	0	0	0
N11	dIWL	0.30797	-0.01359	-0.00063	0	0	0
N2	dIWL	5.397.E-014	0	0	-5.39693	7.34088	39.04833
N3	dIWL	0.05364	-0.00027	-0.00061	0	0	0
N4	dIWL	0.05359	-0.02034	-0.00032	0	0	0
N5	dIWL	0.05345	-0.02088	0.00016	0	0	0
N6	dIWL	0.05330	-0.01160	0.00025	0	0	0
N7	dIWL	0.05287	-0.00120	-0.00039	0	0	0
N8	dIWL	0.30814	0.00055	-0.00109	0	0	0
N9	dIWL	0.30797	-0.02198	-0.00039	0	0	0

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Member End Forces...

Member Label	Load Combination	Node " I " End Forces			Node " J " End Forces		
		Axial k	Shear k	Moment ft-k	Axial k	Shear k	Moment ft-k
m1	dIWL	2.58862	2.63306	29.19168	-0.20529	-2.63306	-0.22796
m10	dIWL	0.21593	-0.13129	-1.35289	-0.21593	0.54542	-0.67724
m11	dIWL	-0.35700	-2.10010	-2.46973	0.35700	2.34168	-5.30338
m12	dIWL	2.47693	-3.82755	-6.03734	-2.47693	4.95755	-20.31796
m13	dIWL	7.34088	5.39693	39.04833	-4.95755	-5.39693	20.31796
m2	dIWL	-0.90526	0.65084	3.84665	1.11450	-0.65084	3.31258
m3	dIWL	0.41777	1.11055	-3.61869	-0.41777	-0.45138	6.35206
m4	dIWL	0.85100	-0.90777	-8.75375	-0.85100	2.03777	-0.08289
m5	dIWL	1.42393	-0.61747	-3.07238	-1.42393	1.27664	-0.24231
m6	dIWL	1.35916	0.43323	2.40169	-1.22478	-0.43323	2.36380
m7	dIWL	-1.42030	0.57293	3.15527	1.55468	-0.57293	3.14698
m8	dIWL	2.55091	1.05300	6.27965	-2.34168	-1.05300	5.30338
m9	dIWL	0.64916	-1.11450	-3.31258	-0.64916	1.35607	-1.01091

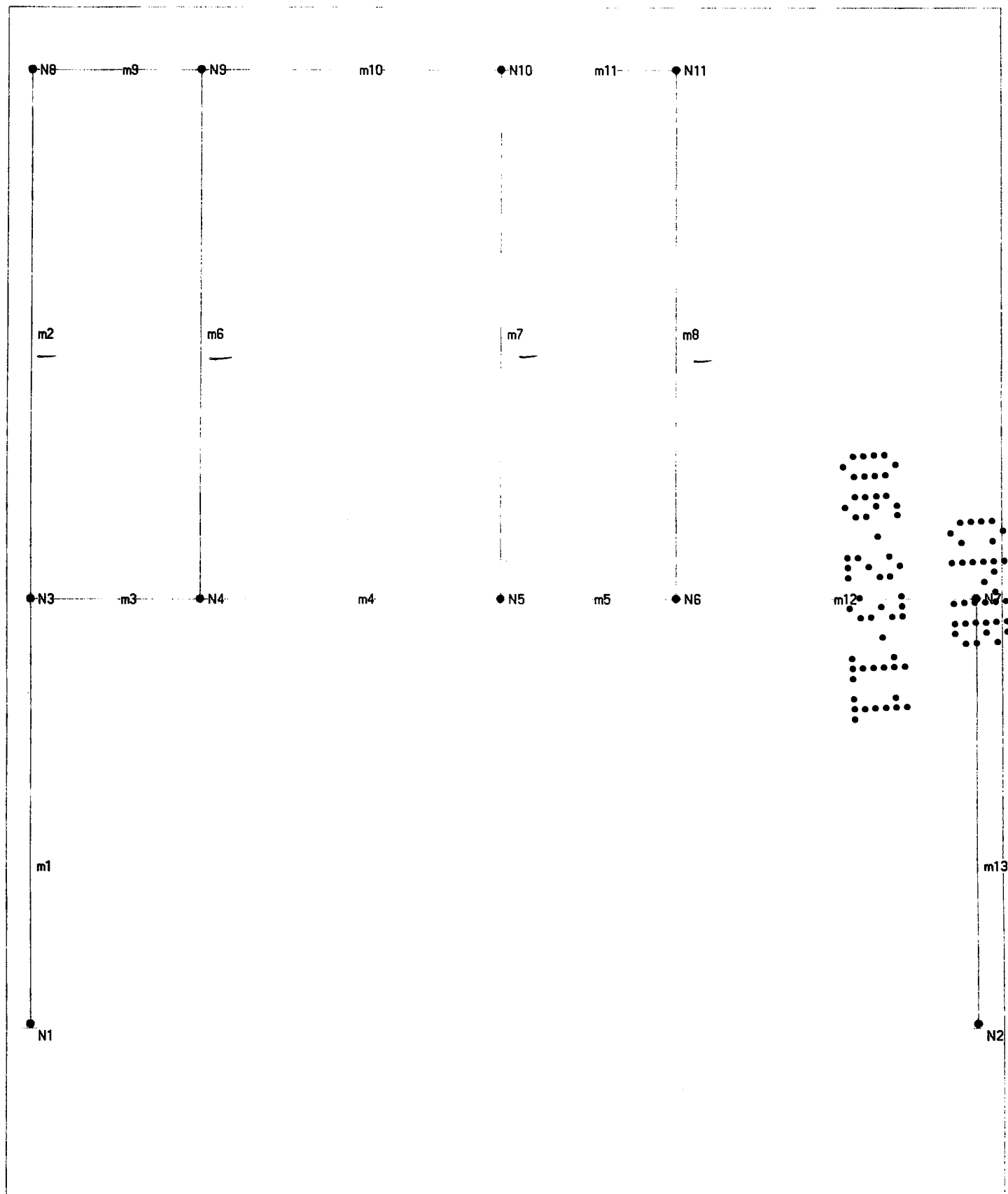
Steel Stress Checks...

Member Label	Load Combination	Overall Maximum	@ Left End	1/4 Span	1/2 Span	3/4 Span	@ Right End	Shear
m1	dIWL	0.041	0.000	0.000	0.000	0.000	0.000	0.010
m10	dIWL	0.069	0.069	0.057	0.040	0.017	0.010	0.010
m11	dIWL	0.262	0.126	0.037	0.060	0.154	0.260	0.053
m12	dIWL	0.262	0.000	0.000	0.000	0.000	0.000	0.053
m13	dIWL	0.262	0.000	0.000	0.000	0.000	0.000	0.053
m2	dIWL	0.200	0.200	0.113	0.027	0.074	0.170	0.015
m3	dIWL	0.200	0.000	0.000	0.000	0.000	0.000	0.015
m4	dIWL	0.200	0.000	0.000	0.000	0.000	0.000	0.015
m5	dIWL	0.200	0.000	0.000	0.000	0.000	0.000	0.015
m6	dIWL	0.281	0.281	0.155	0.029	0.133	0.270	0.010
m7	dIWL	0.365	0.365	0.198	0.031	0.173	0.360	0.013
m8	dIWL	0.335	0.335	0.195	0.056	0.127	0.280	0.024
m9	dIWL	0.171	0.171	0.123	0.073	0.022	0.060	0.030

Member Overall Envelope Summary

Member Label	Section	Axial k	Shear k	Moment ft-k	Deflection in	Maximum Stress Ratio
m1	columns	2.589	2.633	29.192	0.052	0.041
m10	TS6x6x1/4	0.216	0.431	1.353	0.005	0.069
m11	TS6x6x1/4	0.357	2.275	5.187	0.009	0.262
m12	beam	2.477	4.158	17.920	0.014	0.262
m13	columns	7.341	5.397	39.048	0.052	0.262
m2	TS6x6x1/4	0.905	0.651	3.847	0.253	0.200
m3	beam	0.418	1.111	7.168	0.020	0.200
m4	beam	0.851	1.239	8.754	0.005	0.200
m5	beam	1.424	0.810	3.072	0.009	0.200
m6	TS6x2x1/4	1.359	0.433	2.402	0.254	0.281
m7	TS6x2x1/4	1.420	0.573	3.155	0.254	0.365
m8	TS6x6x1/4	2.551	1.053	6.280	0.252	0.335
m9	TS6x6x1/4	0.649	1.290	3.313	0.023	0.171

--> Deflection values listed are the maximum of a sampling of 31 points across the member

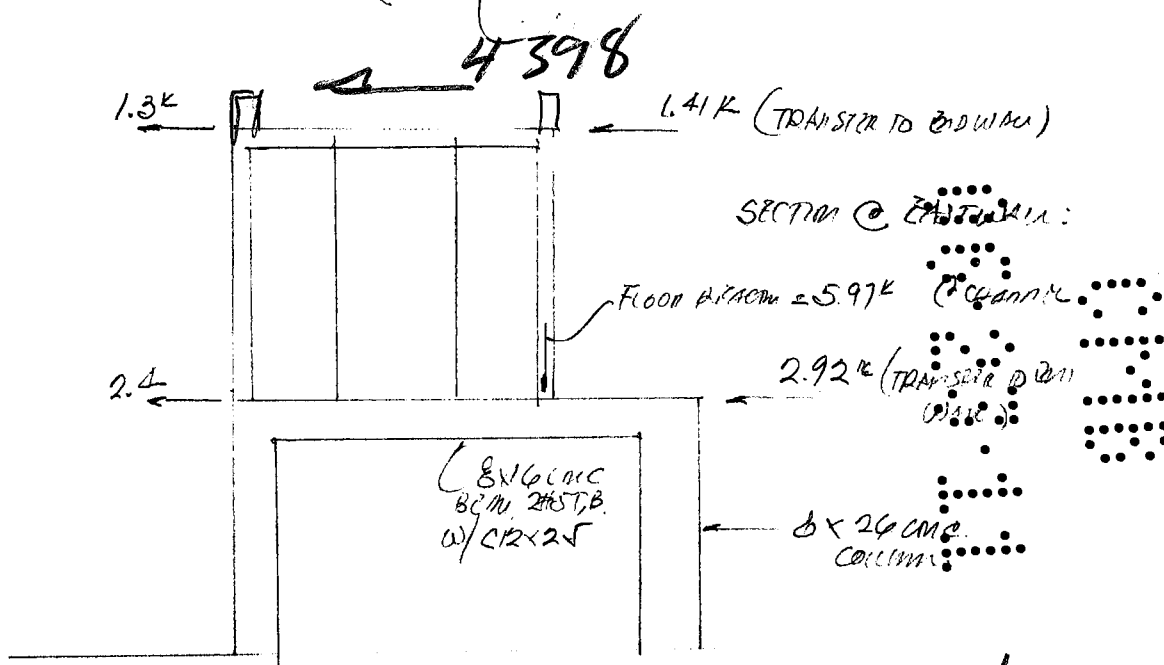


END SECOND FLOOR WALL:

CHOR FOR EMBE FORM TO TRANSFER @ ROOF TOP:

$$F = .1708F \left(\frac{21}{2} \times \frac{11}{2} \right) = 2.71 \text{ KIPS.}$$

@ SECOND FLOOR $F = 46 \left(\frac{21}{2} + 11 \right) = 5.32 \text{ KIPS.}$



$$V_{\text{per ft}} = 46 \left(\frac{11}{2} + .67 \right) + 135 = 419 \#/\text{ft.}$$

$$V_{\text{AT WALL}} = 419 \times \frac{21}{2} = 4,398 \#$$

FOUNDATION CONCENTRATED LOAD @ CORNER OF BLDG.

FROM UMD/DL: MAXIMUM REACTION = 7.82 KIPS. (SEE OUTPUT)

WALL DL: $11 \times .070 + 11 \times .025 = 1.04 \text{ KLF}$.

USE 4LF OF 24" 100WC @ END;

$\therefore \text{TOTAL LOAD} = 7.82 + (1.04 \times 4) = 11.98 \text{ KIPS}$

ALLOWABLE 4X4 KLF = 16 KLF. > 11.98 (OK)

TRANSFER BEAM - MAXIMUM MOMENT = 7.98 K-FT. FROM WIND LOAD.

CONCENTRATED LOAD @ BEAM FROM W.B.B.T. $P = 5.97 \text{ KIPS}$

EXT - 8X6 W/ 2#5 T & B
 $\phi = 14$

$$\rho = 0.62 / 8 \times 14 = 0.0055 \quad K_4 = 278$$

$$M_u = 278 (8) (14)^2 = 36.4 \text{ K-FT}$$

$$C12 \times 25 \quad M = 0.6 (36) (22.1) = 520.56 \text{ K-M} = 43.4 \text{ K-FT}$$

$$\text{MAX } M = 7.98 \times 1.7 = 13.6 \text{ K-FT} < 36.4 \text{ K-FT},$$

FOR C12X25 = STEEL BEAM IS BEARING AND CALCULATIONS
PREVIOUSLY ENCLOSED.

3193 Royal Palm Avenue – Existing Mango tree on neighboring property at Southeast corner of 3193 site

Photos taken 06-21-2011



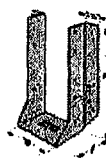
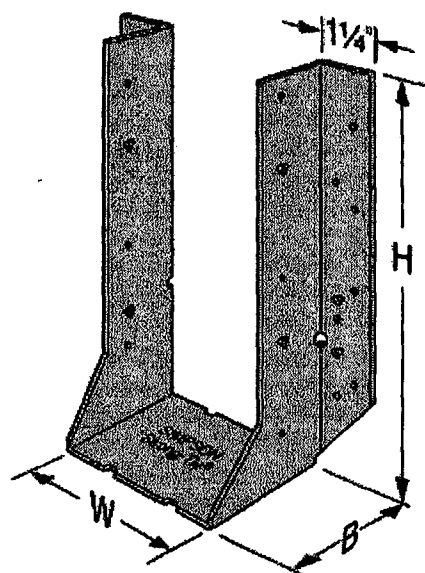
3193

3193 Royal Palm Avenue – Existing Mango tree on neighboring property at Southeast corner of 3193 site

Photos taken 06-21-2011



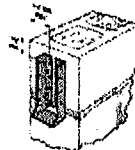
3193



HU410



HUC410

HU410 Installed on
Masonry Block
SidewallHUC410 Installed on
Masonry Block End
WallHSUR/L26-2
Installed on Masonry
Block SidewallLoad Table: See [code report listings](#) below

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Model No.	Dimensions			Fasteners			Allowable Loads (D/SP)	
	W	H	B	CMU	Concrete	Joist	Uplift	Down
							(150)	(100/115/125)
HU26	1 1/2	3 1/2	2 1/4	4-1/4x2 1/4 Titen	4-1/4x1 1/4 Titen	2-10dx1 1/2	290	1545
HU28 ^a	1 1/2	5 1/4	2 1/4	6-1/4x2 1/4 Titen	6-1/4x1 1/4 Titen	4-10dx1 1/2	575	2400
HU210	1 1/2	7 1/4	2 1/4	8-1/4x2 1/4 Titen	8-1/4x1 1/4 Titen	4-10dx1 1/2	575	2400
HU46	3 1/2	5 1/2	2 1/4	12-1/4x2 1/4 Titen	12-1/4x1 1/4 Titen	6-10d	1085	3950
HU26-2	3 1/2	5 1/2	2 1/4	12-1/4x2 1/4 Titen	12-1/4x1 1/4 Titen	6-10d	1085	3950
HU48	3 1/2	6 1/2	2 1/4	14-1/4x2 1/4 Titen	14-1/4x1 1/4 Titen	6-10d	1085	4350
HU28-2	3 1/2	7	2 1/2	14-1/4x2 1/4 Titen	14-1/4x1 1/4 Titen	6-10d	1085	4350
HU410	3 1/2	8 1/2	2 1/4	18-1/4x2 1/4 Titen	18-1/4x1 1/4 Titen	10-10d	1810	5085
HU210-2	3 1/2	8 1/2	2 1/4	18-1/4x2 1/4 Titen	18-1/4x1 1/4 Titen	10-10d	1810	5085
HSUR/L26-2	3 1/2	4 1/2	2 1/4	12-1/4x2 1/4 Titen	12-1/4x1 1/4 Titen	4-16dx2 1/2	815	2625 ^b

- Uplift loads have been increased for wind or earthquake loading with no further increase is allowed. Reduce where other loads govern.
- Minimum concrete strength f'_c shall be 2500 psi. CMU shall have a minimum grout strength of 2500 psi with standard ASTM C90 units and type N or S mortar.
- The HU28 can be ordered skewed 45° and achieve the same loads.
- See [Simpson Strong-Tie Anchor Systems® website](#) for full Titen screw details. Use stainless-steel Titen® screws and products in exposed applications. Tabulated loads apply to stainless-steel applications.
- Noted loads for the HSUR/L shall be 0.8 the table loads for concrete applications.
- Table allowable loads were determined using tested lowest ultimate/3 or fastener calculation values.
- NAILS: 16dx2 1/2 = 0.162" dia. x 2 1/2" long, 10d = 0.148" dia. x 3" long, 10dx1 1/2 = 0.148" dia. x 1 1/2" long. See [other nail sizes and information](#).

Code Reports (PDFs):

▼ next ▲ top

LEGACY REPORTS

IAPMO ES ER	ICC-ES ESR	CITY OF LOS ANGELES	STATE OF FLORIDA	ICC-ES NER	ICC-ES ER	ICC-ES ES
HSUR26-2	ESR-2549 / ESR-2523 *	RR25807	FL10655			
HSUR		See specific model numbers for code listings.				
HSUR26-2	ESR-2549 / ESR-2523 *	RR25807	FL10655			
HU		See specific model numbers for code listings.				

HU210	ESR-2549 / ESR-2523 *	RR25807	FL10655
HU210-2	ESR-2549 / ESR-2523 *	RR25807	FL10655
HU210-3	ESR-2549 / ESR-2523 *	RR25807	FL10655
HU212-3	ESR-2549 / ESR-2523 *	RR25807	FL10655
HU26	ESR-2549 / ESR-2523 *	RR25807	FL10655
HU26-2	ESR-2549 / ESR-2523 *	RR25807	FL10655
HU28	ESR-2549 / ESR-2523 *	RR25807	FL10655
HU28-2	ESR-2549 / ESR-2523 *	RR25807	FL10655
HU410	ESR-2549 / ESR-2552 / ESR-2523 *	RR25801 / RR25807	FL10655 / FL10531
HU46	ESR-2549 / ESR-2523 *	RR25807	FL10655
HU48	ESR-2549 / ESR-2523 *	RR25807	FL10655
HUC	See specific model numbers for code listings.		
HUC210-2Z	ESR-2549 / ESR-2523 *	RR25807	FL10655
HUC210-3Z	ESR-2549 / ESR-2523 *	RR25807	FL10655
HUC28-2Z	ESR-2549 / ESR-2523 *	RR25807	FL10655
HUC410	ESR-2549 / ESR-2552 / ESR-2523 *	RR25801 / RR25807	FL10655 / FL10531
HUC44	ESR-2549 / ESR-2523 *	RR25807	FL10655
HUC46	ESR-2549 / ESR-2523 *	RR25807	FL10655
HUC48	ESR-2549 / ESR-2523 *	RR25807	FL10655
HUC66	ESR-2549 / ESR-2523 *	RR25807	FL10655
HUC68	ESR-2549 / ESR-2523 *	RR25807	FL10655

* ESR-2523 is an Index of many of Simpson Strong-Tie Stamped and Welded Cold-formed Steel Products for Wood or Cold-formed Steel Construction

Drawings: To download drawings, right-click or Ctrl-click on the link, then choose "Save Target As..."

Download the [Simpson Strong-Tie™ AutoCad® Menu](#), which allows you to insert Ortho views directly into your AutoCAD drawing.

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	ORTHOGRAPHIC	PERSPECTIVE
HSUL26-2	None for this model	None for this model
HSUR	None for this model	None for this model
HSUR26-2	None for this model	None for this model

HU

HU sloped down skewed left: [DWG](#) | [DXF](#)
 HU sloped down skewed right: [DWG](#) | [DXF](#)
 HU sloped down: [DWG](#) | [DXF](#)
 HU sloped left: [DWG](#) | [DXF](#)
 HU skewed right: [DWG](#) | [DXF](#)
 HU series: [DWG](#) | [DXF](#)
 HU sloped up skewed left: [DWG](#) | [DXF](#)
 HU sloped up skewed right: [DWG](#) | [DXF](#)
 HU sloped up: [DWG](#) | [DXF](#)
 HU sloped down skewed left front view: [DWG](#) | [DXF](#)
 HU sloped down skewed right front view: [DWG](#) | [DXF](#)
 HU sloped down front view: [DWG](#) | [DXF](#)
 HU sloped left front view: [DWG](#) | [DXF](#)
 HU skewed right front view: [DWG](#) | [DXF](#)
 HU series front view: [DWG](#) | [DXF](#)

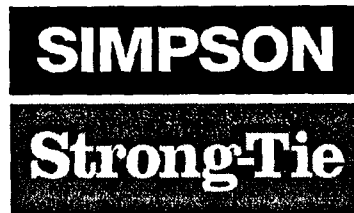
HU 2x Joist: [DWG](#) | [DXF](#)
 HU Glulam Joist: [DWG](#) | [DXF](#)
 HU 4x Joist: [DWG](#) | [DXF](#)
 U&HU Skewed: [DWG](#) | [DXF](#)

ESR-2549

Used for Florida State Wide Product
Approval #

FL10655

Products on this Report which are
approved:



®

SIMPSON STRONG-TIE COMPANY,
INC

Product	FL#	Product	FL#	Product	FL#	Product	FL#
HHUS210-2	10655.1	HU36	10655.42	HUC44	10655.82	SUL210	10655.122
HHUS26-2	10655.2	HU38	10655.43	HUC46	10655.83	SUL210-2	10655.123
HHUS28-2	10655.3	HU410	10655.44	HUC48	10655.84	SUL214	10655.124
HHUS410	10655.4	HU412	10655.45	HUC610	10655.85	SUL24	10655.125
HHUS46	10655.5	HU414	10655.46	HUC612	10655.86	SUL26	10655.126
HHUS48	10655.6	HU416	10655.47	HUC614	10655.87	SUL26-2	10655.127
HSUL210-2	10655.7	HU44	10655.48	HUC616	10655.88	SUL414	10655.128
HSUL214-2	10655.8	HU46	10655.49	HUC66	10655.89	SUR210	10655.129
HSUL26-2	10655.9	HU48	10655.50	HUC68	10655.90	SUR210-2	10655.130
HSUL410	10655.10	HU610	10655.51	HUS210	10655.91	SUR214	10655.131
HSUL414	10655.11	HU612	10655.52	HUS210-2	10655.92	SUR24	10655.132
HSUL46	10655.12	HU614	10655.53	HUS212-2	10655.93	SUR26	10655.133
HSUR210-2	10655.13	HU616	10655.54	HUS26	10655.94	SUR26-2	10655.134
HSUR214-2	10655.14	HU66	10655.55	HUS26-2	10655.95	SUR414	10655.135
HSUR26-2	10655.15	HU68	10655.56	HUS28	10655.96	U210	10655.136
HSUR410	10655.16	HUC210-2	10655.57	HUS28-2	10655.97	U210-2	10655.137
HSUR414	10655.17	HUC210-3	10655.58	HUS410	10655.98	U210-3	10655.138
HSUR46	10655.18	HUC212-2	10655.59	HUS412	10655.99	U210R	10655.139
HU210	10655.19	HUC212-3	10655.60	HUS46	10655.100	U214	10655.140
HU210-2	10655.20	HUC214-2	10655.61	HUS48	10655.101	U24	10655.141
HU210-3	10655.21	HUC214-3	10655.62	LU210	10655.102	U24-2	10655.142
HU212	10655.22	HUC216-2	10655.63	LU24	10655.103	U24R	10655.143
HU212-2	10655.23	HUC216-3	10655.64	LU26	10655.104	U26	10655.144
HU212-3	10655.24	HUC24-2	10655.65	LU28	10655.105	U26-2	10655.145
HU214	10655.25	HUC26-2	10655.66	LUS210	10655.106	U26R	10655.146
HU214-2	10655.26	HUC28-2	10655.67	LUS210-2	10655.107	U310	10655.147
HU214-3	10655.27	HUC310	10655.68	LUS214-2	10655.108	U314	10655.148
HU216-3	10655.29	HUC310-2	10655.69	LUS24	10655.109	U34	10655.149
HU24-2	10655.30	HUC312	10655.70	LUS24-2	10655.110	U36	10655.150
HU26	10655.31	HUC312-2	10655.71	LUS26	10655.111	U410	10655.151
HU26-2	10655.32	HUC314	10655.72	LUS26-2	10655.112	U410R	10655.152
HU28	10655.33	HUC314-2	10655.73	LUS28	10655.113	U414	10655.153
HU28-2	10655.34	HUC316	10655.74	LUS28-2	10655.114	U44	10655.154
HU310	10655.35	HUC34	10655.75	LUS410	10655.115	U44R	10655.155
HU310-2	10655.36	HUC36	10655.76	LUS414	10655.116	U46	10655.156
HU312-2	10655.37	HUC38	10655.77	LUS44	10655.117	U46R	10655.157
HU314	10655.38	HUC410	10655.78	LUS46	10655.118	U610	10655.158
HU314-2	10655.39	HUC412	10655.79	LUS48	10655.119	U610R	10655.159
HU316	10655.40	HUC414	10655.80	MUS26	10655.120	U66	10655.160
HU34	10655.41	HUC416	10655.81	MUS28	10655.121	U66R	10655.161

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Regional Office # 4051 West Flossmoor Road, Country Club Hills, Illinois 60478 # (708) 799-2305

DIVISION: 06—WOOD AND PLASTICS
Section: 06090—Wood and Plastic Fastenings

REPORT HOLDER:

SIMPSON STRONG-TIE COMPANY, INC.
5956 WEST LAS POSITAS BOULEVARD
PLEASANTON, CALIFORNIA 94588
(800) 925-5099
www.strongtie.com

EVALUATION SUBJECT:

SIMPSON STRONG-TIE FACE-MOUNT HANGERS FOR
WOOD FRAMING

1.0 EVALUATION SCOPE

Compliance with the following codes:

- # 2006 International Building Code® (IBC)
- # 2006 International Residential Code® (IRC)
- # Other Codes (see Section 8.0)

Properties evaluated:

Structural

2.0 USES

The Simpson Strong-Tie face-mount hangers described in this report are used as wood framing connectors in accordance with Section 2304.9.3 of the IBC. The products may also be used in structures regulated under the IRC when an engineered design is submitted in accordance with Section R301.1.3 of the IRC.

3.0 DESCRIPTION

3.1 General:

The Simpson Strong-Tie face-mount hangers described in this report are U-shaped hangers that have prepunched holes for the installation of nails into the face of the supporting wood header or beam or ledger.

3.1.1 LU Series Hangers: The LU series hangers are formed from No. 20 gage galvanized steel. See Table 1 for hanger dimensions, required fasteners, and allowable loads; and Figure 1 for a drawing of a typical LU series hanger.

3.1.2 U Series Hangers: The U series hangers are formed from No. 16 gage galvanized steel. See Table 2 for the hanger dimensions, required fasteners, and allowable loads; and Figure 2 for a drawing of a typical U series hanger.

3.1.3 HU/HUC Series Hangers: The HU and HUC series hangers are formed from No. 14 gage galvanized steel. HU

hangers having a width equal to or greater than $2\frac{9}{16}$ inches (65 mm) are available with concealed flanges and are specified with the model designation HUC. See Table 3 for the hanger dimensions, required fasteners, and allowable loads; and Figure 3a for a drawing of a typical HU series hanger and Figure 3b for an HUC hanger.

3.1.4 LUS Series Hangers: The LUS series hangers are formed from No. 18 gage galvanized steel. The hangers have prepunched holes for the installation of nails that are driven at a 45-degree angle through the joist and into the header, which is described as double shear nailing in the installation instructions. See Table 4 for the hanger dimensions, required fasteners, and allowable loads; and Figure 4 for a drawing of a typical LUS series hanger.

3.1.5 MUS Joist Hanger: The MUS series hangers are formed from No. 18 gage galvanized steel. The U-shaped portion of the hangers has prepunched holes for the installation of joist nails that are driven at an angle through the joist and into the header, which is described as double shear nailing in the installation instructions. See Table 5 for the hanger dimensions, required fasteners, and allowable loads; Figure 5 for a drawing of a typical MUS series hanger.

3.1.6 HUS Series Hangers: The HUS series hangers are formed from No. 14 gage galvanized steel with the exception of the HUS26, HUS28 and HUS210 hangers, which are formed from No. 16 gage galvanized steel. The hangers have prepunched holes for the installation of joist nails that are driven at an angle through the joist and into the header, which is described as double shear nailing in the installation instructions. See Table 6 for the hanger dimensions, required fasteners, and allowable loads; and Figure 6 for a drawing of a typical HUS series hanger.

3.1.7 HHUS Series Hangers: The HHUS series hangers are formed from No. 14 gage galvanized steel. The hangers have prepunched holes for the installation of joist nails that are driven at an angle through the joist and into the header, which is described as double shear nailing in the installation instructions. See Table 7 for the hanger dimensions, required fasteners, and allowable loads; Figure 7 for a drawing of a typical HHUS series hanger.

3.1.8 SUR/L Series Hangers: The SUR/L series hangers are formed from No. 16 gage galvanized steel. SUR and SUL are mirror-image identical hangers, skewed at 45 degrees right and left, respectively. See Table 8 for the hanger dimensions, required fasteners, and allowable loads; and Figure 8 for a drawing of typical SUR/L series hangers.

3.1.9 HSUR/L Series Hangers: The HSUR/L series hangers are formed from No. 14 gage galvanized steel. SUR and SUL are mirror-image identical hangers, skewed at 45 degrees right and left, respectively. See Table 9 for the hanger dimensions, required fasteners, and allowable loads; and Figure 9 for a drawing of typical HSUR/L series hangers.

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3.2 Materials:

3.2.1 Steel: The hangers described in this report are manufactured from galvanized steel complying with ASTM A 653, SS designation, Grade 33, with a minimum yield strength, F_y , of 33,000 psi (227 MPa) and a minimum tensile strength, F_u , of 45,000 psi (310 MPa). Minimum base-metal thicknesses for the hangers in this report are as follows:

NOMINAL THICKNESS (gauge)	MINIMUM BASE-METAL THICKNESS (inch)
No. 14	0.0685
No. 16	0.0555
No. 18	0.0445
No. 20	0.0335

For SI: 1 inch = 25.4 mm.

The hangers have a minimum G90 zinc coating specification in accordance with ASTM A 653. Some models (designated with a model number ending with Z) are available with a G185 zinc coating specification in accordance with ASTM A 653. Some models (designated with a model number ending with HDG) are available with a hot-dip galvanization, also known as "batch" galvanization, in accordance with ASTM A 123, with a minimum specified coating weight of 2.0 ounces of zinc per square foot of surface area (600 g/m²), total for both sides. Model numbers in this report do not include the Z or HDG ending, but the information shown applies. The lumber treater or holder of this report (Simpson Strong-Tie Company) should be contacted for recommendations on minimum corrosion resistance of steel connectors in contact with the specific proprietary preservative treated or fire retardant treated lumber.

3.2.2 Wood: Wood members with which the connectors are used must be either sawn lumber or engineered lumber having a minimum specific gravity of 0.50 (minimum equivalent specific gravity of 0.50 for engineered lumber), and having a maximum moisture content of 19 percent (16 percent for engineered lumber) except as noted in Section 4.1. The thickness of the supporting wood member (header, beam, or ledger) must be equal to or greater than the length of the fasteners specified in the tables in this report, or as required by wood member design, whichever is greater.

3.2.3 Fasteners: Nails used for hangers described in this report must comply with ASTM F 1667 and have the following minimum fastener dimensions and bending yield strengths (F_{yb}):

COMMON NAIL SIZE	SHANK DIAMETER (Inch)	FASTENER LENGTH (Inches)	F_{yb} (psi)
10d x 1 1/2	0.148	1 1/2	90,000
10d	0.148	3	90,000
16d x 2 1/2	0.162	2 1/2	90,000
16d	0.162	3 1/2	90,000

For SI: 1 inch = 25.4 mm, 1 psi = 6.895 kPa.

Fasteners used in contact with preservative treated or fire retardant treated lumber must comply with IBC Section 2304.9.5 or IRC Section R319.3, as applicable. The lumber treater or this report holder (Simpson Strong-Tie Company) should be contacted for recommendations on minimum corrosion resistance of fasteners and connection capacities of fasteners used with the specific proprietary preservative treated or fire retardant treated lumber.

4.0 DESIGN AND INSTALLATION

4.1 Design:

The tabulated allowable loads shown in this report are based on allowable stress design (ASD) and include the load

duration factor, C_D , corresponding with the applicable loads in accordance with the NDS.

Tabulated allowable loads apply to products connected to wood used under dry conditions and where sustained temperatures are 100°F (37.8°C) or less. When products are installed to wood having a moisture content greater than 19 percent (16 percent for engineered wood products), or where wet service is expected, the allowable loads must be adjusted by the wet service factor, C_M , specified in the NDS. When connectors are installed in wood that will experience sustained exposure to temperatures exceeding 100°F (37.8°C), the allowable loads in this report must be adjusted by the temperature factor, C_t , specified in the NDS.

Connected wood members must be analyzed for load-carrying capacity at the connection in accordance with the NDS.

4.2 Installation:

Installation of the connectors must be in accordance with this evaluation report and the manufacturer's published installation instructions. In the event of a conflict between this report and the manufacturer's published installation instructions, this report governs.

5.0 CONDITIONS OF USE

The Simpson Strong-Tie face-mount hangers for wood-framed construction described in this report comply with, or are suitable alternatives to what is specified in, those codes listed in Section 1.0 of this report, subject to the following conditions:

- 5.1 The connectors must be manufactured, identified and installed in accordance with this report and the manufacturer's published installation instructions. A copy of the instructions must be available at the jobsite at all times during installation.
- 5.2 Calculations showing compliance with this report must be submitted to the code official. The calculations must be prepared by a registered design professional where required by the statutes of the jurisdiction in which the project is to be constructed.
- 5.3 Adjustment factors noted in Section 4.1 and the applicable codes must be considered, where applicable.
- 5.4 Connected wood members and fasteners must comply, respectively, with Sections 3.2.2 and 3.2.3 of this report.
- 5.5 Use of connectors with preservative treated or fire retardant treated lumber must be in accordance with Section 3.2.1 of this report. Use of fasteners with preservative treated or fire retardant treated lumber must be in accordance with Section 3.2.3 of this report.

6.0 EVIDENCE SUBMITTED

Data in accordance with the ICC-ES Acceptance Criteria for Joist Hangers and Similar Devices (AC13), dated October 2006 (corrected March 2007).

7.0 IDENTIFICATION

The products described in this report are identified with a die-stamped label indicating the name of the manufacturer (Simpson Strong-Tie), the model number, and the number of an index evaluation report (ESR-2523) that is used as an identifier for the products recognized in this report.

8.0 OTHER CODES

8.1 Evaluation Scope:

In addition to the codes referenced in Section 1.0, the products in this report were evaluated for compliance with the requirements of the following codes:

- # 2003 *International Building Code*® (2003 IBC)
- # 2003 *International Residential Code*® (2003 IRC)
- # 2000 *International Building Code*® (2000 IBC)
- # 2000 *International Residential Code*® (2000 IRC)
- # 1997 *Uniform Building Code*™ (UBC)

The products described in this report comply with, or are suitable alternatives to what is specified in, the codes listed above, subject to the provisions of Sections 8.2 through 8.7.

8.2 Uses:

8.2.1 2003 IBC, 2003 IRC, 2000 IBC, and 2000 IRC: See Section 2.0 of this report.

8.2.2 UBC: Replace the information in Section 2.0 with the following: Simpson Strong-Tie face-mount hangers are used as wood framing connectors in accordance with Section 2318.4.8 of the UBC.

8.3 Description:

8.3.1 2003 IBC and 2003 IRC: See Section 3.0 of this report.

8.3.2 2000 IBC and 2000 IRC: See Section 3.0 of this report, except modify Section 3.2.3 of this report to reference Section R323.3 of the IRC.

8.3.3 UBC: See Section 3.0 of this report, except modify the first sentence in the last paragraph of Section 3.2.3 as follows: Fasteners used in contact with preservative treated

or fire retardant treated lumber must, as a minimum, comply with UBC Section 2304.3.

8.4 Design and Installation: 2003 IBC, 2003 IRC, 2000 IBC, 2000 IRC, and UBC:

See Section 4.0 of this report.

8.5 Conditions of Use:

8.5.1 2003 IBC, 2003 IRC 2000 IBC, and 2000 IRC: The Simpson Strong-Tie products described in this report comply with, or are suitable alternatives to what is specified in, those codes listed in Section 8.0, subject to the same conditions of use indicated in Section 5.0 of this report.

8.5.2 UBC: The Simpson Strong-Tie products described in this report comply with, or are suitable alternatives to what is specified in, the UBC, subject to the same conditions of use indicated in Section 5.0 of this report, except the last sentence of Section 5.5 is replaced with the following: Fasteners used in contact with preservative treated or fire retardant treated lumber must, as a minimum, comply with UBC Section 2304.3.

8.6 Evidence Submitted: 2003 IBC, 2003 IRC 2000 IBC, 2000 IRC, and UBC:

See Section 6.0 of this report.

8.7 Identification: 2003 IBC, 2003 IRC 2000 IBC, 2000 IRC, and UBC:

See Section 7.0 of this report.

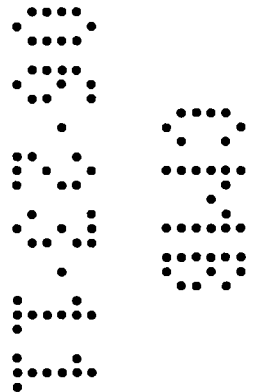


TABLE 1—ALLOWABLE LOADS FOR THE LU SERIES JOIST HANGERS

MODEL No.	DIMENSIONS ¹ (Inches)			FASTENERS ² (Quantity-Type)		ALLOWABLE LOADS ^{3,4,5} (lbs)						
	W	H	B	Header ⁵	Joist	Uplift ⁶	Download					
						C _D = 1.33 or = 1.6	C _D = 1.0		C _D = 1.15		C _D = 1.25	
							10d	16d	10d	16d	10d	16d
LU24	1 ⁹ / ₁₆	3 ³ / ₄	1½	4	2-10dx1½	245	445	530	510	610	555	665
LU26	1 ⁹ / ₁₆	4¾	1½	6	4-10dx1½	490	665	800	765	920	830	1,000
LU28	1 ⁹ / ₁₆	6¾	1½	8	6-10dx1½	735	890	1,065	1,025	1,225	1,110	1,300
LU210	1 ⁹ / ₁₆	7 ¹³ / ₁₆	1½	10	8-10dx1½	735	1,110	1,330	1,275	1,530	1,390	1,660

For SI: 1 inch = 25.4 mm, 1 lbf = 4.45 N.

1. Refer to Figure 1 (this page) for definitions of hanger nomenclature (W, H, B).
2. Refer to Section 3.2.3 of this report for nail sizes and required minimum physical properties.
3. Tabulated allowable loads must be selected based on duration of load as permitted by the applicable building code.
4. LU Series hangers provide torsional resistance, which is defined as a moment of not less than 75 pounds (334 N) times the depth of the joist at which the lateral movement of the top or bottom of the joist with respect to its vertical position is 0.125 inch (3.2 mm).
5. The quantity of 10d or 16d common nails specified in the "Header" column under "Fasteners" is required to achieve the tabulated allowable loads shown in the Allowable Download "10d" or "16d" columns.
6. Allowable uplift loads are for hangers installed with either 10d or 16d common nails into the supporting header/beam, and have been increased for wind or earthquake loading with no further increase allowed. The allowable uplift loads must be reduced when other load durations govern.

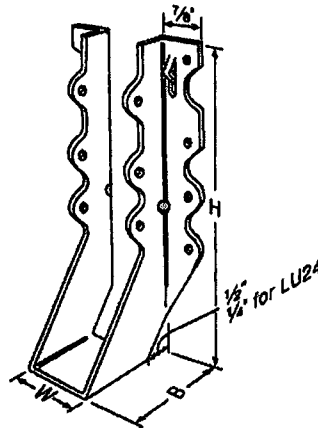


FIGURE 1—LU SERIES HANGER

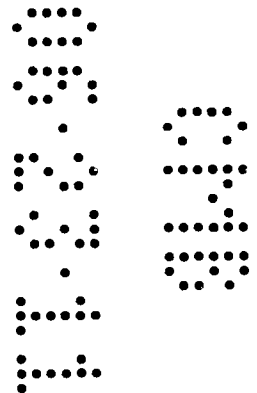


TABLE 2—ALLOWABLE LOADS FOR THE U SERIES JOIST HANGERS

MODEL No.	DIMENSIONS ¹ (inches)			FASTENERS ² (Quantity-Type)		ALLOWABLE LOADS ^{3,4,5} (lbs)						
						Uplift ⁶ $C_D = 1.33$ or $= 1.6$	Download					
	W	H	B	Header ⁵	Joist		$C_D = 1.0$		$C_D = 1.15$		$C_D = 1.25$	
							10d	16d	10d	16d	10d	16d
U24	1 ⁹ / ₁₆	3 ¹ / ₈	2	4	2-10dx1 ¹ / ₂	240	445	530	510	610	555	665
U26	1 ⁹ / ₁₆	4 ³ / ₄	2	6	4-10dx1 ¹ / ₂	480	665	800	765	920	830	1,000
U210	1 ⁹ / ₁₆	7 ¹³ / ₁₆	2	10	6-10dx1 ¹ / ₂	720	1,110	1,330	1,275	1,530	1,390	1,660
U214	1 ⁹ / ₁₆	10	2	12	8-10dx1 ¹ / ₂	960	1,330	1,595	1,530	1,835	1,665	1,995
U34	2 ⁹ / ₁₆	3 ³ / ₈	2	4	2-10dx1 ¹ / ₂	240	445	530	510	610	555	665
U36	2 ⁹ / ₁₆	5 ⁵ / ₈	2	8	4-10dx1 ¹ / ₂	480	890	1,065	1,025	1,225	1,110	1,330
U310	2 ⁹ / ₁₆	8 ⁷ / ₈	2	14	6-10dx1 ¹ / ₂	720	1,555	1,860	1,790	2,140	1,940	2,330
U314	2 ⁹ / ₁₆	10 ¹ / ₂	2	16	6-10dx1 ¹ / ₂	720	1,775	2,130	2,040	2,450	2,220	2,660
U44	3 ⁹ / ₁₆	2 ¹ / ₂	2	4	2-10d	295	445	530	510	610	555	665
U46	3 ⁹ / ₁₆	4 ⁷ / ₈	2	8	4-10d	590	890	1,065	1,025	1,225	1,110	1,330
U410	3 ⁹ / ₁₆	8 ³ / ₈	2	14	6-10d	890	1,555	1,860	1,790	2,140	1,940	2,330
U414	3 ⁹ / ₁₆	10	2	16	6-10d	890	1,775	2,130	2,040	2,450	2,220	2,660
U24-2	3 ¹ / ₈	3	2	4	2-10d	295	445	530	510	610	555	665
U26-2	3 ¹ / ₈	5	2	8	4-10d	590	890	1,065	1,025	1,225	1,110	1,330
U210-2	3 ¹ / ₈	8 ¹ / ₂	2	14	6-10d	890	1,555	1,860	1,790	2,140	1,940	2,330
U66	5 ¹ / ₂	5	2	8	4-10d	590	890	1,065	1,025	1,225	1,110	1,330
U610	5 ¹ / ₂	8 ¹ / ₂	2	14	6-10d	890	1,555	1,860	1,790	2,140	1,940	2,330
U210-3	5 ¹ / ₂	7 ³ / ₄	2	14	6-10d	890	1,555	1,860	1,790	2,140	1,940	2,330
U24R	2 ¹ / ₁₆	3 ⁵ / ₈	2	4	2-10dx1 ¹ / ₂	240	445	530	510	610	555	665
U26R	2 ¹ / ₁₆	5 ⁵ / ₈	2	8	4-10dx1 ¹ / ₂	480	890	1,065	1,025	1,225	1,110	1,330
U210R	2 ¹ / ₁₆	9 ¹ / ₈	2	14	6-10dx1 ¹ / ₂	720	1,555	1,860	1,790	2,140	1,940	2,330
U44R	4 ¹ / ₁₆	2 ⁵ / ₈	2	4	2-16d	355	445	530	510	610	555	665
U46R	4 ¹ / ₁₆	4 ⁵ / ₈	2	8	4-16d	710	890	1,065	1,025	1,225	1,110	1,330
U410R	4 ¹ / ₁₆	8 ¹ / ₈	2	14	6-16d	1,065	1,555	1,860	1,790	2,140	1,940	2,330
U66R	6	5	2	8	4-16d	710	890	1,065	1,025	1,225	1,110	1,330
U610R	6	8 ¹ / ₂	2	14	6-16d	1,065	1,555	1,860	1,790	2,140	1,940	2,330

For SI: 1 inch = 25.4 mm, 1 lbf = 4.45 N.

1. Refer to Figure 2 (this page) for definitions of hanger nomenclature (W, H, B).
2. Refer to Section 3.2.3 of this report for nail sizes and required minimum physical properties
3. Tabulated allowable loads must be selected based on duration of load as permitted by the applicable building code.
4. U Series hangers provide torsional resistance, which is defined as a moment of not less than 75 pounds (334 N) times the depth of the joist at which the lateral movement of the top or bottom of the joist with respect to the vertical position of the joist is 0.125 inch (3.2 mm).
5. The quantity of 10d or 16d common nails specified in the "Header" column under "Fasteners" is required to achieve the tabulated allowable loads shown in the Allowable Download "10d" or "16d" columns.
6. Allowable uplift loads are for hangers installed with either 10d or 16d common nails into the supporting header/beam, and have been increased for wind or earthquake loading with no further increase allowed. The allowable uplift loads must be reduced when other load durations govern.

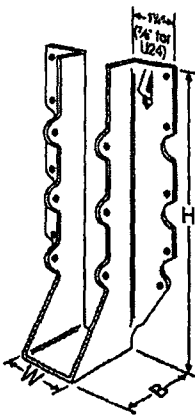
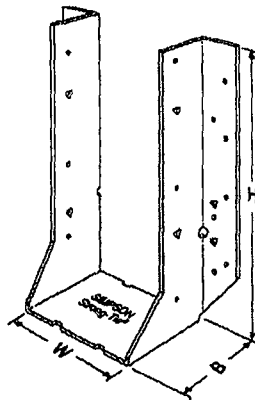
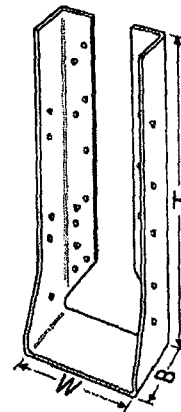
FIGURE 2—U SERIES HANGER
(See Table 2—above)FIGURE 3a—HU SERIES HANGER
(See Table 3—Next Page)FIGURE 3b—HUC SERIES HANGER
(See Table 3, Footnote 3—Next Page)

TABLE 3—ALLOWABLE LOADS FOR THE HU/HUC SERIES JOIST HANGERS

MODEL NO.	HANGER DIMENSIONS ¹ (Inches)			FASTENERS ² (Quantity-Type)		ALLOWABLE LOADS (lbs) ^{3,4,5}			
	W	H	B	Header	Joist	Uplift ⁶	Download		
						C _D = 1.33 or = 1.6	C _D = 1.0	C _D = 1.15	C _D = 1.25
HU26	1 ⁹ / ₁₆	3 ¹ / ₁₆	2 1/4	4-16d	2-10dx1 ¹ / ₂	240	535	615	670
HU28	1 ⁹ / ₁₆	5 ¹ / ₄	2 1/4	6-16d	4-10dx1 ¹ / ₂	480	805	925	1,005
HU210	1 ⁹ / ₁₆	7 ¹ / ₈	2 1/4	8-16d	4-10dx1 ¹ / ₂	480	1,070	1,230	1,340
HU212	1 ⁹ / ₁₆	9	2 1/4	10-16d	6-10dx1 ¹ / ₂	720	1,340	1,540	1,675
HU214	1 ⁹ / ₁₆	10 ¹ / ₈	2 1/4	12-16d	6-10dx1 ¹ / ₂	720	1,610	1,850	2,010
HU34	2 ⁹ / ₁₆	3 ³ / ₈	2 1/2	4-16d	2-10dx1 ¹ / ₂	240	535	615	670
HU36	2 ⁹ / ₁₆	5 ³ / ₈	2 1/2	8-16d	4-10dx1 ¹ / ₂	480	1,070	1,230	1,340
HU38	2 ⁹ / ₁₆	7 ¹ / ₈	2 1/2	10-16d	4-10dx1 ¹ / ₂	480	1,340	1,540	1,675
HU310	2 ⁹ / ₁₆	8 ⁷ / ₈	2 1/2	14-16d	6-10dx1 ¹ / ₂	720	1,610	1,850	2,010
HU312	2 ⁹ / ₁₆	10 ⁹ / ₈	2 1/2	16-16d	6-10dx1 ¹ / ₂	720	2,145	2,465	2,680
HU314	2 ⁹ / ₁₆	12 ³ / ₈	2 1/2	18-16d	8-10dx1 ¹ / ₂	960	2,410	2,770	3,015
HU316	2 ⁹ / ₁₆	14 ¹ / ₈	2 1/2	20-16d	8-10dx1 ¹ / ₂	960	2,680	3,080	3,350
HU44	3 ⁹ / ₁₆	2 ⁷ / ₈	2 1/2	4-16d	2-10d	300	535	615	670
HU46	3 ⁹ / ₁₆	5 ³ / ₁₆	2 1/2	8-16d	4-10d	605	1,070	1,230	1,340
HU48	3 ⁹ / ₁₆	6 ¹³ / ₁₆	2 1/2	10-16d	4-10d	605	1,340	1,540	1,675
HU410	3 ⁹ / ₁₆	8 ⁵ / ₈	2 1/2	14-16d	6-10d	905	1,875	2,155	2,345
HU412	3 ⁹ / ₁₆	10 ⁹ / ₁₆	2 1/2	16-16d	6-10d	905	2,145	2,465	2,680
HU414	3 ⁹ / ₁₆	12 ⁷ / ₈	2 1/2	18-16d	8-10d	1,205	2,410	2,770	3,015
HU416	3 ⁹ / ₁₆	13 ⁵ / ₈	2 1/2	20-16d	8-10d	1,205	2,680	3,080	3,350
HU66	5 ¹ / ₂	4 ³ / ₁₆	2 1/2	8-16d	4-16d	715	1,070	1,230	1,340
HU68	5 ¹ / ₂	5 ¹³ / ₁₆	2 1/2	10-16d	4-16d	715	1,340	1,540	1,675
HU610	5 ¹ / ₂	7 ⁵ / ₈	2 1/2	14-16d	6-16d	1,070	1,875	2,155	2,345
HU612	5 ¹ / ₂	9 ³ / ₈	2 1/2	16-16d	6-16d	1,070	2,145	2,465	2,680
HU614	5 ¹ / ₂	11 ⁹ / ₈	2 1/2	18-16d	8-16d	1,430	2,410	2,770	3,015
HU616	5 ¹ / ₂	12 ¹¹ / ₁₆	2 1/2	20-16d	8-16d	1,430	2,680	3,080	3,350
HU24-2	3 ¹ / ₈	3 ¹ / ₁₆	2 1/2	4-16d	2-10d	300	535	615	670
HU26-2	3 ¹ / ₈	5 ³ / ₈	2 1/2	8-16d	4-10d	605	1,070	1,230	1,340
HU28-2	3 ¹ / ₈	7	2 1/2	10-16d	4-10d	605	1,340	1,540	1,675
HU210-2	3 ¹ / ₈	8 ¹³ / ₁₆	2 1/2	14-16d	6-10d	905	1,875	2,155	2,345
HU212-2	3 ¹ / ₈	10 ⁹ / ₁₆	2 1/2	16-16d	6-10d	905	2,145	2,465	2,680
HU214-2	3 ¹ / ₈	12 ¹³ / ₁₆	2 1/2	18-16d	8-10d	1,205	2,410	2,770	3,015
HU216-2	3 ¹ / ₈	13 ¹ / ₈	2 1/2	20-16d	8-10d	1,205	2,680	3,080	3,350
HU310-2	5 ¹ / ₈	8 ⁷ / ₈	2 1/2	14-16d	6-10d	905	1,875	2,155	2,345
HU312-2	5 ¹ / ₈	10 ⁹ / ₈	2 1/2	16-16d	6-10d	905	2,145	2,770	2,680
HU314-2	5 ¹ / ₈	12 ⁹ / ₈	2 1/2	18-16d	8-10d	1,205	2,410	2,770	3,015
HU210-3	4 ¹¹ / ₁₆	8 ⁹ / ₁₆	2 1/2	14-16d	6-10d	905	1,875	2,155	2,345
HU212-3	4 ¹¹ / ₁₆	10 ⁹ / ₁₆	2 1/2	16-16d	6-10d	905	2,145	2,465	2,680
HU214-3	4 ¹¹ / ₁₆	12 ⁷ / ₁₆	2 1/2	18-16d	8-10d	1,205	2,410	2,770	3,015
HU216-3	4 ¹¹ / ₁₆	13 ⁷ / ₁₆	2 1/2	20-16d	8-10d	1,205	2,680	3,080	3,350

For SI: 1 inch = 25.4 mm, 1 lbf = 4.45 N.

