

**STRUCTURAL DESIGN CRITERIA:**

- Building Code: This Building is Designed to Comply with the 2009 Edition of the International Building Code IBC 2009. The 2005 Edition of ASCE-7, "Minimum Design Loads for Buildings and Other Structures."
  - Design Loads:
    - Design Wind: Location: Portland, Maine  
Wind Load (Per IBC Section 1609):  
Basic Wind Speed  $V = 100$  MPH  
Wind Exposure Factor = B  
Importance Factor  $I = 1.0$
    - Components and Cladding  
A. Net Design Wind Pressure For a Wall Element:  
1. at non-sail areas -  $P_{net} = \pm 25$  psf  
2. at sail areas -  $P_{net} = \pm 29$  psf
    - Design Roof Snow:  
Live Load: 80 PSF Plus Snow Drift Loading Where Applicable  
(Per Section 1609)  
Snow Exposure Factor  $C_e = 1.0$   
Snow Thermal Factor  $C_t = 1.1$   
Importance Factor = 1.0
    - Dead Load: - 12 PSF
    - Design Seismic:  
Occupancy Category = II  
Soil Site Class 'D'  
 $I(E) = 1.0$   
 $S(DS) = .328$   
 $S(DI) = .115$   
Seismic Design Category = B  
Basic Seismic Force Resisting System =  
Light Framed Wall Systems Using Shear Panels.
    - Floor Loads  
Live:  
1st Floor Area - 40 PSF  
2nd Floor Area - 30 PSF
    - Dead:  
Floor - 12 PSF
- 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 2009.
- THE CONTRACTOR SHALL BE RESPONSIBLE FOR ADEQUATE DESIGN AND CONSTRUCTION OF ALL FORMS, SHORING AND TEMPORARY BRACING DURING THE PROGRESS OF THE PROJECT.
  - ALL STRUCTURAL STEEL WORK SHALL CONFORM TO THE RECOMMENDATIONS AND REQUIREMENTS CONTAINED IN THE "MANUAL OF STEEL CONSTRUCTION", AISC THIRTEENTH EDITION (INCLUDING AISC CODE OF STANDARD PRACTICE FOR STEEL BUILDINGS AND BRIDGES), AND "STRUCTURAL STEEL WELDING CODE - STEEL", (AWS D1.1, LATEST EDITION).
  - STRUCTURAL STEEL ROLLED SHAPES, PLATES AND BARS SHALL CONFORM TO THE FOLLOWING:
    - ASTM A992, GRADE 50: ALL WIDE FLANGE SECTIONS,  $F_y=50$
    - ASTM A36: OTHER ROLLED SHAPES, PLATES AND BARS,  $F_y=36$
    - ASTM A36: THREADED AND OTHER STEEL RODS

