ULTRA TECHNIC SERVICES, INC.

GEOTECHNICAL, ENVIRONMENTAL, FOUNDATION, SOILS and MATERIALS ENGINEERS

January 21, 2023

McGarey Custom Homes

Airport Road

Cincinnati, Ohio

Atten: Mr. Peter McGarey

RE: BROOKFIELD SUBDIVISION DESIGN AND CONSTRUCTION PLANS
RESPONSE TO HILLSIDE TRUST PLAN REVIEW COMMENTS

As requested, we have reviewed the Hillside Trust comments regarding the above project and provided our responses alongside with their comments in the attached document.

We trust you will find our response suitable for your present needs.

Respectfully submitted,

ULTRA TECHNIC CONSTRUCTION, LLC

Dr. Olusegun G. Akomolede, PhD, MNSE, P.E.

President/Chief Geotechnical Engineer

THE HILLSIDE TRUST

Advocating thoughtful use of our hillsides

September 15, 2022

Cincinnati City Planning Commission
805 Central Ave, Suite 720
Cincinnati, OH 45202

RE: 3250-3256 Hardisty Avenue Subdivision (Brookfield)

Dear Honorable Commissioners:

Per your request from the July 15 Planning Commission hearing, I am submitting my analysis of the above-referenced development. It was vetted and unanimously approved by The Hillside Trust Board during its meeting of September 15, 2022.

To set the context of this analysis, I am providing an historical summary of hillside planning within the City of Cincinnati. I will also provide an overview of The Hillside Trust.

In 1967, the Cincinnati City Planning Commission began to study and analyze the city's hillsides in a way that had never been done. Over the next seven years, leading experts from around the country were brought in to quantify the impacts of our hillsides, encompassing a variety of social, economic, and environmental perspectives. In 1971 Richard A. Gardiner & Associates produced The Cincinnati Hillsides: Recommended Design Process and Action Program for the Planning Commission. The report notes that the city recognized that technology had finally caught up with economics, and "the development of heretofore inaccessible areas began." Hillside development regulations were needed to protect both the form and the function of Cincinnati's hillsides.

Further studies and analyses ensued, culminating in the Cincinnati Hillside Development Guidelines report that was prepared for the Planning Commission in 1975. This seminal work is the foundational piece for Cincinnati's hillside zoning. Its 49 hillside design guidelines first appeared in Cincinnati's Environmental Quality-Hillside District (EQ-HD) zoning in 1976. Later it was incorporated into Cincinnati's Hillside Overlay District (HOD) zoning that was codified in 2004.

Implicit in these guidelines is recognition of the valuable functions that

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our wooded hillsides provide. This includes providing community separation on both a macro and micro scale, defining our sense of place. It includes the moderation of local climate by filtering air pollution, cooling summer heat, and slowing stormwater runoff. It includes the moderation of noise and light pollution, and the provision of critical natural habitats that help keep our ecosystems in balance.

As a by-product of nearly a decade of hillside research and planning, The Hillside Trust was established in 1976 as a 501(c)3 non-profit. Its purpose is to advocate for the thoughtful use and preservation of our region's hillsides through a three-part mission of research and education, advocacy of responsible land use, and land conservation. The Hillside Trust has become the institutional record of memory when it comes to hillsides and hillside issues in the region, especially within the City of Cincinnati.

How Brookfield Aligns with Cincinnati's Hillside Development Standards

The Brookfield developer has assembled a geo-technical engineer and structural engineer who are highly regarded in their fields. These engineers have investigated geologic and sub-surface features to design structures that are appropriate to the site's conditions. However, they have yet to demonstrate how and if the site will remain stable when the hillside is cut into. This can be one of the most problematic phases of hillside development.

GEOTECHNICAL ENGINEER'S (ULTRA TECHNIC SERVICES, INC., UTS') RESPONSE

To response to the Hillside comment regarding their concern about the hillside stability when it is cut into we have taken the following steps to ensure hillside stability.

1. We performed geotechnical study to characterize the subsoil conditions across the hillside to help develop soil parameters for both long term and short-term stability analysis of the hillside.
2. We performed detailed slope stability analysis of the hillside to determine the best way to accomplish the proposed development

including any necessary cut and fill without jeopardizing the long term and shot term stability of the hillside.

3. Based on these analyses, we have established the most appropriate retention system and mode of installation that will guarantee the stability of the hillside cut and fill during and after completion of the construction activities on the hillside. This retention system will be first item construction for this project to ensure that all other construction activities including cut, fill, infrastructures, foundation and building are installed without any concern for hillside stability.
4. The project is still in the preliminary approval stage and not in the subdivision approval stage when this information including the drawings and specifications will be compiled and submitted to City and Hillside Trust for detailed review. Once we cross this bridge, we believe The Hillside Trust should have received enough information to demonstrate that the hill will remain stable following our design and construction plans.

