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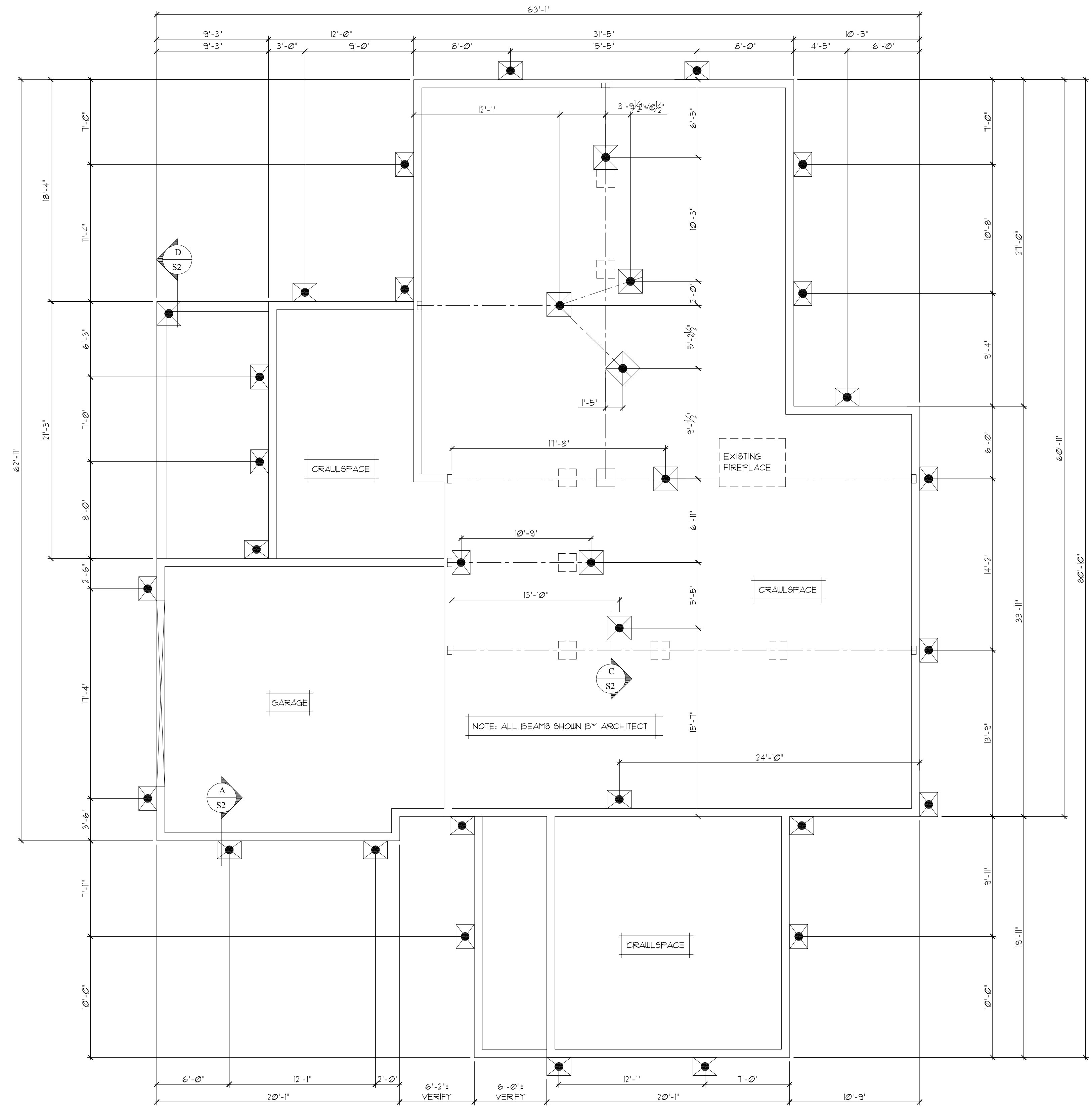
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HELICAL PILE LAYOUT & FOUNDATION PLAN

NO.	DATE	REVISION/ISSUE

DESIGNED BY: MMB DATE: 5/26/09  
 DRAWN BY: MMB SCALE: AS SHOWN  
 CHECKED BY: HAP  
 PROJECT NO: RRR07

SHEET: 51



**HELICAL PILE /  
 FOUNDATION PLAN**  
 NOT TO SCALE

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HELIX FOUNDATION SCHEDULE				
SYMBOL	DESIGN CAPACITY	MIN. DEPTH	* PIER CAP CONNECTION	NOTES
	20 KIPS	12' (FT)	Grade Beam Cap bolt w/ min. (2) 3/4" GR 8	MIN. Ø250 WALL HELIX SHAFT (STD. DUTY)

