SURFRIDER FOUNDATION
SAN DIEGO COUNTY

October 19, 2021

Delivered via email

To: City Manager Greg Wade
Mayor Lesa Heeber
Deputy Mayor Kristi Becker
Coucilmembers Kelly Harless, David Zito, Jewel Edson
City of Solana Beach

Re: DRP 19-101, 529 Pacific Ave

Dear Mr. Wade, Mayor, Deputy Mayor, and Councilmembers,

The Surfrider Foundation is a nonprofit grassroots organization dedicated to the protection and enjoyment of our world's ocean, waves, and beaches through a powerful network. We are concerned that the City's current trajectory of perpetuating blufftop development and rewarding reckless redevelopment by permitting seawalls has set us up for the inevitable loss of the public's beaches. The approval of this project exemplifies these concerns.

At the October 13, 2021 public hearing we were astounded that the review by City Council and the City's 3rd party Geotechnical Consultant mischaracterized the City's municipal code and ignored obvious errors and omissions in the applicant's Geotechnical Report. Additionally, the timely evidence we submitted was dismissed as non-scientific and unreviewed. While we are not ourselves geotechnical experts, all of the information we submitted was quoted directly from previously submitted geotechnical reports that have been reviewed by third party experts as well as the Coastal Commission. The following errors led to Council's incorrectly approving the Development Review Permit (DRP):

1. The City's Geotechnical Consultant incorrectly stated that setback calculations could be altered by shoreline armoring. This directly contradicts the City's certified LUP *Policy 4.18: A legally permitted bluff retention device shall not be factored into setback calculations…*.
2. Surfrider submitted timely evidence previously prepared by geotechnical experts showing seacaves and differing erosion rates on adjacent properties on both the directly adjacent northern and southern property line. City Council

was misled when the Geotechnical Consultant dismissed this critical factual expert data during the public review process.
3. GeoSoils omitted the well-documented presence of seacaves in Plates 2 and 4 of their geotechnical report.

We write in the hope that these errors and omissions will be corrected for the subject project and a corrective action program initiated to avoid future similar errors. The City's municipal code provides the following two corrective options:

1. The applicant should request an amendment to the DRP approved by the City per municipal code *17.68.040 Development review permits item L Amendments to Existing Development Review Permits. An amendment to an existing development review permit may be requested by the permittee or successor interest*. This should include an amended geotechnical report that addresses the omissions of the seacaves that we have identified as well as a modified retreat rate and GSL. The setback calculation cannot take into consideration the fact that the seacaves have been filled, per LUP Policy 4.18: *A legally permitted bluff retention device shall not be factored into setback calculations….*
2. If the applicant is unwilling to request an amendment to their DRP, the director of community development cannot sign the final development plan, and should not determine that the requirements have been met per municipal code *17.68.040 K. Final Development Plan*. ***After approval of the development review permit****, the applicant shall submit a reproducible copy of a final development plan, which incorporates all the requirements of the approval, to the director of community development for signature*. ***Prior to signing the final development plan, the director shall determine that all applicable requirements have been incorporated into the plan and that all conditions of approval have been satisfactorily met or otherwise guaranteed***.

Setback Calculations Cannot Take Armoring or Other Stabilization Structures In to Consideration

The City's Geotechnical Consultant discussed our October 13 letter during Council deliberations and incorrectly stated that a higher erosion rate for surrounding properties was not relevant when determining the erosion rate for 529 Pacific Ave (around 1 hour, 10 minutes into the council hearing). He went on to justify this statement by saying that after a higher erosion rate had been determined for neighboring properties, the seacaves that caused that high rate had been filled in. He then incorrectly concluded if he was to do an erosion analysis of the neighboring properties now the retreat rate would now be less. This statement conflicts with the

City's LUP, which is very clear about the calculation of erosion rates for determining setbacks:

> **Policy 4.18**: A legally permitted bluff retention device shall not be factored into setback calculations….
>
> **Policy 4.17**: New development shall be set back a safe distance from the bluff edge, with a reasonable margin of safety, to eliminate the need for bluff retention devices to protect the new improvements. All new development, including additions to existing structures, on bluff property shall be landward of the Geologic Setback Line (GSL) as set forth in Policy 4.25
>
> **Policy 4.25**: All new bluff property development shall be set back from the bluff edge a sufficient distance to ensure that it will not be in danger from erosion and that it will ensure stability for its projected 75-economic life. To determine the GSL, applications for bluff property development must include a geotechnical report, from a licensed Geotechnical Engineer or a certified Engineering Geologist, that establishes the Geologic Setback Line (GSL) for the proposed development. This setback line shall establish the location on the bluff top stability where can be reasonably assured for the economic life of the development….

