

## Additional Criteria #2

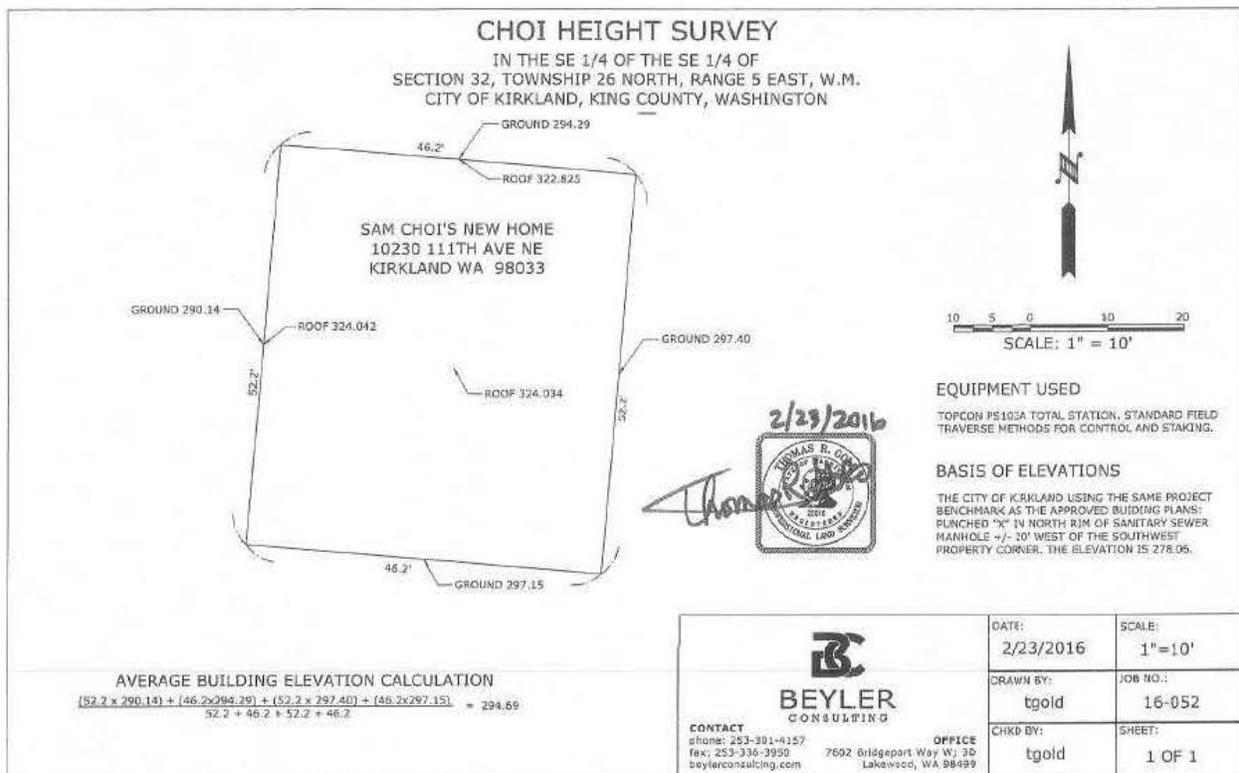
### INTRODUCTION

In the original variation application, I have been focusing the discussion on why the new structure is 4.35 ft too high. At this point, both parties (homeowner and the City) agree that the mistake in the plan that went unnoticed both by my architect and the City of Kirkland planning department is the main culprit for the dispute. With this said, I have recently hired a Washington state certified Civil engineer to review the issue. With a fresh set of eyes, the engineer was able to look at this problem from a different angle. This criteria document #2 attempts to explain the finding and I will setup another face-to-face meeting with the City to explain the document in detail and to answer any questions the City may have.