\* MIN. DISTANCE BETWEEN PIER CAP AND UPPERMOST HELICAL BEARING FLATE

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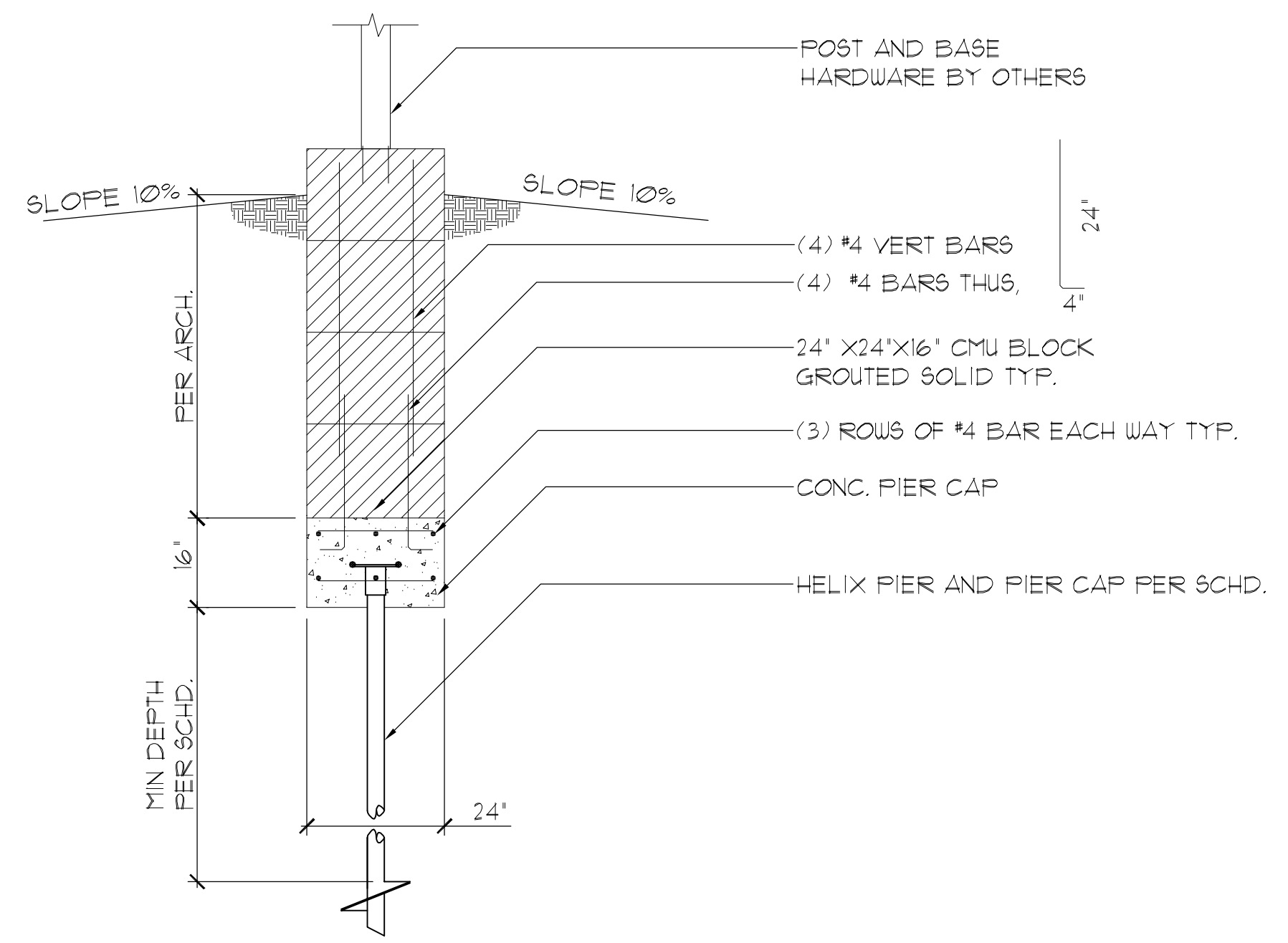
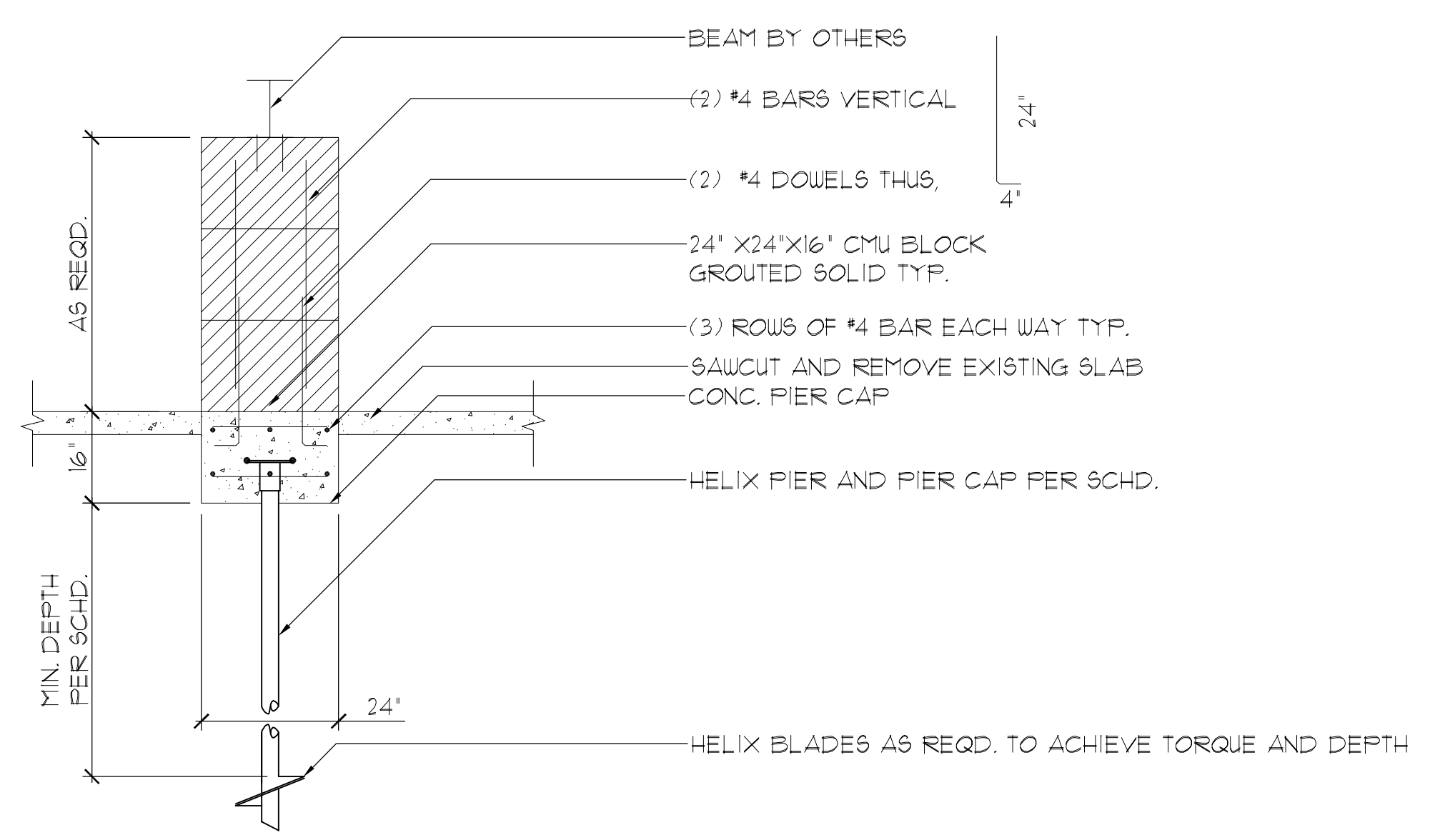
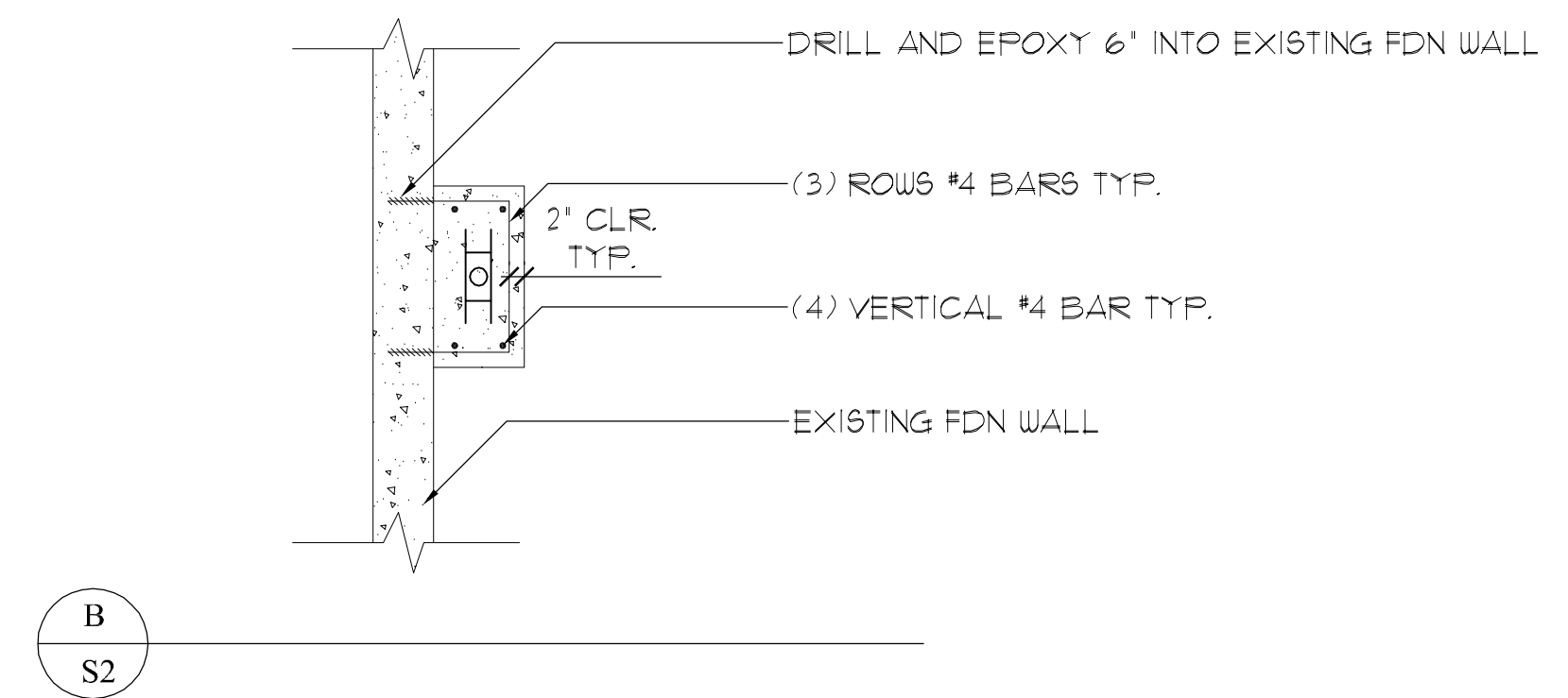