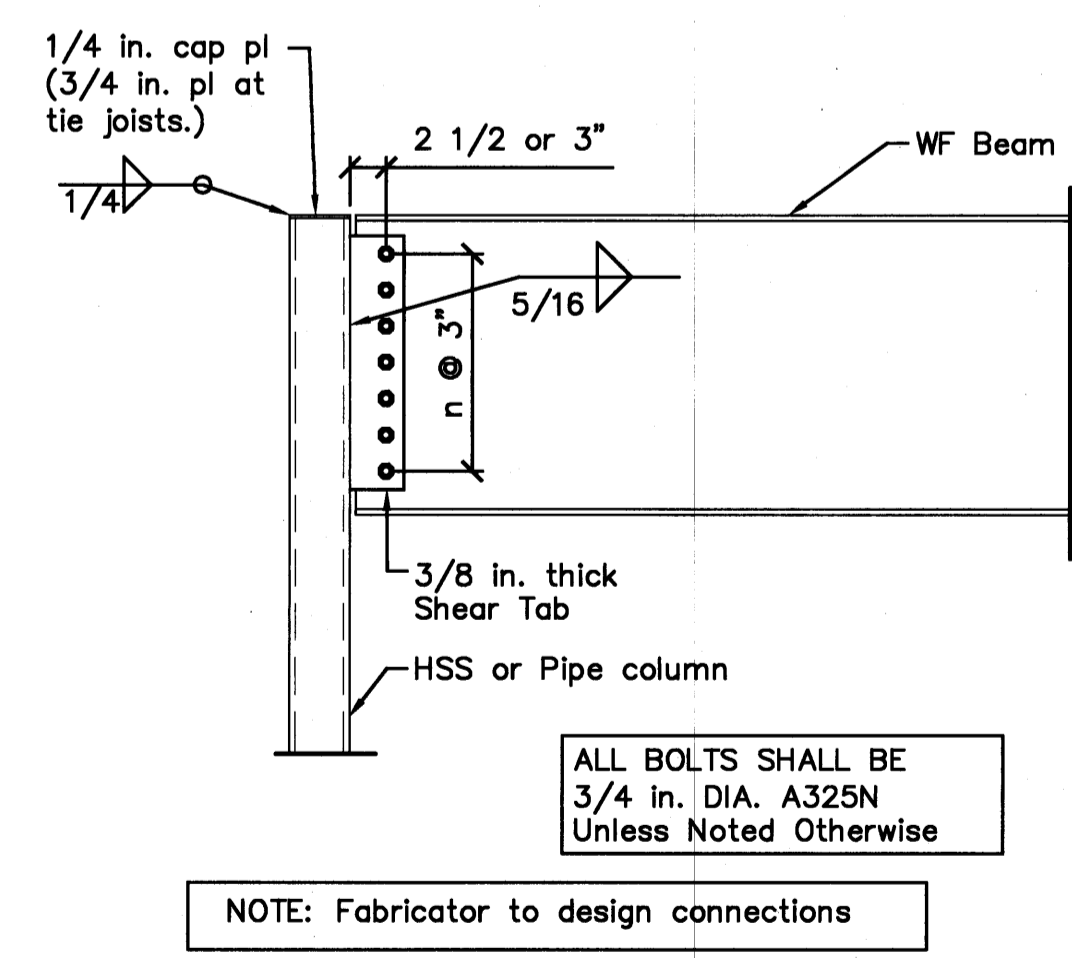
- SUITABLE MATERIAL FOR BACK FILLING AGAINST THE FOUNDATION WALLS AND BENEATH THE STRUCTURAL SLAB INCLUDE: SELECT FILL, STRUCTURAL FILL AND GRANULAR BACKFILL: THESE MATERIALS SHALL BE SANDY GRAVEL TO GRAVELY SAND, FREE OF ORGANIC MATERIAL, LOAM, TRASH, OR FROZEN SOIL AND CONFORM TO THE FOLLOWING GRADATION:
 