### FINDINGS

In the 3<sup>rd</sup> elevation survey (which was conducted adhering to City of Kirkland's strict direction), we are able to observe that the garage level slab has an elevation of 290.14ft. Please refer to image #1.

Image #1



What's important and critical is that the existing foundation was never altered and the existing foundation was re-used in order to build the new structure. Therefore it must be safe to assume that the elevation of the garage slab of the OLD and the NEW structures are identical at 290.14ft.

Now, Let's take a look at image #2 (shown below)

We have physically measured and the plan verifies that the garage level to the ceiling of the basement

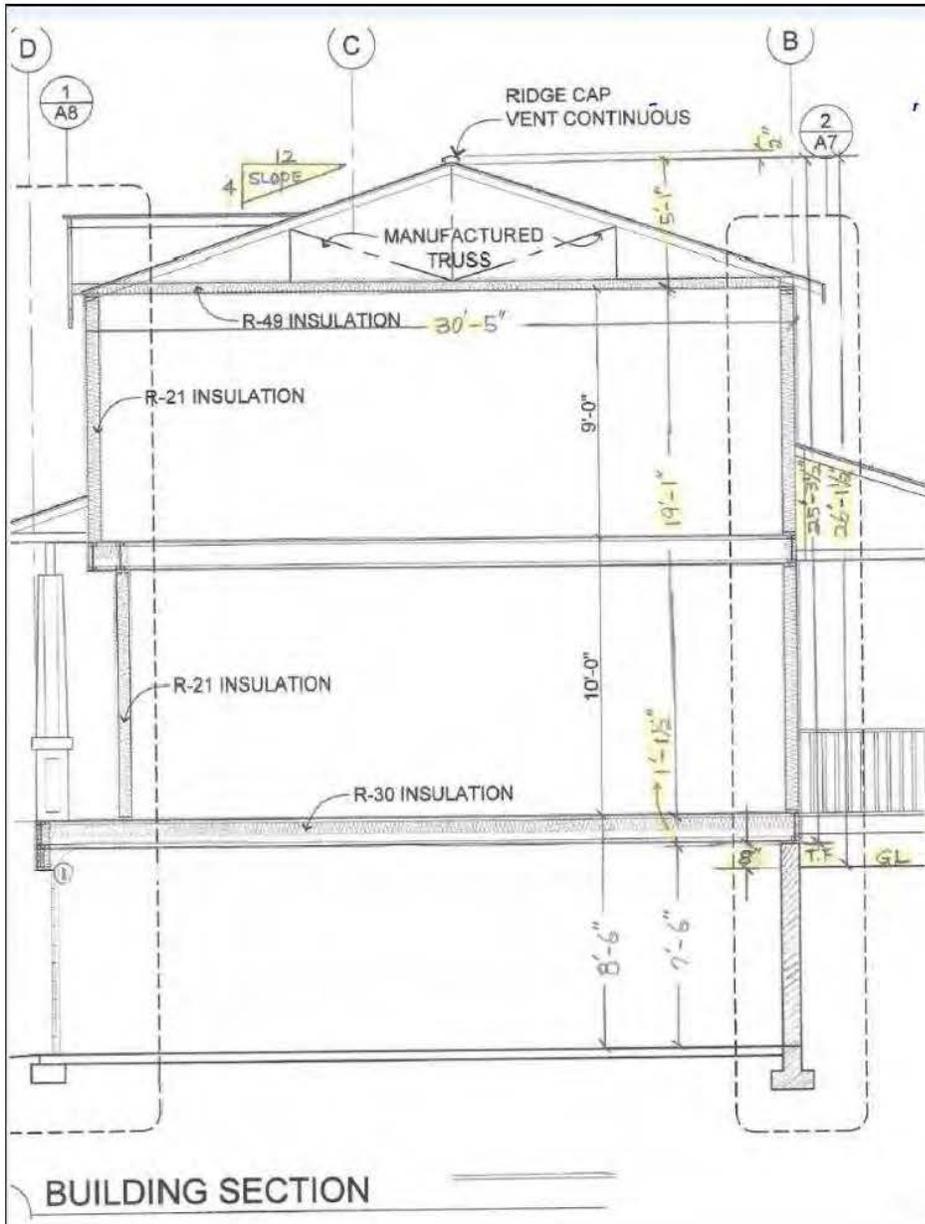
has a height of 7' 6".