In 2018, the city approved a multi-unit hillside development on the southeast side of Mt. Lookout Square, adjacent to Millions Café on Linwood Ave. Per The Hillside Trust's written concern about hillside stability during the earthworks phase, the City Hearing Examiner required the developer to stage his approximately 60-foot-long hillside cut incrementally in 12-foot sections. Despite this, the hillside excavation triggered two landslides that affected property owners on Grischy Lane. One of the property owners suffered cracks in her basement foundation. The other one suffered damage to multiple hillside trees.

GEOTECHNICAL ENGINEER'S (UTS') RESPONSE

We (UTS) are familiar with this project. We even performed the remedial retention system necessary to stabilize the ground below the affected house following the hillside slope failure. The problem here was that improper design and construction approach was followed. It is our recollection that when we were originally approached to provide a design and build retention system for this project, we recommended two drilled pier retaining walls terraced down the hill. The two walls were to consist of drilled piers socketed well into the underlying bedrock to adequately retain the proposed cut. The upper wall was to be constructed first to

support the upper portion of the excavation. The lower wall was to be offset sufficiently from the upper and was to be installed following the completion of the upper wall and the associated upper portion of the excavation. However, due to the cost associated with this option, the developer went for the cheaper Allan block retaining wall option which could not provide necessary stability during construction and caused the hillside to fail. As, mentioned above, our company was later contracted to provide the upper drilled pier retaining wall to prevent further movement and damage to the adjacent house uphill from the site, which we did to stabilize the house involved.

This project is therefore not a good example to compare with our project. For our project, we plan to install the appropriate retention system consisting of drilled piers with both wood and concrete lagging first before or during making any cut or fill to provide immediate protection to the hillside. Moreover, Brookfield project site is not as challenging at the Mt. Lookout project site. The Brookfield site is less steep, it has greater room to operate, it is a far less risky site and the cut and fill required is much less than that of the Lookout project. Our project is therefore far much easier to accomplish than the Lookout Example and that this point should be seen as a big plus for the City to approve out project. Even with all mistakes and the design and construction errors they made in the Mt. Lookout project, we believe they have managed to complete the project. If the city can approve a project as challenging as the Mt. Lookout project, it should be a much easier decision to approve the Brookfield project.

Even if stability issues can be met during and after development, there are additional standards within the Hillside Overlay District this project has failed to address. More importantly, because of the site's topography and geography, they will be nearly impossible to satisfy.

GEOTECHNICAL ENGINEER'S (UTS') RESPONSE

We have completed more than 10 projects within a 5-mile radius of the Brookfield site with similar and far more challenging topography and geography than Brookfield site. Many of these projects are in very similar terrain, vegetation and upscale neighborhood as the Brookfield project. A

few of these projects are listed below and the City is welcome to check them all out.

1. Various Homes on Empress Avenue, Cincinnati Ohio
2. A massive Home at Devonshire Avenue, Cincinnati, Ohio
3. Various Houses on Eastern Avenue, Cincinnati, Ohio
4. Various Houses on Pueblo Street, Cincinnati, Ohio
5. Various Houses on Boal Street, Cincinnati, Ohio
6. Various Houses on Goethe Street, Cincinnati, Ohio
7. Various Houses on Mulberry Street, Cincinnati, Ohio
8. Various Houses on Stanley Avenue, Cincinnati, Ohio
9. Various Houses on Vineyard Bluff, Cincinnati, Ohio
10. Various Houses in Tusculum Subdivision, Tusculum Avenue, Cincinnati, Ohio
11. Various Houses on Delta Avenue

All these projects were completed without any hillside stability problems or disrupting the neighborhood harmony.

Per Section 1433-23, Hillside Development Standards, “the Zoning Hearing Examiner must consider the following standards to ensure harmonious relationships with adjacent buildings and the hillside environment:”

GEOTECHNICAL ENGINEER’S (UTS’) RESPONSE

Again, all the above listed projects which were constructed under similar conditions as the Brookfield Project, were completed without any hillside stability problems or and without disrupting the neighborhood harmony.

Section 1433-23 (a): Avoid cuts in the hillside if they would leave cliff-like vertical slopes and excessively high retaining walls.

Analysis: the development calls for cumulative cuts of 46 feet. This includes a retaining wall of 16 feet that is twice the maximum allowed, and a cumulative excavation and fill of approximately 26 feet, that is 18 feet more than the standard.

