

FOOTING DESIGN CALCULATION SUMMARY FOR BEAM HD-2  
PERMIT NUMBER: SFD2504-0023

PROJECT: CL3034 SINGLE-FAMILY DWELLING

DATE: APRIL 21, 2025

PREPARED BY: TODD TUCKER, AIBD, CPBD & XAI

LOAD AND SOIL BEARING CAPACITY

PROJECT DATA

BEAM: HD-2

LOAD PER FOOTING: 6577 LBS (COMBINED LIVE AND DEAD LOAD)

FOOTING SIZE: 30" X 30" X 12" DEEP

CONCRETE STRENGTH: 3000 PSI

SOIL BEARING CAPACITY: 1500 PSF (ASSUMED)

COLUMN SIZE: 3.5" X 6" (GANGED SPF #2 LUMBER, CENTERED)

CODE: ACI 318-19

STEP 1: SOIL BEARING CAPACITY CHECK

FOOTING AREA:

$$(30 / 12) \times (30 / 12) = 2.5 \text{ FT} \times 2.5 \text{ FT} = 6.25 \text{ SQ.FT}$$

ALLOWABLE LOAD:

$$1500 \text{ PSF} \times 6.25 \text{ SQ.FT} = 9375 \text{ LBS}$$

APPLIED LOAD: 6577 LBS

$$6577 \text{ LBS} < 9375 \text{ LBS} \text{ (SATISFACTORY)}$$

SOIL PRESSURE FOR DESIGN:

$$Q = 6577 / 6.25 \sim 1052.3 \text{ PSF}$$