We can examine that top of foundation (or TF) is equivalent to the ceiling level of the basement.

From TF to the top of the roof is 25' 3.5" (please see the details of the addition in image #2).

Therefore if we add 25' 3.5" + 7' 6" = 32' and 9.5" or 32.79 feet.

From this calculation, we can confidently state that the total height of the NEW building from garage level to the top of the roof is measured to be 32.79 feet high.



Since we know that the garage level is 290.14 ft and the height of the building is 32.79 ft, it implies that the peak height of the NEW structure is *likely* measured at 322.93 ft. This is *likely* 3.24ft higher than the max allowed height of 319.69ft. In the variance application the peak height was measured as 324 ft therefore we have an interesting discrepancy of 324 ft vs 322.93 ft which yields difference of 1.07 ft.

*Personal opinion: We (our party) do not have evidence that the 3<sup>rd</sup> elevation survey peak height of 324ft was measured incorrectly as we are not subject matter experts in this area and obviously do not understand the algorithm/tools that were used to yield 324ft peak height. However in my discussion with professionals in this industry, most experts agreed that it is much more accurate to measure the top elevation height using ground up approach rather than using laser tooling to calculate the top ridge which is often the preferred methodology chosen by elevation surveyor to save time. The point that we are trying to emphasize is that the aforementioned ground up calculation methodology is also logical and cannot be ignored and/or refuted as the height was physically measured both by the contractor and the city personnel.*

For the OLD structure, no plans or public records survive. To be used for this comparison will be a picture of the original building and fairly careful scale measurements.

The scale height of the original building, with a fairly clean frontal view and using 7 ft even height of the shown garage door for scale, gives building height from garage floor to roof peak of **31.3 ft.**

Scaling measurement:

Garage door: 34.5mm which is equivalent to 7.0 ft

Overall height of 154.5mm which is equivalent to 31.3ft



By these calculation, we can conclude that the NEW house is slightly higher than the OLD house with the additional height being:

$$32.79' - 31.3' = 1.49 \text{ feet.}$$

In addition, using the same approach, OLD house maximum height can be calculated as:

$$290.14\text{ft (garage level)} + 31.3 \text{ ft (height of structure)} = 321.44\text{ft.}$$

For the OLD house, the average elevation should have been 293.76ft ABE which implies that the max allowed height for the OLD house should be 318.76 ft. Therefore we can also conclude that the OLD house is *likely* 2.68ft higher than the max allowed height. ( $321.44 - 318.76 = 2.68$ )

