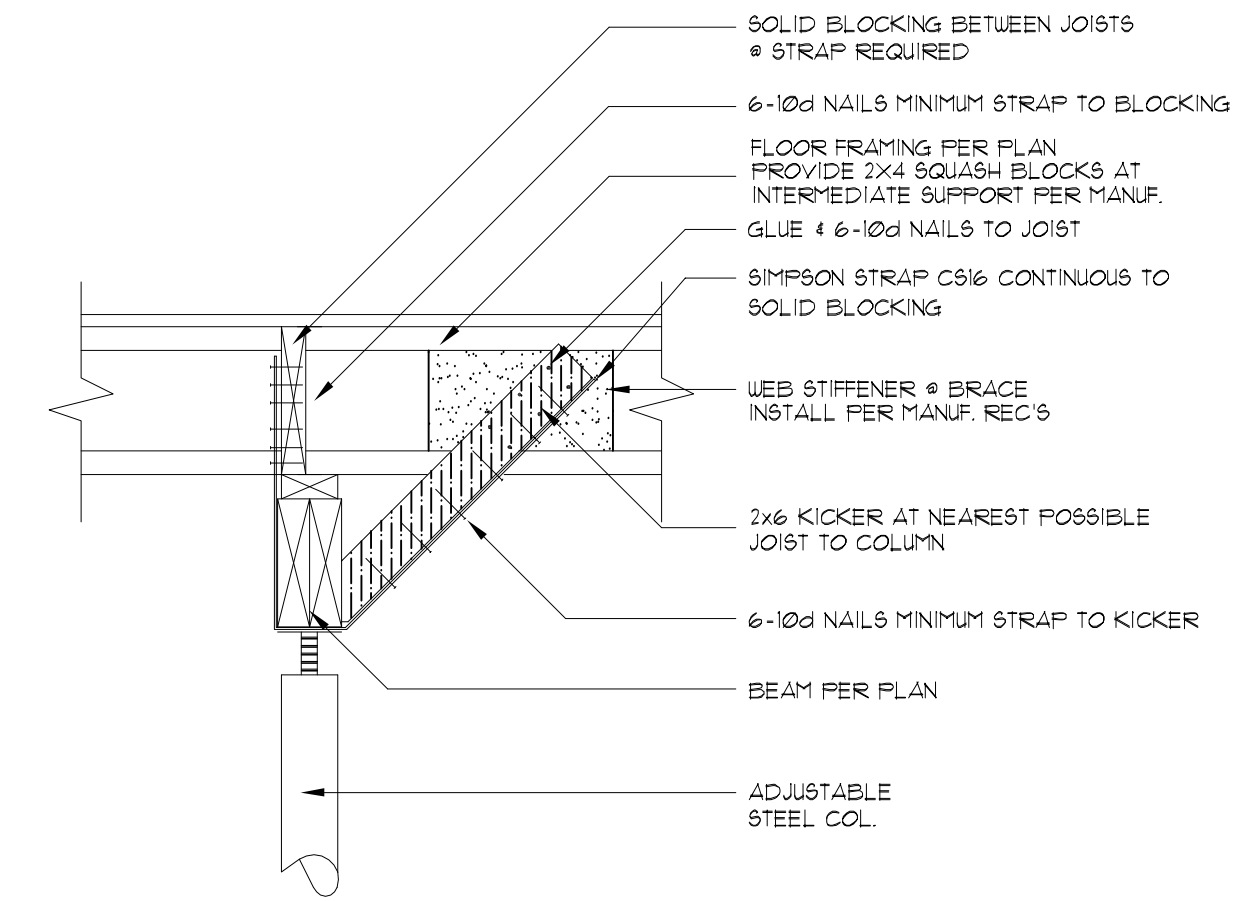


NO.	DATE	REVISION/ISSUE

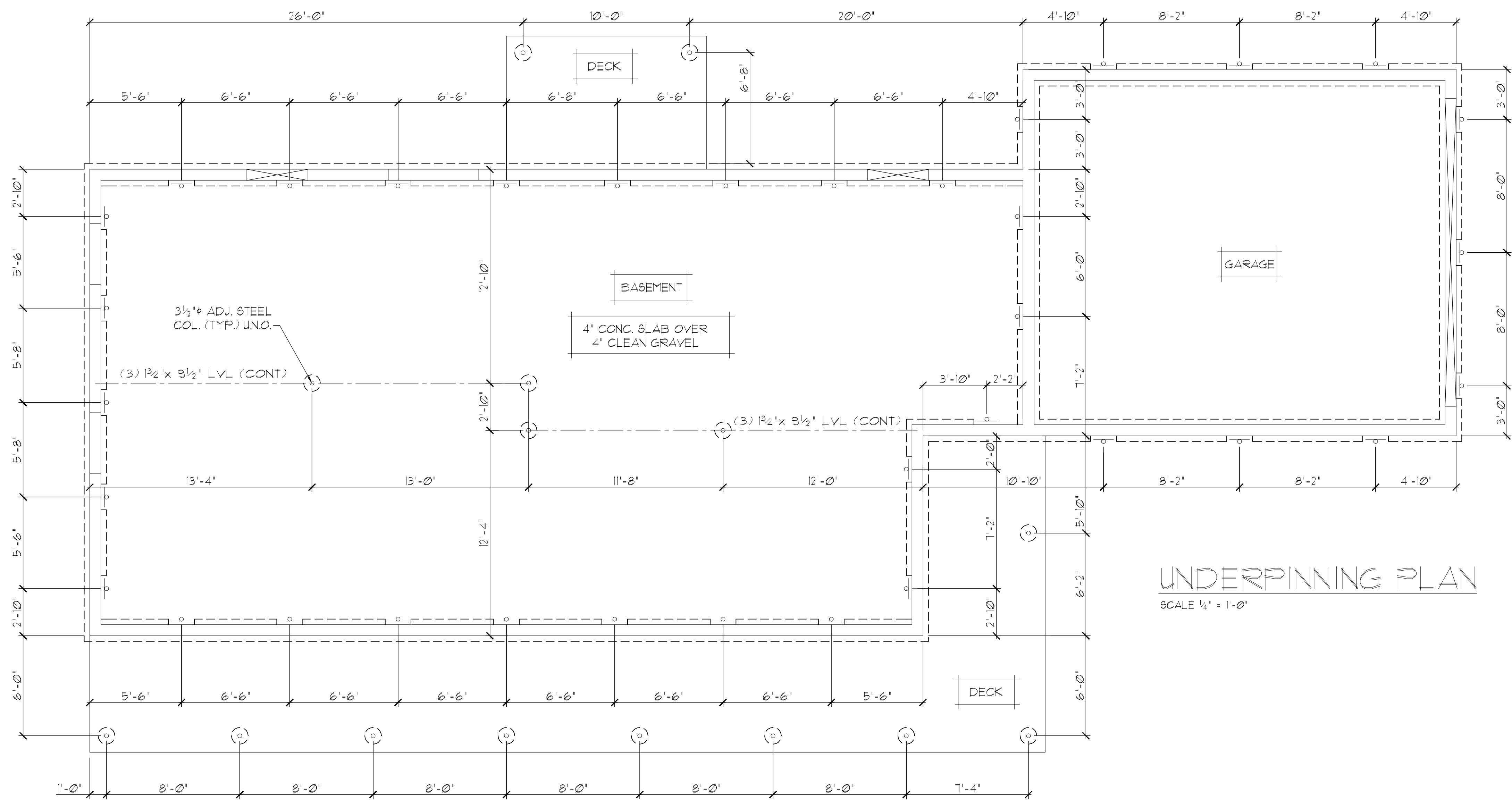
### Guide Construction Sequence:

- 1) Locate and clear underground utilities.
- 2) Remove basement slab to facilitate work.
- 3) Chip footing and install steel piling brackets.
- 4) Install and load test each push pier individually per Gen. Notes.
- 5) Using all piers simultaneously, lift and re-level house to the extent contractor deems possible without additional damage.
- 6) Lock-off push piers.
- 7) Install temporary bearing walls and remove existing beams.
- 8) Install steel columns and new drop beams per plan.
- 9) Remove temporary bearing walls.
- 10) Replace previously removed basement slab.
- 11) Install lateral beam braces near each column location (4 places).
- 12) Remove temporary bracing and clean-up site.
- 13) Replace dry and all disturbed finishes.
- 14) Patch cracks, paint, adjust windows and doors, and perform other cosmetic repairs as directed by homeowner and agreed upon.