1. Refer to Figures 3a and 3b (previous page) for definitions of hanger nomenclature (W, H, B).
2. Refer to Section 3.2.3 of this report for nail sizes and required minimum physical properties.
3. HU series hangers with widths (W) equal to or greater than 2⁹/₁₆ inches (65 mm) are available with header flanges turned in (concealed) and are identified with the model designation HUC#. See Figure 3b (previous page).
4. Tabulated allowable loads must be selected based on duration of load as permitted by the applicable building code.
5. HU Series hangers provide torsional resistance, which is defined as a moment of not less than 75 pounds (334 N) times the depth of the joist at which the lateral movement of the top or bottom of the joist with respect to the vertical position of the joist is 0.125 inch (3.2 mm).
6. Allowable uplift loads have been increased for wind or earthquake loading with no further increase allowed. The allowable uplift loads must be reduced when other load durations govern.

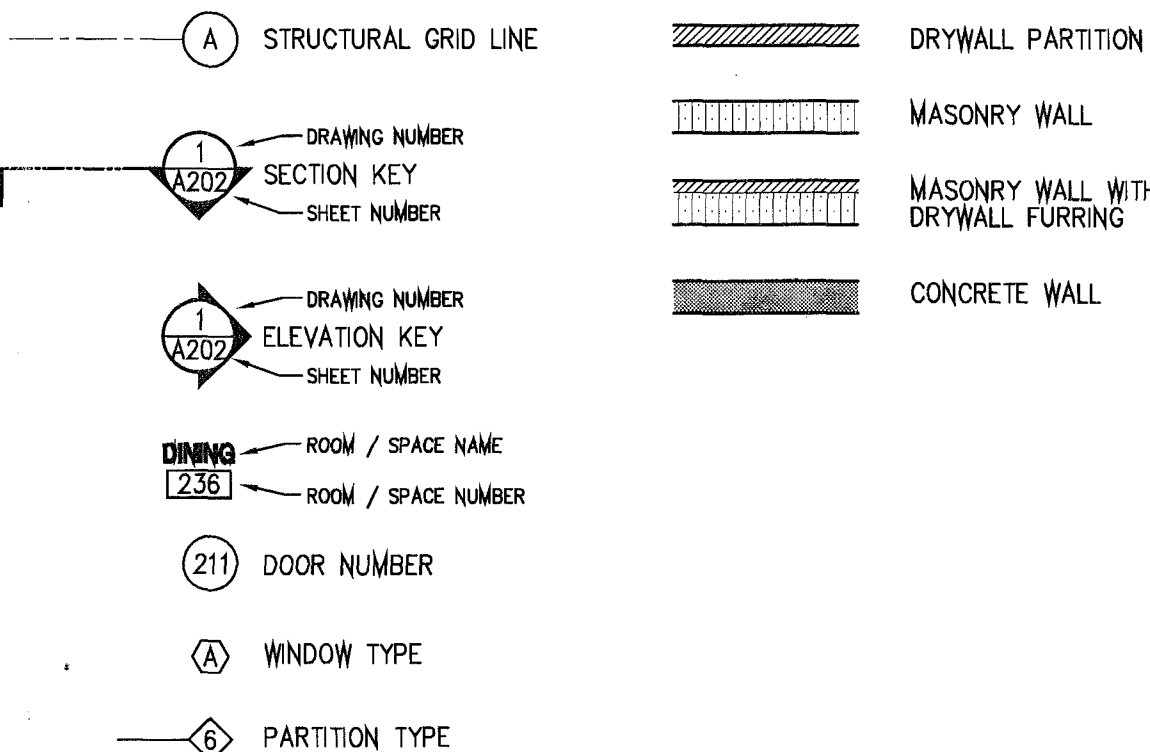
GENERAL NOTES:

- 1.) ALL WORK SHALL COMPLY WITH THE PROVISIONS OF THE FLORIDA BUILDING CODE, EXISTING, 2007 EDITION, AND ALL SUBSEQUENT REVISIONS, ALL ORDINANCES OF THE CITY OF MIAMI BEACH, DADE COUNTY, AND THE LAWS OF THE STATE OF FLORIDA. THE WORK SHALL ALSO COMPLY WITH APPLICABLE SECTIONS OF:
- A. FLORIDA FIRE PREVENTION CODE, 2007 EDITION
B. FLORIDA ACCESSIBILITY CODE, 2007 EDITION
C. NATIONAL ELECTRIC CODE
D. STANDARD PLUMBING CODE
E. STANDARD MECHANICAL CODE
F. STANDARD FIRE PREVENTION CODE
G. ENERGY EFFICIENCY CODE - STATE OF FLORIDA
- 2.) THE GENERAL CONTRACTOR AND ALL SUB-CONTRACTORS SHALL SECURE ALL NECESSARY BUILDING, PLUMBING, ELECTRICAL, OCCUPANCY AND OTHER PERMITS AT THEIR EXPENSE. THE GENERAL CONTRACTOR SHALL BE RESPONSIBLE FOR ANY REQUIRED BUILDING DEPARTMENT EXPEDITING FOR SUB-CONTRACTORS PERMITS.
- 3.) THE GENERAL CONTRACTOR AND ALL SUB-CONTRACTORS SHALL BE LICENSED BY THE STATE OF FLORIDA AND HOLD OCCUPATIONAL LICENSES ISSUED BY DADE COUNTY AND / OR THE CITY OF MIAMI BEACH.
- 5.) THE GENERAL CONTRACTOR SHALL SUBMIT A TIME SCHEDULE FOR COMPLETION OF THE WORK, LISTING MAJOR ITEMS TO BE INSTALLED AND LEAD-TIME REQUIRED FOR OWNER-SUPPLIED ITEMS SUCH AS APPLIANCES, RESTAURANT EQUIPMENT, & MILLWORK. THIS SCHEDULE SHALL BE UP-DATED EACH WEEK DURING CONSTRUCTION AND A COPY PROVIDED TO THE ARCHITECT AND THE OWNER.
- 6.) THE CONTRACTOR SHALL VISIT THE PROJECT SITE AND EXAMINE THE PLANS SO AS TO BECOME FULLY FAMILIAR WITH THE EXISTING CONDITIONS AND MATERIALS TO BE ENCOUNTERED AS TO CHARACTER, QUANTITY OF WORK, AND MATERIALS TO BE FURNISHED.
- 7.) ALL WORK SHALL BE PERFORMED IN STRICT ACCORDANCE WITH THE BEST PRACTICES OF THE CONSTRUCTION TRADES IN A PROFESSIONAL AND WORKMAN-LIKE MANNER. ANY WORK NOT CONFORMING TO THESE STANDARDS MAY BE REJECTED BY THE ARCHITECT AND REDONE BY THE CONTRACTOR AT NO ADDITIONAL EXPENSE TO THE OWNER.
- 8.) CONTRACTOR SHALL CONFINE HIS APPARATUS, EQUIPMENT, STORAGE OF MATERIALS, AND OPERATIONS OF HIS WORKMEN TO LIMITS INDICATED BY LAW AND LOCAL ORDINANCES AND SHALL ARRANGE AND MAINTAIN PARKING OF ALL VEHICLES AND STORAGE OF MATERIALS IN AN ORDERLY MANNER LEAVING ALL WALKS, DRIVEWAYS, ROADS AND ENTRANCES UNENCUMBERED.
- 9.) THE GENERAL CONTRACTOR AND ALL SUB-CONTRACTORS SHALL BE REQUIRED TO FIELD VERIFY ALL EXISTING CONDITIONS AND DIMENSIONS AND SHALL BE RESPONSIBLE FOR COORDINATION OF SAME. IF ANY DISCREPANCIES BETWEEN FIELD CONDITIONS AND THE CONTRACT DOCUMENTS EXIST THE G.C. SHALL NOTIFY THE ARCHITECT IN WRITING. NO EXTRAS WILL BE ALLOWED FOR CONDITIONS NOT BROUGHT TO THE ATTENTION OF THE ARCHITECT OR OWNER AFTER SIGNING OF THE CONTRACT.
- 10.) DO NOT SCALE THE DRAWINGS.
- 11.) THE CONTRACTOR SHALL DO ALL THE CUTTING AND PATCHING OF ALL SLABS, WALLS, PARTITIONS, ETC., AS MAY BE REQUIRED FOR ALL THE TRADES TO ACCOMPLISH THEIR WORK AS CALLED FOR IN THE CONTRACT DOCUMENTS.
- 13.) THE GENERAL CONTRACTOR SHALL PROTECT THE ADJACENT PUBLIC SPACES AND BUILDINGS FROM DAMAGE AND SHALL BE LIABLE FOR SAME. EVIDENCE OF INSURANCE SHALL BE SUBMITTED TO THE OWNER.
- 14.) THE GENERAL CONTRACTOR SHALL BE RESPONSIBLE FOR COORDINATING THE INSTALLATION OF EACH TRADE AND SEPARATE CONTRACTORS TO INCLUDE THE HOOK-UP OF OWNER FURNISHED EQUIPMENT AS REQUIRED. THE GENERAL CONTRACTOR SHALL ALSO BE RESPONSIBLE FOR ANY DAMAGE TO THE FURNISHINGS AND EQUIPMENT CAUSED BY HIS OWN WORK FORCES UNTIL ACCEPTED BY THE OWNER AS COMPLETELY INSTALLED. SHOULD DAMAGE OCCUR THE GENERAL CONTRACTOR SHALL COORDINATE REPAIR DIRECTLY WITH THE SUPPLIER OR MANUFACTURER OF THE DAMAGED ITEM SO THAT ALL MATERIALS, FINISHES AND PARTS ARE REPAIRED TO MATCH THE ORIGINAL.
- 15.) THROUGHOUT THE COURSE OF CONSTRUCTION WORK, THE CONTRACTOR SHALL MAINTAIN CLEAN, ORDERLY, AND SAFE WORKING CONDITIONS.
- 16.) IT SHALL BE THE RESPONSIBILITY OF EACH CONTRACTOR TO ADHERE TO THE DESIGN AND PERMITTED DETAIL DRAWINGS WITHOUT CHANGE. SHOULD A FIELD CONDITION BE ENCOUNTERED WHERE RE-ROUTING OF A LINE OR A REVISION TO A DETAIL BECOMES NECESSARY OR IS FOUND TO BE COST EFFECTIVE, THE CONTRACTOR SHALL NOTIFY AND CONFER WITH THE ARCHITECT, CONSULTING ENGINEER, AND OWNER BEFORE UNDERTAKING SUCH A REVISION. THE COST OF ANY UN-APPROVED REVISIONS NECESSITATING A REVISION OR CORRECTION TO THE DESIGN AND PERMIT DOCUMENTS SHALL BE BORNE BY THE CONTRACTOR, UNLESS THE OWNER AGREES TO THE CHANGE, IN WRITING, AS A CHANGE ORDER.
- 17.) THE GENERAL CONTRACTOR SHALL MAINTAIN A COMPLETE SET OF AS-BUILT DRAWINGS OF EACH OF HIS TRADES' WORK. EACH SEPARATE CONTRACTOR SHALL ALSO MAINTAIN AS-BUILT DRAWINGS SO THAT AT THE CONCLUSION OF THE WORK A COMPREHENSIVE SET IS TURNED OVER TO THE ARCHITECT IN A REPRODUCIBLE FORMAT.
- 18.) FLAME SPREAD RATING SHALL BE "A" ON INTERIOR FINISHES.
- 19.) THE ARCHITECT AND CONSULTING ENGINEERS DO NOT HAVE CONTROL OR CHARGE OF, AND SHALL NOT BE HELD RESPONSIBLE FOR, THE CONSTRUCTION MEANS, METHODS, TECHNIQUES, SEQUENCES AND PROCEDURES OR FOR SAFETY PRECAUTIONS AND SCHEDULES IN CONNECTION WITH THE WORK, OR FOR ACTS OR OMISSIONS OF THE CONTRACTOR, SUB-CONTRACTORS, OR ANY OTHER PERSONS PERFORMING ANY WORK, IN ACCORDANCE WITH THE CONTRACT DOCUMENTS.
- 20.) THE GENERAL CONTRACTOR SHALL SUBMIT 5 SETS OF ALL SUBMISSIONS OF SHOP DRAWINGS CALLED FOR IN THE CONTRACT DOCUMENTS OR AS REQUIRED BY THE BUILDING OFFICIALS TO THE ARCHITECT IN SUFFICIENT TIME TO BE REVIEWED AND PROCESSED SO AS TO CAUSE NO TIME DELAY IN THE CONSTRUCTION SCHEDULE. THE ARCHITECT SHALL REVIEW SHOP DRAWINGS FOR CONFORMANCE WITH THE DESIGN INTENT ONLY. AFTER 2 REVIEWS THE COST OF THE THIRD REVIEW SHALL BE CHARGED TO THE GENERAL CONTRACTOR. SUBSTITUTION OF MATERIALS AND / OR EQUIPMENT WITH THOSE SPECIFIED SHALL BE PERMITTED ONLY UPON WRITTEN AUTHORIZATION BY THE OWNER. IT IS THE BURDEN OF THE GENERAL CONTRACTOR OR SUB-CONTRACTOR TO PROVE THAT ANY SUCH SUBSTITUTION FULFILLS THE REQUIREMENTS OF THE SPECIFICATIONS OR IS EQUAL TO THE PRODUCT BEING SUBSTITUTED.
- 21.) UPON SUBSTANTIAL COMPLETION OF THE CONTRACT WORK, THE ARCHITECT SHALL GENERATE A PUNCH LIST WHICH SHALL BE SUBMITTED TO THE GENERAL CONTRACTOR AND OWNER. THE GENERAL CONTRACTOR WILL COMPLETE THE PUNCH LIST ITEMS WITHIN A PERIOD OF TIME TO BE SPECIFIED IN THE OWNER-CONTRACTOR AGREEMENT.
- 22.) GENERAL CONTRACTOR SHALL BE RESPONSIBLE FOR TURNING OVER TO THE OWNER THE COMPLETED JOB IN A BROOM CLEAN CONDITION, READY FOR A FINAL WASH DOWN. ALL DEBRIS SHALL BE REMOVED FROM THE SITE AND PROPERLY AND LEGALLY DISPOSED OF.
- 23.) THE GENERAL CONTRACTOR SHALL ENSURE THAT ALL REGULATORY AGENCY APPROVALS ARE OBTAINED SO THAT THE OWNER CAN OBTAIN THEIR CERTIFICATE OF OCCUPANCY.
- 24.) THE GENERAL CONTRACTOR SHALL BE RESPONSIBLE FOR CLOSING OUT ALL PERMITS ASSOCIATED WITH THIS PROJECT UPON PASSING ALL FINAL INSPECTIONS.

LIST OF ABBREVIATIONS:

A/C	AIR CONDITIONING	JAN.	JANITOR
A.C.T.	ACOUSTICAL TILE	J-BOX	JUNCTION BOX
A.D.A.	AMERICANS WITH DISABILITIES ACT	LAV.	LAVATORY
A.F.F.	ABOVE FINISHED FLOOR	MAX.	MAXIMUM
ALUM.	ALUMINUM	MBL.	MARBLE
B.B.L.	BAS BUILDING LINE	MECH'L.	MECHANICAL
BLK'G.	BLOCKING	MIN.	MINIMUM
BM.	BEAM	M.T.	MOSAIC TILE
B.O.	BOTTOM OF (OR "BY OTHERS")	MTD.	MOUNTED
CAB.	CABINET	MTL.	METAL
C.L.	CENTERLINE	N.C.	NOT IN CONTRACT
CLG.	CEILING	NO.	NUMBER
CLOS.	CLOSET	N.T.S.	NOT TO SCALE
CLR.	CLEAR	O.C.	ON CENTER
C.M.U.	CONCRETE MASONRY UNIT	OPEN'G.	OPENING
COL.	COLUMN	OPPOSITE	OPPOSITE
CONC.	CONCRETE	PART'N.	PARTITION
CPT.	CARPET	PL. LAM.	PLASTIC LAMINATE
C.T.	CERAMIC TILE	PLYWD.	PLYWOOD
DEM.	DEMOLITION	PLUMB'G.	PLUMBING
DET.	DETAIL	POL.	POLISHED
D.F.	DRINKING FOUNTAIN	P.T.D.	PAINTED
DM.	DIMENSION	R/A	RETURN AIR
DN.	DOWN	R.C.P.	REFLECTED CEILING PLAN
DR.	DOOR	R.D.	ROOF DRAIN
D.S.	DOWNSPOUT	REQ'D.	REQUIRED
DWG.	DRAWING	RM.	ROOM
EA.	EACH	R.O.	ROUGH OPENING
ELEC.	ELECTRICAL	R.O.W.	RIGHT-OF-WAY
ELEV.	ELEVATION (OR "ELEVATOR")	S/A	SUPPLY AIR
EQ.	EQUAL	SCHED.	SCHEDULE
EQP'T.	EQUIPMENT	S.F.	SQUARE FEET
E.W.C.	ELECTRIC WATER COOLER	SM.	SIMILAR
EXIST'G.	EXISTING	SOFF.	SOFFIT
EXT.	EXTERIOR	SPECS.	SPECIFICATIONS
F.D.	FLOOR DRAIN	STG.	STORAGE
F.E.	FIRE EXTINGUISHER	STL.	STEEL
F.F.E.	FINISHED FLOOR ELEVATION	ST. STL.	STAINLESS STEEL
F.H.C.	FIRE HOSE CABINET	STRUCT'L.	STRUCTURAL
F & I	FURNISH & INSTALL	T.C.B.	TERRAZZOTA BLOCK
FIN.	FINISHED	THK.	THICK
FLR.	FLOOR	T.O.	TOP OF
F.O.	FINISHED OPENING	TYP.	TYPICAL
F.S.P.	FIRE STAND PIPE	U/C	UNDER COUNTER
G.B.	GRAB BAR	UN.O.	UNLESS NOTED OTHERWISE
G.C.	GENERAL CONTRACTOR	V.C.T.	VINYL COMPOSITION TILE
GEN.	GENERAL	V.I.F.	VERIFY IN FIELD
G.W.B.	GYPSPUM WALL BOARD	W.	WITH
GYP. BD.	GYPSPUM BOARD	W/	WATER CLOSET
H.B.	HOSE BIB	WD.	WOOD
H.C.	HOLLOW CORE	W.C.	WALK-IN-CLOSET
H.M.	HOLLOW METAL	W/O	WITHOUT
HT.	HEIGHT		
INT.	INTERIOR		

SYMBOLS:



48 HOURS PRIOR TO EXCAVATING
CONTRACTOR SHALL CALL FOR LOCATION
OF UNDERGROUND UTILITIES
SUNSHINE ONE-CALL 1-800-432-4770
CITY OF MIAMI BEACH 305-673-7080

PUBLIC WORKS
PLAN REVIEW NOTICE
Phone 305-673-7080 Fax 305-673-7028

THIS PLAN REVIEW CONSTITUTES APPROVAL FOR
OBTAINING BUILDING PERMITS ONLY.

All construction and/or use of equipment in the right-of-way and/or easements, requires a separate Public Works Department permit prior to start of construction.

Permit Requirements: Proof of existing sidewalk/swale area conditions (pictures) and/or posting of sidewalk/roadway bonds (Public Works Inspection of the right-of-way will be required prior to final sign-off on the C.C. / C.O., or the release of bonds.)

DATE: 12-7-2010

3193 ROYAL PALM AVENUE

MIAMI BEACH, FL 33140

PERMIT SUBMISSION
11-22-10

DRAWING LIST

ARCHITECTURAL:

- A-00 GENERAL NOTES, DRAWING LIST, SYMBOLS
A-01 SITE PLAN & ZONING DATA
A-02 1ST FLOOR PLAN
A-03 2ND FLOOR & ROOF PLANS
A-04 1ST FLOOR REFLECTED CEILING PLAN
A-05 2ND FLOOR REFLECTED CEILING PLAN
A-06 NORTH & SOUTH EXTERIOR ELEVATIONS
A-07 EAST & WEST EXTERIOR ELEVATIONS
A-08 BUILDING SECTIONS
A-09 INTERIOR ELEVATIONS & PLAN DETAILS
A-10 INTERIOR ELEVATIONS & PLAN DETAILS
A-11 DOOR & ROOM FINISH SCHEDULES, PARTITION TYPES, & DETAILS
A-12 WINDOW & EXTERIOR DOOR SCHEDULE

STRUCTURAL:

- S-1.0 GROUND FLOOR FRAMING PLAN
S-1.1 2ND FLOOR FRAMING & DETAILS
S-2.0 DETAILS & NOTES

MECHANICAL:

- M-1 1ST FLOOR MECHANICAL PLAN
M-2 2ND FLOOR MECHANICAL PLAN
M-3 MECHANICAL NOTES & DETAILS

ELECTRICAL:

- E-1 1ST FLOOR ELECTRICAL PLAN
E-2 2ND FLOOR ELECTRICAL PLAN
E-3 NOTES, LEGEND, & PANEL SCHEDULE

PLUMBING:

- P-1 1ST FLOOR PLUMBING PLAN
P-2 2ND FLOOR PLUMBING PLAN
P-3 PLUMBING NOTES & DETAILS

PROJECT ADDRESS:

3193 ROYAL PALM AVENUE
MIAMI BEACH, FL 33140

FOLIO NO.: 02-3227-001-0590

LEGAL LOT 13, BLK 45, PLAT OF ORCHARD SUBDIVISION NO. 1,
DESCRIPTION: PLAT BOOK 6, PAGE 111, PUBLIC RECORDS OF MIAMI-DADE COUNTY

CLASSIFICATION OF SCOPE & TYPE OF WORK, PER FBC(E) 302.3:

INTERIOR & EXTERIOR RENOVATION & REMODELLING OF AN EXISTING TWO-STORY SINGLE-FAMILY RESIDENCE, NEW 272 S.F. 2ND FLOOR ADDITION, NEW EXTERIOR DOORS & WINDOWS, NEW HVAC / ELECTRICAL / PLUMBING THROUGHOUT.
NO CHANGE IN OCCUPANCY TYPE.

LEVEL OF ALTERATION:

THIS PROJECT IS A LEVEL 2 ALTERATION, PER FBC(E) SECTION 404.1 & 404.2

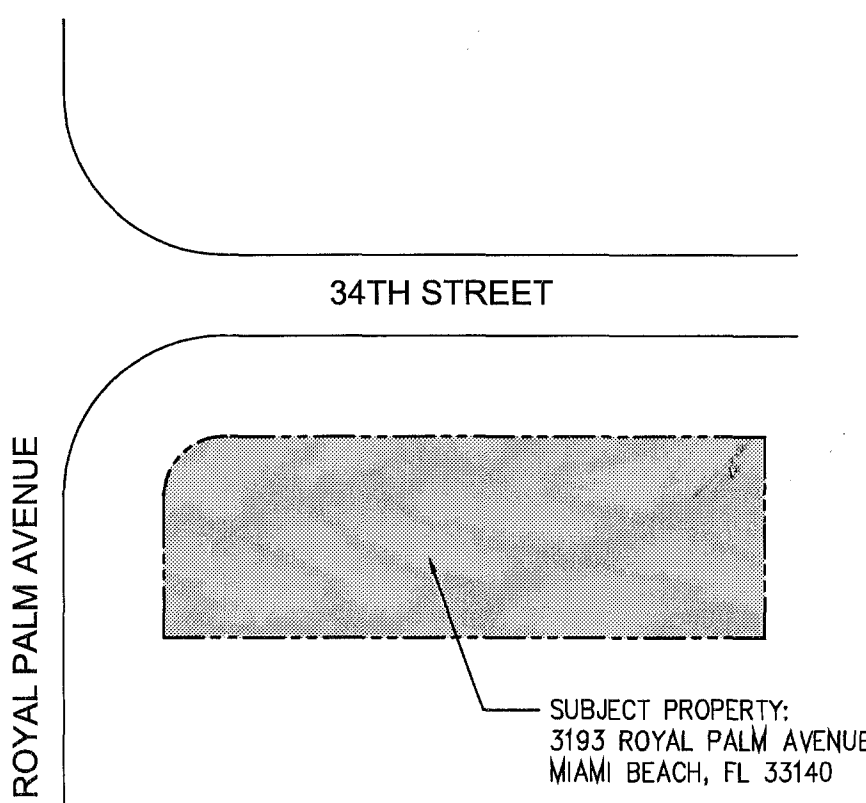
BOARD:	FILE NO.:	DESCRIPTION:	DATE OF PUBLIC RECORDING:
FLOOD PLAIN MANAGEMENT	FP10-04	FLOOD-PLAIN WAIVER	05-25-2010
BOARD OF ADJUSTMENT	3455	SWIMMING POOL SETBACK VARIANCES	05-28-2010
HISTORIC PRESERVATION BOARD	7070	CERTIFICATE OF APPROPRIATENESS	05-28-2010
HISTORIC PRESERVATION BOARD	7070	HISTORIC DESIGNATION	05-28-2010

CITY OF MIAMI BEACH
APPROVED FOR PERMIT BY
THE FOLLOWING:
BUILDING: [Signature]
ZONING: [Signature]
DRB/HPD: [Signature]
CONCURRENCE: [Signature]
PLUMBING: [Signature]
ELECTRICAL: [Signature]
MECHANICAL: [Signature]
FIRE PREVENTION: [Signature]
ENGINEERING: [Signature]
PUBLIC WORKS: [Signature]
STRUCTURAL: [Signature]
ELEVATOR: [Signature]



Permit Number: 2011-0606-1554-3639
Contact Name: MR ALAN COTE
Contact Phone: (305) 218-3985
Folio: 02-3227-001-0590
Project Name: 3193 ROYAL PALM AVENUE
Date Received: 06/06/2011

DERM
PLAN REVIEW
FINAL
APPROVAL
DEPARTMENT OF ENVIRONMENTAL
RESOURCES MANAGEMENT
CORE REVIEWER (PRINT): [Signature]
SIGNATURE: [Signature] DATE: 6-22-11



1 LOCATION PLAN
SCALE: N.T.S.

MOSSCROP ASSOCIATES

ARCHITECTURE + INTERIORS

ILLIA MOSSCROP, REGISTERED ARCHITECT
FLORIDA LICENSE NO.: AR02744

PROJECT NAME & ADDRESS:

3193
ROYAL PALM
AVENUE

3193 ROYAL PALM AVENUE
MIAMI BEACH, FL 33140

SHEET TITLE:

GENERAL
NOTES,
DRAWING
LIST,
SYMBOLS

SHEET NO.:

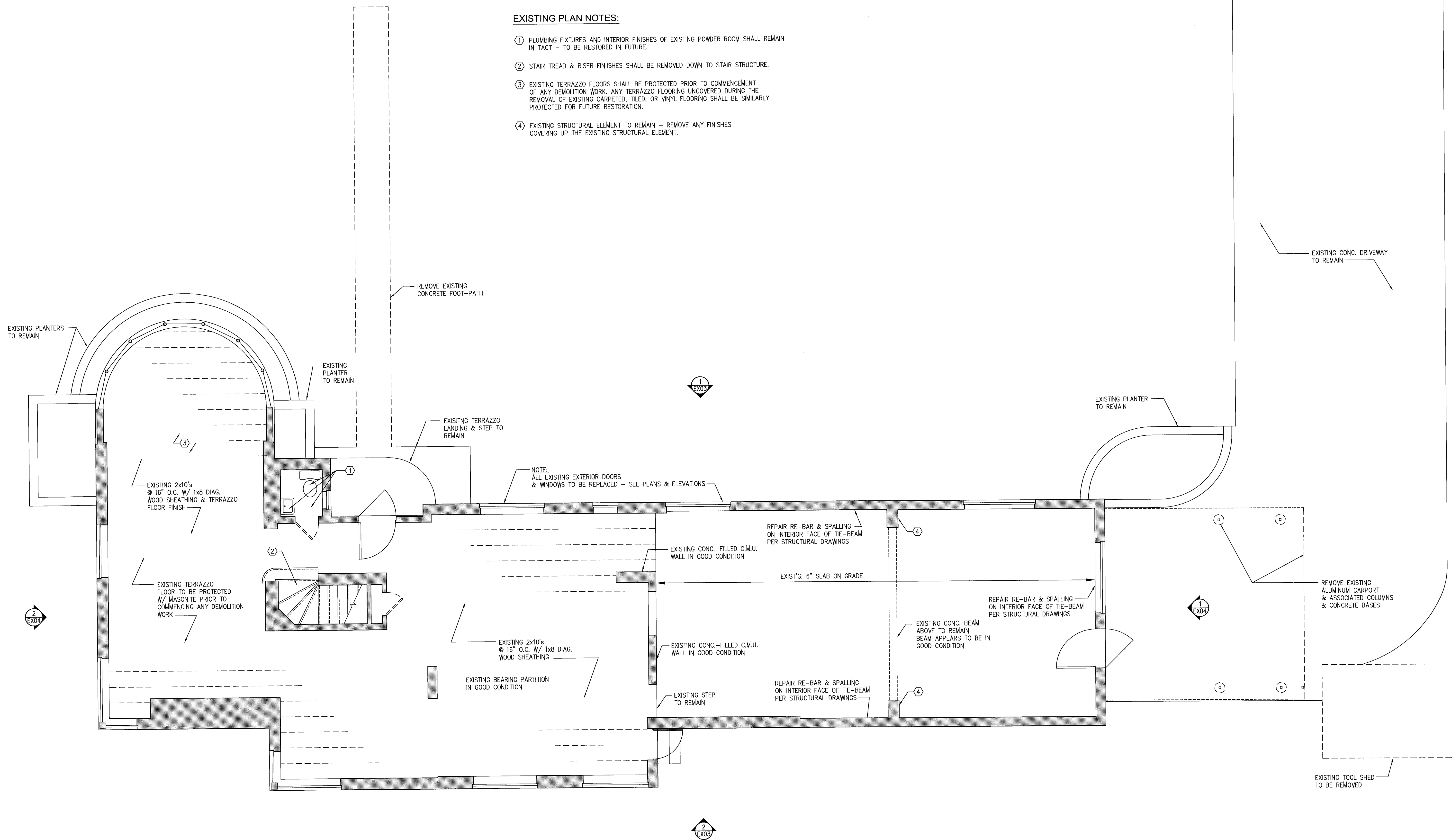
A-00

SCALE: N.T.S.

DATE: 11-22-10

ISSUE: PERMIT SUBMISSION

JOB NO.: 3193-01



EXISTING PLAN NOTES:

- ① PLUMBING FIXTURES AND INTERIOR FINISHES OF EXISTING POWDER ROOM SHALL REMAIN IN TACT - TO BE RESTORED IN FUTURE.
- ② STAIR TREAD & RISER FINISHES SHALL BE REMOVED DOWN TO STAIR STRUCTURE.
- ③ EXISTING TERRAZZO FLOORS SHALL BE PROTECTED PRIOR TO COMMENCEMENT OF ANY DEMOLITION WORK. ANY TERRAZZO FLOORING UNCOVERED DURING THE REMOVAL OF EXISTING CARPETED, TILED, OR VINYL FLOORING SHALL BE SIMILARLY PROTECTED FOR FUTURE RESTORATION.
- ④ EXISTING STRUCTURAL ELEMENT TO REMAIN - REMOVE ANY FINISHES COVERING UP THE EXISTING STRUCTURAL ELEMENT.

1 FIRST FLOOR EXISTING PLAN
SCALE: 1/4" = 1'-0"

REV.	DATE	DESCRIPTION
1	05-06-11	BLDG. DEPT. COMMENTS - NEW SHEET

MOSSCROP ASSOCIATES
ARCHITECTURE + INTERIORS
940 LINCOLN ROAD, SUITE 325, MIAMI BEACH, FL 33139
T: (305) 534-9779 F: (305) 534-9927 EMAIL: ILUA@BELLSOUTH.NET
GEN. OF AUTH: A336001037 & A336001038

ILUA MOSSCROP, REGISTERED ARCHITECT
FLORIDA LICENSE NO.: AR92744

PROJECT NAME & ADDRESS:

3193 ROYAL PALM AVENUE

3193 ROYAL PALM AVENUE
MIAMI BEACH, FL 33140

SHEET TITLE:

1ST FLOOR EXISTING PLAN

SHEET NO.:

EX-01

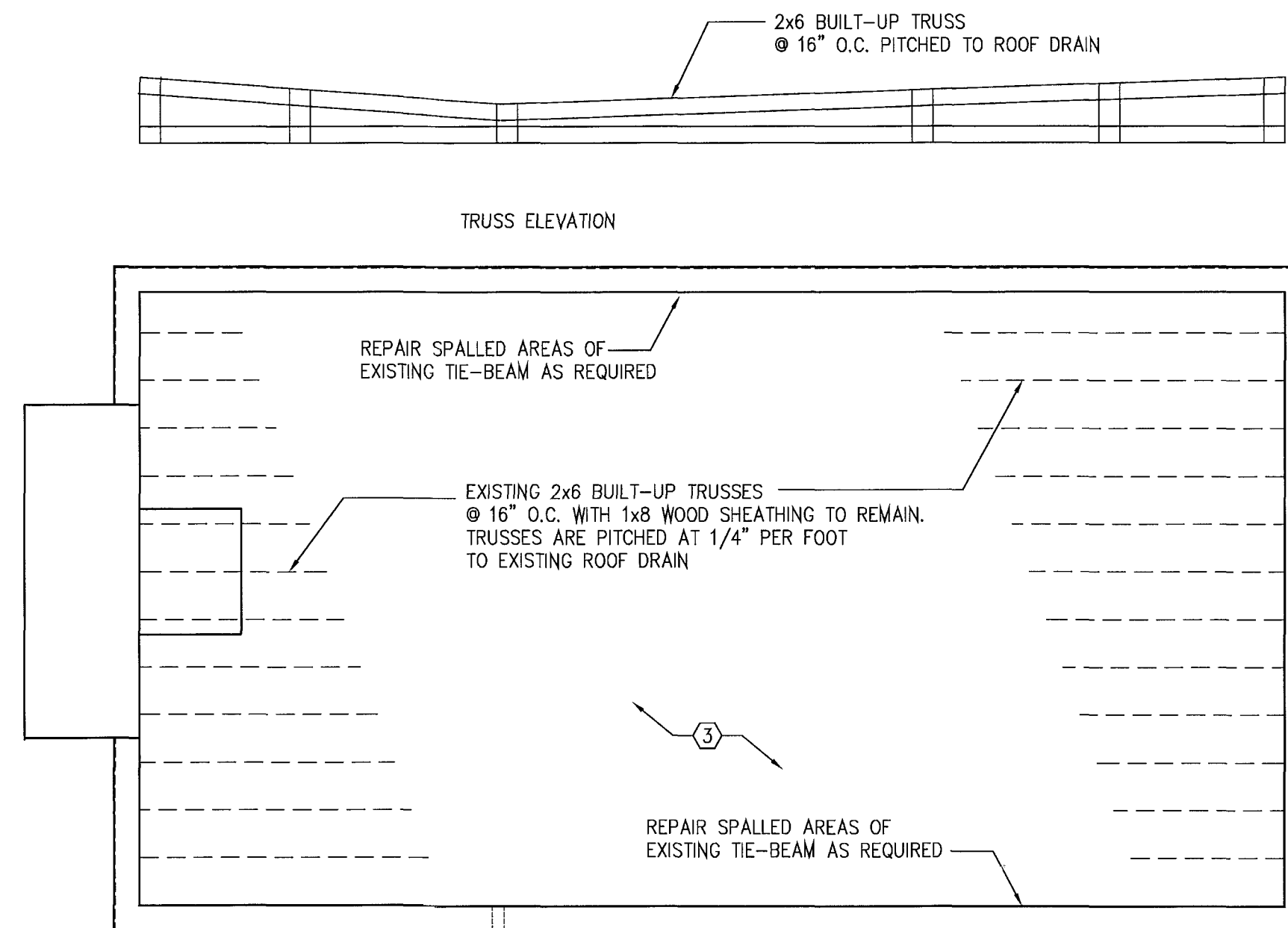
SCALE: 1/4" = 1'-0"

DATE: 05-06-11

ISSUE: PERMIT

REVISION 2

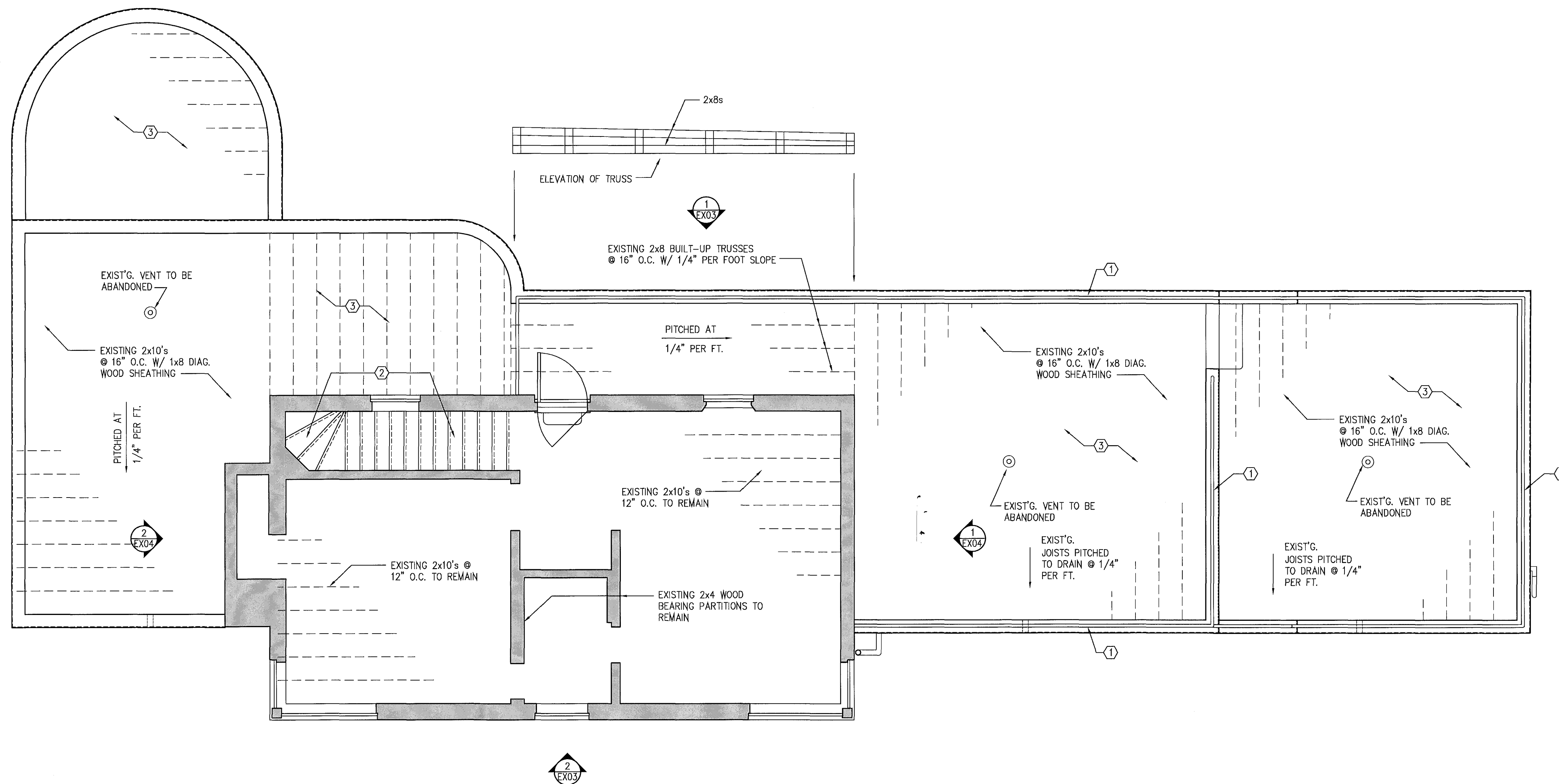
JOB NO.: GUR-01



② UPPER ROOF EXISTING PLAN
SCALE: 1/4" = 1'-0"

EXISTING PLAN NOTES:

- ① EXISTING GUARDRAIL TO BE REPLACED WITH NEW
- ② STAIR TREAD & RISER FINISHES SHALL BE REMOVED DOWN TO STAIR STRUCTURE.
- ③ EXISTING ROOF SYSTEM TO BE REPLACED WITH NEW.



① SECOND FLOOR EXISTING PLAN
SCALE: 1/4" = 1'-0"

MOSSCROP ASSOCIATES
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CERTS. OF AUTH: A438001057 & A438001058

ILIA MOSSCROP, REGISTERED ARCHITECT
FLORIDA LICENSE NO.: AR92744
PROJECT NAME & ADDRESS:
3193 ROYAL PALM AVENUE
MIAMI BEACH, FL 33140

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MIAMI BEACH, FL 33140

3193 ROYAL PALM AVENUE
MIAMI BEACH, FL 33140

2ND FLOOR &
ROOF
EXISTING
PLANS

SHEET NO.:

EX-02

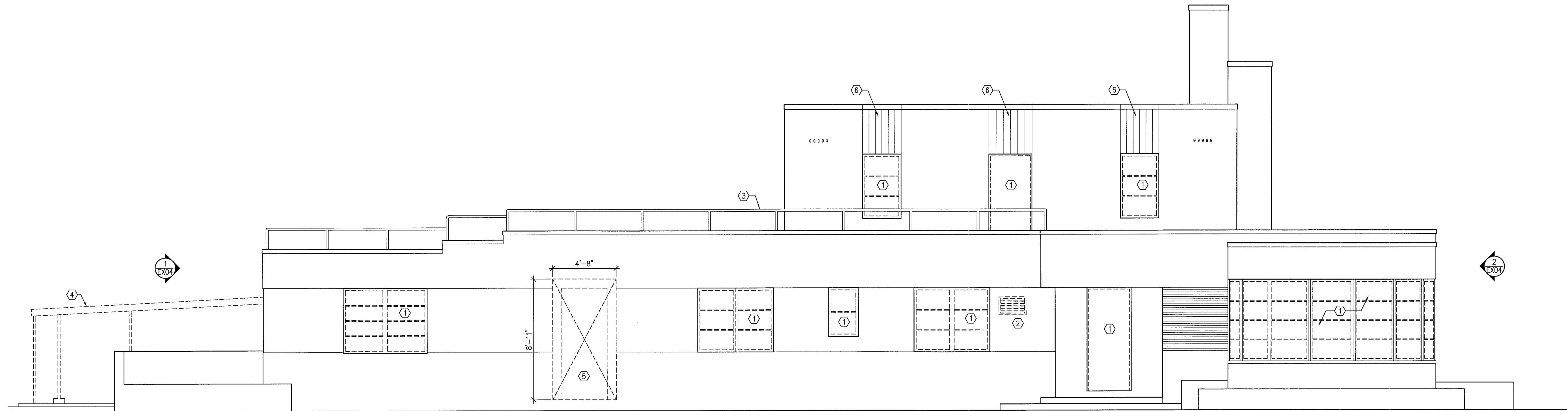
SCALE: 1/4" = 1'-0"

DATE: 05-06-11

ISSUE: PERMIT

REVISION 2

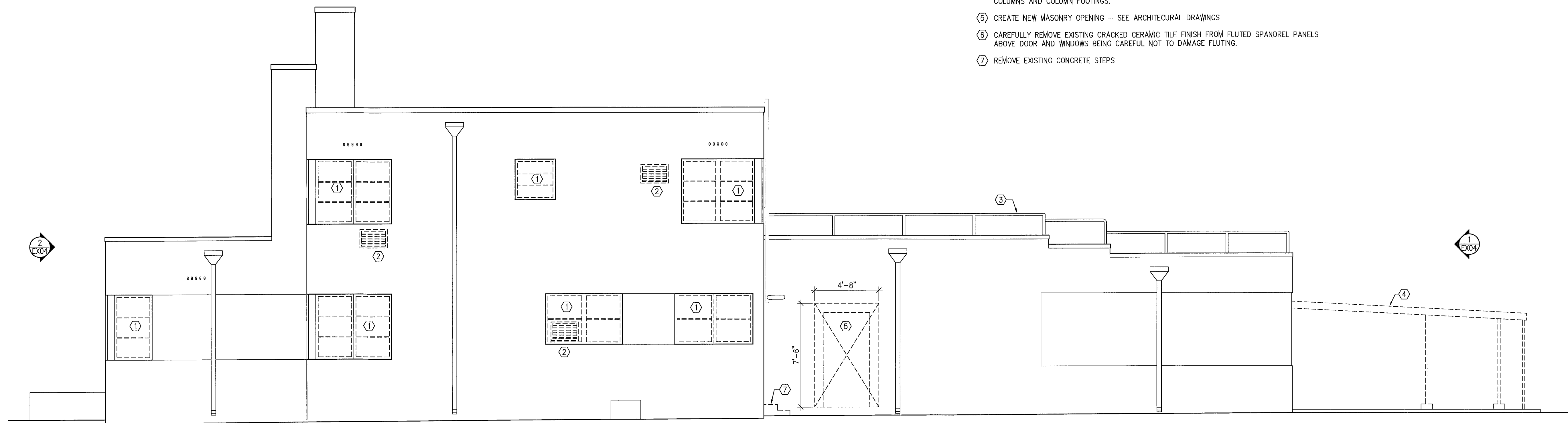
JOB NO.: GUR-01



1 NORTH ELEVATION - EXISTING
SCALE: 1/4" = 1'-0"

EXISTING ELEVATION NOTES:

- ① REPLACE ALL EXISTING EXTERIOR DOORS & WINDOWS WITH NEW - SEE ARCHITECTURAL DRAWINGS
- ② REMOVE EXISTING THRU-WALL A/C UNITS.
- ③ EXISTING PIPE-GUARDRAIL TO BE REPLACED - SEE ARCHITECTURAL DRAWINGS
- ④ REMOVE EXISTING ALUMINUM CAR-PORT & ASSOCIATED COLUMNS AND COLUMN FOOTINGS.
- ⑤ CREATE NEW MASONRY OPENING - SEE ARCHITECTURAL DRAWINGS
- ⑥ CAREFULLY REMOVE EXISTING CRACKED CERAMIC TILE FINISH FROM FLUTED SPANDREL PANELS ABOVE DOOR AND WINDOWS BEING CAREFUL NOT TO DAMAGE FLUTING.
- ⑦ REMOVE EXISTING CONCRETE STEPS



2 SOUTH ELEVATION - EXISTING
SCALE: 1/4" = 1'-0"

MOSSCROP ASSOCIATES
ARCHITECTURE + INTERIORS

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CERTS. OF AUTH. A42600057 & A42600058

ILIA
05.06.11

ILIA MOSSCROP, REGISTERED ARCHITECT
FLORIDA LICENSE NO.: AR92744

PROJECT NAME & ADDRESS:

3193 ROYAL PALM AVENUE

3193 ROYAL PALM AVENUE
MIAMI BEACH, FL 33140

SHEET TITLE:

NORTH & SOUTH EXISTING ELEVATIONS

SHEET NO.:

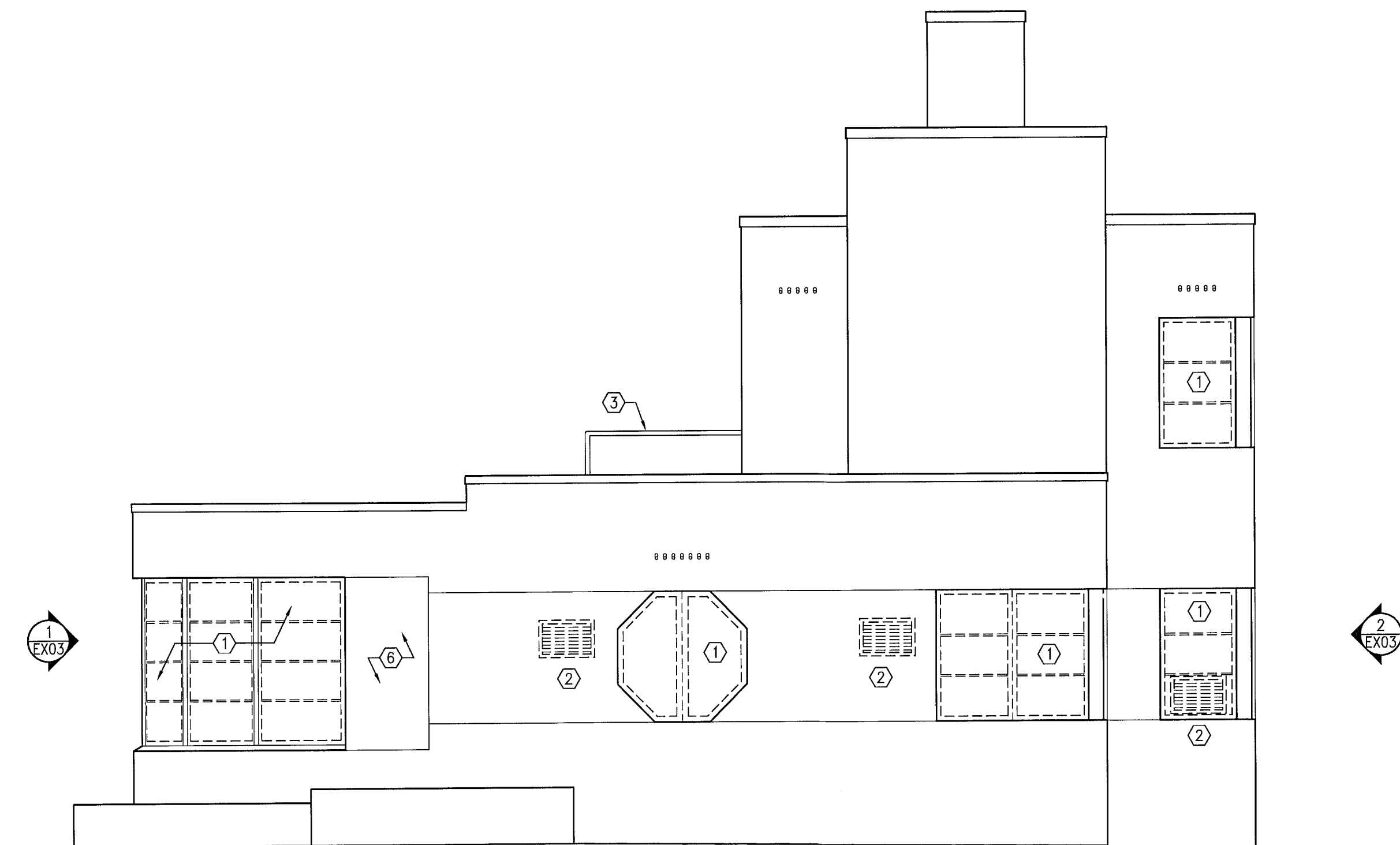
EX-03

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

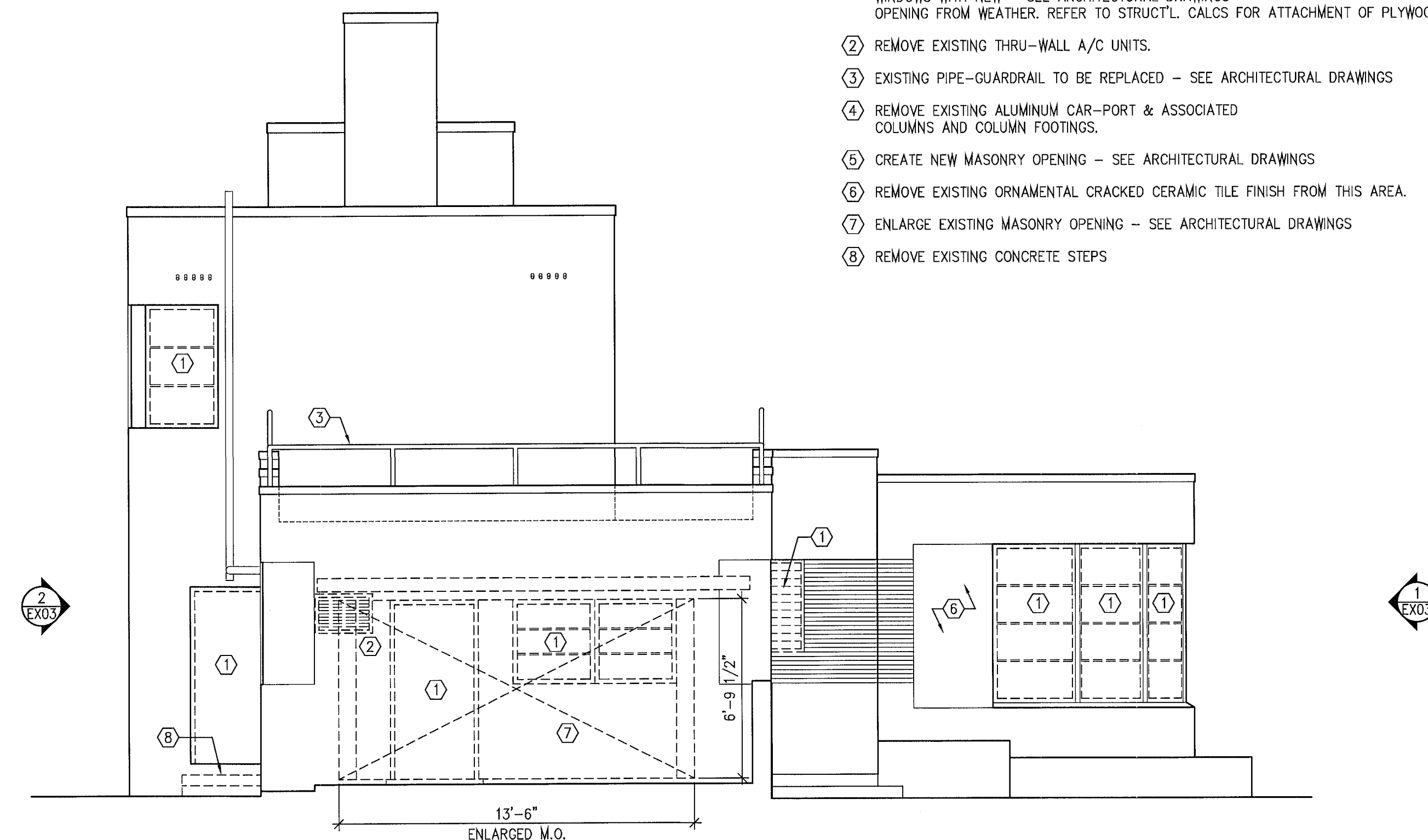
DATE: 05-06-11

ISSUE: PERMIT REVISION 2

JOB NO.: GUR-01



2 WEST ELEVATION - EXISTING
SCALE: 1/4" = 1'-0"



- EXISTING ELEVATION NOTES:
- 1 REPLACE ALL EXISTING EXTERIOR DOORS & WINDOWS WITH NEW - SEE ARCHITECTURAL DRAWINGS OPENING FROM WEATHER. REFER TO STRUCT'L. CALCS FOR ATTACHMENT OF PLYWOOD.
 - 2 REMOVE EXISTING THRU-WALL A/C UNITS.
 - 3 EXISTING PIPE-GUARDRAIL TO BE REPLACED - SEE ARCHITECTURAL DRAWINGS
 - 4 REMOVE EXISTING ALUMINUM CAR-PORT & ASSOCIATED COLUMNS AND COLUMN FOOTINGS.
 - 5 CREATE NEW MASONRY OPENING - SEE ARCHITECTURAL DRAWINGS
 - 6 REMOVE EXISTING ORNAMENTAL CRACKED CERAMIC TILE FINISH FROM THIS AREA.
 - 7 ENLARGE EXISTING MASONRY OPENING - SEE ARCHITECTURAL DRAWINGS
 - 8 REMOVE EXISTING CONCRETE STEPS

1 EAST ELEVATION - EXISTING
SCALE: 1/4" = 1'-0"

REV. DATE DESCRIPTION
/A/ 05-06-11 BLDG. DEPT. COMMENTS - NEW SHEET

MOSSCROP ASSOCIATES
ARCHITECTURE + INTERIORS

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CERTS. OF AUTH. A20601057 & A20601058

ILJA
05.06.11

ILJA MOSSCROP, REGISTERED ARCHITECT
FLORIDA LICENSE NO.: AR92744

PROJECT NAME & ADDRESS:

3193 ROYAL PALM AVENUE

3193 ROYAL PALM AVENUE
MIAMI BEACH, FL 33140

SHEET TITLE:

EAST & WEST
EXISTING
ELEVATIONS

SHEET NO.:

EX-04

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

DATE: 05-06-11

ISSUE: PERMIT

REVISION 2

JOB NO.: GUR-01



REV.:	DATE:	DESCRIPTION:
A	03-03-11	BUILDING DEPARTMENT COMMENTS
A	05-06-11	BUILDING DEPARTMENT COMMENTS
A	06-17-11	EXISTING TREE LOCATIONS

MOSSCROP ASSOCIATES
ARCHITECTURE + INTERIORS

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CERTS. OF AUTH.: AA26001057 & AA26001058

6-21-11

ILUJA MOSSCROP, REGISTERED ARCHITECT
FLORIDA LICENSE NO.: A192744

PROJECT NAME & ADDRESS:

3193
ROYAL PALM
AVENUE

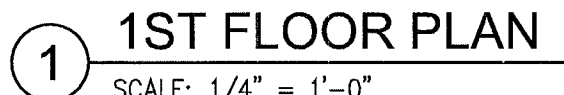
3193 ROYAL PALM AVENUE
MIAMI BEACH, FL 33140

SHEET TITLE:

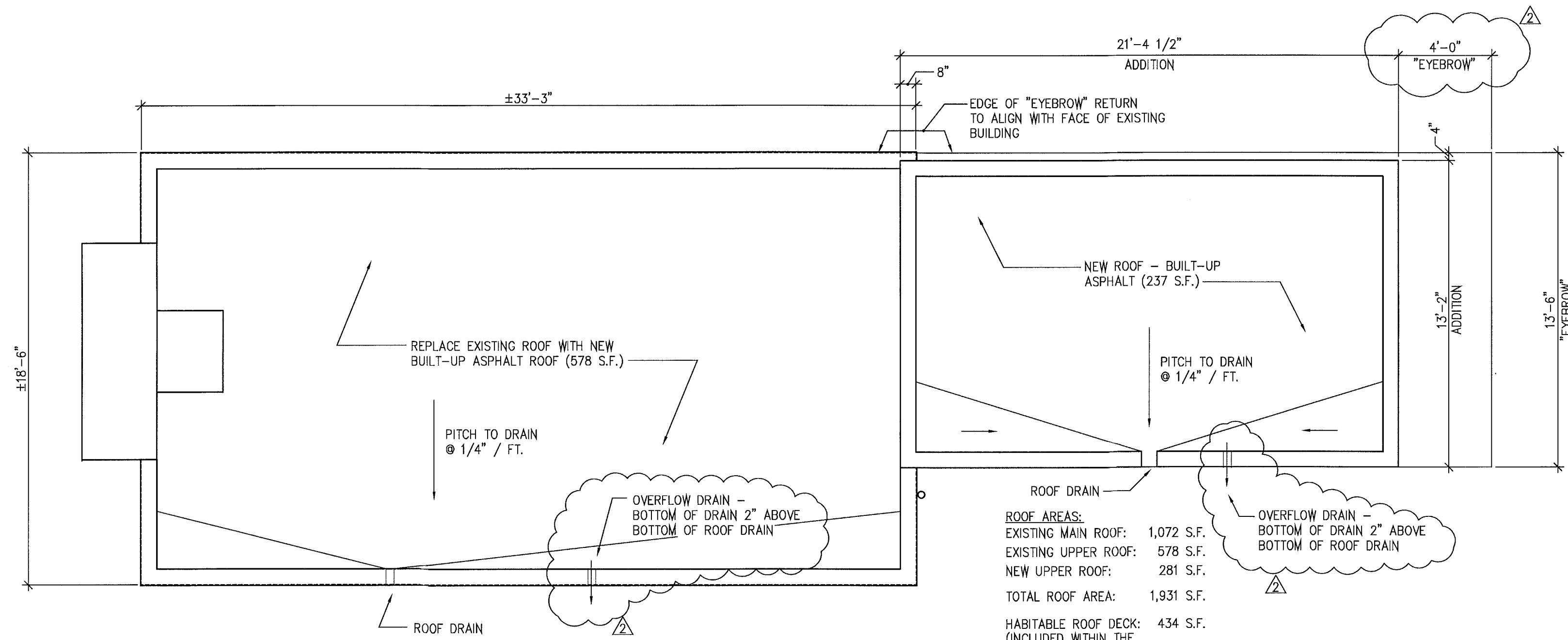
SITE PLAN & ZONING DATA

SHEET NO.:		A-01	
SCALE:	1/8" = 1'-0"		
DATE:	06-17-11		
ISSUE:	PERMIT REVISION 4		
JOB NO.:	3193-01		

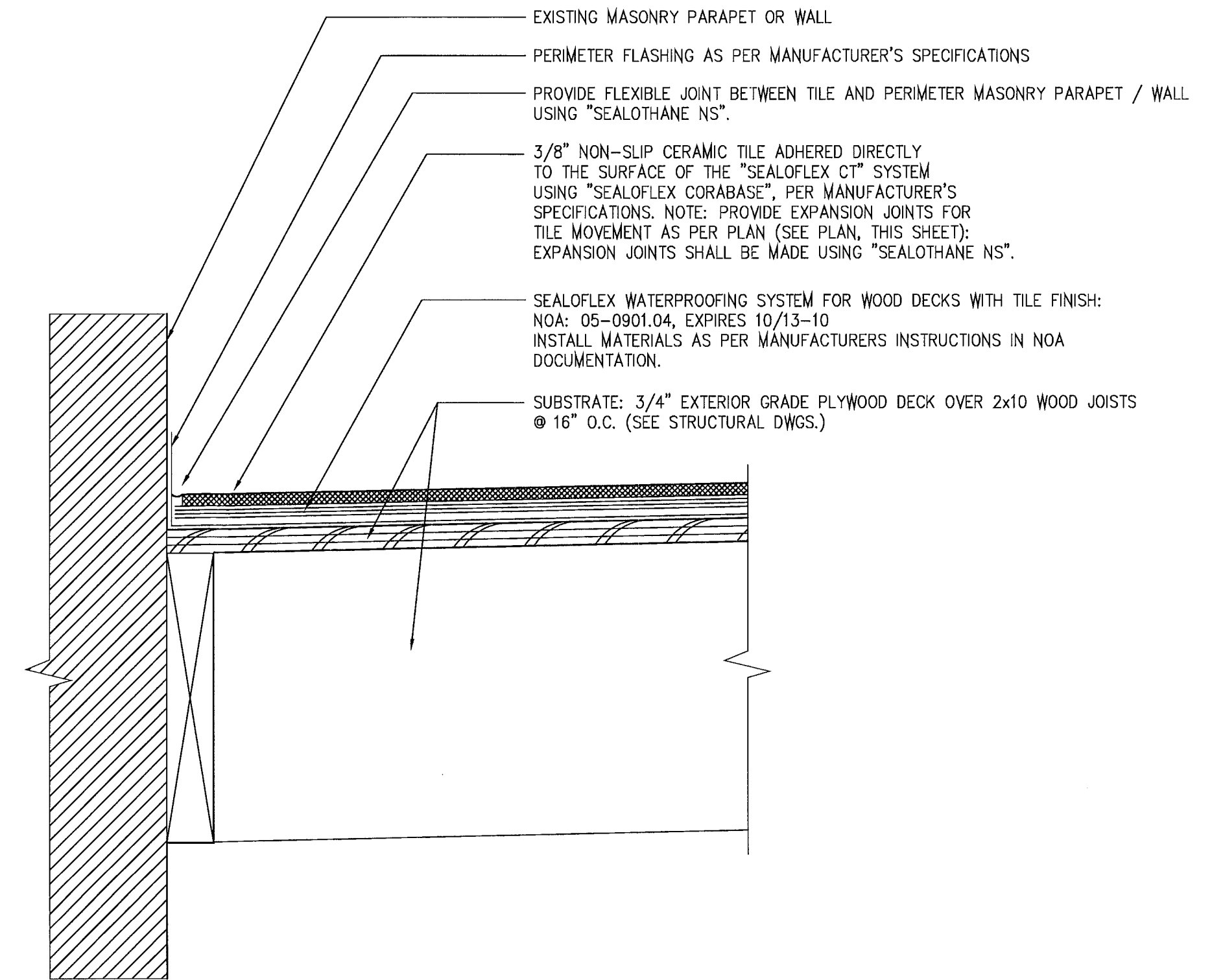
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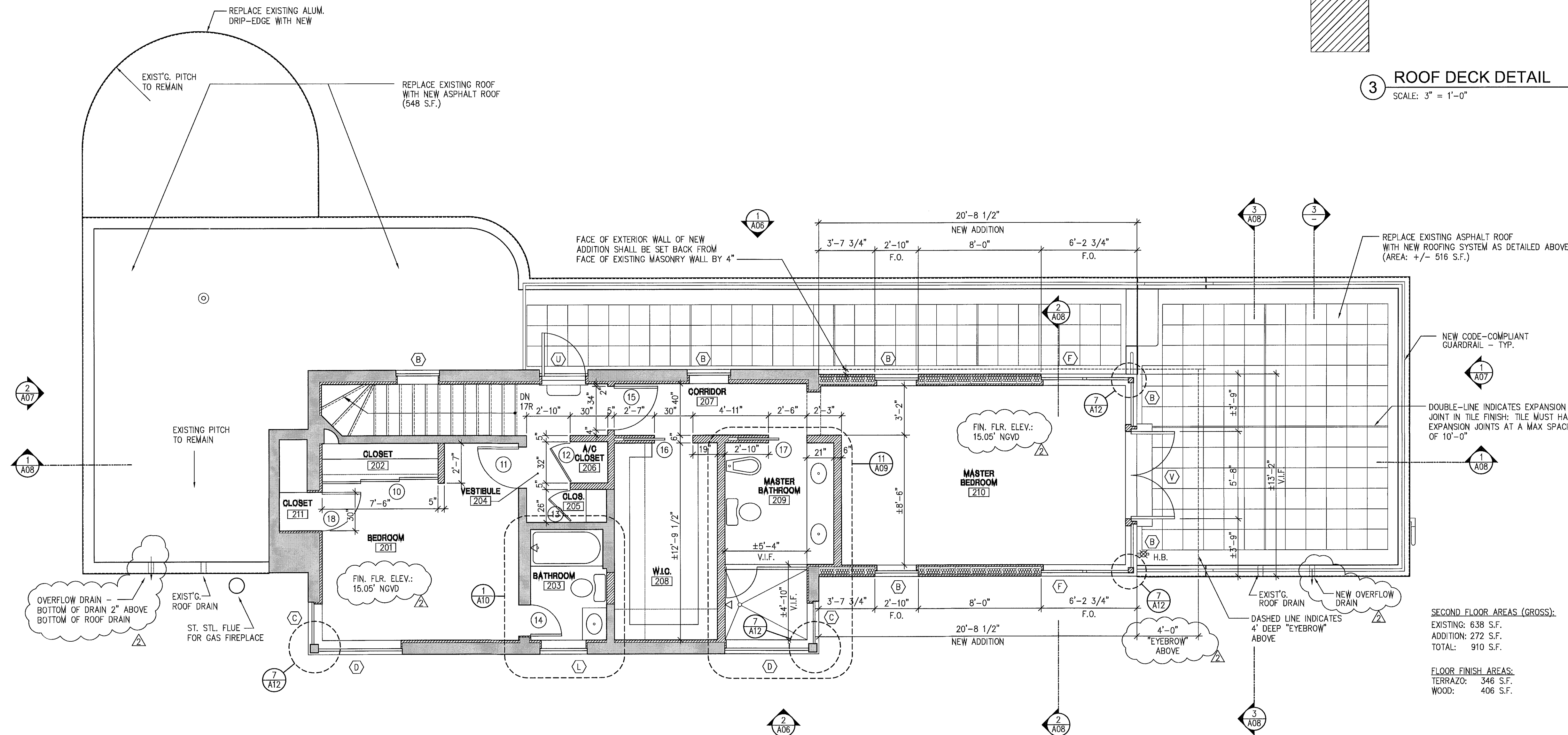
SHEET NO.:	
A-02	
SCALE:	1/4" = 1'-0"
DATE:	06-06-11
ISSUE:	PERMIT REVISION 4
JOB NO.:	3193-01



2 UPPER ROOF PLAN
SCALE: 1/4" = 1'-0"



3 ROOF DECK DETAIL
SCALE: 3" = 1'-0"



1 2ND FLOOR PLAN
SCALE: 1/4" = 1'-0"

- FLOOR PLAN NOTES:
- 1) REPLACE ALL EXISTING ELECTRICAL AND PLUMBING SYSTEMS WITH NEW.
 - 2) INSTALL NEW HVAC SYSTEM
 - 3) ALL INTERIOR FINISHES SHALL BE NEW TO REPLACE EXISTING EXCEPT AS NOTED ON THE FIRST FLOOR.
 - 4) ALL INTERIOR FURRING SHALL BE NEW WITH INSULATION
 - 5) NEW EXTERIOR WALL CONSTRUCTION:
 (2) LAYERS 5/8" CEMENTITIOUS BACKER BOARD SHEATHING ON 6" C-STUDS, CSE 14GA, @ 12" O.C. MAX. SHEATHING TO BE CONNECTED TO EACH C-STUD @ 6" O.C. MAX; USE No. 10 SELF-TAPPING SCREWS. 3/8" PAINTED STUCCO FINISH ON EXTERIOR FACE OF SHEATHING. (2) LAYERS 5/8" G.W.B. ON INTERIOR FACE OF 6" C-STUDS.
 (THIS EXTERIOR BEARING WALL CONSTRUCTION IS 2-HOUR RATED AND COMPLIES WITH ANSI / UL 263, DESIGN No: U404)

MOSCROP ASSOCIATES
ARCHITECTURE + INTERIORS

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ILUA MOSCROP, REGISTERED ARCHITECT
FLORIDA LICENSE NO.: AR02744

PROJECT NAME & ADDRESS:

3193 ROYAL PALM AVENUE

3193 ROYAL PALM AVENUE
MIAMI BEACH, FL 33140

SHEET TITLE:

2ND FLOOR & ROOF PLANS

SHEET NO.:

A-03

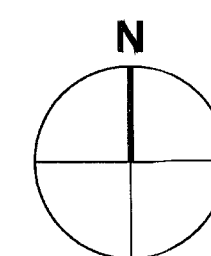
SCALE: 1/4" = 1'-0"

DATE: 05-06-11

ISSUE: PERMIT

REVISION 2

JOB NO.: 3193-01

[illegible]

MOSCROP ASSOCIATES
ARCHITECTURE + INTERIORS

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T: (305) 534-9779 F: (305) 534-9927 EMAIL: ILIJA@BELLSOUTH.NET
CERTS. OF AUTH.: AA26001057 & AA26001058

hja 11.22.10

ILIJA MOSSCROP, REGISTERED ARCHITECT
FLORIDA LICENSE NO.: AB00744

PROJECT NAME & ADDRESS:

3193
ROYAL PALM
AVENUE

3193 ROYAL PALM AVENUE
MIAMI BEACH, FL 33140

SHEET TITLE:

1ST FLOOR
REFLECTED
CEILING PLAN

SHEET NO.:

A-04

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

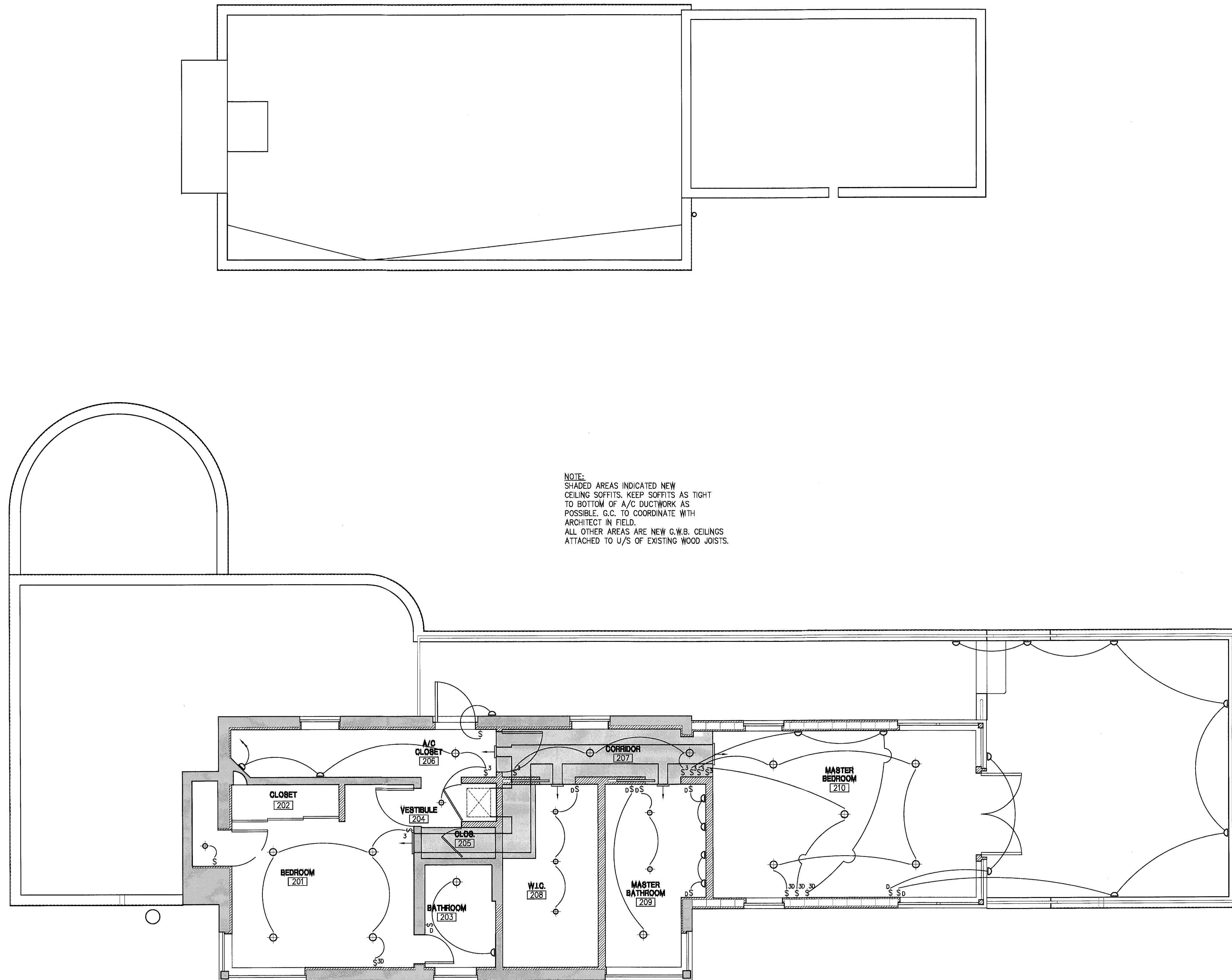
DATE: 11-22-10

ISSUE: PERMIT

PERMIT
SUBMISSION

JOB NO.: 3193-C

5199-6



REV. DATE DESCRIPTION

MOSSCROP ASSOCIATES
 ARCHITECTURE + INTERIORS

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 CRRS. OF ARCHT. A2600057 & A2600058

11-22-10

ILUA MOSSCROP, REGISTERED ARCHITECT
 FLORIDA LICENSE NO.: AR92744

PROJECT NAME & ADDRESS:

3193
 ROYAL PALM
 AVENUE

3193 ROYAL PALM AVENUE
 MIAMI BEACH, FL 33140

SHEET TITLE:

2ND FLOOR
 REFLECTED
 CEILING PLAN

SHEET NO.:

A-05

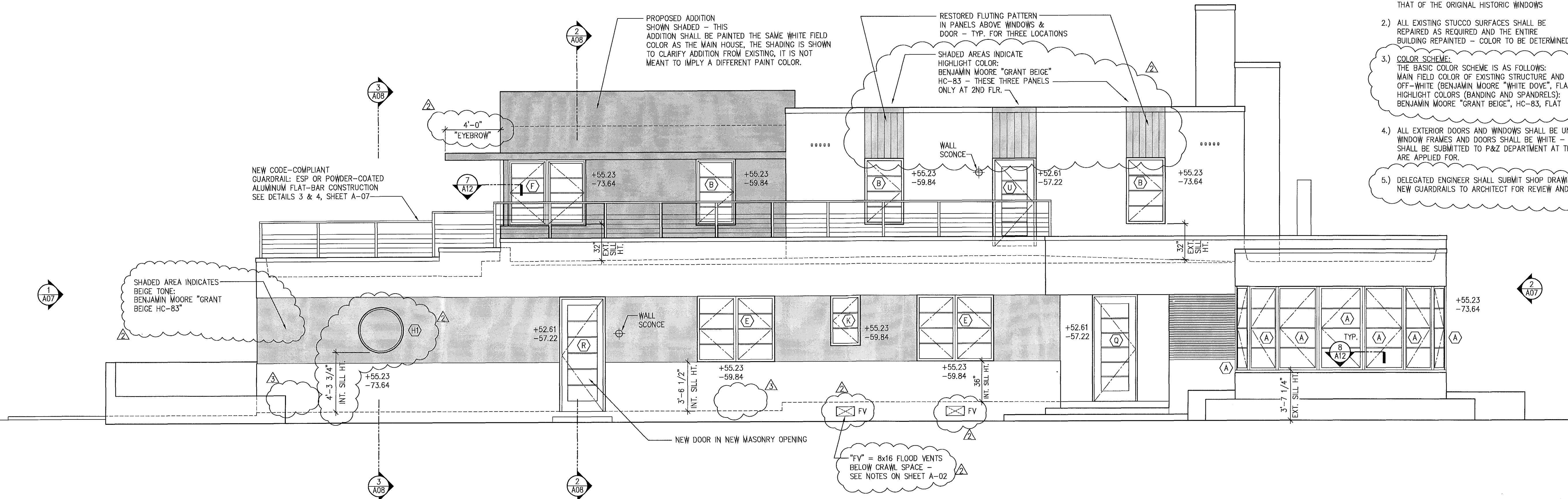
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DATE: 11-22-10

ISSUE: PERMIT

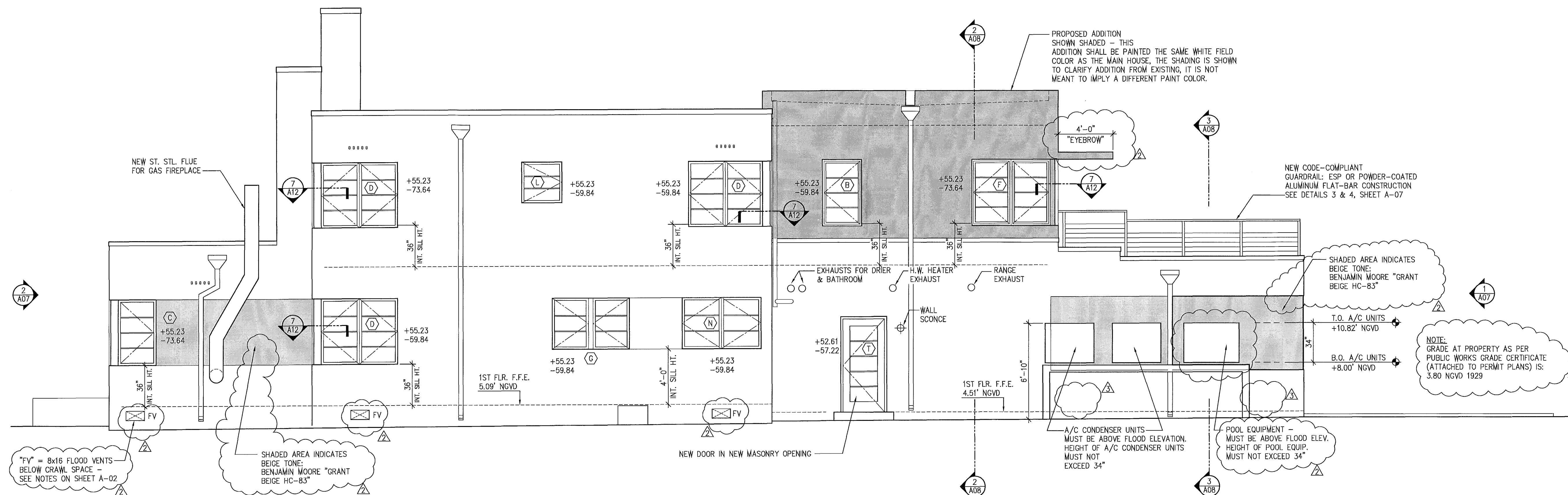
SUBMISSION

JOB NO.: 3193-01



- ELEVATION NOTES:**
- 1.) ALL NEW WINDOWS & EXTERIOR DOORS SHALL BE CODE-COMPLIANT, IMPACT-RESISTANT WITH MUNTIN SPACING CONSISTENT WITH THAT OF THE ORIGINAL HISTORIC WINDOWS
 - 2.) ALL EXISTING STUCCO SURFACES SHALL BE REPAIRED AS REQUIRED AND THE ENTIRE BUILDING REPAINTED - COLOR TO BE DETERMINED
 - 3.) **COLOR SCHEME:**
THE BASIC COLOR SCHEME IS AS FOLLOWS:
MAIN FIELD COLOR OF EXISTING STRUCTURE AND ADDITION: OFF-WHITE (BENJAMIN MOORE "WHITE DOVE", FLAT)
HIGHLIGHT COLORS (BANDING AND SPANDRELS): BENJAMIN MOORE "GRANT BEIGE", HC-83, FLAT
 - 4.) ALL EXTERIOR DOORS AND WINDOWS SHALL BE UNDER A SEPERATE PERMIT. WINDOW FRAMES AND DOORS SHALL BE WHITE - EXACT COLOR SAMPLES SHALL BE SUBMITTED TO P&Z DEPARTMENT AT THE TIME THE DOOR & WINDOW PERMITS ARE APPLIED FOR
 - 5.) DELEGATED ENGINEER SHALL SUBMIT SHOP DRAWINGS FOR NEW GUARDRAILS TO ARCHITECT FOR REVIEW AND APPROVAL

① **NORTH ELEVATION**
SCALE: 1/4" = 1'-0"



② **SOUTH ELEVATION**
SCALE: 1/4" = 1'-0"

REV.	DATE	DESCRIPTION
1	03-03-11	BUILDING DEPARTMENT COMMENTS
2	05-06-11	BUILDING DEPARTMENT COMMENTS
3	05-31-11	(4) FLOOD VENTS @ SLAB AREA REMOVED (NO CRAWL SPACE)

MOSSCROP ASSOCIATES
ARCHITECTURE + INTERIORS

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WWW.MOSSCROPASSOCIATES.COM

05-31-11

ILIJA MOSSCROP, REGISTERED ARCHITECT
FLORIDA LICENSE NO.: AR92744

PROJECT NAME & ADDRESS:

3193 ROYAL PALM AVENUE

3193 ROYAL PALM AVENUE
MIAMI BEACH, FL 33140

SHEET TITLE:

NORTH & SOUTH EXTERIOR ELEVATIONS

SHEET NO.:

A-06

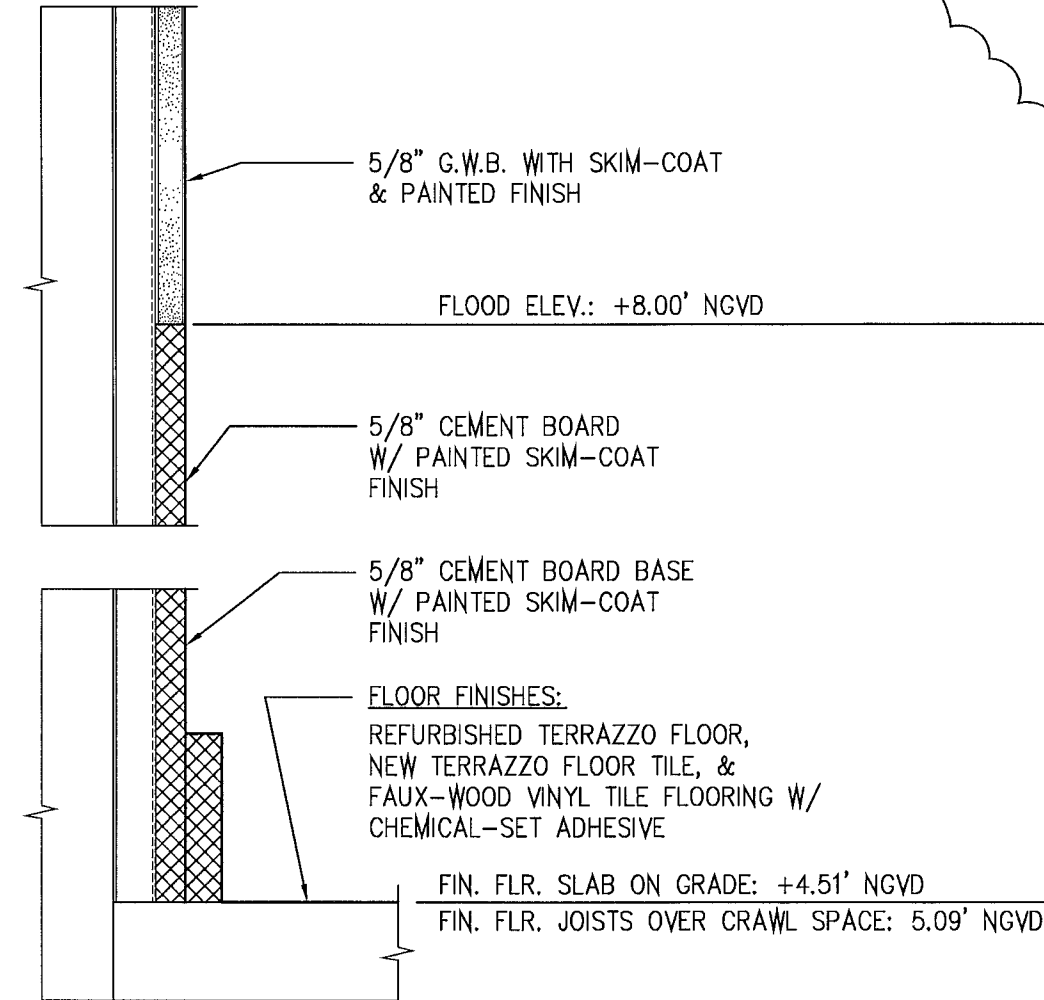
SCALE: 1/4" = 1'-0"

DATE: 05-31-11

ISSUE: PERMIT

REVISION 3

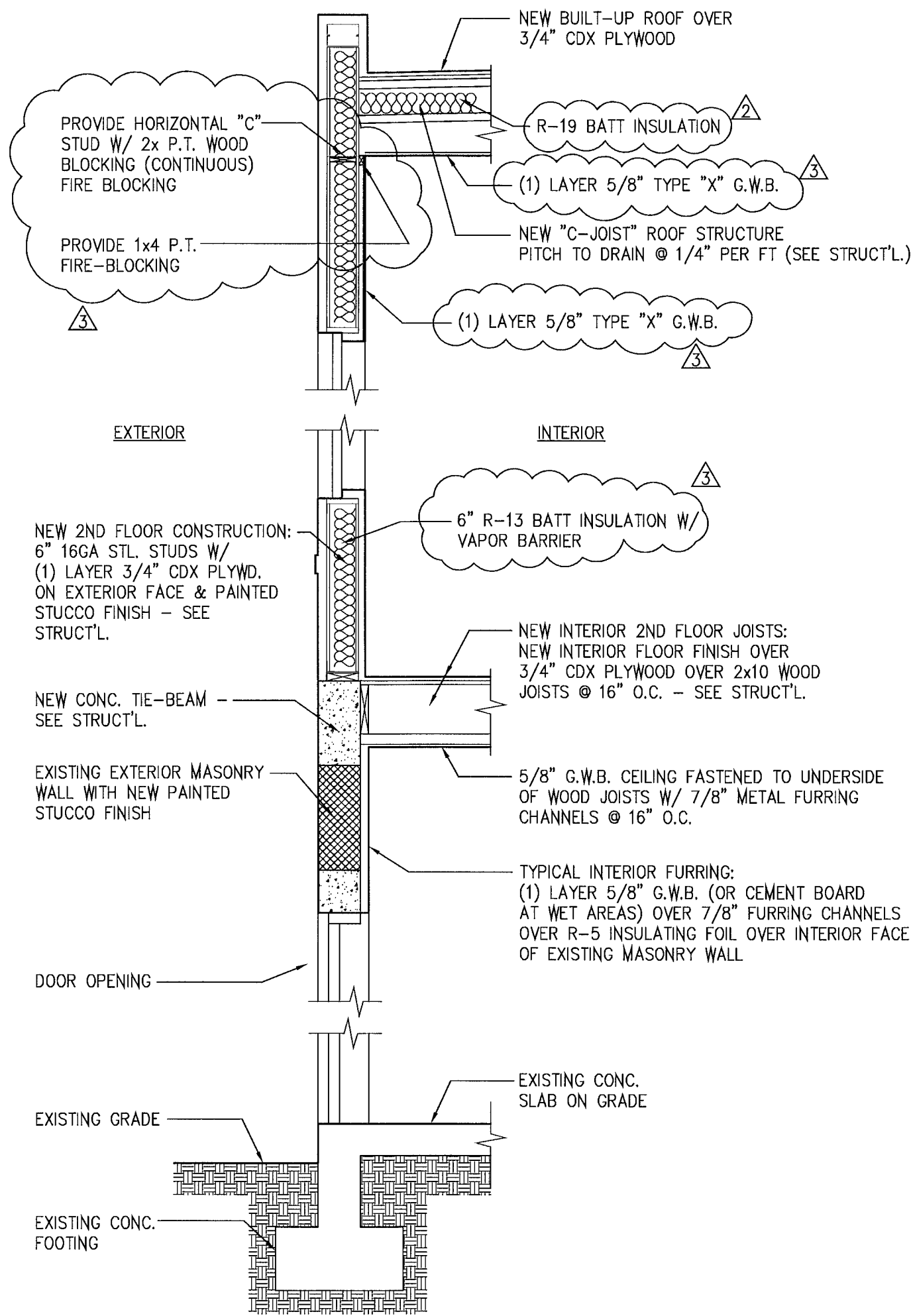
JOB NO.: 3193-01



NOTE:
THIS DETAIL COMPLIES WITH THE REQUIREMENTS OF FEMA TECHNICAL BULLETIN 2-93
AS MANDATED BY CONDITION NUMBER 4, OF THE FLOOD-PLAIN WAIVER FOR THIS PROJECT
WHICH WAS HEARD ON MAY 7, 2010, AND RECORDED ON MAY 25, 2010

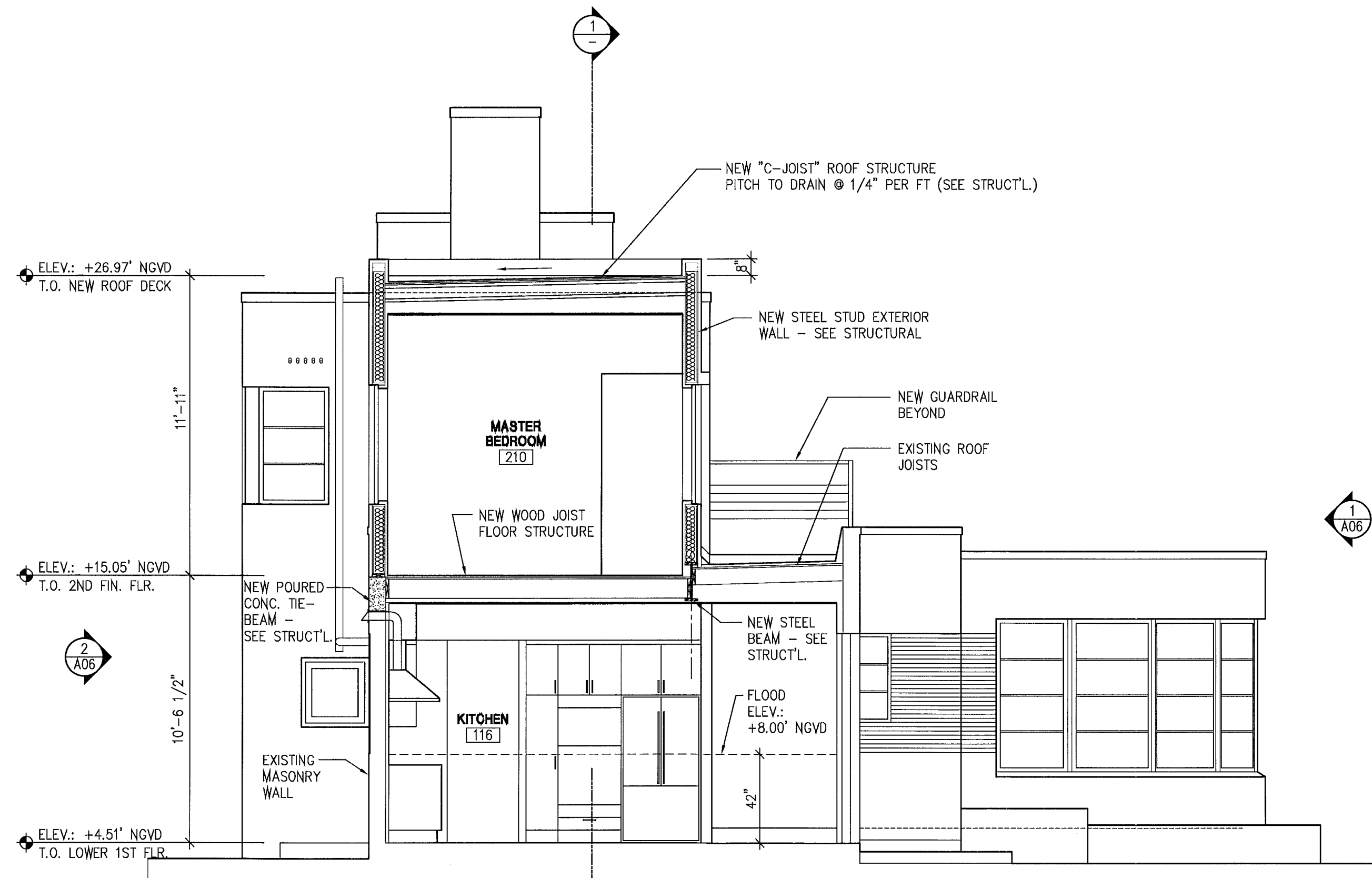
4 TYPICAL DETAIL FOR FLOOD-RESISTANT FINISHES AT INTERIOR WALLS, PARTITIONS & FLOORS

SCALE: 3/4" = 1'-0"



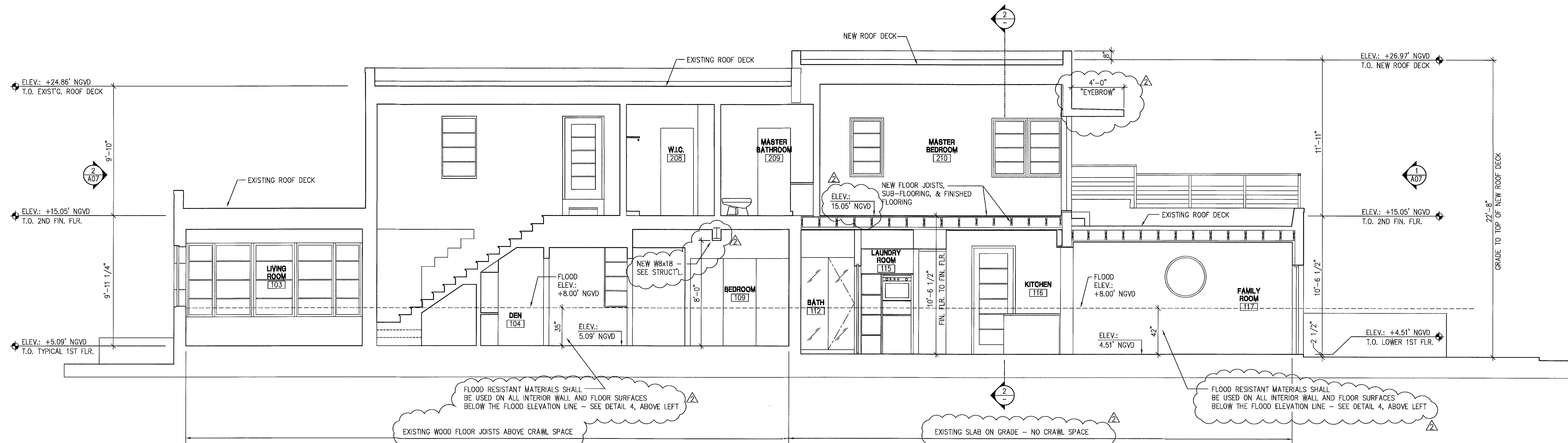
3 TYPICAL WALL SECTION

SCALE: 1/2" = 1'-0"



2 N-S SECTION LOOKING WEST

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



1 E-W SECTION LOOKING NORTH

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

REV: 03-03-11 BUILDING DEPARTMENT COMMENTS
05-06-11 BUILDING DEPARTMENT COMMENTS
05-25-11 BUILDING DEPARTMENT COMMENTS

MOSSCROP ASSOCIATES
ARCHITECTURE + INTERIORS
940 LINCOLN ROAD, SUITE 325, MIAMI BEACH, FL 33139
T: (305) 534-9775 F: (305) 534-9927 EMAIL: ILIJA@BELLSOUTH.NET
CONS. OF ARCH: A43601057 & A43601058

5-25-11

ILIJA MOSSCROP, REGISTERED ARCHITECT
FLORIDA LICENSE NO.: A89274

PROJECT NAME & ADDRESS:
3193 ROYAL PALM AVENUE

3193 ROYAL PALM AVENUE
MIAMI BEACH, FL 33140

SHEET TITLE:

BUILDING SECTIONS

SHEET NO.:

A-08

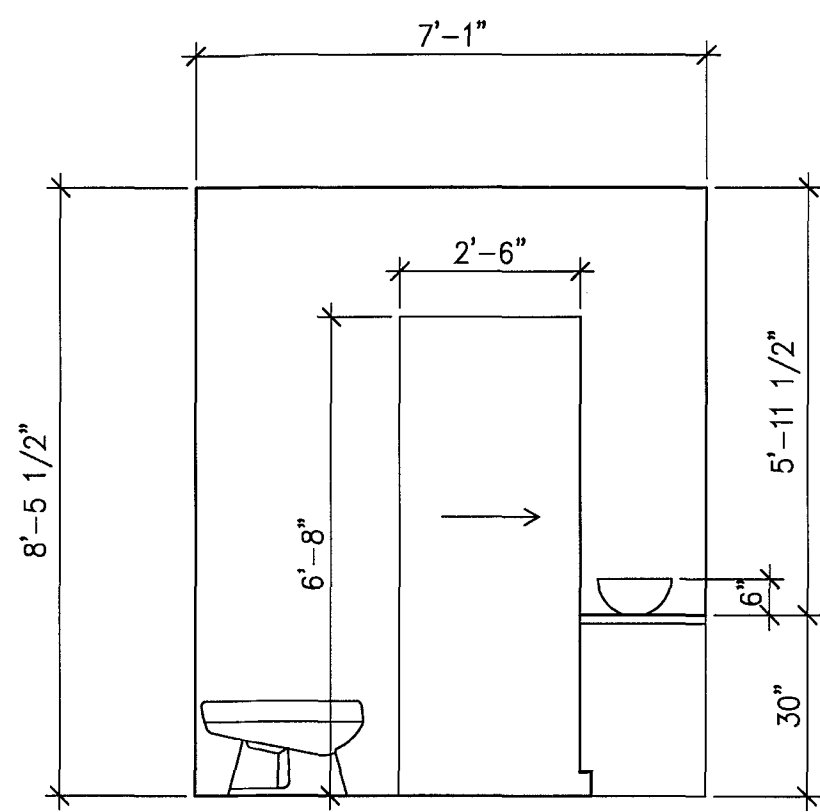
SCALE: 1/4" = 1'-0"

