



RECEIVED

SEP 29 2017 PM

CITY OF MUKILTEO
PPR # _____
SEPA # _____
Misc # _____

Land Use Permit Application

Applicant: FRED BAXTER & ASSOCIATES Owner: KYUNG & SUSIE HONG
 Address: 649 5th STREET, SUITE 203 Address: 1102 2nd STREET
MUKILTEO, WA 98275 MUKILTEO, WA 98275
 Phone: 425-348-3975 Phone: _____
 Project Address: 1100 2nd Street

Legal Description of Property: SEE ATTACHED "HONG PROPERTY FEASIBILITY DATA" SHEET.

Key Contact Person: FRED BAXTER Phone: 425-348-3975
 Fax: _____

Project Type: fred@baxterarchitects.com

- | | | |
|---|---|---|
| <input type="checkbox"/> Commercial | <input type="checkbox"/> Preliminary Subdivision* | <input type="checkbox"/> Special Use Permit* |
| <input type="checkbox"/> Multi-Family | <input type="checkbox"/> Final Subdivision* | <input type="checkbox"/> Reasonable Use |
| <input type="checkbox"/> Industrial | <input type="checkbox"/> Preliminary Short Plat* | <input type="checkbox"/> Lot Line Adjustment* |
| <input type="checkbox"/> Shoreline* (JARPA) | <input type="checkbox"/> Final Short Plat* | <input type="checkbox"/> Grading* |
| <input type="checkbox"/> Conditional Use* | <input type="checkbox"/> Sector Plan Amendment | <input type="checkbox"/> Binding Site Plan |
| <input checked="" type="checkbox"/> Variance* | <input type="checkbox"/> Waterfront Development | <input type="checkbox"/> Project Rezone |
| | <input type="checkbox"/> Single Family Residence | <input type="checkbox"/> Other, Specify _____ |

* Need to fill out supplemental application form with project.

Project Resume:

Existing Use: EMPTY LOT Proposed Use: SINGLE-FAMILY RESIDENTIAL
 Total Site Area: 7500 S.F. Landscaping Area: 200 S.F.
 Building Foot Print Area: 1290 S.F. Water District: MUKILTEO WATER DISTRICT
 Lot Coverage: 17% Sewer District: MUKILTEO WASTEWATER DISTRICT
 Parking Provided: 2 SPACES MIN. # of Proposed Units: 1
 Building Height: N/A Comp Plan Designation: SFR-HIGH DENSITY
 Gross Floor Area by Uses: FIRST FLOOR: 850 S.F., Zoning: RD 7.5
SECOND FLOOR: 1510 S.F., GARAGE: 440 S.F.
 Pre-application Meeting Held: (Y/N; date) 5/25/2017

The information given is said to be true under the penalty of perjury by the laws of the State of Washington

Applicant/Authorized Agent Signature

Date

9.29.17

Owners Signature

Date

9/27/17

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SEP 29 2017 *RV*



CITY OF MUKILTEO

11930 Cyrus Way, Mukilteo, WA 98275
(425) 263-8000
Fax (425) 212-2068

Variance Supplemental Application Form

Date: _____ Application Number: _____

Fee Received: \$ _____ ☐ Cash ☐ Check ☐ Other Receipt #: _____

APPLICANT/OWNER INFORMATION

Applicant: FRED BAXTER & ASSOCIATES

Address: 649 5th STREET, SUITE 203
MUKILTEO, WA 98275

Phone:(Home) _____

(Office) 425-348-3975

(Fax) _____

Legal Property

Owner(s): KYUNG & SUSIE HONG

Address: 1102 2nd STREET
MUKILTEO, WA 98275

Phone:(Home) _____

(Office) _____

(Fax) _____

Applicant is: ☐ Owner in fee simple ☐ Contract purchaser ☒ Agent for Owner

PRIMARY CONTACT PERSON

Name: FRED BAXTER

Address: SEE ABOVE

Phone:(Home) _____

(Office) _____

(Fax) _____

Date of Present Ownership of Property:

1/31/2006

Date of Contract if Now Purchasing Property:

Please provide a copy of the contract.

PROPERTY/LOT INFORMATION

Legal Description of property (attach): SEE ATTACHED "HONG PROPERTY FEASIBILITY DATA" SHEET.

Assessor's Tax Account Number: 00527600000401

Location/Street Address of Property: 1100 2nd STREET

Zoning District: RD 7.5

Comprehensive Plan Designation: SFR-HIGH DENSITY

Lot Area (Square Feet) 7500 S.F.

BUILDING INFORMATION

Area of all Existing Building(s) (Square Feet): N/A

Area of all Proposed Building(s) (Square Feet): 2580 S.F.

Area of all Proposed Additions: N/A

VARIANCE REQUEST INFORMATION

Cite Code Section for Which Variance Use is Being Requested: MMC Sec. 17.2D.028

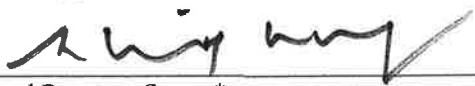
NARRATIVE EXPLANATION OF REQUEST: Please submit a written detailed explanation of the purpose of the request and discuss how the Variance application meets the criteria for approval and the project's relationship to current plans, policies, and regulations. Refer to the Variance brochure for the criteria. SEE ATTACHED.

REQUIRED SIGNATURES

THE INFORMATION GIVEN IS SAID TO BE TRUE UNDER THE PENALTY OF PERJURY BY THE LAWS OF THE STATE OF WASHINGTON.


Applicant/Authorized Agent

9. 29 . 17
Date


Legal Property Owner*

9/27/17
Date

Legal Property Owner*

Date

* NOTE: If legal owner is a corporation or partnership, proof of ability to sign for the corporation or partnership shall be submitted to the City of Mukilteo with this application.



September 25, 2017

City of Mukilteo

Department of Planning & Community Development

11930 Cyrus Way, Mukilteo, WA 98275

Re: Variance Request for 1100 2nd Street (APN: 00527600000401), Owners: Kyung & Susie Hong

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SEP 29 2017

CITY OF MUKILTEO

To Whom It May Concern;

The purpose of this letter and accompanying documentation is to request a variance for the residential property at 1100 2nd Street (currently an empty lot), regarding maximum hard surface coverage per Mukilteo Municipal Code section 17.20.028, established in December 2016. In our opinion, the establishment of this new regulation within the existing zoning code presents a severe hardship for our clients, whose property includes an existing joint-use driveway within an access easement, created in 2008. It is our understanding that the hard surface area of this existing driveway – which serves two tandem lots to the north, and does not serve, nor does it benefit, the subject property – shall count toward the total allowed hard surface area for the property. As this narrative will describe in detail below, the resulting hard surface area allowed for development after the existing joint-use driveway area is subtracted is paltry, and results in an untenable situation for the owners regarding the reasonable single-family residential development opportunities for their property. This hardship not only prevents them from building on the lot for themselves, but also prohibits their ability to market the property for sale as a reasonably-buildable lot. This hardship in turn will result in an adverse effect on the existing character and property values of the surrounding neighborhood. Granting a variance that allows additional hard surface area for this property beyond what is regulated in MMC section 17.20.028 is the only feasible solution for our clients to overcome these hardships.

Included with this application package is a schematic site plan representing proposed development of a single-family residence that would be feasible if this variance for additional hard surface area is allowed. Floor plans and exterior elevations are not included at this time. We understand that providing only a schematic-level Site Plan, and not including further developed floor plans and elevations, is not typical for a variance application regarding new development. However, due to the hardship presented by MMC section 17.20.028, a reasonable development plan cannot be conceived, nor can the owners effectively market this property for sale, without knowing a variance will be allowed to overcome this hardship. Therefore, at this stage it is not financially feasible for the owners to develop any designs for the property (architectural, civil, etc.) beyond this schematic stage until assurance is given by the city that reasonable development will be allowed.

Included below is the stated variance request, a detailed reasoning for the request, an itemized accounting of how this request meets all parameters outlined in MMC section 17.64.040, part 'A', and a summary of required items for a Major Review (Variance). Also included as part of this application package are the following items:

- Feasibility Data Sheet for the property (including average Living and Garage areas in square feet of existing residential properties in the surrounding area, for comparison)
 - Schematic Site Plan
 - Topographical Survey dated 08/25/17
- Also included for reference:*
- "Short Subdivision No 2 for Kyung Hong & Susie Hong" short plat (unofficial document), dated 04-03-08
 - "As-Built Kung Hong 2 Lot Short Plat Project No. SP-2006-03 / Paving & Drainage Plan, Notes and Details", dated 12-26-07
 - Geotechnical Report "Residential Site Evaluation, Two-Lot Short Plat, 1100 2nd Street" dated 04/14/06

Variance Request

On behalf of the owners, we are requesting an allowed hard surface area of 1,998 s.f. in addition to the existing joint-use driveway hard surface area of 2,579 s.f. currently on the property. This proposed total of 4,577 s.f. of hard surface area results in 797 s.f. beyond the allowance set forth in MMC section 17.20.028 *Maximum hard surface coverage matrix*: 3,780 s.f. for a 7,500 s.f. lot in the RD 7.5 zoning district.

Reason for Variance Request

The subject property has a total lot size of 7,500 s.f., which results in a maximum hard surface coverage allowance of 3,780 s.f. per MMC section 17.20.028. The lot includes an Access, Drainage & Utilities Easement along the western and northern edges of the property (20' wide on west side and 17' wide on north side with an angled corner, resulting in 3150 s.f., or 42% of the overall lot size), which was established as part of a short plat in 2008. This easement contains an existing paved joint-use driveway serving two adjacent lots to the north with a total area of 2,579 s.f. on the lot (68% of the total allowed hard surface area).

At the time that the short plat and access easement were being created, the lot included an existing single-family residential structure which did not conform to new setbacks created by the easement, and was not allowed to remain as it stood. Therefore, the owners demolished the older existing structure, with an understanding that a new residence which conformed to the newly-established building envelope created by the easement could also improve the value of the lot and of the overall neighborhood. They understood that the existing MMC regulations would still allow for reasonable single-family residential development within this new building envelope, even taking into account the site work that had been performed as part of the short plat.

However, due to the recent establishment by the City of Mukilteo in December of 2016 of MMC section 17.20.028 regulating total hard surface area for a property, which would include the area of a joint-use driveway within an access easement (even if the driveway does not serve or otherwise benefit the subject property), the remaining hard surface area now allowed for property development – including building footprint, private driveway, walks, porch, and deck – is 1,201 s.f. (32% of the total allowed hard surface area).

Starting with an area of 1,201 s.f., and subtracting 320 s.f. for a required driveway off 2nd Street (20'-0" min. depth x 16'-0" width for a two-car garage), and approximately 388 s.f. for a walk, porch, and rear deck (all reasonable property amenities), the owner is left with only 493 s.f. of hard surface area for a building footprint – including garage. This remaining area calculation clearly represents an undue hardship now faced by the owners for any reasonable development of a single-family residence, especially in an area of Old Town Mukilteo where surrounding residential properties with Sound views have been developed to a common and comfortable living standard.

Allowing a variance of 1,998 s.f. for new hard surface area, beyond the existing joint-use driveway area, would provide the owners the opportunity to reasonably and comfortably develop the property – or market it as a lot capable of such, allowing them to obtain fair market value for the land – in keeping with many other similar properties in the surrounding neighborhood. We believe that 1,998 s.f. would allow not only for a reasonably-sized driveway, walk, porch, and deck, as mentioned above, but also for a standard two-car garage (440 s.f.) and feasible first floor footprint (860 s.f.). The structure could have a second story of living area above this garage and first floor, comfortably designed within the allowed maximum height restriction for zone RD 7.5 of 30'-0". This new construction could meet all allowable lot coverage areas, required setbacks (including those associated with the access easement), and adhere to all other city and building codes.

Variance Request Letter re: 1100 2nd Street
Fred Baxter & Associates Architecture
September 25, 2017

Allowing this variance should also not be considered unreasonable within the parameters of the MMC Maximum hard surface coverage matrix itself. According to the matrix, the maximum hard surface coverage allowed for the smallest lot size, which is less than or equal to 5,999 s.f., is 3,000 s.f. If one considers that the “developable” area of the subject property is a total of 4,350 s.f. once the area of the access easement is subtracted, then a hard surface area of 1,998 s.f. easily falls within this matrix allowance.

