MALIBU / CALIFORNIA

19302

PACIFIC COAST HIGHWAY

Coastal residence

Preliminary design collection

ARCHITECTURE

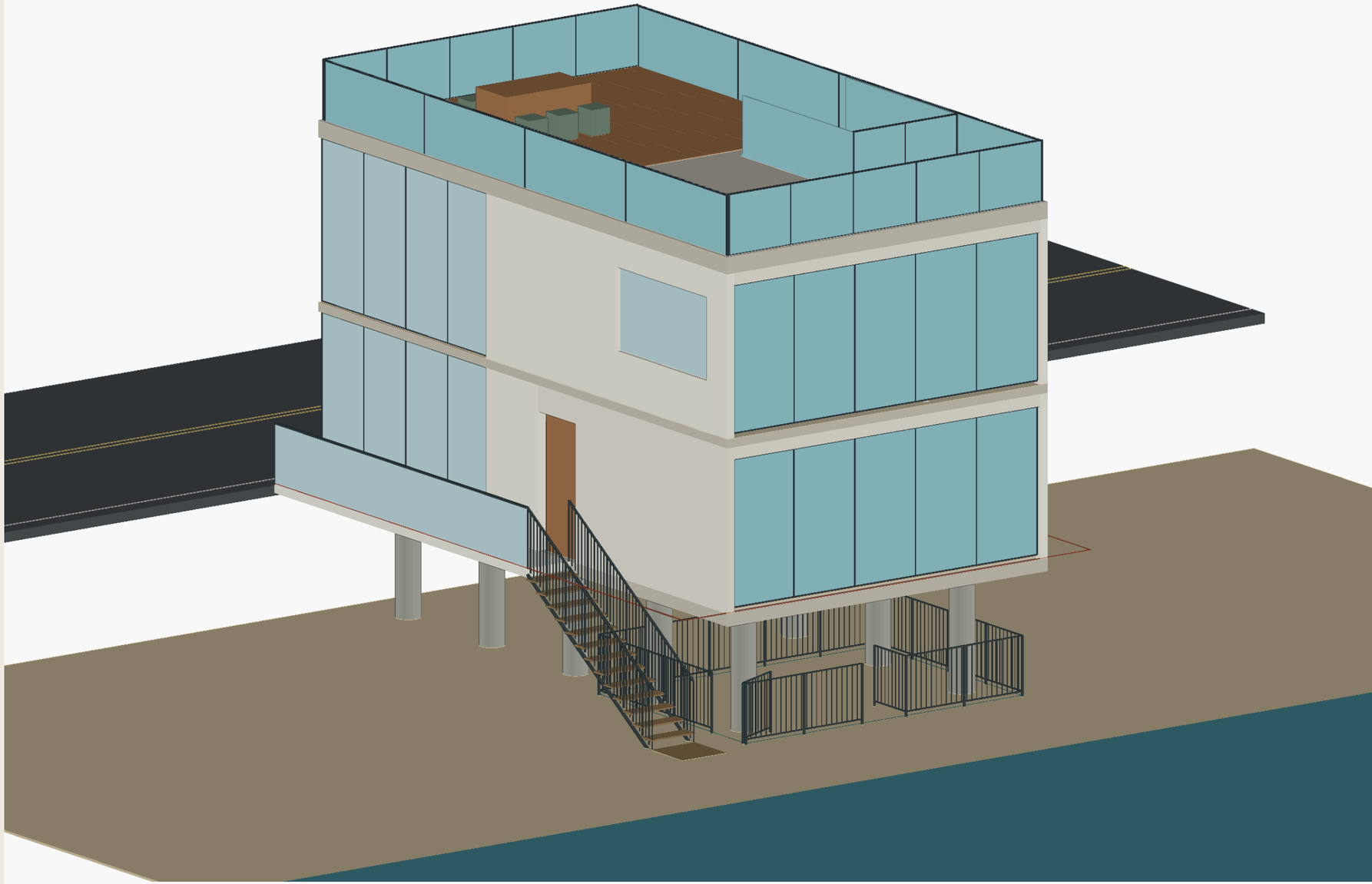
STRUCTURAL OPTIONS

COASTAL RESEARCH

APN 4449-005-016

19302 Pacific Coast Highway

OCEAN APPROACH / CONCEPT MODEL



Current model geometry. Supports and fence placement are schematic.

REVISION E

23 SEPTEMBER 2026

FULL PRELIMINARY SET

40 sheets / Architectural views + engineering coordination

NOT FOR PERMIT OR CONSTRUCTION

G0 / PDF 01

Drawing register and issue status

40 sheets | PDF page numbers below | Bookmarks provide direct navigation

RENDERING GALLERY

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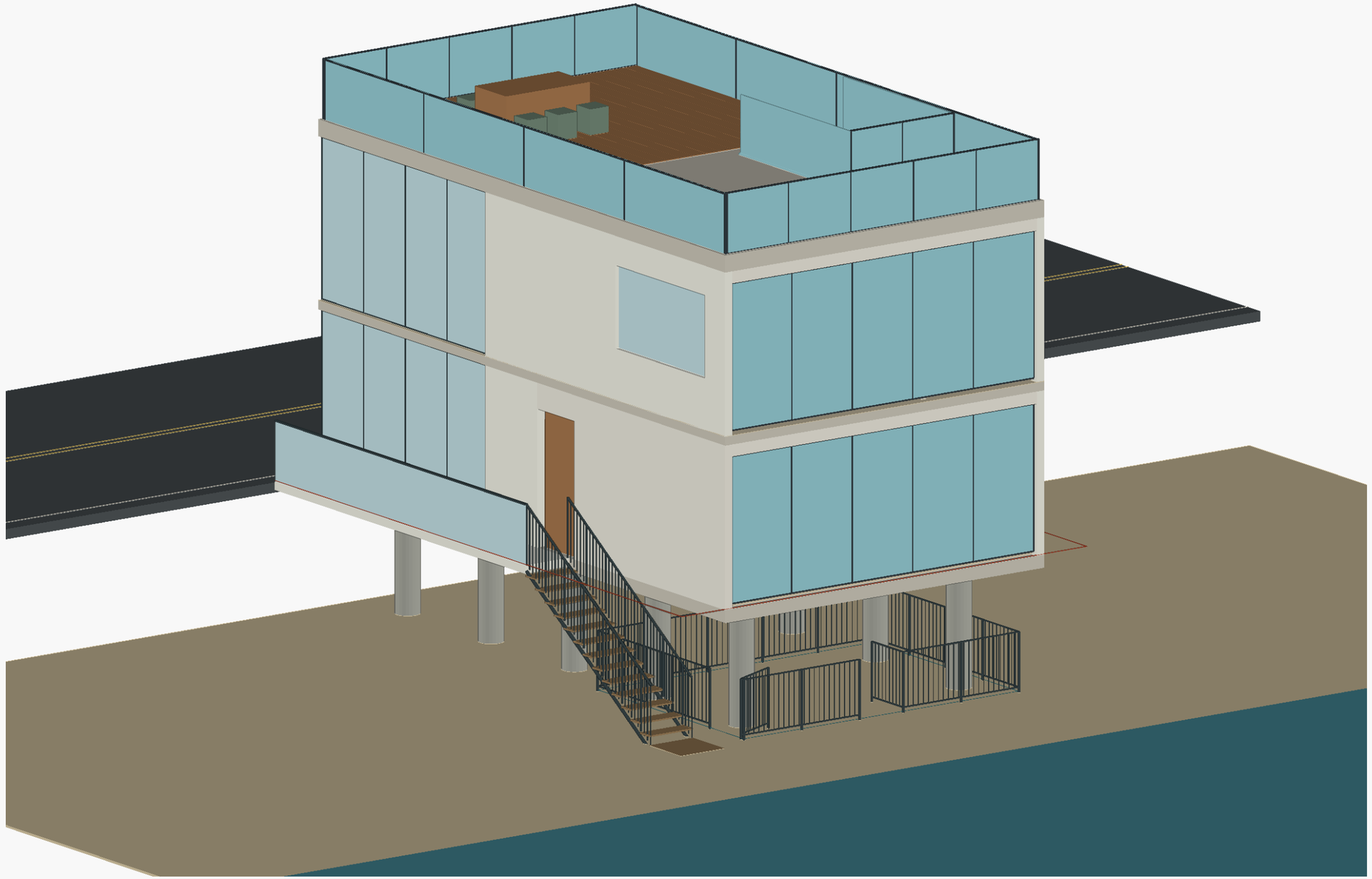
40	C-S4 Sources and record requests

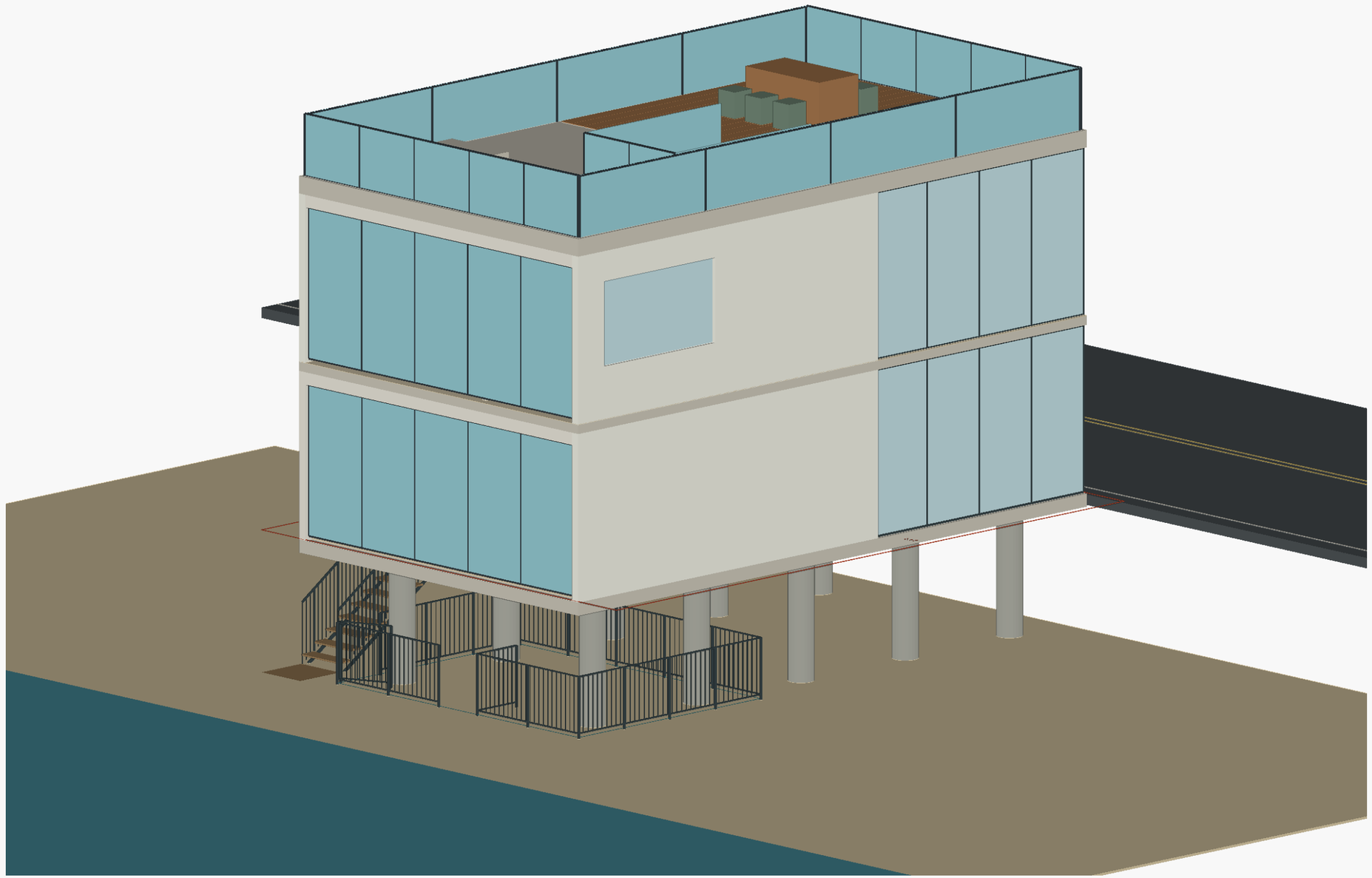
Issue limits: plans are model projections, not a surveyed construction set. Schematic structural sections are explanatory, not measured building sections. MEP, energy, waterproofing, fire-rated assemblies, calculations and certified design details remain to be prepared.

