

**ADDITION TO FORM SYSTEMS**  
PORTLAND, MAINE  
RIVERSIDE INDUSTRIAL PARK

**WHIPPLE CALLENDER ARCHITECTS**

14 Commercial St  
Portland ME 04101  
207-775-2646  
www.whipplecalender.com

DATE	DESCRIPTION
10/7/08 <td>DATE</td>	DATE
J.A.D. <td>CHECKED BY:</td>	CHECKED BY:
J.M.B. <td>DRAWN BY:</td>	DRAWN BY:
ASF <td>JOB:</td>	JOB:
PLANS <td>SHEET TITLE:</td>	SHEET TITLE:
1/4" = 1'-0" <td>SCALE:</td>	SCALE:

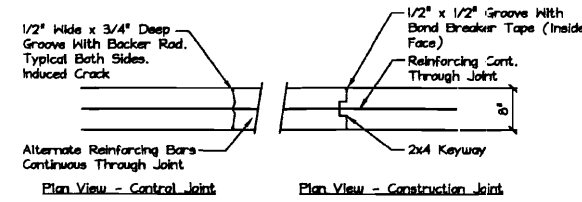
**A1.1**

**GENERAL NOTES:**

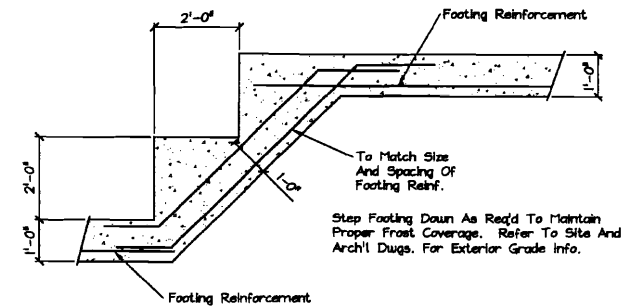
- STRUCTURAL DRAWINGS SHALL BE USED IN CONJUNCTION WITH JOB SPECIFICATIONS AND ARCHITECTURAL, MECHANICAL, ELECTRICAL, PLUMBING, AND SITE DRAWINGS. CONSULT THESE DRAWINGS FOR LOCATIONS AND DIMENSIONS OF OPENINGS, CHASES, INSERTS, SLEEVES, DEPRESSIONS, AND OTHER DETAILS NOT SHOWN ON THE STRUCTURAL DRAWINGS.
- ALL DIMENSIONS AND CONDITIONS MUST BE VERIFIED IN THE FIELD. ANY DISCREPANCIES SHALL BE BROUGHT TO THE ATTENTION OF THE ENGINEER BEFORE PROCEEDING WITH THE AFFECTED PART OF THE WORK.
- THE STRUCTURE IS DESIGNED TO BE SELF SUPPORTING AND STABLE AFTER THE BUILDING IS COMPLETE. IT IS THE CONTRACTOR'S SOLE RESPONSIBILITY TO DETERMINE ERECTION PROCEDURES AND SEQUENCE TO ENSURE SAFETY OF THE STRUCTURE AND PERSONNEL DURING ERECTION. THIS INCLUDES THE ADDITION OF THE NECESSARY SHORING, SHEETING, TEMPORARY BRACING, GUYS OR TIEDOWNS. SUCH MATERIAL SHALL REMAIN THE PROPERTY OF THE CONTRACTOR AFTER COMPLETION OF THE PROJECT.
- ALL APPLICABLE FEDERAL, STATE, AND MUNICIPAL REGULATIONS SHALL BE FOLLOWED, INCLUDING THE FEDERAL DEPARTMENT OF LABOR OCCUPATIONAL SAFETY AND HEALTH ACT.
- IT IS THE OWNER'S SOLE RESPONSIBILITY TO EMPLOY ONE OR MORE SPECIAL INSPECTORS (IF REQUIRED) TO PROVIDE INSPECTIONS IN COMPLIANCE WITH ALL APPLICABLE REQUIREMENTS OF IBC 2003.

**FOUNDATION NOTES:**

- FOUNDATION DESIGNED BASED ON AN ASSUMED MAXIMUM ALLOWABLE BEARING PRESSURE OF 2500 PSF. IT IS THE RESPONSIBILITY OF THE OWNER/CONTRACTOR TO VERIFY THE SOIL BEARING CAPACITY. NOTIFY THE ENGINEER AND STOP WORK IF CLAY, WET SOILS, FILL, OR OTHER DELETERIOUS MATERIALS ARE ENCOUNTERED.
- DESIGN OF EXTERIOR FOUNDATIONS IS BASED ON A FROST DEPTH OF 4'-6" BELOW FINISHED GRADE.
- NO HORIZONTAL JOINT WILL BE PERMITTED IN THE WALLS UNLESS NOTED OTHERWISE.
- FOUNDATION CONTRACTOR SHALL SET COLUMN ANCHOR RODS AND LEVELING PLATES, INCLUDING GROUTING, AS PER THE STRUCTURAL STEEL CONTRACTOR'S DRAWINGS.
- EXCAVATING AND BACK FILLING AT NEW FOUNDATION WALLS SHALL BE DONE SUCH THAT SYMMETRICAL LOADING SHALL BE MAINTAINED ON BOTH SIDES. WHERE DESIGN CONDITIONS REQUIRE DIFFERENT BACK FILL HEIGHTS, WALLS SHALL BE FIRMLY SHORED IN POSITION, AND SHORES SHALL REMAIN UNTIL FLOORS ARE PLACED AND PROPERLY SET, TO PROVIDE FULL SUPPORT.
- CONTRACTOR SHALL BE RESPONSIBLE FOR DESIGN, INSTALLATION, AND FINAL CLEARANCE OF ANY NEEDLING, SHORING, OR BRACING OF EXISTING STRUCTURES.
- VAPOR BARRIER BENEATH SLAB SHALL BE "STEGO WRAP" OR APPROVED EQUAL. POLYETHYLENE IS NOT AN ALTERNATE PRODUCT.