Taken together, the LCP is crystal clear about this: New development must be set back behind the GSL so that it will be safe for 75 years. The setback determination cannot factor in bluff retention devices. It was therefore incorrect for the Geotechnical Consultant to imply that the filling of neighboring seacaves could alter setback calculations.

During public comment, Kristin Brinner tried to set the record straight on this topic. She stated on the record as part of her public comment that "*It is important to note that setbacks cannot take into account armoring, so the fact that the adjacent seacaves have been filled does not mean that the erosion rate can now be lower*."

Councilmember Heebner later posed a related question: Could you please address the statement that a filled seacave does not affect the erosion rate (1 hour, 20 minutes into the hearing). Geotechnical Consultant James Knowlton again contradicted the LCP by stating that a filled seacave does affect the erosion rate. ***Policy 4.18 of the LCP could not be more clear:*** *A legally permitted bluff retention device shall not be factored into setback calculations.*

Errors and Omissions in the Geotechnical Report Preclude New Development

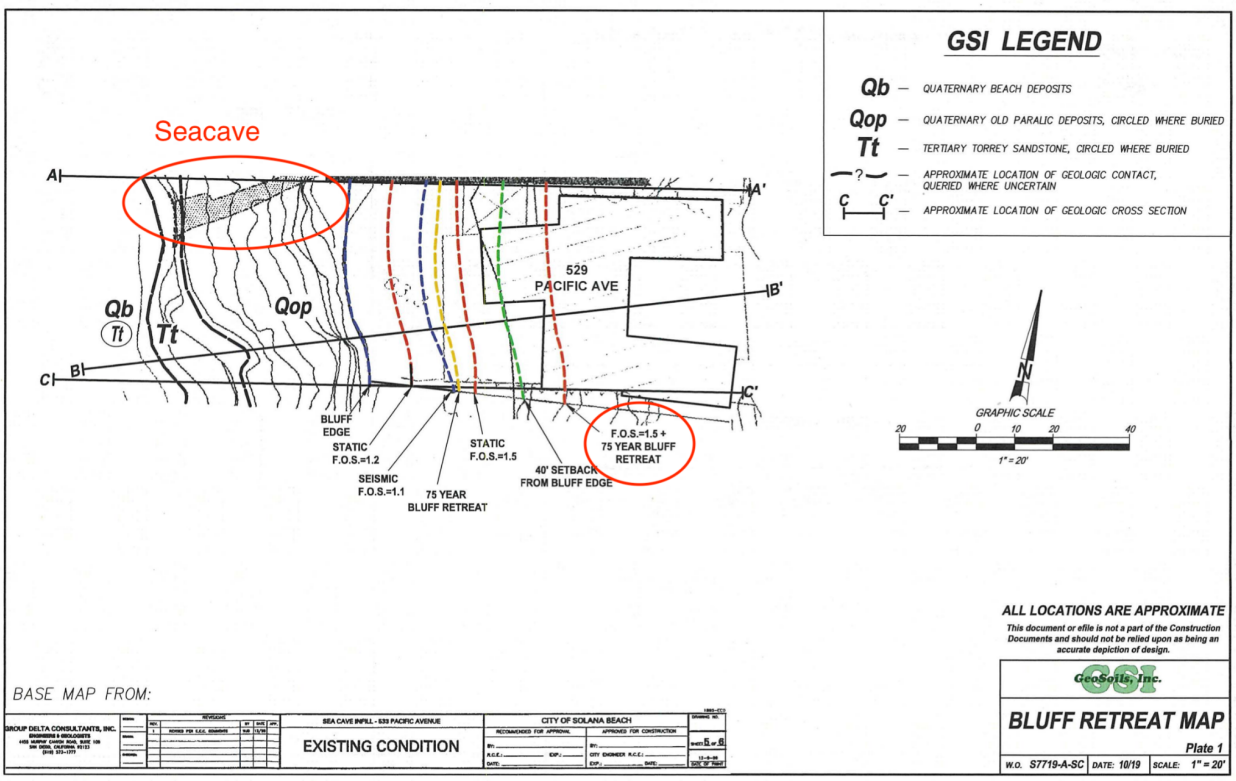
As stated in our previous letter, to approve this project, the City must be able to find that the new development will be safe from erosion over the 75 year lifetime of the structure with a 1.5 Factor of Safety. However, the the Geotechnical report drastically under-estimated the bluff retreat rate to determine that the 75 year threshold is met:

> *The LUP recommends the use of 0.40 feet per year as the default average annual bluff erosion rate unless a site-specific geotechnical analysis indicates a different erosion rate should be used. LUP Policy 4.25 allows for the use of a site-specific rate and stipulates that any existing shoreline protective devices shall be excluded from the slope stability calculations (Policy 4.18). A site-specific bluff erosion rate analysis was conducted by GeoSoils, Inc., as allowed by Certified LUP Policy 4.25, and determined to be 0.1875 feet per year. (staff report, page 70)*

The staff report also points out that determination of erosion rates used in setbacks and further "*... stipulates that any existing shoreline protective devices shall be excluded from the slope stability calculations (Policy 4.18).*

Surfrider submitted a timely letter including information about surrounding shoreline protective devices on the properties to the immediate north and south. We also included links to the Coastal Commission staff reports for the permits for these shoreline protective devices as well as erosion rates used in development proposals at the property to the immediate north.

The plate below from GeoSoils report indicates the criticality of proper determination of the GSL (Plate 1, page 74 of staff report). The GSL indicating a Factor of Safety of 1.5 and 75 years of erosion is represented by the red dotted line on the right landward of the 40 feet setback. Also visible in the plate is a filled seacave which is a shoreline protective device. This is shown by the grey shaded area (circled by us in red) that intersects the cross section AA'.



GeoSoils Plate 1 - Includes Seacave

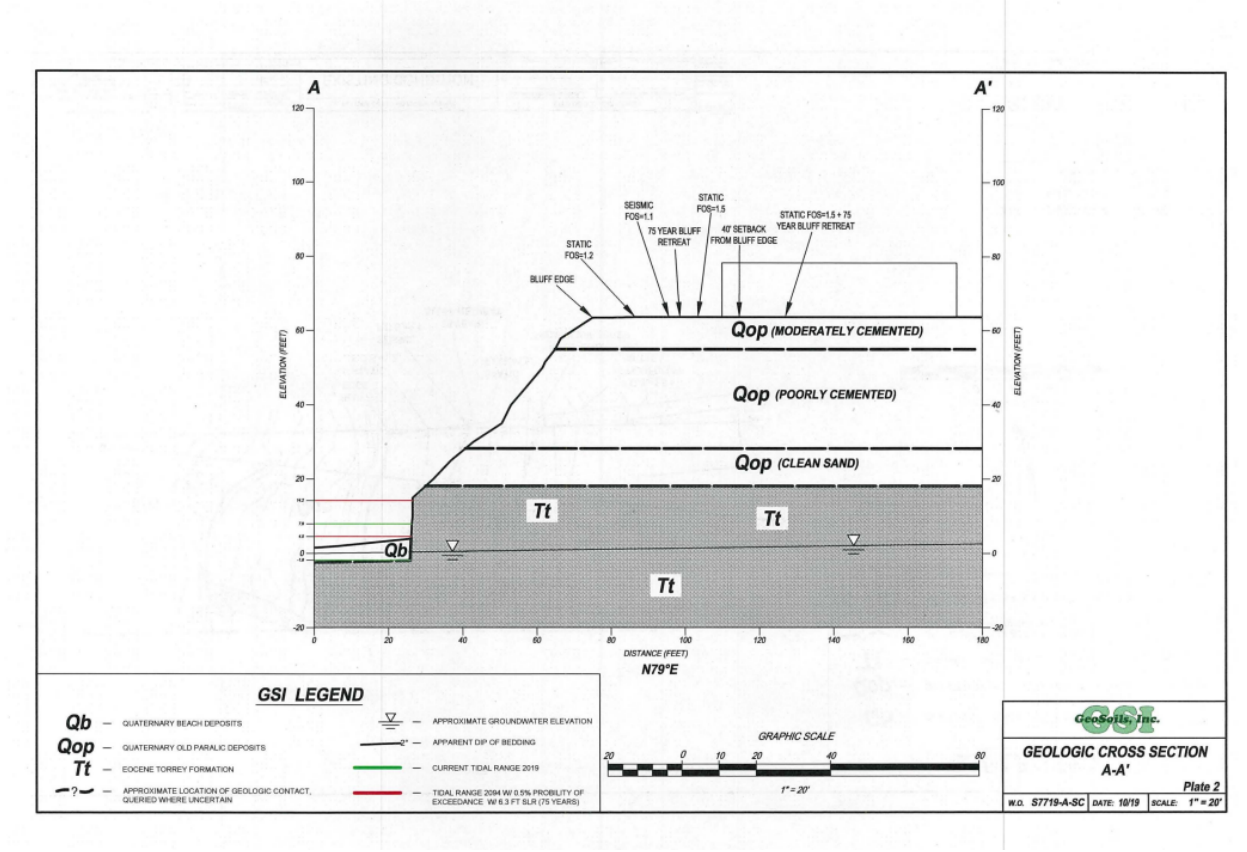
As mentioned in our previous letter, the subject property's northern neighbor, the Becker property at 533 Pacific Ave, also found a significant threat from seacave collapses. The 2000 Coastal Commission staff report concerning the Becker property[1] states:

> *"The geotechnical report also documents that the existing residence ranges from 23 1/2 feet to 31 1/2 feet from the edge of the bluff. The 50 foot-long seacave has been identified as extending to beneath the south side of the residential rear yard. The collapse of these three seacaves could result in an immediate failure and sloughening of the upper bluff materials which would likely result in a future request for a shoreline protective device that would have far more adverse effects to coastal resources than would occur with the fill of the seacaves."*

The seacave extends to the south meaning it traverses the property line between 533 and 529 Pacific Ave as indicated in Plate 1 above. Despite acknowledging the seacave in Plate 1, it was then omitted from Plate 2 of the applicant's report and remained excluded from the Consultant's review. Plate 1 and the 533 Pacific Ave fill permit both show a cave traversing AA' yet no cave is shown and no stability analysis removing the

[1] https://documents.coastal.ca.gov/reports/2000/1/W8c-1-2000.pdf

fill the from the seacave was performed, as required by the City's LUP policy 4.18 "*A legally permitted bluff retention device shall not be factored into setback calculations"*



GeoSoils Plate 2 - Missing Seacave Across Property Line Cross Section AA'

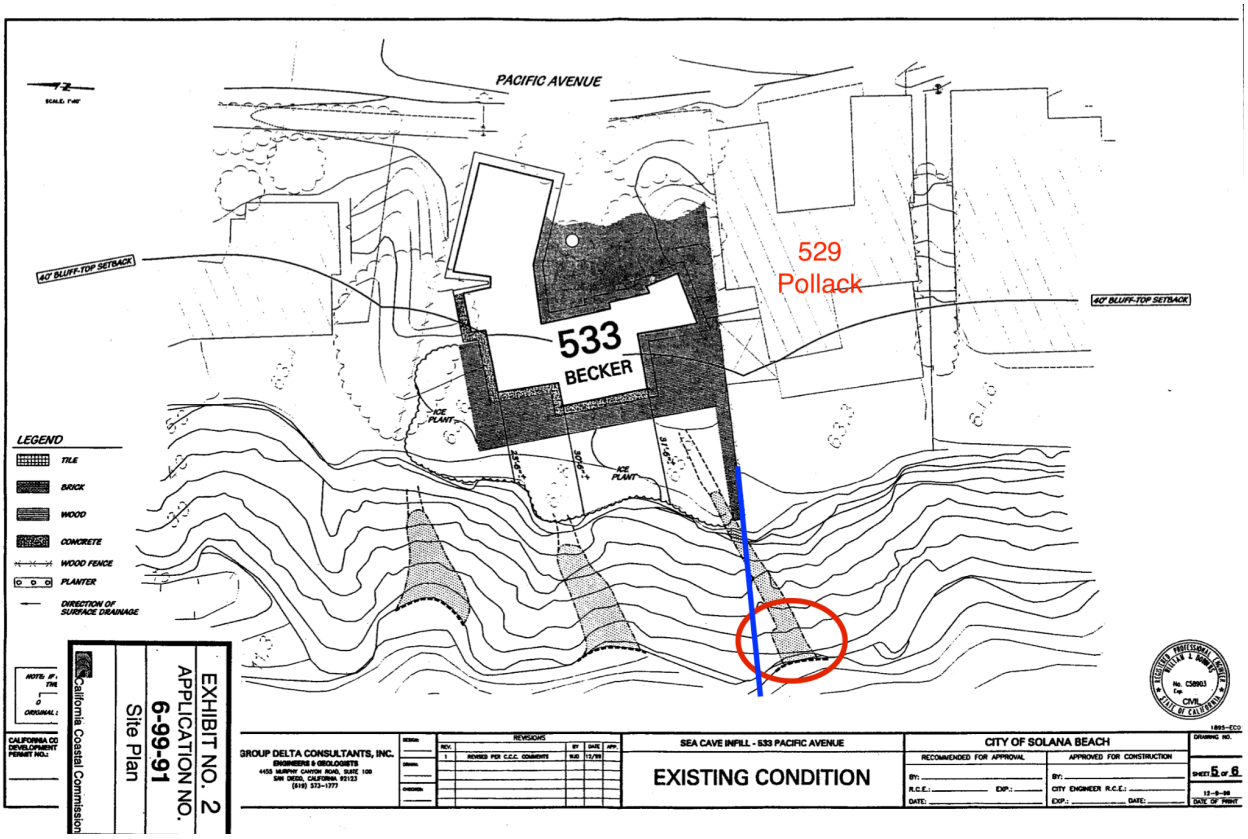
If there is any question as to the existence of the cave, a simple review of the site or available photos from https://www.californiacoastline.org/ reveals the presence of the seacave infill as circled in blue below showing the seacave fill directly in front of 529 Pacific Ave that then traverses across the property line to 533 Pacific Ave.

Seacave fill indicated in blue, photo taken Thu Sep 23 15:23:26 2010[2]

This is further substantiated in the 2000 application for the seacave infill for 533 Pacific Ave (W8c-1-2000)[3] which shows the seacave traversing the property line. Exhibit 2 shows the fill starts in front of 529 Pacific. We made a projection of the property line in blue and circled the cave fill in red. This clearly indicates that 529 Pacific Ave benefits from the fill.

2 https://www.californiacoastline.org/cgi-bin/image.cgi?image=201003799&mode=big&lastmode=timecompare&flags=0&year=2010

3 https://documents.coastal.ca.gov/reports/2000/1/W8c-1-2000.pdf



2000 Geotechnical Report Indicating Seacave

The 2000 Coastal Commission staff report concerning 533 Pacific Ave[4] further describes this seacave that is shared by 533 and 529 Pacific Ave:

> *"The geotechnical report also documents that the existing residence ranges from 23 1/2 feet to 31 1/2 feet from the edge of the bluff. The 50 foot-long seacave has been identified as extending to beneath the south side of the residential rear yard. The collapse of these three seacaves could result in an immediate failure and sloughening of the upper bluff materials which would likely result in a future request for a shoreline protective device that would have far more adverse effects to coastal resources than would occur with the fill of the seacaves."*

In 2003 a permit for redevelopment was granted to Becker at 533 Pacific Ave[5], after the seacaves were filled per the 2000 permit application. At this time the California Coastal Commission required that the setback be 88ft in order for development to be safe over 75 years with a factor of safety of 1.5.