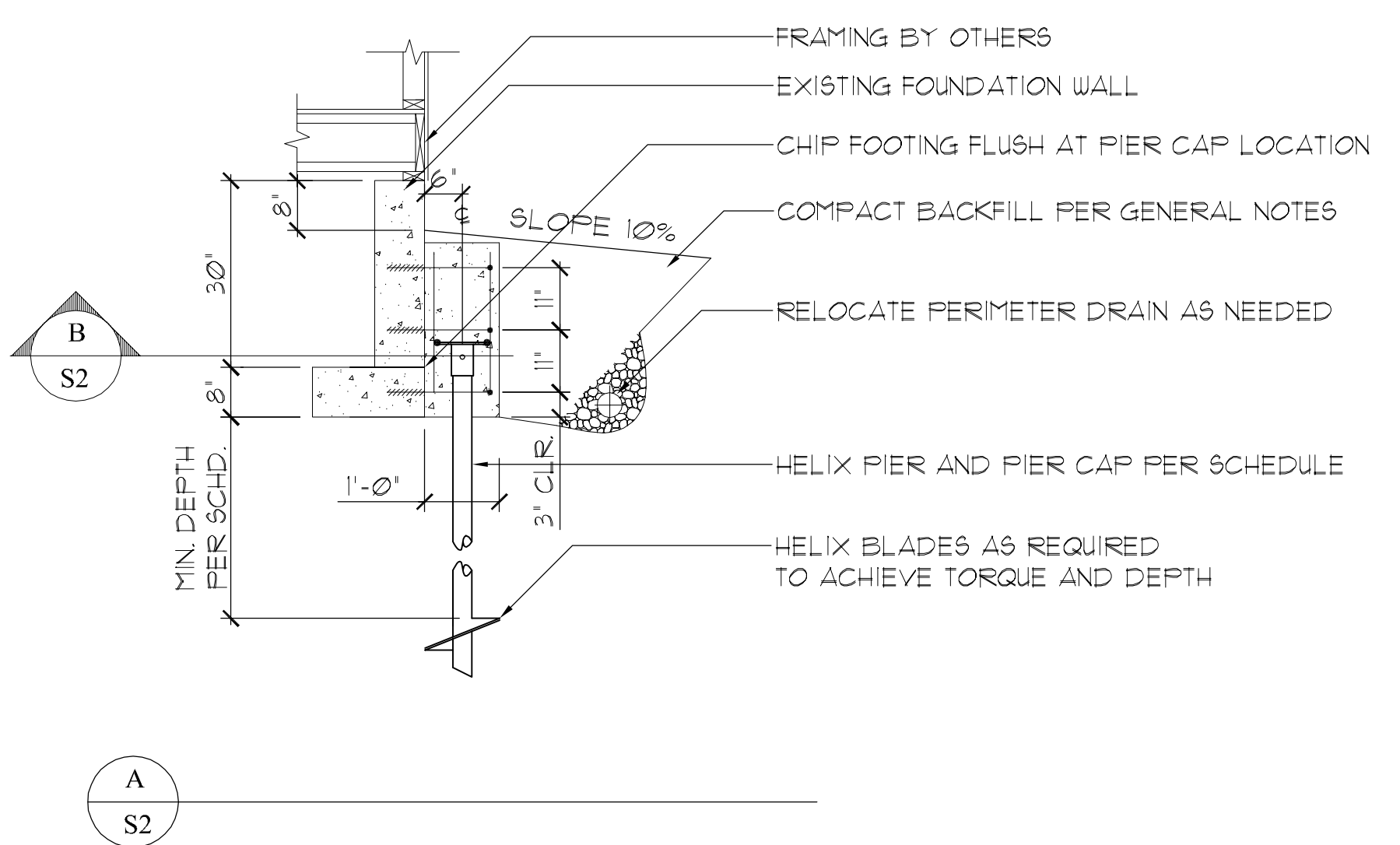
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FOUNDATION AND PILE DETAILS