GEOTECHNICAL ENGINEER'S (UTS') RESPONSE

The houses proposed on this hillside have been designed to be tucked into the hillside to follow the hillside slope necessitating some cuts stepped down the hill to create flat living areas. In essence the yards between the houses will maintain the existing slope and outlook. Some of the trees in these yards will be retained as practical and if any had to be removed due to its closeness to the foundation excavation, those can be replaced.

The average exposed height of the proposed retaining wall above the proposed finished grade will actually be about 10.86' while the maximum exposed height will be about 15.5' and not 16' and this maximum height will occur in a relatively small portion of the wall. About 2' of the wall will be below finished grade and will not be exposed and that is why the wall height will not quite be 16' tall as Hillside Trust had estimated. A good portion of the wall will actually be 8' or less, exposed.

Having a wall of this size is very common in most of Cincinnati falling in this same type of terrain as the Brookfield site. All the above examples projects had walls of equal size or greater. Moreover, this neighborhood is going to be a private neighborhood. Only the 6 residents of this neighborhood and their guests will be exposed to this wall. The wall, because of its location will not have any significant impact on the hillside scenery because the whole neighborhood will still retain its wooded nature. In fact, the site as designed, will shield all the surrounding neighborhood from any view of the retaining wall unlike if the site design is reversed and the existing street right of way down the hill is used as the frontage of the houses.

For example, if the developer decides to utilize the existing City right of way at the bottom of the valley for their street and build all the houses at the bottom of the slope, to avoid the controversy, the hillside situation will be worse. This is because this option will require a huge retaining wall to be built immediately behind the objecting property owners' houses to support the bottom roadway and all the other infrastructures (water, storm, sanitary, utility, parking spaces). In addition, the front yards, the utility easements and recreation areas will have to be located downhill. This option will wipe out almost the entire hillside harmony including

most of the trees on the hillside that the Hillside Trust is wanting to protect. This option will present a far worse situation in terms of what the Hillside Trust and the neighbors are wanting than our present design option.

Section 1433-23 (b): Design buildings to fit into the hillside rather than altering the hillside to fit the buildings.

Analysis: the development is not working within the constraints of the hillside topography. Instead, it is essentially eliminating the hillside with massive earthworks and engineering to accommodate the development.

GEOTECHNICAL ENGINEER'S (UTS') RESPONSE
Please refer to our detailed response given above for *Section 1433-23 (a):* for our response to this analysis.

Section 1433-23 (c): Hillside development should be designed to minimize excavation required for foundations, parking, and access drives.

Analysis: referring to standards (a) and (b) above, this development clearly is not minimizing excavation to engineer the foundations and private drive.

GEOTECHNICAL ENGINEER'S (UTS') RESPONSE
Please refer to our detailed response given above for *Section 1433-23 (a):* for our response to this analysis.

Furthermore, if the owner decides to construct the alternative plan as discussed above in order to avoid the present controversy, we reiterate that greater magnitudes of excavation and filling and more massive retaining walls will be required to construct the houses than presently proposed.

Section 1433-23 (d): Cluster new development to retain surrounding tree cover and minimize alterations to the existing topography.

Analysis: with this scale of development in a small area, it will be impossible to retain any meaningful amount of tree cover, nor to minimize alterations to the existing topography.

GEOTECHNICAL ENGINEER'S (UTS') RESPONSE
This development as planned is only about 4 houses per acre and this will be one of the lowest densities in the City of Cincinnati. The site is planned to preserve a substantial portion of the existing trees which will allow neighborhood to continue to maintain its wooded nature. We therefore do not agree with this analysis.

Section 1433-23 (e): Maintain a clear sense of the hillside brow by locating buildings back from the brow of the hill.

Analysis: the hillside brow is being eliminated.

GEOTECHNICAL ENGINEER'S (UTS') RESPONSE
This development as planned will continue to maintain the hillside brow to a large extent because the existing houses located at the brow of the hillside will remain. We therefore do not agree with this analysis.

Section 1433-23 (f): Site buildings to respect views from public viewing places within the HS District identified in a community plan or other documentation approved by the City Planning Commission.

Analysis: not applicable.

GEOTECHNICAL ENGINEER'S (UTS') RESPONSE
We therefore agree with this analysis.

Section 1433-23 (g): Where applicable, consider the guidelines contained in the Cincinnati Hillside Development Guidelines report to evaluate development applications.

Analysis: due to its multi-page length, please see Appendix I – Hillside Development Guidelines for an analysis of each of the 49 guidelines.

