Exhibit H

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ERIC MILLER
ARCHITECTS

April 9, 2025

Mr. Phil Angelo, Senior Planner
Housing and Community Development
1441 Schilling Place South 2nd Floor, Salinas, CA 93901

re: PLN210061 (Johnson)

Dear Mr. Angelo,

This is an analysis of the changes made to the Johnson Residence (PLN210061) located at 226 Highway 1, Carmel, CA 93921, APN 241-182-003-000.

The redesign addresses each of the major issues raised by the Planning Commission in the October 30, 2024 hearing including scale of development and development on slopes, the scale and nature of requested variances, the siting of the project and its potential impact on visual resources, tree removal, and the safety of development in proximity to the bluff.

Scale of Development / Development on Slopes

The redesigned building has been reduced in scale with reductions in floor area, site coverage, height and building site coverage. Development in 30% slope areas has been significantly reduced. The particulars are as follows:

The redesigned building was determined by the most appropriate buildable area on the site. The proposed building location falls within a building pad on the site that follows the 30' Highway 1 setback for around 86' and projects towards the bluff around 31', stopping short of the drastic drop towards the ocean. The 31' dimension is determined from the start of the 30' Highway 1 setback and ends along the bluff when the slopes are greater than 30%. The 86' length is determined by (1) the setback required on south-east property line to allow for a firetruck turnaround in the auto court as well as existing easement for well access, and (2) the setback required on the north-west property line to obscure the building's visibility from the Highway 1 pullout. This rectangular building pad is the best and only viable location for a proposed building on this property. Due to the natural variation in terrain, there are still small portions of this pad with 30% slope, but the majority of this building pad is flat and suitable for development.

The overall scale of the project has been significantly reduced and is quantified on page A-1.2a. The total floor area has been reduced by 1,396 square feet, resulting in a proposed floor area of 3,525 square feet and a FAR of 12.9%. The total building site

coverage has been reduced by 1,231 square feet, resulting in a proposed building site coverage of 2,865 square feet and a ratio of 10.5%. The building height has been reduced by 2.75 feet, resulting in a proposed building height of 22 feet. The proposed design is 7.1% below the allowed maximum floor area, 4.5% below the allowed maximum building site coverage, and 8 feet below the allowed maximum building height. The tree removal count has been reduced from 6 trees to 4 trees, and the arborist has reviewed the redesign and provided an updated report. The percentage of the building in 30% slope has been reduced from 46% to 21%, with the required off street parking falling within a majority of said percentage.

The total development in 30% slope has been significantly reduced as well and a diagram depicting said development can be seen on pages A-1.2b and A-1.2c. All patios within 30% have been eliminated, and the remaining development, including firetruck turnaround, required parking, fire department access, well access, required utilities, and terraced retaining walls, have been reduced to the necessary minimum.

Variances, Nature, and Scale

The project has been redesigned to remove the request for all variances. All structures within setbacks are below 6 feet in height. All development within 30% has been reduced to the necessary minimum.

Visual Resources

The redesign of the building has located it outside of visibility by the public, with diagrams and renderings confirming this located on page A-1.4 and A-7.3. The design reduction has removed the need to plant screening and instead uses the existing trees to screen the home.

Tree Removal

The proposed tree removal has been reduced from 6 trees to 4 trees and has been reviewed by the arborist. The two trees saved are one mature 24" cypress on the downhill side as well as one 12" cypress on the uphill side. The 4 trees requested for removal are all in fair and poor conditions, with either crown dieback & limb breakage, or partially uprooted.

Safety / Development in Proximity to a Bluff

The overall architecture of the building has been simplified for ease of development and construction on a challenge site. The foundation's micropiles are primarily located outside of 30% slope and will penetrate beyond the geological 100-year bluff. The perimeter micropile locations are estimated to be 4 feet on center with the possibility of northern perimeter locations being moved away from the area of 30% slope.

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In addition to addressing specific issues raised by the Planning Commission, please note the following:

Waste Hauling Logistics

The designer of the system, Utility Services, has indicated that the location of the septic tank for pumping would be acceptable. The truck access in the motor court is sufficient to reach a 100-foot pipe for servicing.