**DETAIL - TYPICAL FOUNDATION WALL JOINTS**  
SCALE: NOT TO SCALE



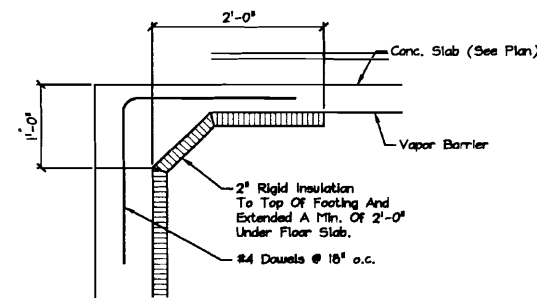
**DETAIL - TYPICAL STEP FOOTING**  
SCALE: 1/2" = 1'-0"

**STRUCTURAL DESIGN CRITERIA:**

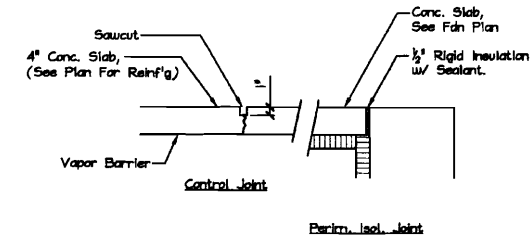
- BUILDING CODE: IBC 2003 INTERNATIONAL BUILDING CODE
- DESIGN WIND LOADS - MAIN WIND FORCE RESISTING SYSTEM:  
DESIGN WIND SPEED = 100 MPH  
BUILDING USE IMPORTANCE FACTOR (WIND) = 1.0  
BUILDING EXPOSURE CATEGORY = B
- SNOW:  
GROUND SNOW LOAD = 60 PSF  
IMPORTANCE FACTOR, I = 1.0  
EXPOSURE FACTOR, C<sub>e</sub> = 1.0  
FLAT ROOF SNOW LOAD = 42 PSF
- ROOF DEAD LOAD:  
TOP CHORD = 10.0 PSF  
BOTTOM CHORD = 10.0 PSF
- LIVE LOADS:  
FLOOR LIVE = 50.0 PSF  
PARTITION LOAD = 20.0 PSF
- DESIGN SEISMIC CRITERIA:  
EQUIVALENT LATERAL FORCE PROCEDURE  
USE GROUP (CATEGORY) = I  
S<sub>D</sub> = 0.327  
S<sub>D1</sub> = 0.123  
SEISMIC DESIGN CATEGORY = B  
SITE CLASS = D  
R = 7.0  
C<sub>d</sub> = 4.5  
SEISMIC RESISTING SYSTEM = LIGHT FRAMED WALLS WITH SHEAR PANELS  
SEISMIC BASE SHEAR, V = 0.047 x W

**CONCRETE NOTES:**

- ALL CONCRETE WORK SHALL CONFORM TO ACI-318.
- ALL CONCRETE EXCEPT INTERIOR AND EXTERIOR SLABS ON GROUND SHALL BE 3000 PSI AT 28 DAYS AND A MAXIMUM SLUMP OF 4". ALL INTERIOR AND EXTERIOR SLABS ON GROUND SHALL BE 4000 PSI AT 28 DAYS AND A MAXIMUM SLUMP OF 4". MAXIMUM SIZE AGGREGATE SHALL BE 3/4" (WALLS/FOOTINGS) AND 1 1/2" (SLABS ON GROUND).
- CONCRETE TO REMAIN EXPOSED TO WEATHER SHALL BE AIR ENTRAINED. NO AIR ENTRAINMENT IN INTERIOR CONCRETE SLABS.
- CONCRETE SHALL NOT BE PLACED IN WATER OR ON FROZEN GROUND.
- REINFORCING BARS SHALL CONFORM TO ASTM A615 GRADE 60. DEFORMED BARS SHALL BE DETAILED AND FABRICATED IN ACCORDANCE TO ACI-318 LATEST EDITION, AND PLACED IN ACCORDANCE WITH ACI-318.
- SPLICES OF REINFORCING BARS SHALL BE IN ACCORDANCE WITH ACI-318.
- ANCHOR RODS SHALL CONFORM TO ASTM F1554-36.
- HOOKS NOT DIMENSIONED SHALL BE ACI STANDARD HOOKS.
- CONCRETE COVER OVER REINFORCEMENT SHALL BE AS FOLLOWS:  
CONCRETE CAST AGAINST EARTH = 3"  
CONCRETE EXPOSED TO EARTH OR WEATHER = 1 1/2"  
CONCRETE NOT EXPOSED TO EARTH OR WEATHER = 3/4"