DATE: 05-25-11

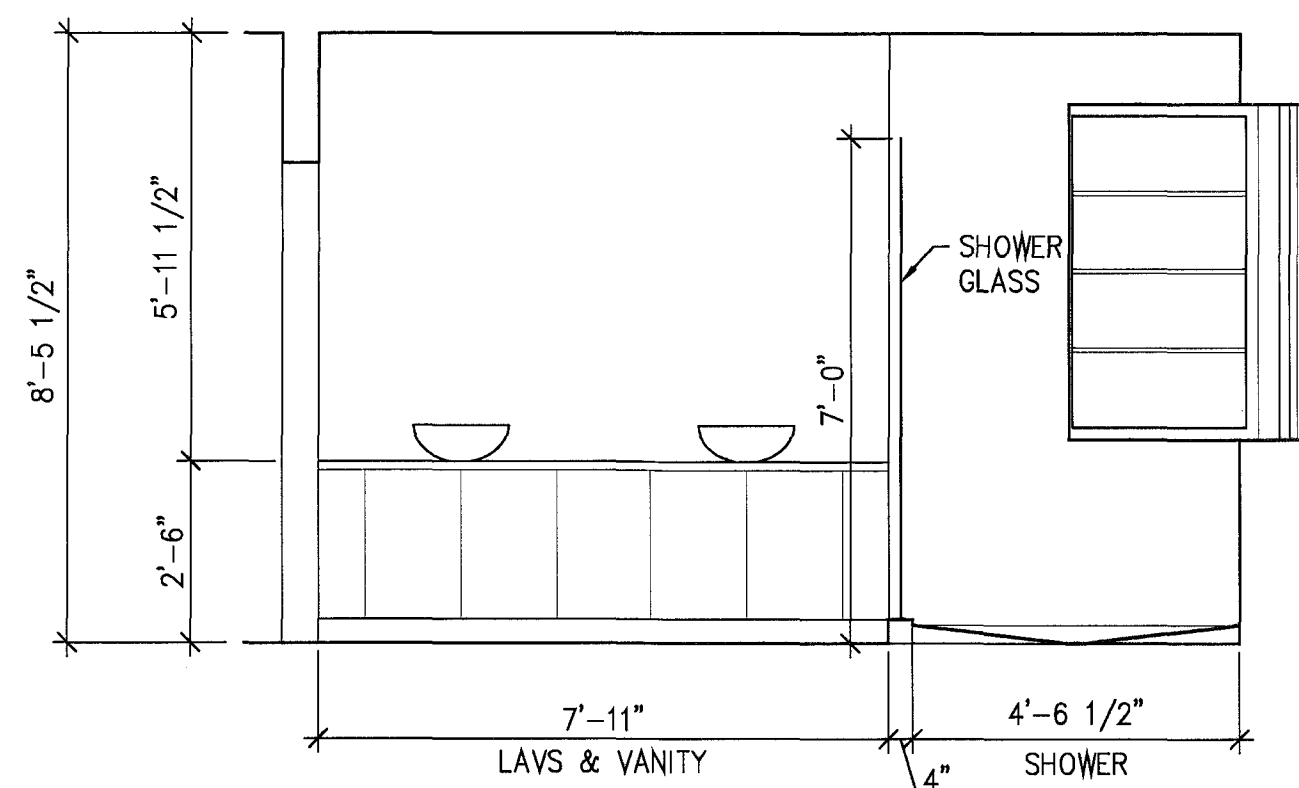
ISSUE: PERMIT

REVISION 3

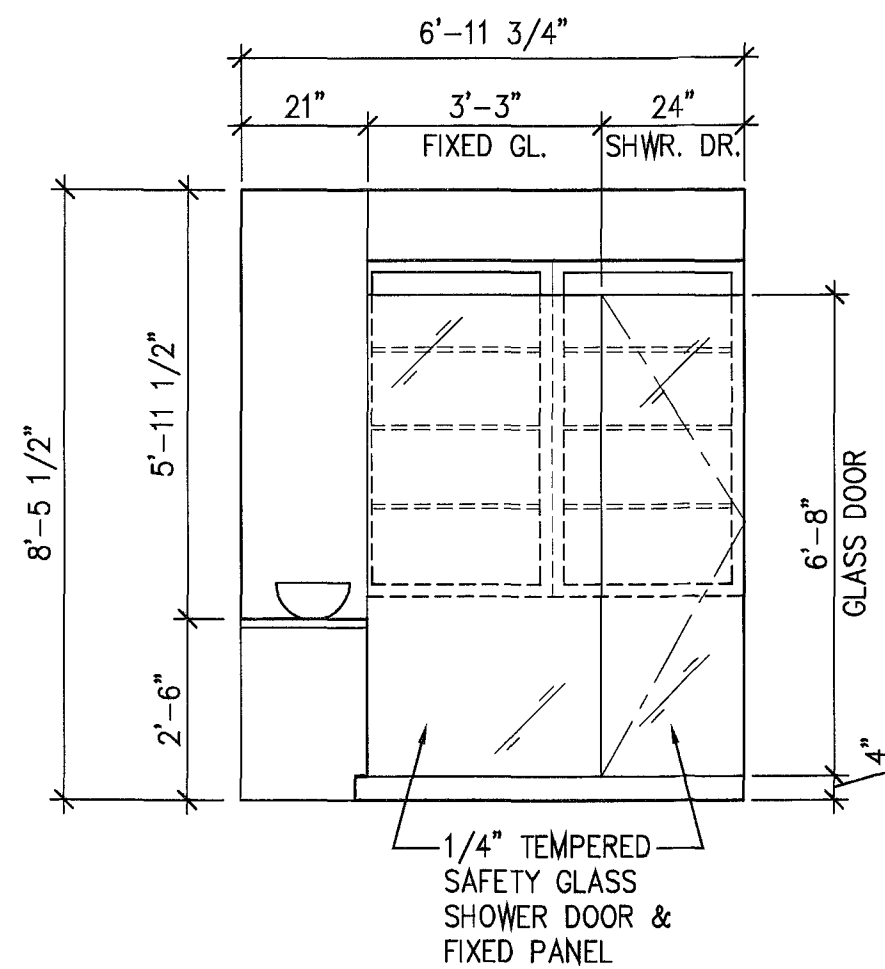
JOB NO.: 3193-01



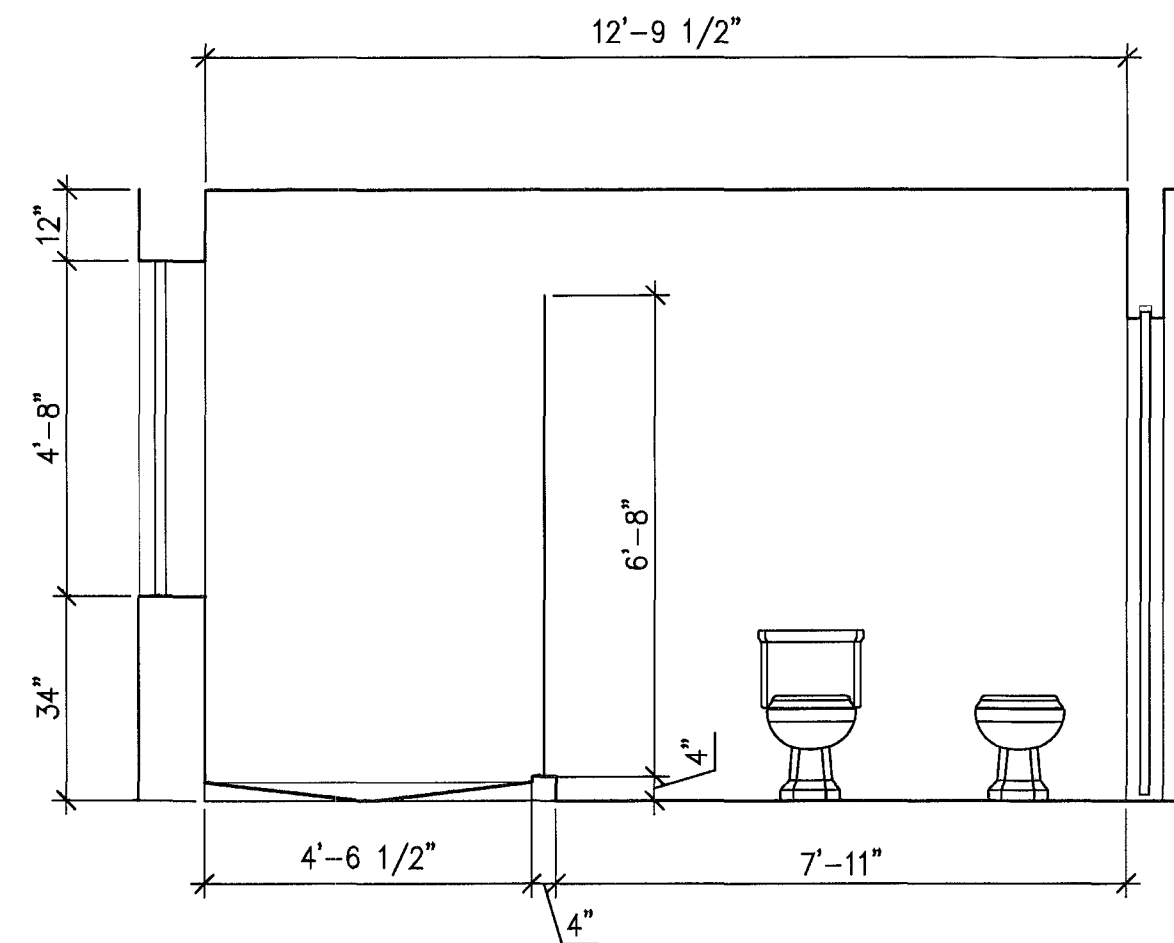
15 BATHROOM 209
EAST ELEVATION
SCALE: 3/8" = 1'-0"



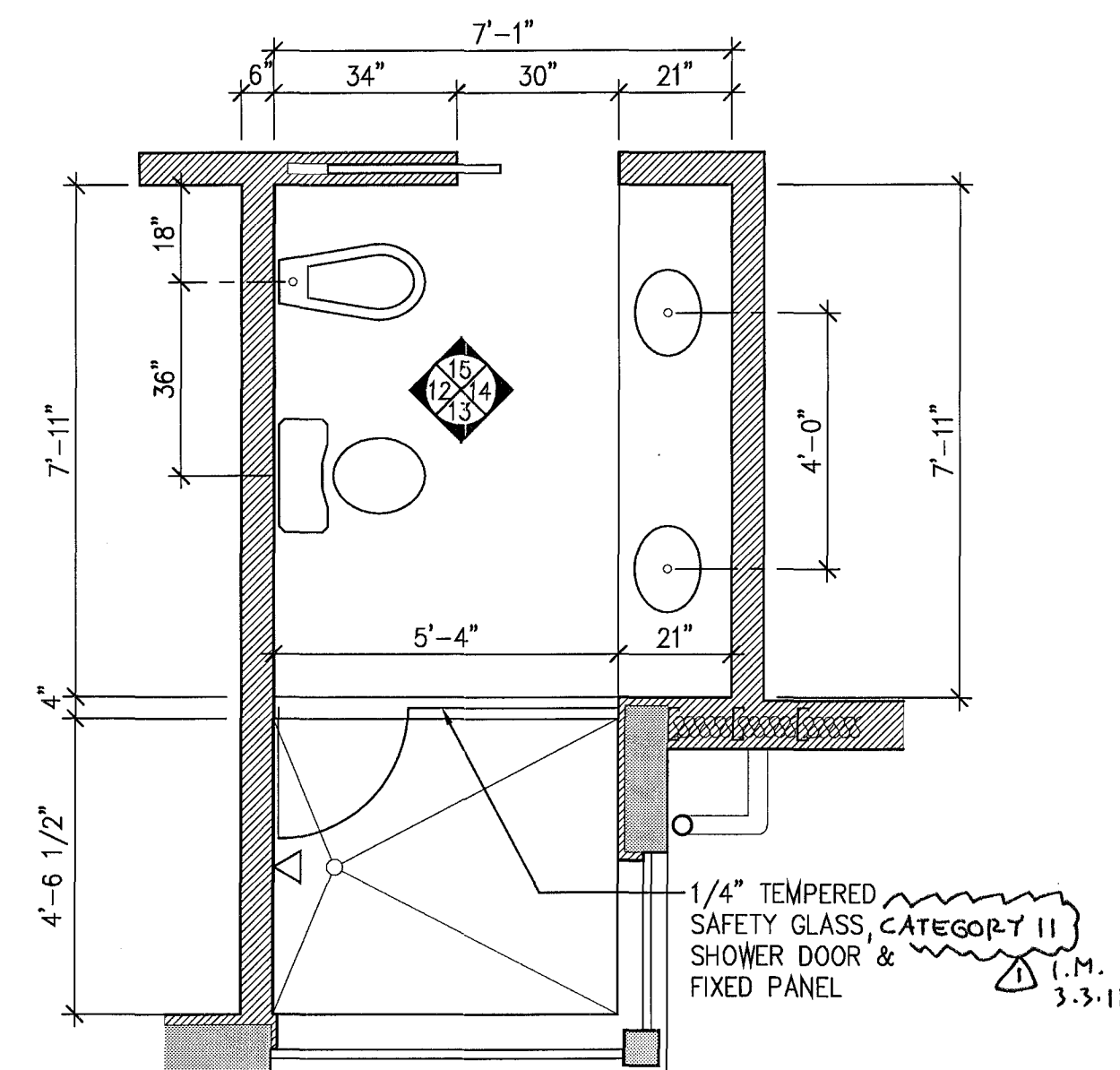
14 BATHROOM 209
SOUTH ELEVATION
SCALE: 3/8" = 1'-0"



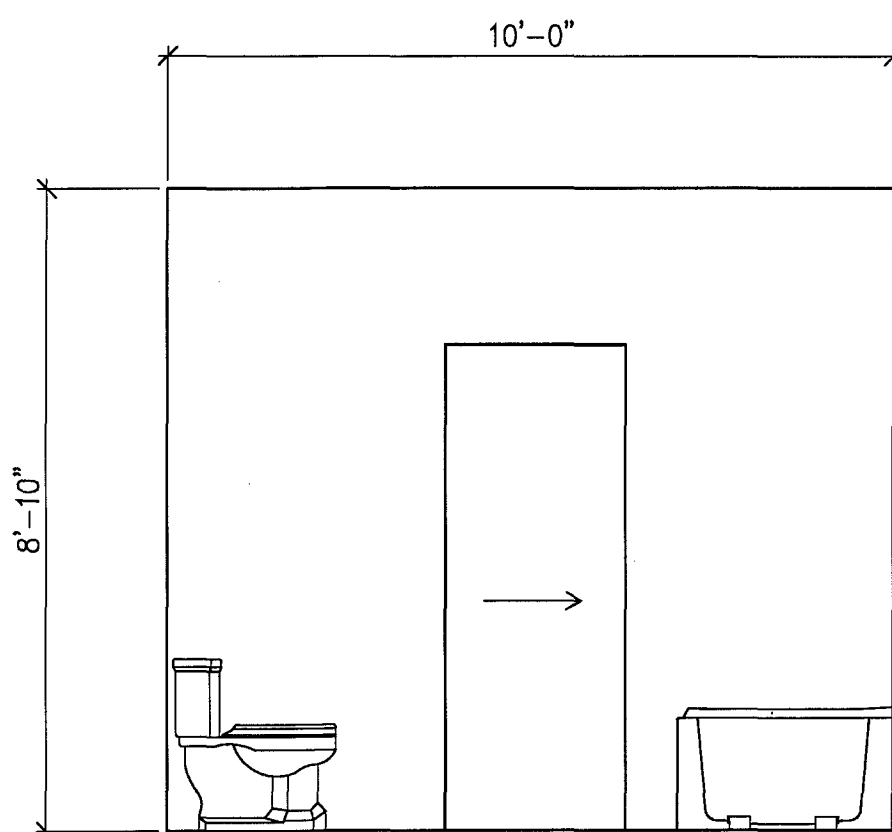
13 BATHROOM 209
WEST ELEVATION
SCALE: 3/8" = 1'-0"



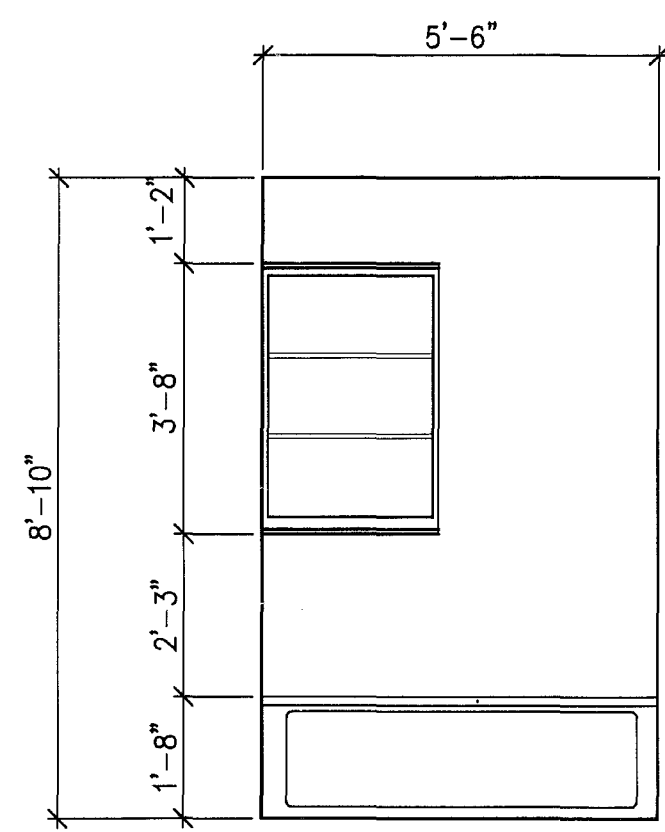
12 BATHROOM 209
NORTH ELEVATION
SCALE: 3/8" = 1'-0"



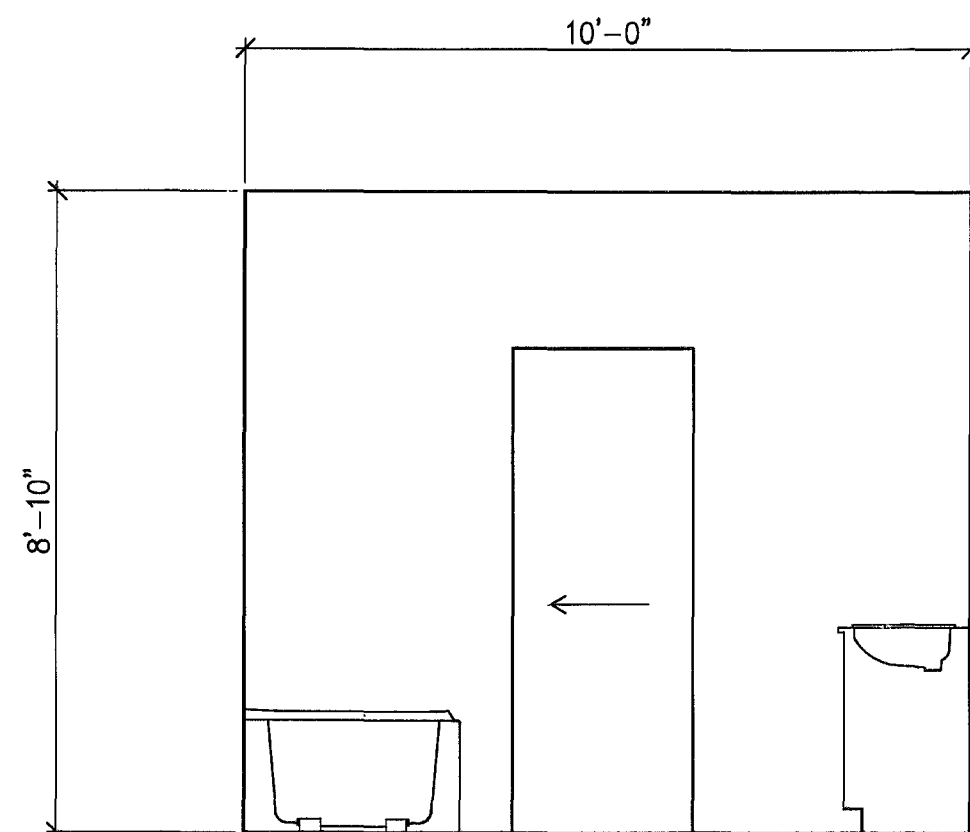
11 PLAN DETAIL
MASTER BATHROOM 209
SCALE: 3/8" = 1'-0"



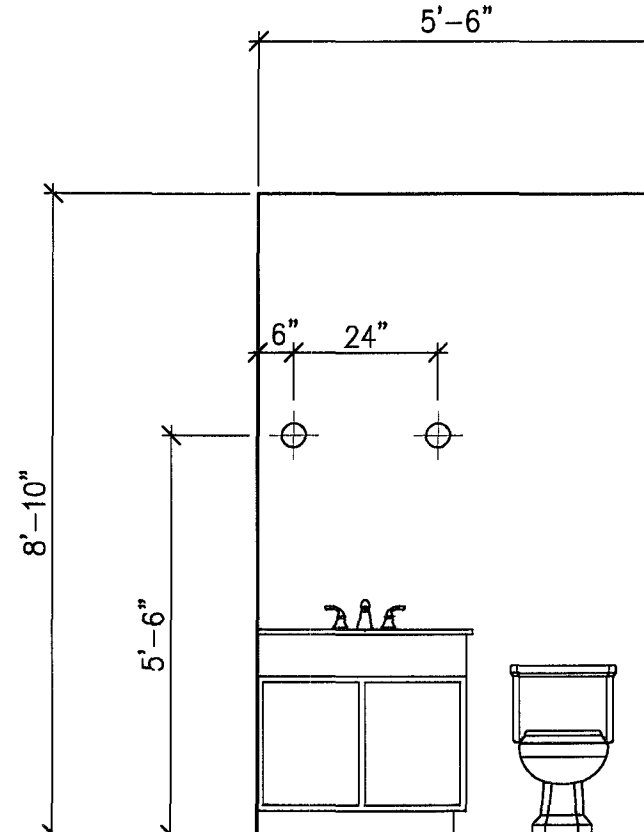
10 BATHROOM 108
EAST ELEVATION
SCALE: 3/8" = 1'-0"



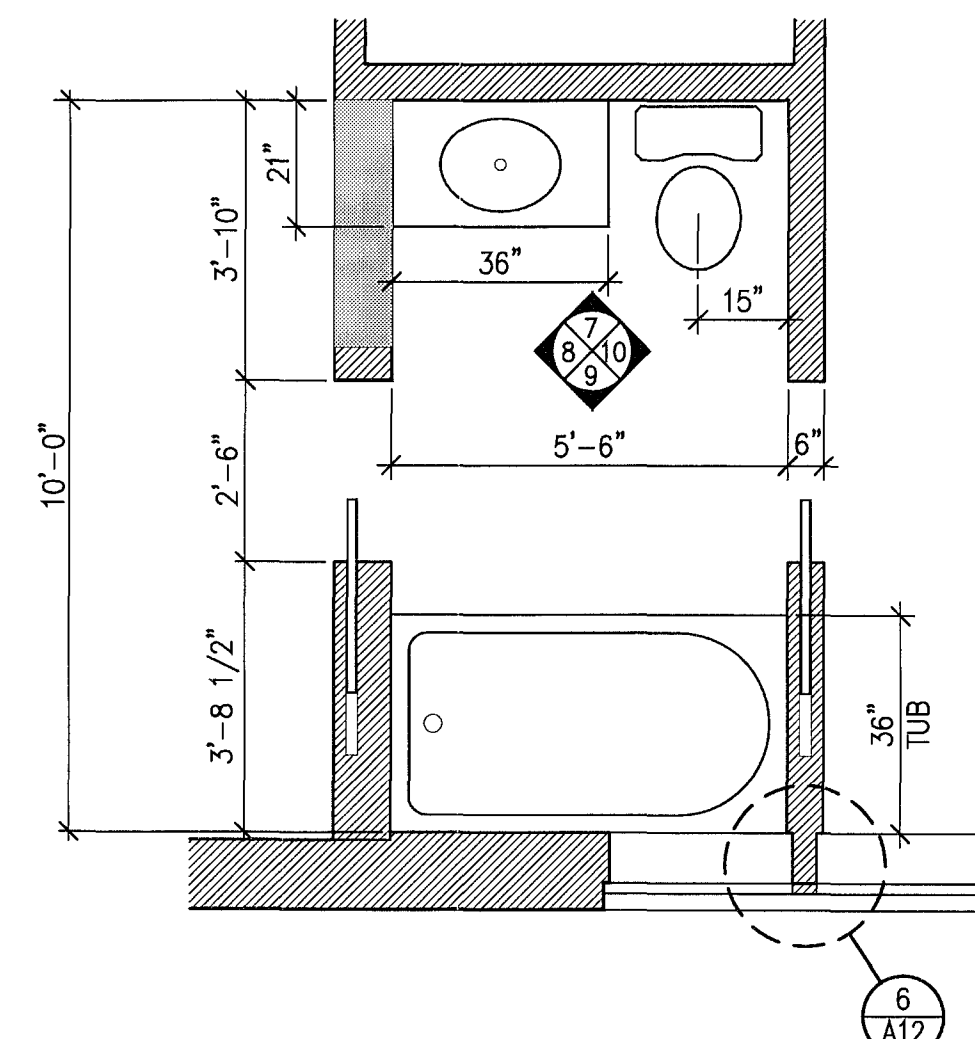
9 BATHROOM 108
SOUTH ELEVATION
SCALE: 3/8" = 1'-0"



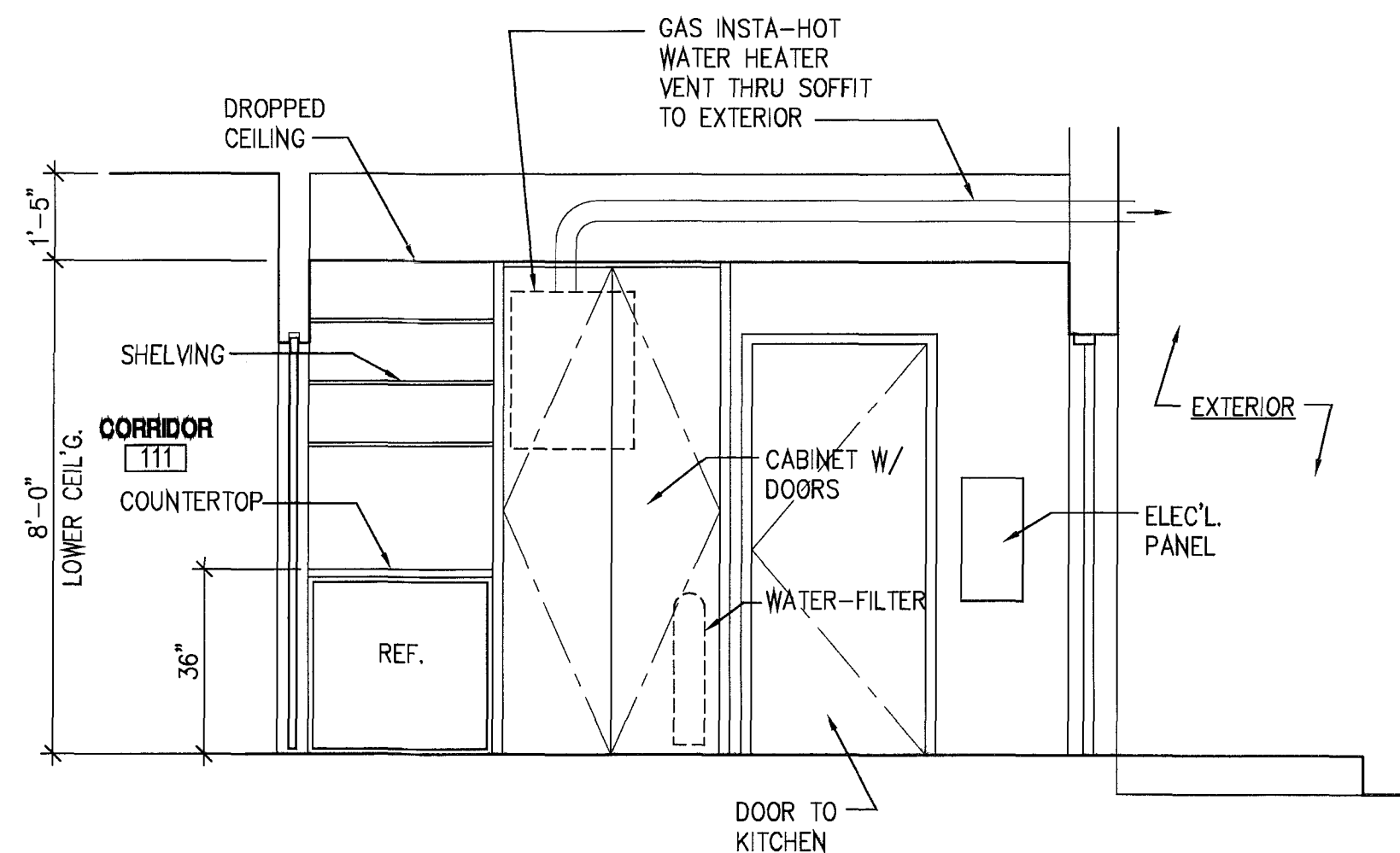
8 BATHROOM 108
WEST ELEVATION
SCALE: 3/8" = 1'-0"



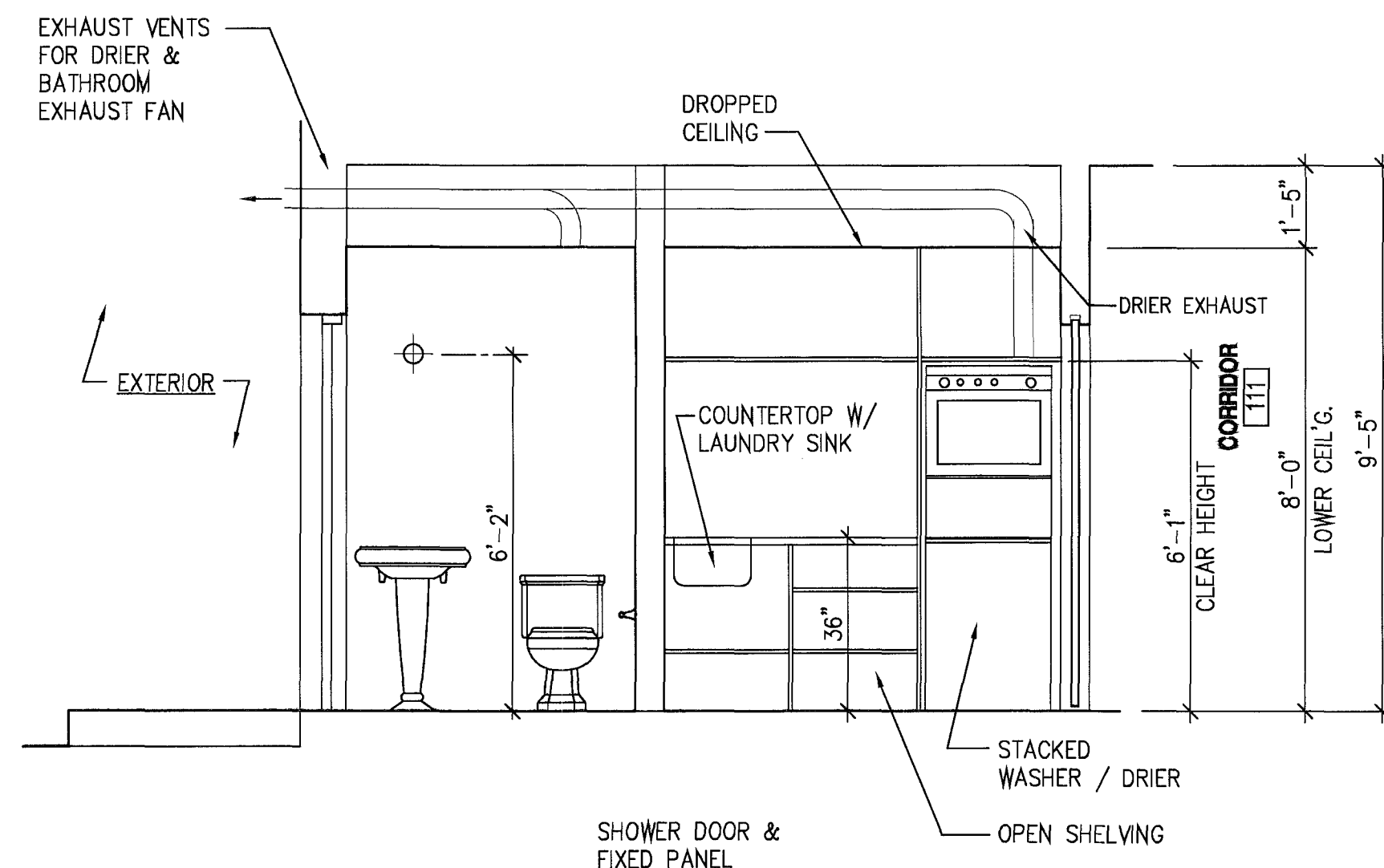
7 BATHROOM 108
NORTH ELEVATION
SCALE: 3/8" = 1'-0"



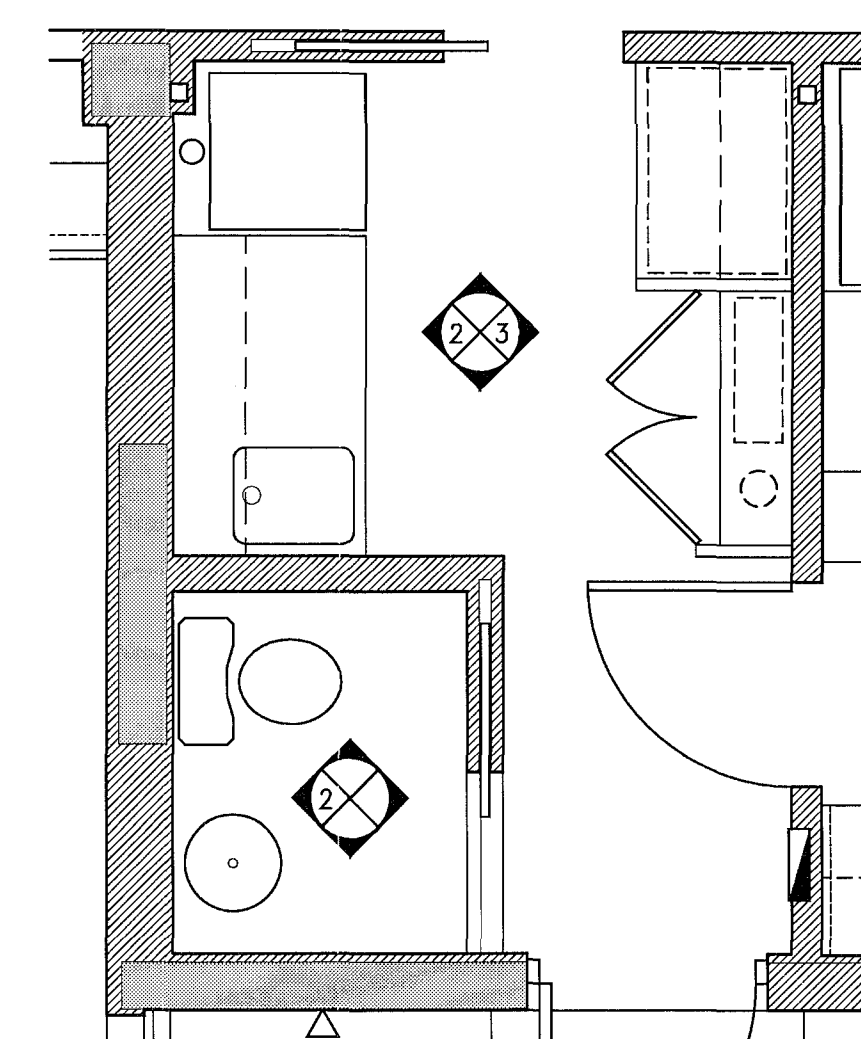
6 PLAN DETAIL
BATHROOM 108
SCALE: 3/8" = 1'-0"



3 POOL BATH 112: SOUTH ELEVATION
SCALE: 3/8" = 1'-0"



2 POOL BATH 112 / LAUNDRY ROOM 115: NORTH ELEVATION
SCALE: 3/8" = 1'-0"



1 PLAN DETAIL
BATH 112 / LAUNDRY ROOM 115
SCALE: 3/8" = 1'-0"

5 (NOT USED)
SCALE: 3/8" = 1'-0"

4 (NOT USED)
SCALE: 3/8" = 1'-0"

REV: DATE DESCRIPTION:

MOSSCROP ASSOCIATES
ARCHITECTURE + INTERIORS

11.22.10

ILUJA MOSSCROP, REGISTERED ARCHITECT
FLORIDA LICENSE NO.: ARS2744

PROJECT NAME & ADDRESS:

3193
ROYAL PALM
AVENUE

3193 ROYAL PALM AVENUE
MIAMI BEACH, FL 33140

SHEET TITLE:

INTERIOR
ELEVATIONS &
PLAN DETAILS

SHEET NO.:

A-09

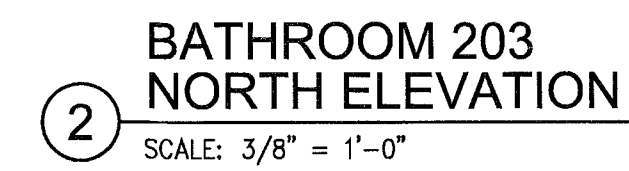
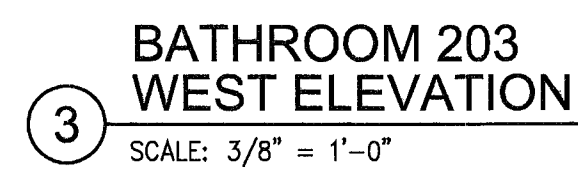
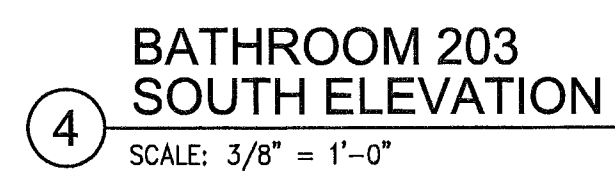
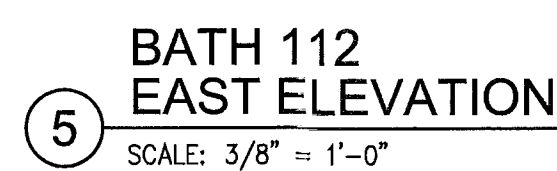
SCALE: 3/8" = 1'-0"

DATE: 11-22-10

ISSUE: PERMIT

SUBMISSION

JOB NO.: 3193-01



MOSCROP ASSOCIATES
ARCHITECTURE + INTERIORS

940 LINCOLN ROAD, SUITE 325, MIAMI BEACH, FL 33139
 : (305) 534-9779 F: (305) 534-9927 EMAIL: ILUA@BELLSOUTH.NET,
 CERTS. OF AUTH: A426001057 & A426001058

ILIJ MOSSCROP, REGISTERED ARCHITECT
FLORIDA LICENSE NO.: AR92744

PROJECT NAME & ADDRESS:

3193
ROYAL PALM
AVENUE

3193 ROYAL PALM AVENUE
MIAMI BEACH, FL 33140

SHEET TITLE:

INTERIOR ELEVATIONS & PLAN DETAILS

SHEET NO.:

A-10

SCALE: $3/8" = 1'-0"$

DATE: 11-22-10

ISSUE:	PERMIT
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PERMIT
SUBMISSION

JOB NO.: 3103-0

FINISH SCHEDULE

RM. NO.	ROOM NAME	FLOOR	BASE	WALLS	CEILING	REMARKS
101	DINING ROOM	EXIST'G. TERRAZZO	EXIST'G. CERAMIC TILE	EXIST'G. CERAMIC TILE		RESTORE EXIST'G. TERRAZZO FLOOR
102	POWDER ROOM	EXIST'G. CERAMIC TILE	EXIST'G. CERAMIC TILE	EXIST'G. CERAMIC TILE		RESTORE EXIST'G. CERAMIC TILE FLOOR & WALLS
103	LIVING ROOM	EXIST'G. TERRAZZO				RESTORE EXIST'G. TERRAZZO FLOOR
104	DEN	EXIST'G. TERRAZZO				RESTORE EXIST'G. TERRAZZO FLOOR
105	CORRIDOR	EXIST'G. TERRAZZO				RESTORE EXIST'G. TERRAZZO FLOOR
106	VESTIBULE					
107	CLOSET					
108	BATHROOM					
109	BEDROOM					
110	CLOSET					
111	CORRIDOR					
112	POOL BATH					
113	(NOT USED)					
114	(NOT USED)					
115	LAUNDRY ROOM					
116	KITCHEN					
117	FAMILY ROOM					
201	BEDROOM					
202	CLOSET					
203	BATHROOM					
204	VESTIBULE					
205	CLOSET					
206	A/C CLOSET					
207	CORRIDOR					
208	W.I.C.					
209	MASTER BATHROOM					
210	MASTER BEDROOM					

FINISH SPECIFICATIONS

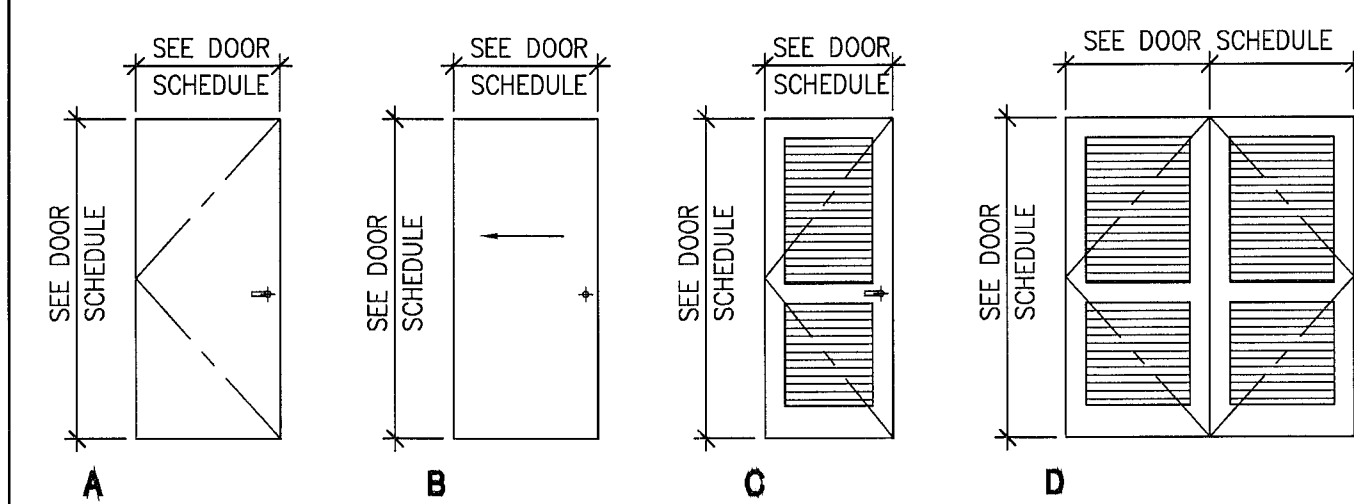
NOTE: FINAL SELECTIONS & SPECIFICATIONS SUBJECT TO OWNER APPROVAL.

DOOR SCHEDULE

NOTE: THIS DOOR SCHEDULE DESCRIBES INTERIOR DOORS ONLY -- FOR EXTERIOR DOOR INFORMATION SEE WINDOW SCHEDULE.

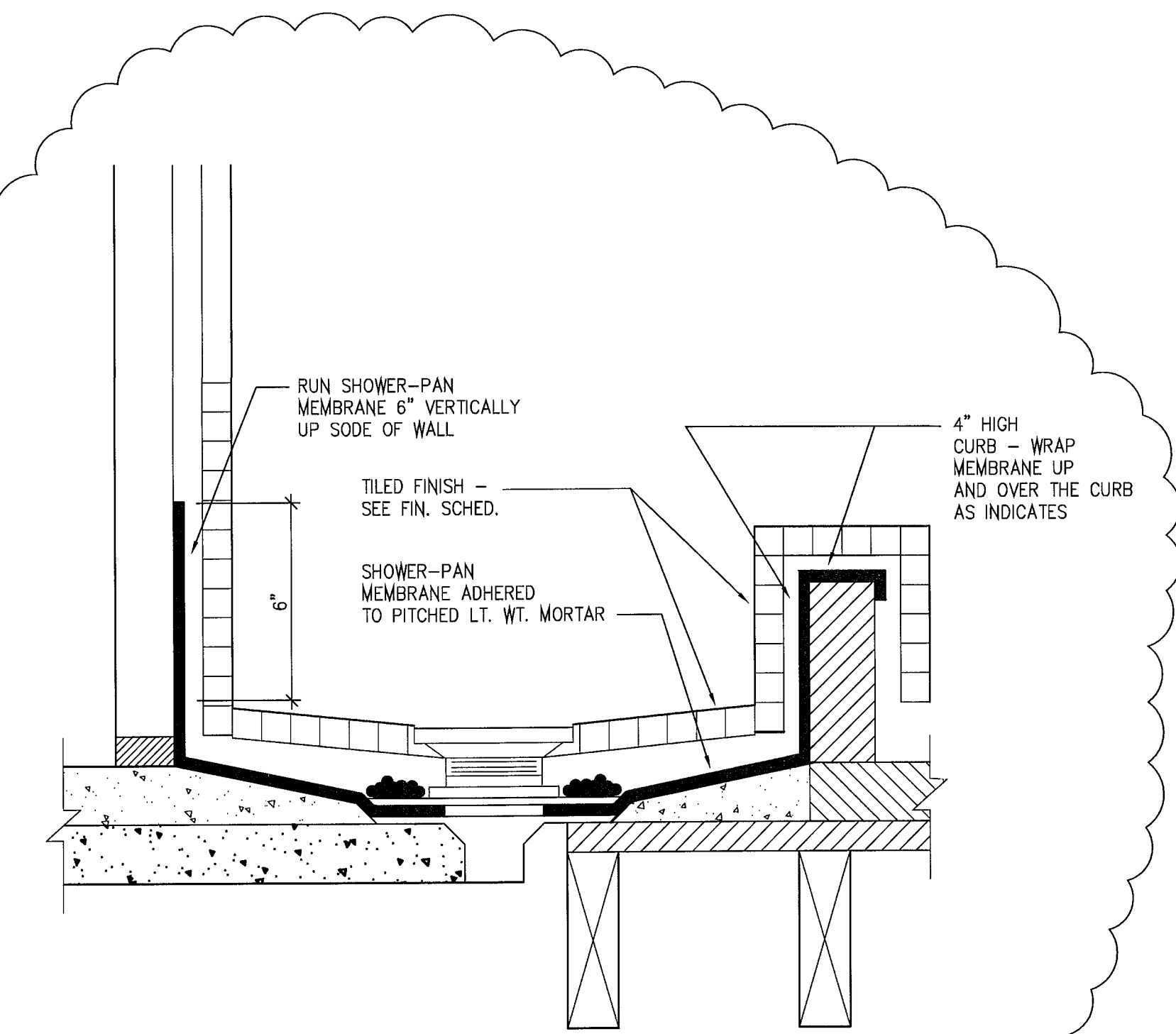
FLR.	OPENING & DESCRIPTION						DOOR		FRAME		REMARKS				
	DR. NO.	FROM / TO:	LEAF SIZE (W x H):	THK.:	LABEL:	MAT'L	TYPE	HRDWR. SET:	MAT'L	TYPE	JAMB	HEAD	THRESHOLD		
1ST FLOOR	01	POWDER ROOM 102 / CORRIDOR 105	24" x 80"	1 3/8"	—	S.C. WOOD	A	1	—						
	02	VESTIBULE 106 / BEDROOM 109	34" x 80"	1 3/8"	—	S.C. WOOD	A	1							
	02a	VESTIBULE 106 / DEN 104	30" x 80"	1 3/8"	—	S.C. WOOD	A	1							
	03	CLOSETS 107 & 114 / VESTIBULE 106	(2) 36" x 80"	1 3/8"	—	S.C. WOOD	D	7						DOUBLE LOUVERED DOOR	
	04	DEN 104 / BATHROOM 108	32" x 82"	1 3/8"	—	S.C. WOOD	B	3						POCKET DOOR	
	05	BEDROOM 109 / BATHROOM 108	32" x 82"	1 3/8"	—	S.C. WOOD	B	3						POCKET DOOR	
	06	CLOSET 110 / BEDROOM 109	(3) 32" x 80"	1 3/8"	—	S.C. WOOD	B	4						3-LEAF SLIDING CLOSET DOOR	
	07	CORRIDOR 111 / LAUNDRY ROOM 115	30" x 80"	1 3/8"	—	S.C. WOOD	B	2						POCKET DOOR	
	08	KITCHEN 116 / LAUNDRY ROOM 115	34" x 80"	1 3/8"	—	S.C. WOOD	A	6							
2ND FLOOR	09	POOL BATH 112 / LAUNDRY ROOM 115	32" x 82"	1 3/8"	—	S.C. WOOD	B	3						POCKET DOOR	
	10	CLOSET 202 / BEDROOM 201	(3) 32" x 80"	1 3/8"	—	S.C. WOOD	B	4						3-LEAF SLIDING CLOSET DOOR	
	11	VESTIBULE 204 / BEDROOM 201	32" x 80"	1 3/8"	—	S.C. WOOD	A	1							
	12	A/C CLOSET 206 / VESTIBULE 204	32" x 80"	1 3/8"	—	S.C. WOOD	C	5							
	13	CLOSET 205 / VESTIBULE 204	26" x 80"	1 3/8"	—	S.C. WOOD	A	7							
	14	BEDROOM 201 / BATHROOM 203	24" x 80"	1 3/8"	—	S.C. WOOD	A	1							
	15	STAIR LANDING / CORRIDOR 207	34" x 80"	1 3/8"	—	S.C. WOOD	A	1							
	16	CORRIDOR 207 / W.I.C. 208	32" x 82"	1 3/8"	—	S.C. WOOD	B	2						POCKET DOOR	
	17	CORRIDOR 207 / MASTER BATHROOM 209	32" x 82"	1 3/8"	—	S.C. WOOD	B	3						POCKET DOOR	
	18	CLOSET 211 / BEDROOM 201	30" x 80"	1 3/8"	—	S.C. WOOD	A	7			—	—	—	—	