SEIVE SIZE	PERCENT FINER BY WEIGHT
6"	100
No. 4	30-90
No. 40	10-50
No. 200	0-8
- STRUCTURAL DRAWINGS SHALL BE USED IN CONJUNCTION WITH THE PROJECT SPECIFICATIONS AND THE ARCHITECTURAL AND SITE SHOP DRAWINGS.
- ALL DIMENSIONS, ELEVATIONS, AND CONDITIONS MUST BE VERIFIED IN THE FIELD BY THE GENERAL CONTRACTOR. ANY DISCREPANCY SHALL BE BROUGHT TO THE ATTENTION OF THE ENGINEER OF RECORD BEFORE PROCEEDING WITH THE AFFECTED PART OF THE WORK. THE CONTRACTOR SHALL DETERMINE ALL NECESSARY DIMENSIONS, ELEVATIONS AND CONDITIONS REQUIRED FOR THE FABRICATION AND ERECTION OF THE BUILDING COMPONENTS PRIOR TO SUBMISSION OF SHOP DRAWINGS.
- SECTIONS AND DETAILS SHOWN ON THE STRUCTURAL DRAWINGS SHALL BE CONSIDERED TYPICAL AND USED FOR SIMILAR CONDITIONS.
- THE GENERAL CONTRACTOR AND ALL SUBCONTRACTORS SHALL FOLLOW ALL APPLICABLE FEDERAL, STATE AND MUNICIPAL REGULATIONS INCLUDING THE FEDERAL DEPARTMENT OF LABOR OCCUPATIONAL SAFETY AND HEALTH ACT.