Now, let's compare the ABE of OLD and NEW

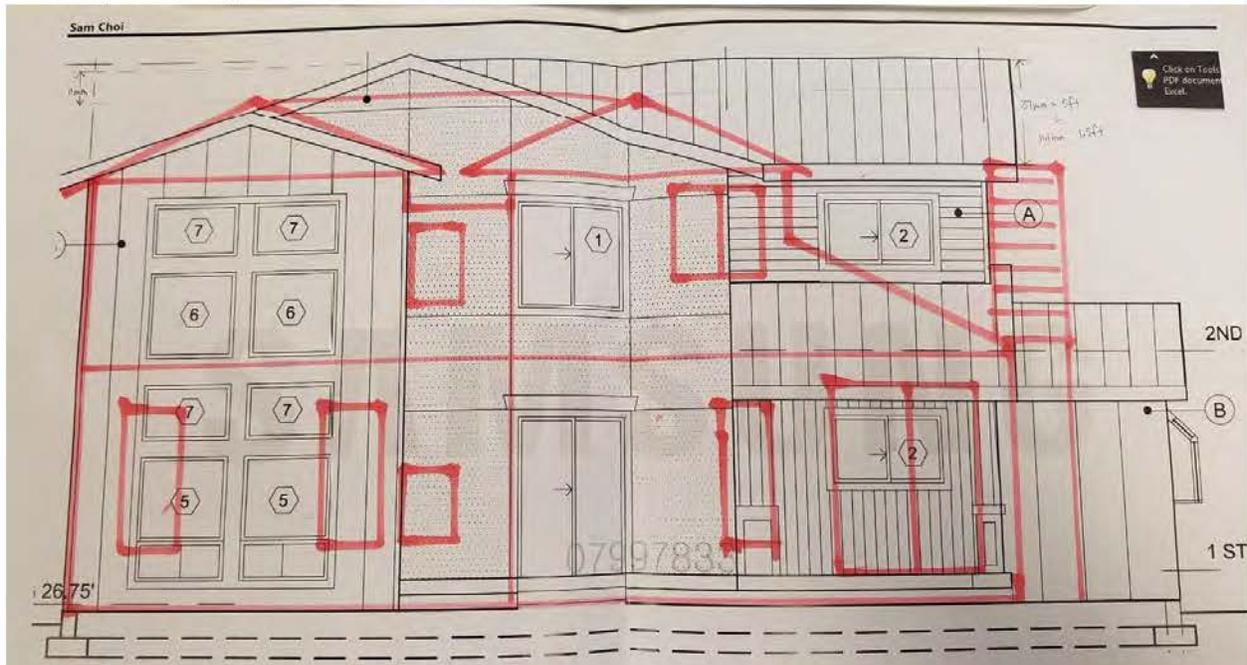
OLD: 318.76ft

NEW: 319.69 ft

The difference yields 0.93ft which means that the NEW house is allowed to be *likely* 0.93ft higher than the OLD house due to extension of the foundation towards east (or backyard). However since the OLD house was also proved to be *likely* 2.68ft higher than allowed, we will disregard this finding for time being.

Keeping in mind that the delta between OLD vs NEW is *likely* 1.49 ft, let's review on how this impacts the neighbors that have West-facing view as suggested by Mr. Jon Regala (City of Kirkland)

The black outline you see on below image is an architectural plan of the property and the red outline is the 2D drawing of the OLD property that existed up until Aug 2013. What I have tried to accomplish in this image is to map the 2D view of the OLD and the NEW.



In the above image, I am trying to indicate

- A. the maximum peak height of the NEW vs the OLD
- B. Proportionality of the drawing
- C. to illustrate how the neighbor's view is impacted.

I will plan to explain 2D mapping image in more detail during our face-to-face meeting.

For your reference, the outline of the OLD house was drawn from the following resources:

- 1. My personal knowledge of the old structure
- 2. Pictometry images found



### View obstruction

Below image was taken from one of the public comment document and if we map the 2D mapping image (OLD & NEW) on to this image, then we can argue the following:

- A. 1.49ft of peak height differences is **NOT IN ANY WAYS MATERIALLY DETRIMENTAL**. In fact, since there is quite a bit of distance between my property and the neighbor, 1.49ft of height difference only causes very MINOR obstruction of the "tree line" view.
- B. NEW structure does **NOT obstruct** skyline, Olympic mountain, Lake Washington, Puget Sound views.
- C. Please be reminded that until June 2016 (and throughout construction phase from July 2014 ~ March 2015), the neighbors have NOT complained about the obstruction of views and came to find out about the height issue when they received the variance notification from the City. In addition, I would like to once again reiterate that the neighbor intentionally cut down their trees (for the first time since 2010 when I bought the OLD property) in an attempt to validate their arugment. Once again, it is clear that the 1.49ft of peak height difference only impacts minor tree line view.