DOOR TYPES

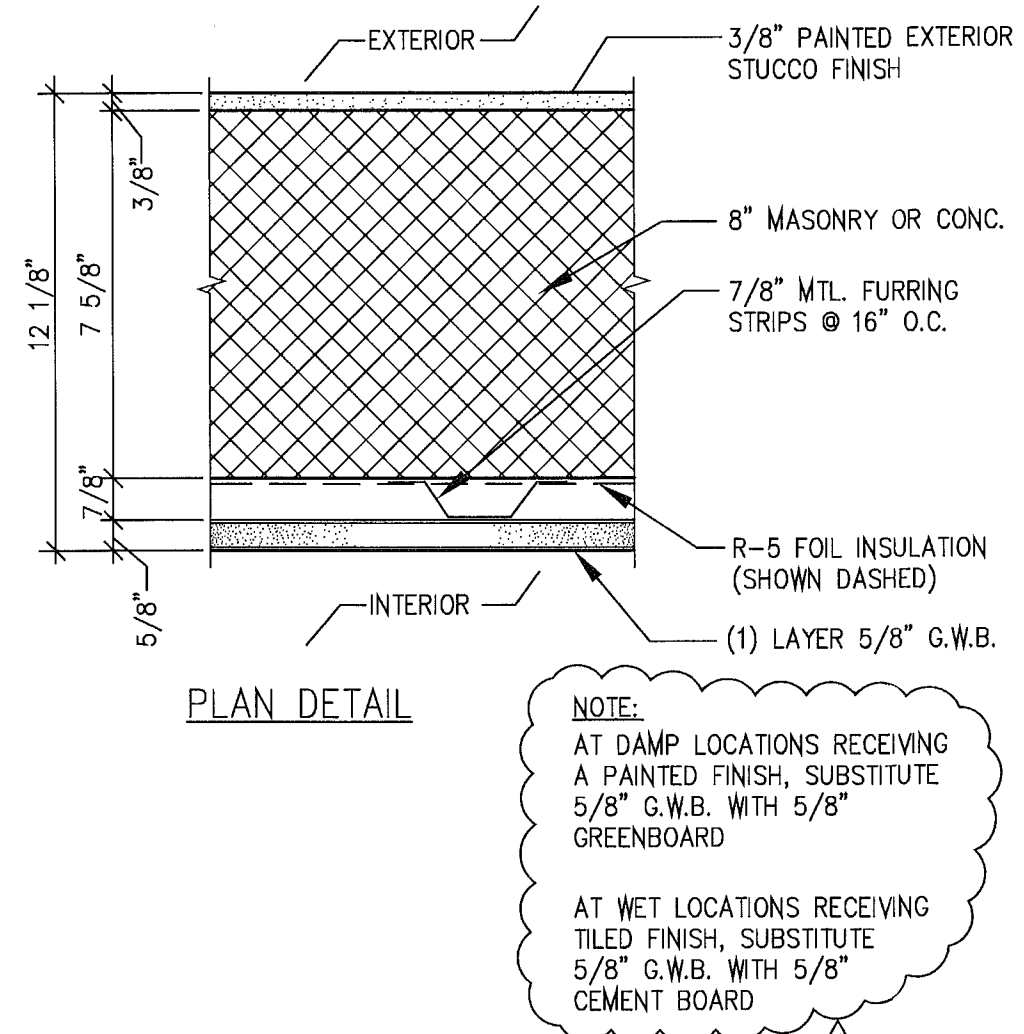


HARDWARE SETS

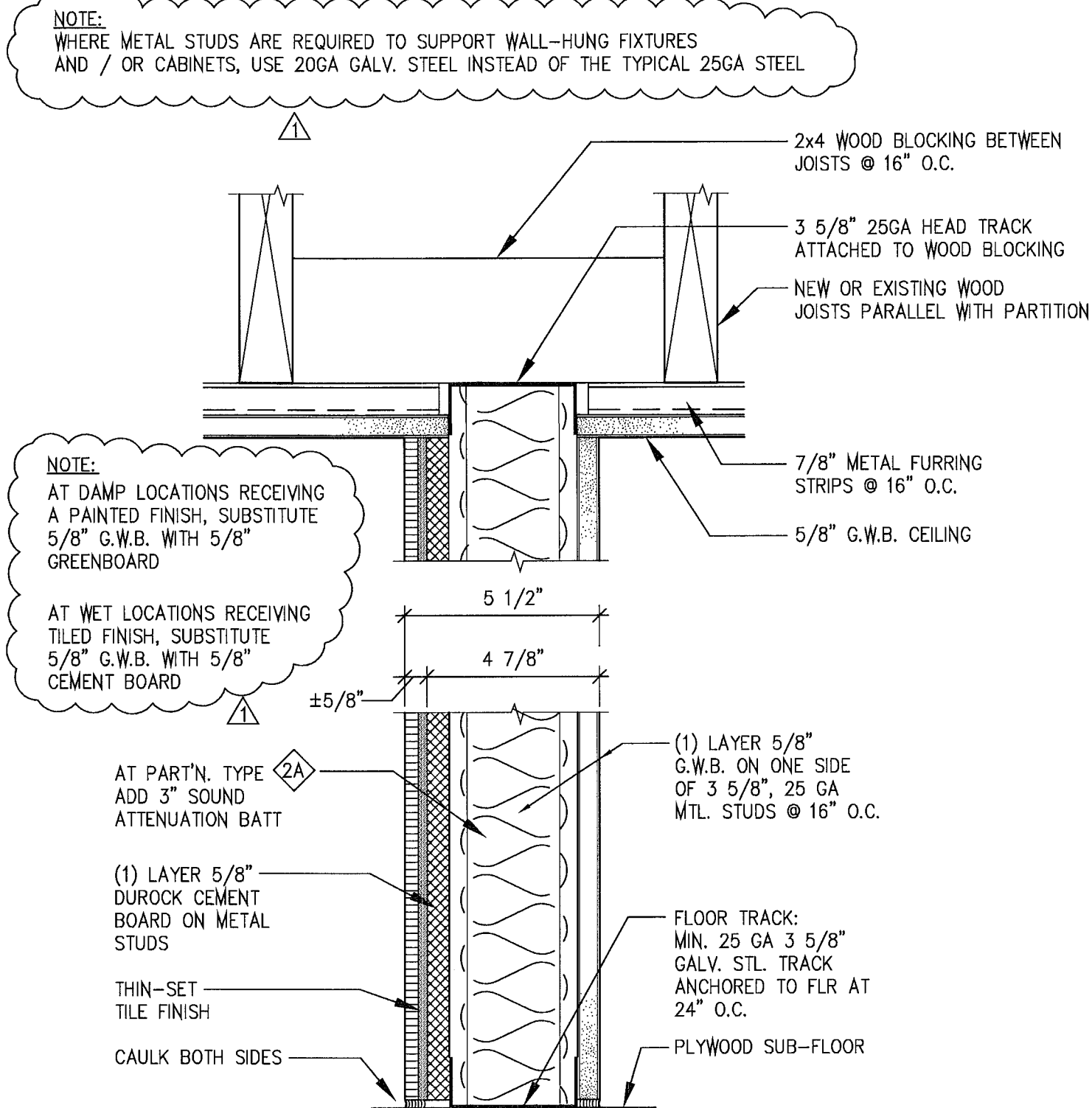
- PRIVACY LOCKSET:**
LEVER HANDLES BOTH SIDES OF DOOR LEAF.
PUSH-BUTTON LOCK ON BED / BATHROOM SIDE.
EMERGENCY UN-LOCK ON OPPOSITE SIDE.
1 1/2" PAIR BUTT HINGES.
DOOR STOP.
- POCKET DOOR (NON-PRIVACY):**
RECESSED FINGER PULLS BOTH SIDES OF DOOR LEAF.
MORTISED "FLIP-UP" DOOR-PULL IN FRONT EDGE OF DOOR.
HEAD TRACK SLIDING DOOR HARDWARE & SILL GUIDES.
- POCKET DOOR (PRIVACY):**
RECESSED FINGER-PULL W/ THUMBBLATCH LOCK ON BATH / BEDROOM SIDE.
RECESSED FINGER-PULL W/ EMERGENCY UN-LOCK ON OPPOSITE SIDE OF DOOR LEAF.
MORTISED LOCK ON FRONT EDGE OF DOOR LEAF.
MORTISED "FLIP-UP" DOOR-PULL IN FRONT EDGE OF DOOR LEAF.
HEAD TRACK SLIDING DOOR HARDWARE & SILL GUIDES.
- SLIDING CLOSET DOOR HARDWARE:**
RECESSED FINGER PULLS BOTH SIDES.
SLIDING HEAD TRACK.
- CLOSET DOOR HARDWARE:**
LEVER HANDLES BOTH SIDES.
PASSAGE LATCH SET (NO LOCKS).
1 1/2" PAIR BUTT HINGES.
DOOR STOP.
- PASSAGE LATCH LOCKSET:**
LEVER HANDLES BOTH SIDES OF DOOR LEAF.
LATCH WITH NO LOCK.
1 1/2" PAIR BUTT HINGES.
- CONCEALED HARDWARE CLOSET DOOR:**
TOP & BOTTOM PIVOT HINGES.
MAGNETIC LATCHES AT HEAD (PUSH TO OPEN).
NO LEVERS OR ANY VISIBLE HARDWARE.



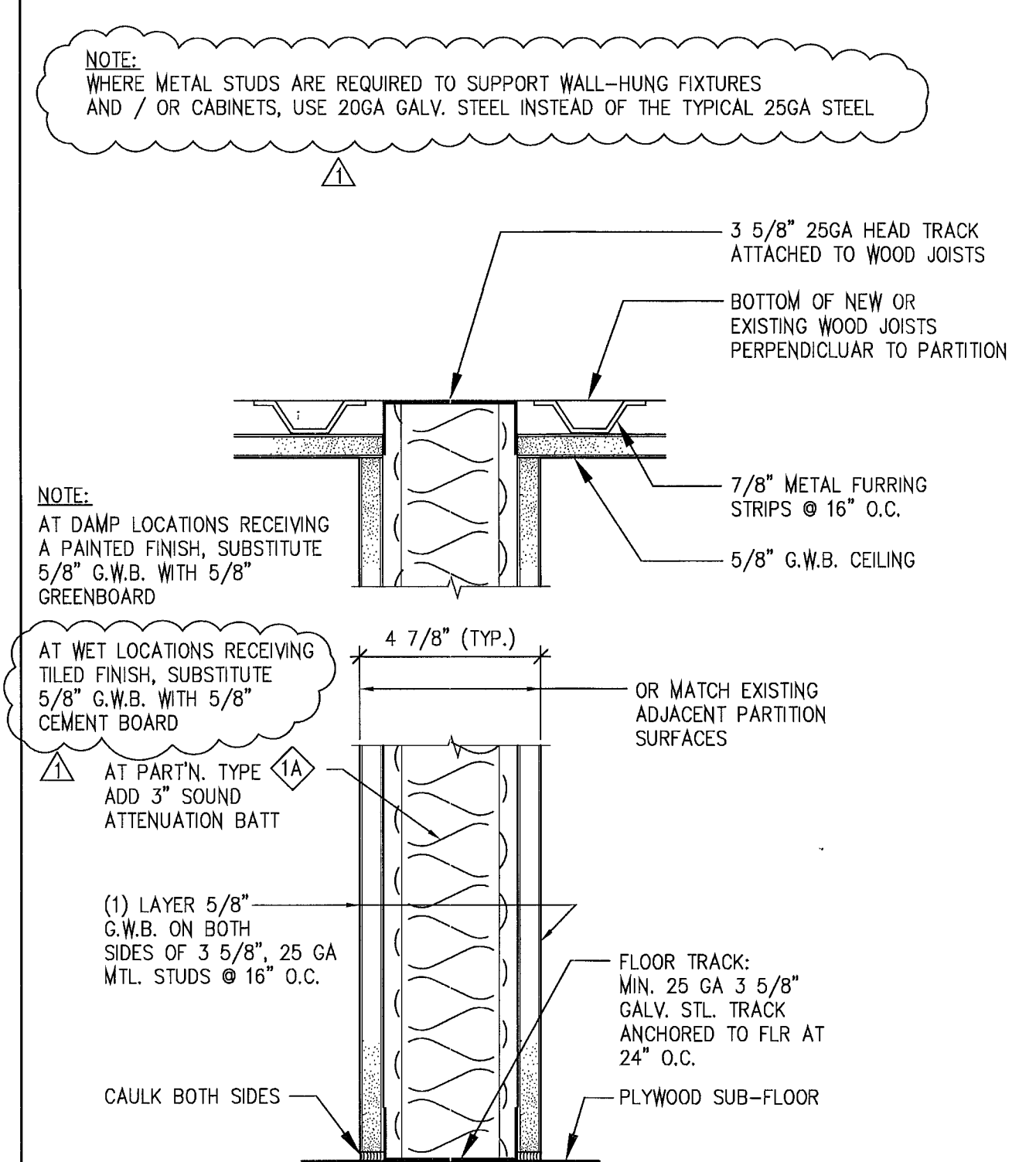
1 SHOWER PAN DETAIL
SCALE: 3" = 1'-0"



3 FURRING @ EXTERIOR WALL
SCALE: 3" = 1'-0"



2A NON-RATED, NON-BEARING INTERIOR PARTITION W/ TILED FINISH ONE SIDE
SCALE: 3" = 1'-0"

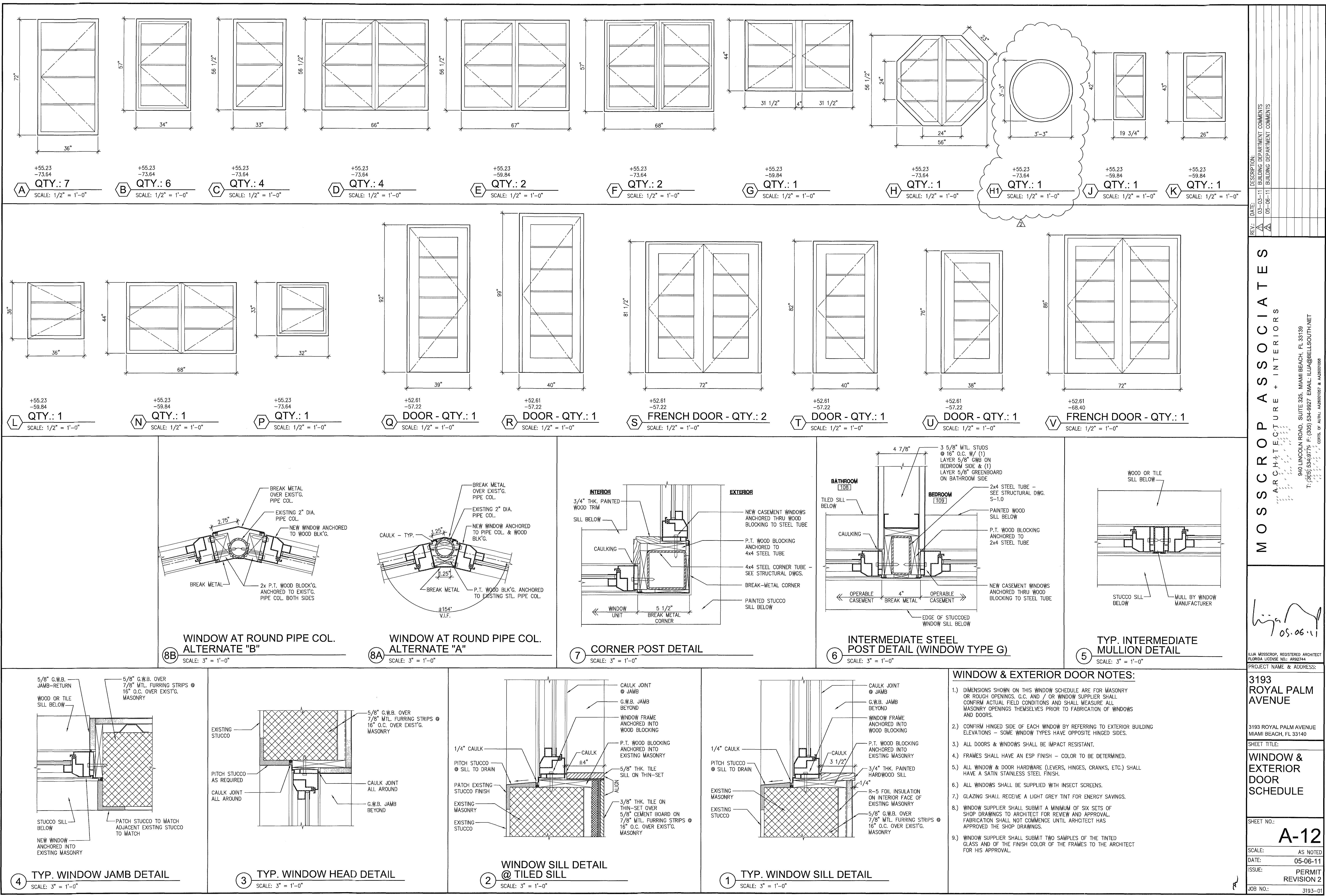


1A NON-RATED, NON-BEARING INTERIOR PARTITION
SCALE: 3" = 1'-0"

REV.	DATE	DESCRIPTION
1	03-03-11	BUILDING DEPARTMENT COMMENTS

MOSSCROP ASSOCIATES
ARCHITECTURE + INTERIORS

3193 ROYAL PALM AVENUE MIAMI BEACH, FL 33140	3193 ROYAL PALM AVENUE MIAMI BEACH, FL 33140
SHEET TITLE: DOOR & ROOM FINISH SCHEDULES, PARTITION TYPES & DETAILS	SHEET NO.: A-11
SCALE: AS NOTED	DATE: 03-03-11
ISSUE: REVISION 1	JOB NO.: 3193-01



MOSSCROP ASSOCIATES
ARCHITECTURE + INTERIORS

940 LINCOLN ROAD, SUITE 325, MIAMI BEACH, FL 33139
T: (305) 534-9976 F: (305) 534-9927 EMAIL: LIA@BELLSOUTH.NET

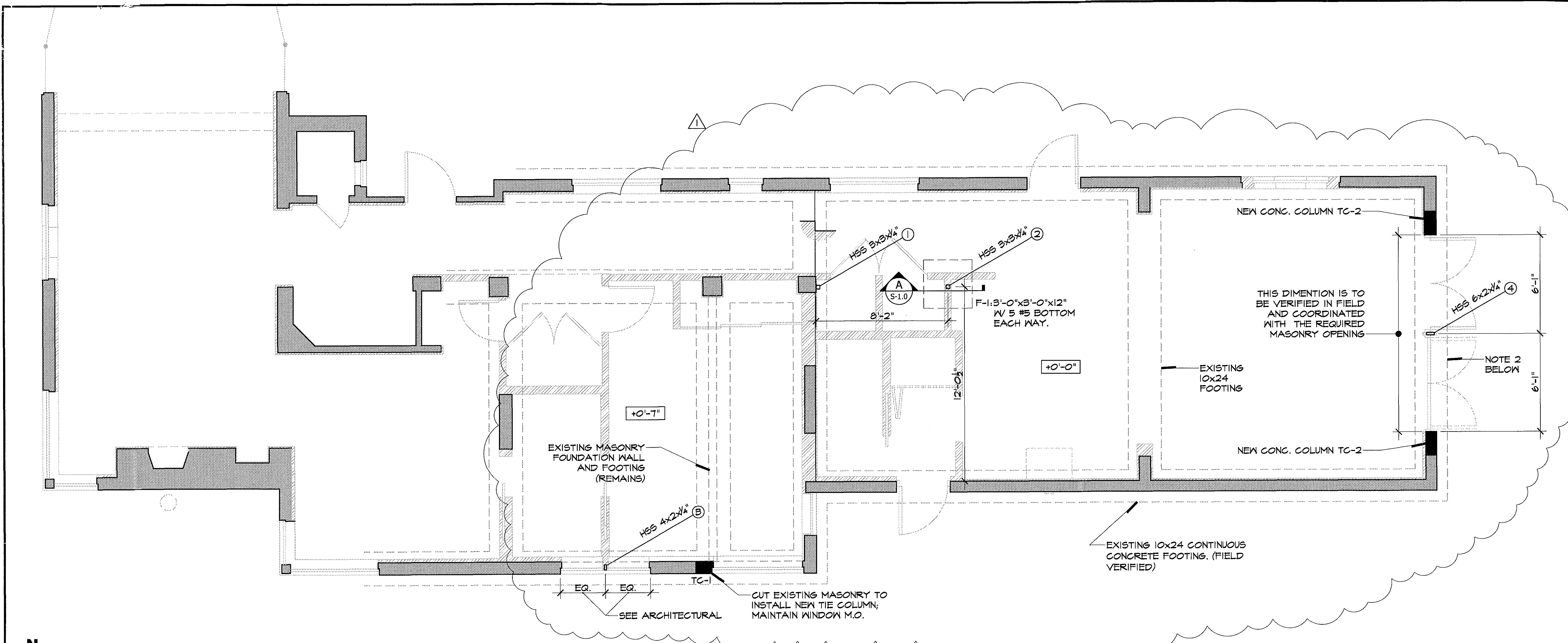
DESCRIPTION: 03-03-11 BUILDING DEPARTMENT COMMENTS
REV: 05-06-11 BUILDING DEPARTMENT COMMENTS

PROJECT NAME & ADDRESS:
3193 ROYAL PALM AVENUE
3193 ROYAL PALM AVENUE
MIAMI BEACH, FL 33140

SHEET TITLE:
WINDOW & EXTERIOR DOOR SCHEDULE

SHEET NO.:
A-12

SCALE: AS NOTED
DATE: 05-06-11
ISSUE: PERMIT REVISION 2
JOB NO.: 3193-01



LEGEND

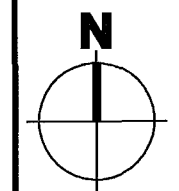
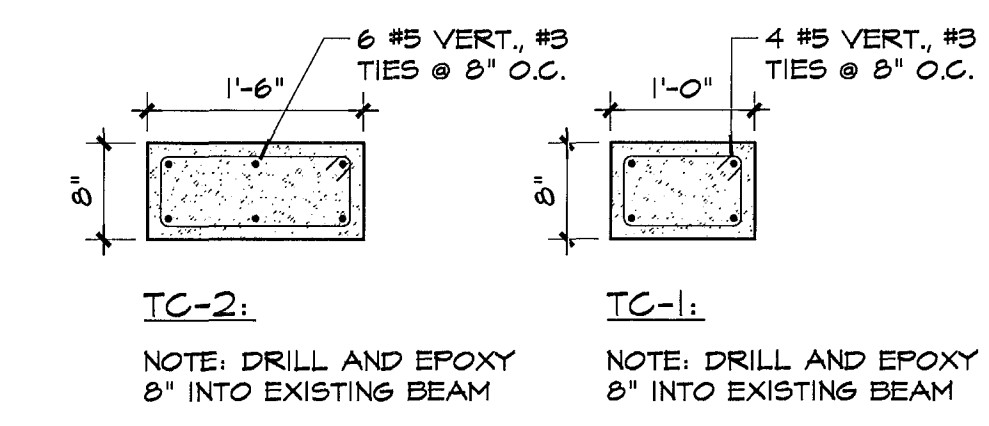
- NEW 6" LIGHTGAGE METAL LOAD BEARING WALL, 6"-16 GAGE C/W STUDS SPACED @ 16" O.C.
- EXISTING CONCRETE/C.M.U. WALLS
- PROPOSED TIE COLUMN

STRUCTURAL LEGEND

- TC CONCRETE TIE COLUMN
- TSE THICKENED SLAB EDGE
- F FOOTING
- SL CONCRETE SLAB
- SLB SLAB BEAM
- HSS STRUCTURAL STEEL TUBE
- TB TIE BEAM
- B CONCRETE BEAM
- W STEEL BEAM
- U.O.N. UNLESS OTHERWISE NOTED
- WF WALL FOOTING
- X-BRACING; PROVIDE AS INDICATED ON PLAN

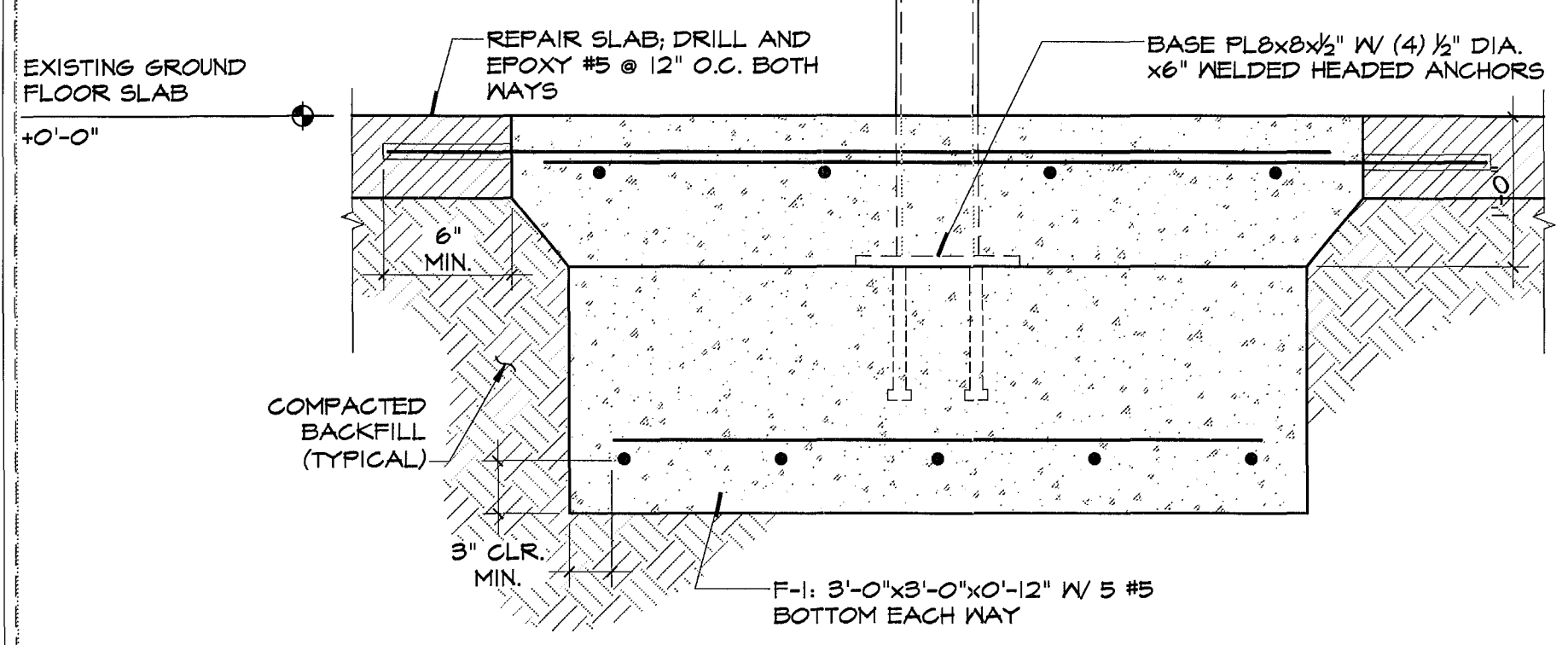
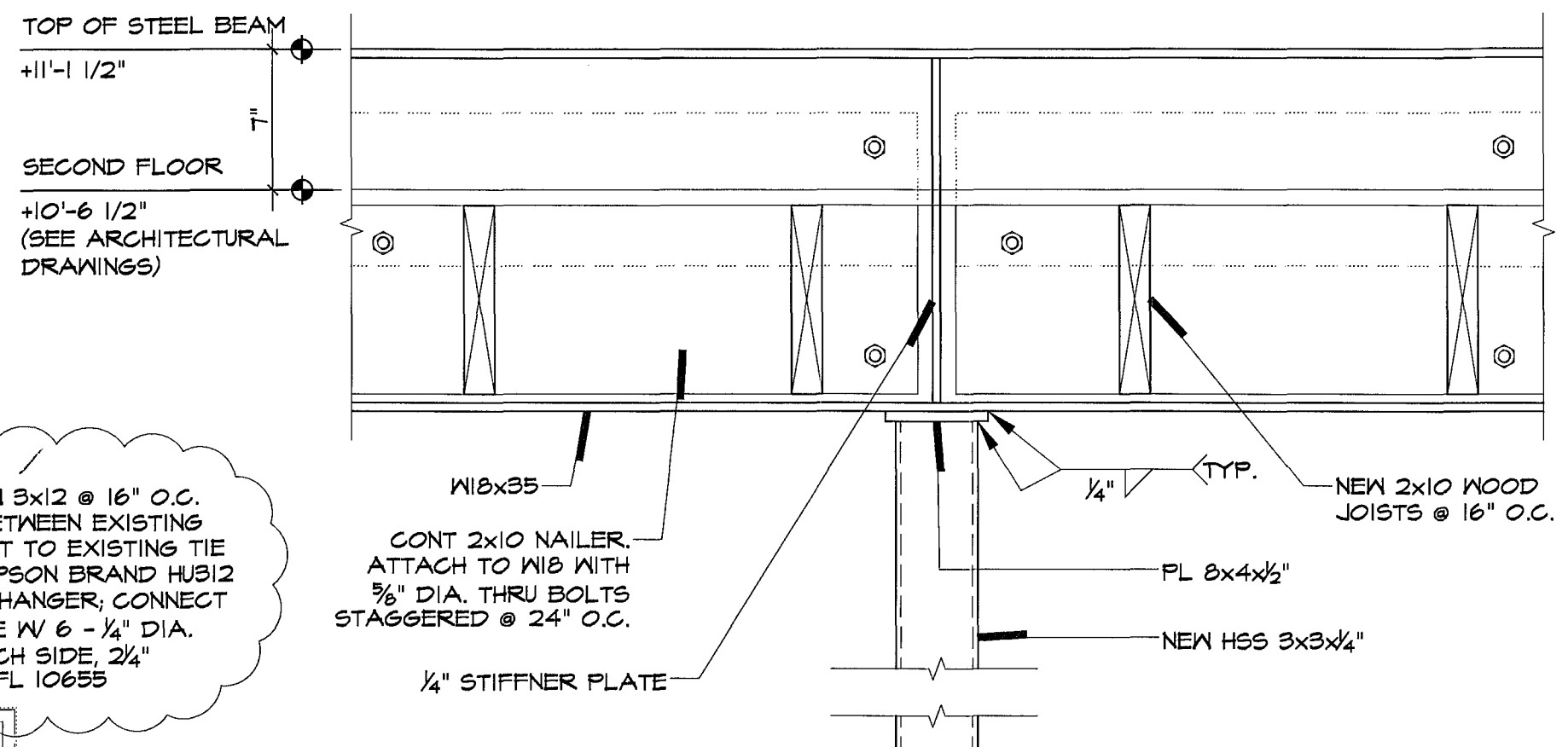
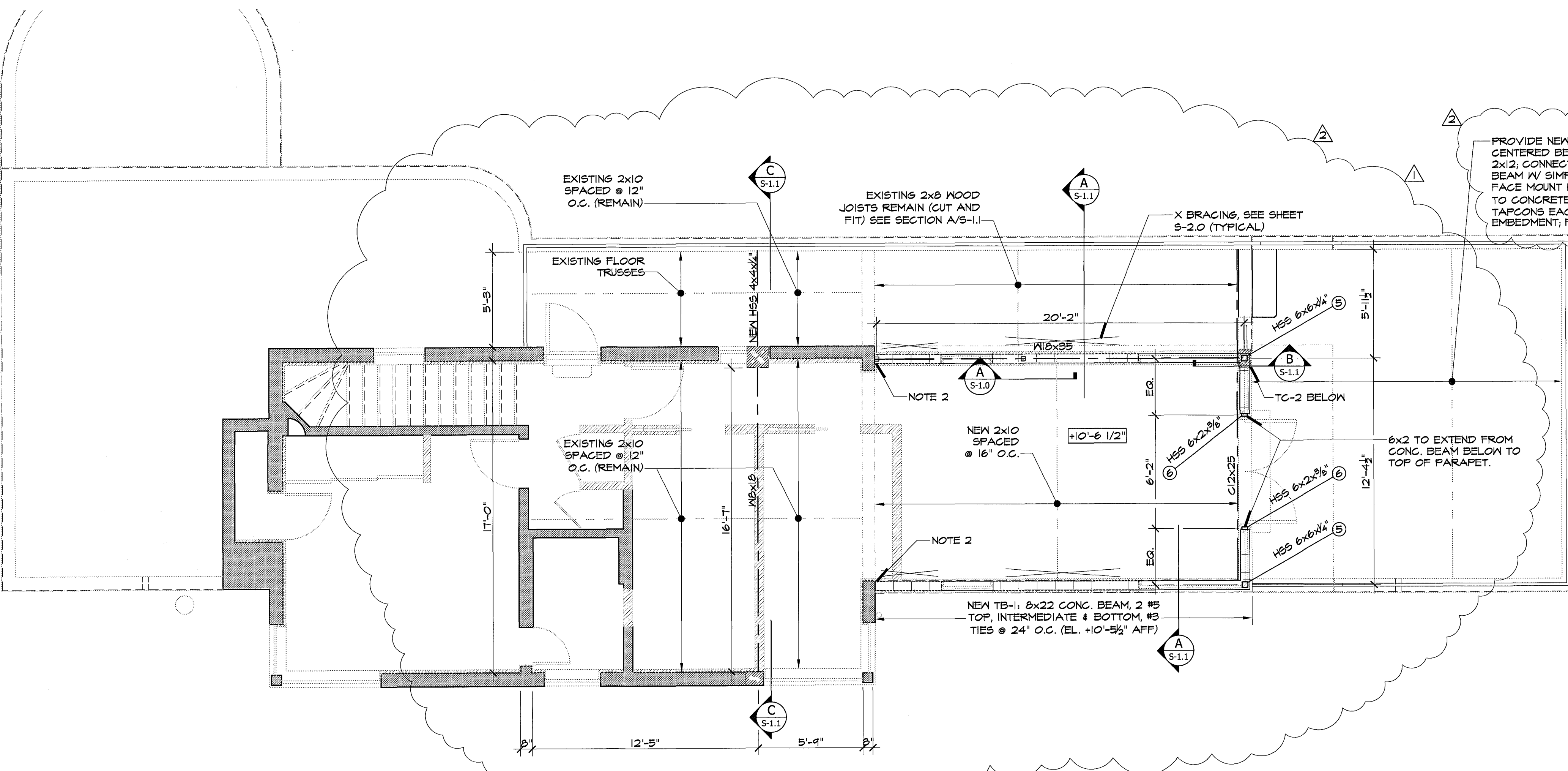
NOTES:

- ELEVATIONS NOTED AFF ARE REFERENCED TO TOP OF FINISHED GROUND FLOOR ELEVATION +0'-0". COORDINATE ALL ELEVATIONS WITH ARCHITECTURAL DRAWINGS.
- COORDINATE ALL FLOOR SLOPES AND ELEVATIONS WITH ARCHITECTURAL DRAWINGS. COORDINATE ALL DIMENSIONS WITH ARCHITECTURAL DRAWINGS.
- SEE COLUMN SCHEDULE ON SHEET S-1.1



GROUND FLOOR - FOUNDATION PLAN

NOTE:
1. ALL EXISTING DAMAGED CONCRETE SHALL BE REPAIRED AS SHOWN AND DETAILED ON SHEET S-2.0.
2. REMOVE ALL INFILL BLOCK AND CONCRETE, PROVIDE SHORING DURING DEMOLITION. NEW HSS COLUMN SHOWN SHALL BE CONNECTED TO THE EXISTING HEADER BEAM DURING THE CONCRETE REPAIR WORK.



SECTION

Scale: 1 1/2"=1'-0"

REVISIONS

- 02/21/2011 CITY COMM.
- 05/16/2011 CITY COMM.

INGELMO ASSOCIATES, P.A.

250 CATALINA AVENUE, SUITE 301
CORAL GABLES, FLORIDA 33134
PH: 305.461.8903
FX: 305.461.8904

MOSSCROP ASSOCIATES
ARCHITECTURE + INTERIORS

PAUL INGELMO, PROFESSIONAL ENGINEER
FL REG. NO. PD28310 - C.A. No. 28884

PROJECT NAME & ADDRESS:
3193 ROYAL PALM AVENUE

3193 ROYAL PALM AVE.
MIAMI BEACH, FL 33140

SHEET TITLE:

GROUND FLOOR FRAMING PLAN

SHEET NO.:

S-1.0

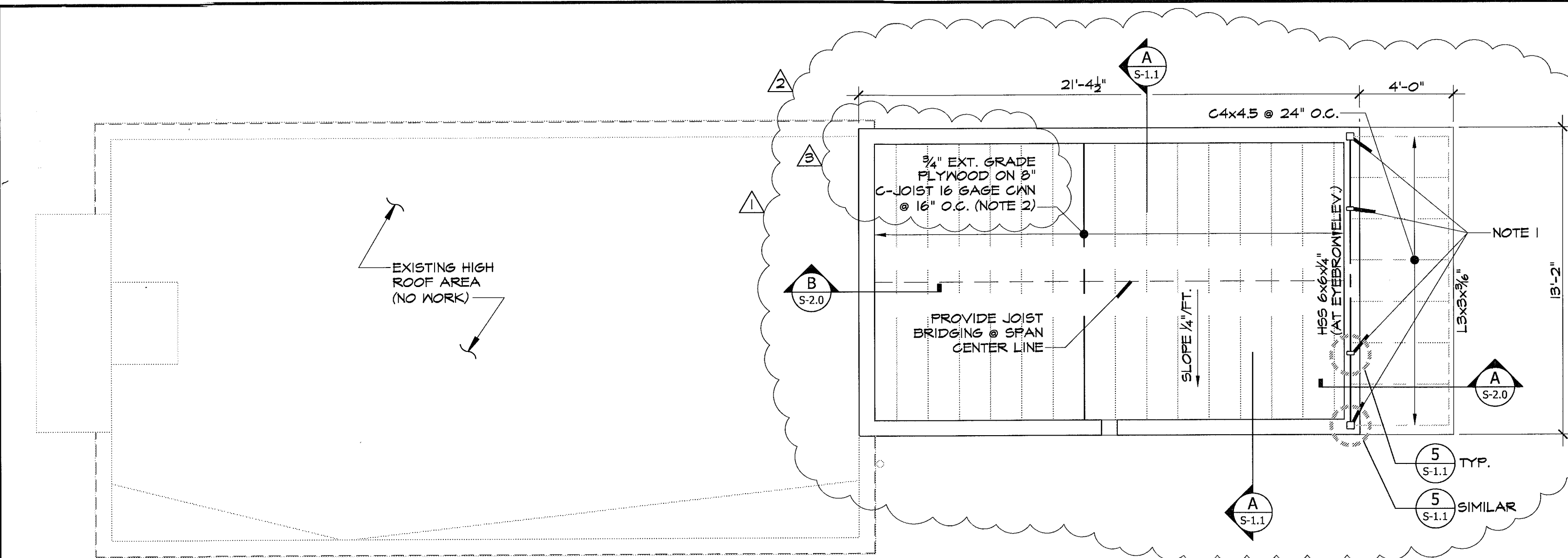
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DATE: 05-28-10

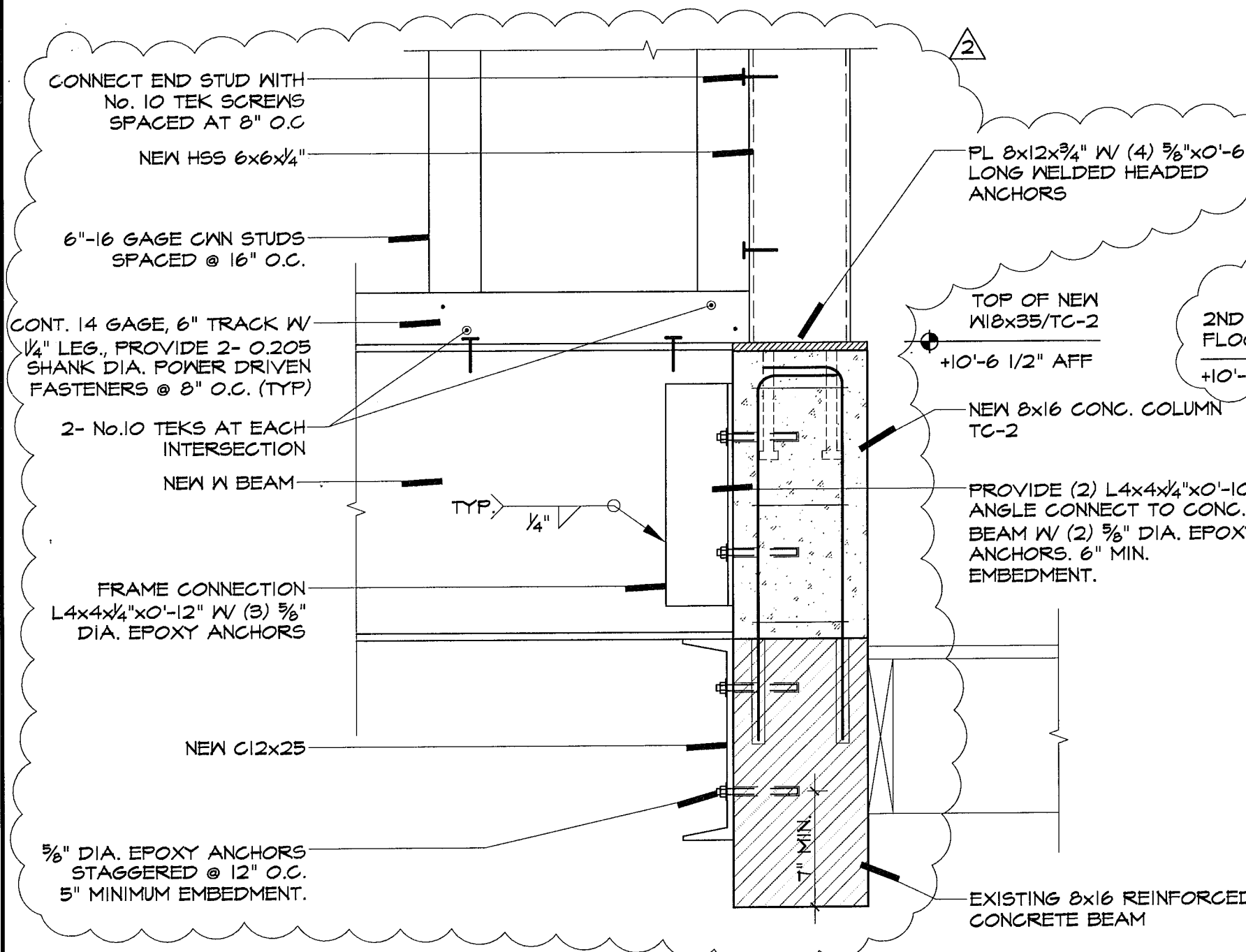
ISSUE:

JOB NO.:

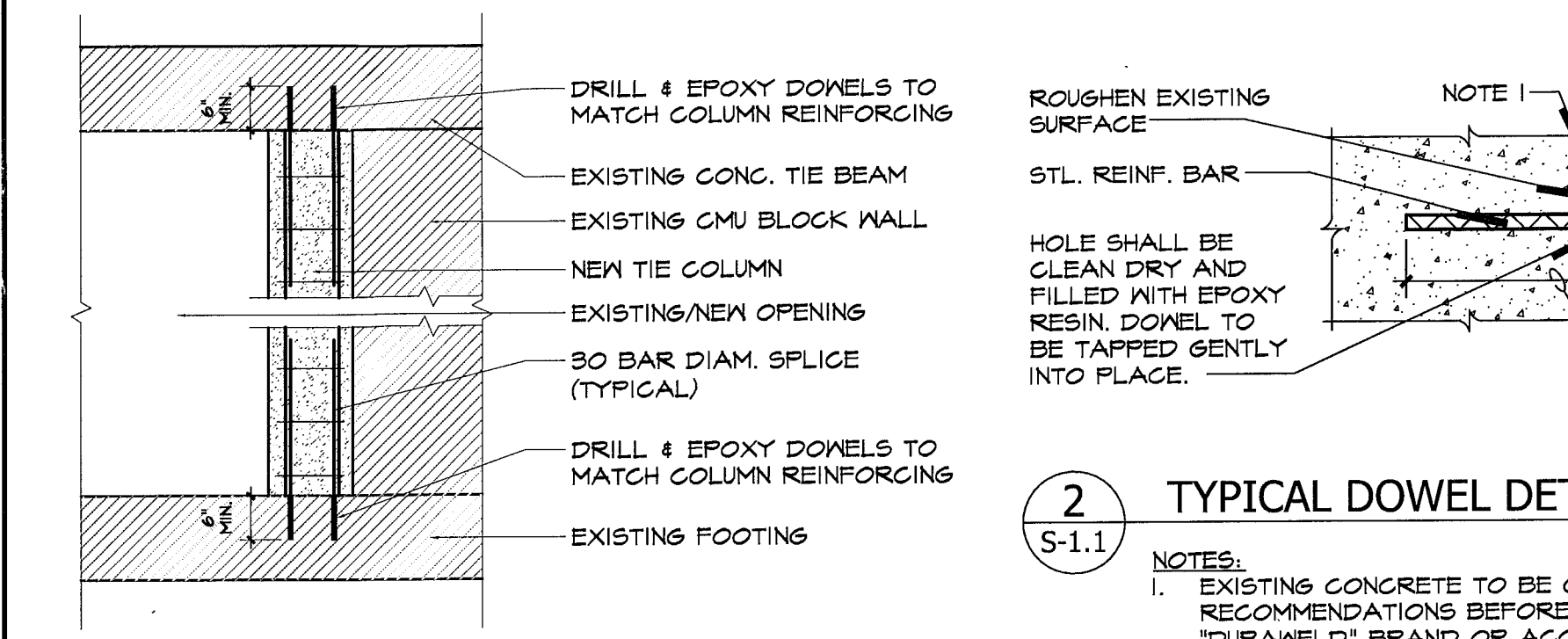
3193-01



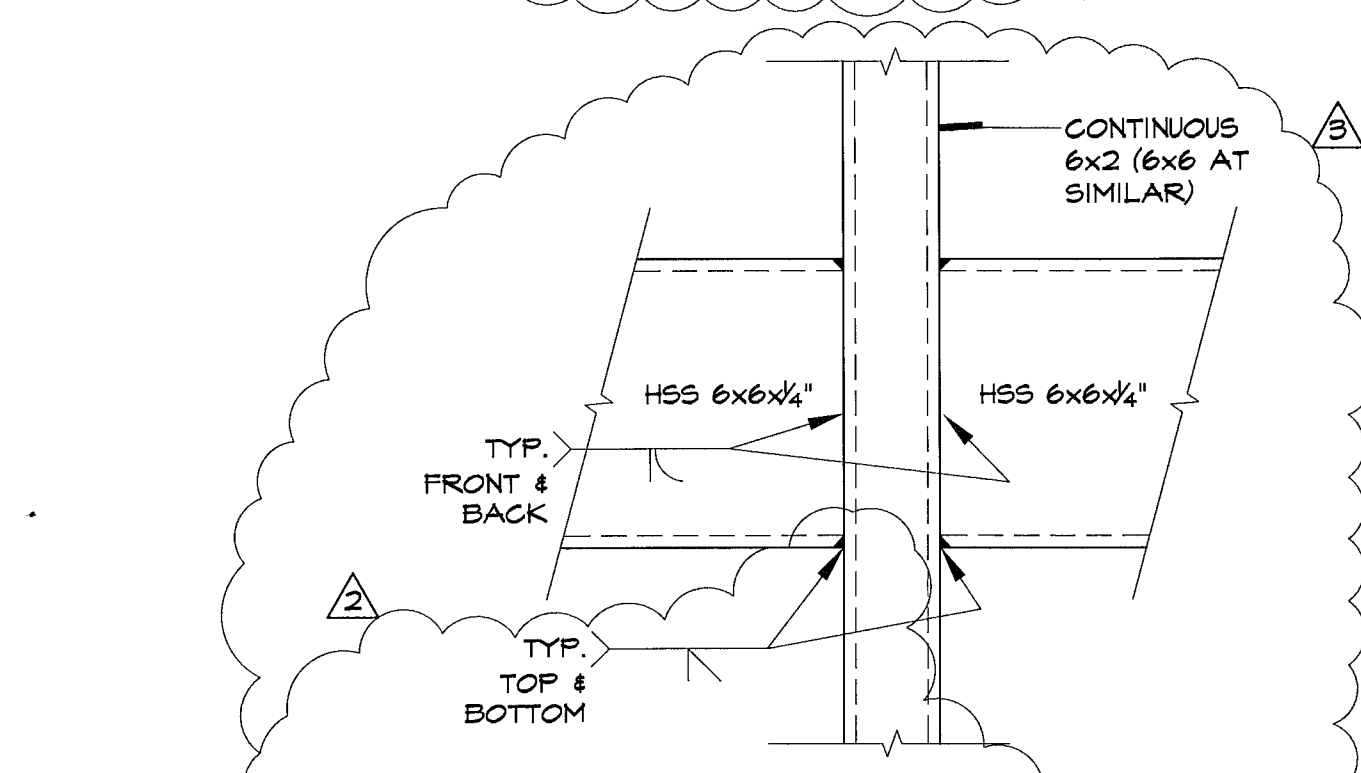
HIGH ROOF FRAMING PLAN
 NOTE:
 1. VERTICAL COLUMNS SHALL EXTEND TO THE TOP OF THE PARAPET; HORIZONTAL HSS6x6x1/4\"/>