[4] https://documents.coastal.ca.gov/reports/2000/1/W8c-1-2000.pdf
[5] https://documents.coastal.ca.gov/reports/2003/8/F13b-8-2003.pdf

"In the case of the subject development, the applicant has submitted geotechnical reports that include site-specific quantitative slope stability analyses and an estimation of the long-term erosion rate for the area. (The analysis took into account the exposed clean sands layer on the bluff.) The slope stability analysis measures the likelihood of landslide at the subject site. According to the applicant's geotechnical report of December 2002, a minimum factor of safety 1.5 (the industry standard) against a landslide occuring at the subject site is located at approximately 51 feet landward of the edge of the bluff...This implies that the safe location for a slab based foundation structure would need to be setback at least 51 ft. from the edge of the bluff. In addition to the landslide potential, the bluff will be subject to long-term erosion and retreat and the geologic setback will need to be based on an accurate estimate of this retreat rate as well. The applicant's geotechnical reports have cited a variety of long-term erosion rates for the area that range from .22 ft. to .40 ft. per year. However, none of the citations are based on site-specific information. In the absence of site-specific data, regional data from the literature may be substituted. The current state-of-the-art for establishing bluff retreat rates in this area is a FEMA-funded study done as part of a nationwide assessment of coastal erosion hazards. Data presented in Benumof and Griggs (1999), indicate that the long-term bluff retreat in the general area is from 0.15 to 0.49 feet per year. To allow for accelerated average bluff retreat rates in the future, which are a likely result of any acceleration in the rate of sea level rise, it is appropriate to establish the setback for new development on the basis of the larger value (0.49 