Variance Request Criteria

Mukilteo Municipal Code section 17.64.040 sets forth minimum criteria that a variance request must meet. We are confident this request clearly meets these criteria, notably:

A1. ***“Variance shall not constitute a grant of special privilege inconsistent with the rules and regulations governing the uses of other properties in the vicinity or zoning district in which the property for which the variance is requested is located.”***

Approving the variance of additional hard surface area of only 797 s.f. beyond the existing total allowance would not in any way constitute special privilege for the subject property, and would in fact allow development in keeping with the zoning district (RD 7.5) and surrounding similar residential properties. Because of the establishment in December 2016 of MMC section 17.20.028 regulating total hard surface area, and due to the existing joint-use driveway on the lot (even though that driveway does not serve the subject property), this property is currently at a distinct disadvantage by being severely and unduly restricted in allowable development that would be considered “consistent” with similar neighboring properties within the same zoning district. As delineated in the Feasibility Data Sheet (attached to this application), the average total living area of the surrounding residential properties is 2,966 s.f., with an average garage area of 532 s.f. The current hard surface area restrictions for this property would leave only **493 s.f.** of hard surface area for a building footprint – **including garage**. Even with a single-car garage and a second story of living area, the resulting design would fall far short of these living and garage area averages for similar residential properties in the vicinity.

A2. ***“Variance must be necessary, because of special circumstances relating to the size, shape, topography, location, or surroundings of the subject property, to provide it with use rights and privileges permitted to other properties in the vicinity that are located in the same zoning district in which the subject property is located.”***

Due to the existing lot size being only 7,500 s.f. (which is limited to a total of 3,780 s.f. of hard surface area by MMC section 17.20.028) and the presence of an access easement along the western and northern edges of the property which results in 3,150 s.f. (42% of the overall lot size), combined with the new zoning code language established in December 2016 regulating total allowed hard surface area for that lot, a special circumstance has clearly been created for the development opportunities of this property that did not exist before. Previous instances of similar-sized lots in this district (including on the same street of the subject property) with access easements that were developed prior to this new zoning regulation regarding hard surface area were not restricted in the way these owners now find themselves. This new special circumstance facing the owners can only be overcome by allowing this variance request, since not approving the request leaves them with a lot that is un-buildable to a level and standard present in the existing neighborhood.

A3. ***“Variance will not be materially detrimental to the public welfare or injurious to the property or improvements in the vicinity or zone in which the subject property is situated.”***

The variance request of additional hard surface area to allow reasonable SFR development for this property will not in any way be materially detrimental to the public welfare, nor injurious to this property or its surrounding neighborhood. First, there will be no additional demand or strain on public services, such as police or fire, since the

zoning district in question is specifically designated for residential development, and therefore a new single-family residence at this location (which is currently an empty lot, and historically included a single-family residence) is expected and provided for in the city's public services and zoning regulations allowances. Secondly, due to the presence of an existing drainage system that is sized and designed for SFR development on the property, the relatively small size of this lot, and the fact that site grades are under 10%, the environmental impacts (both from a standpoint of stormwater runoff and site geology disturbance) resulting from the minor amount of additional hard surface being requested (797 s.f. beyond what is already allowed by MMC section 17.20.028) will be minimal to both the subject property itself and neighboring properties. Additionally, approving this variance for enough hard surface area to allow development to the same standard as similar adjacent residential properties will in fact benefit the neighborhood through increased architectural character and property value.

A4. *"Hardships of a financial nature, hardships which are self-created, and hardships which are personal to the owner and not to the property, shall not be grounds for a variance."*

The hardship to the property owners in this case is solely related to the recent establishment by the city in December 2016 of MMC section 17.20.028 in the zoning code regulating total hard surface area for a lot. This regulation was put in place not only after the current owners purchased the property, but also after the property was legally short-platted in 2008, which required the creation of an access easement and paved joint-use driveway. At the time of the short plat, the owners understood that the city's regulations on development would not hinder future reasonable SFR development on the property, and had full faith that the property could be a marketable investment. Due to this recent regulation, however, they suddenly find themselves obstructed from the potential development that would have been possible before, *through no fault of their own*. This regulation fails to consider and thereby places an undue burden on smaller properties that are required to include paved roads or driveways within an access easement that do not serve that property. Without exceptions being provided for in the code which allow such areas to be excluded or mitigated in some way with respect to total allowed hard surface area, property owners will be forced to under-develop their properties (which in turn shall have a negative effect on the overall value of the surrounding neighborhood) or request a variance to overcome this hardship, as is the case here.

A5. *"Variances shall not be granted if the granting of the variance would allow a use not permitted outright or by conditional use permit, or any use prohibited outright or by implications in the zoning district involved."*

Allowing this variance request would not in any way alter the existing use permitted for this property located in the RD-7.5 zoning district, per MMC section 17.16.040, which is single-family residential construction. The intention of the owners has always been to construct a single-family residence, or market the property for sale with such an understanding. The current hardship the owners now find themselves facing regarding the restrictions to allowed hard surface area for this property imposed by the city in December 2016 by creating MMC section 17.20.028 will hinder the reasonable development of this property within that permitted use. The owners seek only to allow this property to be developed to its highest and best use within the current city regulations and zoning allowances, but also to a reasonable standard that is consistent with the existing adjacent residential development in the surrounding neighborhood.

Major Review Checklist

Listed below are the checklist items for a Variance Major Review for the City of Mukilteo. These items have either been included with this application, are provided in narrative form below, or an explanation is given as to why they are not included.

General Application:

- Application form (land use): Included

**Variance Request Letter re: 1100 2nd Street
Fred Baxter & Associates Architecture
September 25, 2017**

- Supplemental Application form: Included
 - Project Narrative: Included
 - Review Fee: Included
 - Site/Building Plans:
 - Site Plan: Included (Schematic)
 - Reduced Site Plan: Included (Schematic)
 - Building elevations/floor plans: N/A - This application involves only a schematic-level building and site development design due to the hardship specifics outlined above in this letter, therefore building elevations and floor plans for SFR development are not included at this time.
- This variance request does not require adjustments to any other portion of the Mukilteo Municipal Code for development of a new SFR on the site. This includes section 17.20.020 Table 2 (Structure Bulk Matrix):
Max. Lot Coverage: 35% (of 7500 s.f. = 2625 s.f. > 1290 s.f. proposed);
Max Height: 30'-0" (this is a reasonable height limit for a 2-story SFR);
Setbacks: 20' front, 5' side (15' total, 20' from "common driveway"), 20' rear (20' from "common driveway") – setbacks are indicated on Schematic Site Plan and will not hinder reasonable SFR development. Any development on the property will conform to these regulations, along with all city and building codes.
- Reduced Building elevations/floor plans: N/A – see above.
- Civil/Engineering:
- Grading and clearing plans: Grading: N/A – Due to the schematic-level building and site development design of the project for this application, grading information is not provided at this time. Complete grading plans will be provided as part of the construction drawing package for permit.
- Clearing: Property has a narrow line of existing shrubbery approximately 35 feet from the street frontage, which will be cleared prior to construction; the remainder of the property consists of grasses and small shrubs only and does not contain any significant vegetation. (Refer also to Topographic Survey dated 08/25/17 and Schematic Site Plan).
- Drainage calcs/study: Storm drainage system for subject property and adjacent property to the north is existing (refer to attached as-built "Kung Hong 2 Lot Short Plat Project No. SP-2006-03 / Paving & Drainage Plan, Notes and Details", dated 12-26-07). A collector line as indicated in the original drainage design tied to new downspouts on site will connect to this existing system (refer to Schematic Site Plan). Because this existing drainage system was designed and installed along with the short plat of the property with the anticipation of new single-family residential development, no other adjustments to the existing system are anticipated as part of proposed development. New hard surface area is proposed to be less than 2,000 s.f., and therefore will not trigger Stormwater Management Minimum Requirements other than MR#2

(SWPP). In that case, a direct connection to the existing drainage system as proposed in the original drainage design created for the short plat will be allowed. Complete drainage calculations will be provided as part of the construction drawing package for permit.

- Road and drainage plans:

Refer to attached Topographic Survey dated 08/25/17 and Schematic Site Plan for existing paved joint-use driveway and proposed hardscape for new SFR development on property. Refer to attached as-built "Kung Hong 2 Lot Short Plat Project No. SP-2006-03 / Paving & Drainage Plan, Notes and Details", dated 12-26-07, for delineation of the existing storm drainage catch basins, drain lines, retention vaults, and final outfall location for subject property. Proposed SFR development on the subject property will require downspout drainage to connect to the existing system (refer to Schematic Site Plan). No other adjustments to the existing system are anticipated as part of proposed development.

- TESCP (erosion control plan):

Because this variance request is proposing new hard surface area less than 2000 s.f., and due to the existing lot's size and conditions, development should not trigger Stormwater Management Minimum Requirements other than MR#2 (SWPP). For erosion control measures during construction, this site can reasonably be treated with sheet flow in a northern direction through contour silt fencing along the perimeter of the construction area due to the following site conditions: site grades are less than 10%, sediment flow path is short and gradual along a runoff distance of about 100 feet, and clearing will be minimal. Due to the shallow slope and small area of construction, it is not considered necessary to collect and concentrate runoff, which would require a problem of discharging a concentrated flow. The existing drainage system already in place consists of multiple catch basins located at the northern (downslope) edges of the property, which will be adequate to handle the resulting filtered sheet flow. The creation of low points that might result in concentrated runoff shall be avoided. Good ground cover practices will further ensure the control of silt runoff (e.g. minimum 3" of straw mulch to be placed on all disturbed ground not to be worked for 3 or more days). Complete erosion control plan and SWPP elements/BMP notes will be provided as part of the construction drawing package for permit.

- Topography (existing/proposed):

Existing site topography in 2-foot intervals is provided on Topographic Survey dated 08/25/17 and Schematic Site Plan. Due to the schematic-level building and site development design of the project for this application, proposed topography is not being provided at this time. Complete and final grading and contour information for proposed SFR development will be provided as part of the construction drawing package for permit.

**Variance Request Letter re: 1100 2nd Street
Fred Baxter & Associates Architecture
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Environmental:

- Geotechnical report
(engineer stamped):

Refer to attached Geotechnical Report "Geotechnical Report "Residential Site Evaluation, Two-Lot Short Plat, 1100 2nd Street" dated 04/14/06. Explorations and analysis of this site performed in 2006 found that many of the soils in the area of the site have been glacially consolidated and exhibit high strength. The underlying outwash sand is generally considered to be well draining with regard to ground water. The site surface soils were classified using the SCS classification system as Everett gravelly sandy loam, 0 to 8 percent slopes in the area of the subject property, and the geologic description of the soils in this area is "outwash", with erosion hazard listed as "slight". The underlying dense outwash soils in this area are considered to have low potential for liquefaction and amplification of ground motion during a seismic event. In summary, the report specifies that the medium dense or better native soils should provide good support for a residence foundation, which likely could be handled with conventional, shallow spread footings on undisturbed, medium dense or firmer soil. The report recommends that any new structure maintain a setback of 25'-0" min. from the top of the steep slope located within the property to the north of the subject property (any proposed development on the subject property will be well within this setback). The report recommends any runoff be collected in permanent catch basins as part of an overall site drainage system (there is such a drainage system in place to which runoff from new construction will be collected and connected). Footing and wall perimeter drains consisting of perforated pipes within well-draining gravel or coarse sand are also recommended. An updated geotechnical letter or report, as required, will be completed and provided as part of the construction drawing package for permit.

In summary, we believe the approval of this variance request described above and in the attached documents to allow 1998 s.f. of new hard surface area (which is only 797 s.f. beyond what is already allowed in the MMC), in addition to the existing joint-use driveway area currently on the lot, is essential to alleviating the undue hardship facing the owners of this property, and represents a reasonable and feasible allowance for development involving a new single-family residence and the typical site amenities that would include, and is consistent in all other ways with the Mukilteo Municipal Code, all relevant building codes, and with the character and development standards that have already been established in the surrounding neighborhood.