**DETAIL - TYPICAL SECTION @ EXT. SLAB ON GRADE DOORS**  
SCALE: 1" = 1'-0"



**DETAIL - TYPICAL FLOOR JOINTS**  
SCALE: NOT TO SCALE

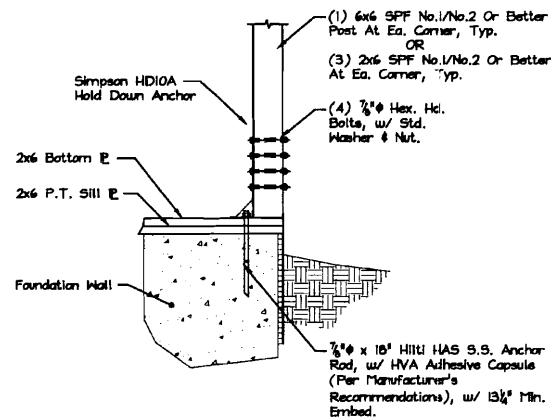
**STRUCTURAL STEEL NOTES - GENERAL**

- STRUCTURAL STEEL FABRICATION, ERECTION, AND CONNECTION DESIGN SHALL CONFORM TO AISC "SPECIFICATION FOR THE DESIGN, FABRICATION, AND ERECTION OF STRUCTURAL STEEL" 13th EDITION.
- ALL STEEL SHAPES AND PLATES TO BE ASTM A36 UNLESS NOTED OTHERWISE. ALL WF SHAPES TO BE ASTM A992 GR 50
- STRUCTURAL TUBING SHALL CONFORM TO ASTM A500, GRADE B. STEEL PIPES SHALL BE A53, GRADE B
- THE DESIGN OF CONNECTIONS NOT SHOWN ON THE DRAWINGS SHALL BE PROVIDED BY THE FABRICATOR. CONNECTIONS SHALL BE DESIGNED FOR THE FORCES SHOWN, OR IF NOT SHOWN, EACH CONNECTION SHALL BE CAPABLE OF SUPPORTING ONE HALF THE TOTAL ALLOWABLE UNIFORM LOAD CAPACITY OF THE MEMBER, PER AISC MANUAL OF STEEL CONSTRUCTION. FABRICATOR SHALL PROVIDE CALCULATIONS SEALED BY A PROFESSIONAL ENGINEER LICENSED TO PRACTICE IN THE STATE OF MAINE FOR ALL CONNECTIONS.
- ALL BOLTED CONNECTIONS SHALL BE MADE WITH 3/8" ASTM A325 HIGH STRENGTH BOLTS.
- WELDING SHALL BE IN ACCORDANCE WITH AWS D11 - LATEST EDITION. ALL WELDS SHALL BE MADE WITH E70XX ELECTRODES.
- STEEL BEAMS AND COLUMNS SHALL BE CUT FROM FULL LENGTH STOCK. UNAUTHORIZED SPLICES WILL BE CAUSE FOR REJECTION.
- STRUCTURAL STEEL SHALL BE PAINTED WITH A SHOP APPLIED COAT OF THE FABRICATOR'S RUST INHIBITIVE PRIMER.
- PROVIDE 1/2" THRU BOLTS STAGGERED @ 24" O.C. FOR ATTACHMENT OF 2x NAILER AT TOP & BOTTOM OF WF BEAM (COORDINATE w/ PLANS)

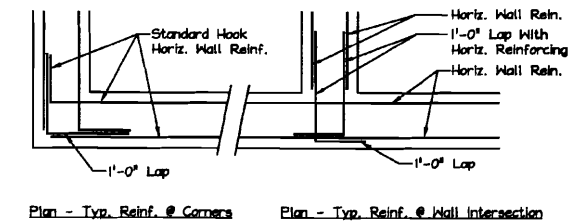
**WOOD FRAMING NOTES:**

- STRUCTURAL LUMBER: SPRUCE PINE FIR NO.1/NO.2 OR BETTER  
F<sub>b</sub> = 875 PSI F<sub>v</sub> = 70 PSI  
F<sub>c</sub> = 1150 PSI E = 1400000 PSI
- DESIGN CODE: IBC 2003 / NATIONAL DESIGN SPECIFICATIONS FOR WOOD CONSTRUCTION BY THE NATIONAL FOREST PRODUCTS ASSOCIATION.
- NAILING REQUIREMENTS FOR PLYWOOD SHEATHING: PROVIDE 6d NAILS AS FOLLOWS UNLESS SHOWN OTHERWISE:  
6d NAILING @ 6" o.c. ALONG PANEL EDGES  
6d NAILS @ 8" o.c. ALONG INTERMEDIATE MEMBERS  
PROVIDE BLOCKING AT ALL PANEL EDGES
- SPIKE TOGETHER ALL FRAMING MEMBERS WHICH ARE BUILT-UP USING MULTIPLE 2x LUMBER.
- PROVIDE GALVANIZED METAL TIES EQUAL TO SIMPSON H2.5 HURRICANE TIES BETWEEN ROOF RAFTERS OR TRUSSES AND SUPPORTING WALL MEMBERS, UNLESS SHOWN OTHERWISE. PROVIDE GALVANIZED METAL CONNECTORS EQUAL TO SIMPSON TC26 TRUSS CONNECTOR BETWEEN ALL ROOF SCISSOR TRUSSES AND SUPPORTING WALL MEMBERS, UNLESS SHOWN OTHERWISE.
- PROVIDE PRESSURE TREATED LUMBER FOR ALL LUMBER IN CONTACT WITH MASONRY OR CONCRETE.
- ROOF SHEATHING: 5/8" APA RATED SHEATHING, EXTERIOR OR STRUCTURAL I OR II RATED SHEATHING, SPAN RATING 32/16 (TRUSSES), 24/12 (JOISTS). INSTALL SHEETS WITH FACE GRAIN DIRECTION PERPENDICULAR TO SUPPORTING MEMBERS.
- PROVIDE 1/2" THRU BOLTS STAGGERED @ 24" O.C. FOR ATTACHMENT OF 2x NAILER AT TOP OR BOTTOM OF WF BEAM (COORDINATE w/ PLANS)
- WALL CONSTRUCTION - FIRST FLOOR:  
STUD HEIGHT UP TO 10'-6" FRAMING AS SHOWN ON PLANS  
(1) 2x SILL PLATE  
(2) 2x TOP PLATES  
3/4" CDX SHEATHING
- ROOF CONSTRUCTION:  
FRAMING AS SHOWN ON PLANS  
5/8" APA RATED PLYWOOD SHEATHING (REFER TO NOTE #7)  
PROVIDE 6d NAILS @ 12" o.c. ALONG FRAMING MEMBERS.
- ALL NAILS, SPIKES, BOLTS ETC. FASTENING MEMBERS TO PRESSURE TREATED LUMBER SHALL BE EITHER STAINLESS STEEL OR HEAVY GALVANIZED.

