



Pier and Grade Beam foundation for one story single family addition (standard detail)

City of San Ramon

Building & Safety Services

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*Remember to always check with the Planning Department to confirm planning/ zoning requirements prior to beginning your project!
Planning Department: (925) 973-2560*

The following is a compilation of the most common requirements for the Pier and Grade Beam Foundation for one story single family addition as identified by the City of San Ramon Building Division. Please review and consider these requirements/recommendations as you prepare your plans/documents for the building permit application.

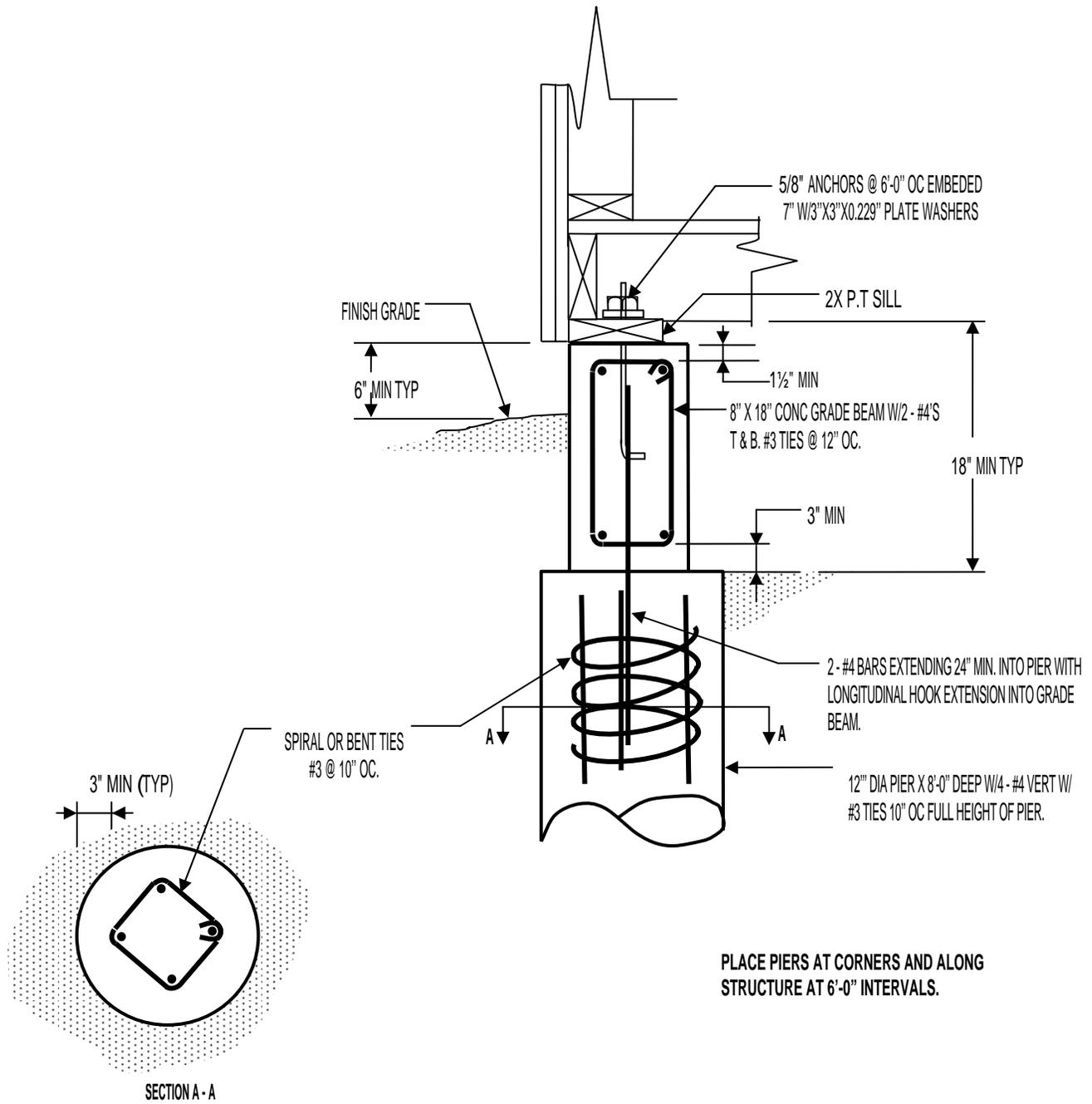
CONCRETE PIERS: Unless a licensed Architect or a registered Civil or Structural Engineer has designed the new foundation, the building addition no more than one story in height may be constructed on a pier and grade beam type foundation. The concrete piers shall be at least 12-inches in diameter, extend at least 6-feet below pad grade, and have a horizontal center-to-center spacing of no greater than 6-feet.

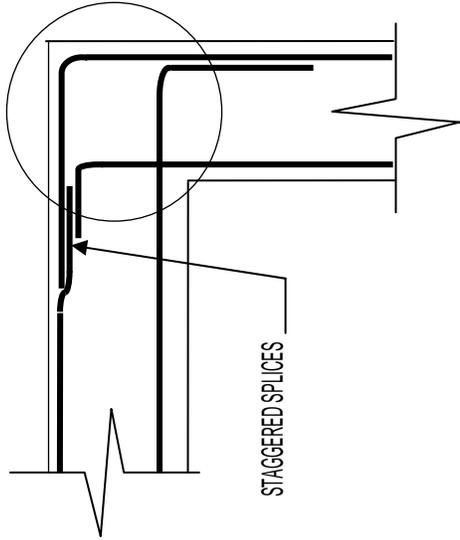
Pier reinforcement shall consist of at least four #4 vertical bars with #3 ties at 4-inches o.c. for upper 18-inches of pier and 10-inches o.c. for remaining pier depth vertical bar. This reinforcement shall extend to within 6-inches of the bottom of the pier holes, shall have a minimum 3-inch cover of the concrete between each bar and the sides of the pier hole, and shall be aligned with the centerline of the connecting beam. Two of the vertical bar(s) of each pier shall extend into the grade beam and have a minimum 32-inch standard hook with the top bar of the connecting footing. As an alternative, two #4 vertical dowels could be extended into the grade beam per City's detail.