GEOTECHNICAL ENGINEER'S (UTS') RESPONSE
We believe this project has been planned as much as possible with *Cincinnati Hillside Development Guidelines* in mind.

Summary

The Hillside Trust cannot find any room for compromise, agreement, or improvement concerning this project. It is the organization's position that the project does not belong in this wooded ravine. Further, this development is not a straight subdivision case, and it cannot be reviewed solely within the context of subdivided land. It involves identified land that is located within Cincinnati's Hillside Overlay District (HOD) zoning.

HOD zoning employs Hillside Development Standards that must be evaluated by the City's Hearing Examiner. The Hillside Trust's analysis focused on these standards to demonstrate the project's inattention to these important regulations. The project fails to meet any of these standards. Of the 49 hillside design guidelines analyzed in Appendix I, only one is met, Guideline 27. The only way this development can proceed is if the 22 variances requested by the developer are granted, nine of which are related to cut and fill regulations.

It is counterproductive to grant these variances when, in effect, they will circumvent the purpose of the Hillside Development Standards. It is The Hillside Trust's emphatic position that approving this development will destroy functional hillside greenspace, and it would set a negative precedent for dismissing the city's hillside regulations.

GEOTECHNICAL ENGINEER'S (UTS') RESPONSE
Again, we believe this project has been planned as much as possible with *Cincinnati Hillside Development Guidelines* in mind and not different from hundreds of other projects of similar or of far worse statistics that have been approved by the City and have since been built to a very successful neighborhood. The project has been laid out to meet all the zoning setback regulations which is difficult to do on such hillside project. I am not aware of any request for 22 variances. The project design has not even been completed to the major subdivision review level yet. The

only variance that I believe will be needed is the retaining wall height variance and that is normally requested in almost any project performed in most part of Cincinnati.

APPENDIX I – Hillside Development Guidelines

Guideline 1. Plan buildings to reflect the scale and proportion of surrounding trees.

Analysis: it will be impossible not to clearcut and significantly alter the topography of the site. A very high percentage of trees and vegetation will be eliminated due to the scale of earthworks and infrastructure that are required to engineer the development.

GEOTECHNICAL ENGINEER'S (UTS') RESPONSE
Again, we reiterate that this project has been planned to blend as much as possible with hillside and enough of the existing trees plus the planting of new trees will be performed such that the development will not change the wooded nature.

Guideline 2: Use irregular architectural edges to interlock buildings with hillside vegetation. Emphasize attachment with planting which overlaps building edges, especially at the foundation.

Analysis: insufficient information is available at this point.

GEOTECHNICAL ENGINEER'S (UTS') RESPONSE

I believe this issue will be sufficiently satisfied by the landscaping design of the site.

Guideline 3: Plan development to fit the visual composition of the hillside wall in which it would occur or demonstrate that positive improvement would result from modifying it.

Analysis: there will be no hillside wall left post-development. Instead, the hillside slope will be replaced by a wall of building facades and a high retaining wall.

GEOTECHNICAL ENGINEER'S (UTS') RESPONSE

We believe this project has been planned to fit the visual composition of the hillside wall as much as possible. Again, we reiterate that the houses are designed to be tucked into the hillside thereby maintaining the existing hillside grades between the houses. Moreover, the only reason why any construction work is needed is to modify the existing conditions to meet the required conditions.

Guideline 4: Do not exceed equilibrium in the structure-vegetation relationship.

Analysis: this development is located at the mouth of a wooded tributary. A large percentage of trees will need to be removed. Once the development is complete, the first thing one will notice in the ravine is a mass of buildings that will dominate the landscape.

GEOTECHNICAL ENGINEER'S (UTS') RESPONSE

As indicated earlier, the present design avoids any significant disturbance of the valley. Majority of the trees in the ravine will not be disturbed. The tree inventory plan to be furnished by others will provide sufficient prove to satisfy this provision. The entrance of the subdivision is through existing City right of way which the City specifically designed to service this site. So, I don't see why it should be any problem to use the already established right of way for the entrance to the property. As far as the issue of visibility mention here is concerned, the site is shielded from being visible from anywhere by the surrounding houses and trees and should not be a concern. So, we do not agree with this analysis.

Guideline 5: Align man-made boundaries such as roads and streets with the natural boundaries created by the terrain.

Analysis: a substantial hillside cut of twice the 8-foot allowance will be made to locate the private drive.

GEOTECHNICAL ENGINEER'S (UTS') RESPONSE

The roadway and the house locations have been aligned to follow the contours of the site to meet the intent of this provision. So, we do not agree with this analysis.