ft/yr). Given an estimated 75-year design life, about 37 feet of erosion might be expected to occur at the subject site based on this historic long-term erosion rate. Therefore, based on the combination of slope stability analyses and the estimated erosion rate, ***the Commission would typically require that any new development at the subject site be located approximately 88 ft. landward of the edge of the bluff****. In addition, the Commission would also likely require an additional 10 ft. buffer to allow for surficial slumping and to allow for uncertainties in the analysis. In this case, it would translate into a setback of 98 ft. However, at either 88 ft. or 98 ft. from edge of bluff, the project site would not accommodate the construction of a new home since the lot itself is only about 110ft. deep from west to east and 60 to 65ft. wide on its east side."*

It defies logic that the setback for 529 Pacific could be 64 feet when the 533 Pacific Ave setback is 88 ft. The applicant has not accounted for a seacave which has been well documented to be a source of instability.

Similarly, the subject property's southern neighbor, Bannasch at 523-525 Pacific Ave, found that the bluff retreat rate is on the order of 1 foot per year - more than 5 times the rate used to by the current applicant's estimation and approximately 3 times the conservative approach used by the applicant. The 2014 Coastal Commission staff report concerning the Bannasch[6] property states:

> *The geotechnical report by Geotechnical Exploration, Inc., submitted by the applicant on April 17, 2012 with the subject application, identifies the following instability concerns to the bluff and the bluff top property at the subject site:*
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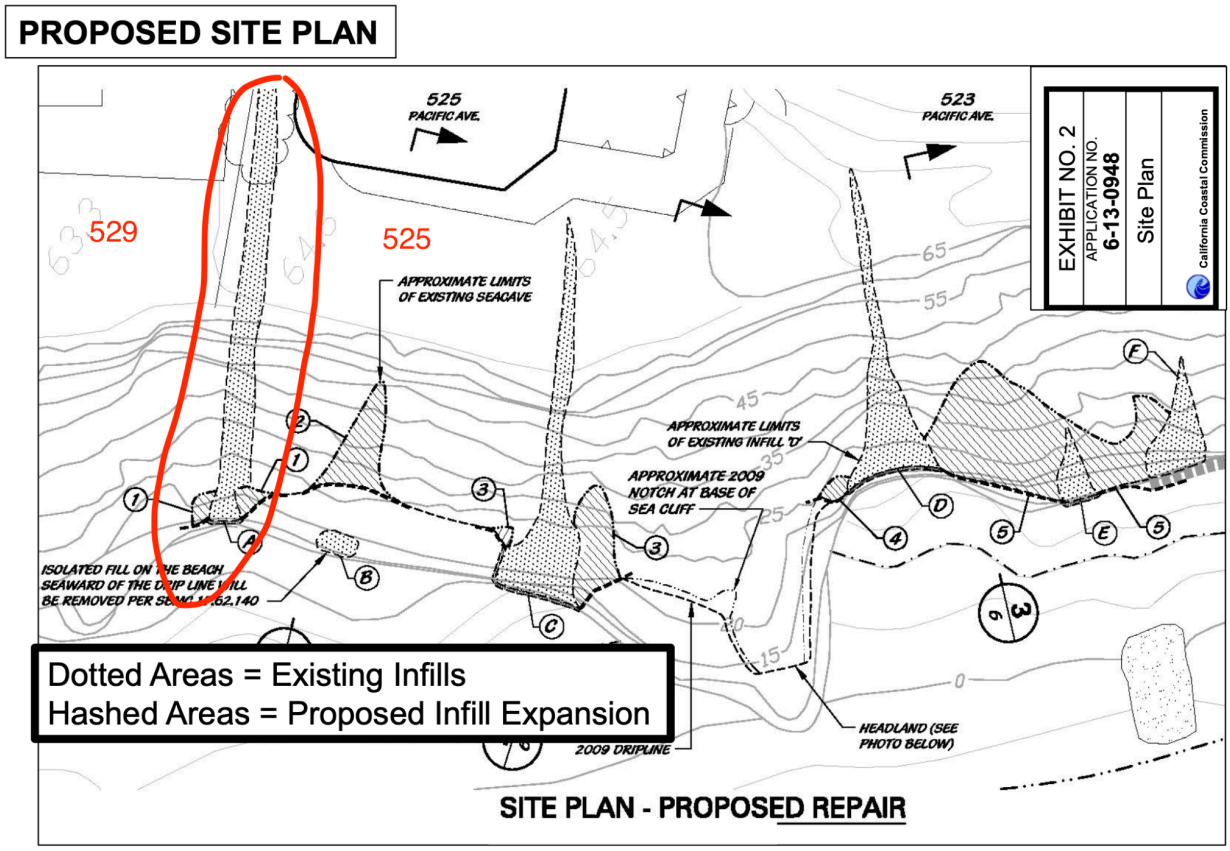
> > *"...due to cave formation and collapse processes, bluff face recession is rapid and on the order of 1 foot per year below the subject property.'*