**Summary:**

- State certified Civil engineer was hired to calculate/measure the NEW and the OLD houses.
- Garage floor level is 290.14 ft and this is undisputable since the garage slab was never altered. In addition, it is extremely important to remind ourselves that the existing foundation walls were re-used for the NEW structure.
- From garage level to the peak roof of the NEW structure is measured to be 32.79 ft.
- Total height of 322.93ft results in that the NEW structure is *likely* 3.24 ft higher than maximum allowed height of 319.69 ft. However the 322.93ft of total height is *likely* 1.07ft lower than the 324.0ft (peak height found in the elevation survey) resulting in discrepancy in the peak height.
- From careful scaling measurement, the OLD house was measured to be *likely* 31.3ft from garage level.
- From the differences of the OLD and NEW peak height, we can conclude that the NEW house is *likely* 1.49ft higher than the OLD.  
This would be considered a minor increase for a house of 25 ft in height.
- OLD house peak is measured at 321.44ft and this is *likely* 2.68ft higher than max allowed and it has existed this way for 27 years.
- Let us remind ourselves that
  - A. new structure was built on old foundation and followed the story pattern of the original house with a similar moderate peaked roof structure
  - B. observation of the OLD and NEW house front view photos validates this argument.
  - C. NEW structure matches the OLD structure in the design and would be in character with neighborhood residences nearby
- **From reviewing the 2D mapping image, we can confidently state that the 1.49 ft of peak height differences is NOT MATERIALLY DETRIMENTAL.**  
**Please note that the NEW structure DOES NOT block skyline, mountain or lake-view but rather blocks tree line view of the west.**
- Please note that there may be variances within 1 or 2 inches which is within construction and survey measurement tolerance.

**HISTORY:**

**During the submission of the original variance application, I received positive feedback from City of Kirkland. Please see below written email statement from Ms. Allison Zike on 04/12/16 at 9:56am**

On Tue, Apr 12, 2016 at 9:56 AM, Allison Zike <AZike@kirklandwa.gov> wrote:

Sam,

I spoke with a supervisor regarding your application, and we believe the packet you have put together is sufficient for a variance application. Please apply for that variance via [www.mybuildingpermit.com](http://www.mybuildingpermit.com) using the below selections by end of business this Friday, April 15<sup>th</sup>. You can submit the latest version of your information packet.

Jurisdiction	Application Type	Project Type	Activity Type	Scope of Work
Kirkland	Land Use	Any Project Type	Deviations, Modifications, Variances, or Waivers	Variance - Process I

**However, due to the public comments submitted by neighbor (concerns on view obstruction mostly), the City requested to provide additional data that supports OLD and NEW house height are same/similar.**

On Thu, Sep 1, 2016 at 8:05 AM, Allison Zike <AZike@kirklandwa.gov> wrote:

Sam,

Thank you for your patience as we continue to work our way through your application. We feel like there is a possibility we could recommend approval of this variance, if the old house and new house height are the same.

**In addition, on 09/30/16 at 12:37pm, we were asked to provide additional data including the Mr. Jon Regala's suggestion of 2D mapping image of OLD and NEW.**

From the documentation you have already submitted, and our conversations, I think you have a thorough understanding of the issues at hand. While the statements made in Mr. MacVeigh's report may help shed new light onto your application, each claim would need to be supported with data. I'll remind you of Jon's suggestion to explain any methodology used to provide additional data. As always, contact me with any questions.