Neighborhood Site Analysis

A thorough analysis of the neighboring property's statistics has resulted in an average FAR of 14% and an average floor area of 4,801 square feet between all 10 residences. With a proposed FAR of 12.9% and a proposed floor area of 3,525 square feet, the redesigned residence falls under the surrounding community's average calculations by 1.1% below the FAR and 1,276 square feet below the floor area.

This concludes the architectural analysis of the changes made to the Johnson Residence.

Sincerely,

Eric Miller, AIA
Eric Miller Architects, Inc.

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4 April 2025

Hal and Allison Johnson
3630 Lost Creek Blvd.
Austin, TX 78735

Job No. C21019

Re: Response to Peer Review Comments for
Proposed Development at 226 Highway 1
Carmel Highlands, California
Monterey County APN 241-182-003

Dear Mr. and Mrs. Johnson:

Easton Geology, Inc. has prepared this letter in response to peer review comments made by Cornerstone Earth Group regarding our geologic investigation report for the above-referenced property. The comments stem from the Monterey County application review and public hearing process for the project. The project has been reduced in scale subsequent to the comment process. Our responses below reflect the reduced scale of the project.

For this response letter we reviewed:

- Cornerstone Earth Group, 2024, Geotechnical/Geologic Peer Review, 226 Highway 1, Carmel California, Project No.: 1539-1-1, dated October 28, 2024, 13p.

- Easton Geology 2022, Geologic Investigation, 226 Highway 1, Carmel, California, Monterey County APN 241-182-003, Job No. C21019, prepared 15 December 2022, 35p., 7 plates.

  Easton Geology, 2020, Geologic Feasibility assessment for Coastal Property at 244 #3 Highway 1, Carmel Highlands, California, Monterey County APN 241-182-003, Job No. C20006, prepared 17 August 2020, 7p., 1 plate.

- Eric Miller Architects, 2025, Proposed Site Plan, Johnson Residence, 226 Highway 1, Carmel, California, 93923, APN 241-182-003, dated 2/20/2025.

Background

The proposed homesite encompasses a small cut and fill pad between the edge of an approximately 85 foot high coastal bluff and a slope descending from Highway 1. We prepared a letter summarizing our assessment of the geologic feasibility for developing the site in August 2020 (Easton Geology, 2020). Our feasibility assessment analyzed the 100-year stability of the site and included a geologically feasible building envelope which incorporated a setback from the toe of

the steep coastal bluff below the existing graded pad, and a 20 foot ministerial setback from the northeastern property line below Highway 1. Our letter concluded that the parcel is geologically feasible to develop, with any development seaward of the geologic setback requiring foundation elements to penetrate below the projected 100-year bluff profile.

We prepared a geologic investigation in December 2022 (Easton Geology, 2022) which again concluded that the site is geologically feasible to develop and included recommendations for mitigating the geologic hazards identified at the site, such as founding structures below the projected 100-year bluff profile and into competent rock. The report included a map depicting our estimated position of the blufftop at the site in 100 years. Our 2022 geologic investigation report supersedes our geologic feasibility assessment completed in 2020.

Cornerstone Earth Group Peer Review Comments and Easton Geology Responses

We have prepared the following responses to the comments (*italicized*) made by Cornerstone Earth Group.

1. *Easton does not adequately characterize three geologic features which appear to represent either active or potentially active landslides, as summarized below.*

    a. *A deposit of Qoal is located beneath the proposed autocourt and also downslope of the southeastern end of the proposed residence as shown on the Easton geologic map. This elongated deposit appears to occupy a sloping swale surface that steepens towards the face of the slope as shown in geologic cross-section D-D'. It would appear that this deposit might be a landslide. The unsupported toe of this deposit is shown as Feature "A" in the attached photo.*

Easton Geology Response: Old alluvium (Qoal) was encountered in Exploratory Shaft 1 and is exposed in the bluff face below the site. The alluvial deposit infills an old, narrow, hillside swale. Similar ancient, infilled swales are visible in roadcuts above Highway 1 near the site. Where exposed in the bluff-face, the old alluvium is stratified and clasts are imbricated. The bluff-face exposure is unsupported yet maintains a steep slope similar to the adjacent granite and marine terrace deposits. As encountered in Exploratory Shaft 1, the alluvium is dense, normally graded, and its clay matrix is stiff. The alluvium encountered in the shaft and exposed in the bluff face is matrix supported in the upper portion of the deposit and becomes clast supported in the lower portion. We saw no shearing or offsets within the old alluvium. The soil profile exposed in the cutslope through the infilled swale in the southeastern portion of the property (above the autocourt) reveals a well developed pedogenic soil. None of the above observations are suggestive of the old alluvium or the swale it infills as resulting from landsliding. We interpret the alluvial deposits to be at least 125,000 years old based on their geomorphic position above a Pleistocene marine terrace, and they are believed to grade with the marine terrace deposits below.