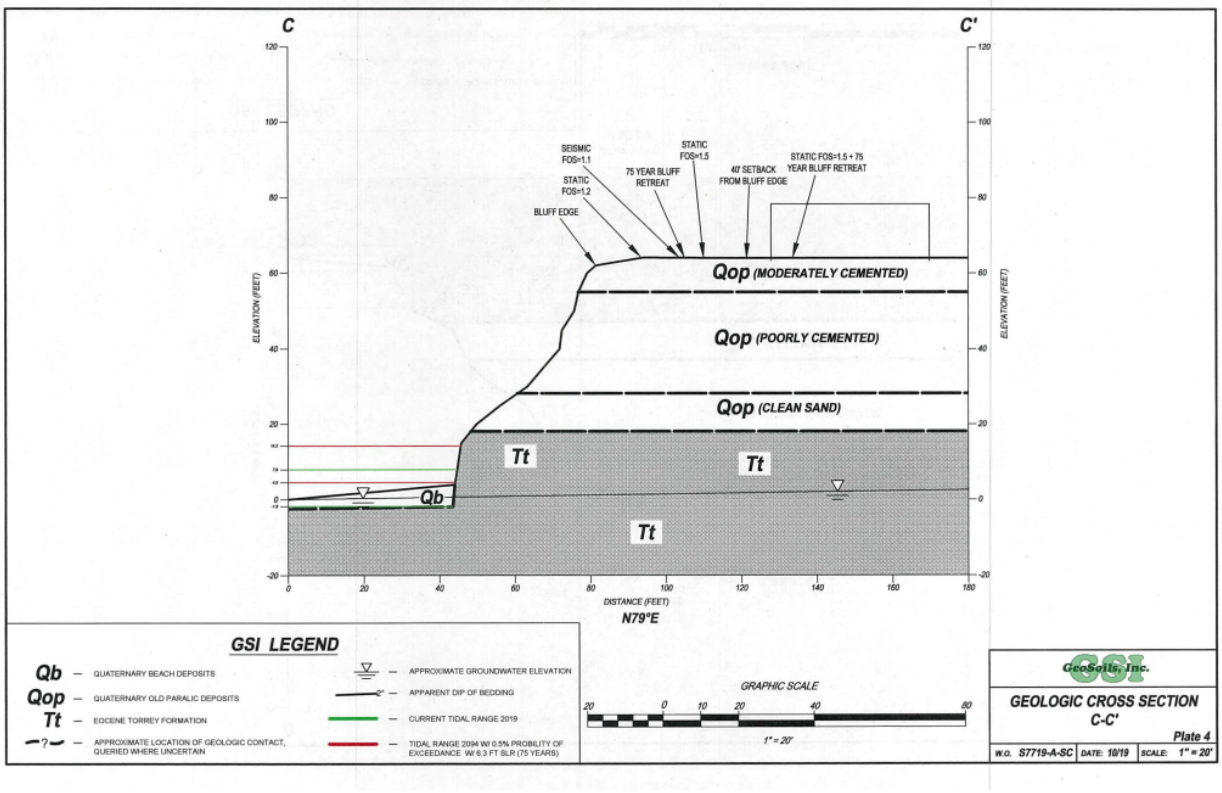
That report shows a cave running along the southerly property line of 529 Pacific Ave as shown below.