**We feel that this additional criteria document #2 sufficiently addresses the City of Kirkland's questions and that ALL information requested by the City has been submitted as necessary.**

**CONCLUSION**

With a long history of the unfortunate fire which took place in 2013, the errors made during the planning phase which went unnoticed by both parties, our intent to build the property that fully adheres to City's code, City's permit approval which provided confidence that the approved building would comply with the code limit and from ALL the findings from the variance application process, we believe CHOI residence party has fully complied/cooperated with City's requests and we strongly believe that the information supplied in this document is logical, scientific and further strengthens our argument. Therefore we would like the City of Kirkland to thoroughly review ALL documents submitted during the application process and to recommend for approval of the variance to the decision maker. Should you have any questions, please feel free to contact me at 425 749 1322 or via email at [samchoi1@gmail.com](mailto:samchoi1@gmail.com). Before I close, I would like to sincerely show my appreciation to the City of Kirkland for all the patience and understanding of the difficult circumstances that were examined throughout the process.

**Bruce S. MacVeigh, P.E.**  
*Civil Engineer/Small Site Geotechnical*  
14245 59th Ave. S.  
Tukwila, WA 98168  
Cell Ph: (206) 571-8794

November 4, 2016

To: City of Kirkland

Subject: Residential Roof Height Evaluation, Reconstructed Single Family Residence, 10230 111th Avenue N.E., Kirkland, WA 98033

Parcel No.: 206300-0020

Dear Sir:

The following information is provided to assist in the consideration of the variance request for the above site and residential construction. The revised sections are noted to assist in the review.

#### BACKGROUND -

This evaluation concerns the finished height of the roof of the newly rebuilt or reconstructed residence at the above location. The reconstruction was under a Major Remodel building permit since the intent was to substantially use the original house foundation for the new structure.

The item of concern is whether the newly constructed roof exceeds the zoning code 25 foot height maximum for that zoning category. As mentioned, the new residence is located in the same location and used the same foundation grade as the original. The new house plan was used to create a new layout for the structure, within the above limits.

The new reconstruction was required because the original house, constructed in 1986, was substantially destroyed in a fire approximately three years ago. The original house was constructed with the same 25 foot finished roof height limit as is currently in effect.

Initial post-construction calculations indicated that the new house roof was approximately 4 to 5 feet over the code height. It is apparent, as will be discussed below, that the intent of the new construction was to comply with the 25 foot maximum roof height.

## OBSERVATION AND REVIEW -

This office has reviewed the discussion paper supporting the variance request prepared by the owner, Mr. Seung Choi. The discussion paper provided a well presented review of the various factors in the calculation of the finished roof height, as well as a good history of the discrepancy in the resulting calculations resulting in the dispute and code compliance issue.

*We found the information and discussed determinations to be useful but requiring further analysis.*

*Upon further evaluation for this revised letter we have determined that the calculated elevations from the field surveys are of limited usefulness, as will be discussed below.*

*In addition, this office visited the site on September 21st and walked the circuit of the building. Information provided in the discussion paper concerning the construction of the new building was substantially verified, however no formal measurements were performed during the visit.*

This office is familiar with finished building height calculations and has assisted in performing certifications in several jurisdictions. Of note is that most jurisdictions have somewhat different methods of calculating the height, with the general concepts and methods producing a similar final result.

## REVISED HEIGHT CALCULATIONS -

*For this revision to the original letter, we determined that two separate analyses would be useful is determining what is happening with the new roof height.*

*First to be discussed is a comparison of the new building height relative to the original building height.*

*For the new building we have for reference the section drawing from the architectural drawings, included in Mr. Choi's discussion letter. It gives an accurate number for the height of the building from the basement garage floor up to the peak of the roof. The shown height of the measurement is*

$$25' 3\text{-}1/2" + 7' 6" = 32' 9\text{-}1/2" = 32.79' \text{ Say } 32.8'$$

*For the original building no original building plans or public records survive.*

*The scale height of the original building, with a fairly clean frontal view and using a 7 foot even height of the shown garage door for scale, gives a building height from garage floor to peak of 31.3 feet.*

*By these calculations the new house is higher than the original slightly, the additional height being:*

$$32.79' - 31.3' = \underline{+1.49 \text{ feet}}$$

*The second evaluation is somewhat different but uses the relative surveyed average perimeter ground elevation from the third survey.*