Existing foundations: no count or layout is verified. The earlier suggestion of eight existing caissons was withdrawn. The 8 / 10 / 12 diagrams concern unselected proposed layouts only. Underground depth is never inferred from the exposed portion.



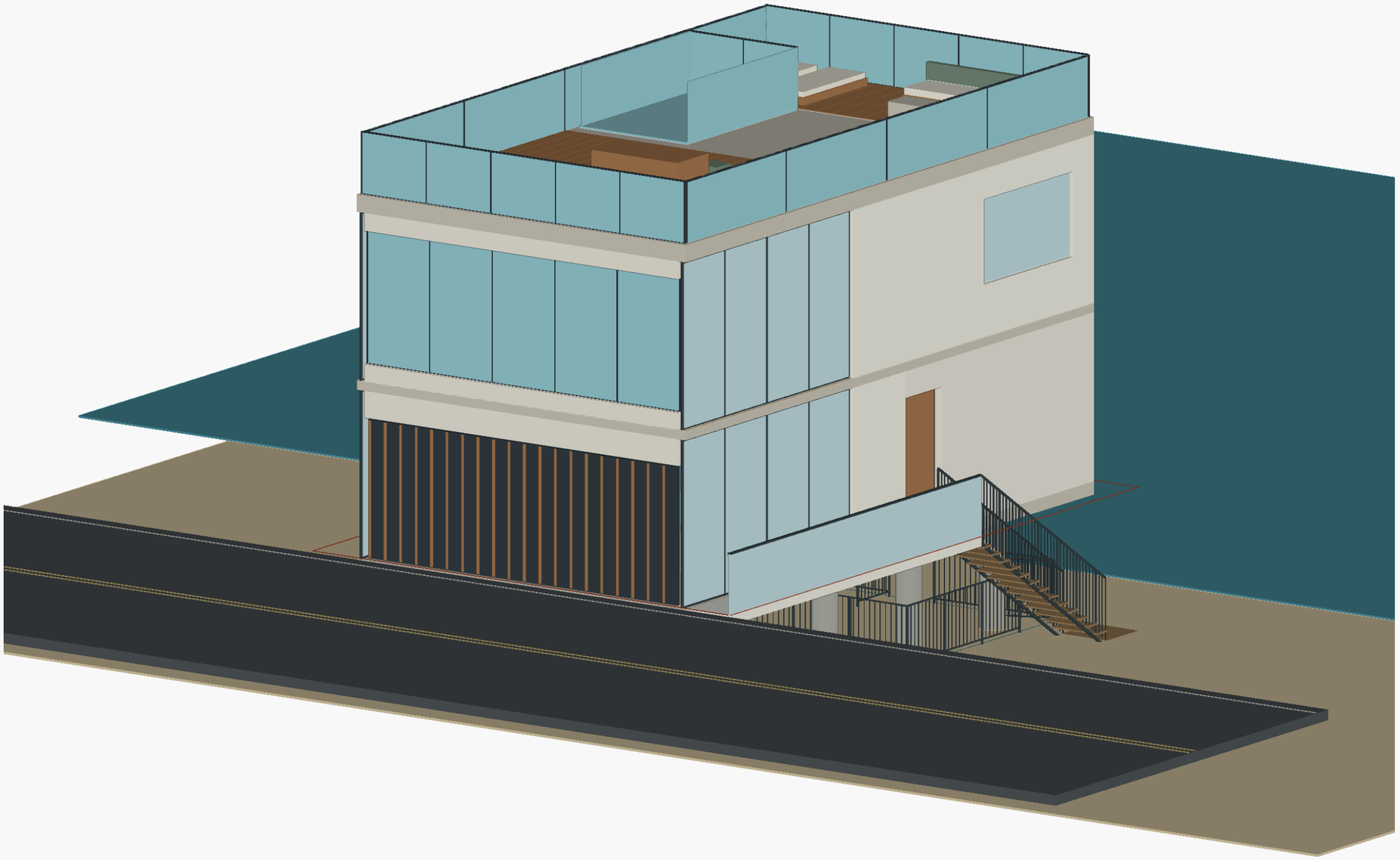
Ocean-facing facade and roof terrace

Concept model view



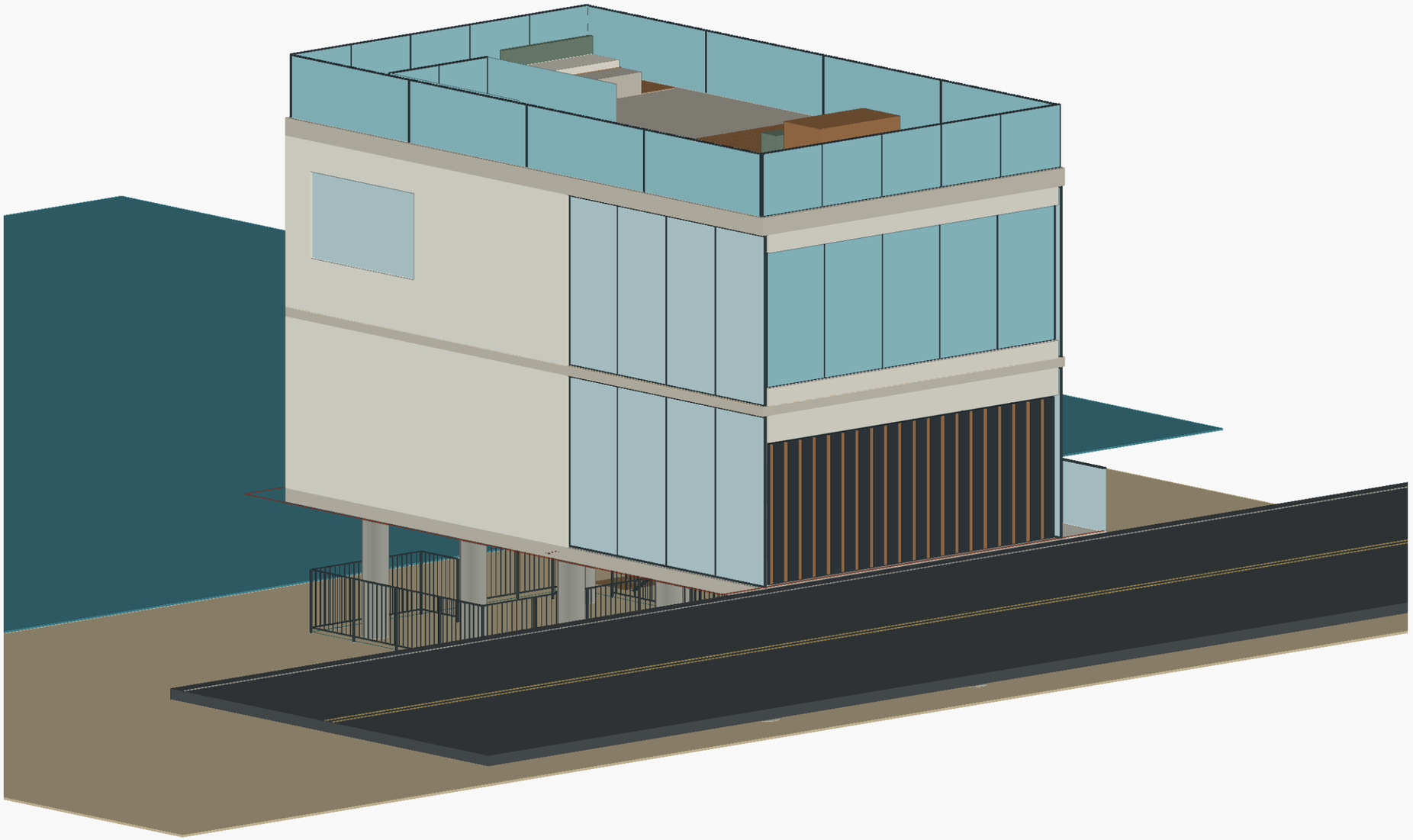
Ocean-facing facade from the opposite corner