2014 Geotechnical Report for 525 Pacific Ave indicating seacave

[6] https://documents.coastal.ca.gov/reports/2014/3/W21c-3-2014.pdf

Again, the geotechnical report for 529 Pacific Ave ignored or omitted the presence of this filled sea cave. This seacave should have been included in cross section CC' (Plate 4)of Geosoil's report but it is not.



GeoSoils Plate 4 missing seacave in Cross Section CC' at Southern Property Line

These cross sections are what would be used to determine stability yet all incorrectly omitted the presence of caves.

Surfrider provided links to all the staff reports regarding 529 Pacific Ave's immediate neighbors to their north and south for Bannasch's infills prior to the City Council meeting. This included the full geotechnical reports that were reviewed by independent third parties. In both the northern and southern projects, the collapse of the caves would have caused catastrophic failures. The deficiencies in the geotechnical report for 529 Pacific Ave should have been obvious to experts yet it was ignored.

It is difficult to believe that there is an island of such stability at 529 Pacific Ave when it is immediately surrounded by neighbors with collapsing seacaves and dramatically higher bluff retreat rates. To reiterate again, the fact that these seacaves have been filled has no bearing on the setback calculations per LUP Policy 4.18*: A legally permitted bluff retention device shall not be factored into setback*

calculations…. Because of this, it was incorrect for Council to make the finding that the proposed New Development is safe from erosion over 75 years.

Conclusions

As documented above, several errors led to the City council's approval of this DRP:

1. City Council was misled in the application and public review process by incorrect statements that setback calculations could be altered by shoreline armoring.
2. Surfrider submitted timely evidence prepared by geotechnical experts showing seacaves and differing erosion rates on adjacent properties on both the northern and southern property line. The City's Geotechnical Consultant failed to acknowledge this factual expert data, even when it was brought up during public review.
3. GeoSoils omitted the well-documented presence of seacaves in Plates 2 and 4 of their geotechnical report.

As such, we request the following from the City and the applicants:

1. The applicant should request an amendment to the DRP approved by the City per municipal code *17.68.040 Development review permits item L Amendments to Existing Development Review Permits. An amendment to an*

existing development review permit may be requested by the permittee or successor interest.

2. If the applicant is unwilling to request an amendment to their DRP, the director of community development cannot sign the final development plan, and should not determine that the requirements have been met per municipal code *17.68.040 K. Final Development Plan. After approval of the development review permit, the applicant shall submit a reproducible copy of a final development plan, which incorporates all the requirements of the approval, to the director of community development for signature*. ***Prior to signing the final development plan, the director shall determine that all applicable requirements have been incorporated into the plan and that all conditions of approval have been satisfactorily met or otherwise guaranteed***.

We respectfully ask for reconsideration and a corrective action to avoid such an event in the future. The applicant should ask that their geotechnical experts use all available information when determining a safe plan for redevelopment before investing significant money in the proposed remodel.

Defying clear terms of the City's LCP is illegal. If the applicant and/or the City are not willing to consider these requests, both the Coastal Commission and the Board that certifies Geotechnical Engineers will promptly be notified of these errors[7].

Sincerely,

Kristin Brinner & Jim Jaffee
Residents of Solana Beach
Co-Leads of the Beach Preservation Committee
San Diego County Chapter, Surfrider Foundation

Laura Walsh
Policy Manager
San Diego County Chapter, Surfrider Foundation

[7] https://www.bpelsg.ca.gov/consumers/complaint_licensee.shtm