Respectfully,

Fred Baxter, A.I.A.
Fred Baxter & Associates, Architecture

ACKNOWLEDGMENTS

KNOW ALL PERSONS BY THESE PRESENTS THAT WE, THE UNDERSIGNED, HAVING AN INTEREST IN THE REAL PROPERTY DESCRIBED BY THIS DECLARATION, DO HEREBY DECLARE THE HERIN DESCRIBED DIVISION OF LAND APPROVED AS SHORT PLAT NUMBER 59 2008-03 ON THIS 30 DAY OF JULY 2008, BY THE DEPARTMENT OF PLANNING AND DEVELOPMENT SERVICES OF CITY OF MILWAUKEE, SUBJECT TO THE FOLLOWING COVENANTS AND CONDITIONS:

1.) THE USE AND DEVELOPMENT OF THE PROPERTY INCLUDED WITHIN THIS PLAT SHALL BE GOVERNED BY THE CONDITIONS OF APPROVAL IMPOSED THROUGH CASE NUMBER SP 2006-03 AND SHALL BE BINDING UPON THE LAND UNTIL THAT APPROVAL IS AMENDED, REVOKED OR EXPIRES.

2.) THE PROPERTY AS DESCRIBED HEREIN IS LOCATED WITHIN OR NEAR A DESIGNATED NOISE CONTOUR OF THE SIOGHOMISH COUNTY AIRPORT AT PAINNE FIELD. THE PROPERTY IS SUBJECT TO NOISE LEVELS THAT RESIDENCE MAY FIND TO BE OBJECTIONABLE AS A RESULT OF AIRCRAFT OPERATIONS. PROPERTY OWNERS MAY WANT TO CONSIDER ADDING NOISE ATTENUATION MATERIALS IN THE FINAL BUILDING DESIGN.

3.) A MINIMUM OF TWENTY-FIVE (25) PERCENT OF THE SIGNIFICANT TREES AS DEFINED IN MUKILTEO CITY ORDINANCE 602 SHALL BE RETAINED ON THE PROPERTY WITH SLOPES LESS THAN FORTY (40) PERCENT. ONE HUNDRED (100) PERCENT OF TREES ON SLOPES GREATER THAN FORTY (40) PERCENT SHALL BE RETAINED ON THE PROPERTY, EXCEPT AS PERMITTED UNDER MMC 17.52A. THE LOCATION OF ALL SIGNIFICANT TREES SHALL BE SHOWN ON THE SITE PLANS FOR BUILDING PERMIT APPLICATIONS.

4.) BUILDING SETBACKS FOR THE LOTS CONTAINED WITHIN THIS SHORT PLAT ARE SUBJECT TO THE APPROVAL BY THE CITY'S PLANNING DEPARTMENT PRIOR TO THE ISSUANCE OF A BUILDING PERMIT. APPLICANTS SHOULD HAVE THE SETBACK ON THEIR SITE PLAN VERIFIED BY THE CITY'S PLANNING DEPARTMENT PRIOR TO SUBMITTING PLANS FOR A BUILDING PERMIT.

S.) THERE SHALL BE NO CLEARING, EXCAVATION, OR FILL WITHIN THE NATIVE GROWTH PROTECTION AREA SHOWN ON THE FACE OF THIS SHORT PLAT, WITH THE EXCEPTION OF REQUIRED UTILITY INSTALLATION, REMOVAL OF DANGEROUS TREES, THINNING OF WOODLANDS FOR THE BENEFIT OF WOODLANDS AS DETERMINED BY A CERTIFIED LANDSCAPE ARCHITECT OR ARBORIST, AND REMOVAL OF OBSTRUCTIONS ON DRAINAGE COURSES, OR AS ALLOWED UNDER MAJIKULED MUNICIPAL CODE SECTION 17.52A.060, VEGETATION MANAGEMENT ON STEEP SLOPES.

6. NO LOT CREATED BY THIS SHORT PLAT MAY BE RE-SUBDIVIDED FOR A PERIOD OF FIVE (5) YEARS FROM THE DATE OF APPROVAL OF THIS SHORT PLAT WITHOUT THE SUBMISSION AND APPROVAL OF A FINAL SUBDIVISION PURSUANT TO ALL PROVISIONS OF THE UNINCORPORATED SUBDIVISION MAP ACT, CHAPTER 230, IBC, AND THE UNINCORPORATED MUNICIPAL CODE TITLE 16 CONCERNING THE SUBDIVISION OF LAND INTO FIVE OR MORE LOTS, TRACTS, OR PARCELS. ANY FUTURE SUBDIVISION OF THE LOTS IN THIS SHORT PLAT WILL BE CONTINGENT ON OBTAINING ADEQUATE RIGHT-OF-WAY TO MEET STANDARDS FOR A PUBLIC ROAD TO PROVIDE ACCESS TO THE LOTS.

7.) LOT 2 OF THIS SHORT PLAT AND LOT 2 OF HONG SHORT PLAT NO. 1 (CASE NO. SP 2003-08) SHALL ACCESS FROM THE PRIVATE ROAD. LOT 1 OF THIS SHORT PLAT AND LOT 1 OF HONG SHORT PLAT 2003-08 SHALL ACCESS FROM 2ND STREET.

B. LOT 2 OF THIS SHORT PLAT SHALL PAY PARK IMPACT FEES OR OTHER FORMS OF NEGOTIATED IMPACT MITIGATION DIRECTLY TO THE CITY OF MILWAUKEE IN ACCORDANCE WITH MMC 3.1005 OR SIMILAR REQUIREMENTS ASSOCIATED WITH THE GROWTH MANAGEMENT ACT. PAYMENT OF THE PARK IMPACT MITIGATION SHALL BE MADE TO THE CITY PRIOR TO THE BUILDING PERMIT ISSUANCE. THE TOTAL FEE OR MITIGATION AMOUNT SHALL BE BASED ON THE MITIGATION FEE ESTABLISHED IN MMC 3.1005 IN EFFECT AT THE TIME OF PAYMENT.

9.) LOT 2 OF THIS SHORT PLAT SHALL PAY SCHOOL IMPACT MITIGATION FEES OR OTHER FORMS IF NEGOTIATED IMPACT MITIGATION DIRECTLY TO THE CITY OF MUKILTEO IN ACCORDANCE WITH MMC 3.100 OR SIMILAR REQUIREMENTS ASSOCIATED WITH THE GROWTH MANAGEMENT ACT. PAYMENT OF THE SCHOOL IMPACT MITIGATION SHALL BE MADE TO THE CITY OF MUKILTEO PRIOR TO BUILDING PERMIT ISSUANCE. THE AMOUNT OF THE FEE DUE BY THE DEVELOPER SHALL BE DETERMINED BY THE CITY OF MUKILTEO. THE CITY OF MUKILTEO SHALL HAVE THE RIGHT OF REDEMPTION.

10.) LOT 2 OF THIS SHORT PLAY SHALL PAY TRANSPORTATION IMPACT FEES FOR EACH NEW PM PEAK HOUR TRIP GENERATED BY THE PROPOSED DEVELOPMENT, OR OTHER FORMS OF NEGOTIATED IMPACT MITIGATION DIRECTLY TO THE CITY OF MANITOULIN IN ACCORDANCE WITH ORDINANCE 1131 AND 1132 EFFECTIVE JULY 29, 2008. THE AMOUNT OF THE FEE DUE SHALL BE BASED ON THE FEE SCHEDULE IN EFFECT AT THE TIME OF BUILDING PERMIT APPLICATION (MNC 3100.0307). THE TRANSPORTATION IMPACT MITIGATION FEE IS DUE BEFORE TO BUILDING PERMIT ASSUANCE.

WE THE UNDERSIGNED, ATTEST THAT WE ARE THE CONTRACT PURCHASER OR OWNERS IN
FREE AND SEVERALTY OF THE LAND REPRESENTED ON THIS SHORT PLAT AND HAVE NO RIGHT, TITLE
OR INTEREST IN ANY LAND IN ANY UNPLATTED LAND CONTIGUOUS TO ANY PART OF THE
LAND INCLUDED IN THIS SHORT PLAT. THIS SHORT PLAT IS MADE WITH OUR FREE
CONSENT IN ACCORDANCE WITH OUR EXPERIENCE.

PAID THIS DAY OF April 2008.

SUZUKI HONGKONG

SURVEYOR'S CERTIFICATION

THIS MAP CORRECTLY REPRESENTS A SURVEY MADE BY ME OR UNDER MY DIRECTION IN CONFORMANCE WITH THE REQUIREMENTS OF THE SURVEY RECORDING ACT AT THE REQUEST OF KYUNG S. HONG AND SUSIE HONG IN JANUARY, 2008.

RICHARD A. HEALEY, PLS.
CERTIFICATE NUMBER 20719

DATE 7/31/

51100000

I HEREBY APPROVE THIS SHORT SUBDIVISION AND FIND FROM THE FILE THAT THE SHORT PLAT MEETS ALL APPLICABLE ZONING AND LAND USE CONTROLS, AND MAKES NECESSARY PROVISIONS FOR THE PUBLIC HEALTH, SAFETY AND GENERAL WELFARE.

APPROVED THIS 14 DAY OF April 2008

Her Honor McCarthy, FAICP
CITY OF MINNIE IFO PLANNING DIRECTOR

CITY OF MILWAUKEE PUBLIC WORKS DIRECTOR

TRCA SINGLES CERTIFICATE

I HEREBY CERTIFY THAT ALL STATE AND COUNTY TAXES HERETOFORE LEVIED AGAINST THE PROPERTY DESCRIBED HEREIN, ACCORDING TO THE BOOKS AND RECORDS OF MY OFFICE, HAVE BEEN FULLY PAID AND DISCHARGED, INCLUDING ~~2008~~ TAXES.

KIRKE SEEVERS

BY: [Signature] 7-30-08
DEPUTY COUNTY TREASURER

WINDTOD & CERTIFICATE

FILED FOR RECORD AT THE REQUEST OF ORCA LAND SURVEYING, INC., THIS 30 DAY
OF July, 2008, AT 5:3 MINUTES PAST 10 A.M. AND RECORDED IN
VOLUME 1 OF PLATS, PAGE 1, A.F. NO. 200807305215
RECORDS OF SNOHOMISH COUNTY, WASHINGTON

CAROLYN DIEPENBROOK
AUDITOR SNOHOMISH COUNTY

200' LOT LINE DISTANCE AND 100' LOT LINE DISTANCE EASEMENT PRIVATE ROAD

THAT PORTION OF LOT 4, MUKILTEO HEIGHTS, ACCORDING TO THE PLAT THEREOF, RECORDED IN VOLUME 12 OF PLATS, PAGE 118, RECORDS OF SNOHOMISH COUNTY, WASHINGTON, BEING AS FOLLOWS:

BEGINNING AT THE SOUTH-WEST CORNER THEREOF;
 THENCE NORTH 15°05'36" WEST, A DISTANCE OF 118.21 FEET;
 THENCE NORTH 74°54'24" EAST, A DISTANCE OF 66.25 FEET;
 THENCE NORTH 74°54'24" EAST, A DISTANCE OF 22.00 FEET;
 THENCE SOUTH 15°05'36" EAST, A DISTANCE OF 32.46 FEET;
 THENCE SOUTH 74°54'24" WEST, A DISTANCE OF 20.00 FEET;
 THENCE SOUTH 28°31'13" WEST, A DISTANCE OF 81.73 FEET;
 THENCE SOUTH 15°05'36" EAST, A DISTANCE OF 20.00 FEET;
 THENCE SOUTH 74°54'24" WEST, A DISTANCE OF 20.00 FEET;