Concept model view



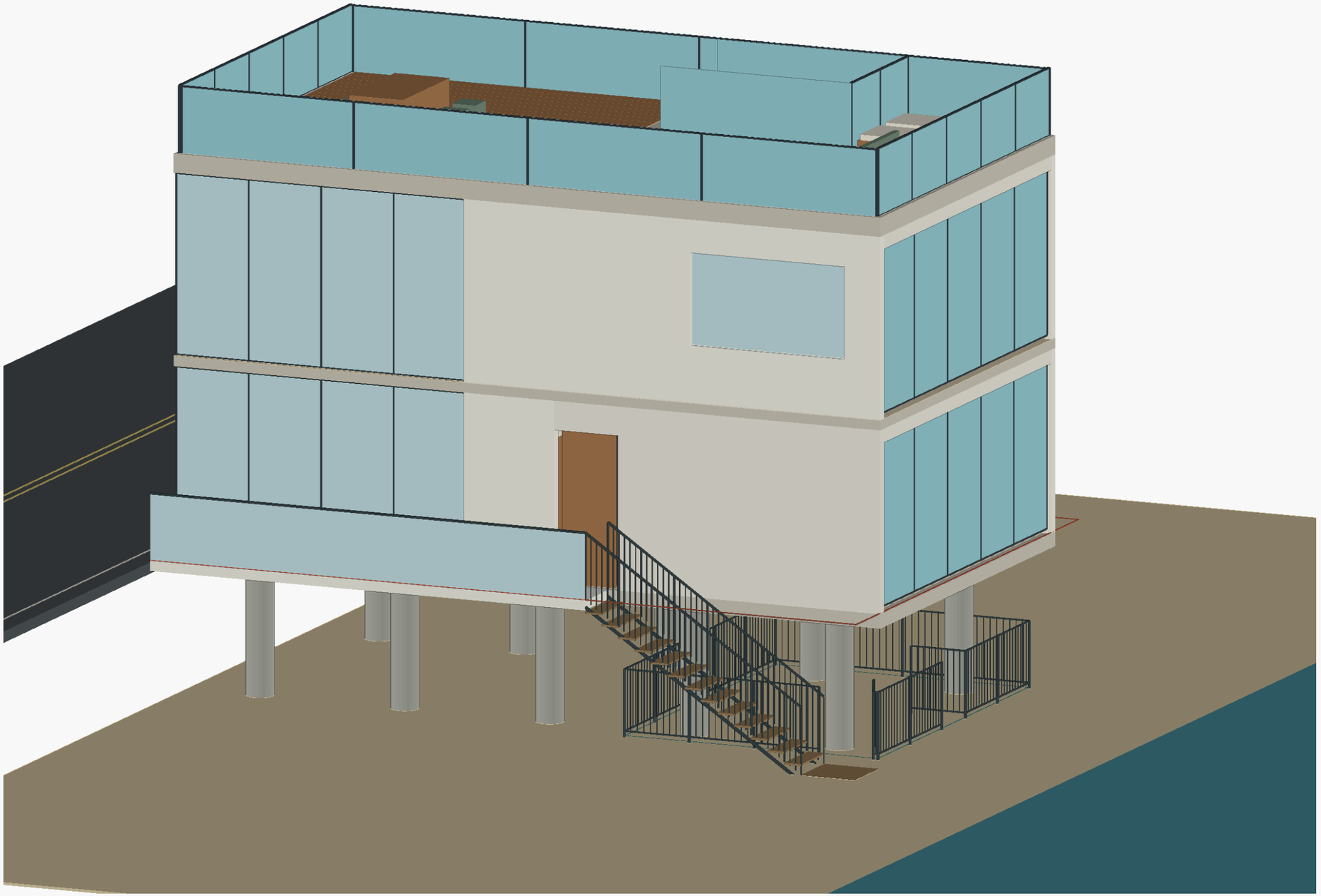
PCH frontage and entry-side glazing

Concept model view



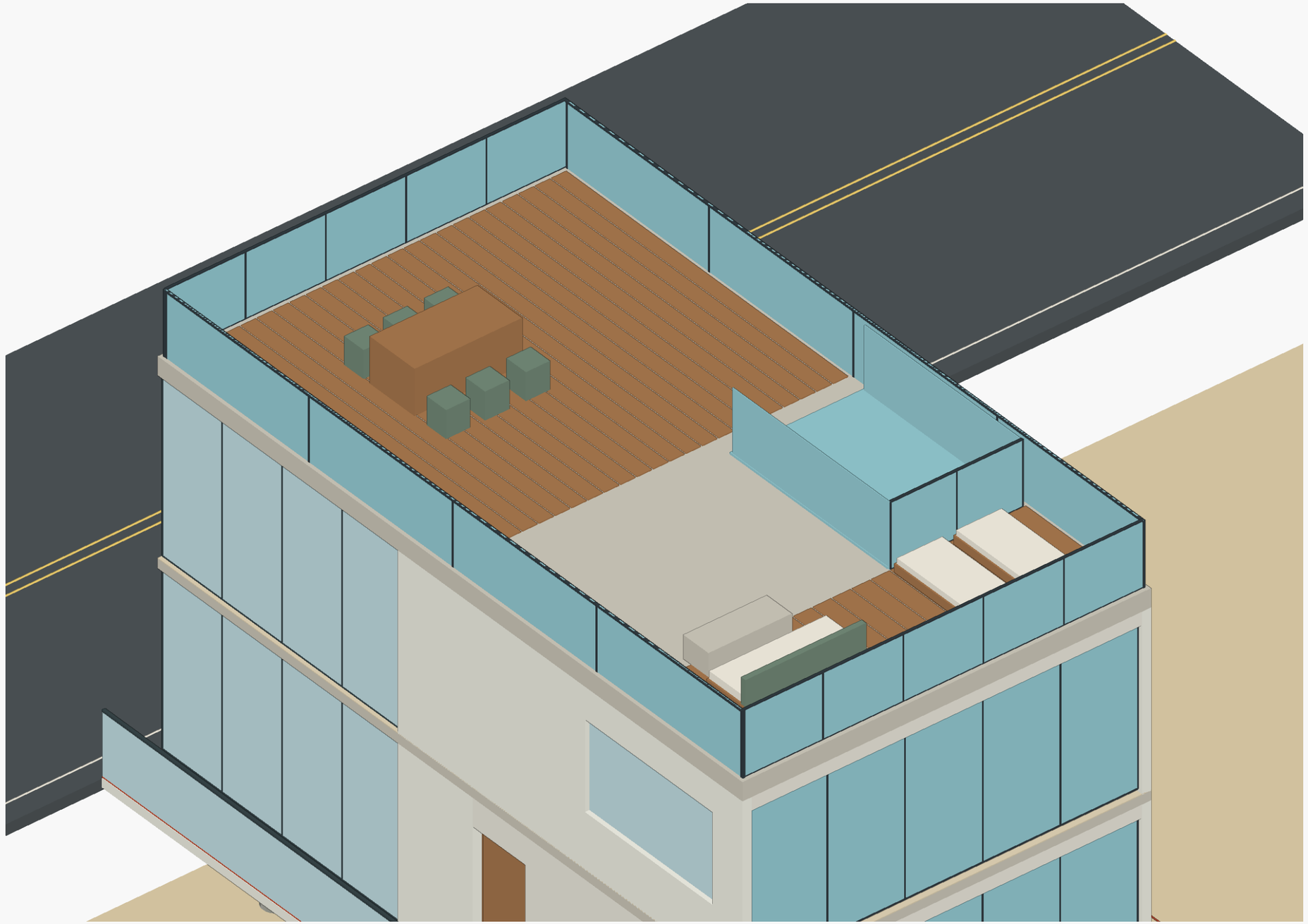
PCH frontage from the opposite corner

Concept model view



Side entry and beach-access stair

Concept model view



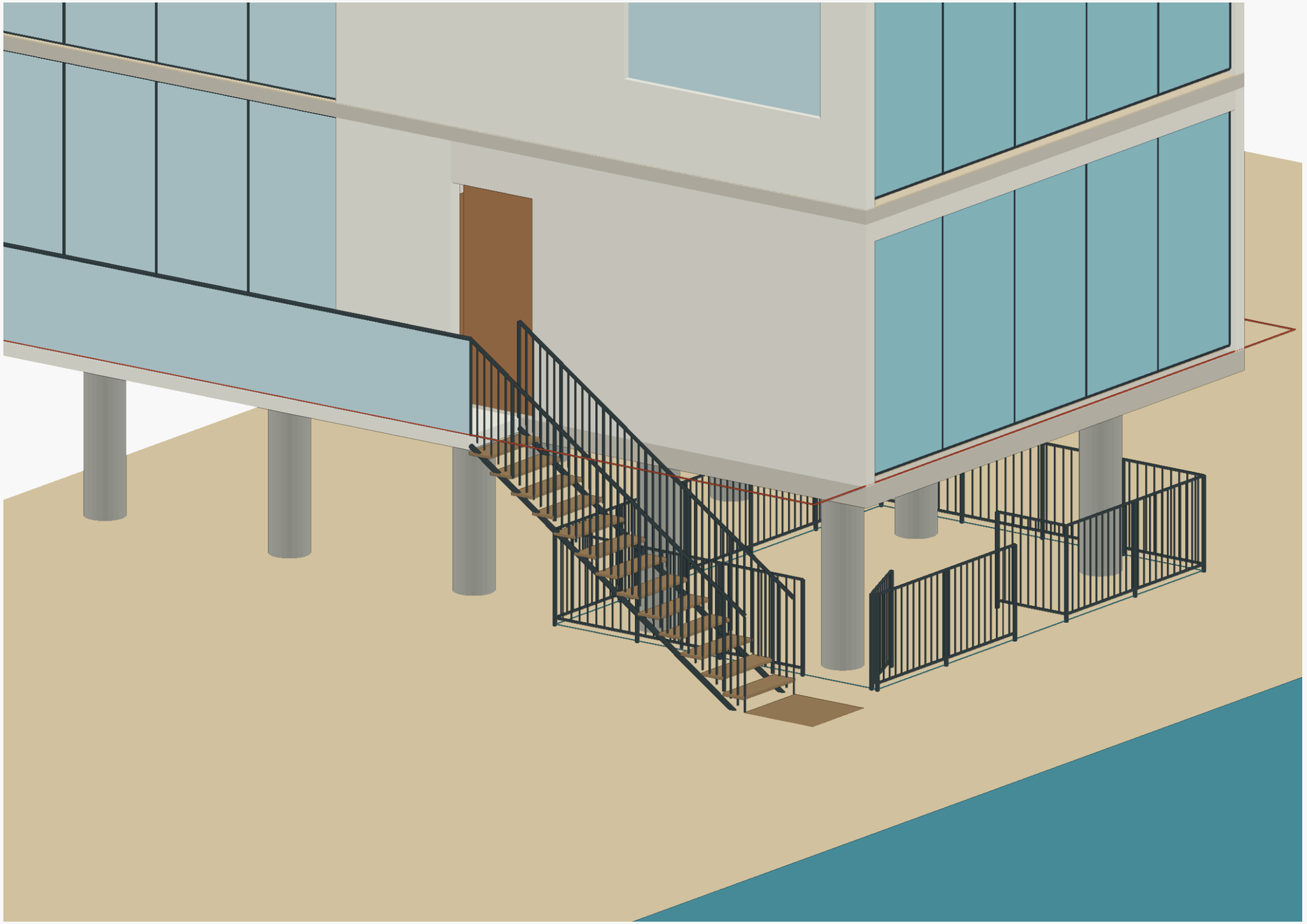
Original flat-roof terrace

Concept model view



Open unfinished sand level | Illustrative support symbols

Concept model view



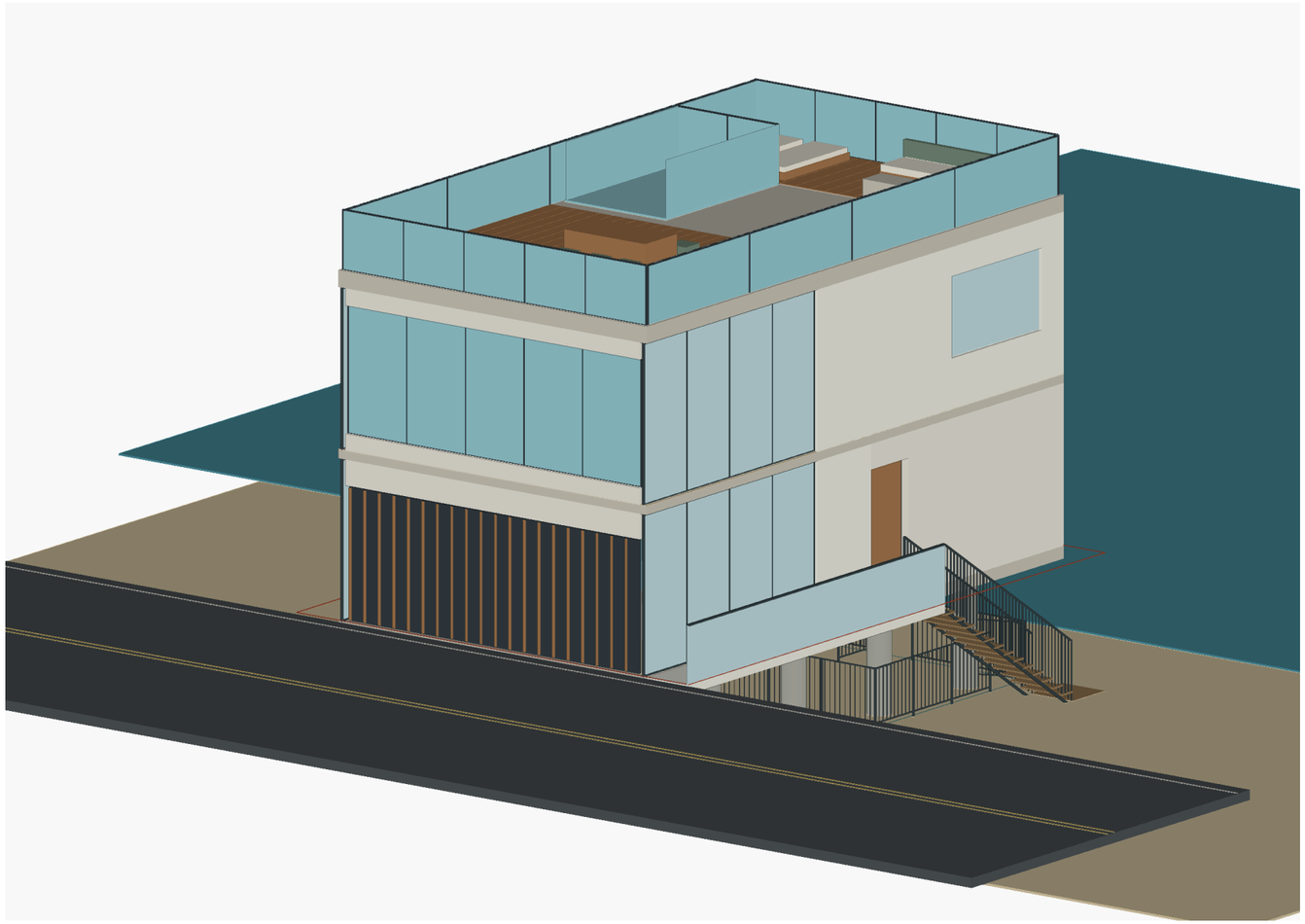
Beach stair and open lower-area fencing

Concept model view

Fenced outdoor area and exposed supports

Architectural addendum | Original flat-roof design, glazing and beach access retained

01 / STREET-FRONT AXONOMETRIC



Projection of Option E CAD geometry. Sand and site elevations are illustrative. Caisson quantities, diameters and locations are visual symbols, not engineering or verified existing conditions.

ORIGINAL ROOF / NEW SIDE GLAZING

The original two-story house and flat-roof terrace remain. Full-height glazing is proposed on both side walls over the street-side 16 ft, on both floors. Terrace z = 20.5 ft and guard top z = 24 ft remain local model coordinates.

TWO-FLOOR AREA BOOKKEEPING

22 x 39 ft assumed footprint
858 + 858 = 1,716 sq ft enclosed-floor envelope
Includes 440 sq ft garage allocation
1,276 sq ft non-garage gross

OPEN UNFINISHED LOWER AREA

The 19 x 14-ft sand-level planning zone (266 sq ft) gains nominal 42-in open metal fencing and gates to the stair and beach. Ten caisson symbols show an exposed-support appearance only; quantity, size and placement are not recommendations.

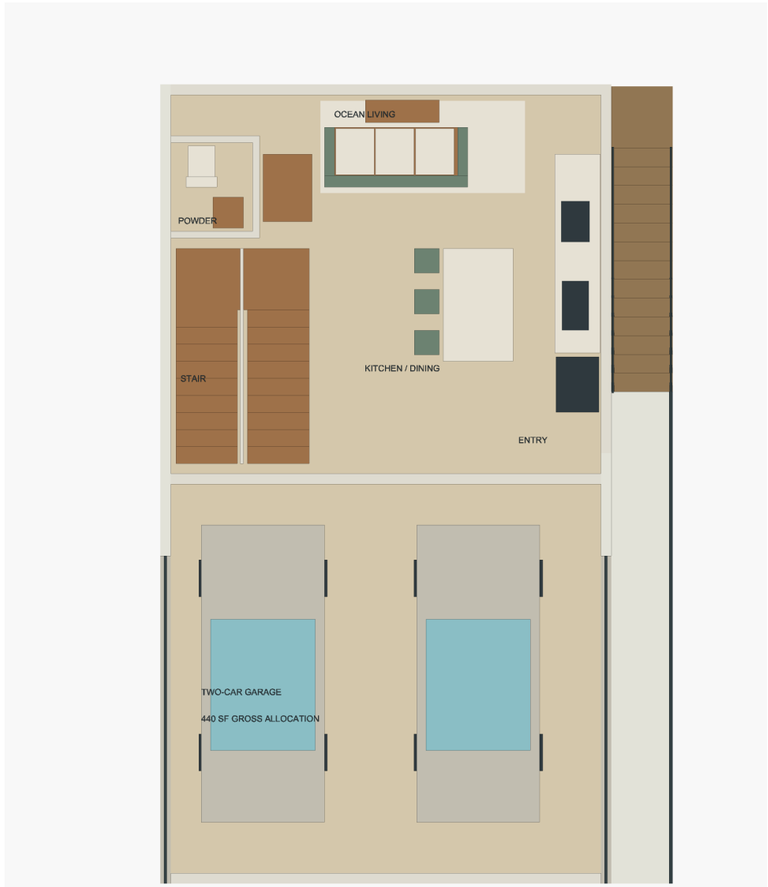
Open and unfinished. No enclosed or habitable lower floor, slab or excavation is selected. The lower zone remains separate from the two-floor area schedule. Drawn supports establish no existing-condition facts, capacity or below-grade depth.