    b. *Along the bottom of the steep slope is an exposure in the granodiorite that shows the intersection of 3 primary joint sets. At this location is a feature that appears to be a potential wedge failure with green moss indicative of seepage (see Feature "B" in the attached photo). Other areas, and potentially those covered by vegetation are indicative of potentially similar rock failure conditions.*

Easton Geology Response: Feature "B", as delineated by the reviewer, is located below the joint-bounded scarp mapped by our firm. Formation of the joint-bounded scarp appears to be the

result of a wedge failure within the weathered granite on the upper bluff. We measured two adversely dipping joint sets in this area, and their resulting line of intersection (the axis of sliding) trends 228AZ and plunges approximately 47 degrees to the southwest. The upslope trend of the axis of sliding passes well north of the proposed residence. Current revised plans for the project depict the proposed residence about 30 feet from the left margin of the mapped wedge failure scarp depicted on Plate 1 of our report and is at least 40 feet from the axis of sliding. The footprint of the proposed residence and its foundation will not be affected by potential enlargement of this slide feature. We saw no wedge failures of similar or larger size during our investigation.

c. *The geologic map shows a headscarp near the northwest corner of the residence deck. The map indicates an 8' vertical joint-bounded scarp at this location with 5 joint attitudes showing random strikes and moderate to steep dips of between 52° and 81° in the granodiorite. Given the other observed joint sets in cliff exposure during our reconnaissance, this scarp (Feature "C" in the attached photo) represents an active slope instability condition.*

Easton Geology Response: We do not believe that Feature "C", as delineated by the reviewer, corresponds with any mapped slope instability features mapped by our firm. The location of "Feature C" on the photo markup by the reviewer lies in the northernmost portion of the parcel, is coincident with a shallow drainage swale, and appears to be 60 or more feet from any proposed improvements. The joint-bounded headscarp referenced on our geologic map was discussed above and corresponds with Feature "B" delineated by the reviewer.

2. *Easton needs to describe in detail how the base of the "Projected 100-year Bluff Profile" was chosen for the initial 3 cross-sections in the Feasibility Report and the final 5 cross-sections in the Easton Geologic Report. Specifically, describe the basis for the lowermost beginning point and the angle of projection towards the top of bluff of the line. Also explain how this appears to be the same geometry on all 5 profiles, given the presence of a bedrock scarp in A-A', deposits of Qoal on the face of D-D', and a pocket of Qcl in E-E'.*

Easton Geology Response: The overall stability of the bluff is governed by wave erosion and failure along adversely dipping joints. For our 100-year bluff retreat analysis we incorporated a minimum of ten horizontal feet of wave erosion at the base of the bluff. This is considered a conservative value, as our measured retreat rates, and those by Scripps (2022), as documented in our report, were less than 0.1 foot per year (10 feet in 100 years) over the nearly 100-year aerial photographic record of the site. We projected critical joint surfaces (adjusted for apparent dip) of between 50 and 57 degrees on our geologic cross sections, assuming failure of the bluff occurring along an adversely dipping joint plane when intersected at its base by wave erosion. We drew the position of the 100-year blufftop where failure along the critical joint plane daylighted with the slope. Many measured joints at the site were typically steeper than the critical joint surfaces, and failure along these joints would not reach as far into the slope. Again, we consider the position of the 100-year blufftop conservative.

The presence of surficial deposits and existing small failure scarps (which are anticipated) are important to consider for local bluff stability and foundation consideration; however, the future position of the blufftop is a more global and prudent bluff stability consideration. It is for these reasons that we have considered both long-term and short-term bluff stability and have

recommended deep foundations which penetrate the anticipated future bluff configuration where improvements are proposed seaward of the 100-year blufftop.