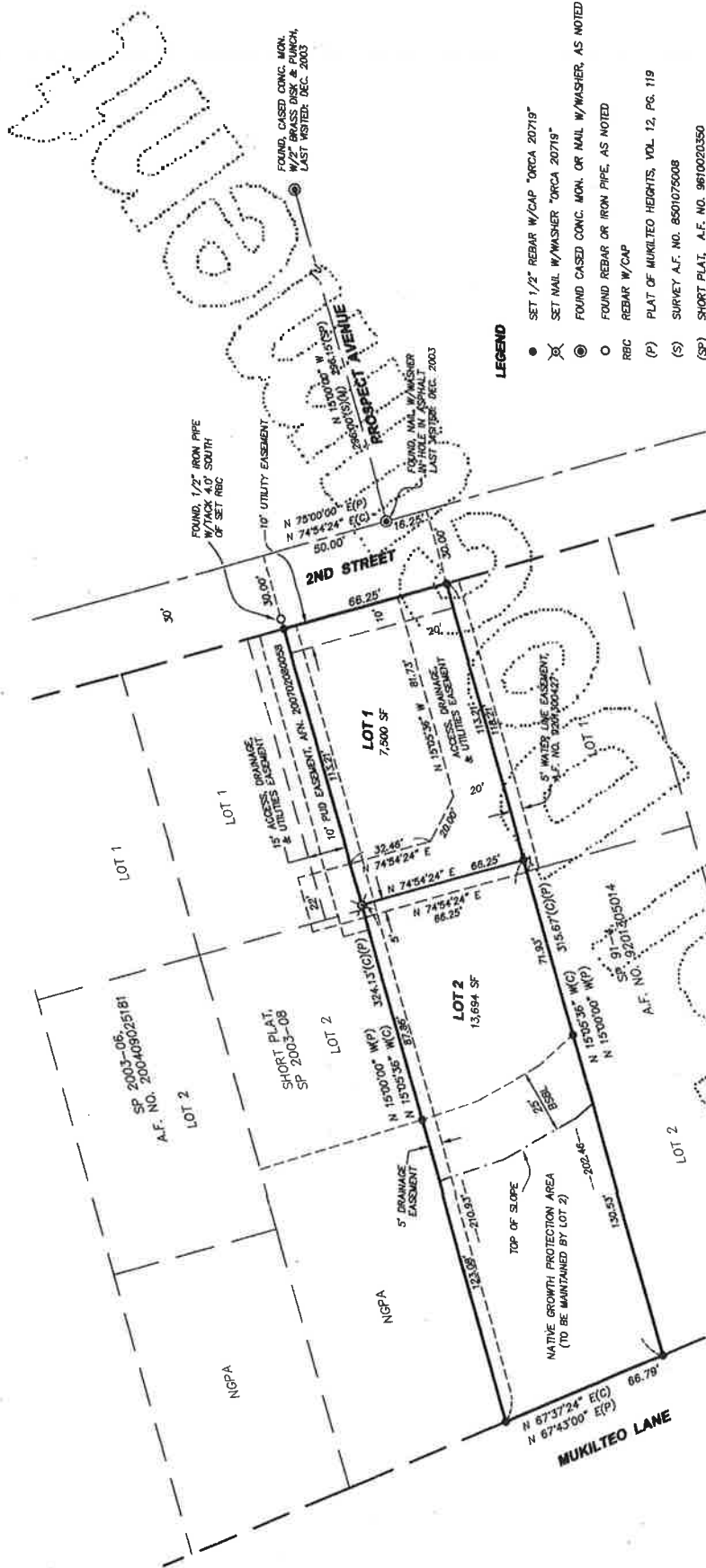
SHORT SUBDIVISION NO. 2 FOR
KYUNG HONG & SUSIE HONG
SP 2006-03

IN THE NE 1/4 OF THE NE 1/4 OF SECTION 4, T.28N., R.4E., W.M.
CITY OF MUKILTEO. SNOHOMISH COUNTY. WASHINGTON

JOB NO. 2006001
DATE: 4/3/08
DWG: KMG
SHEET 1 OF 2

**ORCA Land Surveying**
3005 COLBY AVENUE, EVERETT, WA 98201
425-270-1200 FAX 425-270-1215

RECEIVED
SEP 29 2017
CITY OF MILWAUKEE



LEGEND

- SET 1/2" REBAR W/CAP "ORCA 20719"
- ⊗ SET NAIL W/WASHER "ORCA 20719"
- ⊙ FOUND Cased CONC. MON. OR NAIL W/WASHER, AS NOTED
- FOUND REBAR OR IRON PIPE, AS NOTED
- RBC REBAR W/CAP
- (P) PLAT OF MUKILTEO HEIGHTS, VOL. 12, PG. 119
- (S) SURVEY A.F. NO. 8501075008
- (SP) SHORT PLAT, A.F. NO. 9610020350
- (C) CALCULATED DISTANCE
- (M) MEASURED DISTANCE



EASEMENT PROVISIONS

AN EASEMENT IS HEREBY RESERVED FOR AND GRANTED TO AND ALL UTILITIES SERVING THE SUBJECT SHORT PLAT AND THEIR RESPECTIVE SUCCESSORS, AND ASSIGNS, UNDER AND UPON THE EXTERIOR TO FEET PARALLEL WITH AND ADJOINING THE STREET FRONTAGE OF ALL LOTS, TRACTS AND UNDERGROUND CONDUITS, CABLES, PIPE, AND WIRES WITH NECESSARY FACILITIES AND OTHER EQUIPMENT FOR THE PURPOSE OF SERVING THIS SHORT SUBDIVISION AND OTHER PROPERTY WITH ELECTRICITY, TELEPHONE, GAS, TELEVISION CABLE AND OTHER UTILITY SERVICE TOGETHER WITH THE RIGHT TO ENTER UPON THE LOTS, TRACTS, AND COMMON AREAS AT ALL TIMES FOR THE PURPOSES HEREIN STATED.

ACCESS, DRAINAGE & UTILITIES EASEMENT/PRIVATE ROAD

COMMON SHARED DRIVEWAYS, ROWWAYS, AND RETAINING SYSTEMS IN THE ACCESS DRAINAGE AND UTILITIES EASEMENT/PRIVATE ROAD AS SHOWN HEREON, SHALL BE MAINTAINED BY AND BE THE COLLECTIVE RESPONSIBILITY OF ALL THE COAST THEREOF SHALL BE BORNE IN EQUAL SHARES BY THE OWNERS OF LOT 2 OF THIS SHORT PLAT AND THE OWNERS OF LOT 2 OF HONG SHORT PLAT, SP 2003-08, THEIR HEIRS, SUCCESSORS, AND ASSIGNS.

THIS SHORT PLAT AND THE HONG SHORT PLAT, SP 2003-08 ARE TO BE RECORDED SEPARATELY.

EQUIPMENT AND PROCEDURES

INSTRUMENTATION: LEICA TBM1250 TOTAL STATION

METHOD OF SURVEY: FIELD TRAVERSE OF EXISTING MONUMENTATION

PRECISION: MEETS OR EXCEEDS W.A.C. 332-130-090 REQUIREMENTS

BASIS OF BEARING: THE MONUMENTED CENTERLINE OF PROSPECT AVENUE, AS THE BEARING OF N 15°00'00" W, PER SHORT PLAT RECORDED UNDER AUDITOR'S FILE NUMBER 200409025181, RECORDS OF SNOHOMISH COUNTY, WASHINGTON.



ORCA Land Surveying
3800 COLBY AVENUE, EVERETT, WA 98201
425-258-3400 FAX 425-258-1816

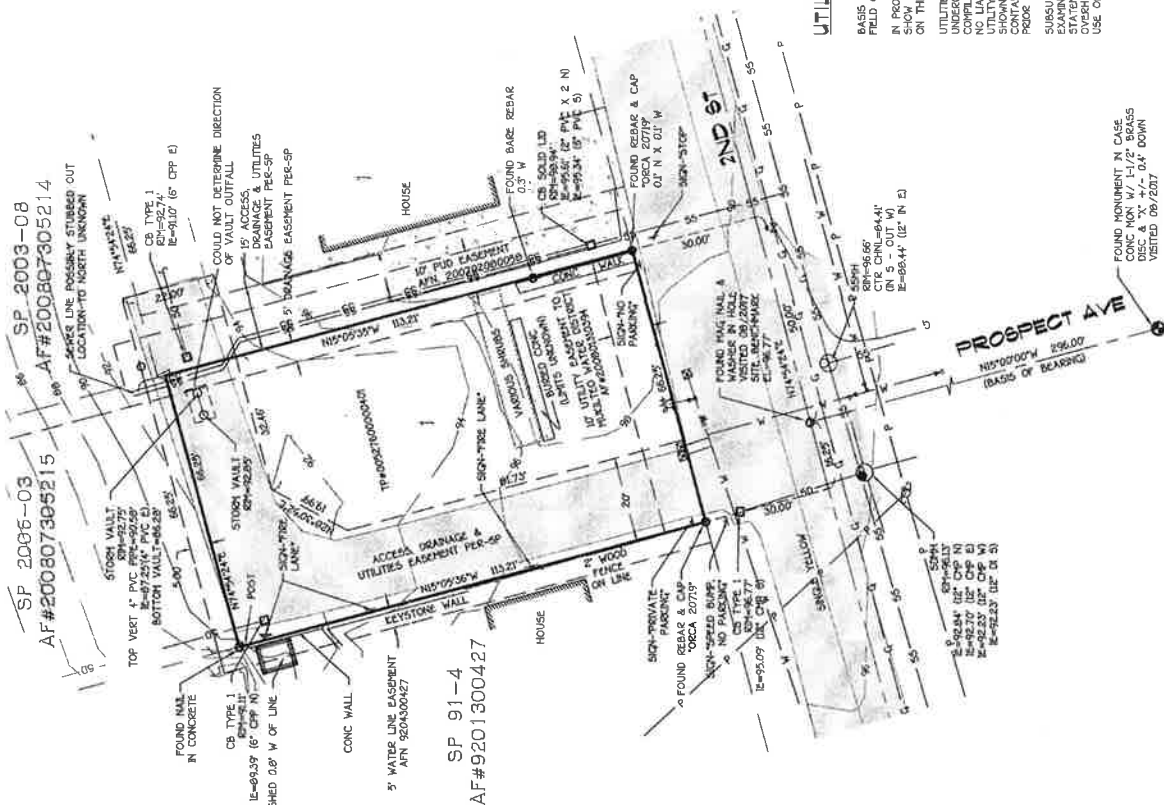
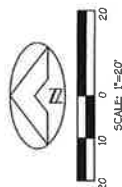
SHORT SUBDIVISION NO. 2 FOR
KYUNG HONG & SUSIE HONG
SP 2006-03

IN THE NE 1/4 OF THE NE 1/4 OF SECTION 4, T.28N., R.4E., W.M.
CITY OF MUKILTEO, SNOHOMISH COUNTY, WASHINGTON

JOB NO. 2006001
DATE: 4/3/08
DWS: KMG
SHEET 2 OF 2

A.F. NO. 200807305215

BUDGET SOUND



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|-----------------------------|--------------------------------|---------------|-------------|---------------------|-------------|-------------|-------------------------|--------------|-----------|------|-------|-------|-------------|--------------------|-------|-----|---------|----------|--------|
| MONUMENT IN CASE (AS NOTED) | SET MAG NAIL & WASHER 1/8" DIA | SEWER MANHOLE | CATCH BASIN | STORM DRAIN MANHOLE | WATER VALVE | WATER METER | POWER JUNCTION BOX/REED | UTILITY POLE | GAS VALVE | SIGN | FENCE | SEWER | STORM DRAIN | OVERHEAD UTILITIES | WATER | GAS | ASPHALT | CONCRETE | GRAVEL |
| | | | | | | | | | | | | | | | | | | | |

LEGAL DESCRIPTION

CHICAGO TITLE COMMITTEE NO. 2006-03-028
LOT 1, SNOHOMISH COUNTY SHORT PLAT NUMBER 99 2006-03, AS
RECORDED UNDER RECORDING NUMBER 200607305215, BEING A PORTION OF
LOT 4, HUKLETT HEIGHTS RECORDED IN VOLUME 12 OF PLATS, PAGE(S) 113,
RECORDS OF SNOHOMISH COUNTY, WASHINGTON
SITUATE IN THE COUNTY OF SNOHOMISH, STATE OF WASHINGTON.