What this addendum does: records an architectural direction and its geometric consequences. **What remains open:** permitted envelope, rebuild eligibility, actual grade/flood elevations, fencing and gate clearance, structural support design and agency approval.

Entry, glazing and beach-access circulation

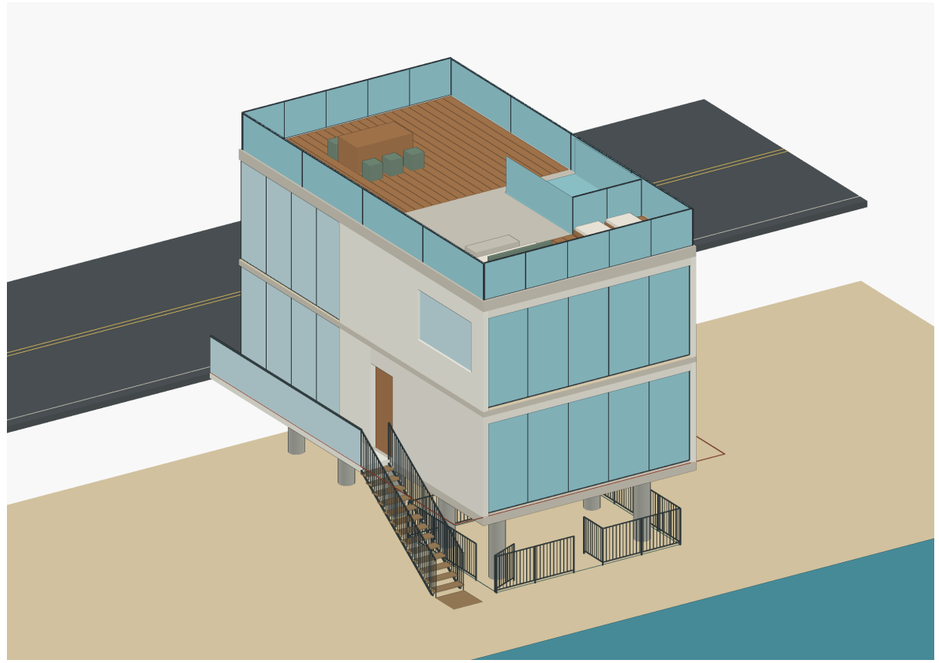
Garage and living program retained | New front side-wall glazing and conditional beach stair

02 / GROUND PLAN



Projection of Option E CAD geometry. Garage gross allocation: 440 sq ft; ground remainder: 418 sq ft gross. Room, stair and parking clearances are not certified.

03 / OCEAN-SIDE AXONOMETRIC



Projection of Option E CAD geometry. Beach access, side glazing, fencing and support symbols remain conditional. Pickets, gates, rails and supports can reduce clear access width.

A 3-FT STRIP IS NOT A 36-IN CLEAR ROUTE

The nominal side strip runs from model x = 25 to 28 ft. Posts, guardrails, handrails and construction tolerances occupy space within it. The drawing does **not** prove a compliant clear stair or accessible route; widening or replanning may be required.

Setback conflict remains open. Side-walkway, stair and guard encroachments must be reconciled with the applicable setbacks, view corridors and property rights. A drawn strip is not an approved access easement. [01, 02, 06]

Upper-floor glazing and retained roof terrace

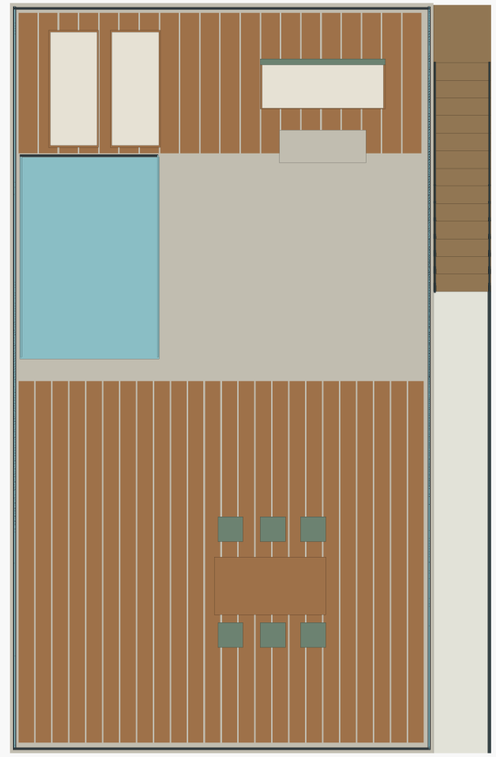
Three-bedroom program retained | Front side-wall glazing on both enclosed floors

04 / UPPER PLAN



Projection of Option E CAD geometry. Upper envelope: 858 sq ft gross. Three-bedroom / two-full-bath program retained; room clearances and egress are not verified.