NO.	DATE	REVISION/ISSUE

**General Notes:**

- Codes:**  
 This plan was prepared based on the New York State building code and portions of the most recent versions of ACI 318, ACI 332R, AISI Allowable Stress Design Ninth edition, and the NDS for wood construction.
- Loads:**  
 This plan is based upon the following load parameters:  
 Roof: Live Load = 30 psf  
 Floor: Live Load = 40 psf  
 Seismic: Zone 1  
 Soils report by:  
 Capacity of all piers to be verified through installation torque correlations.
- Materials:**  
 This plan is based upon the following material properties:  
**Concrete:** Concrete shall contain Type II cement, 6%+/-% 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 (UNQ) on the plan and shall conform to ASTM A615. Minimum concrete cover shall be 2" (in) UNQ 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 II GA 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 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.  
**Fasteners and connectors:** All fasteners and connectors in contact with pressure treated lumber shall be G85 hot-dip galvanized, type 304 stainless steel or type 316 stainless steel.
- Replacement Slabs-on-grade:**  
 Replacement slabs-on-grade should be isolated from grade beams, columns, plumbing, or other support structures by use of 1/2" (in) minimum isolation joint material.
- Steel Helix Piers:**  
 All helix foundations and pier caps shall be as manufactured by Magnum Piering Inc. or equivalent. Helix foundation installation should be observed by a representative from Secure Foundations and Structures, Inc. (970) 472-6759 or other geotechnical engineer to verify installation torques and minimum depth.
- Limitations:**  
 This plan is only an underpinning plan. All structural beams and framing by others. This plan was prepared to the level of skill and care ordinarily practiced by other engineers in this area at this time. No warranties is expressed or implied. It is the contractor's/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 partial 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 SECURE.



**Construction Sequence Guide:**

- 1.) Locate and clear underground utilities.
- 2.) Remove sections of slab or footing to facilitate work.
- 3.) Install each pier individually and measure torque.
- 4.) Cut helix pier off to appropriate height.
- 5.) Stop installation once a torque is achieved indicative of design capacity.
- 6.) Bolt cap to helix piers.
- 7.) Replace previously removed portions of slab.
- 8.) Remove any temporary bracing or shoring and clean-up site.
- 9.) Replace any and all disturbed finishes.
- 10.) Patch cracks, paint, adjust windows and doors, and perform other cosmetic repairs as directed by homeowner and agreed upon.

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