3. *Easton needs to provide more discussion and defense of their initial position whereby development seaward of the "geologically feasible building envelope" must not rely on support from material above the projected bluff profile (as depicted on the cross-sections in the 2020 Feasibility Report) yet later development is allowed seaward of the envelope based exclusively on acceptance via a Factor of Safety of 1.0 in the worst case. Justifying this shifting of the allowable development seaward strictly because of retaining wall and foundation elements being embedded into the underlying competent bedrock is not warranted and conflicts with Monterey County guidance on allowable building on slopes exceeding 30°* [sic – we believe the reviewer meant to say 30 percent].

Easton Geology Response: As previously stated, our 2022 geologic investigation report supersedes our 2020 geologic feasibility report. We have not "shifted the building envelope", and our recommendations for founding structures seaward of the 100-year bluff is unchanged between our 2020 and 2022 reports – foundations shall penetrate below the projected 100-year bluff profile line depicted on the geologic cross sections where improvements are proposed seaward of the 100-year blufftop. The siting of improvements seaward of the position of the 100-year blufftop is not based on a factor of safety of 1.0 but is instead based on founding the structures into competent rock below the projected 100-year bluff profile. The Monterey County Carmel Area Land Use Plan Local Coastal Program and Monterey County Coastal Implementation Plan do not prohibit development on slopes exceeding 30 percent, only that a geologic report is required for development proposed on slopes greater than 30 percent. Our recommendations for responsible and feasible development do not conflict with Monterey County policy.

4. *Easton needs to describe why a kinematic analysis was not performed on this project. Structural attitudes were measured from cut slopes and outcrops at various locations in the study area. While recognizing that access to measurement points is limited due to the steepness of the slopes, there are other methods for obtaining bedrock joints and shears. These include terrestrial LiDAR to develop point clouds as well as line surveys along the face of the toe of slope from a boat or kayak.*

   Relying entirely on surface measurements does not account for anisotropic variability. Therefore, obtaining structural measurements from boreholes is also needed to complement the surface surveys. Downhole televiewer methods (video or acoustic) allow for collection of data with depth. Both methods can provide useful structural data to be used in kinematic analysis that can show the types of failure that may occur on the project site. Easton described in the 2022 Geologic report that due to access limitations hand dug shafts were substituted for drill holes along the autocourt retaining wall. These shafts only penetrated weathered bedrock and do not provide nearly enough structural data of less weathered bedrock to conduct the required analysis. Based on our reconnaissance, other portions of the site close to the setback line could be accessed by track mounted drill rigs capable of advancing wireline diamond coring tools with accompanying downhole televiewer tools. Should future rock coring be utilized on this site, there needs to be consistency on the borehole logs with respect to the degree of bedrock weathering.

Easton Geology Response: A kinematic analysis was not initially performed for this project, as we consider our 100-year bluff retreat analysis conservative due to the low rate of bluff erosion at the site (less than 0.1 foot per year) and an assumed failure along a critical joint surface intersected by wave erosion at the end of 100 years. Granitic bedrock is exposed throughout much of the steep bluff-face as well as on the slope below and above the proposed development area – effectively comprising a vertical bedrock exposure nearly 100 feet high. We measured 28 prominent bedrock joints exposed within the bluff-face and above the proposed homesite. From our site reconnaissance we found that jointing is relatively consistent across the property and were satisfied that we had collected sufficient structural data to characterize the site. For these reasons we elected not to perform wireline coring. We selected adversely dipping joint planes of between 50 and 57 degrees (adjusted for apparent dip) as critical joint failure surfaces for our 100-year bluff retreat analysis on the geologic cross sections. We drew the position of the 100-year blufftop where assumed failure along the critical joint plane daylighted with the slope, as depicted on Plate 1 of our geologic report.

The existing wedge failure scar on the upper bluff slope lies within weathered granite. We performed a kinematic analysis of the wedge failure in December 2024. Kinematic analysis of the adverse joints bounding the failure scar yielded a line of intersection trending 230AZ and plunging 47 degrees to the southwest. Utilizing an equation from Hoek and Bray (1981) and a friction angle of 43 degrees measured from weathered bedrock, we calculated a static factor of safety of 1.41 for wedge failures within the weathered granite. A factor of safety of less than 1.0 would indicate a higher probability of failure. Variables such as root wedging, ground water, and seismic shaking can precipitate slope failures.