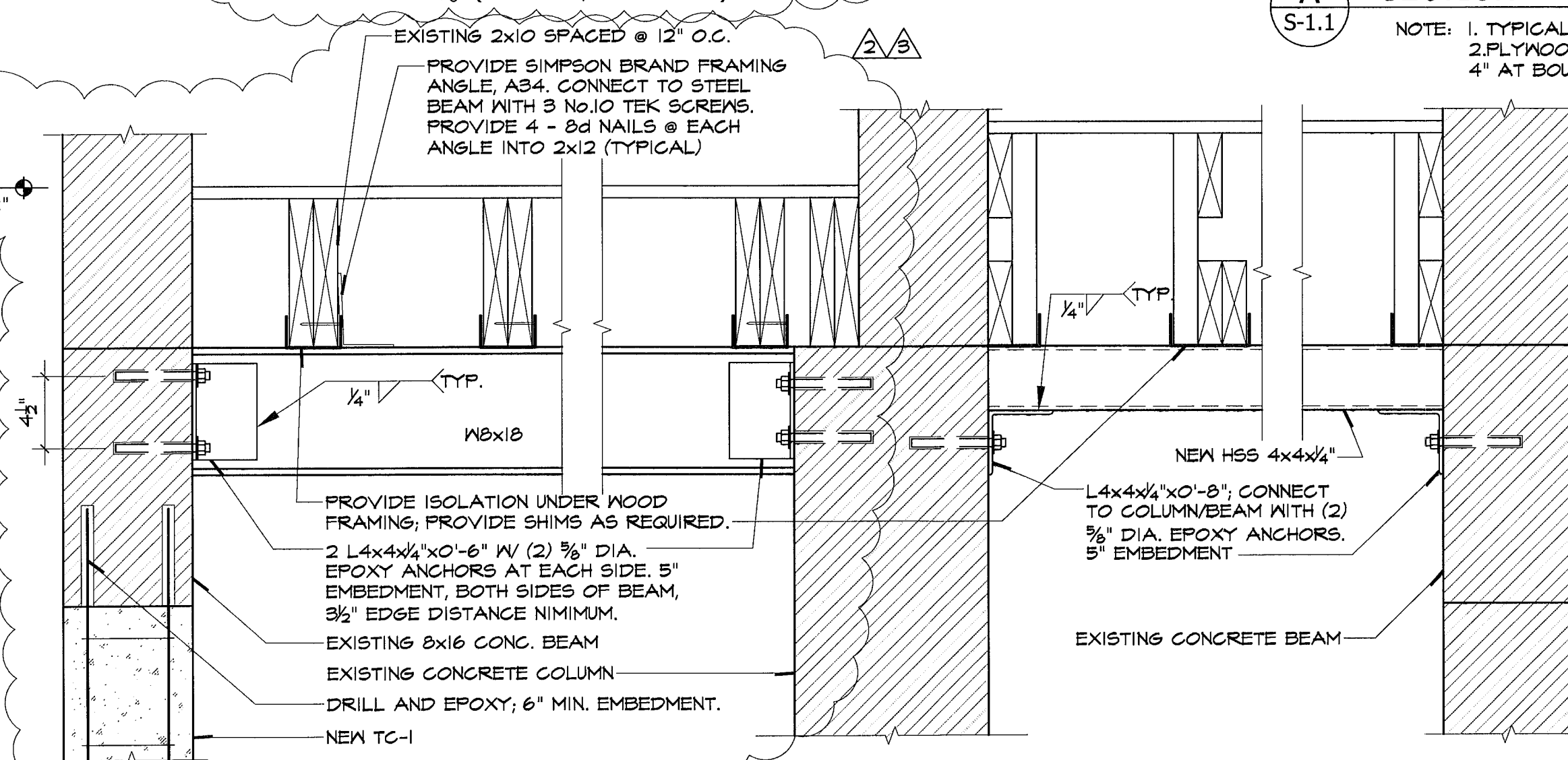
B SECTION
 S-1.1
 Scale: 1 1/2\"/>



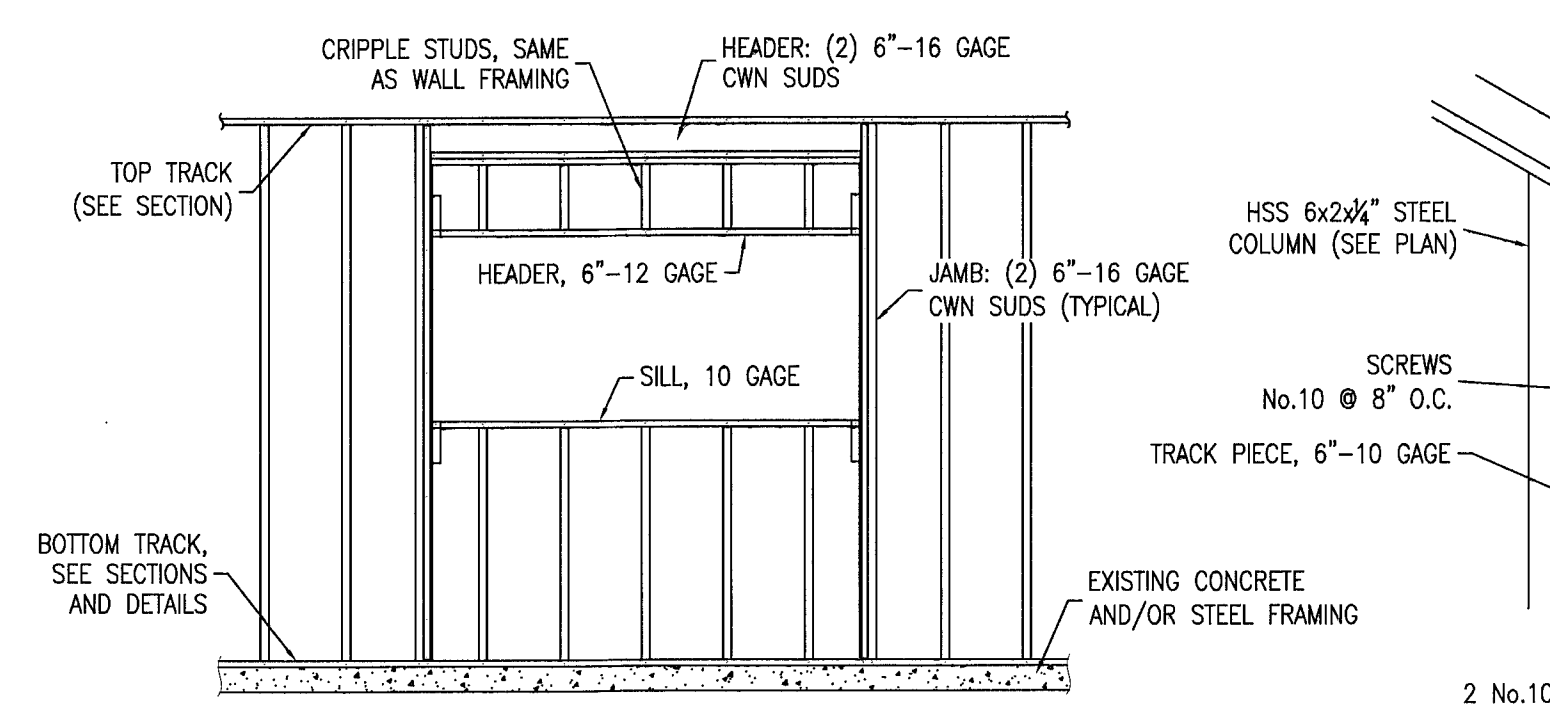
1 TYPICAL COLUMN DETAIL
 S-1.1
 Scale: 1/2\"/>



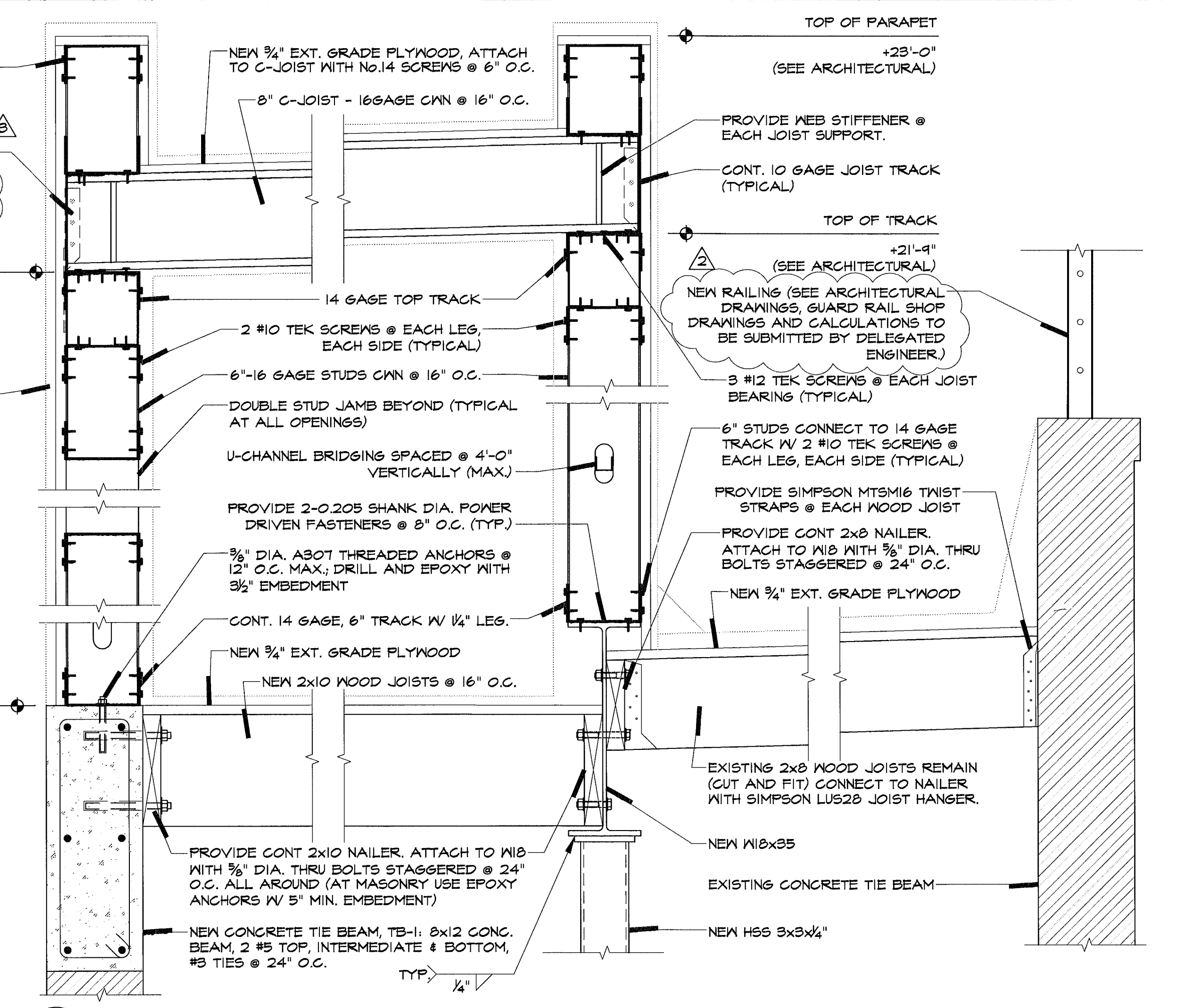
5 DETAIL
 S-1.1
 Scale: 3\"/>



C SECTION
 S-1.1
 Scale: 1 1/2\"/>



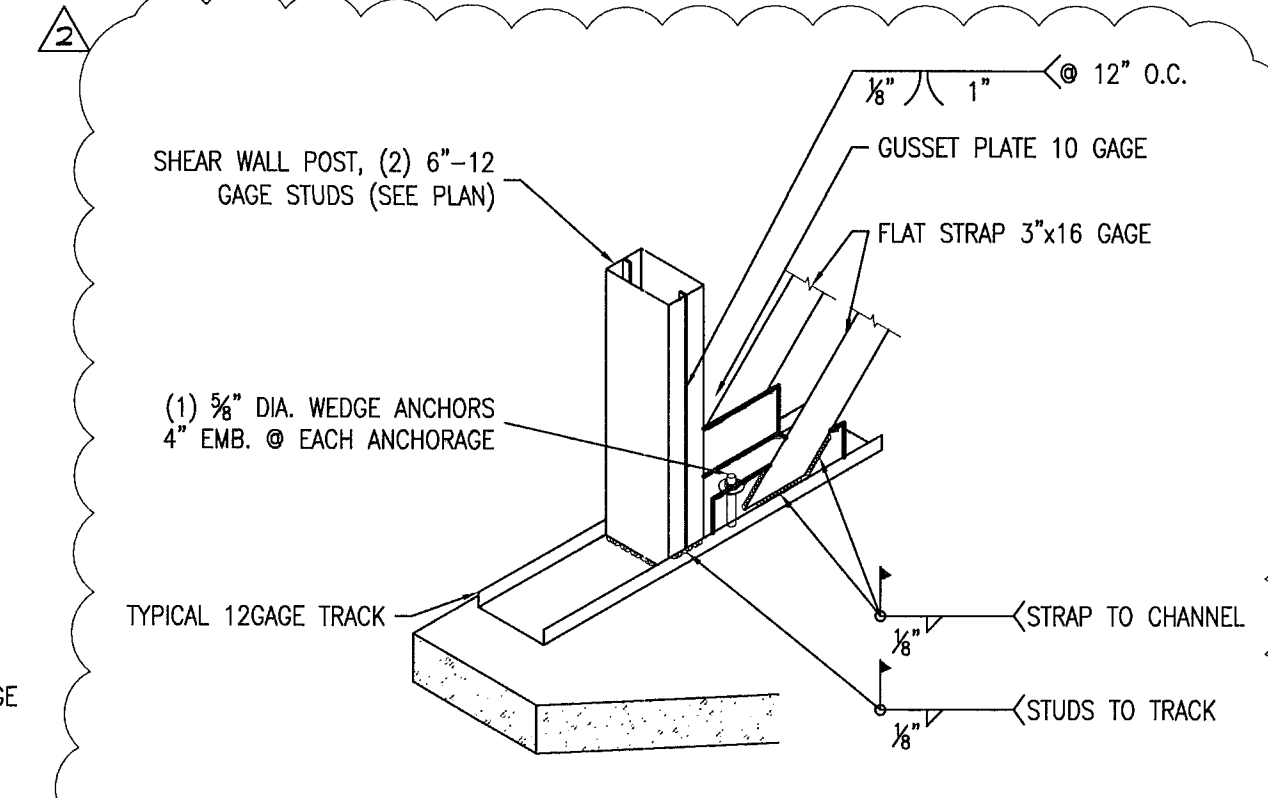
3 TYPICAL LIGHTGAGE METAL WALL DETAILS
 S-1.1
 Scale: 1/2\"/>



A SECTION
 S-1.1
 Scale: 1 1/2\"/>

MARK	SIZE	BASE PLATE / ANCHORS	CAP PLATE / ANCHORS	REMARKS
①	HSS 3x3x1/4"	6x4x3/8" (4) 3/8" EXP. ANCHORS	6x4x3/8" WELD TO W8x35	
②	HSS 3x3x1/4"	8x8x1/2" SEE SECTION	6x6x3/8" WELD TO W8x35	
③	HSS 4x2x1/4"	6x4x1/2" (4) 3/8" DIA. TAPCONS	6x4x1/2" (4) 3/8" DIA. TAPCONS	
④	HSS 6x2x1/4"	7x4x1/2" (4) 3/8" DIA. TAPCONS	7x4x1/2" (4) 3/8" DIA. TAPCONS	
⑤	HSS 6x6x1/4"	8x12x3/4" SEE SECTION	6x6x3/8" -	EXTEND TO TOP OF PARAPET
⑥	HSS 6x2x3/8"	6x6x1/2" SEE SECTION	6x4x1/2" -	EXTEND TO TOP OF PARAPET

NOTE: 1. ALL TAPCONS SHALL BE 3/8" DIA. WITH A 2 1/2" MIN. EMBEDMENT.



4 X-BRACING ANCHORAGE DETAIL
 S-1.1
 Scale: 1/2\"/>

NO.	DATE	DESCRIPTION
1	02/21/2011	CITY COMM.
2	05/16/2011	CITY COMM.
3	06/06/2011	CITY COMM.

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 ARCHITECTURE + INTERIORS

3193 ROYAL PALM AVENUE
 MIAMI BEACH, FL 33140

SHEET TITLE:
 GROUND FLOOR FRAMING PLAN

SHEET NO.:
 S-1.1

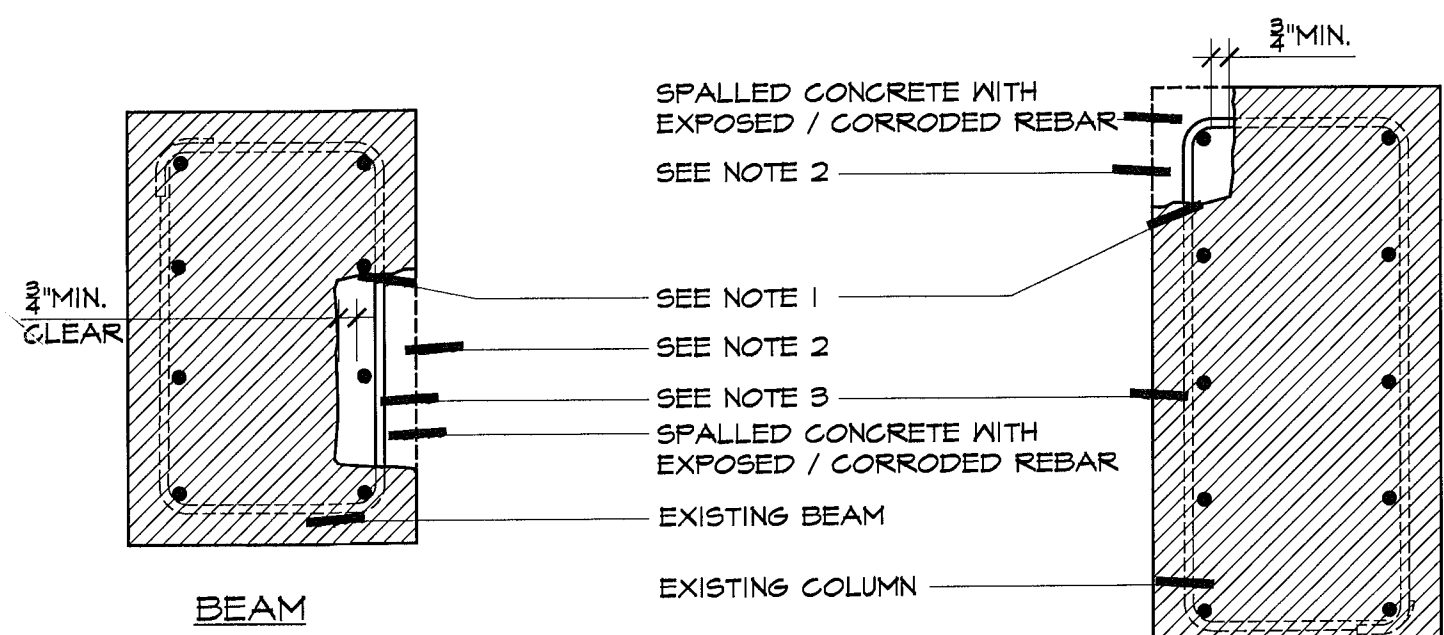
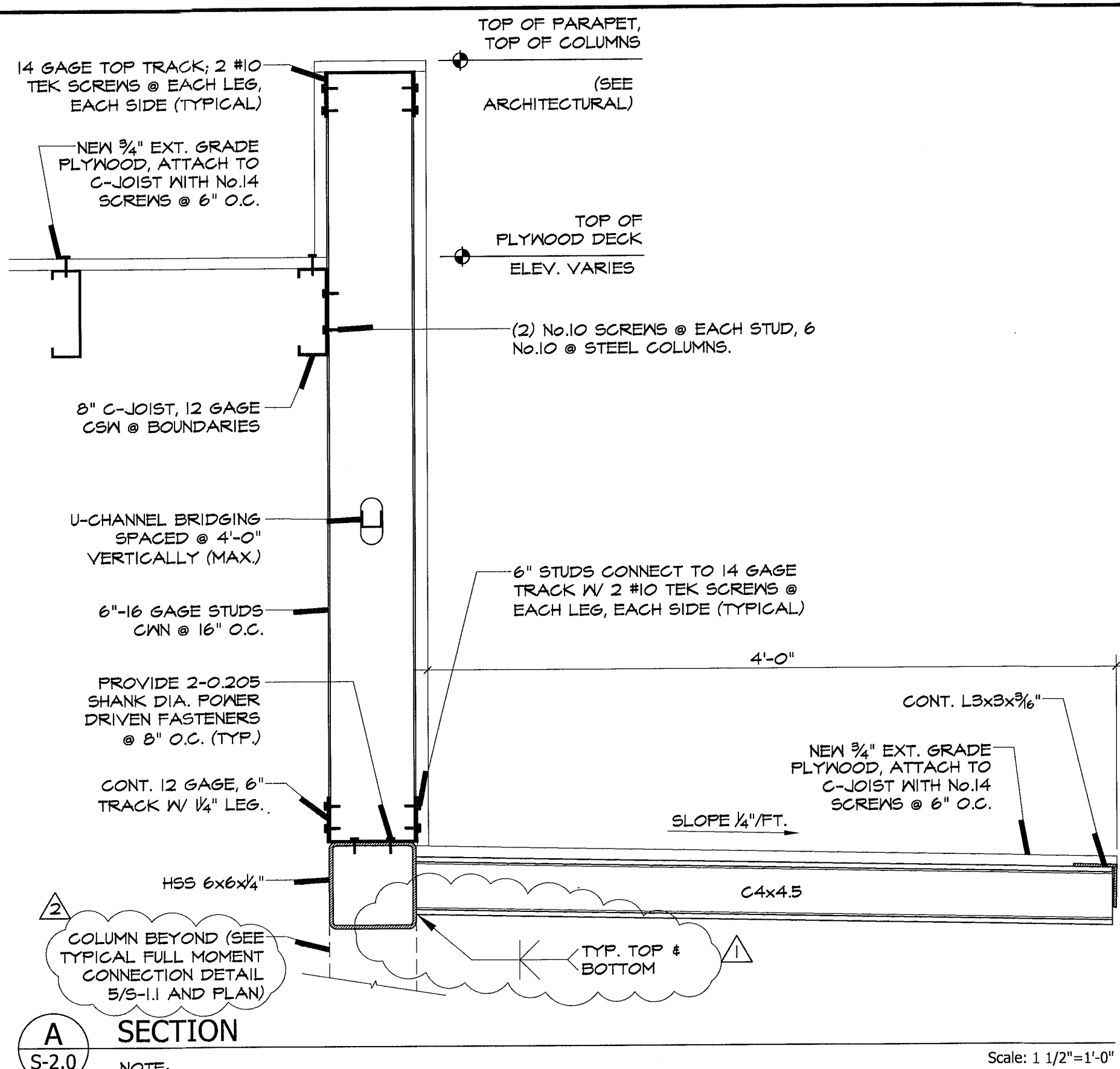
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 AS NOTED

DATE:
 05-28-10

ISSUE:

JOB NO.:
 3193-01

PAUL INGELMO, PROFESSIONAL ENGINEER
 FL REG. NO. P252910 - C.A. No. 2554
 PROJECT NAME & ADDRESS:
 3193 ROYAL PALM AVENUE
 MIAMI BEACH, FL 33140
 SHEET TITLE:
 GROUND FLOOR FRAMING PLAN
 SHEET NO.:
 S-1.1
 SCALE:
 AS NOTED
 DATE:
 05-28-10
 ISSUE:
 JOB NO.:
 3193-01

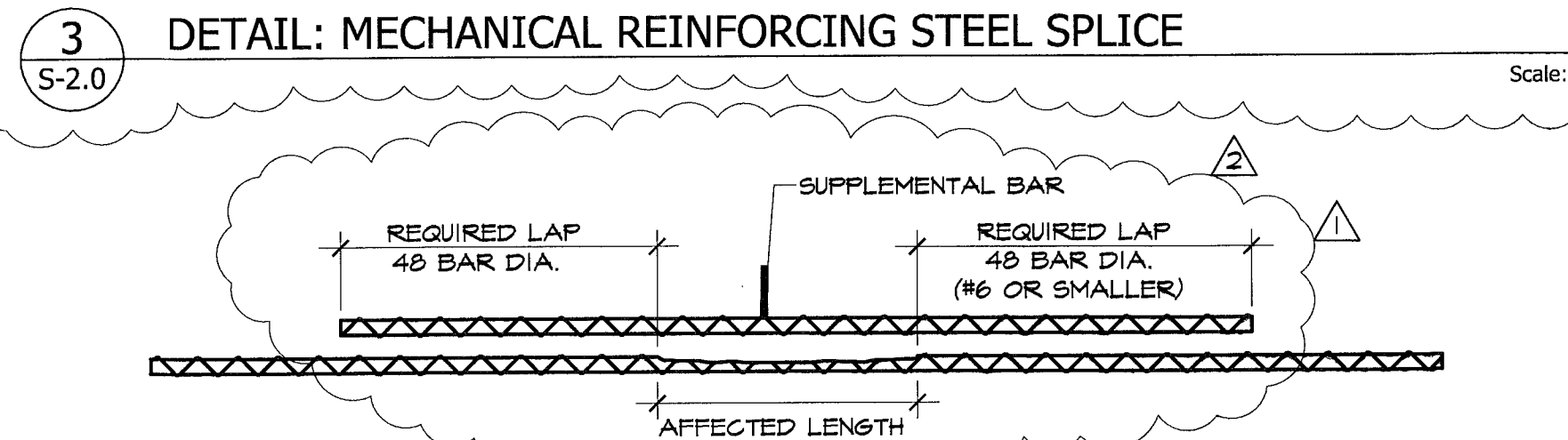
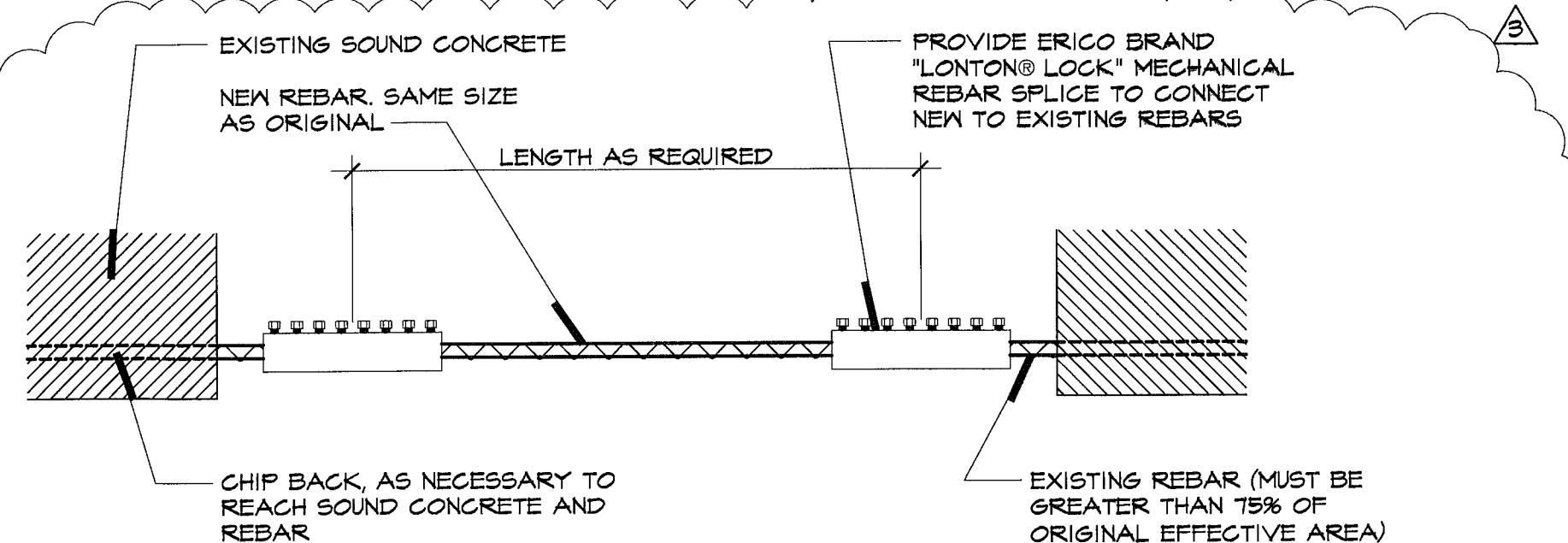
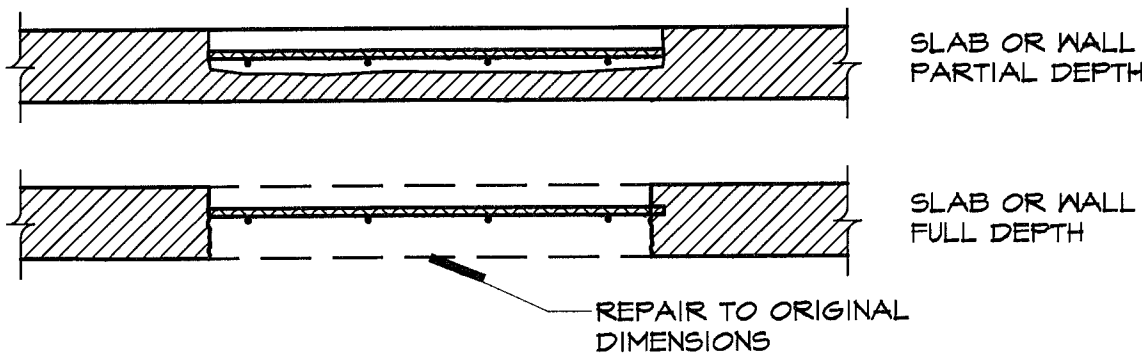
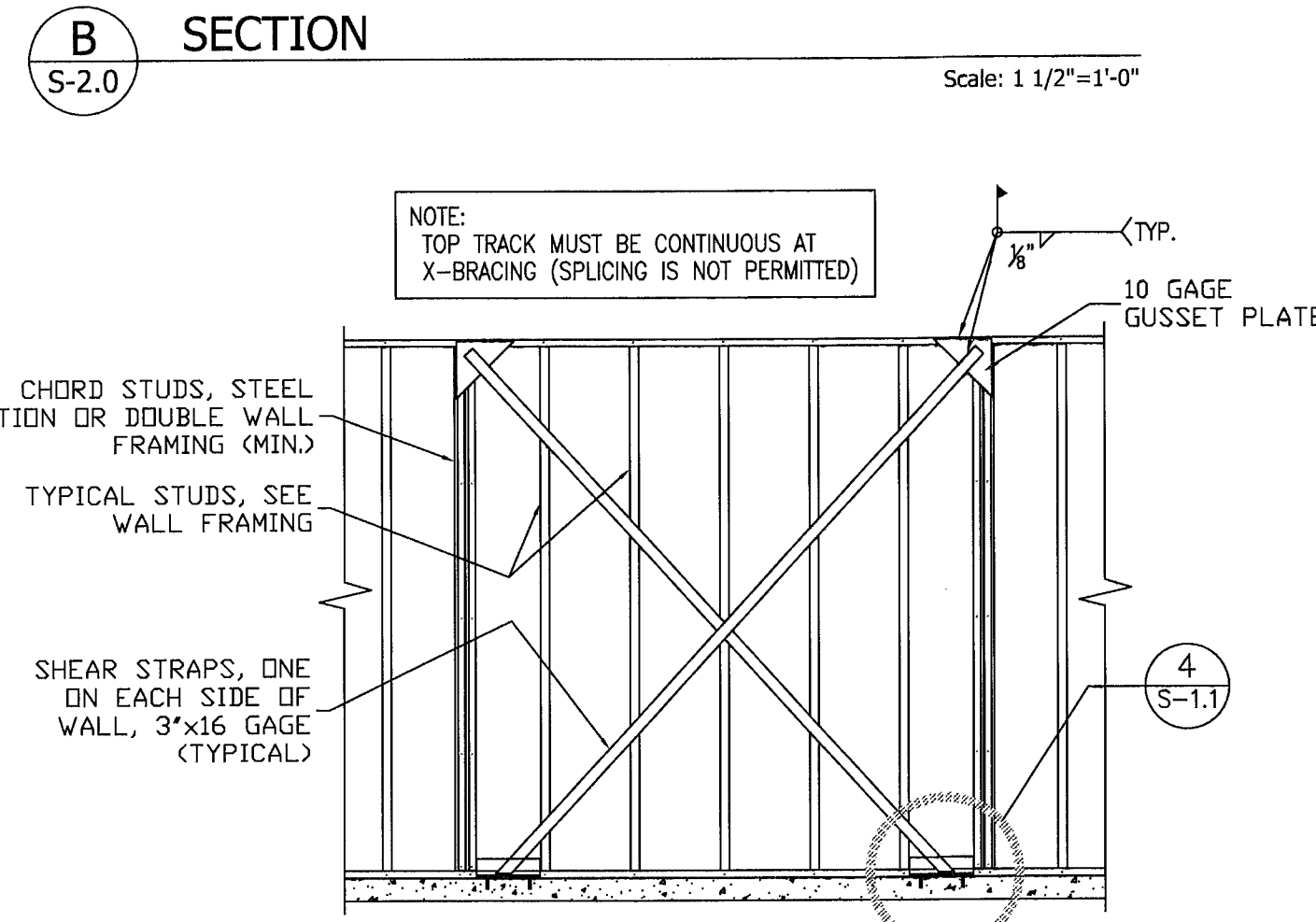
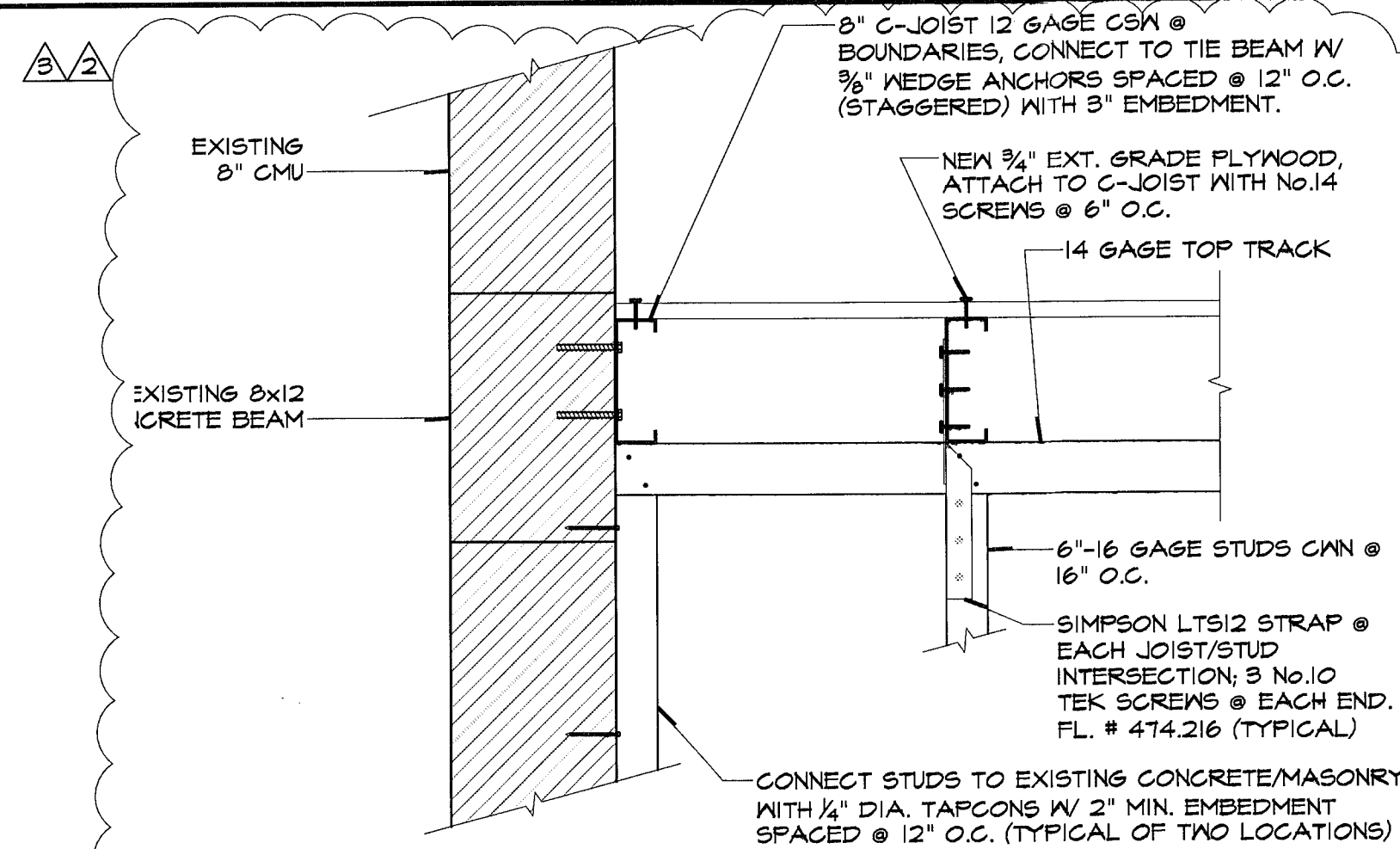
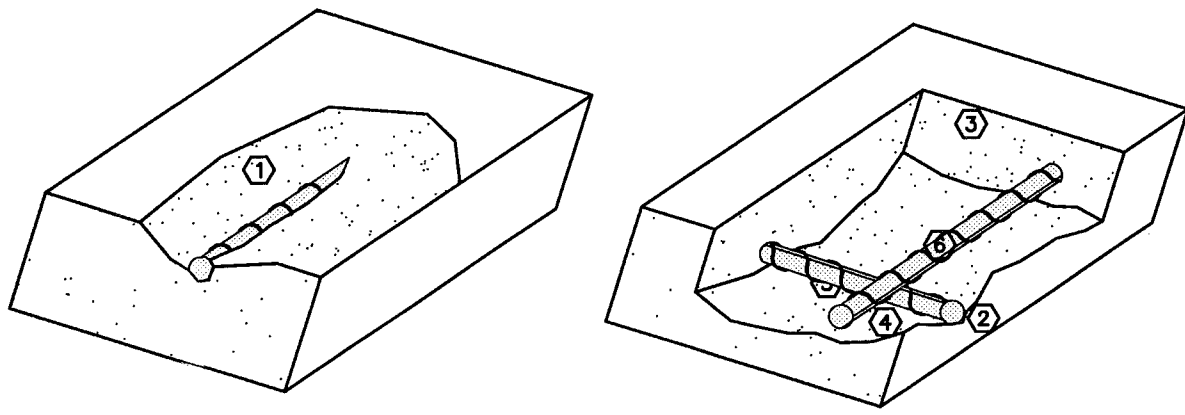


EXPOSING AND UNDERCUTTING OF REINFORCING STEEL

THESE DETAILS ARE APPLICABLE TO HORIZONTAL, VERTICAL AND OVERHEAD LOCATIONS. THEY ARE ALSO APPLICABLE TO REMOVAL BY HYDRO-DEMOLITION, HYDRO-MILLING AND ELECTRIC, PNEUMATIC OR HYDRAULIC IMPACT BREAKERS.

- 1 - REMOVE LOOSE OR DELAMINATED CONCRETE ABOVE CORRODED REINFORCING STEEL
- 2 - ONCE INITIALS REMOVALS ARE MADE, PROCEED WITH THE UNDERCUTTING OF ALL EXPOSED CORRODED BARS. UNDERCUTTING WILL PROVIDE CLEARANCE FOR UNDER BAR CLEARING AND FULL BAR CIRCUMFERENCE BONDING TO SURROUNDING CONCRETE, AND WILL SECURE THE REPAIR STRUCTURALLY. PROVIDE MINIMUM 3/4" CLEARANCE BETWEEN EXPOSED REBARS AND SURROUNDING CONCRETE OR 1/4" LARGER THAN LARGEST AGGREGATE IN REPAIR MATERIAL, WHICHEVER IS GREATER
- 3 - CONCRETE REMOVALS SHALL EXTEND ALONG THE BARS TO LOCATIONS ALONG THE BAR FREE OF BOND INHIBITING CORROSION, AND WHERE THE BAR IS WELL BONDED TO SURROUNDING CONCRETE.
- 4 - IF NON CORRODED REINFORCING STEEL IS EXPOSED DURING THE UNDERCUTTING PROCESS, CARE SHALL BE TAKEN NOT TO DAMAGE THE BAR'S BOND TO SURROUNDING CONCRETE. IF BOND BETWEEN BAR AND CONCRETE IS BROKEN, UNDERCUTTING OF THE BAR SHALL BE REQUIRED.
- 5 - ANY REINFORCEMENT WHICH IS LOOSE SHALL BE SECURED IN PLACE BY TYING TO OTHER SECURED BARS OR BY OTHER APPROPRIATE MEANS.
- 6 - ALL HEAVY CORROSION AND SCALE SHOULD BE REMOVED FROM THE BAR AS NECESSARY TO PROMOTE MAXIMUM BOND OF REPLACEMENT MATERIAL. OIL FREE ABRASIVE BLAST IS THE PREFERRED METHOD. A TIGHTLY BONDED LIGHT MUST BUILDUP ON THE SURFACE IS USUALLY NOT DETRIMENTAL TO BOND, UNLESS A PROTECTIVE COATING IS BEING APPLIED TO THE BAR SURFACE, IN WHICH CASE THE COATING MANUFACTURER'S RECOMMENDATIONS FOR SURFACE PREPARATION SHOULD BE FOLLOWED.

CAUTION: BEFORE STARTING REMOVALS, REVIEW EFFECT OF REMOVALS ON STRUCTURAL INTEGRITY. PROVIDE SHORING OF MEMBER AS NECESSARY. PARTICULAR CARE SHALL BE EXERCISED AT SLAB/BREAM AND SLAB/JOIST CONNECTIONS TO COLUMNS.



GENERAL NOTES:

1. All Construction shall be in accordance with the Florida Building Code 2007 or Latest Edition. All wind loadings are in accordance to ASCE 7-05.
2. To the best of our knowledge, the Structural Drawings and Specifications comply with the applicable requirements of the governing Building Code.
3. The structural documents are to be used in conjunction with the Architectural documents.
4. Details labeled "typical" apply to all situations that are the same or similar to those specifically referenced, whether or not they are keyed in at each location. All sections and details shall be construed to be typical or similar unless another section or detail is noted. Questions regarding the applicability of typical details shall be resolved by the Architect.
5. Openings shown on the Structural Drawings are only pictorial. See the Architectural and MEP drawings for the size and location of openings in the structure.
6. Contractors who discover discrepancies, omissions or variations in the Contract Documents during bidding shall immediately notify the Architect. The Architect will resolve the condition and issue written instructions.
7. The General Contractor shall review and determine that dimensions are coordinated between architectural and structural drawings prior to fabrication or start of construction.
8. The structure is designed to be structurally sound when completed. Prior to completion, the Contractor is responsible for stability and temporary bracing, including, but not limited to, masonry walls. Whenever the Contractor is unsure of these requirements, the Contractor shall retain a Florida Licensed Engineer to design and inspect the temporary bracing and stability of the structure.
9. No structural member shall be cut, notched or otherwise reduced in strength.

FOUNDATION:

1. Contractor shall determine if any unsuitable conditions are discovered during excavation which would prevent attainment of the foundation recommendations outlined in the soils report.
2. All elevations noted are relative to all situations that are the same or similar to those specifically referenced, whether or not they are keyed in at each location. All sections and details shall be construed to be typical or similar unless another section or detail is noted. Questions regarding the applicability of typical details shall be resolved by the Architect.
3. Any new areas of Ground floor slab is to bear on compacted backfill. Provide .010" (10 millimeter minimum) thick polyethylene film sheeting under all interior slab, tape joints.
4. Floor slabs shall be troweled to a hard, smooth finish. The final trowel pass shall be done by machine, not by hand. Within 30 minutes of the final trowel pass, the floor shall be cured with Euclid's Super Rez-Seal or approved equal. Coordinate the curing with the proposed finishes as per the Architectural Drawings.

EARTHWORK:

1. The contractor is solely responsible for all excavation procedures including lagging, shoring and protection of adjacent property, structures, streets and utilities in accordance with the requirements of the local building department and OSHA regulations. Do not excavate within one foot of the angle of repose of any soil bearing foundation unless the foundation is properly protected against settlement.
2. SOIL STATEMENT:
As per visual inspection, soil conditions at this site are sand and limenock with a minimum bearing capacity of 2,000 pcf. Should other conditions or materials be encountered, the engineer shall be notified prior to proceeding with the work.

REINFORCED CONCRETE

1. All rebars, including footings and dowels must be secured in the proper position by a positive means. Except where dimensions otherwise, all hooks on rebars shall be standard ACI-318 hooks. Rebar accessories to have upturned legs plastic dipped after fabrication.
2. Reinforcing steel, new ASTM A-615, Grade 60. Fabricate and detail in accordance with ACI-315. Splices in rebars shall be a minimum of 36 bar diameters except where indicated otherwise. Concrete cover over the rebars shall be as detailed in the drawings. If not detailed on drawings, use the following: 3" for bottom and ends of footings; 1" at the sides for ties or stirrups on columns and beams (2" over main reinforcement); 2" formed concrete in contact with the ground; 1" for interior slab reinforcement; 2" for exterior slab reinforcement.
3. All concrete shall be normal weight concrete with a 28 day compressive strength as shown below (see specification details):

USAGE	STRENGTH (PSI)	Max W/C=0.45 Slump: 4" ± 1"
CLASS A	4000	

All concrete construction shall comply with ACI 318, American Concrete Institute "Building code requirements for structural concrete and commentary" and with ACI 530. Location of construction joints not shown on drawings shall be approved by the engineer. All construction joints for beams and slabs shall be keyed.

4. Comply with ACI 301 and 318 and Specification Section as applicable.
5. Provide construction joints in accordance with ACI 318, Section 6.4. Provide keyways and adequate dowels. Submit drawings showing location of construction joints and direction of pour for review.
6. Provide 3/4" chamfer for all exposed concrete.

CONCRETE MASONRY:

1. Masonry units shall adhere to the requirements of ASTM C90, Type II, Grade N-1.
2. All masonry walls are load bearing walls unless otherwise noted and shall be in place prior to forming and placing concrete in columns and in beams. All walls shown on structural drawings are 8" CMU unless otherwise noted on plan. All splices shall be a minimum of 48 bar diameter.
3. Horizontal joint reinforcing in masonry shall be 1/2" gage. Spaced at 16" O.C.; ladder type joint reinforcing at filled cell locations and truss type in general; place in first course and every other course thereafter. Lap continuous ends 6 inches. Use prefabricated corners and tees. Extend joint reinforcing a minimum of 6 inches into tie columns.
4. Use 50% solid, nominal 8x8x16 concrete masonry units conforming to ASTM C90. Block net area compressive strength shall be 1900 psi except where noted otherwise. Lay up units in running bond. Design of walls is based on a Fm=1,500psi.
5. Use Type S mortar in accordance with ASTM C270 as indicated except use Type M mortar below grade. Head and bed joints shall be 3/8" for the thickness of the face shell. Webs are to be fully mortared in all courses of piers, columns and pilasters, in the starting course and where an adjacent cell is to be grouted.
6. Use fine grout conforming to ASTM C-476, with a minimum compressive strength of 2500 psi in 28 days. Aggregate to conform to ASTM C404 for fine grout, with slump of 8 inches. Grout all masonry containing reinforcing, all cells of 4 hour rated walls and where indicated on the drawings. Allow mortar to cure 24 hours prior to grouting. Provide cleanout openings at the base of cell containing reinforcing steel to clean the cell and to tie the vertical bar to the dowel.
7. Use ASTM A-615 Grade 60 reinforcing steel. Reinforce wall where indicated on plans and at all intersections, each side of openings and at the ends of walls.
8. Where anchor bolts, wedge anchors or anchors set in epoxy are set in a masonry wall, fill cells with grout for bolted course, one course above and two courses below.

EXPANSION ANCHORS:

1. Use wedge-type expansion anchors such as the Hilti Kwik Bolt II, ITW Rammed Red Head Trubolt Wedge, Powers Rawl Power-Stud, or accepted equivalent. Follow manufacturer's specifications for use and installation.
2. Confirms the absence of reinforcing steel by drilling a 1/4" diameter pilot hole for each anchor. Do not cut reinforcing steel without approval of the Structural Engineer.
3. Provide anchor embedment, spacing and edge distance as shown on the Drawings.

CHEMICAL ADHESIVE FOR ANCHORING REINFORCING BARS, THREADED BARS AND ANCHOR BOLTS:

1. Use an epoxy, acrylic or polyester resin adhesive system such as the Powers Rawl Power-Fast System, Hilti Hilti HY150, ITW Rammed/Red Head Epcon A7 or C6 Injection System, Allied Fastener Allied gold A-1000, or accepted equivalent. Follow manufacturer's specification for use and installation.
2. Confirm the absence of reinforcing steel by drilling a 1/4" pilot hole for each anchor. Do not cut reinforcing steel without approval of the Structural Engineer.
3. Drill 1/16" larger diameter hole than anchor bolt and 1/8" larger hole than reinforcing bar. Thoroughly clean hole including removal of dust prior to filling with epoxy.
4. Provide anchor embedment, spacing and edge distance as shown on the drawings.
5. Threaded rods are A-36 galvanized steel, u.o.n.

STRUCTURAL STEEL:

1. Fabricate and erect structural steel and conformance with AISC "Specifications for the design, fabrication and erection of structural steel for buildings" with commentary and all OSHA requirements
2. Structural steel:
a. Steel shall conform to the following ASTM specification:
i. All stiffener, plates, channels angles, plates and bars: ASTM A36, Fy=36ksi

- ii. All rolled shapes W and WT: ASTM A992, Grade 50.
 - b. Miscellaneous metals:
i. Anchor bolts, bolts and expansion anchors on forming to ASTM A 307 or ASTM A325.
 - c. Cold formed hollow structural sections (HSS):
i. Round Sections: ASTM A500, Grade B, Fy=46ksi
ii. Square and rectangular sections: ASTM A500, Grade B Fy46ksi
 - iii. Steel Pipe: ASTM A53, type E or S Grade B, Fy 35ksi
 - d. Miscellaneous shapes and plates conforming to ASTM A 36.
 - e. Structural steel H.S. bolts conforming to ASTM A325.
3. Welding:
a. All welding is to be performed by certified welders.
b. Electrodes to be E-70 series, low hydrogen (stored W Hydrogen according to A.W.S. requirements)
c. All field welding shall be inspected by an independent testing laboratory retained by the owner.
d. All welding shall conform to the requirements of the standard code for welding building construction in accordance to the American Welding Society.
- 4. All steel exposed to the weather shall be Hot Dipped Galvanized in accordance with ASTM A123 for members and ASTM A153 for connection elements. This includes all structural steel used to support mechanical equipment and all roof bracing and other structural members.
- 5. Use A-307 bolts for all erection bolts and bolts less than 3/4" diameter, u.o.n. Anchor rods shall be ASTM E1554 grade 55 with supplementary requirement, S1, hooked.
- 6. Setting base and bearing plates: clean concrete and masonry bearing surface of bond-reducing materials and clean bottom of base and bearing plate.
a. Set base or bearing plate on wedges or other adjusting devices.
b. Tighten anchor rods after structural steel frame has been plumbed. Do not remove wedges or shims but, if protruding, cut off flush with edge of base or bearing plate prior to packing with grout.
c. Pack or pour non-shrink grout solidly between bearing surface and base of bearing plate. Ensure that no voids remain. Finish exposed surfaces, protect grout and allow to cure.
d. For proprietary grout materials, comply with manufacturer's instructions for application and curing.
e. Base plates must be grouted a minimum of 72 hours prior to placing concrete slabs on supporting steel structure.
- 7. Do not splice structural steel members except where indicated on the drawings.
- 8. See Architectural and Mechanical Drawings for miscellaneous steel not shown on the Structural Drawings.
- 9. Refer to Architectural drawings and Project Specifications for painting and fireproofing of structural steel. Do not paint steel surfaces in contact with concrete or fireproofing.

LIGHT GAGE STEEL METAL FRAMING

1. All metal framing shown on the plans shall be of the type, size and gage shown.
2. All metal framing shall be designed in accordance with the American Iron and Steel Institute (AISI), "Specification for design of Cold Formed Steel Structural Members."
3. All structural members shall be formed from corrosion resistant steel, corresponding to the requirements of ASTM A1003-00 or ASTM A653 G-60 Galvanization.
4. Prior to prefabrication of framing, the Contractor shall submit fabrication and erection drawings to the architect/engineer for approval. Drawing and calculations shall be signed and sealed by a Florida Registered Professional Engineer.
5. Fastening of components shall be with self-drilling screws and/or by welding. Screws and welds shall be of sufficient size to ensure the strength of the connection. All welds shall be touched-up with a zinc-rich paint.
6. All framing material, execution and fabrication shall adhere to the Standard Specifications of "Dietrich Metal Framing", or accepted equivalent.

WOOD FRAMING:

1. Framing and miscellaneous lumber shall be:
a. Nominal size indicated, dressed S4S.
b. Southern pine No. 2 or better.
c. Moisture content, 19% maximum.
d. Minimum extreme bending fiber stress, Fb=1200 psi, Fv=175 psi, E=1,600,000 psi
2. Sheathing shall be 3/4" (min.) exterior rated plywood nailed to supporting members with engineered construction 10d ringshank nails (3" x0.135 min. shank diameter and ring a min. of .012 dia. or larger) at 6" o.c. unless otherwise noted. Plywood shall adhere to the requirements of APA panel specifications and a span rating of 32/16. Plywood shall be placed with face grain perpendicular to supports and span over two or more supports. It shall adhere to all the requirements of Section 2322.2 of the Florida Building Code.
3. Wood framing members shall be as indicated in note 1 above.
4. Pressure treated lumber shall be used for members in contact with concrete, masonry or steel.