05 / RETAINED ROOF REFERENCE



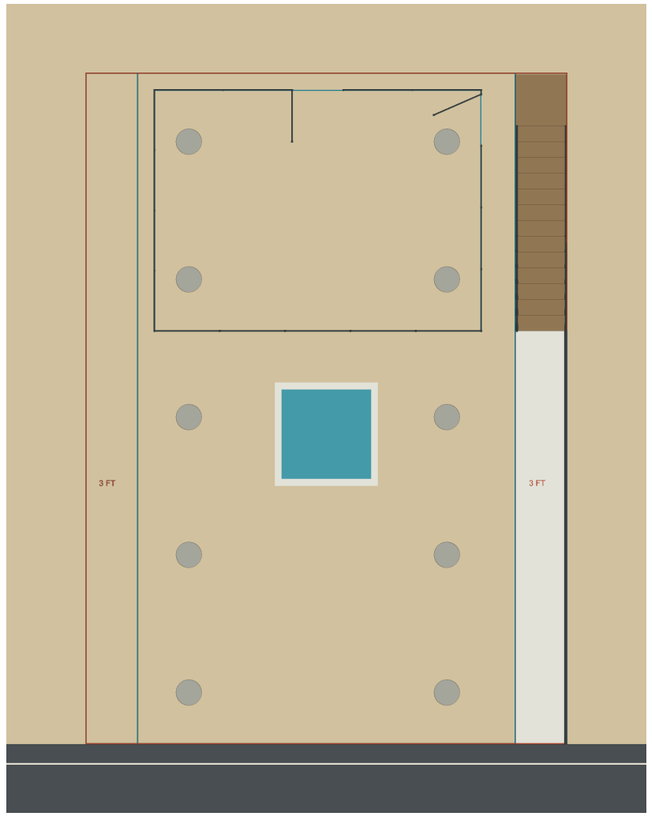
Projection of Option E CAD geometry. Flat-roof terrace remains at local z = 20.5 ft; guard top z = 24 ft. No additional enclosed floor. Terrace net area and access remain unverified.

Glazing study: full-height glass occupies the front 16 ft of each side wall on both floors. Verify surveyed fire separation, zoning setbacks, the qualifying sprinkler system, structural frame, WUI/rated assemblies and safety glazing. The model establishes no opening-area or structural compliance.

Fenced lower area with exposed caissons

Open sand-level area, unfinished | Fences, gates and support symbols are conceptual

06 / UNDERSTORY PLAN



Projection of Option E CAD geometry. Open zone: 19 x 14 ft (266 sq ft), x = 4-23 / y = 24-38. Fence: nominal 42 in high, with conceptual gates. Sand z = -8 and usable clearance are unverified.

Optional spa: separate 6 x 6-ft marker (x = 11-17 / y = 15-21). No excavation or supports selected. Flood, barrier and OWTS design remain open; excavation/dewatering may add cost. [06-08]

07 / LOW OCEAN-SIDE AXONOMETRIC



Projection of Option E CAD geometry. Ten exposed caisson symbols; count, size, exposure and positions are not a structural design or existing-condition survey. No underground shafts shown; upper floors cropped. See symbol basis on E5.

BEACH STAIR / TRIAL ARITHMETIC

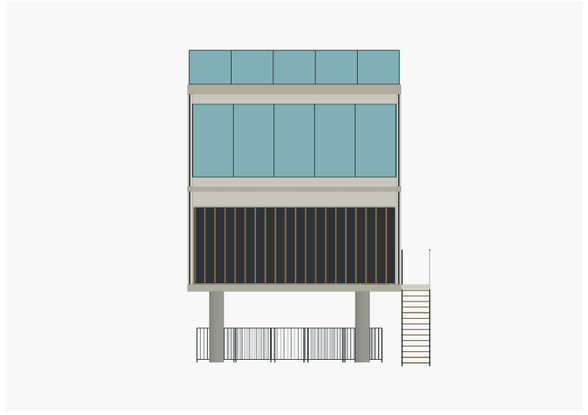
Illustrative 8-ft drop: 14 risers at about 6.86 in; 13 treads at 11 in = 11 ft 11 in run. The 3-ft lower landing ends at y = 38.9167. Stair-strip and gate openings are nominal, not verified clear widths. Resolve rise, headroom, landings, guards, gate swings and legal access limits.

Illustration only: every drawn support quantity, diameter and position is a visual assumption. No below-grade toe, embedment depth, capacity or reuse is assigned. Check fencing/gates for wave and flood obstruction, exit paths, tidal/public-access limits, OWTS and connection loads. No private or exclusive beach access is established. [05-10]

Current exterior elevations

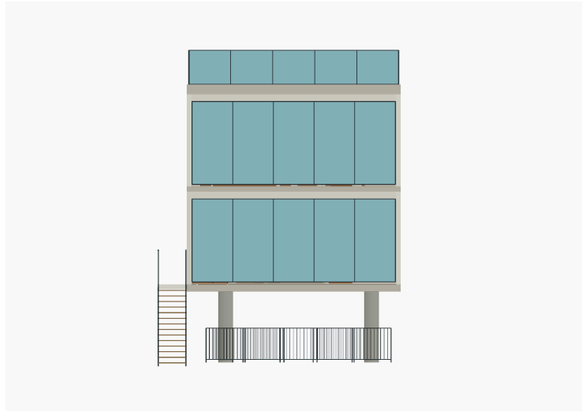
Model orientations only | Grade, flood datum and permitted height remain unverified

08 / STREET / PCH ELEVATION



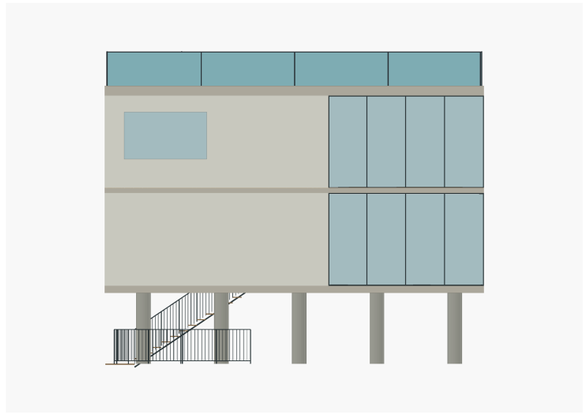
Projection of Option E CAD geometry. Street-facing model orientation.

09 / OCEAN ELEVATION



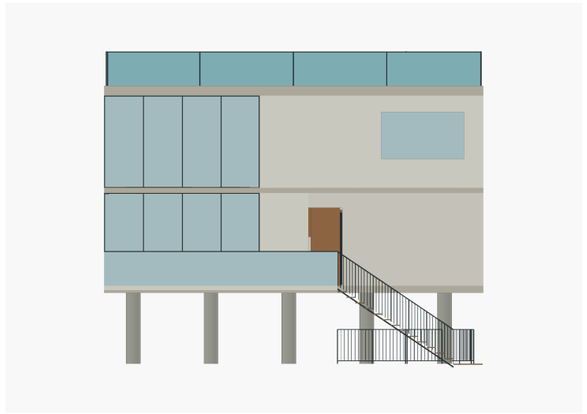
Projection of Option E CAD geometry. Ocean-facing model orientation.

10 / WEST / MODEL-LEFT ELEVATION



Projection of Option E CAD geometry. Model direction, not a surveyed compass bearing.

11 / EAST / ENTRY-SIDE ELEVATION



Projection of Option E CAD geometry. Model direction, not a surveyed compass bearing.

Illustrative elevations: sand level, flood datum and height measurements are unverified. Caisson symbols show only the above-sand appearance; underground shafts, toes and depths are absent. Quantity, diameter, exposure and positions are visual assumptions. Fences, gates, glazing and support adequacy require coordinated permit design.

Design decisions before the next revision

A coordinated survey, planning and engineering review can establish a buildable envelope

SURVEY + TITLE

Survey boundaries, grade/tidal elevations and coastal stringlines. The 28 x 39-ft lot remains an assumption. A 2002 Coastal Commission report identifies an accepted lateral public-access offer at 19302; retrieve and plot current title/access instruments before locating fences. [10]

PLANNING + REBUILD RECORD

Confirm SFM controls, lawful prior structure, rebuild route, height/bulk/area tests, retained roof terrace, beach access, open sand-level use, fences/gates and any separately proposed spa.

FLOOD + COASTAL + GEOTECHNICAL

Verify flood zone and BFE/DFE, wave/scour conditions, feasible excavation, groundwater, coastal durability and loads. Determine actual support conditions independently; the exposed symbols and sand elevation are unverified.

ARCHITECTURE + STRUCTURE + OWTS

Check side glazing against boundary fire separation, opening limits, sprinkler assumptions, WUI assemblies and safety-glazing rules. Engineer the remaining lateral framing. Resolve stairs/egress/guards, terrace waterproofing, flood-resistant access, gate/exit clearance and OWTS. Design the full support load path and any spa independently.

Next pricing gate: compare complete engineered scopes only after feasibility. Include access/mobilization, temporary works, testing, flood protection and wastewater coordination; do not infer a saving from fewer drawn supports.

Support-symbol basis: main view: 10; separate 8/12 variants are visual comparisons only. Each uses an **18-in symbol only, not a selected shaft diameter.** Visible local z = -8 to -0.45 is an illustrative gap, not depth. No existing count, embedment, capacity, reuse or selected foundation is established. Companion reports address seawall, corrosion and subsurface evidence.

PRIMARY REFERENCES

01 **Malibu residential standards**
MMC 17.40.040(A)(5), (13): height, stories and upper-floor controls.

02 **Certified Local Implementation Plan**
LIP 3.6(E), (G), (K); 13.4.6: roof, siting, area and disaster replacement.

03 **Nonconforming structures / rebuilds**
MMC 17.60.020(C)(1): beachfront FEMA lift and height limitations.

04 **Zoning Interpretation 15**
October 16, 2025. Separate bulk/area/height tests; roof-deck conditions.

05 **City coastal engineering guidelines**
Version 2, April 23, 2026. Qualifying rebuild path and flood/coastal basis.

06 **FEMA Technical Bulletin 5**
March 2020, sections 6.1, 7.4 and 7.9: stairs, fencing, pools/spas and obstruction.

07 **Malibu floodplain code**
MMC 15.20.150: coastal high-hazard provisions when applicable.

08 **City OWTS rebuild guidance**
Assessment, upgrade and siting coordination; no system has been fitted here.

09 **Municipal fencing standards**
MMC 17.40.030(A)(11): near-building material restrictions and fence review.

10 **Coastal Commission historical access record**
Application 4-00-225, January 2002, printed pp. 7 and 20: accepted lateral offers; confirm current instruments.

Sources reviewed September 22, 2026. These references identify review topics and do not approve this parcel design. City interpretation and verified parcel records control final decisions.

Structural options: basis + limits

SE0

A coordinated design brief for the engineers, with the unresolved decisions made visible.

The support quantity and depth are not established. Proposed markers are study options only. Existing foundation presence, count, type, location, condition and capacity remain unverified.

CURRENT ARCHITECTURAL BASIS

Assumed 22 x 39 ft house within an assumed 28 x 39 ft site; two floors with a flat roof terrace. Model levels 0 / 10 / 20.5 ft and guard at 24 ft use an arbitrary local datum. None is a surveyed grade or regulated flood elevation.