*The datum elevation for the average perimeter ground elevation is 294.7 with the garage floor elevation being 290.2 or 4.5 feet lower.*

*Using this garage floor elevation is closely verified in both the second survey with a front elevation = 290.14 and the third survey with a front driveway (and garage floor) slab elevation = 290.0.*

*The above variances are within one or two inches, which is within construction and survey measurement tolerances.*

*Using the 290.0 (garage floor) we add the architect's height of 32.8 above and get a resulting peak height of 322.8.*

*This is lower than the surveyor's calculated peak height of 324.0 which may have used different building construction measurements.*

*In summary, combining some of the above information we have a maximum code building height of*

$$294.7 + 25 = 319.7 \text{ as has previously been determined.}$$

*The resulting elevation difference above the code elevation peak is therefore  $322.8 - 319.7 = +3.1$  feet.*

## SUMMARY AND CONCLUSIONS -

*The results of this later review may be summarized as follow:*

- 1. The new house is likely about 1.49 feet higher than the original house.*
- 2. The new peak is likely about 3.1 feet higher than ideal code based calculated height.*

3. *The new house peak is likely about 1.5 feet or 18 inches higher than the original. This would be considered a minor increase for a house 25 feet in height (or 32.8 feet if you consider full building height).*

4. *It appears from the above combination of evaluated items that the original house was constructed slightly above the code required 25 foot height and existed that way for 27 years.*

*It is the conclusion of this review that the actual finished building roof height is likely at or about 3.1 feet above the calculated code design height, but very importantly it is within about 1.5 feet of height of the original house.*

Additional factors supporting the recommendation to grant the variance are as follows:

1. The new structure was built on the old foundations and followed the story pattern of the original house, with a similar moderate peaked roof structure.

2. Observation of the old house and new house front view photographs supports the above information.

3. The intent of the new house structure layout and design was to fully comply with the 25 foot roof height code limit. The design was approved for construction with confidence that the approved building would comply with the code limit, and information indicates the house was constructed per plan.

4. The information in the discussion paper that the new building would generally match the original house for general character and height was verified by observations during the field visit.

5. *The observations presented in the discussion paper that the new building would be in character with other neighborhood residences and that its finished building height (even if higher than code limits) would have no effect on the views of other residences to the side of the new building, and would have a relatively limited effect for the property to the rear, was verified during the field visit. Information made available for this review indicated only a portion of "tree view" was affected by the new roof elevation for the property to the rear.*

6. In summary, the supporting information in the variance request appears to be appropriate and adequate to grant the variance. The variance approval would appear to meet all of the variance conditions, especially that any infraction was unintentional, was minimal and most important, does not create harm to neighboring properties or set a

standard for future infractions by other property owners in that neighborhood.

Thank you for your consideration in this matter.