NOTE: Attach All Non-Pressure Treated To Pressure Treated Lumber WITH "HEAVY GALVANIZED FASTENERS ONLY", Typical.



**DETAIL (HD1) - SIMPSON HD10A HOLD DOWN ANCHOR**  
SCALE: 3/4" = 1'-0"



**DETAIL - TYPICAL WALL REINFORCING**  
SCALE: NOT TO SCALE

DATE	DESCRIPTION

ADDITION TO FORM SYSTEMS  
 PORTLAND

**MacLeod Structural Engineers, P.A.**  
 404 Main Street  
 Gorham, Maine 04038  
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 Fax: (207) 839-0982  
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STATE OF MAINE  
 BRUCE W. MACLEOD  
 No. 8422  
 LICENSED PROFESSIONAL ENGINEER  
 ME License 08422 MA License 83330  
 NY License 10881 VT License 08214  
 RI License 23851 NH License 07910  
 NJ License 81328 NJ License 2642003

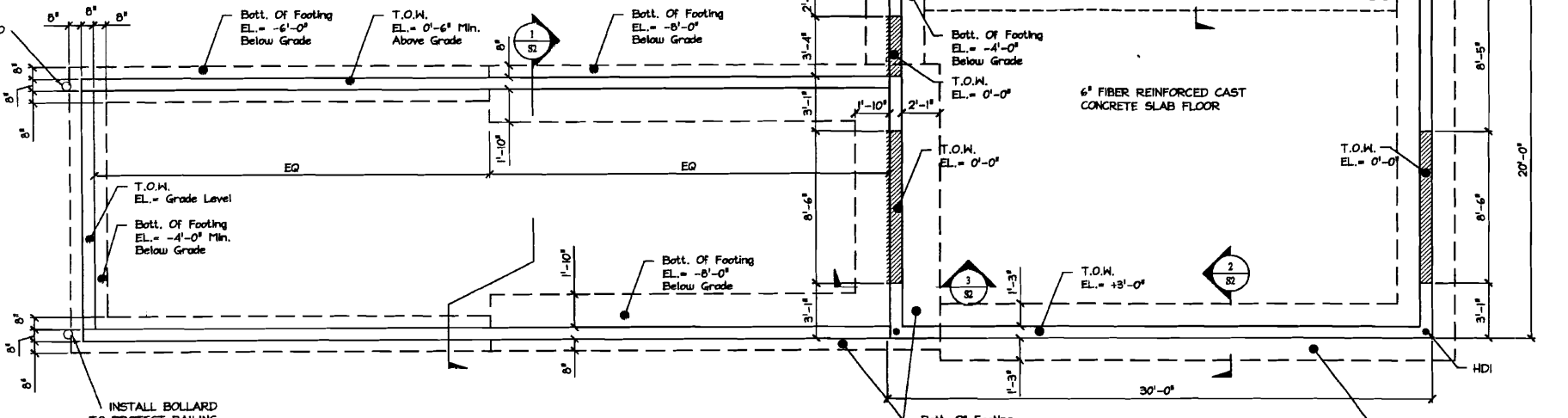
THIS DRAWING IS ISSUED  
 as Submitted Form Project  
 Date: 10/05/08

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 Bears The Engineer's Seal & Signature  
 Otherwise It Shall Be Considered A  
 "Progress Print" - Not For Construction

DRAWN BY: ANGTDM  
 CHECK BY: BWM  
 DATE: 9/19/08  
 SCALE: As Noted  
 PROJ. NO: 2008-279

SHEET TITLE:

INSTALL BOLLARD TO PROTECT RAILING

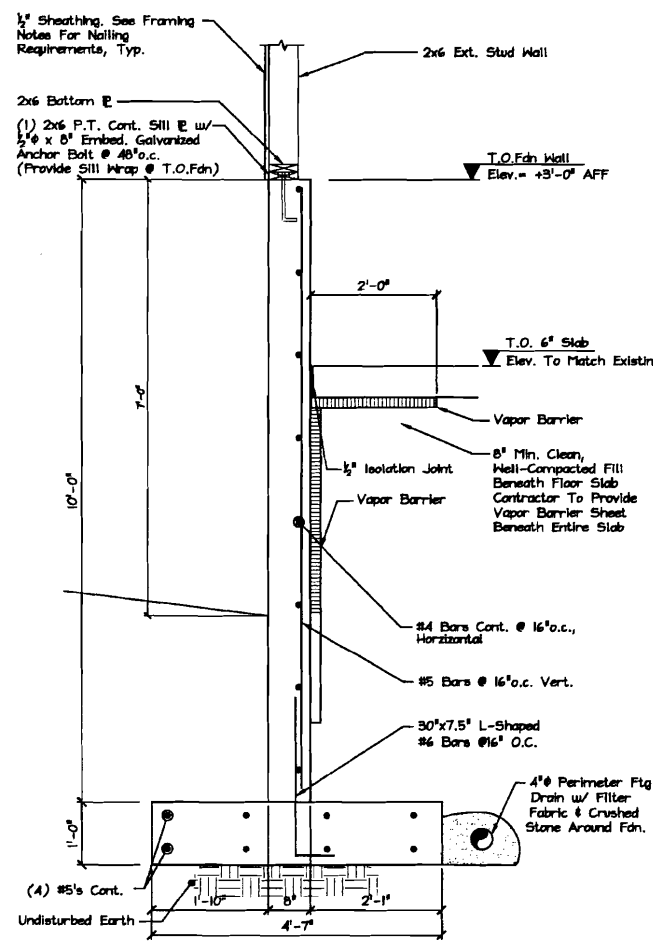


**FOUNDATION PLAN**  
SCALE: 1/4" = 1'-0"

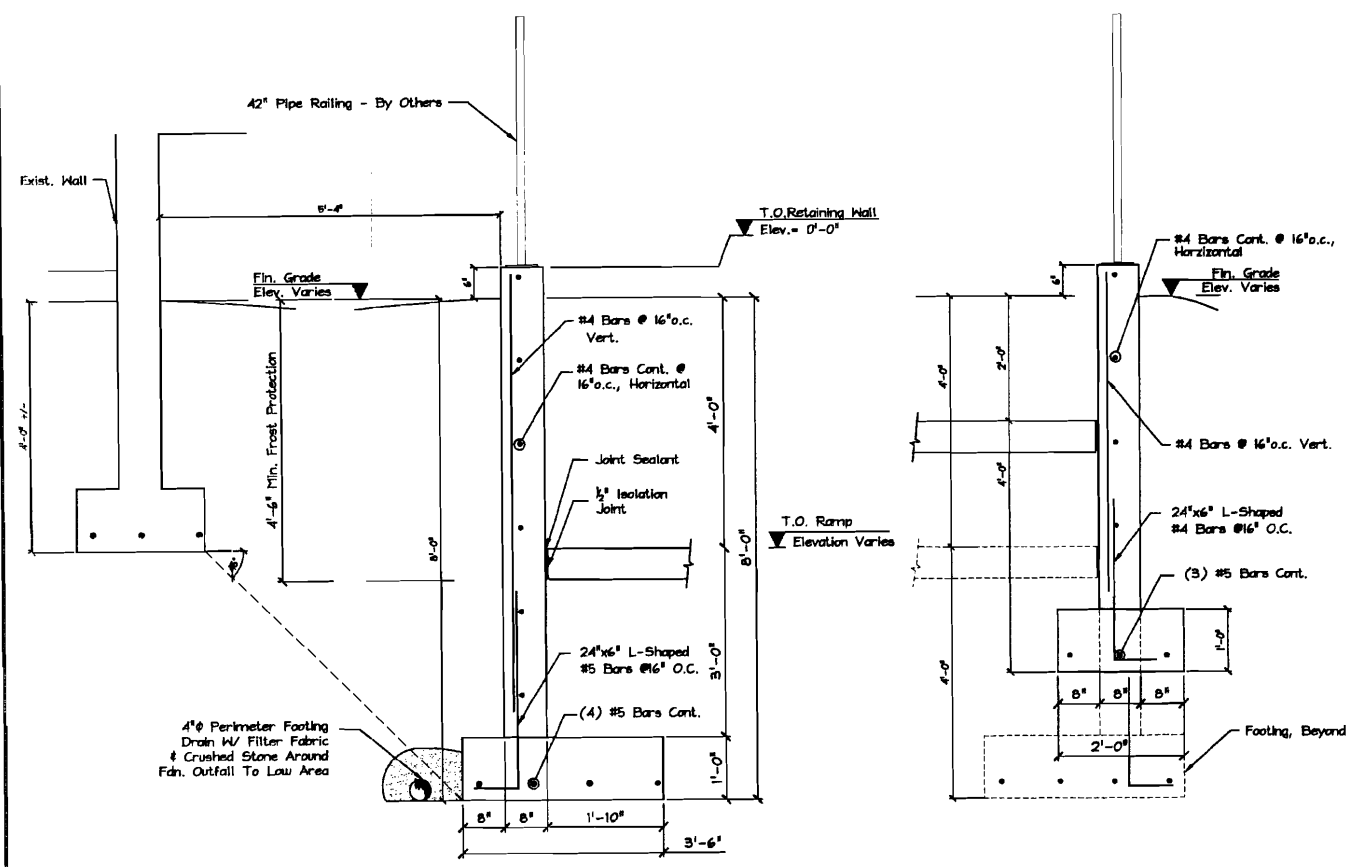
**FOUNDATION NOTES:**

Foundation Elements:	Verify With
Top of Slab... EL. = 0'-0", U.N.O.	Shop Draw
Top of Fdn. Mat... EL. = 3'-0", U.N.O.	Shop Draw
--- Indicates Location of Special Condition At Fdn Wall At All Exterior Openings. See Typical Details On Sheet 2.	
* HDI Indicates Location Of Straps HDIA Hold Down Anchor. See Dup. 88 For Detail.	
C.J. Indicates Location Of Control Joint.	

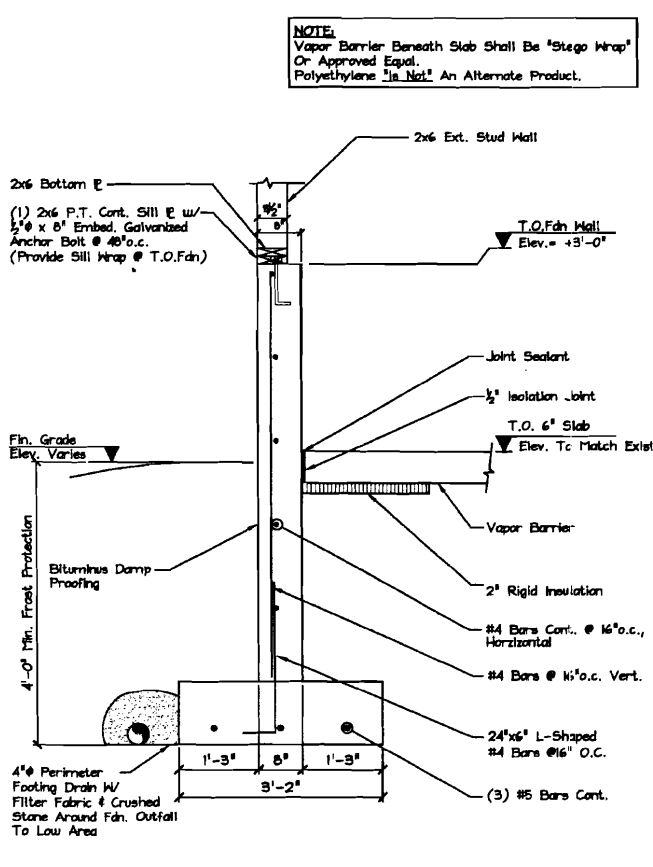
NOTE: Attach All Non-Pressure Treated To Pressure Treated Lumber With "HEAVY GALVANIZED FASTENERS ONLY", Typical. No Exceptions.