The front 16 ft of both sidewalls is glazed at both floors. Framing and lateral resistance must be re-evaluated for that opening pattern. No structural member, reinforcement, anchor or connection capacity has been selected.

Revision E includes a fenced, unfinished sand-level outdoor concept and exposed concept support symbols. Fence loads, obstruction/breakaway behavior, tidal/public access, actual clearance and OWTS conflicts remain review items. No basement or enclosure approval is implied.

CONCEPT GEOMETRY IS NOT A FOUNDATION RECORD

Historical 1982-1983 review sheets contain no verified pile schedule or boring depth. Listing/Google Earth views do not establish a foundation inventory or prove buried foundations absent. Earlier CAD markers cannot establish existing conditions.

WHAT THIS SUPPLEMENT CONTAINS

SE1 **Proposed 8 / 10 / 12 marker layouts**
Unselected geometry variations; never existing-foundation counts.

SE2 **New-caisson relationship schematic**
Depth, scour, bearing and embedment remain site-design questions.

SE3 **Load path + connection interfaces**
What must transfer between systems; no fabricated details.

SE4 **Reuse / new + cost comparison**
Compare complete feasible systems after investigation.

SE5 **Engineering deliverables + sources**
A defined scope for calculations, drawings and approvals.

MISSING CALCULATED DESIGN

No final framing plan, foundation schedule, caisson diameter/length, rock-socket requirement, concrete strength/cover, reinforcement, anchorage, splice, weld/bolt schedule, temporary works or testing quantities have been designed. The engineering team must produce these from verified site data and approved architectural loads; schematic pictures cannot substitute for them.

This supplement complements the earlier C geometry studies, D coastal/reuse findings and R1 conditional-reuse pathway. Earlier new-support variations remain unselected; the withdrawn belief about existing supports is not revived. Primary references are indexed on SE5.

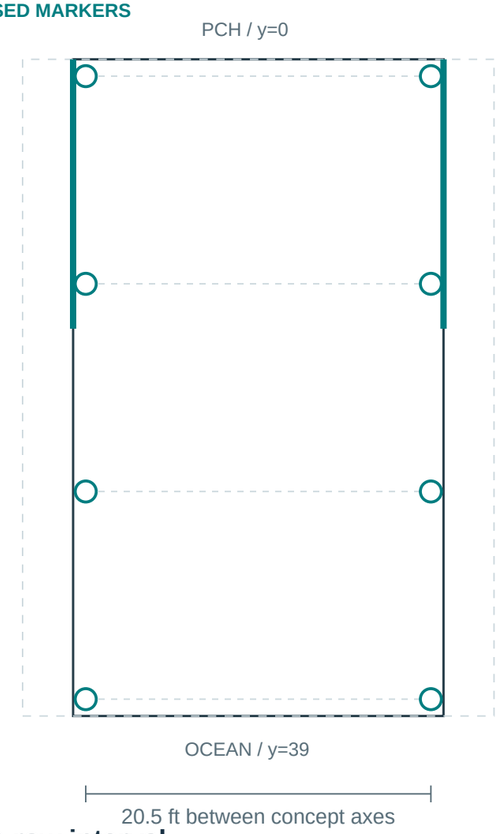
Three proposed layout hypotheses

SE1

NEW SUPPORT MARKERS ONLY - UNSELECTED - NOT EXISTING FOUNDATIONS

8 / 10 / 12 are alternative marker counts, not required quantities. All three may change or prove unsuitable after load-path, geotechnical, coastal, access and OWTS coordination.

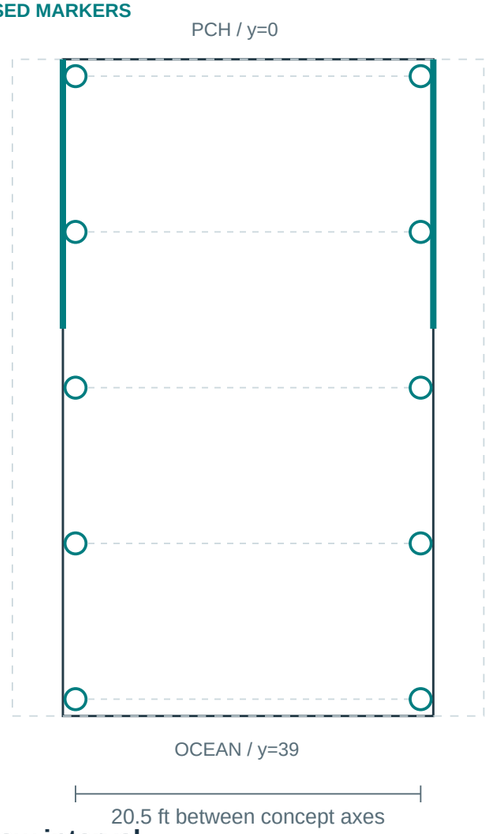
A / 8 PROPOSED MARKERS



12 ft 4 in row interval

Longer longitudinal intervals may shift work into framing, connections and each foundation. No minimum-count claim.

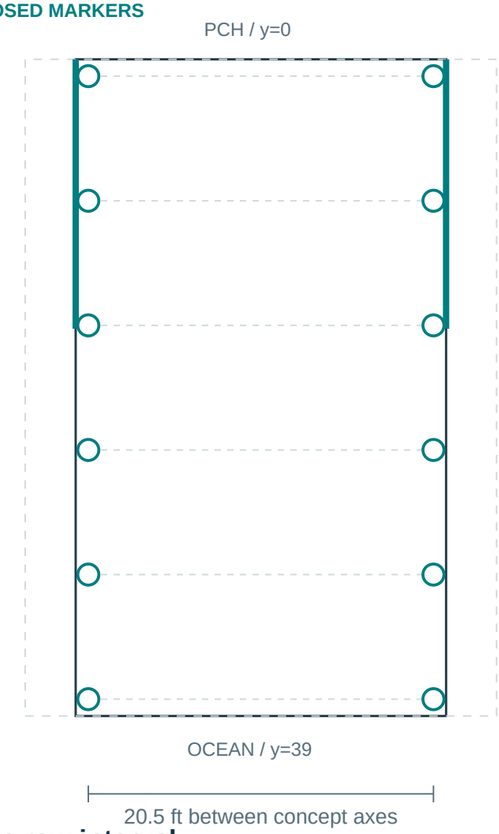
B / 10 PROPOSED MARKERS



9 ft 3 in row interval

Intermediate row spacing offers a comparison point. It does not establish an acceptable foundation system.

C / 12 PROPOSED MARKERS



7 ft 4.8 in row interval

Shorter intervals add installation locations. Reduced framing demand, if any, must justify the complete system.

Shared geometry: 22 x 39 ft outline; proposed x axes 3.75 / 24.25 ft; first/last y rows 1 / 38 ft (37 ft overall). Drafting insets are not approved edge distances or cantilever allowances.

Circles are symbols, not diameters; dashed rows are axes, not beams. Teal edge segments show the 16 ft side glazing. The open center does not establish framing or garage/outdoor clearance.

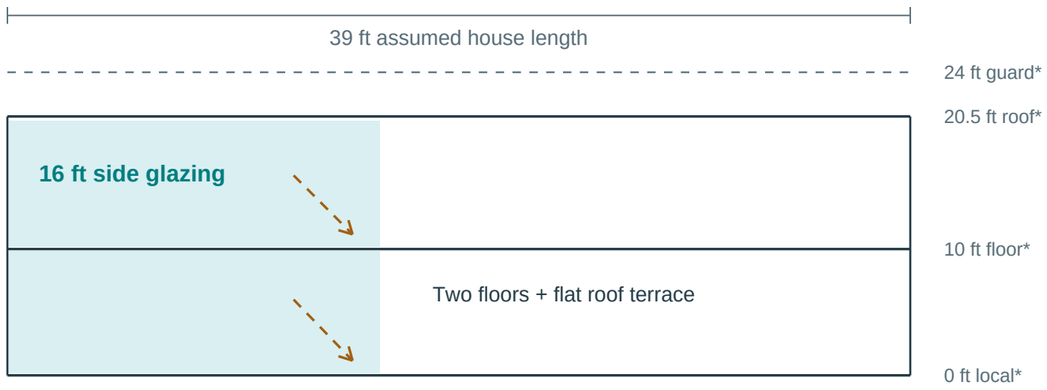
NOT FOR CONSTRUCTION | SCHEMATIC STUDY ONLY | NO STRUCTURAL DESIGN OR PERMIT APPROVAL

APN 4449-005-016 | 22 September 2026 | Every diagram NTS: do not scale | No engineer stamp or certification represented

New-caisson concept: what depth means

A generic support section, not a selected count, construction detail or site profile.

ARCHITECTURAL RELATIONSHIP / SIDE



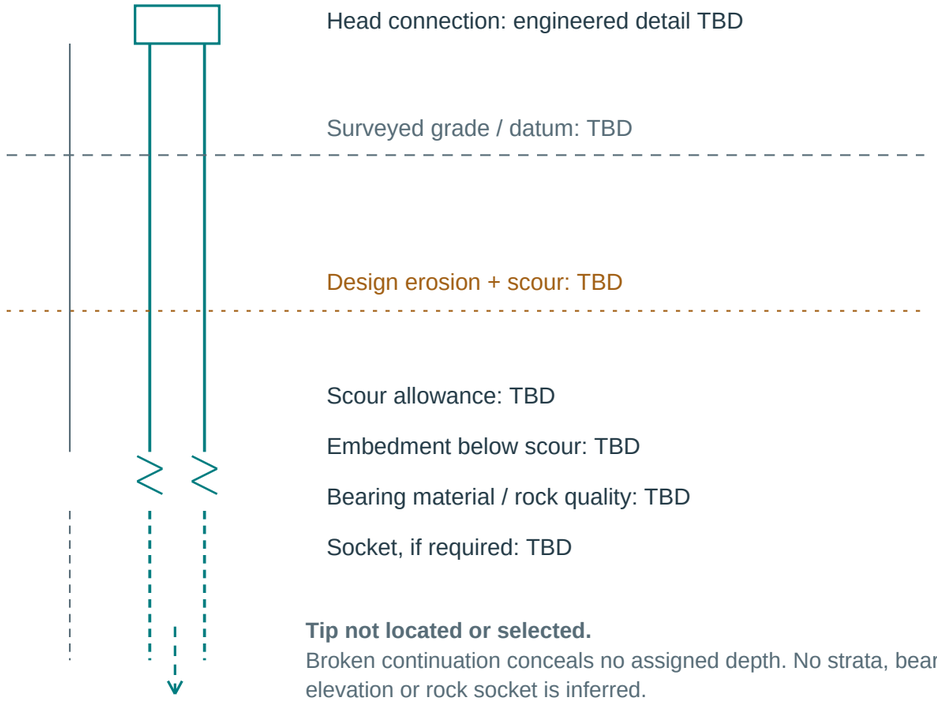
Foundation scheme and regulated lowest structural elevation are unresolved. New support symbols in a model do not establish safe quantity, geometry or capacity.