Guideline 6: Avoid excessive cutting and filling for roads and streets along boundaries.

Analysis: the private drive is going to be deeply cut into the hillside at the rear boundary of two private residences from which the proposed development would be subdivided.

GEOTECHNICAL ENGINEER'S (UTS') RESPONSE

This site as presently designed represent the most positive approach as it resulted in the least magnitude of cut and fill necessary to construct. Other design approaches considered would have required deeper cut and fill. Moreover, the existing houses above the wall are far removed from the wall location and will not be directly impacted by the cut and fill needed to construct the wall. In addition, none of the affected property owners are opposed to this project. We therefore do not agree with this analysis.

Guideline 7: Emphasize boundaries with tree cover.

Analysis: there is no physical room to emphasize the private drive boundary with tree cover. The entrance of the private drive from Delta Ave would have to be replanted post-development.

GEOTECHNICAL ENGINEER'S (UTS') RESPONSE

The entrance of the private drive in question is within the existing City street right of way and it presently has limited tree cover. Constructing the entrance within this right of way meets the City's intended purpose and it won't make much difference to the tree cover. As the Hillside Trust rightly deduced, the entrance will be replanted with trees as necessary as part of the development. The land abutting the remainder of the boundaries are presently wooded and will therefore remain wooded following the development of the site and should maintain the intent of this provision.

Guideline 8: Cluster new development, retaining surrounding tree cover and minimizing changes in topography.

Analysis: it is impossible to retain any meaningful amount of tree cover nor to minimize changes in topography due to proposed cumulative cuts of up to 46 feet.

GEOTECHNICAL ENGINEER'S (UTS') RESPONSE

We reiterate once again that this project has been planned to blend as much as possible with hillside and majority of the existing trees will be retained plus the planting of new trees will be performed such that the development will not change the wooded nature of the site. The only real cut that will be exposed is the average 10.85' that will be retained with a concrete drilled pier retaining wall. The rest of the cut is to calve the houses into the hillside so as not alter the general topography of the hillside. This design principle, I believe is the intent of this provision.

Guideline 9: Site valley development to focus the encircling hillsides rather than fragmenting the spaces they create.

Analysis: this development will in fact be the focal point of the terrain, and not in a positive way. It is located at the mouth of a small, wooded valley, and its scale and height will overpower the surrounding hillsides.

GEOTECHNICAL ENGINEER'S (UTS') RESPONSE

This project as planned does circles the hillside and does not fragment it. The houses are again designed to be tucked into the hillside to blend naturally into it and also to flow with the contours of the site without changing the existing wooded and slopy terrain. The development is completely hidden from any outside focus because it is hidden from view by the neighboring properties. Moreover, the site is only 1.44 acres out of a hillside that extends over 22 acres and should not change focal point of the hillside. We therefore do not agree with this assessment.

Guideline 10: Match scale of buildings to scale of terrain.

Analysis: like Guideline 9, this development does not match the scale of the terrain.

GEOTECHNICAL ENGINEER'S (UTS') RESPONSE

The houses planned will have two stories exposed above street level as approved by the City for most parts of the city. The other half of the house will be tucked into the hillside below the street level to avoid overwhelming the terrain as this provision intends. We therefore do not agree with this assessment.

Guideline 11: Retain the natural slope lines as seen profile. Restore the vegetation lines which convey the slope lines.

Analysis: there will be no slope line seen in profile. Instead, it will be replaced by a mass of buildings and a retaining wall that breaks up the slope. It will also take many years to restore vegetation lines, and only if trees are planted and maintained between the individual homes themselves.

GEOTECHNICAL ENGINEER'S (UTS') RESPONSE

The layout of the site and the houses have been designed to retain the natural slope lines as much as possible. Only the trees in the street and house footprints will unavoidably be removed. Trees outside these areas will be preserved as much as possible and more trees will be planted as necessary to restore any disrupted vegetation lines. Refer to the tree preservation and the landscaping plan for details. We therefore do not fully agree with this assessment.

Guideline 12: Plan buildings to fit into the hillside rather than altering the hillside to fit the buildings.

Analysis: with cumulative cuts of up to 46 feet to engineer the site, the hillside is essentially being eliminated to accommodate the development.

GEOTECHNICAL ENGINEER'S (UTS') RESPONSE

As explained earlier, only the average 10.85' of cut that will be retained with a concrete drilled pier retaining wall will be exposed and not the 46' of cumulative cut. The rest of the cut is to calve the houses into the hillside so as not alter the general topography of the hillside. This design principle, I believe is the intent of this provision

Guideline 13: Maintain a clear sense of the hillside brow by siting buildings back from it.