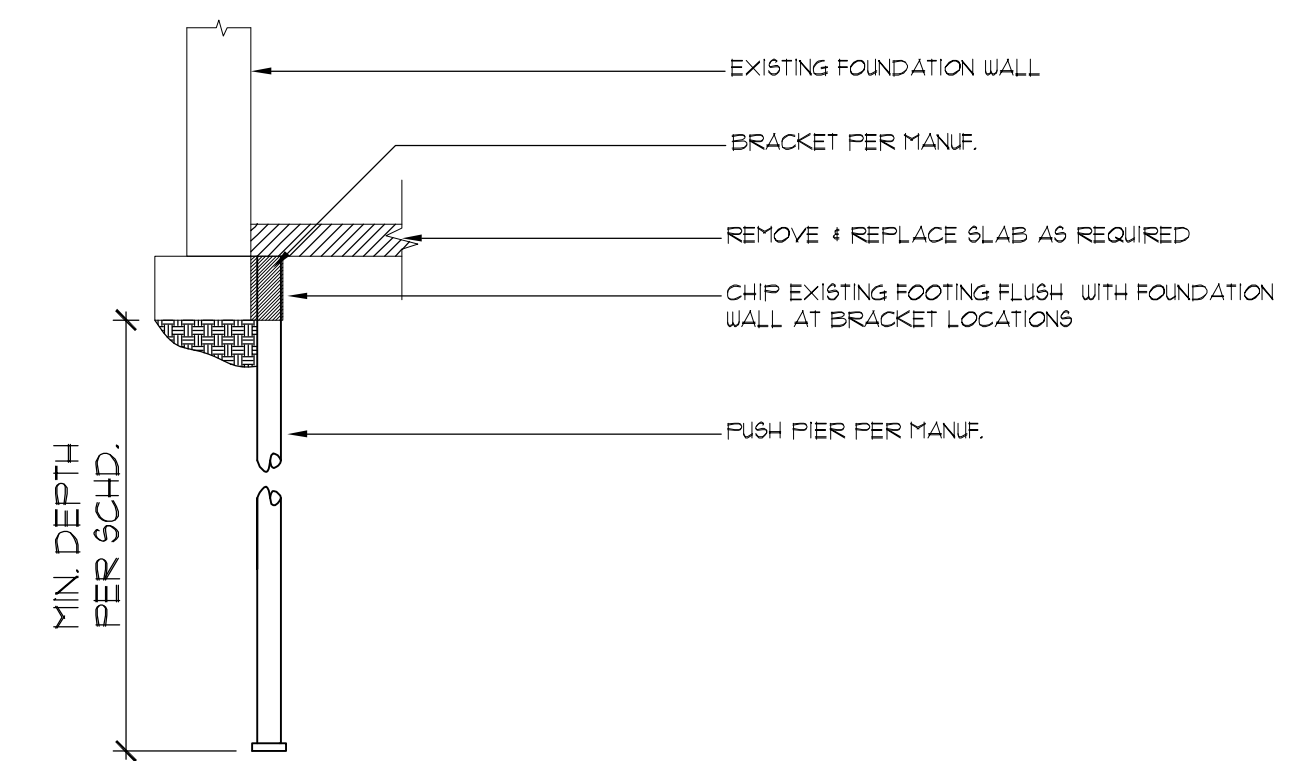


BRACE @ WF BEAMS & STEEL COLUMNS

STEEL PUSH PIER SCHEDULE					
SYMBOL	QUANTITY	DESIGN CAPACITY	MIN. LENGTH	BRACKET CONNECTION	NOTES
—○—	36	20 KIPS	30' (FT)	PER MANUFACTURER	LOAD TEST EACH PIER PER GENERAL NOTES
○	11	20 KIPS	30' (FT)	PER MANUFACTURER	LOAD TEST EACH PIER PER GENERAL NOTES



UNDERPINNING PLAN  
 SCALE 1/4" = 1'-0"