BASIS OF BEARING

NORTH 15°00'00" WEST ALONG THE CENTERLINE OF PROSPECT AVENUE PER
SHORT PLAT RECORDED UNDER AUDITOR'S FILE NUMBER 200807305215.

DATUM NAVD 83
BENCHMARK

SITE BENCHMARK: FOUND MAG NAIL & WASHER AT THE INTERSECTION OF
 2ND STREET AND PROSPECT AVE
 EL=96.77'

VISIT: BENCHMARK ESTABLISHED FROM MULTIPLE GPS OCCUPATIONS WITH OPUS SOLUTIONS

DATUM CONVERSION
NAVD80-NGVD29 = 3.65'

Survey Notes

EQUIPMENT: 3" OR LESS TOTAL STATION AND/OR GNSS NETWORK ROVER
METHOD: FIELD TRAVERSE AND/OR WASHINGTON STATE REFERENCE NETWORK
GNSS

THE CLOSURES OF THIS FIELD TRAVERSE CONDUCTED DURING THIS SURVEY

FIELD WORK PERFORMED ON AUGUST 25, 2017

Survey experiences

PLAT OF MUKILTEO HEIGHTS, VOLUME 12 OF PLATS, PAGE 119
SHORT PLAT/RECORD OF SURVEY, 5F-2003-06 AFN 200409025181
SHORT PLAT, AFN 2008007305215
SHORT PLAT, AFN 2008007305214

Site Data

511E SITE ADDRESS:
T80, MUKILTEO, WA 98206
TAX PARCEL NUMBER:
00527600000401
2005 SITE AREA:
7500 SF (0.1722 ACRES)

00000000000000000000000000000000



5205 S 2ND AVE, SUITE A
EVERETT, WA 98203
(425) 252-1884

BOUNDARY/TOPOGRAPHIC
SURVEY

FOR SITES

NE 1/4, NE 1/4 OF SECTION 04, TOWNSHIP 28 NORTH,

CITY OF MUKILTEO
SNOHOMISH COUNTY, WASHINGTON

217121

250

20

NET

OF 1

7121

**APPLICANT
COPY**

RECEIVED

APR 17 2005

CITY OF MUKILTEO

**Residential Site Evaluation
Two-Lot Short Plat
1100 - 2nd Street
Mukilteo, Washington
For
Mr. Kyung Hong**

RECEIVED

SEP 29 2017 01/

CITY OF MUKILTEO

Cornerstone



Geotechnical, Inc.

**Residential Site Evaluation
Two-Lot Short Plat
1100 - 2nd Street
Mukilteo, Washington
For
Mr. Kyung Hong**

April 14, 2006

Mr. Kyung Hong
PO Box 195
Everett, Washington 98206

Residential Site Evaluation
Two-Lot Short Plat
1100 - 2nd Street
Mukilteo, Washington
CG File No. 2080

Dear Mr. Hong:

INTRODUCTION

This report presents the results of our geotechnical evaluation for the planned two-lot short plat at 1100 – 2nd Street in Mukilteo, Washington. The location of the site is shown on the Vicinity Map, Figure 1. We understand that the City of Mukilteo requires that a geotechnical engineer evaluate the conditions in the area north of the proposed development because the site is mapped by the City as part of a steep slope hazard area. This study is intended to satisfy that requirement.

You plan to subdivide a lot with an existing single-family residence and construct a second single-family residence at the central portion of the site. For our use in preparing this report, you provided us with a topographic survey by ORCA Surveying and Planning, dated February 17, 2006, showing the northern steep slope area along with the locations of the existing and proposed residences. We used this topographic survey to create a Site Plan that is attached as Figure 2. We have previously prepared a geotechnical evaluation for the adjacent lot to the east of this site, dated February 20, 2004.

SCOPE

The purpose of our services was to evaluate site conditions and to provide recommendations for development. Our scope of services, outlined in our Services Agreement dated March 7, 2006, included the following:

Residential Site Evaluation

Two-Lot Short Plat

1100 - 2nd Street

April 14, 2006

CG File No. 2080

Residential Site Evaluation

Two-Lot Short Plat

1100 2nd Street

April 14, 2006

CG File No. 2000

Page 3

the geomorphic features seen today are a result of scouring and overriding by glacial ice. During the Vashon Stade, much of the Puget Sound region was overridden by over 3,000 feet of ice. Soil layers overridden by the ice sheet were compacted to a much greater extent than those that were not.

We reviewed the geologic map for the area, Distribution and Description of Geologic Units in the Mukilteo Quadrangle, Washington, by James P. Minard (USGS, 1982). The site is mapped as being located at the contact of pre-Vashon transitional beds and Whidbey Formation silts, with isolated pockets of glacial till and recessional outwash mapped nearby. Many of these soils have been glacially consolidated and exhibit high strength. We encountered soils that we have classified as recessional outwash.

Explorations

Subsurface conditions were explored at the site on March 21, 2006, by excavating two test holes with a portable hand auger. These test holes, called "hand augers" in this report, were excavated to depths of 7.2 and 5.6 feet below the ground surface. The explorations were located in the field by an engineer from this firm who also examined the soils and geologic conditions encountered, and maintained logs of the hand augers. The approximate locations of the hand augers are shown on the Site Plan in Figure 2. The soils were visually classified in general accordance with the Unified Soil Classification System, a copy of which is presented as Figure 3. The logs of the hand augers are presented in Figure 4.

Subsurface Conditions

Our explorations encountered a surficial layer of topsoil approximately 0.5 feet thick. Underlying the topsoil, Hand Auger 2 encountered approximately 0.5 feet of yard fill overlying a second topsoil layer. Underlying the fill or topsoil layers, both explorations encountered a weathered soil horizon. The weathered horizon consisted of loose to medium dense sand with gravel, and we have classified the soil as

We reviewed the exploration logs from the existing studies. These explorations encountered similar subsurface conditions to those encountered by our hand augers.

Ground Water Conditions

We did not encounter ground water during the excavation of the hand augers. The underlying outwash sand is generally considered to be well draining. We observed horsetails along the bottom 10 to 20 feet of the slope, near Mukilteo Lane. Horsetails typically indicate wet conditions that have resulted from either groundwater perched on less permeable underlying silt/till, or from the site's proximity to the shoreline. Volumes of ground water typically vary depending upon the time of year and the upslope recharge conditions.

We understand that high ground water has been reported at the bottom of the slope during the winter months.

GEOLOGIC HAZARDS

Erosion Hazard

The erosion hazard criteria used for determination of affected areas includes soil type, slope gradient, vegetation cover, and ground water conditions. The erosion sensitivity is related to vegetative cover and the specific surface soil types (group classification), which are related to the underlying geologic soil units. The Soil Survey of Snohomish County Area Washington by the Soil Conservation Service (SCS) was reviewed to determine the erosion hazard of the on-site soils. The site surface soils were classified using the SCS classification system as Everett gravelly sandy loam, 0 to 8 percent slopes (Unit 17) in the southern region of the site, and Alderwood-Everett gravelly sandy loam, 25 to 70 percent slopes (Unit 4) in the northern region of the site in the steep slope area. The corresponding geologic unit for Unit 17 is outwash and erosion hazard for this unit is listed as being slight. The corresponding geologic units for Unit 4 include outwash and till; our explorations encountered outwash. The erosion hazard for Unit 4 is listed as being high due to the steep conditions.

Seismic Hazard

It is our opinion based on our subsurface explorations that the Soil Profile in accordance with Table 1615.1.1 of the 2003 International Building Code (IBC) is Soil Class C. We referenced the 2002 map

from the US Geological Survey (USGS) website to obtain values for S_s and S_1 . The USGS website includes the most updated published data on seismic conditions. The seismic design parameters are:

S_s	129.20% g	
S_1	46.38% g	
F_a	1.0	From Table 1615.1.2(1) of the 2003 IBC
F_v	1.34	From Table 1615.1.2(2) of the 2003 IBC

Site specific coefficients and adjusted maximum considered earthquake spectral response acceleration parameters apply as shown in Section 1615.1 of the IBC.

Additional seismic considerations include liquefaction potential and amplification of ground motions by soft soil deposits. The liquefaction potential is highest for loose sand with a high ground water table. The underlying dense outwash soils are considered to have a low potential for liquefaction and amplification of ground motion.

Slope Stability

The slope at the north end of the site does not appear to have slope stability problems. The geologic units in this area are considered stable. Sometimes there can be local instability where the outwash overlies less permeable deposits such as silt or glacial till. Ground water outcrops can occur on the slope at this contact. From Mukilteo Lane, we did not observe signs of slope instability along the north side of the site that would indicate this condition. The approximate location of the planned residence closest to the slope is shown in Section A-A'. This upper portion of the slope has the appearance of past grading or at least surficial stripping (e.g. garden terraces). Based on our hand auger data, any fill placed on the slope should be minimal in depth. Although we did not see any signs of instability of this slope, some shallow failures may be possible. Our recommended setbacks would add a suitable factor of safety such that if minor movement occurred, it should not impact the planned residence.

CONCLUSIONS AND RECOMMENDATIONS

General

In our opinion, the medium dense or better native soils should provide good support for the foundation of

the planned residence. Based on our explorations, we expect suitable bearing soils will most likely be encountered at a depth of about 2 feet. There may be some loose or fill soil in the backyard area of the existing residence and at the upper portion of the northern slope. This should be evaluated at the time of construction. Using the following setback recommendations for the steep slope area, it is our opinion that the planned residence will not be placed at significant risk due to geologic hazards in the area, and should be considered to be a "reasonable use" of the site. We did not identify any geologic hazards that presented a significant risk to the planned residence using these setbacks.

Building Setbacks

Uncertainties related to building along the top of steep slopes are typically addressed by the use of building setbacks. The purpose of the setback is to establish a "buffer zone" between the structure areas and the top of the slope so that ample room is allowed for normal slope recession during a reasonable life span of the structure (usually taken to be 100 years). In a general sense, a greater setback will result in a lower risk to the structure. From a geological standpoint, the setback dimension is based on the slope's physical characteristics, such as slope height, surface angle, material composition, and hydrology. Other factors, such as historical slope activity, rate of regression, and the type and desired life span of the development, are important considerations as well.

It is our opinion that an "effective" setback of 25 feet from the top of the slope is adequate for the planned residence. The "effective" setback is the horizontal distance measured from the nearest edge of the footing to the slope face, illustrated in Figure 6. The large tree on the slope east of the planned residence indicates that no significant activity has occurred in the last 100 years. Measures to improve stability of the slope should be implemented, such as directing surface water away from the slope and avoid placing fill or yard debris on the slope.

Site Preparations and Grading

The first step of site preparation should be to strip the vegetation, topsoil, loose or disturbed soils to expose medium dense to dense native soils in pavement and building areas. This material should be removed from the site, or stockpiled for later use as landscaping fill. The resulting subgrade should be compacted to a firm, non-yielding condition. Areas observed to pump or weave should be repaired prior to placing hard surfaces. We recommend using a vibratory double-drum walk-behind compactor on this

site. Attention should be paid to the impact the vibrations have on the adjacent structure. If excessive vibrations are felt, an alternative compaction method may be appropriate.

Fill should not be placed between the planned structure and the top of slope unless the planned grading is specifically reviewed by us.

Temporary and Permanent Slopes

Temporary cut slope stability is a function of many factors, such as the type and consistency of soils, depth of the cut, surcharge loads adjacent to the excavation, length of time a cut remains open, and the presence of surface or ground water. It is exceedingly difficult under these variable conditions to estimate a stable temporary cut slope geometry. Therefore, it should be the responsibility of the contractor to maintain safe slope configurations, since the contractor is continuously at the job site, able to observe the nature and condition of the cut slopes, and able to monitor the subsurface materials and ground water conditions encountered.

We anticipate temporary cuts for foundation installation. For planning purposes, we recommend that temporary cuts in the near-surface weathered soils be no greater than 1.5 Horizontal to 1 Vertical (1.5H:1V). Cuts in the dense outwash may stand at 1H:1V. If ground water seepage is encountered, we would expect that flatter inclinations would be necessary.