Analysis: not applicable.

GEOTECHNICAL ENGINEER'S (UTS') RESPONSE

We agree with this assessment.

Guideline 14: Maintain the natural appearance of the brow by tree planting and other landscape measures.

Analysis: the brow is being eliminated.

GEOTECHNICAL ENGINEER'S (UTS') RESPONSE

There are existing houses and wooded land on the existing hillside brow which will not be removed by this development which will continue to maintain the natural appearance of the brow as the City intended. We therefore do not agree with this assessment.

Guideline 15: Do not obscure the hillside foot at the end of basin streets.

Analysis: not applicable.

GEOTECHNICAL ENGINEER'S (UTS') RESPONSE

We agree with this assessment.

Guideline 16: Only buildings of significance to the entire community should be allowed at the end of basin streets.

Analysis: not applicable.

GEOTECHNICAL ENGINEER'S (UTS') RESPONSE

We agree with this assessment. The houses planned are of very high values which will improve the property values of the neighborhood.

Guideline 17: As seen on the face of the hillside or on the hilltop, buildings should appear higher than they are wide.

Analysis: insufficient information is available at this point.

GEOTECHNICAL ENGINEER'S (UTS') RESPONSE

The houses are actually physically higher (over 45' in overall height above the basement level) than they are wide (only 30') meeting the intention of this provision.

Guideline 18: Emphasize the vertical dimension in the use of units, modules, and exterior treatment of large developments.

Analysis: insufficient information is available at this point.

GEOTECHNICAL ENGINEER'S (UTS') RESPONSE

Again, the houses planned are more dominant in height that in width. They are relatively small houses in width in a small development project that, although, this provision may not strictly apply to it but it still meets the intention of this provision.

Guideline 19: Stagger or step building units according to the topography.

Analysis: the building foundations will be stepped into the hillside due to the extreme grade of the site. There is no indication that the buildings themselves will be stepped or staggered into the hillside.

GEOTECHNICAL ENGINEER'S (UTS') RESPONSE

We repeat that this project has been planned to blend as much as possible with hillside. The houses are to be calve into the hillside by stepping the floors down the hill so as not alter the general topography of the hillside. This design principle, we believe meets the intent of this provision

Guideline 20: Use narrow lanes, one-way streets, and split-level roads to avoid excessive earth moving.

Analysis: even with the use of a narrow private lane, an excessive amount of earth is going to be removed to construct the roadway and buildings.

GEOTECHNICAL ENGINEER'S (UTS') RESPONSE

As stated earlier, this site as presently designed represent the most positive and optimal approach as it resulted in the least magnitude of cut and fill necessary to construct and the least disturbance to the terrain and the serenity of the area. The houses and the street have been kept to the smallest size possible. Other design approaches we considered were rejected because they would require deeper cut and fill and much greater disturbance to the hillside. We therefore do not agree with this analysis.

Guideline 21: Site buildings not only to provide views, but also to provide a variety of community and private viewing places.

Analysis: not applicable.

GEOTECHNICAL ENGINEER'S (UTS') RESPONSE

The project as planned meets the intent of this provision.

Guideline 22: Utilize for community or public land use those portions of the hillside most exposed to public view, or from which the widest views are possible.

Analysis: the portion of hillside that currently is most exposed to public viewing from Delta Ave when the leaves are down, is the same portion that will be replaced by the development.

GEOTECHNICAL ENGINEER'S (UTS') RESPONSE

As stated earlier, this project is hidden from any meaningful public view as it is hidden by the surrounding houses and trees. So, this provision will not apply. The only opening to the site is through the small right of way designed by the City for the planned street and that is where the proposed street entrance for the project is planned.

Guideline 23: In small places site, and design buildings to emphasize intimacy and privacy, avoid the use of high rise or high bulk buildings, and develop personal scale circulation paths and meeting areas.

Analysis: this is a small site, and the proposed footprint and height of the buildings would not emphasize either intimacy or privacy.

GEOTECHNICAL ENGINEER'S (UTS') RESPONSE

This project is going to be in a secluded private drive with only 6 small sized but elegant single-family homes and no outlet. The houses will therefore naturally be intimate with personal scale circulation paths. This project therefore meets the intention of this provision.

Guideline 24: Provide maximum opportunities for exploration and discovery of small-scale phenomena by retaining and increasing hillside vegetation and landscape, and by making variety a major design feature of all elements.

Analysis: very little existing hillside vegetation will be retained to build this development. There has not been any landscaping plan submitted of what it will look like post-development.