*Local model levels are not surveyed elevation or grade. The fenced outdoor sand-level concept is below the house; actual clear height, fence behavior under flood/wave loads, access and foundation conflicts must be resolved.

A compliant system must transmit gravity, uplift, lateral and overturning actions into suitable ground after design erosion/scour. Loss of soil changes unsupported length and resistance; added length alone is not proof of adequate bending capacity.

GENERIC NEW DRILLED-SHAFT / CAISSON QUESTION

Total shaft length / diameter: TBD



Tip not located or selected.
Broken continuation conceals no assigned depth. No strata, bearing elevation or rock socket is inferred.

No numerical depth estimate is supported for this parcel. Other-site bedrock observations and distant commercial pile dimensions cannot supply a residential caisson length here.

Section widths, gaps and vertical proportions are annotation geometry only. Structural/geotechnical/coastal engineers must jointly resolve loading, survey datum, flood profile, scour, groundwater and ground resistance before selecting a system. [1-3,6]

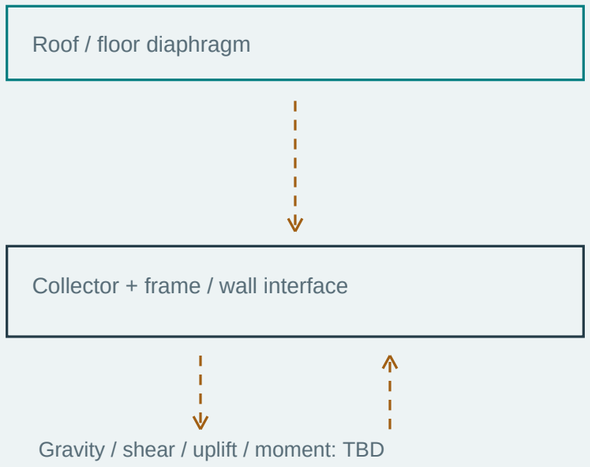
Load path + connection interfaces

SE3

Schematic interfaces only: arrows show actions to calculate, not physical engineered members.

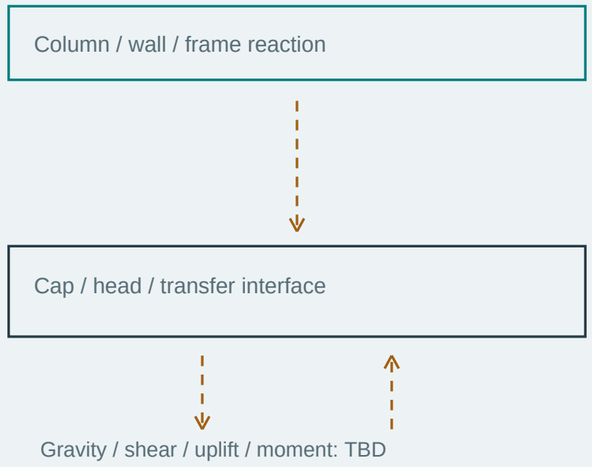
A continuous load path must be designed for the revised house. Side glazing, roof-terrace use and exposed lower supports can change reactions and lateral behavior. No anchor, weld, bolt or reinforcing bar is selected here.

A / DIAPHRAGM TO LATERAL FRAME



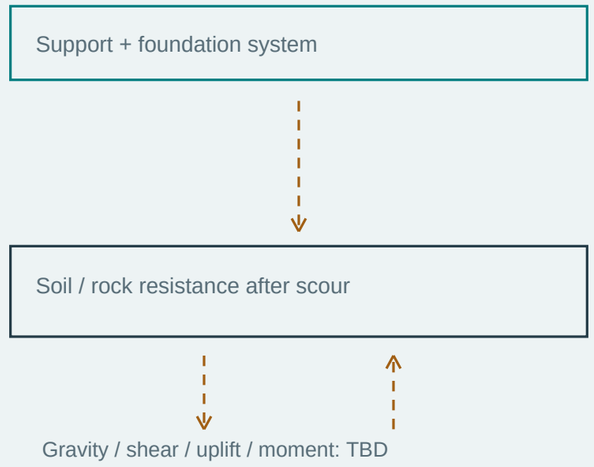
Resolve diaphragm forces, collectors, frame/wall choice, drift, torsion and the effect of large glazed openings. Specify a connection for the calculated force transfer.

B / FRAME TO FOUNDATION HEAD



Resolve gravity, shear, uplift and moment at each interface. Determine alignment, eccentricity, load transfer, durability and construction tolerance before selecting anchorage.

C / SHAFT TO GROUND



Resolve axial/lateral response, unsupported length, group effects, cyclic/seismic demands and settlement. Assign tip/socket criteria and installation/test acceptance from investigation.

DETAILS THE FINAL ENGINEER MUST SUPPLY

Member sizes and materials; reinforcement and development/splices; anchors/bolts/welds and embedment; concrete strength/cover; diaphragm attachment; corrosion protection and compatible materials.

Calculated demands/capacities and deformation checks; cap/beam/shaft compatibility; fence and stair attachments; special inspection/testing and tolerances. Any seawall relationship must satisfy applicable coastal/flood separation requirements. [2]

Choose the complete system, then compare cost

SE4

No foundation estimate or guaranteed savings can be derived from a marker count.

OPTION TO TEST	POTENTIAL ADVANTAGE / QUESTION	COST OR FEASIBILITY RISK TO RESOLVE
New drilled concrete shafts	A fresh layout can align with the revised frame and verified ground conditions.	Access/mobilization, ground variability, drilling/casing, disposal, reinforcement, concrete placement, head details and testing.
Reuse IF suitable elements exist	Retain verified material only if its geometry and capacity fit the proposed building.	Records, locating/exposure, testing, unknown reinforcement/depth, damage/corrosion, retrofit, load-path changes and two City reviews. [4]
Partial reuse + new supports	Study a combination only when compatibility can be demonstrated.	Differential stiffness/settlement, redistribution, construction sequence and complex connections can offset avoided demolition.
Fewer / larger supports	Ask whether reduced installation locations offset increased work per support.	Longer framing intervals, higher reactions, larger members/heads, greater drilling volume and erection/connection difficulty may raise total cost.
More / smaller supports	Ask whether closer intervals improve the overall engineered system.	More setups, total drilling, group effects, caps/connections, wave/debris exposure and interference with garage/OWTS/outdoor access.

PRICE COMPARABLE ENGINEERED SCOPES

Separate investigation/design, site access/traffic, mobilization, temporary works, installation, spoil/water handling, materials, transfer framing, durability, tests/inspections and restoration. Request unit rates and clear allowances for uncertain quantities.

COST-CONTROL DECISIONS THAT PRESERVE REQUIREMENTS

Coordinate foundation, OWTS, shoreline protection and architecture before pricing. Obtain contractor access/constructability input; compare at least two technically feasible whole-system options. Do not reduce unproven embedment or delete required testing to force a price.

Micropiles or other systems may be considered only when the consultants establish feasibility for marine lateral loads, scour, abrasion, corrosion and group effects; smaller diameters do not inherently make a cheaper or equivalent solution. [3]

Inputs, deliverables + review gates

SE5

A practical scope for licensed structural, geotechnical and coastal engineers.

RESPONSIBILITY	INPUTS TO ESTABLISH	REQUIRED PROJECT OUTPUT
Survey + records	Boundary/ROW, house/OWTS/wall positions; vertical datum; remaining foundation identification.	Coordinated measured base plan and sections; record index distinguishing built work, proposed work and unverified features.
Geotechnical [1,3]	Groundwater, suitable bearing, soil/rock variability, seismic hazards and foundation influence.	Comprehensive beachfront report; justified exploration/termination and lab program; support capacities, deformation, installation and test criteria.
Coastal + flood [2,5]	Verified zone/BFE/DFE; regulated structural elevation; design profile, erosion/scour, wave/debris demands.	Coastal report and site-specific design parameters; house/OWTS/shore protection coordination; review of sand-level fence, stairs, obstruction and permitted use.
Structural	Approved geometry, actual occupancy/terrace and equipment loads, glazing/frame layout and consultant parameters.	Signed calculations and complete framing/foundation plans; support schedule; connection and reinforcing details; load path, drift, durability and construction notes.
Reuse, if pursued [4]	Presence/identity and surveyed geometry of actual elements; original records and condition/testing evidence.	Feasibility report, repair justification and current-code design checks for the new house; City acceptance through both stages, or a documented replacement decision.
Construction + QA	Selected engineered system, access/staging, sequencing, test methods and acceptance criteria.	Installation/inspection plan, required observations and reports, change-resolution process, verified completion and as-built foundation records.

SOURCE INDEX / CURRENT LOCAL GUIDANCE + ENGINEERING REFERENCES

[1] City fire-rebuild geotechnical guidance
July 16, 2026; pp. 1-2, 7-8, 14. Comprehensive beachfront report; site-specific deep-foundation support.

[2] City coastal engineering guidance
April 23, 2026; pp. 1-4. Coastal report; no timber piles; VE house/seawall separation; scour assessment.

[3] City geotechnical baseline
November 2013; section 7.2, printed pp. 42-44. Foundation response and marine micropile issues; current code controls.

[4] City existing-foundation review
Updated Aug. 14, 2025. Feasibility + building-plan review; condition/testing, repairs and geotechnical suitability.

[5] Malibu floodplain regulations
MMC 15.20, including 15.20.150. Apply after verified zone/elevation; the parcel flood zone is not established here.

[6] FEMA coastal construction manual
Volume II, Chapter 10. Flood/soil/load inputs and foundation analysis; guidance is not a design for 19302 PCH.

Does this property need a new seawall?

D1

Separate the house foundation, septic protection and condition of any existing bulkhead.

CURRENT ANSWER

A new seawall has not been established as necessary at 19302 PCH. New or expanded beachfront septic systems require engineered ocean protection. Existing protection may be reusable, repairable or replaceable only after investigation and City review.

01 / WHAT MALIBU REQUIRES

- **Septic / OWTS:** MMC 15.42.140(C)(2) requires tidal and wave-uprush protection for all components of a new or expanded beachfront system. Existing devices must meet current standards or be modified. [1]
- **Protection type and extent:** MMC 15.40.110 permits shoreline devices or other approved structural protection; an approved coastal report determines the need and extent. This is not an owner-selected waiver. [2]
- **House:** flood/scour-resistant support and required elevation remain separate. In VE, the seawall foundation cannot connect structurally to house supports. No timber piles may be used or reused. [3]

2026 SEPTIC-WALL VARIANCE

If applicable, MMC 15.20.210 provides expedited review for qualifying Palisades Fire septic seawalls. It requires professional certification, no increase in flood heights, minimized size/obstruction and landward placement. The wall cannot support the house. Approval is conditional, not automatic. [4]

02 / WHAT WE KNOW ABOUT THIS PARCEL

County geology review sheets identify bulkhead plan checks **8995 (1982)** and **1480 (1983, 19264-19302 PCH)**. They do not establish construction completion, current condition or reuse eligibility. [5]

EXISTING-WALL REUSE HAS AN ENGINEERING GATE

The April 2026 guidance requires structural/coastal adequacy assessment for an undamaged wall proposed for reuse. Damaged protection needs evaluation and repairs meeting current code. [3]

NEXT DECISION

Recover complete bulkhead plans and final inspections. Survey the wall and beach; inspect damage, toe/scour, returns, adjoining connections and corrosion. Coordinate the OWTS plan, then compare reuse/repair with replacement or another approved solution.

