

#22055

Structural Calculations For:

Alexander Residence

AT

6010 E Mercer Way
Mercer Island, Washington

Design Criteria: IBC 2018



06/01/2022

Project: ALEXANDER RESIDENCE Date: _____

Client: _____ Page Number: _____

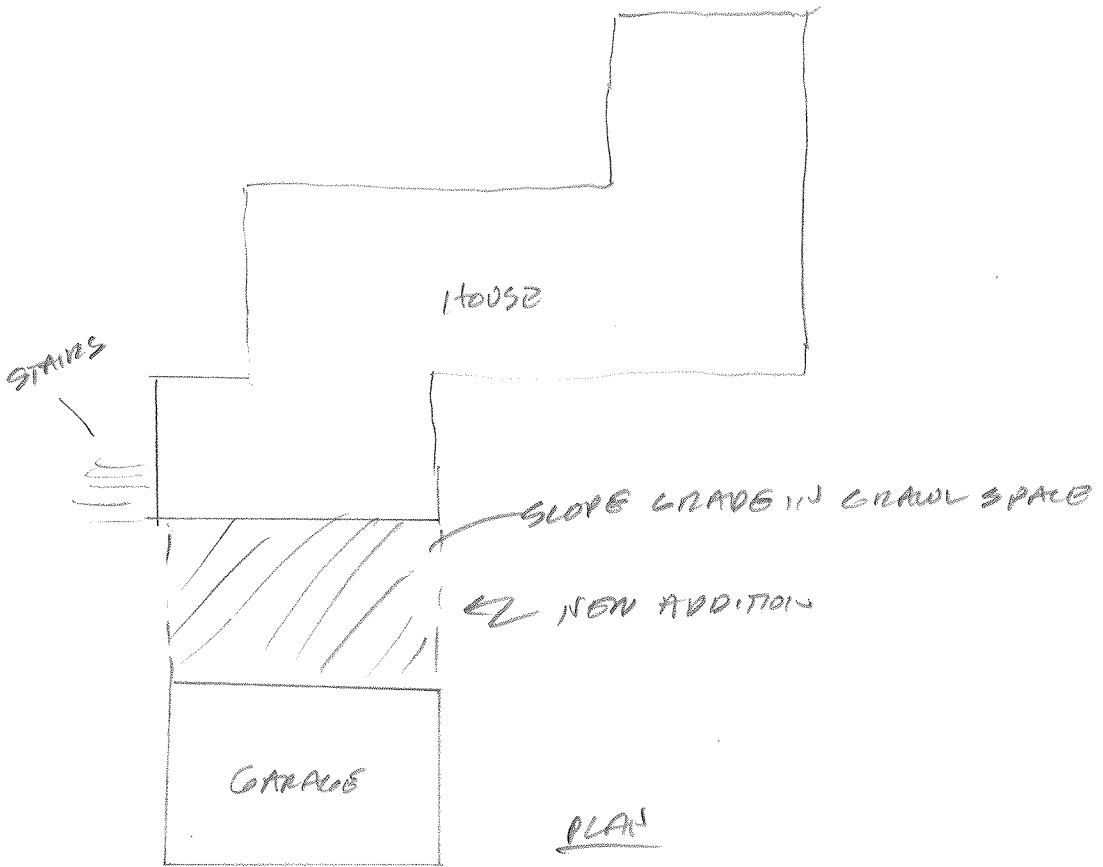
PROJECT: ALEXANDER ADDITION
6010 E MARLIN WAY
MCKEAN ISLAND, WA

CRITERIA: 2018 IBC
WIND: 100MPH; EX. "B", $K_{ZF} = 1.00$

HOUSE IS AN EXISTING WOOD FRAME HOME W/ DAYLIGHT BASEMENT.
THERE IS A SEPARATE GARAGE STRUCTURE. STRUCTURE WAS BUILT
IN 1960'S ±.

ROOF IS RAFTER W/ 2x12'S AND 9x12 BEAMS.

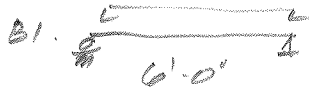
NEW PLAN IS TO ADD SINGLE STORY ADDITION TO THE
MAJOR BEDROOM, BETWEEN HOUSE AND GARAGE.