We recommend that cut slopes be protected from erosion. Measures taken may include covering cut slopes with plastic sheeting and diverting surface runoff away from the top of cut slopes. We do not recommend vertical slopes for cuts deeper than 4 feet, if worker access is necessary. We recommend that cut slope heights and inclinations conform to local and WISHA/OSHA standards.

Final slope inclinations for structural fill and the cuts in the native soils should be no steeper than 2H:1V. Lightly compacted fills or common fills should be no steeper than 3H:1V. Common fills are defined as fill material with some organics that are "trackrolled" into place. They would not meet the compaction specification of structural fill. Final slopes should be vegetated and covered with straw or jute netting. The vegetation should be maintained until it is established.

Foundations

Conventional, shallow spread foundations should be founded on undisturbed, medium dense or firmer soil. If the soil at the planned bottom of footing elevation is not suitable, it should be overexcavated to expose suitable bearing soil. Footings should extend at least 18 inches below the lowest adjacent finished ground surface for frost protection and it should also extend at least 1 foot into bearing soils, whichever is deeper. Minimum foundation widths should conform to IBC requirements. Standing water should not be allowed to accumulate in footing trenches. All loose or disturbed soil should be removed from the foundation excavation prior to placing concrete.

For foundations constructed as outlined above, we recommend an allowable design bearing pressure of 2,500 pounds per square foot (psf) be used for the footing design. IBC guidelines should be followed when considering short-term transitory wind or seismic loads. Potential foundation settlement using the recommended allowable bearing pressure is estimated to be less than 1-inch total and ½-inch differential between footings or across a distance of about 30 feet. Higher soil bearing values may be appropriate with wider footings. These higher values can be determined after a review of a specific design.

Deck foundations may be placed within the 25-foot setback, but should not be closer than 10 feet from the existing top of slope. Deck footings near the top of the slope should extend down to native soil, as recommended for building foundations. In a general sense, a deeper embedment into native soil tends to reduce the long-term risks to the deck associated with the existing slope.

Lateral Loads

The lateral earth pressure acting on retaining walls is dependent on the nature and density of the soil behind the wall, the amount of lateral wall movement, which can occur as backfill is placed, and the inclination of the backfill. Walls that are free to yield at least one-thousandth of the height of the wall are in an "active" condition. Walls restrained from movement by stiffness or bracing are in an "at-rest" condition. Active earth pressure and at-rest earth pressure can be calculated based on equivalent fluid density. Equivalent fluid densities for active and at-rest earth pressure of 35 pounds per cubic foot (pcf) and 55 pcf, respectively, may be used for design for a level backslope. These values assume that the on-site soils or imported granular fill are used for backfill, and that the wall backfill is drained. The preceding values do not include the effects of surcharges, such as due to foundation loads or other surface loads. Surcharge effects should be considered where appropriate. The above drained active and at-rest

values should be increased by a uniform pressure of $6.7H$ and $20.9H$ psf, respectively, when considering seismic conditions. H represents the wall height.

The above lateral pressures may be resisted by friction at the base of the wall and passive resistance against the foundation. A coefficient of friction of 0.45 may be used to determine the base friction in the native glacial soils. An equivalent fluid density of 225 pcf may be used for passive resistance design. To achieve this value of passive pressure, the foundations should be poured "neat" against the native dense soils, or compacted fill should be used as backfill against the front of the footing, and the soil in front of the wall should extend a horizontal distance at least equal to three times the foundation depth. A factor of safety of 2.0 has been applied to the passive pressure to account for required movements to generate these pressures. The friction coefficient does not include a factor of safety.

All wall backfill should be well compacted. Care should be taken to prevent the buildup of excess lateral soil pressures due to overcompaction of the wall backfill. This can be accomplished by placing wall backfill in 8-inch loose lifts and compacting with small, hand-operated compactors.

Slabs-On-Grade

Slab-on-grade areas should be prepared as recommended in the **Site Preparation and Grading** subsection. Slabs should be supported on medium dense to dense native soils, or on structural fill extending to these soils. Where moisture control is a concern, we recommend that slabs be underlain by 6 inches of free-draining sand or gravel for use as a capillary break. A suitable vapor barrier, such as heavy plastic sheeting, should be placed over the capillary break. If desired, a sand blanket could be placed over the vapor barrier to aid in curing of the concrete.

Drainage

We recommend that runoff from impervious surfaces, such as the roof and paved areas, be collected and routed to an appropriate storm water discharge system. The roof drains should be tightlined separate of the footing drains, until the tightline is a minimum of 1-foot vertically down gradient from the footing drains.

Final site grades should allow for drainage away from the buildings. We suggest that the finished ground be sloped at a gradient of 3 percent minimum, for a distance of at least 10 feet away from the buildings.

Surface water should be collected by permanent catch basins and drain lines, and be discharged into a storm drain system.

We recommend that footing drains be installed on the outside of perimeter footings. The footing drains should be at least 4 inches in diameter and should consist of perforated or slotted, rigid, smooth-walled PVC pipe, laid at the bottom of the footings. The drain line should be surrounded with free-draining pea gravel or coarse sand. The top 1 foot of footing stem wall backfill should consist of relatively impermeable material to limit surface water infiltration into the footing drain. For extended stem walls, the recommended footing drains will also serve as wall drains.

USE OF THIS REPORT

We have prepared this report for Mr. Kyung Hong and his agents, for use in planning and design of this project. Our report, conclusions, and interpretations should not be construed as a warranty of site conditions.

The scope of our services does not include services related to construction safety precautions, and our recommendations are not intended to direct the contractors' methods, techniques, sequences or procedures, except as specifically described in our report, for consideration in design. There are possible variations in subsurface conditions. We recommend that project planning include contingencies in budget and schedule, should areas be found with conditions that vary from those described in this report.

We should be retained to provide monitoring and consultation services during construction to confirm that the conditions encountered are consistent with those indicated by the explorations, and to provide recommendations for design changes, should the conditions revealed during the work differ from those anticipated. As part of our services, we would also evaluate whether or not earthwork and foundation installation activities comply with contract plans and specifications.

Within the limitations of scope, schedule, and budget for our services, we have strived to take care that our work has been completed in accordance with generally accepted practices followed in this area at the time this report was prepared. No other conditions, expressed or implied, should be understood.

Residential Site Evaluation
Two-Lot Short Plat
1100 - 2nd Street
April 14, 2006
CG File No. 2080
Page 11

We appreciate the opportunity to be of service to you. If there are any questions concerning this report or if we can provide additional services, please call.

Sincerely,

Cornerstone Geotechnical, Inc.



Jeff Laub, LG
Project Geologist

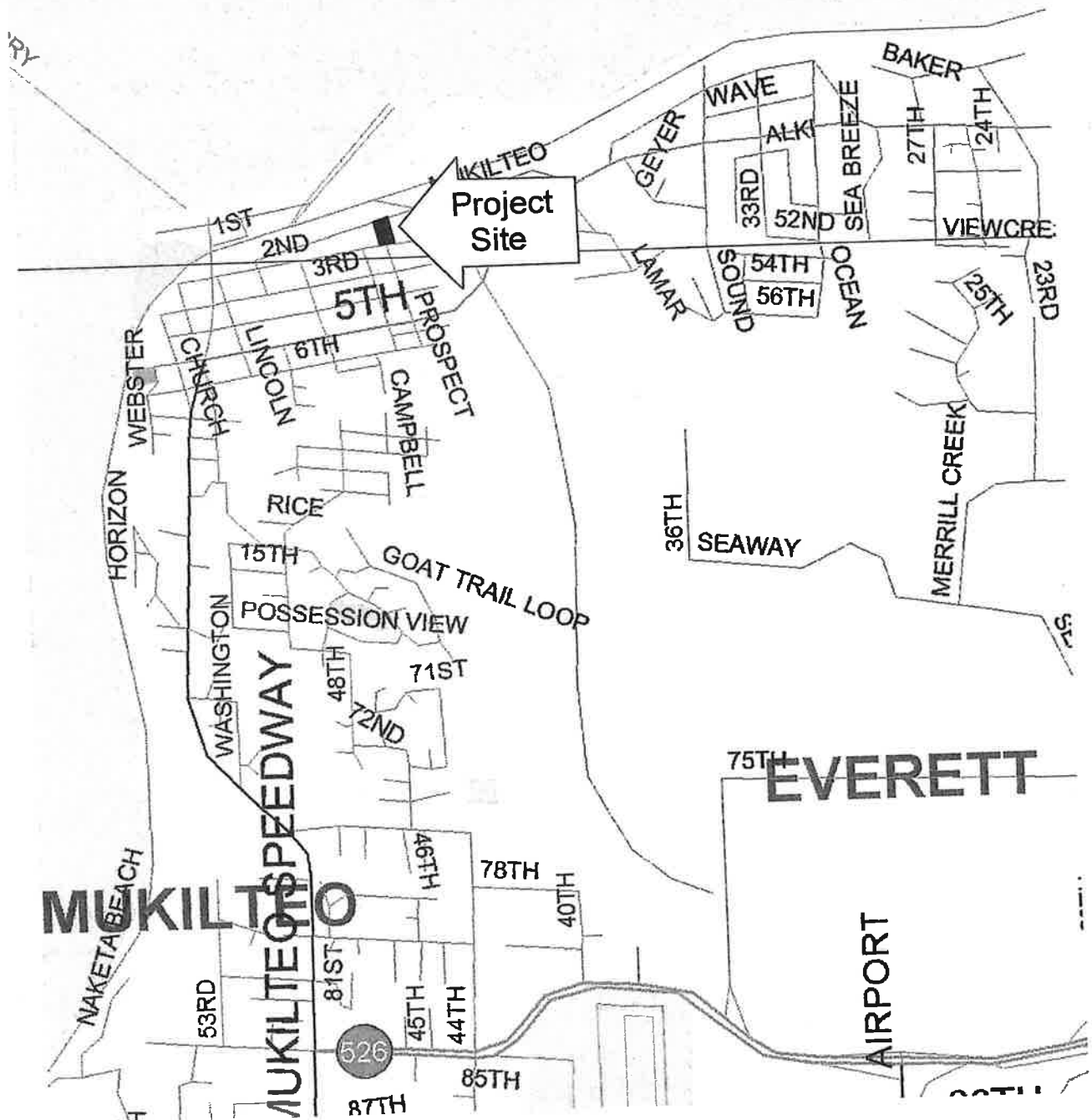
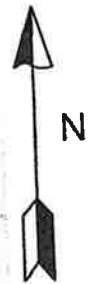


Charles P. Couvrette, PE
Principal

JRW:JPL:CPC:nt

Three Copies Submitted
Six Figures
Information about this Geotechnical Engineering Report

Vicinity Map



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Geotechnical, Inc.