SHORING:

1. Provide complete shoring and reshoring drawings, including temporary bracing.
2. Formwork removal is the sole responsibility of the Contractor. Remove forms in such a manner as to insure job safety and to prevent damage to and creep deflection of the structure.
3. Do not remove shoring until concrete strength has reached 2,800 psi.

COORDINATION OF CONSTRUCTION PLANS:

1. Do not scale dimensions from drawings.
2. The contractor shall verify that actual field measurements and conditions comply with contract documents and shall be responsible for identifying any deviations from the contract documents prior to submittal of shop drawing to the architect for review
3. The contractor shall be responsible for the coordination of all dimensions and locations of all openings not shown on the contract documents which are to suit equipment furnished.
4. Structural documents must be worked together with architectural, air conditioning, mechanical, plumbing and electrical documents in order to:
a. Check and coordinate all dimensions all discrepancies must be brought to the attention of the architect.
b. Locate and coordinate any depresses slabs, slopes, drains, outlet recesses, openings, bolt settings, sleeves, etc.
c. Check all plans. Thoroughly and bring any discrepancy to the attention of the architect.

SUBMITTALS:

1. Submit Shop Drawings for reinforcing steel, concrete masonry, structural steel, and shoring.
2. Submit concrete mix design.
3. Submit laboratory tests for earthwork and concrete.

GENERAL CONCRETE REPAIR PROCEDURE:

Spalled and defective concrete - typical as indicated on plan at all beam, walls, and columns.

1. Remove all loose, cracked and deteriorated concrete to sound/solid concrete. some chipping of sound concrete will be required to provide for square edges (see details in specifications).
2. Clean concrete surfaces and remove all rust from reinforcing steel by sandblasting and/or heavy wire brushing.
3. Coat the newly cleaned steel bars with sika Armatex 110 or accepted equivalent, in order to electrically isolate these bars from the new repair concrete material which will be used. Sika Armatex 110 is an anti-corrosion coating, 2 component, polymer modified cementitious coating formulated to inhibit the corrosion of reinforcing steel.
4. Where existing reinforcing steel has been reduced to less than 75% of its original effective area, contractor is to provide new reinforcing steel by splicing same size reinforcing bar at location of defective steel, (see detail).
5. Before applying the patching material, all existing concrete surfaces shall be moistened and allowed to dry until damp.
6. Restore all defective concrete areas to provide a minimum cover of 1-1/2" on all new or existing reinforcing steel using the procedures as outlined in the specifications.
7. After form removal and after curing, waterproof the exterior of all newly casted or patched areas.
8. Contractor shall strictly follow the manufacturer's recommendations pertaining to the mixing and application of all products.
9. For all concrete repair use STO brand "STO Overhead Mortar With C1"



REVISIONS		
1	02/21/2011	CITY COMM.
2	03/16/2011	CITY COMM.
3	06/06/2011	CITY COMM.

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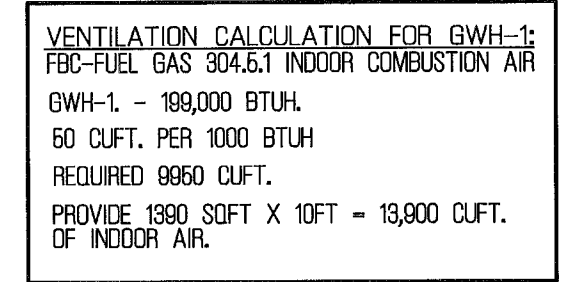
PAUL INGELMO, PROFESSIONAL ENGINEER
REG. NO. P20310 - C.E. IN FLA.
PROJECT NAME & ADDRESS:
3193 ROYAL PALM AVENUE
3193 ROYAL PALM AVE.
MIAMI BEACH, FL 33140

SHEET TITLE:
GROUND FLOOR FRAMING PLAN

SHEET NO.:
S-2.0

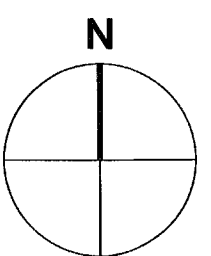
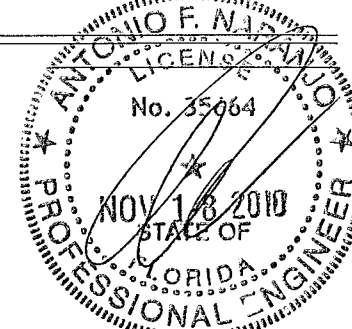
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ISSUE:

JOB NO.: 3193-01



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12/23/10

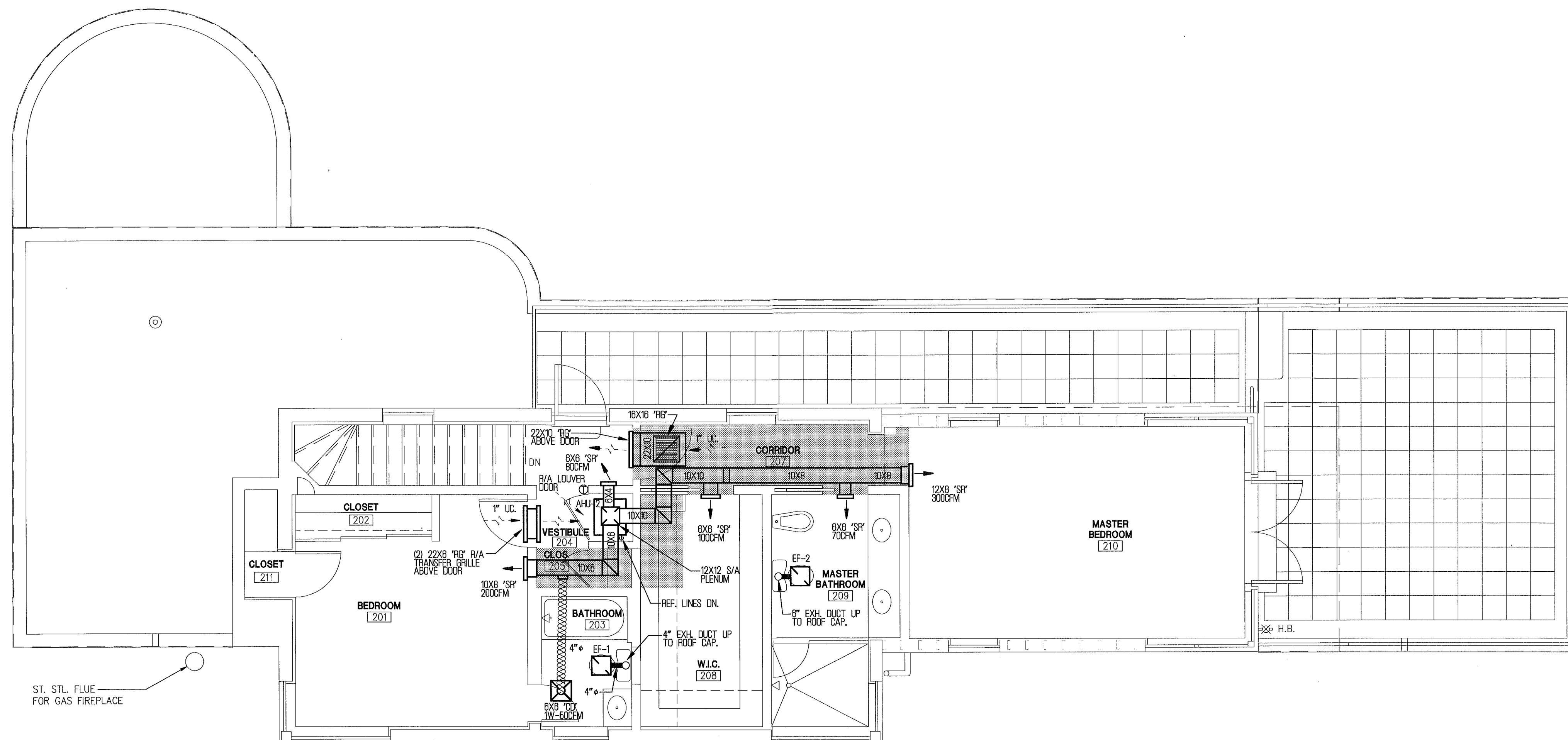
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SHEET NO.:		M-1	
SCALE:		1/4" = 1'-0"	
DATE:		05-26-10	
ISSUE:		DESIGN DEVELOPMENT	
JOB NO.:		3193-01	

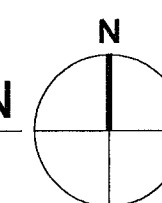
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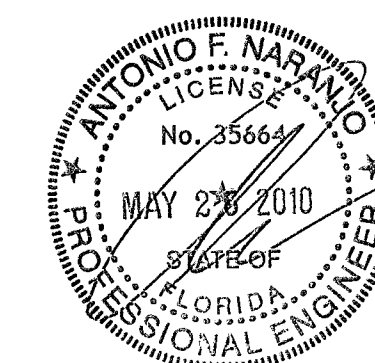


2ND FLOOR MECHANICAL PLAN

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



SRB
12/21/10



MEP MECHANICAL / ELECTRICAL ENGINEER
ELECTRICAL PLUMBING (#B0006115)
MEP ENGINEERING INC.

ANTONIO NARANJO PE35664
TEL.(305) 471-0160
10590 N.W. 27 ST. SUITE 101 MIAMI FL. 33172

ILLIA MOSSCROP, REGISTERED ARCHITECT
FLORIDA LICENSE NO.: AR92744

PROJECT NAME & ADDRESS:

**3193
ROYAL PALM
AVENUE**

3193 ROYAL PALM AVENUE
MIAMI BEACH, FL 33140

SHEET TITLE:

**2ND FLOOR
MECHANICAL
PLAN**

SHEET NO.:

M-2

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

DATE: 05-26-10

ISSUE: DESIGN DEVELOPMENT

JOB NO.: 3193-01

REV. DATE DESCRIPTION

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CERTS. OF AUTH. AS2601057 & AS2601058

HVAC NOTES:

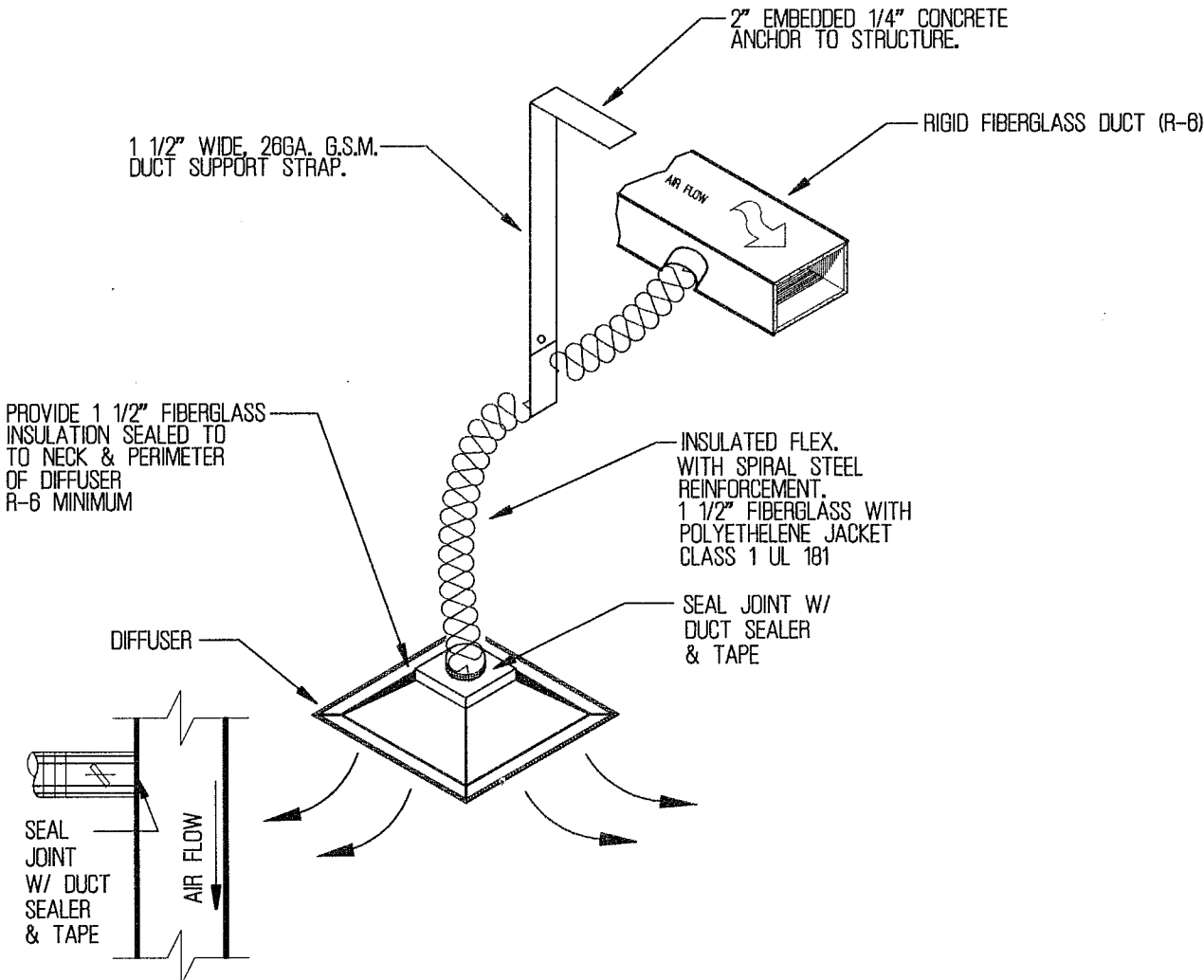
1. THE ENGINEER CERTIFIES THAT TO THE BEST OF HIS KNOWLEDGE, ALL WORK DEPICTED IS IN ACCORDANCE WITH THE FLORIDA BUILDING CODE. INSTALLATION SHALL BE IN ACCORDANCE WITH STANDARDS AS SET FORTH THEREIN.
2. THE CONTRACTOR SHALL BE RESPONSIBLE FOR VERIFYING ALL EQUIPMENT DESIGN REQUIREMENTS (I.E. VOLTAGE, WATER, DRAIN/GAS CONNECTIONS, ETC) WHEN REQUIRED FOR THE CORRECT/APPROVED OPERATION. THE EQUIPMENT SHALL BE FURNISHED WITH ALL NECESSARY ACCESSORIES WHETHER CONSIDERED OPTIONAL OR STANDARD BY THE MANUFACTURER. EQUIPMENT SHALL NOT BE ORDERED BASE ON MANUFACTURERS' MODEL NUMBERS.
3. ALL EQUIPMENT AND MATERIALS SHALL BE NEW, FREE FROM DEFECTS AND WITH MANUFACTURERS WARRANTY.
4. AIR CONDITIONING DUCTWORK CONCEALED ABOVE CEILINGS SHALL BE OF 1-1/2" THICK CLASS 1, U.L. 181 LISTED FIBERGLASS DUCT BOARD.
5. FLEXIBLE DUCTWORK MAY BE USED FOR BRANCHES TO DIFFUSERS AS INDICATED ON DRAWINGS. FLEXIBLE DUCTS SHALL BE U.L.181 LISTED, WITH SPIRAL STEEL INTERNAL REINFORCING, 1-1/2" FIBERGLASS INSULATION AND POLYETHYLENE JACKET/FABRICATED IN ACCORDANCE WITH S.M.A.C.N.A. STANDARDS.
6. PROVIDE SPIN COLLARS WITH VOLUME DAMPERS AT ALL FLEXIBLE DUCT TAPS TO RIGD DUCTS. DAMPERS TO HAVE LOCKING QUADRANTS WITH HAND LEVERS.
7. PROVIDE DOUBLE THICKNESS TURNING VANES AT ELBOWS AND EXTRACTOR DAMPERS AT ALL DUCT BRANCHES AND TAKE-OFFS.
8. ALL OUTSIDE AIR AND EXHAUST DUCTWORK SHALL BE OF GALVANIZED SHEET METAL FABRICATED IN ACCORDANCE WITH S.M.A.C.N.A. STANDARD FOR LOW VELOCITY DUCT MANUAL.
9. ROOF EQUIPMENT SHALL BE INSTALLED WITH PREFABRICATED ROOF CURBS AND ANCHORED TO WITHSTAND HURRICANE WIND FORCES.
10. PROVIDE CONCRETE PADS FOR CONDENSING UNITS 6" THICK MIN. ELEVATION TO MEET FLOOD CRITERIA. ANCHOR UNITS TO WITHSTAND FBC HURRICANE CRITERIA
11. ALL HVAC SYSTEMS SHALL BE BALANCED TO DELIVER AIR QUANTITIES INDICATED ON DRAWINGS. ACCEPTABLE TOLERANCE OF PLUS OR MINUS 10%.
12. DRYER EXHAUST DUCTWORK SHALL BE 28 GA. MIN. GALVANIZED S/M PIPE WITH S.M.A.C.N.A. APPROVED TAPED SNAP-LOCK JOINTS IN DIRECTION OF FLOW. NO SCREWS OR FASTENER PENETRATING DUCTWORK WILL BE PERMITTED.

VENTILATION FAN SCHEDULE			
MARK NO.	EF-1	EF-2	
FAN TYPE	CENTRIFUGAL	CENTRIFUGAL	
DRIVE TYPE	DIRECT	DIRECT	
AIR FLOW (CFM)	60	70	
STATIC PRESSURE(IN.W.G.)	0.260	0.260	
FAN SPEED (RPM)	1100	1100	
MOTOR HP.	1/3 W	2/3 W	
ELECTRIC SERVICE	120/1/60	120/1/60	
DESIGN MFG.	PANASONIC	PANASONIC	
MODEL NO.	FV-05V02	FV-11VF1	
ACCESSORIES	①	①	

① PROVIDE BACKDRAFT DAMPER, SPEED CONTROL SWITCH.

HVAC DESIGN REQUIRES:	YES	NO
DUCT SMOKE DETECTOR		✓
FIRE DAMPER(S)		✓
SMOKE DAMPER(S)		✓
FIRE RATED ENCLOSURE		✓
FIRE RATED ROOF/FLOOR CEILING ASSEMBLY		✓
FIRE STOPPING		✓
SMOKE CONTROL		✓

AIR DISTRIBUTION SCHEDULE				
SYMBOL	"10"	"36"	"48"	"60"
DESCRIPTION	OUT DIFFUSER	SIDEWALL DIFF.	GRILLE	LOUVER
APPLICATION	SUPPLY	SUPPLY	RETURN	EXHAUST
DESIGN MFG.	PRICE	PRICE	PRICE	PRICE
MODEL NO.	600 SERIES	600 SERIES	600 SERIES	ELF65760XD
ACCESSORIES	C.B.D.	---	---	DRAIN BLADES
NOTES	---	---	---	BIRD SCREEN

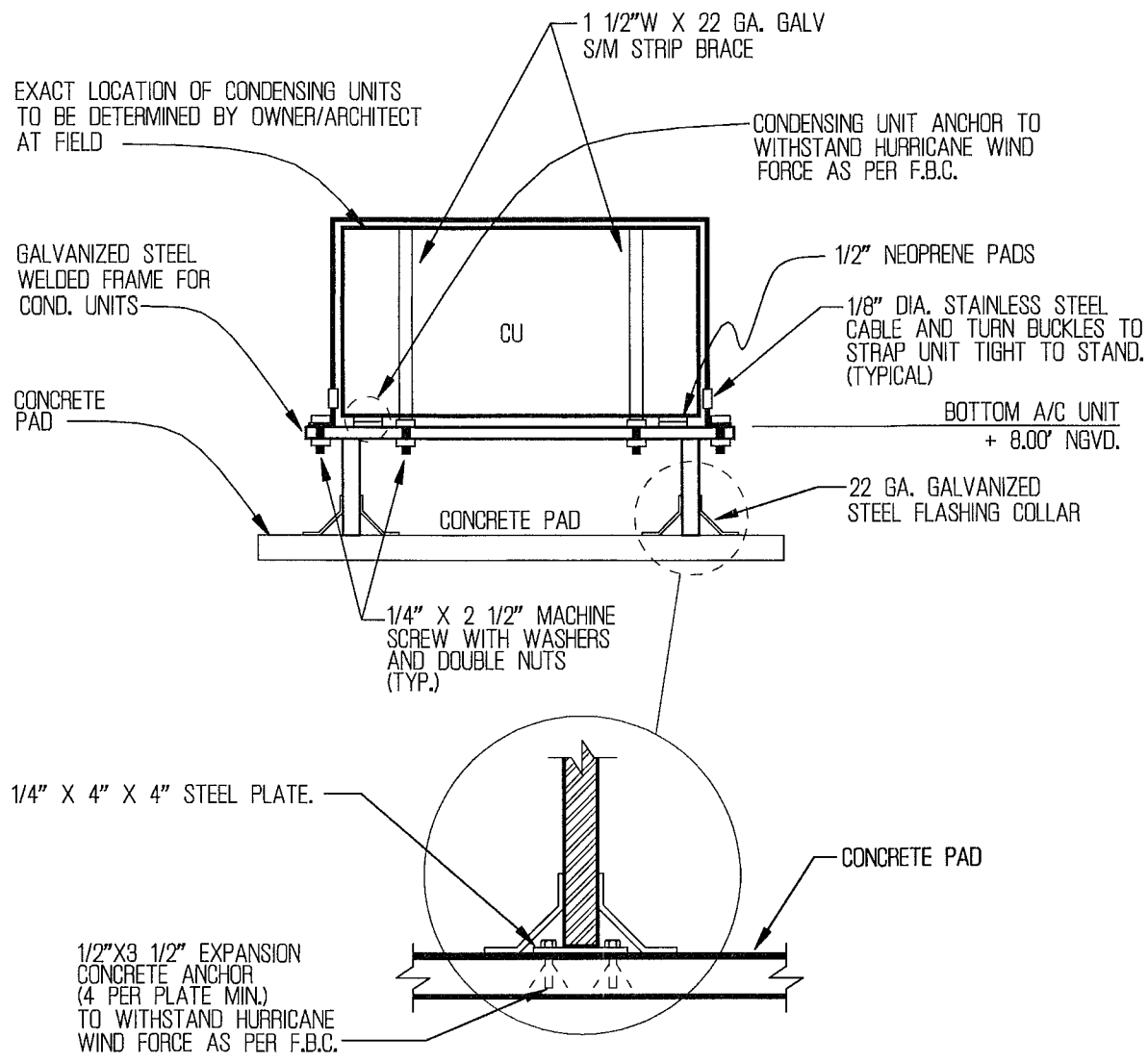


FLEXIBLE DUCT CONNECTION DETAIL

N.T.S.

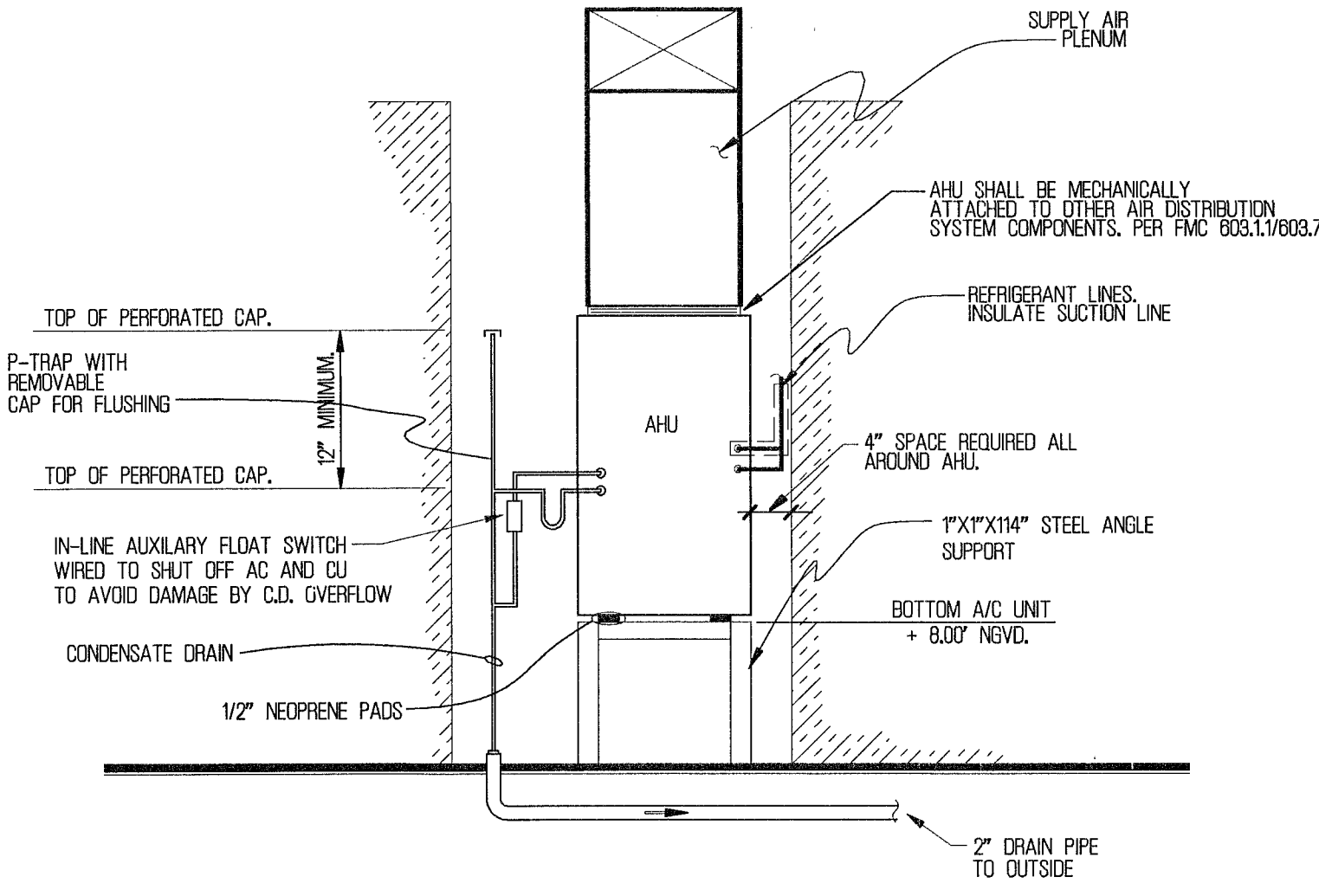
SPLIT AC UNIT SCHEDULE (TRANE)																							
DESIGNATION	REFRIG.	NOM. TONS	SEER	CONDENSER		AIR HANDLER	TOTAL CFM	COOLING CAPACITY		CONDENSER						AIR HANDLER				HEATER		ELECTRIC SERVICE	
				MODEL NUMBER	MODEL NUMBER			BTU/H @78/62 °F		COMPRESSOR QTY	FAN MOTOR HP-FLA	WEIGHT (LBS)	B.R. DR. CAPACITY MIN-MAX	REFRIGERANT LINES (INCHES O.D.) SUBT.-LG.	DIMENSIONS (INCHES) HXWxD	FAN MOTOR HP-FLA	S.P. (IN. WG)	WEIGHT (LBS)	DIMENSIONS (INCHES) HXWxD	MODEL	(KW)		
								CO	SC														
AC-1	R410A	5.0	15.10	41TX6080B1000A	4TEE3F66B1000A		2000	66.6	40.0	1	25.6-116.0	1/3-2.80	307	38 - 80	1 1/8 - 3/8	64X37X34	1-7.0	0.6	218	63X25X21	8AYHTR410	10	240-1-80
AC-2	R410A	2.0	18.26	41TX6024B1000A	4TEE3F39B1000A		800	24.2	18.1	1	10.3-52.0	1/5-0.8	220	13 - 20	5/8 - 5/16	44X38X30	1/2-4.3	0.6	142	48X26X21	8AYHTR406	6	240-1-80

HVAC LEGEND	
SYMBOL	DESCRIPTION
□ X X	DUCT (SIZE IS CLEAR INSIDE DIMENSION)
□ /	SQUARE ELBOW WITH TURNING VANES
□ A FLOW	AIR EXTRACTOR W/ VOLUME DAMPER (V.D.)
□	DUCT TRANSITION
□	RETURN AIR GRILLE
□	CEILING DIFFUSER
□	FLEXIBLE DUCT WORK
⊙	PROGRAMMABLE THERMOSTAT
□	WALL CAP
□	EXHAUST FAN



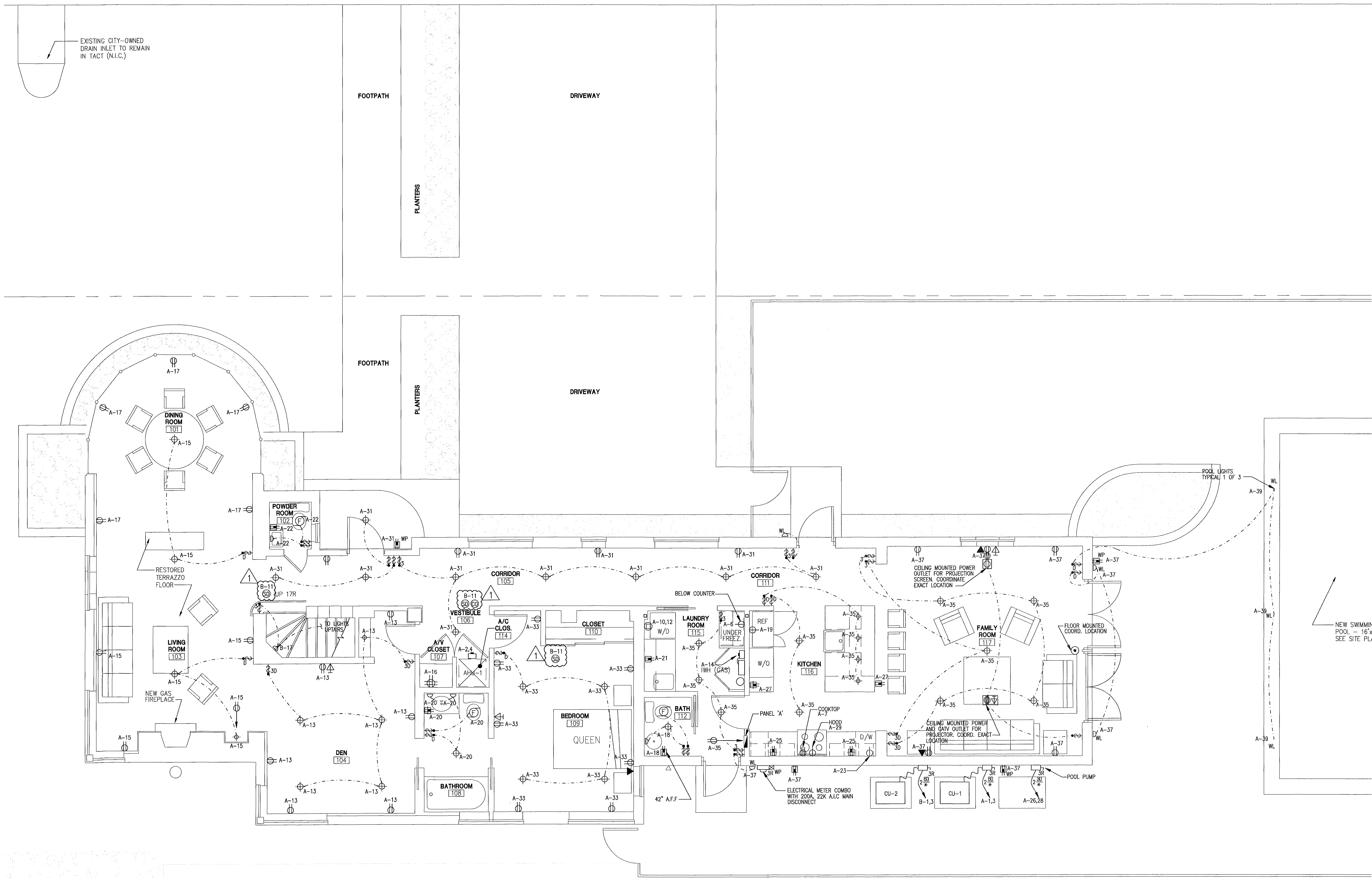
CONDENSING UNIT DETAIL

N.T.S.



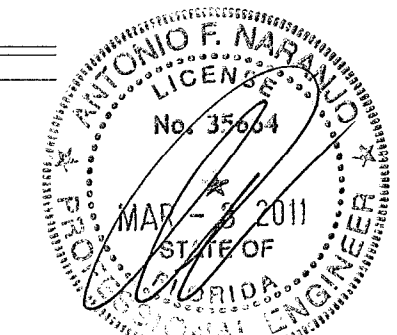
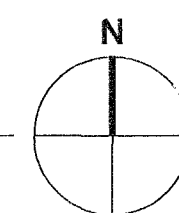
AIR HANDLER UNIT

N.T.S.



1ST FLOOR ELECTRICAL PLAN

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



MEP MECHANICAL MECHANICAL / ELECTRICAL ENGINEER ANTONIO NARANJO PE35644
ELECTRICAL PLUMBING (#BBOOO6119) TEL (305) 471-0160
MEP ENGINEERING INC. 10590 N.W. 27 ST. SUITE 101 MIAMI FL 33172

REV.	DATE	DESCRIPTION
1	06/02/11	B&Z BY J.N.

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ARCHITECTURE + INTERIORS

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T: (305) 534-9779 F: (305) 534-9927 EMAIL: ILIJA@BELLSOUTH.NET

ILIJA MOSSCROP, REGISTERED ARCHITECT
FLORIDA LICENSE NO.: AR52744

PROJECT NAME & ADDRESS:

3193 ROYAL PALM AVENUE

3193 ROYAL PALM AVENUE
MIAMI BEACH, FL 33140

SHEET TITLE:

1ST FLOOR ELECTRICAL PLAN

SHEET NO.:

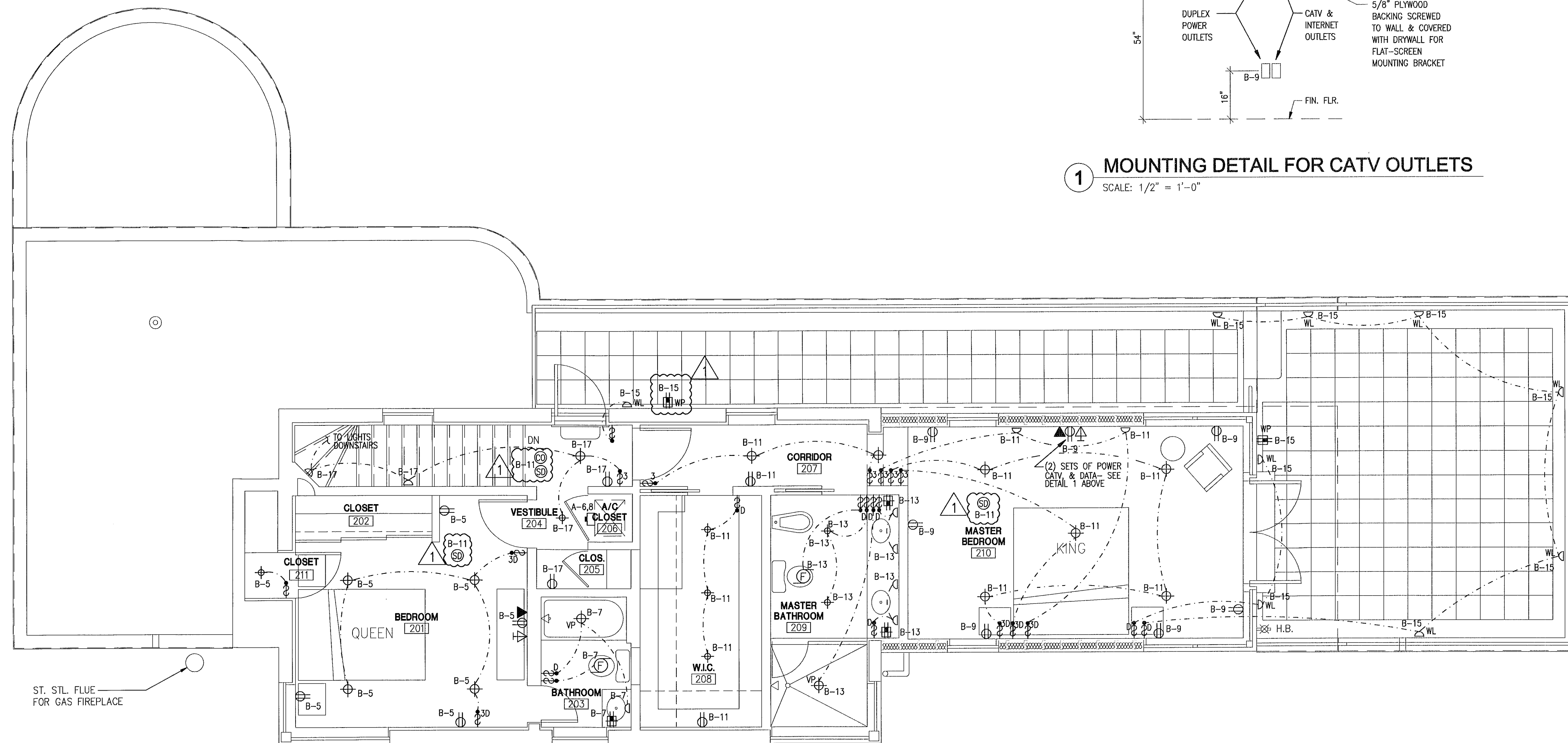
E-1

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

DATE: 05-26-10

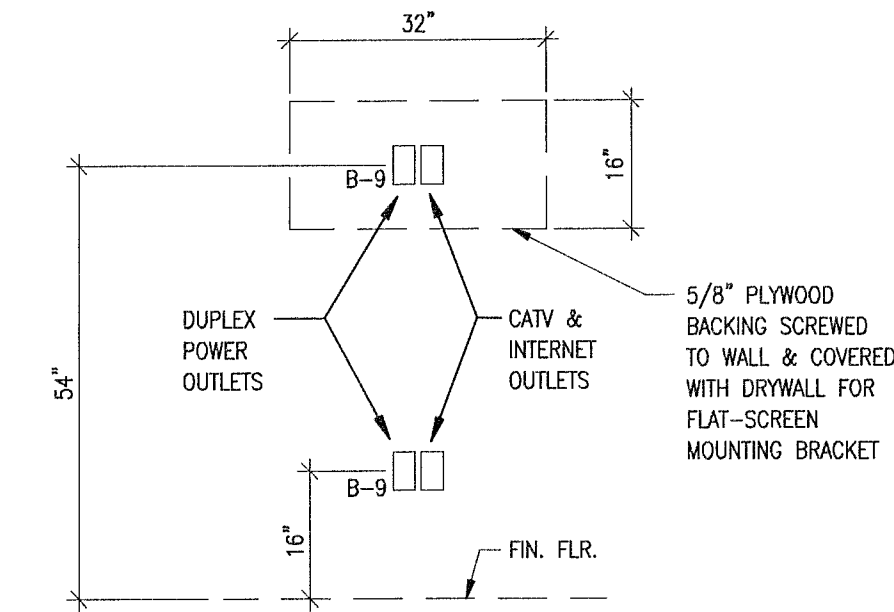
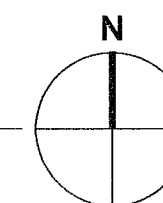
ISSUE: DESIGN DEVELOPMENT

JOB NO.: 3193-01



2ND FLOOR ELECTRICAL PLAN

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



1 MOUNTING DETAIL FOR CATV OUTLETS

SCALE: 1/2" = 1'-0"

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CERTS. OF AUTH: AA2800057 & AA2800058

ILJA MOSSCROP, REGISTERED ARCHITECT
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3193 ROYAL PALM AVENUE
MIAMI BEACH, FL 33140

SHEET TITLE:

2ND FLOOR ELECTRICAL PLAN

SHEET NO.:

E-2

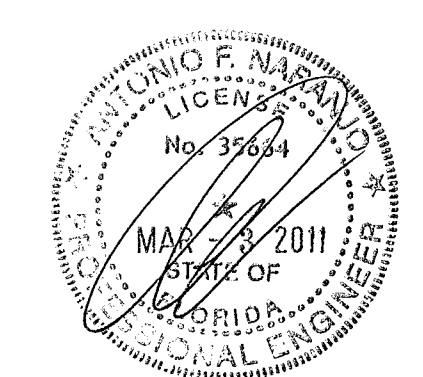
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DATE: 05-26-10

ISSUE: DESIGN DEVELOPMENT

JOB NO.: 3193-01

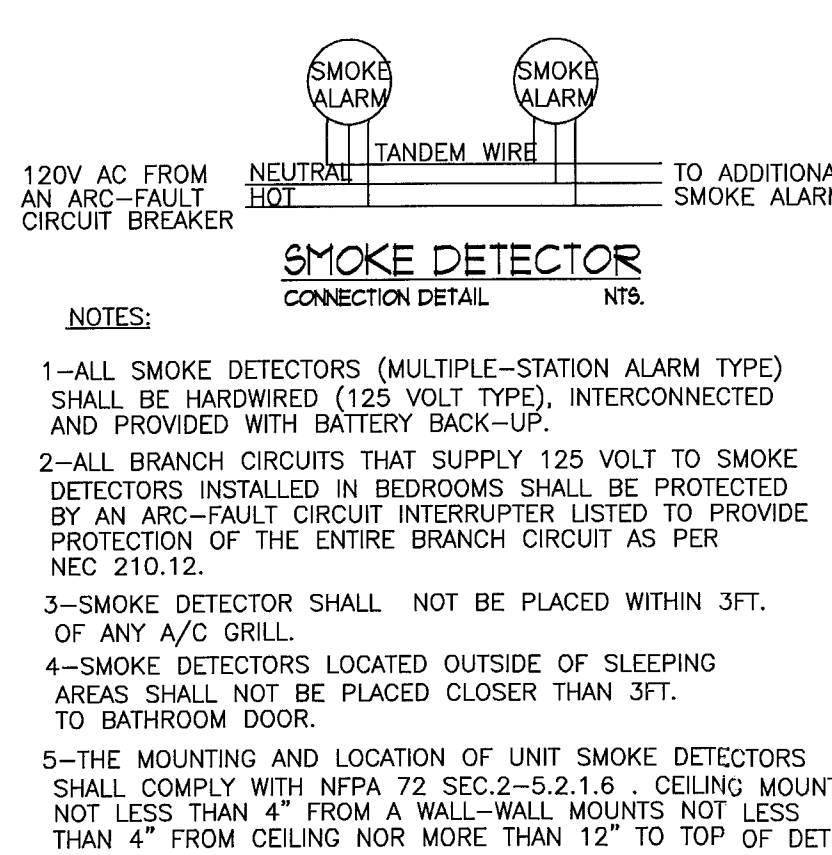
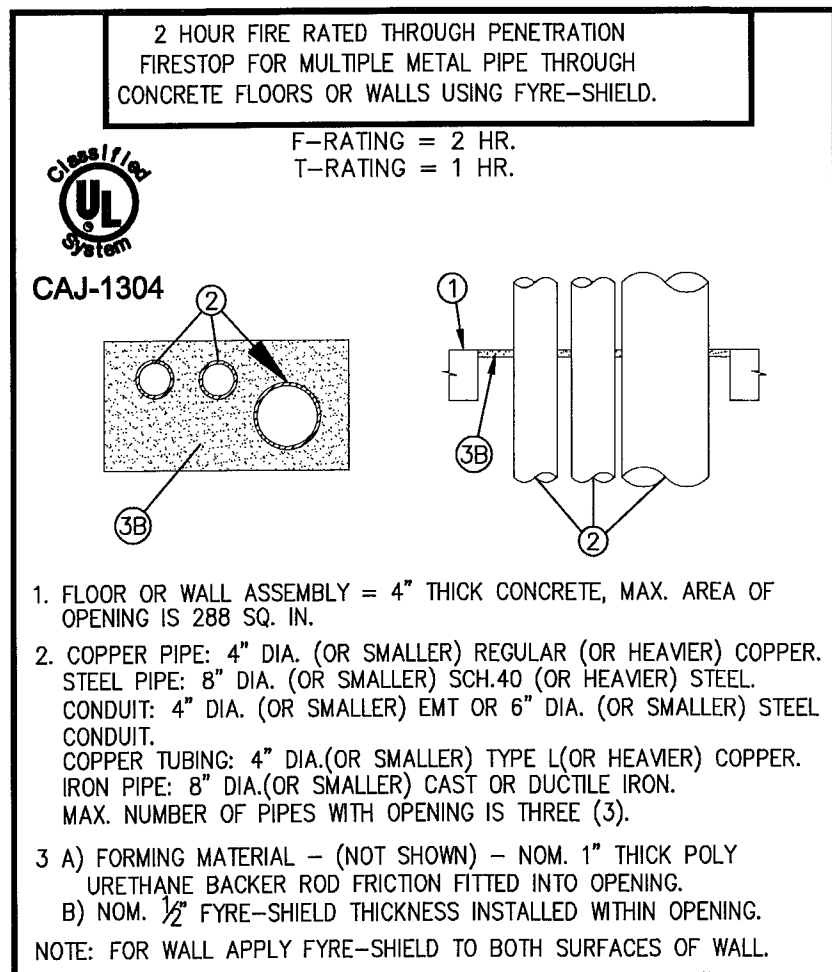
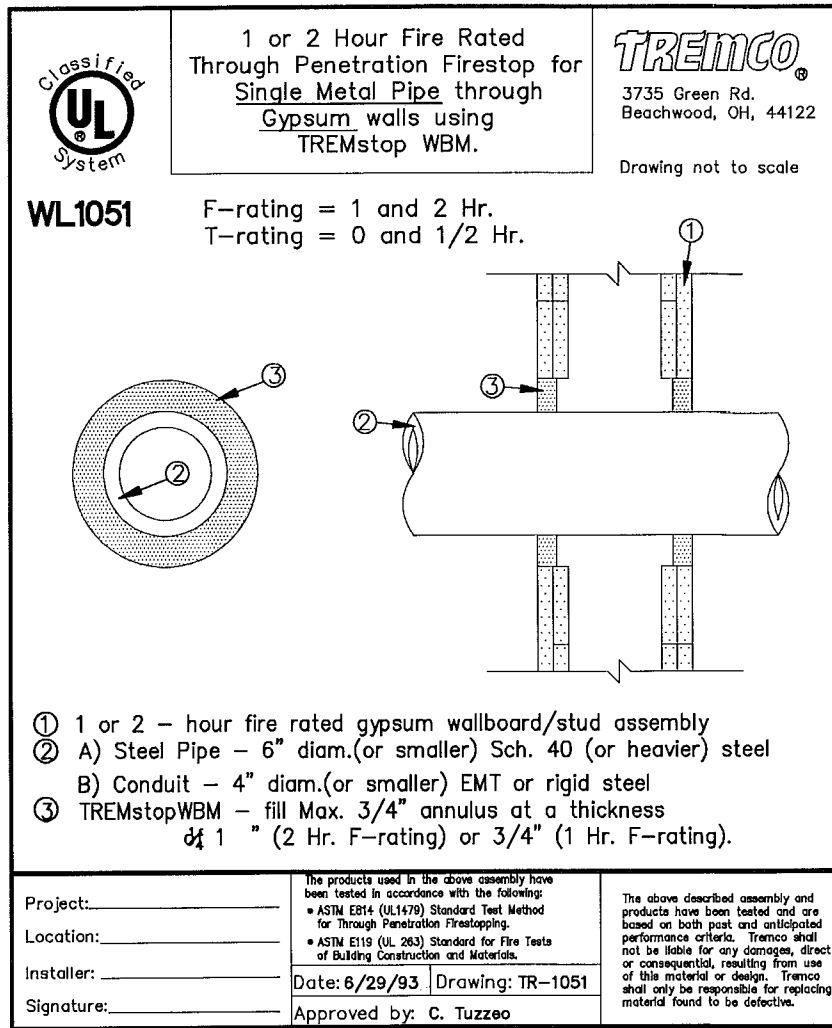
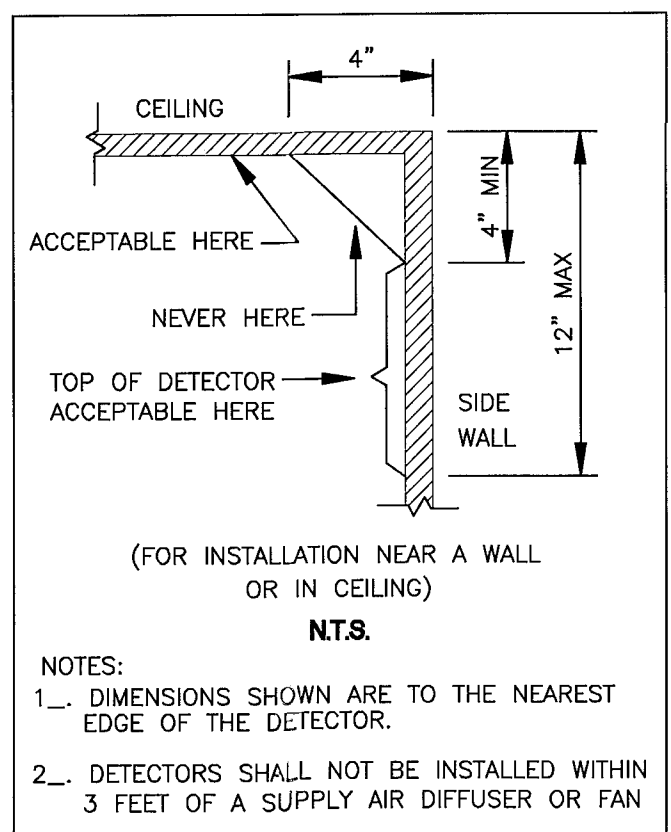
MEP MECHANICAL / ELECTRICAL ENGINEER
ELECTRICAL PLUMBING (#E80006115) **ANTONIO NARANJO PE35664**
TEL: (305) 471-0160
10390 N.W. 27 ST. SUITE 101 MIAMI FL 33172



h/12

ELECTRICAL NOTES	
1. INSTALLATION SHALL BE IN ACCORDANCE WITH NEC-2008, FBC 2007 AND ANY APPLICABLE CODES AND STANDARD.	16. ALL WIRING DEVICES SHALL BE DECORATOR STYLE. COLOR AS SELECTED BY OWNER / ARCHITECT.
2. MINIMUM WIRE SIZE SHALL BE #12 THHN/THWN, UNO	17. PROVIDE ALL FINAL CONNECTIONS TO ALL EQUIPMENT AND APPLIANCES AS REQUIRED BY MANUFACTURER.
3. CONDUCTORS #6AWG AND LARGER SHALL BE THW.	18. PROVIDE A COMPLETE TV PRE-WIRED SYSTEM.
4. ALL CONDUCTORS SHALL BE COPPER.	19. COORDINATE LOCATION OF ALL DISCONNECT SWITCHES WITH OTHER TRADES TO ALLOW N.E.C. REQUIREMENTS CLEARANCES.
5. FUSES (WHEN REQUIRED) SHALL BE DUAL ELEMENT, TIME DELAY TYPE.	20. ALL COUNTER RECEPTACLES AND SWITCHES TO BE MOUNTED +6" ABOVE COUNTER (TO BOTTOM OF PLATE). UNLESS OTHERWISE NOTED OR DIRECTED BY OWNER / ARCHITECT.
6. ALL MATERIALS SHALL BE U.L. LISTED.	21. APPLIANCES RECEPTACLES TO BE MOUNTED WHERE REQUIRED BY MANUFACTURER
7. WORKMANSHIP SHALL BE TO BEST RESIDENTIAL PRACTICE.	22. ALL LAVATORY RECEPTACLES TO BE MOUNTED +42" A.F.F. UNLESS OTHERWISE DIRECTED BY OWNER / ARCHITECT.
8. ALL LIGHT FIXTURES TO BE SELECTED BY OWNER/ARCHITECT AND INSTALLED BY CONTRACTOR. VERIFY LOCATION WITH ARCHITECT.	23. COORDINATE LOCATION OF AIR CONDITIONER (INDOOR UNIT) DISCONNECT SWITCH WITH A/C CONTRACTOR TO KEEP N.E.C. REQUIRED CLEARANCE.
9. RECESSED LIGHT FIXTURES OVER BATHTUB OR SHOWER SHALL BE COMPLETELY ENCLOSED AND SUITABLE FOR WET LOCATION INSTALLATION.	24. RANGE AND DRYER SHALL HAVE NEUTRAL & GROUNDING WIRES PER NEC 250-122.
10. ALL LUMINAIRES SHALL BE PROPERLY SUPPORTED IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS AND CODE REQUIREMENTS.	25. PROVIDE A COMPLETE PRE-WIRED TELEPHONE SYSTEM.
11. RISER IS DIAGRAMMATIC ONLY. IT DOES NOT SHOW EVERY BEND REQUIRED FOR THE INSTALLATION.	26. DO NOT SCALE THE ELECTRICAL DRAWINGS. REFER TO ARCHITECTURAL PLANS AND ELEVATIONS FOR EXACT DIMENSIONS.
12. THIS DRAWING IS A GUIDE FOR THE INSTALLATION OF ELECTRICAL WORK. THE ELECTRICAL CONTRACTOR IS RESPONSIBLE TO PROVIDE A FUNCTIONING SYSTEM.	27. IT IS NOT THE INTENT OF THESE PLANS TO SHOW EVERY DETAIL OF CONSTRUCTION. THE CONTRACTOR IS EXPECTED TO FURNISH AND INSTALL ALL ITEMS FOR COMPLETE ELECTRICAL SYSTEMS.
13. A/C EQUIPMENT WIRING, BREAKER AND FUSE SIZES ARE BASED ON A/C EQUIPMENT SPECIFIED ON CONTRACT DRAWINGS. CONTRACTOR IS RESPONSIBLE FOR PROVIDING ALL WIRING, BREAKER AND FUSE SIZES IN ACCORDANCE WITH A/C EQUIPMENT NAMEPLATE REQUIREMENTS. IF DIFFERENT FROM THAT SPECIFIED ON DRAWINGS, AS WELL AS ANY FEEDER CHANGES BEING AFFECTED BY THIS CHANGE. CONTRACTOR SHALL MAKE ABOVE MENTIONED CHANGES AT NO EXTRA COST.	28. ALL ELECTRICAL WORK SHALL BE PERFORMED BY A LICENSED ELECTRICAL CONTRACTOR. IT WILL BE HIS RESPONSIBILITY TO SECURE AND PAY FOR ANY PERMITS, CERTIFICATES OF INSPECTION, ECT., AS REQUIRED.
14. CONTRACTOR SHALL COORDINATE ALL HIS WORK WITH OTHER TRADES IN ORDER TO FURNISH AND INSTALL ALL CONTROL WIRING AND RACEWAYS AS SHOWN ON THE AIR CONDITIONING DRAWINGS OR SPECIFICATIONS. IF AIR CONDITIONING DRAWINGS REFER TO MANUFACTURER'S WIRING DIAGRAMS THE CONTRACTOR SHALL VERIFY WITH SAID MANUFACTURER ALL REQUIREMENTS AND INCLUDE ALL RELATED WORK IN HIS CONTRACT.	30. CARBON MONOXIDE DETECTORS WHEN REQUIRED SHALL BE INSTALLED WITHIN 10' OF EACH ROOM USED FOR SLEEPING PURPOSES. SUCH ALARMS SHALL HAVE A BATTERY BACKUP. COMBINATION SMOKE AND CARBON MONOXIDE ALARMS SHALL BE NRTL LISTED OR LABELED. SEE RULE 9B3.9472-CARBON MONOXIDE PROTECTION.
15. AS OPTIONAL, PROVIDE A COMPLETE SECURITY SYSTEM PER OWNER'S REQUIREMENTS.	