With a slope of about 70 degrees, the bedrock bluff-face below the wedge failure scar discussed above is considerably steeper than both the friction angle of 43 degrees and an axis of sliding of 47 degrees within the weathered granite comprising the upper bluff-face. We saw no deep wedge failures within the steep bluff face on the property or on the much taller segment of bluff-face just upcoast of the site. A likely reason for this is that the less weathered bedrock in the bluff-face has a higher friction angle, and a more steeply plunging axis of sliding as evidenced on the bluff-face. Thus, failures along the bluff face at the site are shallower and more steeply inclined.

In our opinion, wedge failures as discussed above and as mapped at the site may occur during the anticipated lifetime of the project and are part of the natural bluff erosion process. These failures will occur seaward of the position of the 100-year blufftop and above the projected 100-year bluff profile. The potential for future bedrock bluff failures to undermine improvements located seaward of the 100-year blufftop will be mitigated by a foundation system consisting of micropiles penetrating below the projected 100-year bluff profile.

5. *Slope stability analysis was performed previously by Rock Solid (2020) in their Preliminary Geotechnical Investigation report. The results of this analysis were referenced in their final geotechnical report, but not modified. The slope stability analysis performed included analysis of potential rotational failures in the soils and weathered granite above the fresher granite at depth. While it seems worthwhile to check this potential failure mechanism, it does not appear to be the primary mechanism for instability of the bluff. As described in the corresponding geologic report (Easton, 2022), "Planes of weakness such as joints, shears, and inactive faults control the overall configuration of the very slowly retreating bluff-face." In our opinion, it would be important to the design of the foundation to analyze this potential failure mechanism (i.e.*

block failure along joints) to further understand what forces may act on a "seaward" pile foundation extending to below the projected 100-year bluff profile line. These forces may exceed those recommended for design (see Comment 6 below).

Easton Geology Response: Our qualitative retreat analysis for this project is consistent with the methods used by others for similar investigations in the immediate area, such as at 239 Highway 1 and 255 Highway 1. These projects have been approved and constructed. Our retreat analysis for this project considered failures along adversely dipping joints coupled with the slow rate of wave erosion at the base of the bluff. For improvements located seaward of our 100-year blufftop, we recommended a foundation system which penetrates below the projected 100-year retreat profile. Deep-seated block or wedge failures extending moderate distances inland do not appear to be a dominant or likely mode of failure along the bluff at the site. We saw no evidence of prior, moderate to largescale block or wedge failures along the coastline in the site vicinity. We saw no moderately inclined bluff-faces or rubble piles resulting from block or wedge failures at the base of the bluff indicative of past block or wedge failures near the site. Instead, the bluff-face at the site and vicinity is very steep to near vertical and comprised of blocks of well jointed granite.

The structural engineer for the project design build team performed a finite element analysis in designing the micropile foundation system to support the proposed development. The analysis considered both the existing and 100-year eroded bluff profiles and was designed for all load demands.

This comment has also been addressed by Rock Solid Engineering.

6. *For design of micropiles (to be designed by others), Rock Solid has recommended an active earth pressure of 30 psf/ft, acting on a plane which is 1½ times the shaft diameter. Active earth pressures assume that a pile is free to deflect to achieve active earth pressures. However, the micropiles will likely be designed to resist lateral movement (i.e. with battered piles) and be relatively stiff, as well as restrained at the base of the residence. Therefore, it seems likely that the planned micropiles should be designed (at a minimum [see Comment 7]), for earth pressures closer to at-rest earth pressures. Earth pressures should be considered over up to 3 pile diameters based on materials, micropile spacing, geometry, and other factors.*

This comment has been addressed by Rock Solid Engineering.

7. *Once design forces on a potential micropile foundation is determined, a design-builder should also consider potential deflections of the structure, static and seismic, in their analysis. Most testing has shown that micropiles provide little lateral resistance in bending, and the lateral forces should be resisted by tensile and compressive axial forces in varying battered piles. The consideration of these factors and potential increased forces in design based on further kinematic and slope stability analysis, may likely make micropiles infeasible.*

This comment has been addressed by Rock Solid Engineering.

8. *Rock bolts are to be designed to retain significant cuts into the granitic slope near the property line. It is recognized in the geotechnical report that an easement will be required where rock bolts will extend onto Caltrans right-of-way. In addition, walls*

along the east side of the property, or the east side of the easement to the property, where a failure could potentially affect Caltrans property or facilities, will likely have to be submitted to Caltrans for review prior to approval. Further, any drainage culverts including the one previously mentioned entering the property from the upslope area will need to have adequate catchment and disposal away from the building areas.