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ROOF RAFTERS - PRE-ENGINEERED TRUSSES AT 24" O.C., TYP



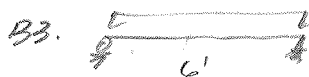
$$w = 24/2 (17 + 25 \text{ PSF}) = 504 \#/ft$$

$$M = 504 (6)^2 / 8 = 2268 \# \cdot ft \quad \therefore \text{4x10 HDR OK}$$



$$w = 6' (17 + 25) = 252 \#/ft$$

$$M = 252 (6)^2 / 8 = 1134 \# \cdot ft \quad \therefore \text{USE 4x10 FLUSH BM HDR}$$



$$w = 11' (40 + 20 \text{ PSF}) = 660 \#/ft$$

$$M = 660 (6)^2 / 8 = 2970 \# \cdot ft \quad \therefore \text{4x10 OK}$$

FLOOR JOISTS - 2x10'S AT 16" O.C. OK. (SPAN 10'-6" ±)

FOUNDATIONS: 8" STORM W/ 1/2" WIDE FCG PER CHAP 18 IBC.

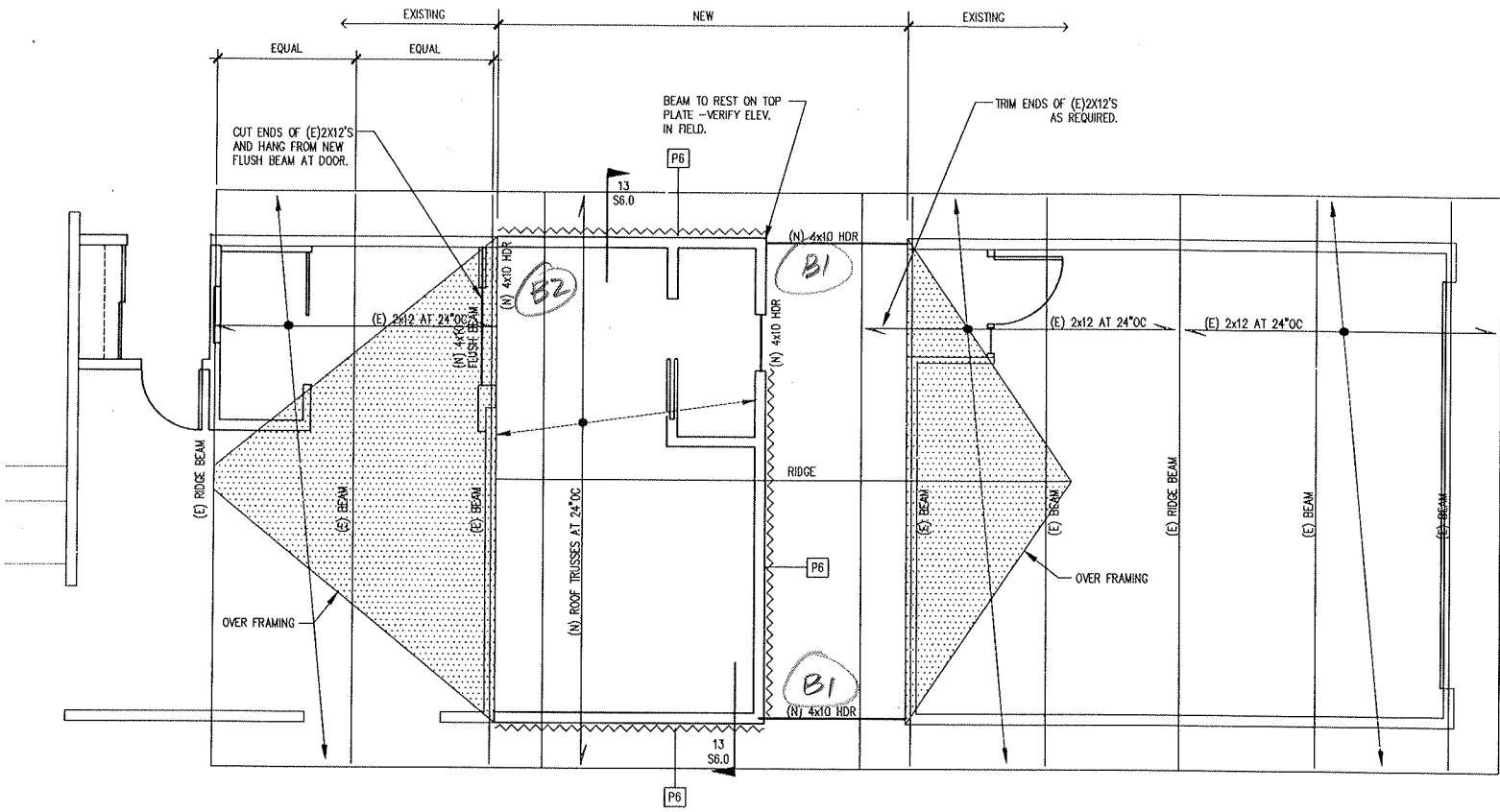
LATERAL

NOV IMPACT TO EXISTING STRUCTURE.