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Fax: (425) 844-1987

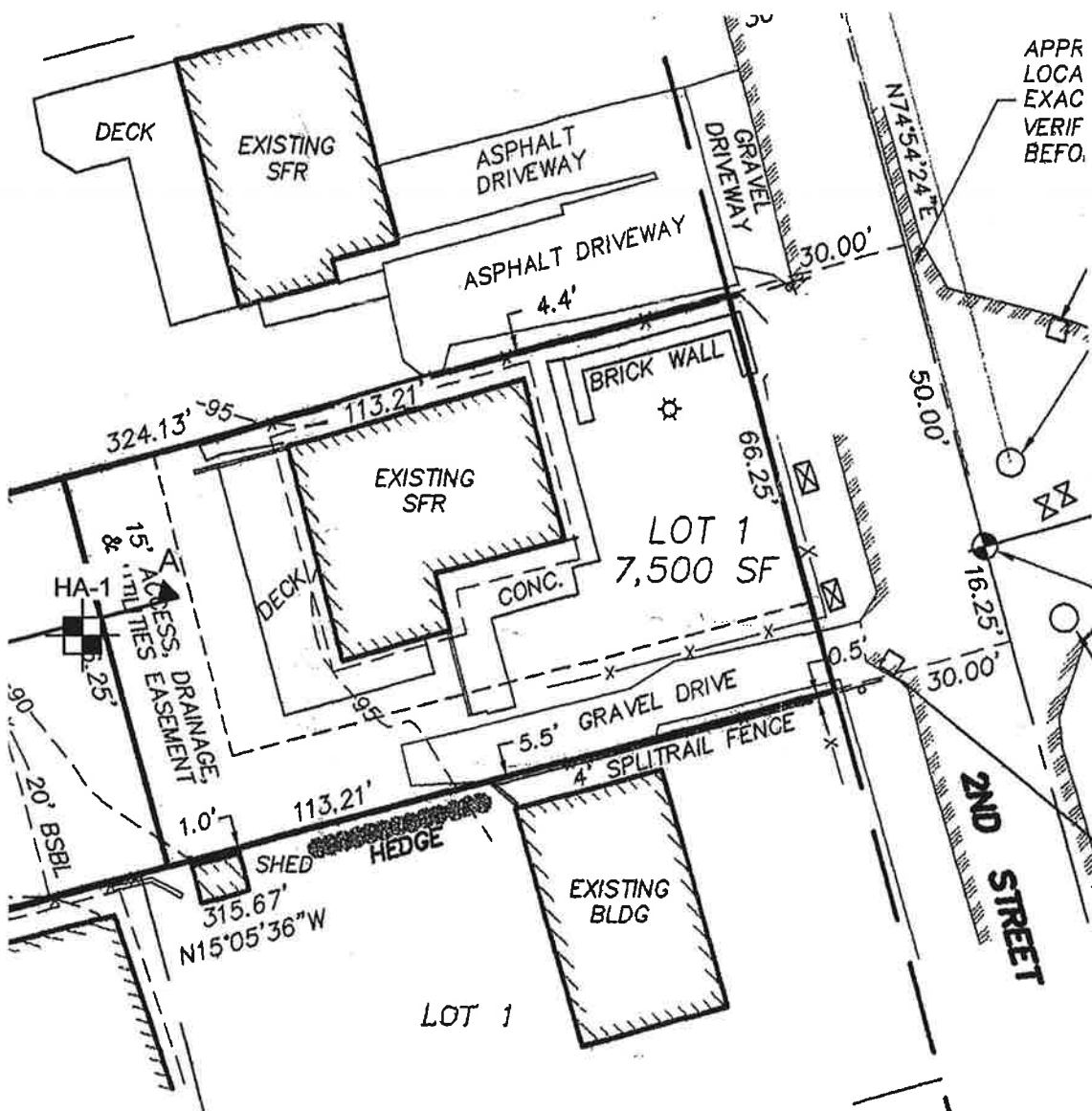
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Hong - 1100 2nd Ave. Short Plat

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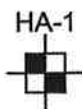
Figure
1

Site Plan



91-4, A.F. NO. 9201305014

LEGEND



HA-1
Number and Approximate
Location of Hand Auger

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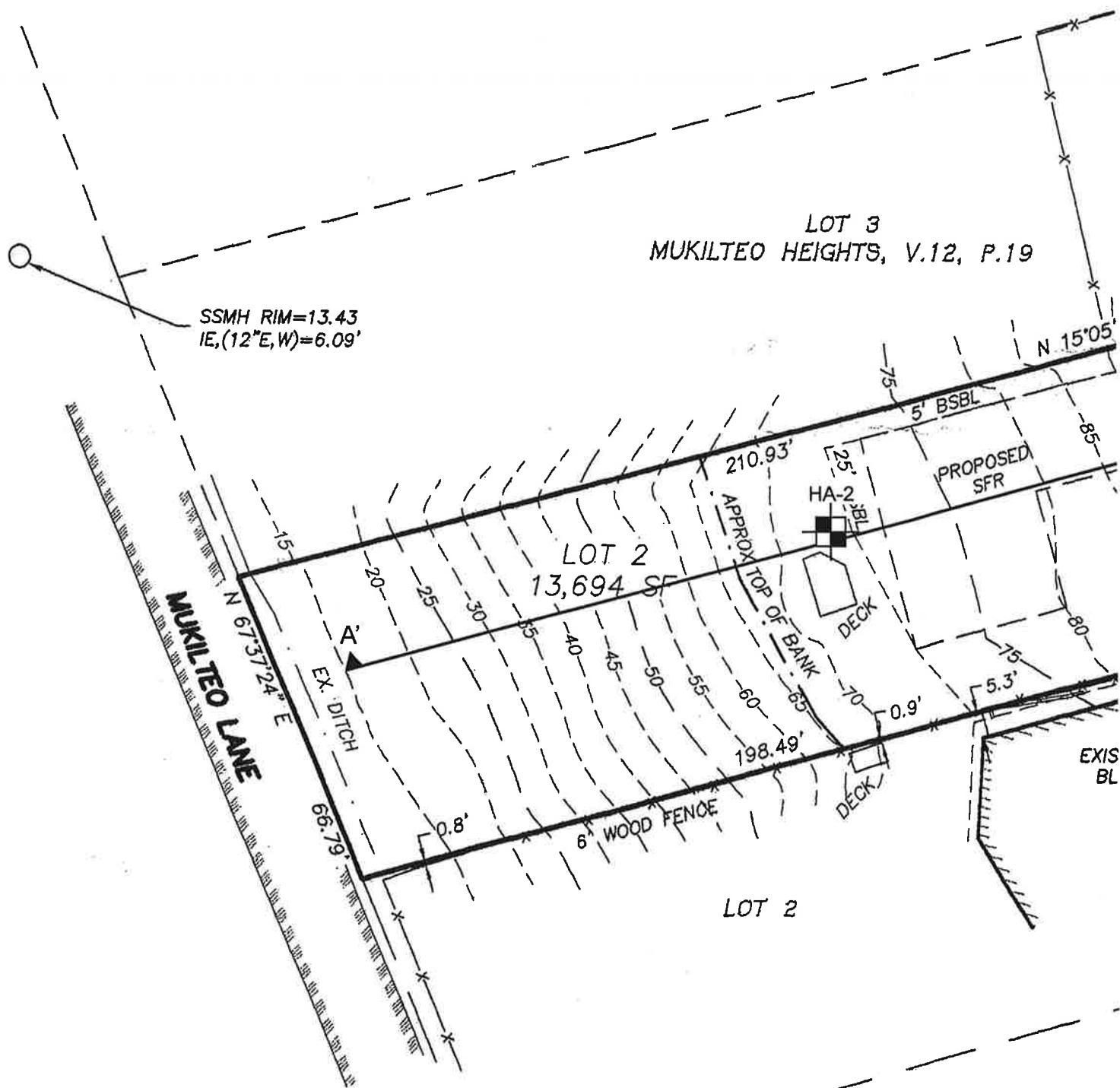
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Figure

2



Reference: Site Plan based on Site Plan dated 2/17/06 and prepared by ORCA Land Surveying titled "Preliminary Short Subdivision for Kyung Hong".

Unified Soil Classification System

MAJOR DIVISIONS			GROUP SYMBOL	GROUP NAME
COARSE - GRAINED SOILS MORE THAN 50% RETAINED ON number 200 SIEVE	GRAVEL MORE THAN 50% OF COARSE FRACTION RETAINED ON NO. 4 SIEVE	CLEAN GRAVEL	GW	WELL-GRADED GRAVEL, FINE TO COARSE GRAVEL
			GP	POORLY-GRADED GRAVEL
		GRAVEL WITH FINES	GM	SILTY GRAVEL
			GC	CLAYEY GRAVEL
	SAND MORE THAN 50% OF COARSE FRACTION PASSES NO. 4 SIEVE	CLEAN SAND	SW	WELL-GRADED SAND, FINE TO COARSE SAND
			SP	POORLY-GRADED SAND
		SAND WITH FINES	SM	SILTY SAND
			SC	CLAYEY SAND
FINE - GRAINED SOILS MORE THAN 50% PASSES NO. 200 SIEVE	SILT AND CLAY LIQUID LIMIT LESS THAN 50%	INORGANIC	ML	SILT
			CL	CLAY
	SILT AND CLAY LIQUID LIMIT 50% OR MORE	ORGANIC	OL	ORGANIC SILT, ORGANIC CLAY
		INORGANIC	MH	SILT OF HIGH PLASTICITY, ELASTIC SILT
			CH	CLAY OF HIGH PLASTICITY, FAT CLAY
		ORGANIC	OH	ORGANIC CLAY, ORGANIC SILT
			HIGHLY ORGANIC SOILS	

NOTES:

- 1) Field classification is based on visual examination of soil in general accordance with ASTM D 2488-83.
- 2) Soil classification using laboratory tests is based on ASTM D 2487-83.
- 3) Descriptions of soil density or consistency are based on interpretation of blowcount data, visual appearance of soils, and/or test data.

SOIL MOISTURE MODIFIERS

Dry- Absence of moisture, dusty, dry to the touch

Moist- Damp, but no visible water

Wet- Visible free water or saturated, usually soil is obtained from below water table

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Unified Soil Classification System