This comment has been addressed by Rock Solid Engineering.

9. *For seismic earth pressures, Rock Solid recommended a resultant acting at 0.6H above the base of the wall. Current research shows that a resultant acting at 0.33H is more representative of the location of the resultant of seismic earth pressures (Lew, M., Sitar, N., Al-Atik, L., Pourzanjani, M., and Hudson, M. B. [2010]).*

This comment has been addressed by Rock Solid Engineering.

10. *The geotechnical report indicates that development west (i.e. seaward) of the 100-year blufftop will require deep foundations. However, it is unclear if deep foundations are required for the entire foundation system in this case. The report also mentions both slabs-on-grade and structural slabs supported by micropiles for the residence. Again, it is unclear what the final intent is. In our opinion, it would be prudent to uniformly support the residence on one foundation system type, and one slab system, or that it be further explained in the report. In our opinion, it does not seem prudent to have half the residence pile supported with structural slabs, and half with a different foundation system with slab-on-grade floors.*

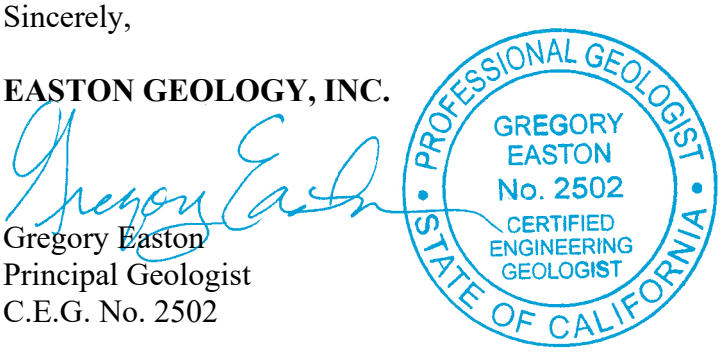
This comment has been addressed by Rock Solid Engineering.

In summary, it is our opinion that the Easton Geology and Rock Solid Engineering reports adequately mitigate the geologic and geotechnical hazards relevant to the proposed development, and the proposed development is compatible with the site.

Please contact our firm if you have any questions or concerns regarding this project.

Sincerely,

EASTON GEOLOGY, INC.



Gregory Easton
Principal Geologist
C.E.G. No. 2502

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Anthony Lombardo & Associates, attn: Deborah Castles, Esq. (pdf)
Eric Miller Architects, attn: Carla Hashimoto (pdf)
Rock Solid Engineering, attn: Yvette Wilson (pdf)

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Project No. 20020B
April 4, 2025

Hal and Allison Johnson
3630 Lost Creek Blvd
Austin, Texas 78735

SUBJECT: **RESPONSE TO PEER REVIEW COMMENTS**
Proposed Single Family Residence
226 Highway 1, Carmel, California (Previously 244 #3 Highway 1)
APN: 241-182-003-000

REFERENCES: See Attached

Dear Mr. and Mrs. Johnson:

The purpose of this letter is to respond to the questions and comments that were generated as part of the planning application review and public hearing.

We have reviewed the Geotechnical/Geologic Peer Review by Cornerstone Earth Group (Reference 1). Please note these comments were based on the previous set of architectural plans prepared by Eric Miller Architects dated June 28, 2024. Our comments in black are related to the peer review comments based on the June 28, 2024 plans.

In response to the comments received, the proposed development has been scaled back. Based on our review of the revised architectural plans Dated 2/20/2025, the building footprint has been reduced in size along with reducing the percentage of development on 30 percent slopes and project site coverage (Reference 4). Our comments related to the most recent plans are provided in blue to distinguish them from the previously proposed site layout.

The comments are listed in the order presented in the peer review starting on Page 7. Easton Geology has responded to Comments 1 through 5. Please find our responses to Comments 5 through 10 listed below.