NOV WALL

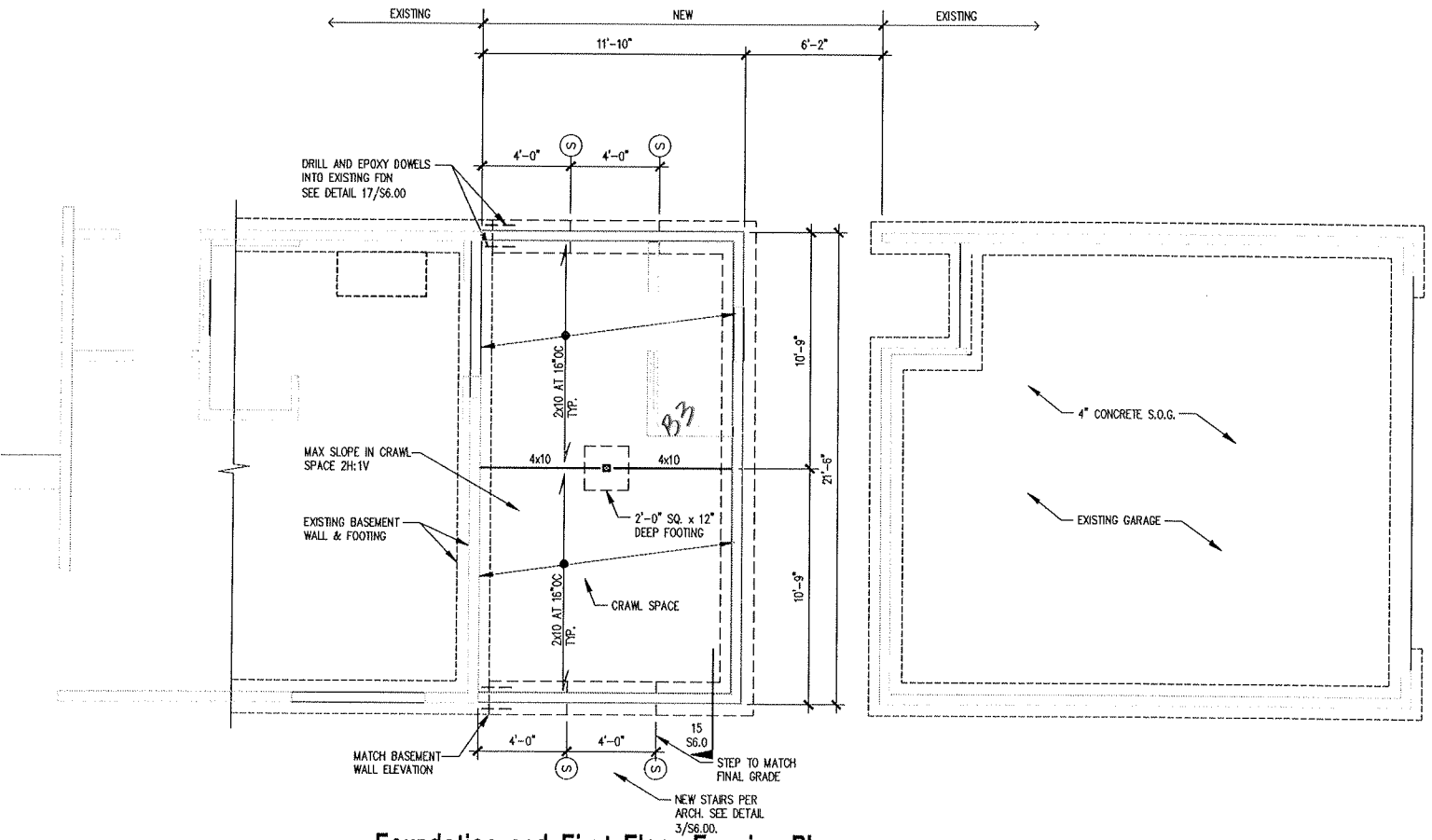
$$F = 10 \text{ PSF} (10/2 + 6) (12/2) = 660 \# \quad \therefore \text{USE PG TYPE SADDLEWALL}$$

NO HOLDINGS BY INSPECTION.



Roof Framing Plan

SCALE: 1/4" = 1'-0"



Foundation and First Floor Framing Plan

SCALE: 1/4" = 1'-0"