GEOTECHNICAL ENGINEER'S (UTS') RESPONSE

We reiterate that the layout of the site and the houses have been designed to retain the natural slope lines as much as possible. The house size and the street widths are the smallest allowable by code.

Only the trees in the house and street footprints (which is less than 40% of the land area) will unavoidably be removed. Trees outside these areas will be preserved as much as possible and more trees will be planted as necessary to restore any disrupted vegetation lines. Please, refer to the tree preservation and the landscaping plan for details. We therefore do not agree with this assessment.

Guideline 25: Plan buildings, drives and parking areas to acknowledge the natural contour of the site.

Analysis: the natural contour of the site will no longer remain once the buildings and private drive are completed.

GEOTECHNICAL ENGINEER'S (UTS') RESPONSE

The houses, drives and other infrastructures proposed for this project have been designed to follow the contour of the site to minimize cut and fill needed for the construction. Again, the houses will be tucked into the hillside to follow the hillside slope necessitating some cuts stepped down the hill to create flat living areas. In essence the yards between the houses will maintain the existing slope and outlook. We therefore believe that this project meets the intent of this provision.

Guideline 26: Meet large parking requirements with multiple small parking areas, and screen with planting, berms, and terraces.

Analysis: not applicable.

GEOTECHNICAL ENGINEER'S (UTS') RESPONSE

We agree with this assessment.

Guideline 27: Provide parking on the uphill side behind buildings.

Analysis: guideline met.

GEOTECHNICAL ENGINEER'S (UTS') RESPONSE

We agree with this assessment.

Guideline 28: Avoid rooftop utilities, or provide screening and soundcontrol, or otherwise integrate them into the rooftop.

Analysis: insufficient information is available at this point.

GEOTECHNICAL ENGINEER'S (UTS') RESPONSE

The houses will be designed to meet the intent of this provision.

Guideline 29: Site and design structures along major roads to preserve driver views of the hillsides, especially at bends.

Analysis: the view of the wooded ravine will be eliminated.

GEOTECHNICAL ENGINEER'S (UTS') RESPONSE

This project drives and structures have been laid out to avoid blocking the driver's view as intended by this provision. We therefore do not agree with the Hillside assessment here.
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Guideline 30: Employ extensive landscaping alongside development in corridors:

Analysis: not applicable.

The houses are being designed to meet the intent of this provision.

Guideline 31: Plan highly visible buildings to be of landmark quality.

Analysis: not applicable.

GEOTECHNICAL ENGINEER'S (UTS') RESPONSE

This project is planned to meet the intention of this provision.

Guideline 32: Aim roads and streets directly at hillsides for maximum impact.

Analysis: Brookfield Ln paper street is already aimed at the hillside.

GEOTECHNICAL ENGINEER'S (UTS') RESPONSE

This project is planned to meet the intention of this provision but with a positive modification to reduce the impact of the project on the hillside as explained several times earlier.

Guideline 33: Site major structures to show only a portion of themselves beyond the hill's brow or profile when viewed from important roads.

Analysis: a significant portion of these buildings will be observable from Delta Ave.

GEOTECHNICAL ENGINEER'S (UTS') RESPONSE

This project is in a secluded private drive that will be hidden by the surrounding houses and trees. The houses will not tower above the brow of the hill as they will generally be built with their ground floors being an average of at least10.5' below the brow of the hill.

Guideline 34: Design hillside roads and walkways to convey a vivid sense of movement.

Analysis: not applicable.

GEOTECHNICAL ENGINEER'S (UTS') RESPONSE

This project is planned to meet the intention of this provision.

Guideline 35: Provide circulation paths as steep as technically feasible.

Analysis: not applicable.

GEOTECHNICAL ENGINEER'S (UTS') RESPONSE

We agree with this assessment. .

Guideline 36: Employ vertical structures and detailing along hillside roads. These include buildings, trees, street furniture and retaining wall detailing.

Analysis: insufficient information is available at this point.

GEOTECHNICAL ENGINEER'S (UTS') RESPONSE

This project is planned to meet the intention of this provision.

Guideline 37: Respect the site's conditions of steepness, soil, bedrock, and hydrology to ensure hillside stability both during and after development.

Analysis: an engineering team has been assembled and consulted on this development to address the geological and physical conditions of the site after it is developed. There is insufficient information concerning how the site will be stabilized during the initial stages of development when the hillside is cut into. The hydrology of the site is complex and problematic due to its location in a wooded ravine that drains multiple acres of land. This ravine has flooded multiple times in just the last 10

years, and The Hillside Trust has major concerns about flooding being exacerbated because of this development.