Comment 5 (p6): *Slope stability analysis was performed previously by Rock Solid (2020) in their Preliminary Geotechnical Investigation report. The results of this analysis were referenced in their final geotechnical report, but not modified. The slope stability analysis performed included analysis of potential rotational failures in the soils and weathered granite above the fresher granite at depth. While it seems worthwhile to check this potential failure mechanism, it does not appear to be the primary mechanism for instability of the bluff. As described in the corresponding geologic report (Easton, 2022), "Planes of weakness such as joints, shears, and inactive faults control the overall configuration of the very slowly retreating bluff-face." In our opinion, it would be important to the design of the foundation to analyze this potential failure mechanism (i.e. block failure along joints) to further understand what forces may act on a "seaward" pile foundation extending to below the projected 100-year bluff profile line. These forces may exceed those recommended for design (see Comment 6 below).*

Response 5: The stability of the slopes was analyzed to check for failure above the bedrock. We agree that this is not the only failure mechanism as acknowledged in our reports. The combined analysis approach was to also determine the potential future bluff profile based on 100-years of retreat. The qualitative analysis performed by the project geologist did consider failures along adversely dipping joints and historical retreat rates. The surface and subsurface data was projected onto five cross sections and assumes the bluff-face will retreat up to 10 feet along bluff parallel joints over the next 100 years. Material above the 100-year retreat line will be neglected in the design. This approach is similar to the reports prepared for 239 Highway 1 and 255 Highway 1.

Comment 6 (p8): *For design of micropiles (to be designed by others), Rock Solid has recommended an active earth pressure of 30psf/ft, acting on a plane which is 1½ times the shaft diameter. Active earth pressures assume that a pile is free to deflect to achieve active earth pressures. However, the micropiles will likely be designed to resist lateral movement (i.e. with battered piles) and be relatively stiff, as well as restrained at the base of the residence. Therefore, it seems likely that the planned micropiles should be designed (at a minimum [See Comment 7]), for earth pressures closer to at-rest earth pressures. Earth pressures should be considered over up to 3 pile diameters based on materials, micropile spacing, geometry and other factors.*

Response 6: After coordination with the design build engineer, the micropiles were designed for the load demands associated with the shear strength values for the weathered granite provided by Rock Solid. The engineer's analysis included both the existing conditions and the projected 100-year bluff profile. The design was performed in the finite element analysis software, PLAXIS 2D. The load demands from PLAXIS were used to select the steel section for the micropiles, which was based on permanent ASD load factors after IBC/CBC. The design methodology for the micropiles is outlined in the calculation submittal by DRS.

As the project has been modified significantly, the design build engineer will need to revise their analysis for the current design. However, the design approach will remain the same.

Comment 7 (p9): *Once design forces on a potential micropile foundation is determined, a design-builder should also consider potential deflections of the structure, static and seismic, in their analysis. Most testing has shown that micropiles provide little lateral resistance in bending, and the lateral forces should be resisted by tensile and compressive axial forces in varying battered piles. The consideration of these factors and potential increased forces in design based on further kinematic and slope stability analysis, may likely make micropiles infeasible.*

Response 7: Based on our coordination with the structural engineer and review of the calculation package, micropiles are feasible for this site. The site is a great candidate for micropiles considering the strength of the rock underlying the site, and the environmental sensitivity (i.e., smaller diameter elements like micropiles are more environmentally friendly than larger diameter elements like drilled shafts). The micropile design and analysis is clearly outlined in the calculation submittal by DRS. The micropiles were appropriately designed to the anticipated static and seismic loads including axial compression/tension, shear forces, and bending moments.

Comment 8 (p9): *Rock bolts are to be designed to retain significant cuts into the granitic slope near the property line. It is recognized in the geotechnical report that an easement will be required where rock bolts will extend into Caltrans right-of-way. In addition, walls along the east side of the property, or the east side of the easement to the property, where a failure could potentially affect Caltrans property or facilities, will likely have to be submitted to Caltrans for review prior to approval. Further any drainage culverts including the one previously mentioned entering the property from the upslope area will need to have adequate catchment and disposal away from the building areas.*

Response 8: The Architect has been coordinating with Caltrans on the previous design (June 2024) and review for the proposed walls. The retaining wall near the east property line had been designed with permanent caissons to avoid the use of rock bolts and therefore eliminate the need for an easement. A drainage plan was prepared by a Civil Engineer. The plan included a swale at the top of the site retaining walls to collect any runoff from upslope and direct it to an appropriate discharge point.