### General Notes:

- 1. Codes:**  
 This plan was prepared based on the 2003 I-Codes with local amendments and portions of the most recent versions of ACI 318, ACI 332R, AISC Allowable Stress Design ninth edition, and the NDS for wood construction.
- 2. Loads:**  
 This plan is based upon the following load parameters:  
 Roof: Live Load + 30 psf  
 Floor: Live Load + 40 psf  
 Seismic: Zone 1  
 Soil report by: Soils Engineering Firm, Date:  
 All push piers to be individually load tested per Gen. Note No. 5.  
 Footing sizes based on reduced bearing capacity given in original geotechnical report.
- 3. Materials:**  
 This plan is based upon the following material properties:  
**Concrete:** Concrete shall contain Type II cement, 8% +/- 1% air entrainment, and a minimum 28 day compressive strength of 3000 psi for structural concrete, and 3500 psi for interior or exterior slabs on grade.  
**Reinforcing:** Reinforcing shall be deformed grade 60 steel unless noted otherwise (UNO) on the plan and shall conform to ASTM A615. Minimum concrete cover shall be 2" (in) UNO on the plan. Overlaps shall be 40 bar diameters but not less than 24" (in). Detail reinforcing bars in accordance to the ACI detailing manual and ACI code, latest edition. All foundation wall reinforcement should be wired in place. Slab and footing reinforcement shall utilize chairs or other acceptable methods to achieve the required cross section location.  
**Steel:** Structural Steel beams shall conform to ASTM A992 (fy=50 ksi) 3" (in) adjustable steel columns shall be 1 1/2" (in) or better and rated for a safe allowable load of not less than 14 kips for columns up to 8'-0" in height, and 12.5 kips for columns up to 9'-0" in height. 3 1/2" (in) adjustable steel columns shall be schedule 40 and rated for a safe allowable load of not less than 36 kips for columns up to 10'-0" in height. All adjustable steel columns shall have 1-3" (in) of thread exposed.  
**Wood:** All dimensional lumber shall be Hem Fir #1 or better unless noted on the plan. All Laminated Veneer Lumber shall have an allowable flexural stress Fb = 2600 psi and Modulus of Elasticity of E = 1.8x10E6 psi or better. Glued Laminated Lumber shall have an allowable flexural stress Fb = 2400 psi and Modulus of Elasticity of E = 1.8x10E6 psi or better.  
**Fasteners and Connectors:** All fasteners and connectors in contact with pressure treated lumber shall be GIBS hot-dip galvanized, type 304 stainless steel or type 316 stainless steel.
- 4. Replacement Slabs-on-grade:**  
 Replacement slabs-on-grade should be isolated from grade beams, columns, piling, or other support structures by use of 1/2" (in) minimum isolation joint material.
- 5. Steel Push Piers:**  
 All manufactured pier and bracket components shall have a mechanical capacity at least 15 times the design capacity shown on the Plan. Install all piers individually. Perform a load test on each pier after installation. Load test shall consist of applying a load to the pier equal to 15 times the design capacity shown on the Plan and holding the load for a minimum of 30 minutes. Load test shall be deemed successful if pier movement over the duration of the test is less than 1/16th inch. Installation shall continue until a successful load test has been achieved. We recommend a representative of Magnum observe and document load testing. Contractor's means of installation/load testing shall include a method of field testing the capacity of the pier bracket and connection of the bracket to the structure to 15 times the design load, or Contractor shall provide homeowner with an engineered-stamped, site-specific, shop drawing of bracket and connection to the structure that clearly indicates a capacity at least 15 times the design capacity. Contractor shall provide a minimum 10-year warranty against further settlement at pier locations.
- 6. Limitations:**  
 This plan is only a foundation underpinning design. Since unknowns exist regarding the condition of the structure and subsurface properties, there is no guarantee that the structure won't continue to settle. This plan was prepared to the level of skill and care ordinarily practiced by other engineers in this area at this time. No warranty is expressed or implied. It is the contractor/owner's responsibility to verify and coordinate all dimensions prior to construction. Brick ledges, foundation steps, insets, beam pockets, and basement windows, etc. may or may not be shown. This foundation underpinning plan is based on the contractor/owner furnished plans and the above referenced specifications. Any discrepancies or changes should be brought to the attention of Magnum.