GEOTECHNICAL ENGINEER'S (UTS') RESPONSE

This project is planned to meet the intention of this provision. The slope stability and flooding problems will be fully addressed in the final design. Please see previous explanation and comments that extensively dealt with these issues. We believe that our final design will fully alleviate the Hillside Trust concern on these issues.

Guideline 38: Use megastructure development to restore and enhance the form of damaged hillsides, to stabilize slope conditions, and to create new landmarks.

Analysis: not applicable.

GEOTECHNICAL ENGINEER'S (UTS') RESPONSE

We agree with this assessment. .

Guideline 39: employ methods and machines which match the grain and scale of the terrain being modified.

Analysis: significant earthmoving equipment will be necessary to engineer this development.

GEOTECHNICAL ENGINEER'S (UTS') RESPONSE

The equipment used for this site development will be no different from those used for any construction within the city. We therefore do not agree with this assessment.

Guideline 40: Do not heedlessly displace, degrade, or destroy hillside vegetation.

Analysis: it will be impossible not to remove a significant amount of vegetation to develop this site.

GEOTECHNICAL ENGINEER'S (UTS') RESPONSE

This project is planned to meet the intention of this provision. We understand that more than 60% of the trees at the site will be undisturbed and more trees will be planted to replace those removed.

Guideline 41: Do not add to nor take away soil around or over tree roots within the area covered by branches of trees which are expected to live.

Analysis: no construction limits have been established or discussed.

GEOTECHNICAL ENGINEER'S (UTS') RESPONSE

This project is planned to meet the intention of this provision.

Guideline 42: Replant all cuts, fills and any other earth modifications.

Analysis: all cuts are proposed to be replaced with buildings or retaining walls.

GEOTECHNICAL ENGINEER'S (UTS') RESPONSE

This project is planned to meet the intention of this provision. All disturbed nonstructural areas will be replanted to meet the intent of this provision.

Guideline 43: Respect and retain natural site features such as streams, slopes, ridge lines, wildlife habitat, plant communities, and trees.

Analysis: the site, including the slopes and ridge lines, will essentially be eliminated. It will be nearly impossible for the existing stream not to be trampled and degraded, especially by heavy machinery during the earthworks phase. This drastic site alteration will impact existing plant and animal communities.

GEOTECHNICAL ENGINEER'S (UTS') RESPONSE

This project is planned to meet the intention of this provision as much as possible. The valley will be minimally disturbed. The houses will be constructed to blend into the hillside. Again, most of the existing trees will be preserved and more trees will be planted to replace many of those removed.

Guideline 44: Employ techniques that create a variety of architectural solutions responsive to the limits and potentials of hillside development.

Analysis: insufficient information is available at this point.

GEOTECHNICAL ENGINEER'S (UTS') RESPONSE

This project is planned to meet the intention of this provision.

Guideline 45: Avoid image incongruities by balancing the tone (the degree of white or black in the color) of new development with the dominant quality of the surrounding hillside.

Analysis: insufficient information is available at this point. It is important to reiterate however that the existing hillside is being eliminated.

GEOTECHNICAL ENGINEER'S (UTS') RESPONSE

This project is a small very simple development that will be private and will not impact any of the surrounding houses in the way this provision is

trying to address. We therefore believe that this project will not run in variance to the intent of this provision.

Guideline 46: Maintain a clear sense of balance between the surroundings through the choice of color, texture, and other exterior building treatments.

Analysis: insufficient information is available at this point.

GEOTECHNICAL ENGINEER'S (UTS') RESPONSE

We repeat that this project is a small very simple development that will be private and will not impact any of the surrounding houses in the way this provision is trying to address. We therefore believe that this project will not run in variance to the intent of this provision.

Guideline 47: Retain and add landscape and vegetation which show strong seasonal change.

Analysis: a high percentage of existing seasonal vegetation is being removed. There is insufficient information at this point concerning what landscaping will be planted post-development.

GEOTECHNICAL ENGINEER'S (UTS') RESPONSE

This project is planned to meet the intention of this provision.

Guideline 48: Where practical, respect and retain historic site features such as old buildings, retaining walls, and other signs of past land use.

Analysis: not applicable.

GEOTECHNICAL ENGINEER'S (UTS') RESPONSE

We agree with this assessment.

Guideline 49: Provide site planning landscaping and open space around developments which allow and encourage personal and total sensory contact with nature and the nature of the hillside.

Analysis: there will be little remaining open space post-development, given the scale of this project. In addition, no landscaping plans have been provided thus far.

GEOTECHNICAL ENGINEER'S (UTS') RESPONSE

This project is planned to meet the intention of this provision.