- PROVIDE CONTROL JOINTS IN STRUCTURAL SLAB AT 12'-0" ON CENTER MAX.
- PROPORTION DESIGN MIXES TO PROVIDE CONCRETE FOR INTERIOR SLABS-ON-GRADE WITH THE FOLLOWING PROPERTIES:
  - STRENGTH: 4000psi @ 28 DAYS, 3/4" AGGREGATE
  - W/C RATIO: 0.48
  - SLUMP: 3" ± 1"
- PROPORTION DESIGN MIXES TO PROVIDE CONCRETE FOR EXTERIOR FROST WALLS, FOOTINGS AND ALL OTHER EXPOSED SITE CONCRETE WITH THE FOLLOWING PROPERTIES:
  - STRENGTH: 3500psi @ 28 DAYS, 3/4" AGGREGATE
  - W/C RATIO: 0.52
  - ENTRAINED AIR: 6% ± 1%
  - SLUMP: 3" ± 1"
- PORTLAND CEMENT: ASTM C150, TYPE I OR TYPE II.

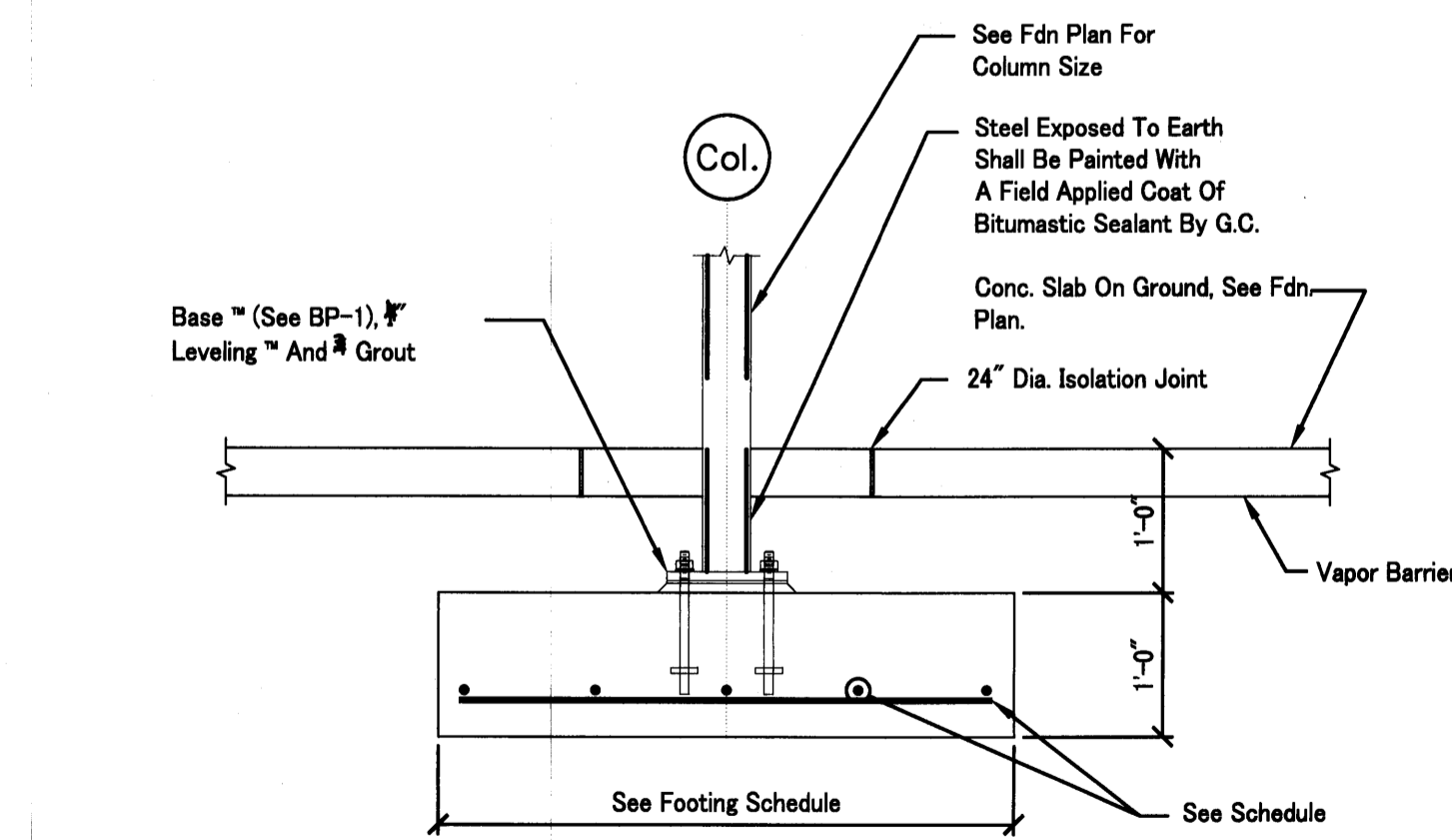
VAPOR RETARDER SHALL BE PREMOLDED SEVEN-PLY MEMBRANE OF REINFORCED CORE AND CARRIER SHEET WITH FORTIFIED BITUMEN LAYERS; PROTECTIVE WEATHER COATING, AND PLASTIC ANTI STICK SHEET. WATER VAPOR TRANSMISSION RATE OF 1 PERM WHEN TESTED TO ASTM E 96, METHOD B. PROVIDE GRIFFOLYN® REINFORCED TYPE T-65 UNDER SLAB VAPOR RETARDER.