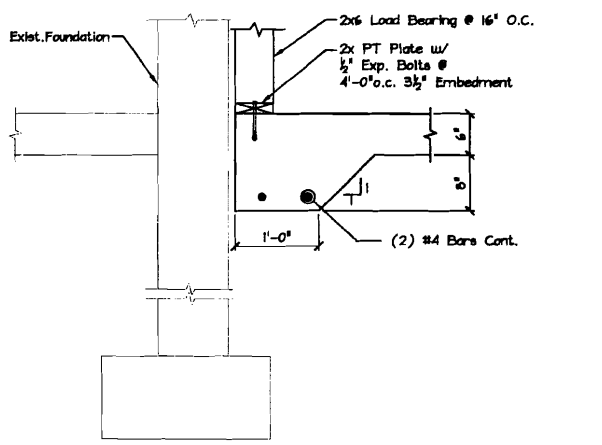
**SECTION 3**  
SCALE: 3/4" = 1'-0"



**SECTION 1**  
SCALE: 3/4" = 1'-0"



**SECTION 2**  
SCALE: 3/4" = 1'-0"



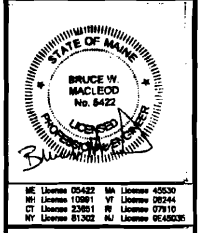
**SECTION 4**  
SCALE: NOT TO SCALE

CURRENT REVISION

DATE	DESCRIPTION

ADDITION TO FORM SYSTEMS

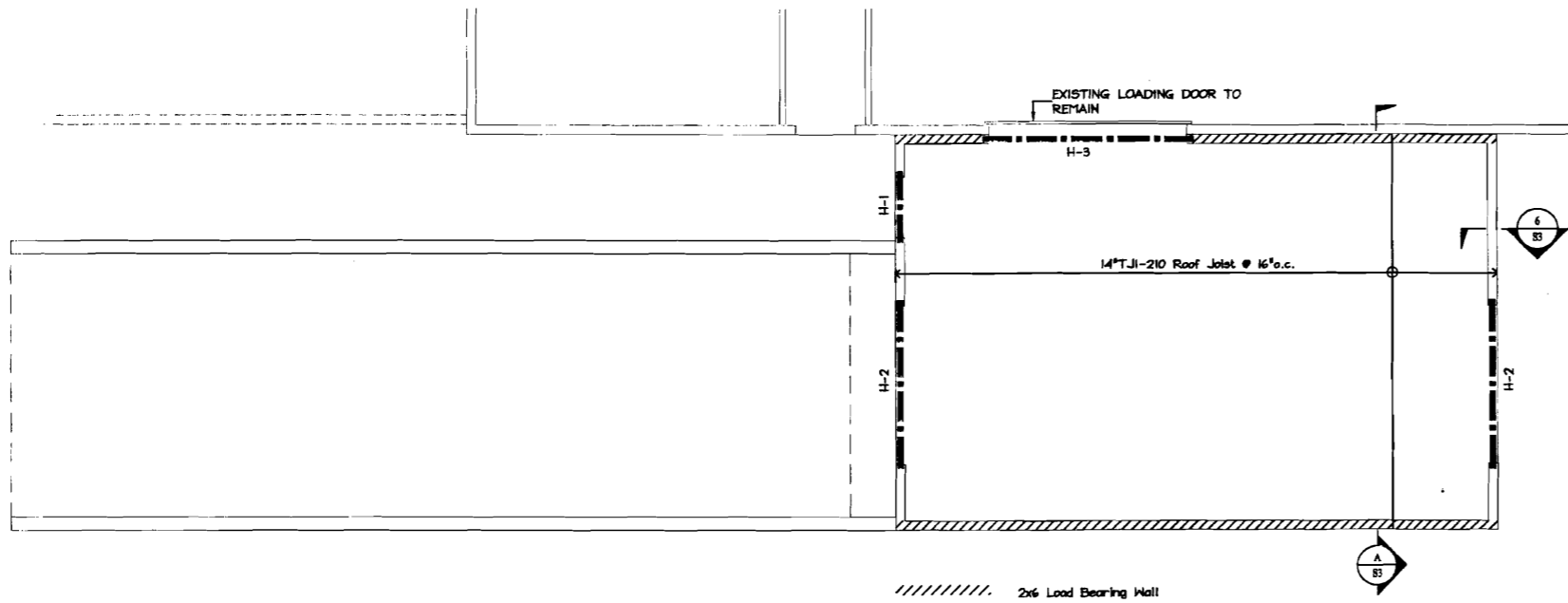
MacLeod Structural Engineers, P.A.  
404 Main Street  
Cortland, Maine 04038  
Phone: (207) 839-0980  
Fax: (207) 839-0982



