BASELINE DESIGNS, INC.
Civil & Structural Engineering
Design · Planning · Investigation

1700 Oak Street
Alameda, CA 94501
Tel.(510)865-4623/Fax.(510)865-4704

December 20, 2016 P161259

Ms. Paula Mathis and Thomas Ellebie, Jr.
1208 St. Charles Street
Alameda, Ca 94501

RE: Proposed Residential Garage at 1208 St. Charles Street, Alameda, Ca 94501
Tree Roots and Foundation for New Garage (First Draft)

Dear Ms. Mathis and Mr. Ellebie,

In accordance with your request, the undersigned performed a limited visual review of the trenching and assessment of proposed garage footings at the referenced property in December 2016. In preparing this report, the following tasks were completed:

1. Review the project site with you and your architect on December 1, 2016.
2. Review your arborist's report prepared by Judith L. Thomas dated 11/27/16.
3. Review preliminary architectural drawings prepared by Italo A. Calpestri, III, architect dated 11/28/16.
4. Based on the reviews, provide the following structural assessment and feasibility of the foundation for your proposed garage.
5. Preparation of this summary letter report.

ASSESSMENT

A site review was conducted on December 1, 2016. The corners and outline of the proposed garage were marked on the ground. Several trenches, apparently excavated by your arborist for review of the tree roots, were observed at the site. All trenching was neatly dug and properly covered for safety. Based on the observed conditions and the arborist's report, a pier-and-grade beam system may be used as a foundation for the proposed garage with proper protection of the tree roots and placement of the concrete piers and grade beams. The garage will have a slab-on-grade which will be placed on a prepared subgrade and bear on top of the existing soil.

Based on Chapter 18 of the California Building Code, 2016 edition, pier and grade beams may be designed in accordance with the soil type encountered in the field without an in-depth geotechnical investigation. Therefore, concrete piers may be designed based on 12" diameter or larger pier size, and the pier depth can be estimated in accordance with the allowable soil resistance value as listed in the Building Code. The concrete grade beams may be designed to span between piers, and the grade beams would be supported by the concrete piers without transferring vertical load down the underlying soil or roots. However, the grade beam will not be able to be floated at the piers as described in the arborist's report. Instead, some load will be transferred to the underlying soil, but not to exceed the amount of load has been originally in place. Furthermore, a thin compressible material such as styrofoam board may be used under the grade beams to minimize any surcharge to the soil.

LIMITATION

The results of the structural assessment and this report are based on a partial and limited review of selected areas which were readily accessible for structural observation as well as the available design drawings. Areas not exposed or accessible cannot be reviewed, and subsequently no conclusion can be made about such areas. No other warranty, expressed or implied, is made or intended in any of our written and verbal report(s),

If you have any question, please call me at 510-865-4623 x201.

Respectfully submitted,

BASELINE DESIGNS, INC.

Vincent T. Wu, P.E./Principal Engineer
CA State Licensed Civil Engineer #43749

z:\2016\161259 - 1208 st charles\communication\1208 st charles foundation recommendation report.docx