THIS BUILDING IS DESIGNED TO COMPLY WITH THE 2003 EDITION OF THE INTERNATIONAL BUILDING CODE, IBC 2003.

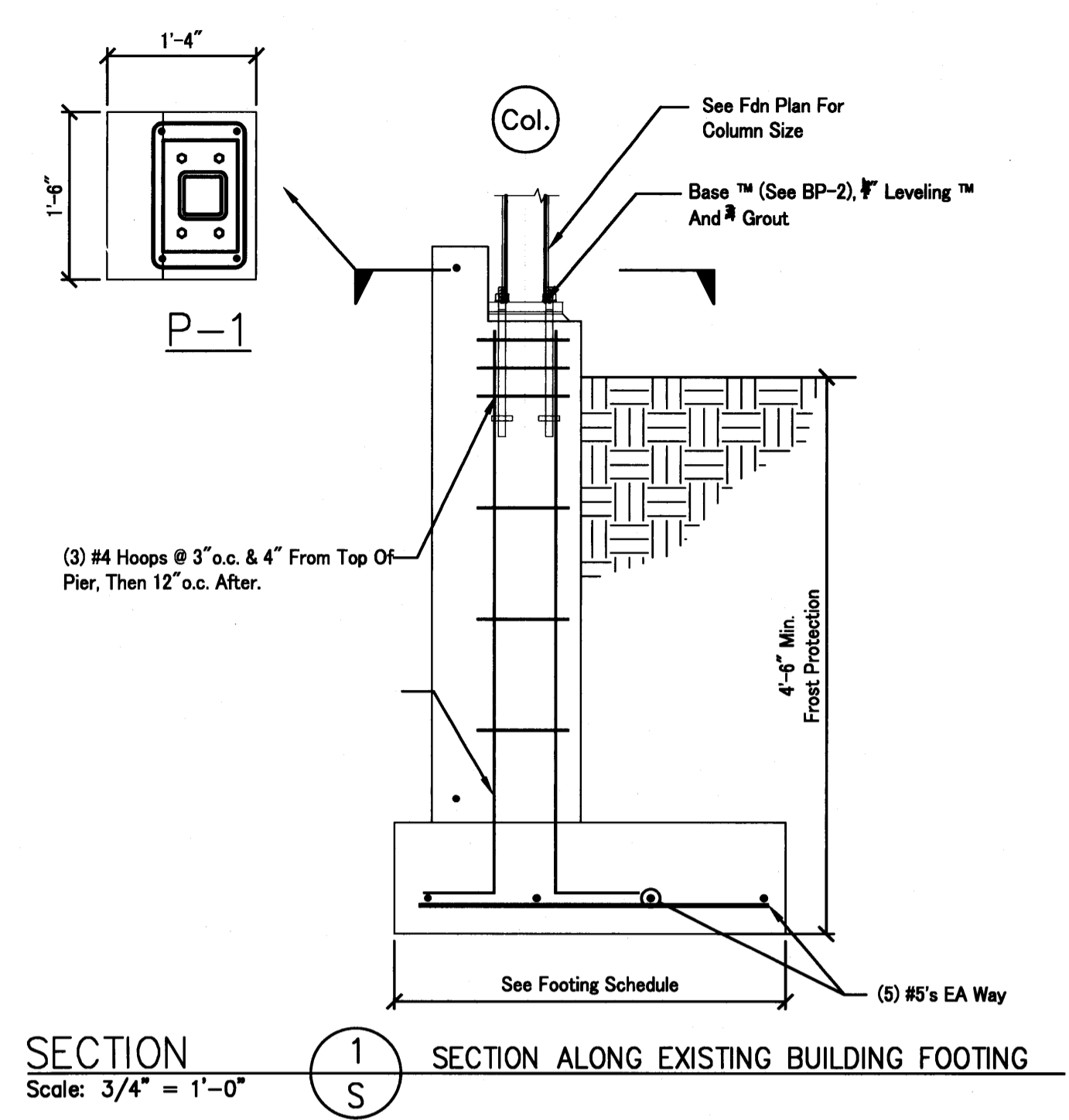
LOCATION	THICKNESS	SPAN RATING	EDGE NAILING	FIELD NAILING
-	-	-	-	-



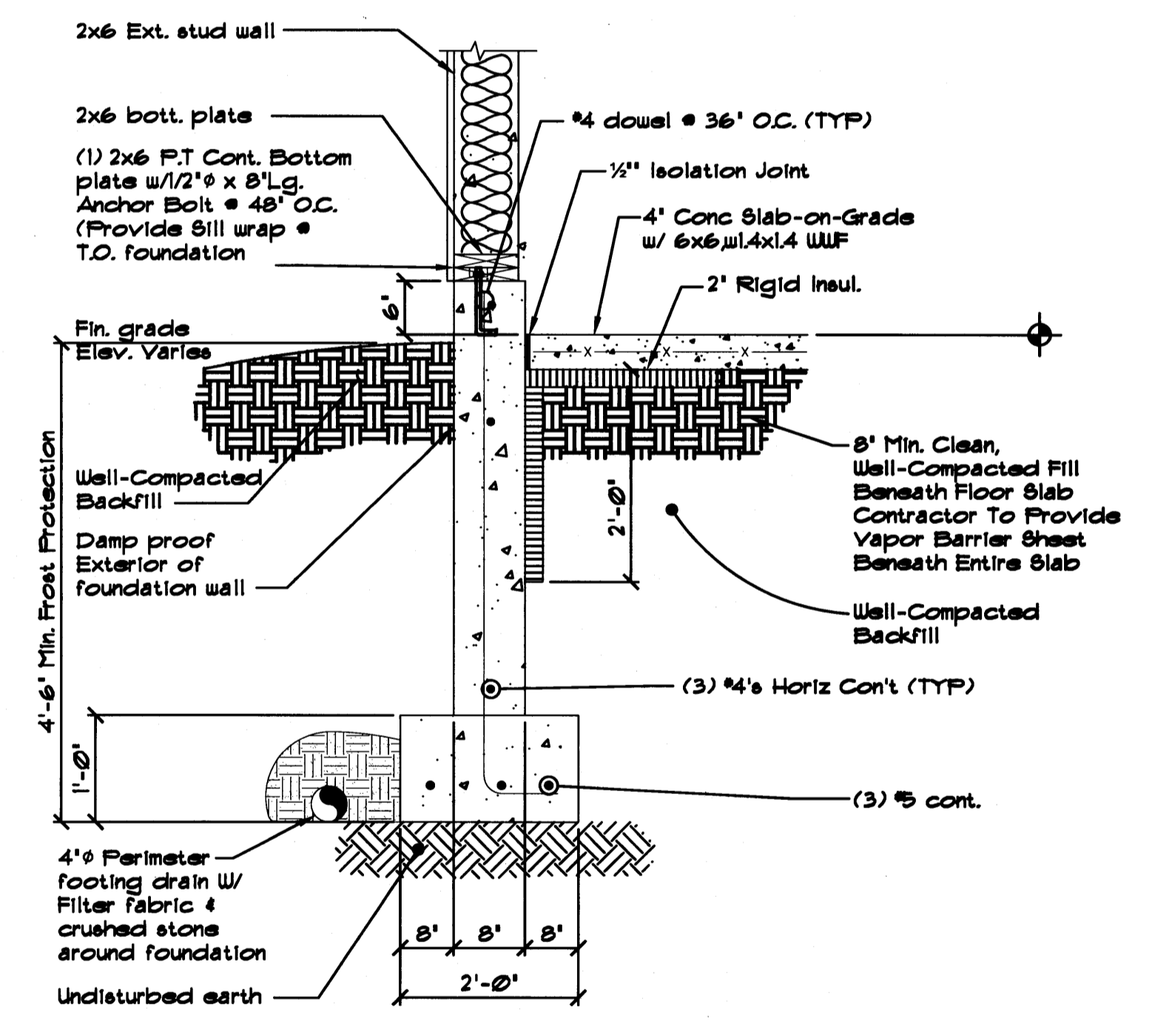
**TYPICAL SHEAR TAB CONN. DETAIL**  
Scale: 3/4" = 1'-0"



**SECTION @ INTERIOR FOOTING**  
Scale: 3/4" = 1'-0"



**SECTION 1 S SECTION ALONG EXISTING BUILDING FOOTING**  
Scale: 3/4" = 1'-0"



**NOTE:**  
THIS DRAWING IS PROVIDED FOR INFORMATIONAL PURPOSES ONLY. IF USED FOR CONSTRUCTION, THE CONTRACTOR ASSUMES ALL RESPONSIBILITY FOR LOCAL CODE COMPLIANCE. ALL DRAWINGS, PLANS, SKETCHES ETC. ARE PROVIDED TO OUR CLIENTS BASED UPON INFORMATION PROVIDED BY THE CLIENT AND DRAWN IN ACCORDANCE WITH COMMON BUILDING PRACTICES AND LOCAL CODES. NONE OF THE EMPLOYEES OF FPC CAD DRAFTING SERVICES, INC. ARE REGISTERED ARCHITECTS, ENGINEERS OR LAND SURVEYORS. ALL DIMENSIONS AND SPECIFICATIONS SHOULD BE VERIFIED BY CLIENT AND/OR CONTRACTOR BEFORE ACTUAL CONSTRUCTION BEGINS. IF DIMENSIONS AND SPECIFICATIONS ARE NOT VERIFIED BY CLIENT AND/OR CONTRACTOR BEFORE ACTUAL CONSTRUCTION BEGINS FPC CAD DRAFTING SERVICES, INC. WILL BE HELD HARMLESS. FPC CAD DRAFTING SERVICES, INC. ASSUMES NO LIABILITY FOR CHANGES AND/OR REVISIONS MADE TO PLANS BY CLIENT AND/OR CONTRACTOR.