As the plans have been revised, significant cuts and retaining walls near the property line have been eliminated. The new site plan includes terraced retaining walls at the driveway that are a maximum of 6 feet tall and are setback 10 feet from the property line. These walls will likely be designed as simple gravity walls without the need for caissons or tiebacks.

The civil engineer will provide a revised drainage plan for the construction drawings.

Comment 9 (p9): *For seismic earth pressures, Rock Solid recommends a resultant acting at 0.6H above the base of the wall. Current research shows that a resultant acting at 0.33H is more representative of the location of the resultant of seismic earth pressures (Lew, M., Sitar, N., Al-Atik, L., Pourzanjani, M., and Hudson, M. B. [2010]).*

Response 9: After coordination on the final design, the submitted calculations package included the location of the resultant at 0.33H above the base of the wall.

Comment 10 (p9): *The geotechnical report indicates that development west (ie. seaward) of the 100-year blufftop will require deep foundations. However, it is unclear if deep foundations are required for the entire foundation system in this case. The report also mentions both slabs-on-grade and structural slabs supported by micropiles for the residence. Again, it is unclear what the final intent is. In our opinion, it would be prudent to uniformly support the residence on one foundation system type, and one slab system, or that it be further explained in the report. In our opinion, it does not seem prudent to have half the residence pile supported with structural slabs, and half with a different foundation system with slab-on-grade floors.*

Response 10: The entire residence has been designed with a structural slab supported by micropiles. For the revised design, the entire foundation will also be designed as a mat slab supported by micro-piles.

Discussion and Conclusions

We consider the reports to be adequate for the proposed development and meet or exceed the industry standards for similar development as evidenced by the approved projects for the nearby recent developments.

The Preliminary Geotechnical Investigation (Reference 5) was prepared before plans were developed as a first phase to investigate the feasibility of development of the parcel. The following Geotechnical Investigation (Reference 6) provided design level recommendations for the proposed development after site plans were prepared and included additional analysis. The preliminary reports were not intended to limit development to the small geologically feasible building envelope. The intent was to establish the feasibility and primary geotechnical constraints of developing this parcel.

As the design was not fully developed at the time the reports were prepared and the parcel does have some constraints, we worked closely with a specialty design builder to further analyze the proposed development. The additional analysis included finite element analysis to develop the structural plans and supporting calculations based on the proposed design.

Since those plans were prepared, the scope of the project has been reduced significantly in response to comments by the Monterey County Planning Commission. The reduction in the scope has resulted in a smaller structure that will be further setback from the steep bluff and the property line adjacent to Highway 1. The currently proposed project will eliminate the need for large cuts near the property line and Caltrans Right of Way and will reduce the number and depth of the required foundation elements.

If you have any questions, or if we may be of further assistance, please do not hesitate to contact our office.

Sincerely,

ROCK SOLID ENGINEERING, INC.

Signed: April 7, 2025

Yvette M. Wilson, P.E.
Principal Engineer
R.C.E. 60245

Distribution: (1) Addressee and via email
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REFERENCES

1. Cornerstone Earth Group, Geotechnical/Geologic Peer Review, 226 Highway 1, Carmel, California, Project No. 1539-1-1, Dated October 28, 2024.

2. Easton Geology, Inc., Geologic Feasibility Assessment, for Coastal Property at 244 #3 Highway 1, Carmel Highlands, California, Monterey County APN 241-182-003, Job No. C20006, Dated 17 August 2020.

3. Easton Geology, Inc., Geologic Investigation, Johnson Property, 226 Highway 1, Carmel, California, Monterey County APN 241-182-003-000, Job No. C21019, Dated 15 December 2022.

4. Eric Miller Architects, Inc., Johnson Residence, 226 Highway 1, Carmel, CA 93923, Sheets A1.1, A-1.2a, A-1.2b, A-1.2c, A-1.3, A-1.4, and A-2.1, Dated 2/20/25.

5. Rock Solid Engineering, Inc., Preliminary Geotechnical Investigation, Coastal Bluff Retreat Analysis, 244 #3 Highway 1, Carmel, California, APN: 241-182-003, Project No. 20020, Dated August 14, 2020.

6. Rock Solid Engineering, Inc., Geotechnical Investigation, Proposed Single Family Residence, 226 Highway 1, Carmel, California (Previously 244 #3 Highway 1), APN: 241-182-003-000, Project No. 20020B, Dated December 15, 2022.