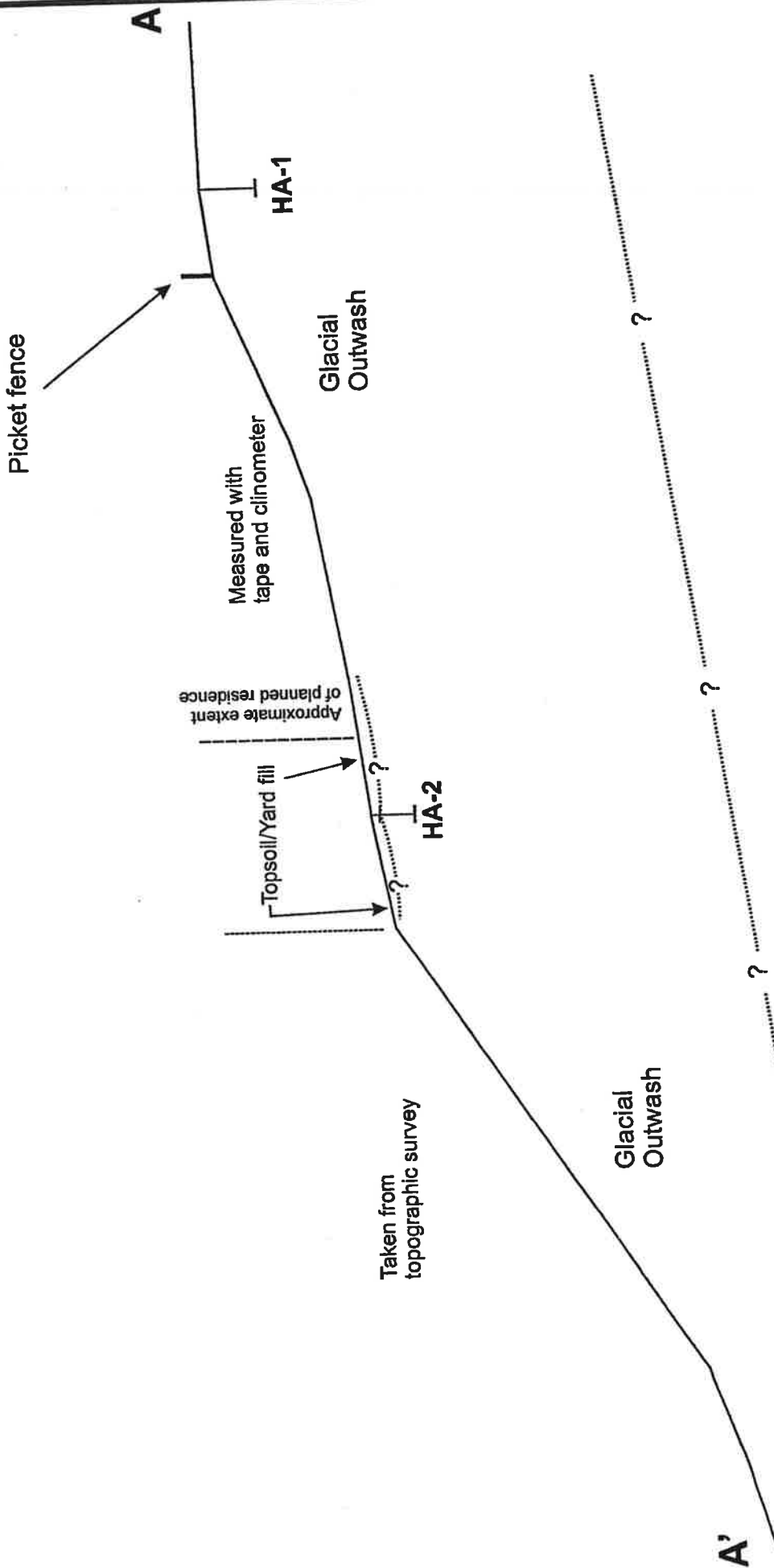
Figure 3

LOG OF EXPLORATION

DEPTH	USC	SOIL DESCRIPTION
HAND AUGER ONE		
0.0 – 0.3	SM	DARK BROWN TO BLACK SILTY FINE SAND WITH ROOTS AND ORGANICS (LOOSE, MOIST) (TOPSOIL)
0.3 – 6.4	SW	BROWN FINE TO COARSE SAND WITH GRAVEL (MEDIUM DENSE, MOIST)
6.4 – 6.5	SP	GRAY FINE SAND (MEDIUM DENSE, MOIST)
6.5 – 7.2	SW	GRAYISH BROWN FINE TO COARSE SAND WITH GRAVEL (DENSE, MOIST)
		SAMPLES WERE COLLECTED AT 1.1 AND 7.2 FEET GROUND WATER SEEPAGE WAS NOT ENCOUNTERED HAND AUGER CAVING WAS NOT ENCOUNTERED HAND AUGER WAS COMPLETED AT 7.2 FEET ON 3/21/06
HAND AUGER TWO		
0.0 – 0.5	SM	DARK BROWN TO BLACK SILTY FINE SAND WITH ROOTS AND ORGANICS (LOOSE, MOIST) (TOPSOIL)
0.5 – 1.0	SW	DARK BROWN FINE TO COARSE SAND WITH GRAVEL AND ROOTS (LOOSE TO MEDIUM DENSE, MOIST) (FILL)
1.0 – 1.4	SM	DARK BROWN TO BLACK SILTY FINE SAND WITH ROOTS AND ORGANICS (LOOSE TO MEDIUM DENSE, MOIST) (TOPSOIL)
1.4 – 2.3	SW	REDDISH BROWN FINE TO COARSE SAND WITH GRAVEL (LOOSE TO MEDIUM DENSE, MOIST)
2.3 – 5.1	SW	GRAYISH BROWN FINE TO COARSE SAND WITH GRAVEL (DENSE, MOIST)
5.1 – 5.6	SW	GRAY FINE TO COARSE SAND WITH GRAVEL (DENSE, MOIST)
		SAMPLES WERE COLLECTED AT 2.1, 3.1 AND 6.2 FEET GROUND WATER SEEPAGE WAS NOT ENCOUNTERED HAND AUGER CAVING WAS NOT ENCOUNTERED HAND AUGER WAS COMPLETED AT 5.6 FEET ON 3/21/06

CROSS-SECTION A-A'

(SCALE = 1:1)



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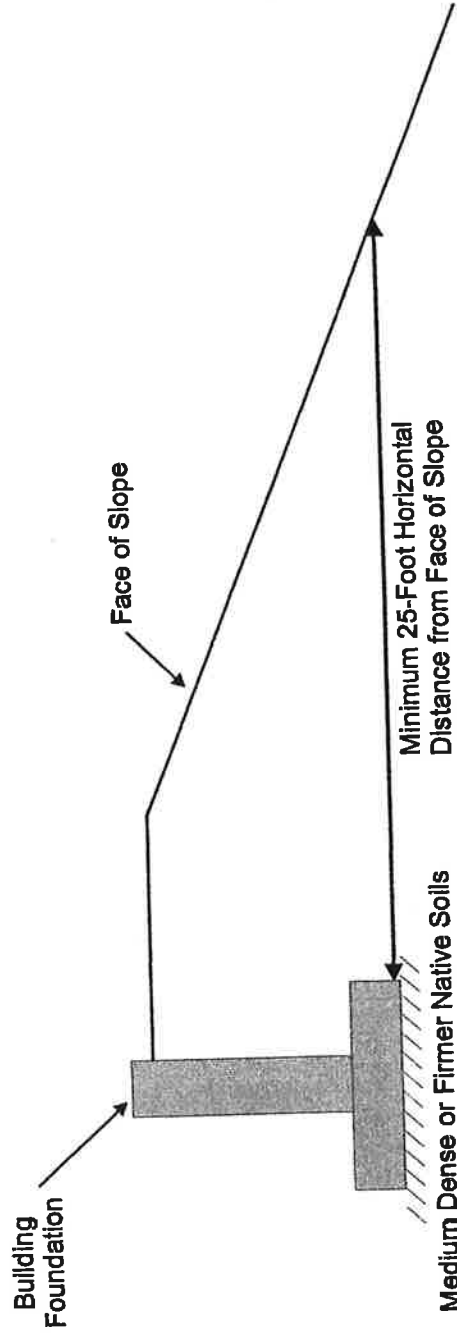
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Figure 5

Typical Foundation Embedment Detail (Not to Scale)



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Figure 6

Important Information About Your Geotechnical Engineering Report

Subsurface problems are a principal cause of construction delays, cost overruns, claims, and disputes.

The following information is provided to help you manage your risks.

Geotechnical Services Are Performed for Specific Purposes, Persons, and Projects

Geotechnical engineers structure their services to meet the specific needs of their clients. A geotechnical engineering study conducted for a civil engineer may not fulfill the needs of a construction contractor or even another civil engineer. Because each geotechnical engineering study is unique, each geotechnical engineering report is unique, prepared *solely* for the client. No one except you should rely on your geotechnical engineering report without first conferring with the geotechnical engineer who prepared it. *And no one — not even you — should apply the report for any purpose or project except the one originally contemplated.*

Read the Full Report

Serious problems have occurred because those relying on a geotechnical engineering report did not read it all. Do not rely on an executive summary. Do not read selected elements only.

A Geotechnical Engineering Report Is Based on A Unique Set of Project-Specific Factors

Geotechnical engineers consider a number of unique, project-specific factors when establishing the scope of a study. Typical factors include: the client's goals, objectives, and risk management preferences; the general nature of the structure involved, its size, and configuration; the location of the structure on the site; and other planned or existing site improvements, such as access roads, parking lots, and underground utilities. Unless the geotechnical engineer who conducted the study specifically indicates otherwise, do not rely on a geotechnical engineering report that was:

- not prepared for you,
- not prepared for your project,
- not prepared for the specific site explored, or
- completed before important project changes were made.

Typical changes that can erode the reliability of an existing geotechnical engineering report include those that affect:

- the function of the proposed structure, as when it's changed from a parking garage to an office building, or from a light industrial plant to a refrigerated warehouse,

- elevation, configuration, location, orientation, or weight of the proposed structure,
- composition of the design team, or
- project ownership.

As a general rule, *always* inform your geotechnical engineer of project changes—even minor ones—and request an assessment of their impact. *Geotechnical engineers cannot accept responsibility or liability for problems that occur because their reports do not consider developments of which they were not informed.*

Subsurface Conditions Can Change

A geotechnical engineering report is based on conditions that existed at the time the study was performed. *Do not rely on a geotechnical engineering report* whose adequacy may have been affected by: the passage of time; by man-made events, such as construction on or adjacent to the site; or by natural events, such as floods, earthquakes, or groundwater fluctuations. *Always* contact the geotechnical engineer before applying the report to determine if it is still reliable. A minor amount of additional testing or analysis could prevent major problems.

Most Geotechnical Findings Are Professional Opinions

Site exploration identifies subsurface conditions only at those points where subsurface tests are conducted or samples are taken. Geotechnical engineers review field and laboratory data and then apply their professional judgment to render an opinion about subsurface conditions throughout the site. Actual subsurface conditions may differ—sometimes significantly—from those indicated in your report. Retaining the geotechnical engineer who developed your report to provide construction observation is the most effective method of managing the risks associated with unanticipated conditions.

A Report's Recommendations Are *Not* Final

Do not overrely on the construction recommendations included in your report. *Those recommendations are not final*, because geotechnical engineers develop them principally from judgment and opinion. Geotechnical engineers can finalize their recommendations only by observing actual

subsurface conditions revealed during construction. *The geotechnical engineer who developed your report cannot assume responsibility or liability for the report's recommendations if that engineer does not perform construction observation.*

A Geotechnical Engineering Report Is Subject to Misinterpretation

Other design team members' misinterpretation of geotechnical engineering reports has resulted in costly problems. Lower that risk by having your geotechnical engineer confer with appropriate members of the design team after submitting the report. Also retain your geotechnical engineer to review pertinent elements of the design team's plans and specifications. Contractors can also misinterpret a geotechnical engineering report. Reduce that risk by having your geotechnical engineer participate in prebid and preconstruction conferences, and by providing construction observation.

Do Not Redraw the Engineer's Logs

Geotechnical engineers prepare final boring and testing logs based upon their interpretation of field logs and laboratory data. To prevent errors or omissions, the logs included in a geotechnical engineering report should *never* be redrawn for inclusion in architectural or other design drawings. Only photographic or electronic reproduction is acceptable, *but recognize that separating logs from the report can elevate risk.*

Give Contractors a Complete Report and Guidance

Some owners and design professionals mistakenly believe they can make contractors liable for unanticipated subsurface conditions by limiting what they provide for bid preparation. To help prevent costly problems, give contractors the complete geotechnical engineering report, *but* preface it with a clearly written letter of transmittal. In that letter, advise contractors that the report was not prepared for purposes of bid development and that the report's accuracy is limited; encourage them to confer with the geotechnical engineer who prepared the report (a modest fee may be required) and/or to conduct additional study to obtain the specific types of information they need or prefer. A prebid conference can also be valuable. *Be sure contractors have sufficient time to perform additional study.* Only then might you be in a position to give contractors the best information available to you, while requiring them to at least share some of the financial responsibilities stemming from unanticipated conditions.

Read Responsibility Provisions Closely

Some clients, design professionals, and contractors do not recognize that geotechnical engineering is far less exact than other engineering disciplines. This lack of understanding has created unrealistic expectations that

have led to disappointments, claims, and disputes. To help reduce the risk of such outcomes, geotechnical engineers commonly include a variety of explanatory provisions in their reports. Sometimes labeled "limitations" many of these provisions indicate where geotechnical engineers' responsibilities begin and end, to help others recognize their own responsibilities and risks. *Read these provisions closely.* Ask questions. Your geotechnical engineer should respond fully and frankly.

Geoenvironmental Concerns Are Not Covered

The equipment, techniques, and personnel used to perform a *geoenvironmental* study differ significantly from those used to perform a *geotechnical* study. For that reason, a geotechnical engineering report does not usually relate any geoenvironmental findings, conclusions, or recommendations; e.g., about the likelihood of encountering underground storage tanks or regulated contaminants. *Unanticipated environmental problems have led to numerous project failures.* If you have not yet obtained your own geoenvironmental information, ask your geotechnical consultant for risk management guidance. *Do not rely on an environmental report prepared for someone else.*

Obtain Professional Assistance To Deal with Mold

Diverse strategies can be applied during building design, construction, operation, and maintenance to prevent significant amounts of mold from growing on indoor surfaces. To be effective, all such strategies should be devised for the *express purpose* of mold prevention, integrated into a comprehensive plan, and executed with diligent oversight by a professional mold prevention consultant. Because just a small amount of water or moisture can lead to the development of severe mold infestations, a number of mold prevention strategies focus on keeping building surfaces dry. While groundwater, water infiltration, and similar issues may have been addressed as part of the geotechnical engineering study whose findings are conveyed in this report, the geotechnical engineer in charge of this project is not a mold prevention consultant; *none of the services performed in connection with the geotechnical engineer's study were designed or conducted for the purpose of mold prevention. Proper implementation of the recommendations conveyed in this report will not of itself be sufficient to prevent mold from growing in or on the structure involved.*

Rely on Your ASFE-Member Geotechnical Engineer for Additional Assistance

Membership in ASFE/The Best People on Earth exposes geotechnical engineers to a wide array of risk management techniques that can be of genuine benefit for everyone involved with a construction project. Confer with you ASFE-member geotechnical engineer for more information.



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