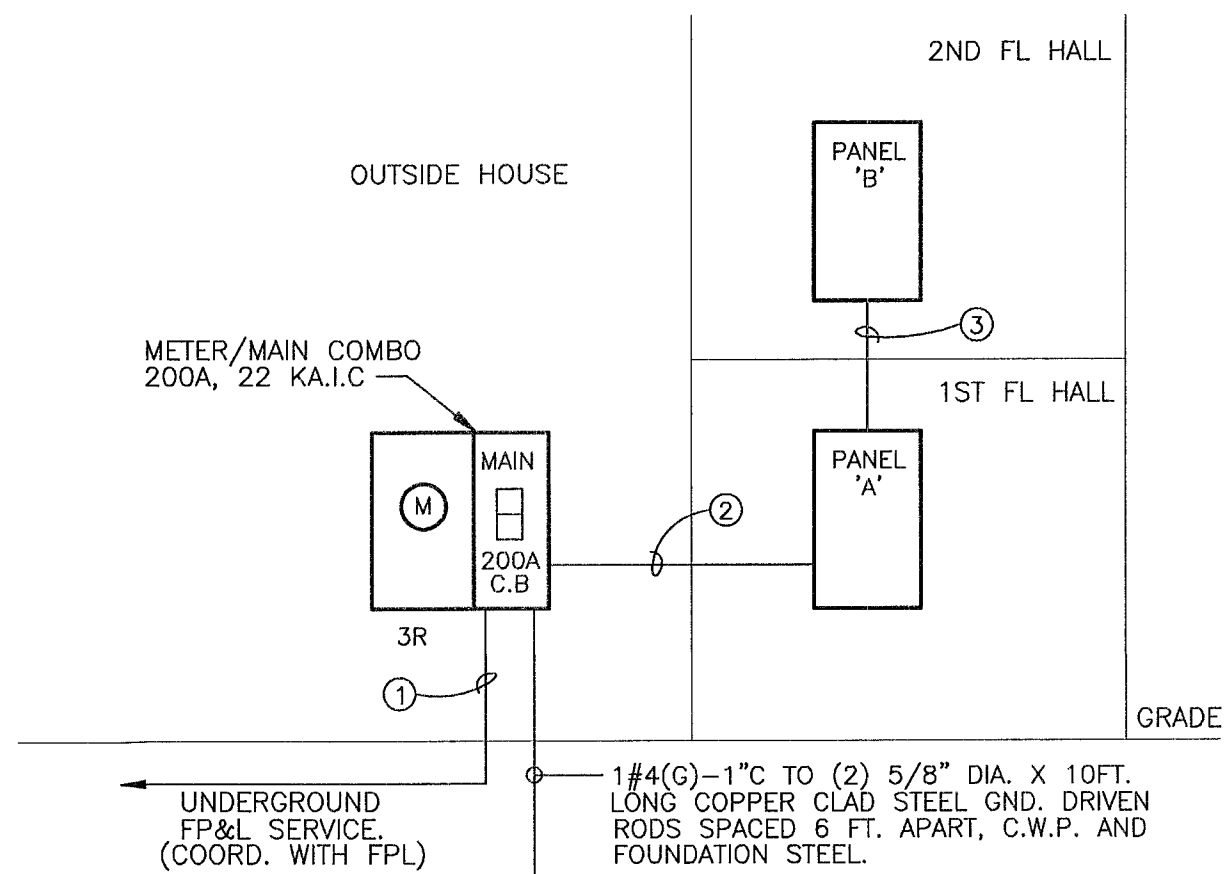
ELECTRICAL LEGEND	
	20A, 120V, DUPLEX RECEPTACLE.
	20A, 120V, DUPLEX RECEPTACLE HALF SWITCHED.
	20A, 120V, SINGLE RECEPTACLE.
	20A, 120V, GFI, DUPLEX RECEPTACLE.
	20A, 120V, GFI, DUPLEX RECEPTACLE ABOVE COUNTER.
	LIGHT SWITCH, SILENT TYPE.
	3 WAY LIGHT SWITCH, SILENT TYPE.
	4 WAY LIGHT SWITCH, SILENT TYPE.
	CEILING OR WALL MOUNTED JUNCTION BOX.
	EXHAUST FAN.
	TELEPHONE OUTLET.
	TV OUTLET.
	ELECTRICAL PANEL.
	ELECTRICAL METER/MAIN COMBINATION.
	DISCONNECT SWITCH CIRCUIT BREAKER TYPE.
	DISCONNECT SWITCH SIDE HANDLE TYPE.
	HI-HAT LIGHT FIXTURE.
	WALL MOUNTED LIGHT FIXTURE.
	SURFACE MOUNT LIGHT FIXTURE.
	120V, SMOKE DETECTOR WITH BATTERY BACKUP
	120V, CARBON MONOXIDE DETECTOR WITH BATTERY BACKUP
	N NEW ELECTRICAL DEVICE.
	E EXISTING ELECTRICAL DEVICE TO REMAIN.
	X INDICATES FIXED GLASS PANEL
	O INDICATES OPERABLE GLASS PANEL
	3R WP WEATHER PROOF.
	WL WET LOCATION LABEL.
	DL DAMP LOCATION LABEL.
	GFI GROUND FAULT INTERRUPTER DEVICE.
	EWH ELECTRICAL WATER HEATER.
	① KEYED NOTE.
	(J) F/L JUNCTION BOX APPROVED FOR FUTURE INSTALLATION FAN & LIGHT FIXTURE.



- CAUTION NOTES:**
- NEW CIRCUIT BREAKERS SERVING ELECTRICAL RECEPTACLES IN FAMILY ROOMS, DINING ROOMS, LIVING ROOMS, PARLORS, LIBRARIES, DENS, BEDROOMS, SUNROOMS, RECREATION ROOMS, CLOSETS, HALLWAYS OR SIMILAR ROOMS AREAS MUST BE A.F.C.I. TYPE.
 - ALL NEW RECEPTACLES LISTED IN NEC 210.52 (I.E. GENERAL PROVISIONS, SMALL APPLIANCES AND KITCHEN RECEPTACLES IN BATHROOMS, OUTDOOR, LAUNDRY, HALLWAYS, GARAGES AND BASEMENTS, BALCONIES, DECKS, PORCHES) SHALL BE TAMPER PROOF AS PER NEC. 408.11
 - IN ORDER TO PREVENT SOUND TRANSMISSION AND THE SPREAD OF FIRE, ALL BOXES MOUNTED ON FIRE RATED WALLS MUST BE STAGGERED AND BE WRAPPED WITH U.L. FIRE RATED MATERIAL EQUAL TO THE RATING OF WALL.
 - ALL LOCATIONS OF OUTLETS WITHIN CABINERY, MUST BE COORDINATED WITH CABINET AND APPLIANCE MANUFACTURERS.
 - LOCATION OF LIGHT FIXTURES SHALL BE DETERMINED FROM ARCHITECTURAL DRAWINGS AND AFTER FINAL VERIFICATION WITH ARCHITECT AND DECORATORS.
 - ALL OUTLETS IN KITCHEN AND BATHROOMS SHALL COMPLY WITH NEC 210.52

TYPE: LOAD CENTER VOLTAGE: 120/240, 1PH., 3W MAINS: 225A. M.L.O. AIC RATINGS: 22K						PANEL A Cu BUS/GRD BUS						ENCLOSURE: SURFACE, NEMA 1 MODIFICATION: GROUND BUS LOCATION: GARAGE FED FROM: MAIN DISCONNECT									
SERVING		WIRE AND COND SIZE		LOAD VA		POLE TRIP		CIRC. No.		PHASE A B		CIRC. No.		POLE TRIP		LOAD VA		WIRE AND COND SIZE		SERVING	
CU-1		#6-1"		(6816)		2		1		A		2		2		11600		#6-1"		AHU-1	
								60		●		4		2		60					
SPARE		---		---		---		5		●		6		1		740		#12-1/2"		UNDERCOUNTER FREEZER	
GAS COOKTOP PILOT		#12-1/2"		200		1		20		●		8		1		20		#12-1/2"		SPARE	
KITCHEN OVEN		#6-1"		8000		2		9		●		10		2		5000		#10-3/4"		STACKED WASHER/DRYER	
								50		11		12		30							
DEN RM LTS & REC.		(Φ) #12-1/2"		**		1		20		Δ 13		14		1		100		#8-3/4"		GAS INSTANT WATER HEATER	
LIVING RM LTS & REC.		(Φ) #12-1/2"		**		1		20		Δ 15		16		1		300		#12-1/2"		AUDIO VIDEO RACK (Φ)	
DINING RM REC.		(Φ) #12-1/2"		1500		1		20		Δ 17		18		1		20		**		#12-1/2" BATHROOM 112 LTS & REC (Φ)	
REFRIGERATOR		(Φ) #12-1/2"		1000		1		20		19		20		1		20		**		#12-1/2" BATHROOM 108 LTS & REC (Φ)	
LAUNDRY		(Φ) #12-1/2"		1500		1		20		21		22		1		20		**		#12-1/2" BATHROOM 102 LTS & REC (Φ)	
DISWASHER		#12-1/2"		1600		1		20		23		24		1		20		1000		#12-1/2" FUTURE LANDSCAPE LIGHTS	
KITCHEN SMALL APPL.		(Φ) #12-1/2"		1500		1		20		25		26		2		2100		#12-1/2"		PULL PUMP	
KITCHEN SMALL APPL.		(Φ) #12-1/2"		1500		1		20		27		28		1		20					
KITCHEN HOOD		#12-1/2"		500		1		20		29		30		1		20		---		SPARE	
MAIN CORRID. LTS & REC		(Φ) #12-1/2"		**		1		20		Δ 31		32		1		20		---		SPARE	
BEDRM. 109 LTS & REC		(Φ) #12-1/2"		**		1		20		Δ 33		34		1		20		---		SPARE	
KITCHEN/FAMILY LTS & REC(Φ)		#12-1/2"		**		1		20		Δ 35		36		1		20		---		SPARE	
FAMILY OUTSIDE LTS & REC(Φ)		#12-1/2"		**		1		20		Δ 37		38		1		20		---		SPARE	
POOL LIGHTS		#12-1/2"		300		1		20		Δ 39		40		2		20		☐ #4-1"		SUBPANEL 'B'	
KITCHEN MICROWAVE		#12-1/2"		1500		1		20		41		42		80							
TOTAL VA: SEE LOAD ANALYSIS																					
** PART OF GENERAL LIGHTING LOAD Δ AFCI TYPE C/B * GFI TYPE C/B () NUMBER IN PARENTHESIS INDICATES LOAD IS NON-CONCURRENT (Φ) TAMPER PROOF RECEPTACLE ☐ SEE PANEL 'B' LOAD CALCULATION																					

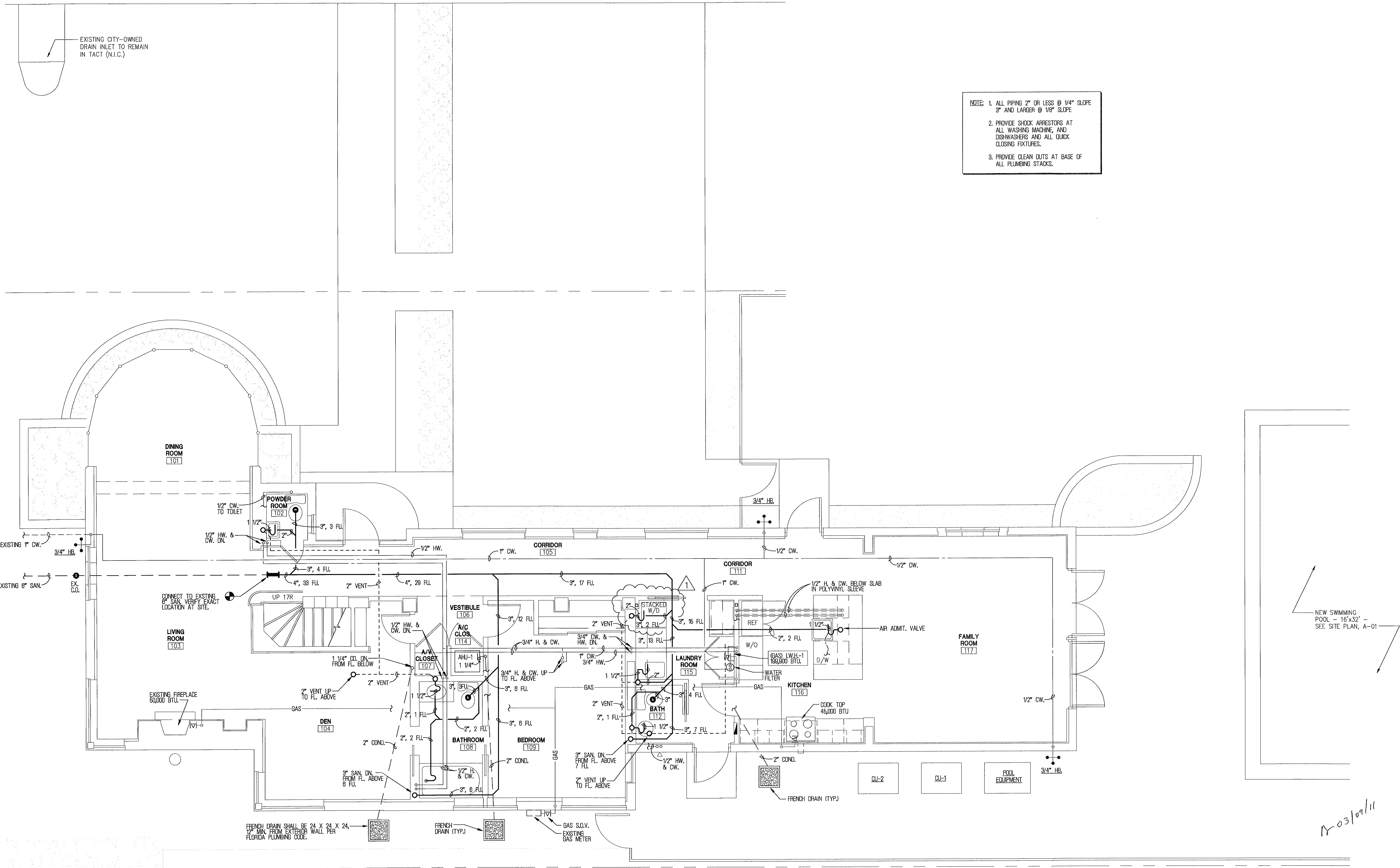
TYPE: LOAD CENTER VOLTAGE: 120/240, 1PH., 3W MAINS: 125A. M.L.O. AIC RATINGS: 10K					PANEL B Cu BUS/GRD BUS					ENCLOSURE: RECESSED, NEMA 1 MODIFICATION: GROUND BUS LOCATION: 2ND FL HALL FED FROM: PANEL 'A'				
SERVING		WIRE AND COND SIZE	LOAD VA	POLE TRIP	CIRC. No.	PHASE A B		CIRC. No.	POLE TRIP	LOAD VA	WIRE AND COND SIZE	SERVING		
CU-2		#10-3/4"	(3336)	2	25	●		2	2	6250	#8-3/4"	AHU-2		
					3	●		4	35					
BEDRM 201 LTS & REC. (Δ)		#12-1/2"	**	1	20	●		6		--	--	SPACE		
BATH-ROOM 203 LTS & REC (Δ)		#12-1/2"	**	1	20	●		8						
MASTER BEDRM LTS & REC (Δ)		#12-1/2"	**	1	20	●		10						
MASTER BEDRM LTS & REC (Δ)		#12-1/2"	**	1	20	●		12						
MASTER BATHRM LTS & REC (Δ)		#12-1/2"	**	1	20	●		14						
2ND FL OUT. LTS & REC (Δ)		#12-1/2"	**	1	20	●		16						
STAIR/2ND FL CORRID. (Δ)		#12-1/2"	**	1	20	●		18						
SPARE		--	--	--	19	●		20						
SPARE		--	--	--	20	●		22						
SPACE		--	--	--	21	●		Δ 24	↓	↓	↓	TOTAL VA: SEE LOAD ANALYSIS		
** PART OF GENERAL LIGHTING LOAD Δ AFCI TYPE C/B * GFI TYPE C/B () NUMBER IN PARENTHESIS INDICATES LOAD IS NON-CONCURRENT (Δ) TAMPER PROOF RECEPTACLE														



FEEDER SCHEDULE	
FEEDER	FEEDER SIZE
①	3#3/0 AWG THW CU IN 2-1/2" C
②	3#3/0 AWG THW CU & 1#6 (G) IN 2" C
③	3#4 AWG THW CU. & 1#8(G) IN 1-1/4" C.

NOTE: ALL FUSES SHALL BE SELECTED TO INTERRUPT THE AVAILABLE SHORT CIRCUIT AMPS, PER FPL.

SERVICE CALCULATION (PANEL 'A')	
GENERAL LIGHTING AND RECEPTACLES 3 VA/SQ.F X 2,978 SQ.F	= 8,934 VA
SMALL-APPLIANCE & LAUNDRY BRANCH IN PLACE AND MOTOR LOADS: CIRCUITS (@ 1500VA EACH), NAMEPLATE RATING FOR ALL APPLIANCES FASTENED	= 28,340VA
SUB-TOTAL	= 37,274VA
FIRST 10KVA @ 100%	= 10,000VA
REMAINING 27,274 @ 40%	= 10,909VA
	= 20,909VA
HEATING LOADS @ 65% (LARGEST OF HEATING AND A/C LOADS)	= 11,605VA
TOTAL CALCULATED LOAD	= 32,514VA
TOTAL(KVA) /240V	= 135 AMPS
LOAD ANALYSIS PANEL 'B'	
GENERAL LIGHTING AND RECEPTACLES 3 VA/SQ.F X 910 SQ.F	= 2,730 VA
SMALL-APPLIANCE & LAUNDRY BRANCH IN PLACE AND MOTOR LOADS: CIRCUITS (@ 1500VA EACH), NAMEPLATE RATING FOR ALL APPLIANCES FASTENED	= 0VA
SUB-TOTAL	= 2,730VA
HEATING LOADS @ 65% (LARGEST OF HEATING AND A/C LOADS)	= 4,065VA
TOTAL CALCULATED LOAD	= 6,792VA
TOTAL(KVA) /240V	= 29 AMPS



MOSSCROP ASSOCIATES
ARCHITECTURE + INTERIORS

940 LINCOLN ROAD, SUITE 325, MIAMI BEACH, FL 33139
(305) 534-9779 F: (305) 534-9827 EMAIL: TLJ@BELLSOUTH.NET
CERTS. OF AUTH. AA96000397 & AA96000398

BLWA MOSSCROP, REGISTERED ARCHITECT
FLORIDA LICENSE NO.: AR92744

PROJECT NAME & ADDRESS:

3193 ROYAL PALM AVENUE

3193 ROYAL PALM AVENUE
MIAMI BEACH, FL 33140

SHEET TITLE:

1ST FLOOR PLUMBING PLAN

SHEET NO.:

P-1

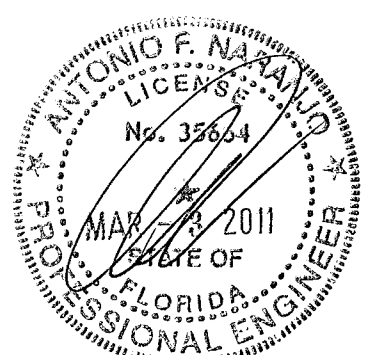
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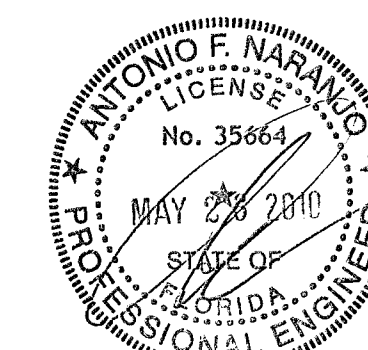
DATE: 05-26-10

ISSUE: DESIGN DEVELOPMENT

JOB NO.: 3193-01

MEP MECHANICAL MECHANICAL / ELECTRICAL ENGINEER ANTONIO NARANJO PE35664
ELECTRICAL PLUMBING (#B00006115) TEL.(305) 471-0160
MEP ENGINEERING INC. 10590 N.W. 27 ST. SUITE 101 MIAMI FL 33172





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ILJA MOSSCROP, REGISTERED ARCHITECT
FLORIDA LICENSE NO.: AR92744

PROJECT NAME & ADDRESS:

3193
ROYAL PALM
AVENUE

3193 ROYAL PALM AVENUE
MIAMI BEACH, FL 33140

SHEET TITLE:

**2ND FLOOR
PLUMBING
PLAN**

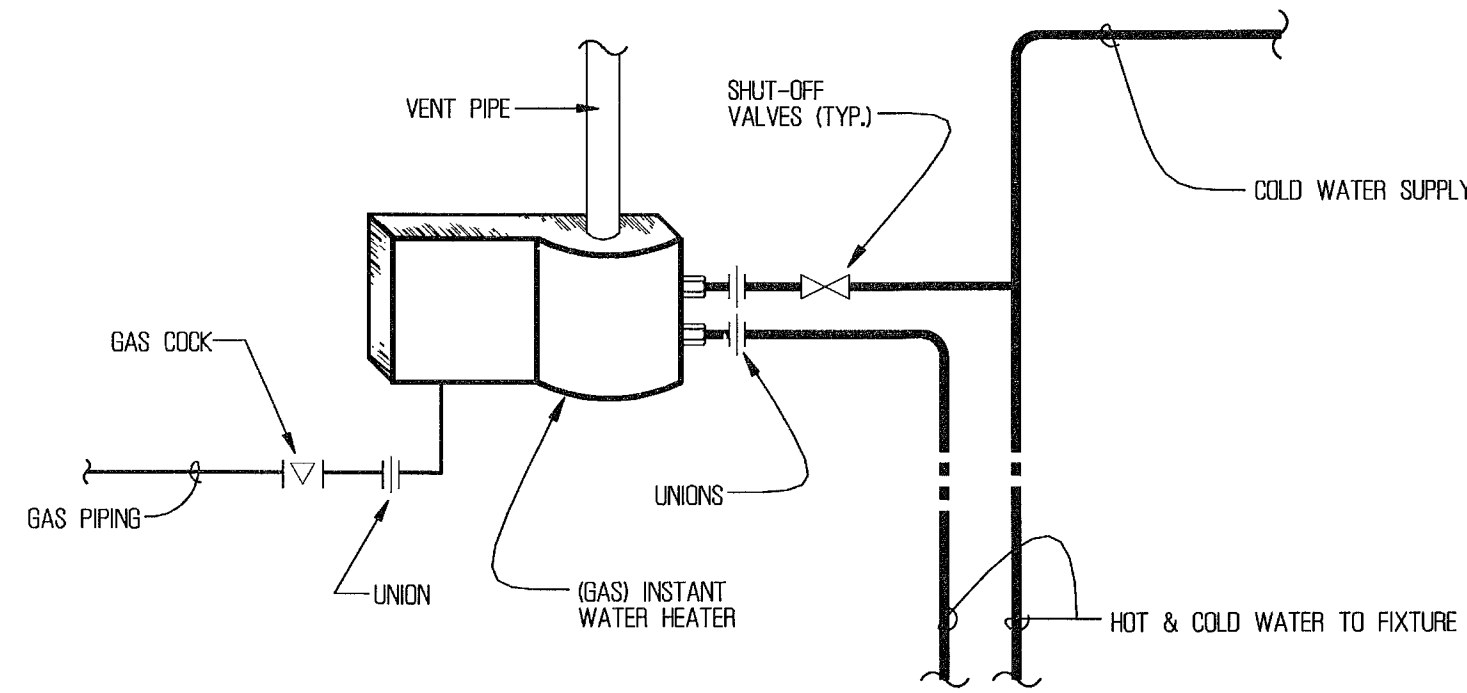
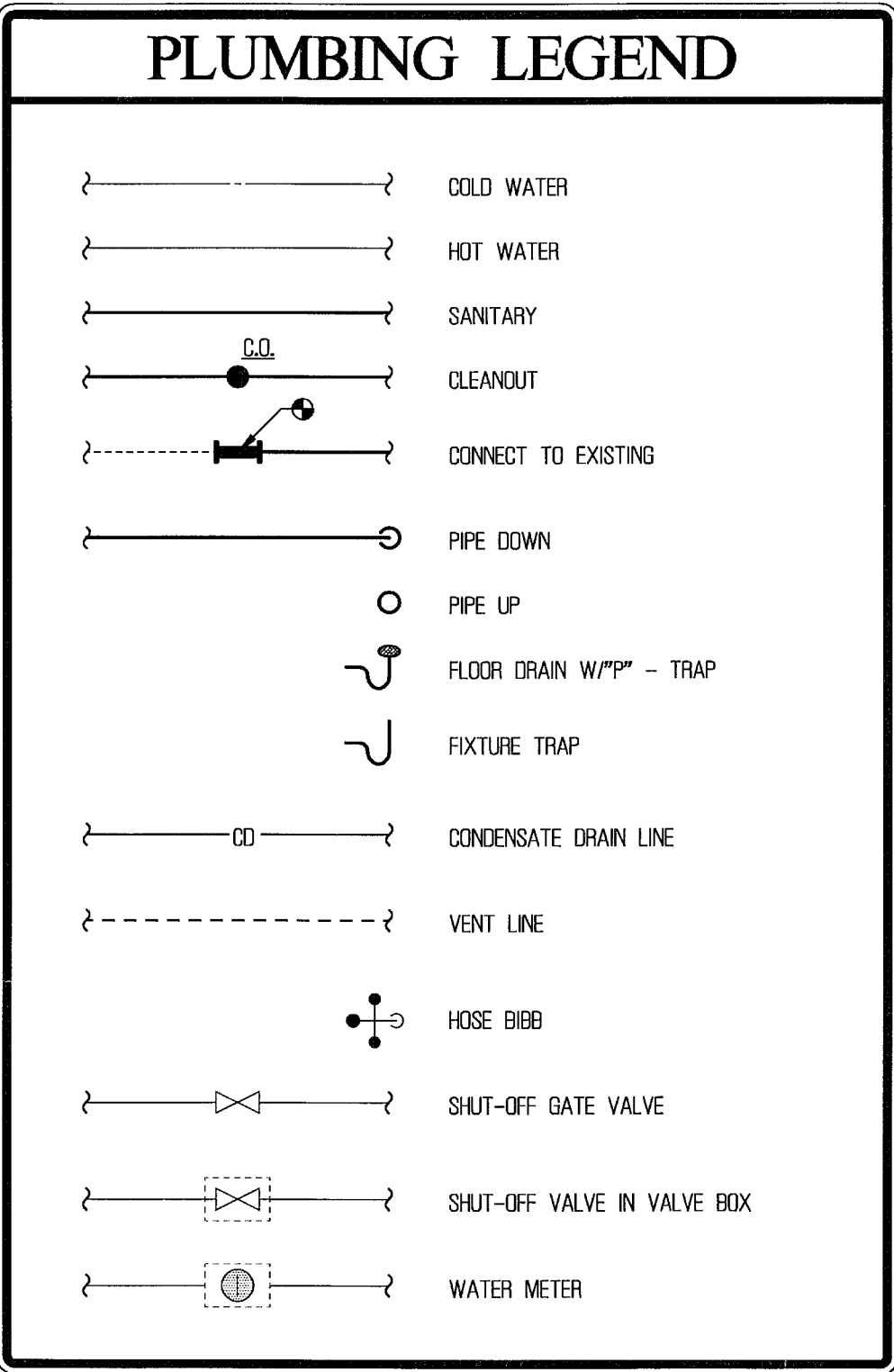
SHEET NO.:

P-2

SCALE: $1/4" = 1'-0"$
DATE: 05-26-1

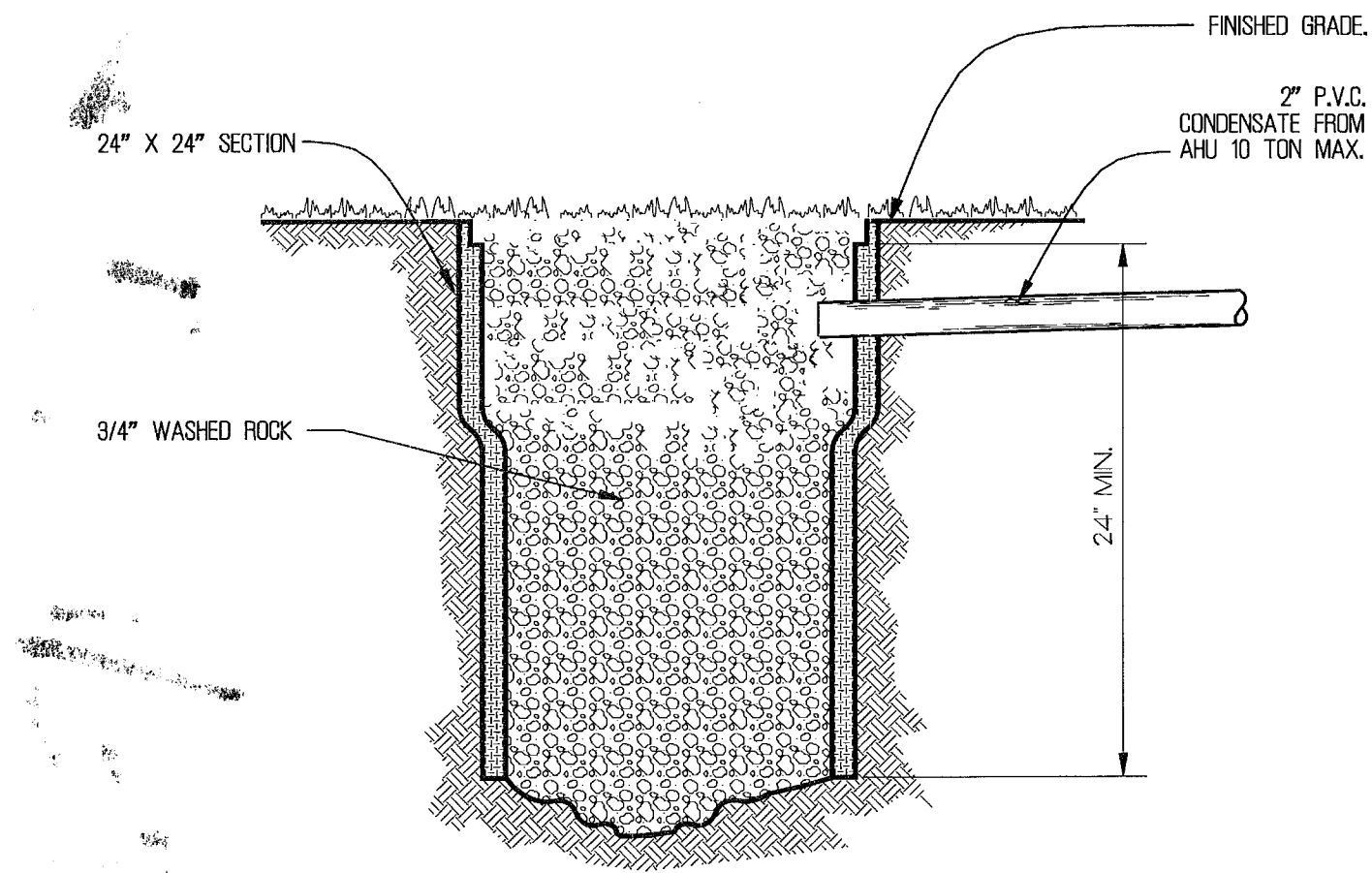
ISSUE: **DESIGN DEVELOPMENT**

JOB NO.: 3193-1



(GAS) IWH-1: RHEEM MODEL: GT-1980VN-1
GPM @ 77° RISE MAX. = 4.9 GPM
GPM @ 46° RISE MAX. = 7.4 GPM

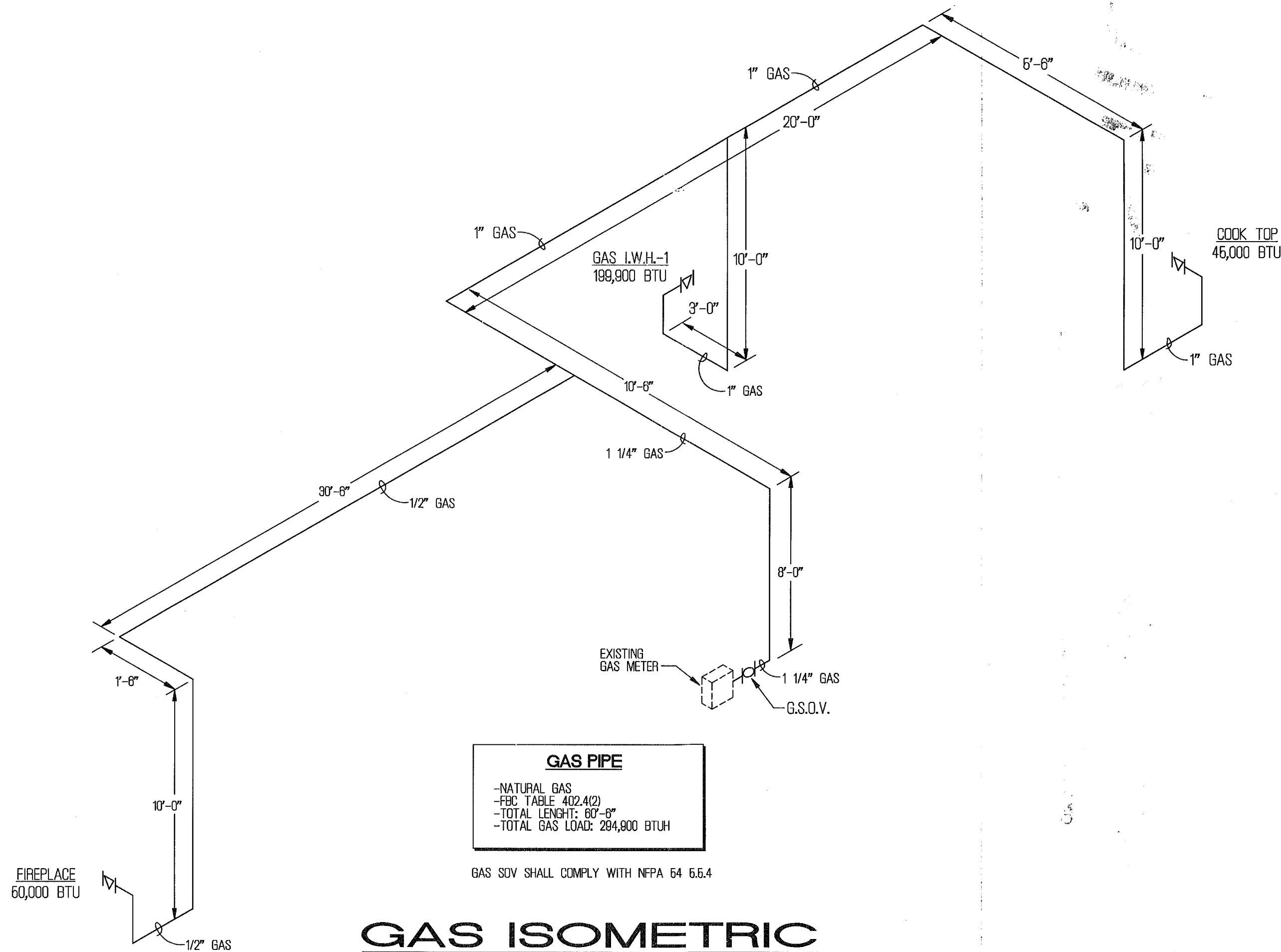
INSTANT WATER HEATER DETAIL
N.T.S.



FRENCH DRAIN DETAIL
N.T.S.

PLUMBING NOTES:

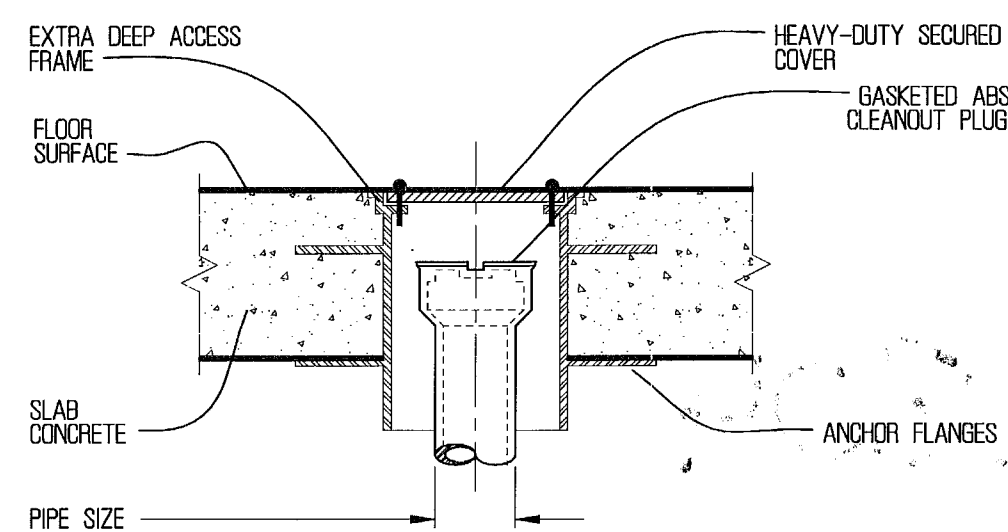
- THE ENGINEER CERTIFIES THAT TO THE BEST OF HIS KNOWLEDGE, ALL WORK DEPICTED IS IN ACCORDANCE WITH THE FLORIDA BUILDING CODE 2007. INSTALLATION SHALL COMPLY WITH STANDARDS SET FORTH THEREIN.
- THE CONTRACTOR SHALL BE RESPONSIBLE FOR VERIFYING ALL EQUIPMENT DESIGN REQUIREMENTS (I.E. VOLTAGE, WATER, DRAINS, GAS CONNECTIONS, ETC.) WHEN REQUIRED FOR THE CORRECT/APPROVED OPERATION. THE EQUIPMENT SHALL BE FURNISHED WITH ALL NECESSARY ACCESSORIES WHETHER CONSIDERED OPTIONAL OR STANDARD BY THE MANUFACTURER. EQUIPMENT SHALL NOT BE ORDERED BASED ON MANUFACTURERS' MODEL NUMBERS.
- ALL MATERIALS AND EQUIPMENT SHALL BE NEW/FREE FROM DEFECTS AND WITH FACTORY WARRANTY. PRODUCTS SHALL BEAR RESPECTIVE A.S.T.M. STANDARD LABELS AND INSTALLED AS PER LISTINGS UNDER.
- INSTALL PIPING AND EQUIPMENT ALLOWING ADEQUATE ACCESS FOR SERVICE TO VALVES AND EQUIPMENT OF OTHER TRADES. PROVIDE ULL LISTED ACCESS PANELS IN WALLS AND CEILINGS WHERE ACCESS IS REQUIRED.
- INSTALL SANITARY LINES AS TO DRAIN WITH SLOPES OF NOT LESS THAN 1/8" PER FOOT FOR 3" AND ABOVE AND 1/4" PER FOOT FOR 2" OR LESS.
- INSTALL CLEAN-OUTS AS INDICATED ON DRAWINGS AND AT EVERY 60 FEET, BASES OF STACKS AND CHANGES OF DIRECTIONS.
- SANITARY, VENT AND RAIN WATER LEADER PIPING SHALL BE SCHEDULE 40 PVC SOIL PIPE WITH DRAINAGE TYPE FITTINGS, SOLVENT WELDED. PRIME FITTINGS AND PIPE ENDS PRIOR TO WELDING. EXCEPTION: IN AIR CONDITIONING PLenums, I.e. MECHANICAL ROOMS, CAST IRON PIPING SHALL BE USED.
- DOMESTIC WATER PIPE SHALL BE TYPE L ABOVE GROUND AND TYPE K BELOW GROUND. SOLDER FITTINGS USING LEAD-FREE SOLDER.
- PROVIDE EXPANSION AIR CHAMBERS OF 20 PIPE DIAMETERS BUT NOT LESS THAN 12" INSTALL AT EACH FIXTURE/GROUP OF FIXTURES, RISERS AND END OF SUPPLY LINES. PROVIDE SHOCK ARRESTOR SIZED PER P.O.U. STANDARDS FOR ALL QUICK CLOSING FIXTURE, INCLUDING DISHWASHER, ICE MACHINE AND WASHING MACHINE.
- ISOLATE COPPER PIPING FROM DISSIMILAR METALS/MASONRY OR CONCRETE WITH FOAM PLASTIC, FIRE RETARDANT INSULATION OR SIMILAR METHODS APPROVED BY LOCAL JURISDICTION.
- CONDENSATE DRAIN PIPING SHALL BE SCHEDULE 40 PVC DRAINAGE PIPE OF 1-1/4" (2" BELOW GROUND). USE DWV COPPER PIPE WITH INSULATION IN A/C PLenums.
- PROVIDE PIPE SLEEVES FOR ALL CEILING, FLOORS OR WALL PENETRATIONS. PACK WITH FIRE RETARDANT CAULKING IN CONFORMANCE TO ULL SPECIFICATIONS FOR SUCH APPLICATIONS. 3M OR EQUAL.
- PLUMBING FIXTURES SHALL BE FIRST GRADE VITRIOUS CHINA CONFORMING TO ANSI STANDARDS. FURNISH CARRIERS, TRAPS, VALVES AND ALL TRIM. COMPLY WITH A.D.A. REQUIREMENTS. AMERICAN STANDARD OR EQUAL.
- PROVIDE ANTI SCALD VALVES FOR ALL TUBS AND SHOWER HEADS



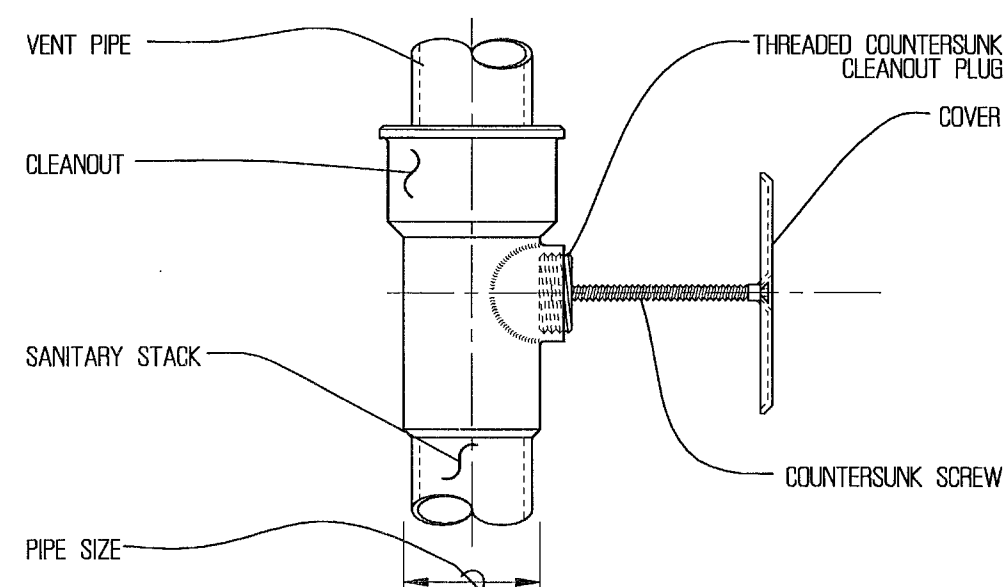
GAS PIPE
-NATURAL GAS
-FBC TABLE 402.4(2)
-TOTAL LENGTH: 87'-8"
-TOTAL GAS LOAD: 294,900 BTUH

GAS SDV SHALL COMPLY WITH NFPA 54 6.6.4

GAS ISOMETRIC
N.T.S.

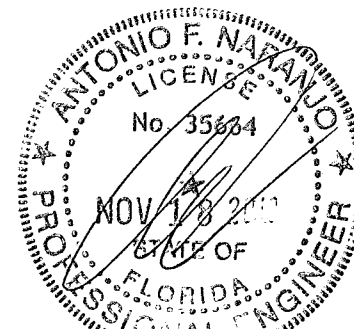


ACCESS COVER WITH CLEANOUT



CLEANOUT TEE & ACCESS COVER

CLEAN-OUT DETAILS
N.T.S.



MEP MECHANICAL / ELECTRICAL ENGINEER ANTONIO NARANJO PE35684
ELECTRICAL PLUMBING #E80006115 TEL.(305) 471-0160
MEP ENGINEERING INC. 10590 N.W. 27 ST. SUITE 101 MIAMI FL. 33172

MOSSCROP ASSOCIATES
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CERTS. OF AUTH: A236001037 & A236001038

ILUJA MOSSCROP, REGISTERED ARCHITECT
FLORIDA LICENSE NO.: AR92744

PROJECT NAME & ADDRESS:

3193 ROYAL PALM AVENUE

3193 ROYAL PALM AVENUE
MIAMI BEACH, FL 33140

SHEET TITLE:

PLUMBING NOTES & DETAILS

SHEET NO.:

P-3

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

DATE: **05-26-10**

ISSUE: **DESIGN DEVELOPMENT**

JOB NO.: 3193-01

Barcode and permit information:
Derm Number: 2011-0606-1554-3699
Contact Name: MR ALAN COTE
Contact Phone: (305) 218-3995
Folio: 02-3227-001-0590
Project Name: 3193 ROYAL PALM AVENUE
Date Received: 06/06/2011

B1100804

3193 Royal Palm Dr
Office Copy

OFFICE COPY
CITY OF MIAMI BEACH
APPROVED FOR PERMIT BY

THE FOLLOWING:
BUILDING: 5/26/11
ZONING: 5/26/11
DRB/HPD: 5/26/11
CONCURRENCY: 5/26/11
PLUMBING: 5/26/11
ELECTRICAL: 5/26/11
MECHANICAL: 5/26/11
FIRE PREVENTION: 5/26/11
ENGINEERING: 5/26/11
PUBLIC WORKS: 5/26/11
STRUCTURAL: 5/26/11
ELEVATOR: 5/26/11

48 HOURS PRIOR TO EXCAVATING
CONTRACTOR SHALL CALL FOR LOCATION
OF UNDERGROUND UTILITIES
SUNSHINE ONE-CALL 1-800-432-4770
CITY OF MIAMI BEACH 305-673-7080

PUBLIC WORKS
PLAN REVIEW NOTICE
Phone 305-673-7080 Fax 305-673-7028

THIS PLAN REVIEW CONSTITUTES APPROVAL FOR
OBTAINING BUILDING PERMITS ONLY.

All construction and/or use of equipment in the right-of-way and/or
easements, requires a separate Public Works Department permit prior
to start of construction.

Permit Requirements: Proof of existing sidewalk/swale area conditions
(pictures) and/or posting of sidewalk/roadway bonds
(Public Works inspection of the right-of-way will be required prior to
final sign-off on the C.C. / C.O., or the release of bonds.)

Approved/Reviewed By: 12-6-2010