Sincerely yours,



Bruce S. MacVeigh, P.E.  
Civil Engineer - #18657



Attached:  
Site visit photos  
Choi discussion paper

EXPIRES: 4/24/07  
4 NOV '17

rheekirklandroofeval02/1671



FRONT VIEW FROM STREET LOOKING EAST



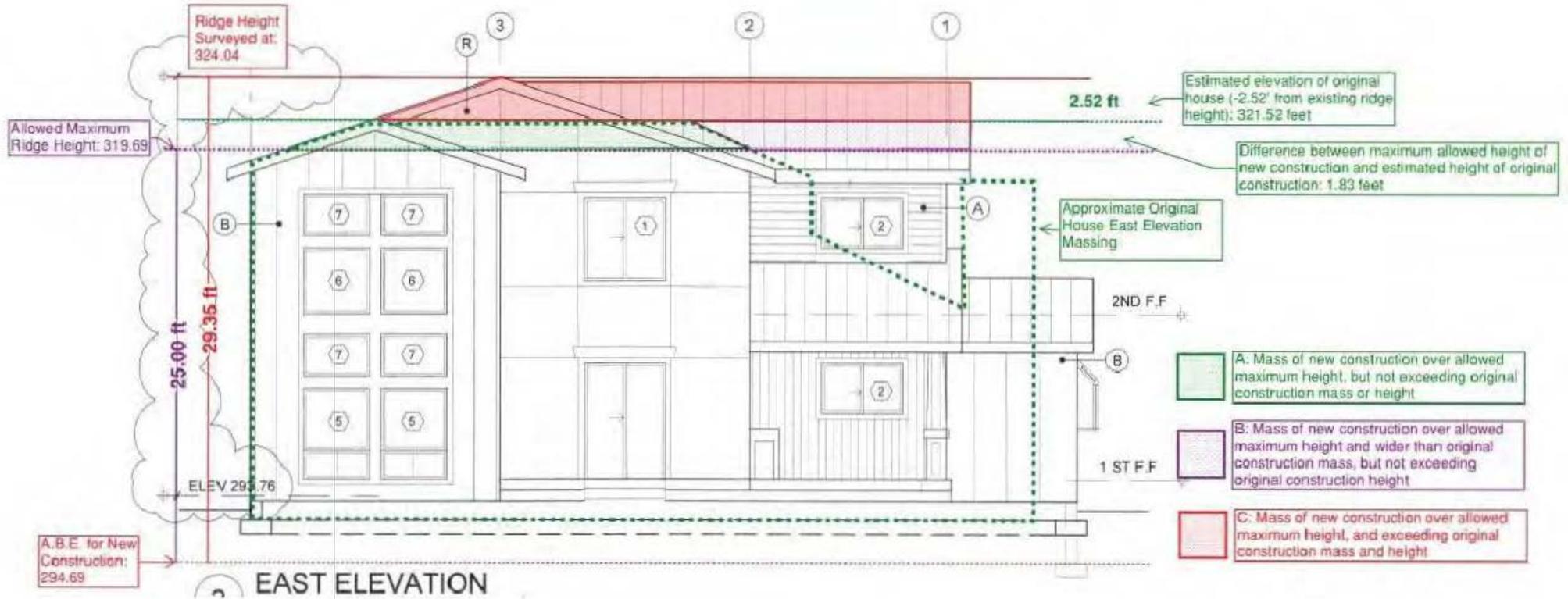
RE-USE OF ORIGINAL DRIVEWAY ELEVATION/PAVEMENT



**NORTH SIDE YARD VIEW WITH OLD FENCE**



**SOUTH SIDE YARD VIEW WITH OLD FENCE**



**ENCLOSURE 1  
DIRECTOR'S DECISION**

**Allison Zike**

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**From:** George Futas <gfutas@gmail.com>  
**Sent:** Friday, June 03, 2016 2:44 PM  
**To:** Allison Zike  
**Subject:** Re: Choi Variance-VAR16-00891

**Follow Up Flag:** Follow up  
**Flag Status:** Flagged

Dear Ms. Zike,

**Below is copy of letter which I shall also mail to you regarding the subject variance. Please acknowledge receipt.**

Attn: Allison Zike, Project Planner

City of Kirkland

123 5<sup>th</sup> Ave

Kirkland WA 98033

My property overlooks the rear of the subject Choi property. I have lived here since 1985.

**I oppose the subject variance and do not believe it should be granted.**

My Comments and Concerns:

1. What is the impact to the residents of Kirkland if reasonable zoning regulations and building plan approvals are not complied with?
2. In the past I have found the City of Kirkland has very good professional staff, who I believe act in the best interests of its citizens.
3. However, what is the incentive for Kirkland residents and others to be compliant in the future if it is easy for builders or owners to easily receive variances after a construction is completed in violation of the approved plans? If that happens our confidence in our city government and professionals goes downhill fast, and the willingness to comply with regulations is damaged.