GRADE BEAMS: The connecting grade beams for a building addition constructed with either a raised floor or a concrete slab-on-grade shall be at least 8-inches wide by 18-inches deep. A 1-½ inch void space shall be created at the bottom of the beam between pier locations. The minimum reinforcement for grade beams shall be two #4 bars at top and two #4 bars at bottom, with #3 ties at 12-inch centers. All bars shall have a minimum 3-inch clear cover of concrete. Splices in reinforcement shall be as follows:

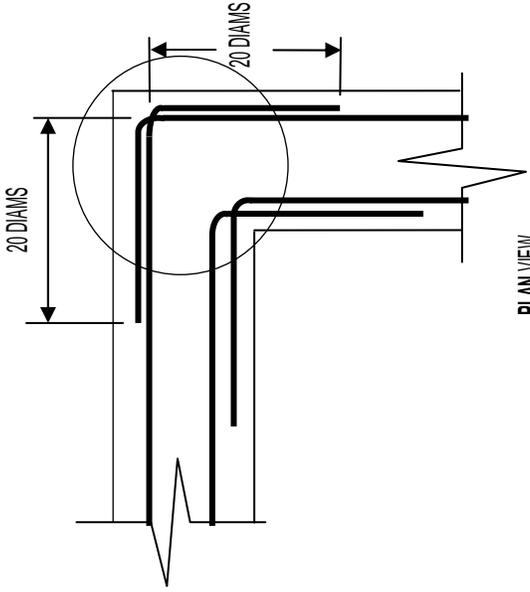
1. Top steel shall be spliced at mid span between piers.
2. Bottom steel shall be spliced over the pier centerline.
3. All splices shall have a minimum length of 40 bar diameters and shall be staggered.

CONCRETE: Concrete shall be normal weight with minimum compressive strength of $f'c = 2,500$ psi at 28 days.

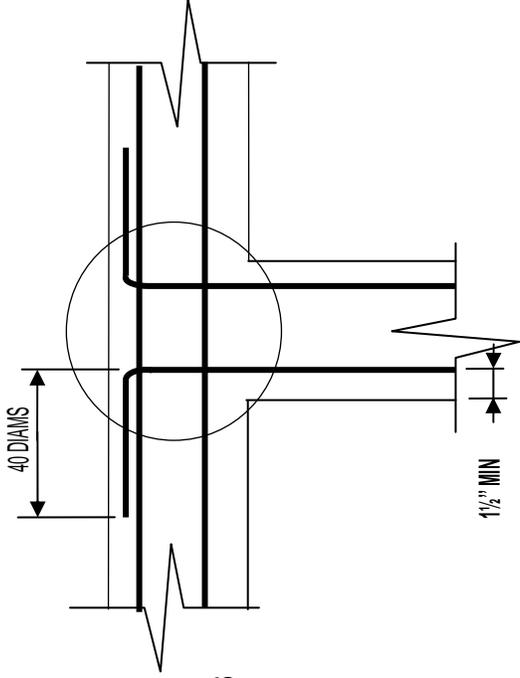




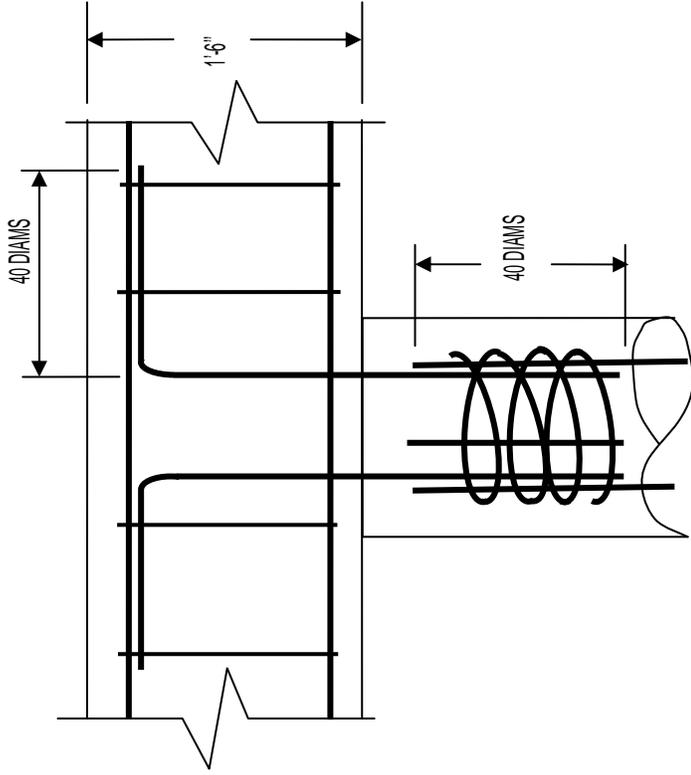
PLAN VIEW - ALTERNATE LAP



PLAN VIEW



PLAN VIEW



SIDE VIEW

REINFORCING BAR SPLICE LENGTH SCHEDULE	
BAR SIZE	SPLICE LENGTH
#4	32"
#5	40"
#6	48"