THIS DRAWING IS ISSUED  
BY: SUBMITTED FOR POWER  
DATE: 10/08/08

DRN BY: ANGLAND  
CHKD BY: BWM  
DATE: 9/19/08  
SCALE: As Noted  
PROJ. NO: 8008-279

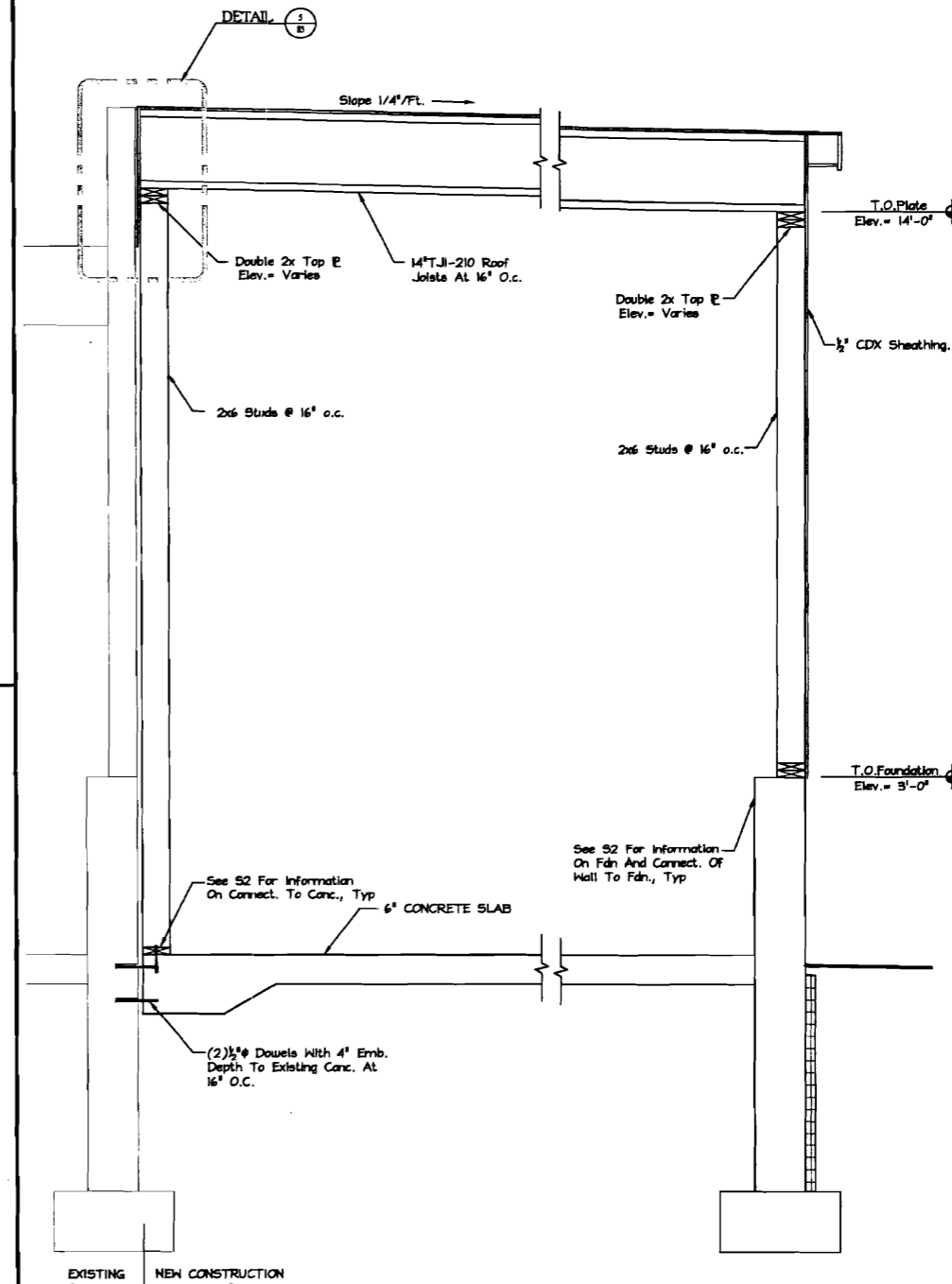
SHEET TITLE:  
FOUNDATION PLAN & DETAILS



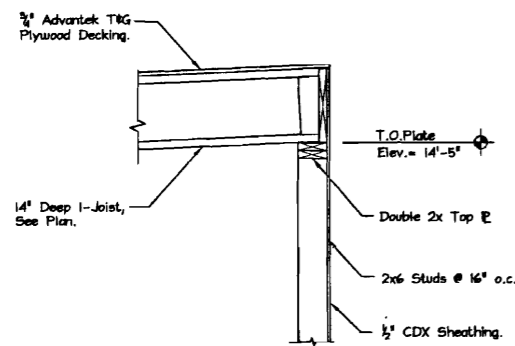
**ROOF FRAMING PLAN**  
Scale: 1/4" = 1'-0"

HEADER SCHEDULE			
MARK	DESCRIPTION	JACK STUDS (NUMBER)	KING STUDS (NUMBER)
H-1	(3) 2x6's	(1) Studs	(1) Studs
H-2	(3) 2x10's	(1) Studs	(2) Studs
H-3	(3) 2x12's	(2) Studs	(1) Studs

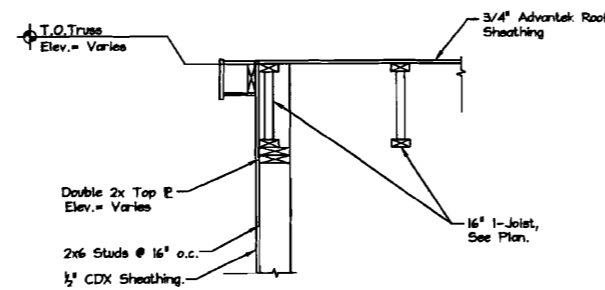
CURRENT REVISION	
DATE	DESCRIPTION



**DETAIL A GROSS SECTION**  
Scale: 3/4" = 1'-0"



**SECTION 5**  
Scale: 3/4" = 1'-0"



**SECTION 6**  
Scale: 3/4" = 1'-0"

**ADDITION TO FORM SYSTEMS**

PORTLAND MAINE

MacLeod Structural Engineers, P.A.  
404 Main Street  
Corkin, Maine 04938  
Phone: (207) 839-0980  
Fax: (207) 839-0982

**M**

STATE OF MAINE  
BRUCE W. MACLEOD  
No. 8427  
LICENSED PROFESSIONAL ENGINEER

ME License 02452 MA License 62536  
VT License 10981 NH License 52244  
CT License 53951 RI License 07910  
NY License 61362 NJ License 2645230

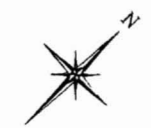
**THIS DRAWING IS ISSUED**  
88 Submitted For Paper  
Date: 10/08/08

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DRN BY: ANG/dwh  
CHKD BY: BWM  
DATE: 8/19/08  
SCALE: As Noted  
PROJ. NO: 2008-279

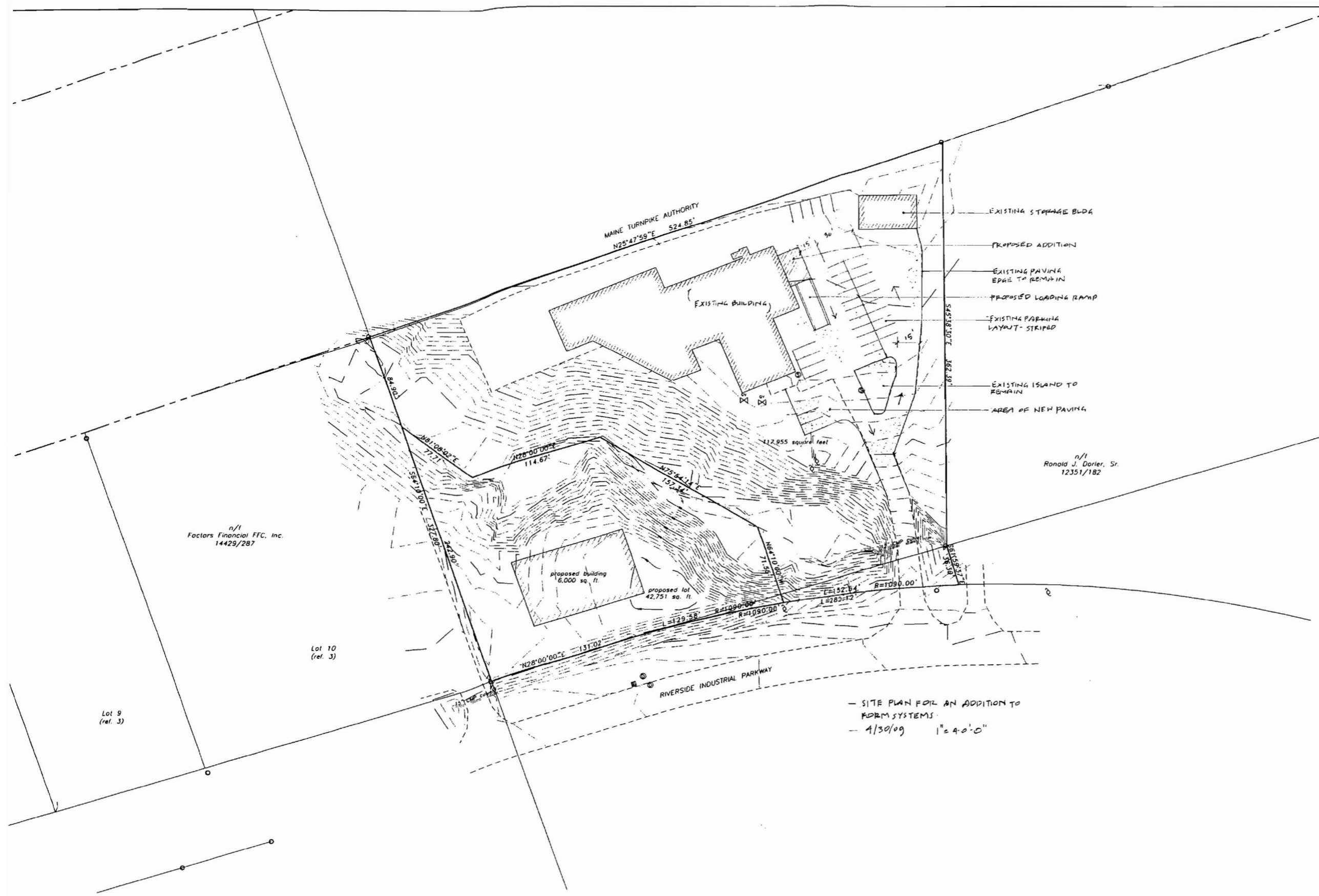
**SHEET TITLE:**  
ROOF FRAMING PLAN & DETAILS

S3 OF 3



**LEGEND**

□	Monument - found
○	iron marker - found
●	iron marker - set (#5 rebar)
⊙	Utility pole
—	Property line
---	Lot line
- - -	Edge of pavement
- · - · -	Ditch line
~ ~ ~	Contours (1ft)
~ ~ ~	Contours (5ft)
▨	Existing building
⊕	Gas valve
⊙	Sewer manhole
⊕	Drain manhole
⊕	Catch basin



n/i  
Factors Financial FFC, Inc.  
14429/287

n/i  
Ronald J. Dorler, Sr.  
12351/182

proposed building  
6,000 sq. ft.

proposed lot  
42,751 sq. ft.

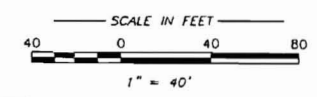
12,955 square feet

- SITE PLAN FOR AN ADDITION TO  
FORM SYSTEMS  
- 4/30/09 1" = 40'-0"

**PRELIMINARY PLANS**

**OWNERS OF RECORD**  
The LeFevres, LLC  
Book 15740, Page 305

**AREA**  
160,706 square feet / 3.69 acres



PLAN OF  
**BOUNDARY SURVEY AND LOT DIVISION**  
Riverside Industrial Parkway, Portland, Maine  
MADE FOR  
**The LeFevres, LLC**  
200 Riverside Industrial Parkway, Portland, Maine