Flood zone, BFE/DFE, tidal boundary, current OWTS and wall condition remain unverified. A seawall does not make the underside automatically usable or remove corrosion requirements.

[1] Beachfront OWTS - City code
MMC 15.42.140(C)(2)-(4).

[2] Shoreline protection - City code
MMC 15.40.110(A)-(C).

[3] Coastal rebuild guidance
April 23, 2026, pp. 1-3.

[4] Floodplain / septic-wall variance
MMC 15.20.150 and 15.20.210; March 9, 2026.

[5] City public records portal
19302 PCH geology files; bulkhead reviews dated Nov. 4, 1982 and May 31, 1983. Originals retained in research archive.

Specify protection for the actual exposure

D2

Ocean spray, tidal water, wet soil and sheltered salt air require coordinated material decisions.

Marine durability belongs in the signed specifications. A seawall does not protect every material from salt exposure. A generic "marine-grade" note does not define a coating, concrete cover, connection capacity or maintenance plan.

COMPONENT	DESIGN / SPECIFICATION TO RESOLVE	EVIDENCE / LIMIT
Concrete + reinforcement	Assign exposure; specify concrete mixture, reinforcement cover, crack-control details, curing and inspection.	ACI identifies moist chloride-bearing soil as a C2 concern. No site-specific strength or cover is selected here. [3]
Buried piles / caissons	Test soils for pH, chlorides, sulfates and resistivity. Address groundwater, abrasion and corrosion together.	City geotechnical guidelines, 6.2.4; micropile marine issues, 7.2.5. [2]
Exposed steel + anchors	Identify protective system, fabrication and coating repair, interfaces, fasteners and inspection access.	FEMA TB8 summarizes ASCE 24 corrosion provisions; verify the applicable adopted standard. [4]
Deck / stair / roof connectors	Specify compatible fastener-and-connector sets for exposure and treated wood; prevent galvanic incompatibility.	FEMA recommends Type 316 for coastal stainless connectors, with compatible fasteners. Not an all-steel mandate. [4]

CODE BASIS

Malibu adopts 2025 CBC / County Title 26 with local amendments, effective Jan. 1, 2026. Confirm the permit basis. [1]

NO UNIVERSAL MATERIAL SCHEDULE

Do not assume all steel must be 316, all galvanizing is sufficient, or one cover dimension fits all elements. Engineer selection remains outstanding.

MAINTENANCE IS PART OF THE DESIGN

Preserve access for inspection and replacement. Compare lifetime cost and repair access, not only purchase price. [4]

[1] City code adoption
MMC 15.04.010.

[2] City geotechnical baseline
Nov. 2013, pp. 33-34, 44.

[3] ACI chloride exposure
ACI technical explanation, 318-19.

[4] FEMA TB8, June 2019
Table 2; sections 8.1-8.3 and 9.2.

Caisson length: the evidence is not yet enough

D3

Nearby subsurface observations are leads for investigation, not a transferable foundation design.

ESTIMATE STATUS

No defensible site-specific caisson length or required count is established. The model remains **depth TBD / count TBD**. The 8 / 10 / 12 support-marker studies are unselected geometric options, not proven foundation quantities.

WHAT THE RECORDS ACTUALLY SAY

19302 PCH / exact parcel	1982 addition and bulkhead reviews; 1983 bulkhead review across 19264-19302 PCH.	No boring logs, groundwater levels, pile schedule or residential caisson dimensions in the retrieved sheets. [1]
20726 / 20732 PCH / other site	A 1999 staff report cites bedrock encountered 13 ft below ground along PCH in GeoSystems' July 11, 1997 investigation.	Other-site bedrock encounter, NOT pile length or rock socket. Surveyed ground datum and installed pile lengths were not established by this summary. [2]
17300 PCH / excluded comparison	Gladstones replacement: a 2025 report describes proposed 30-ft-deep piles; final/as-built lengths are unverified. [3]	Distant large commercial project in Los Angeles, not an adjacent Malibu house. NOT a 19302 estimate, recommended length or local depth range.

WHY BEDROCK DEPTH IS NOT CAISSON LENGTH

Depth depends on the surveyed support elevation, erosion/scour, suitable bearing material and required embedment, plus axial/uplift and lateral behavior. A nearby rock encounter cannot supply those variables for this parcel. No tip, socket, diameter or numerical depth range is inferred.

MINIMUM EVIDENCE FOR A USEFUL ESTIMATE

No verified immediate-neighbor shaft lengths were found. Request logs with surveyed locations/elevations and stamped pile schedules/as-builts. Combine them with site-specific coastal/geotechnical work, house/roof loads, OWTS layout and contractor access review. [4]

[1] City parcel-record portal
Plan checks 7594, 8995 and 1480; originals in archive.

[2] 20726 / 20732 PCH - CCC
CCC 4-98-060, December 1999, PDF p. 25.

[3] 17300 PCH - CCC 5-24-1045
Staff report Sept. 26, 2025; pp. 38, 56-57.

[4] July 2026 geotechnical guidance
Beachfront Comprehensive Report; pp. 2, 7-8, 14.

Can the existing caissons + footings be reused?

D4

A concrete-reuse option can be evaluated before selecting a replacement foundation scheme.

ANSWER / CONDITIONAL

Potentially, if they are concrete and approved for the proposed building. The present records do not verify what remains at 19302 or its capacity. Timber piles cannot be reused. The model does not establish existing foundation conditions. [1, 3]

TWO CITY REVIEW STAGES

1 / Feasibility. A California-licensed civil or structural engineer evaluates concrete soundness, testing and repairs. City acceptance permits the next review; it does not guarantee reuse. [1]

2 / Building plans. Provide calculations, details and repair justification meeting current code, with a licensed geotechnical evaluation of the foundation and bearing material. [1]

THE BEACHFRONT REQUIREMENT STILL APPLIES

The July 2026 guidelines require a **Comprehensive Geotechnical Report** for beachfront/deep-foundation projects. Reliable older reports may inform the work; past performance alone is insufficient. [2]

19302 RECORD LIMIT

Existing type, count, depth, reinforcement and condition are unverified. Legacy model posts are drafting geometry. The 1982-1983 review sheets contain no pile schedule or capacity certification.

PUBLISHED FIRE-DAMAGE TEST PROTOCOL / ENGINEER-LED [1]

- **Document condition:** photograph cracking, crazing, erosion, spalling, discoloration and reinforcement/anchor damage.
- **Concrete:** Schmidt-hammer screening (ASTM C805), then required core testing by a certified laboratory (ASTM C42).
- **Minimum exclusion:** concrete below 2,500 psi is ineligible. Meeting that number alone does not prove design adequacy.
- **Reused tension devices:** pullout testing under ASTM C900. Test every reused holdown to its manufacturer-listed tension design capacity.
- **Anchor / mudsill bolts:** randomly test 25% at at least 1,000 lb tension; failed bolts cannot be reused.

VERIFY GEOMETRY + NEW LOADS BEFORE SELECTING REUSE

Retrieve foundation plans, pile logs and inspections; survey what remains. Engineers must resolve depth, reinforcing, corrosion, scour, bearing and the actual replacement-house/flat-roof-terrace loads. Removing sidewall segments for glazing can change gravity/lateral framing and concentrated support reactions; verify reuse against the updated glazed-facade load path, not the old house loads. Evaluate full reuse, strengthening/partial reuse and replacement as alternatives.

[1] City foundation-reuse guidance
Updated Aug. 14, 2025. General Information; Feasibility Report items 1-5. Conditional reuse of concrete; two mandatory reviews.

[2] July 2026 geotechnical guidelines
Revision July 16, 2026; pp. 1-2, 7-8, 14. Confirm the applicable permit code edition with the City.

[3] April 2026 coastal guidance
April 23, 2026, p. 2: no new/reused timber piles; coastal report; VE seawall foundations separate from house supports.

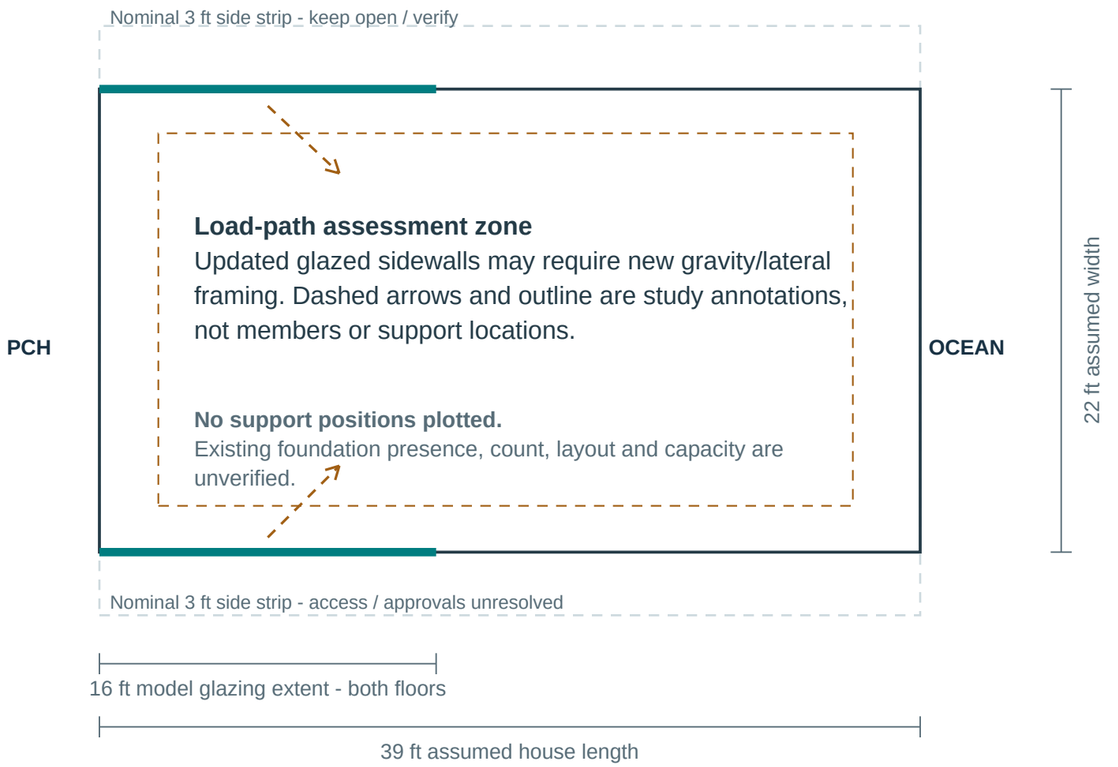
CONDITIONAL EXISTING FOUNDATION REUSE FEASIBILITY

R1.1

EXISTING FOUNDATION NOT VERIFIED - NO SUPPORT COUNT OR LOCATIONS SELECTED

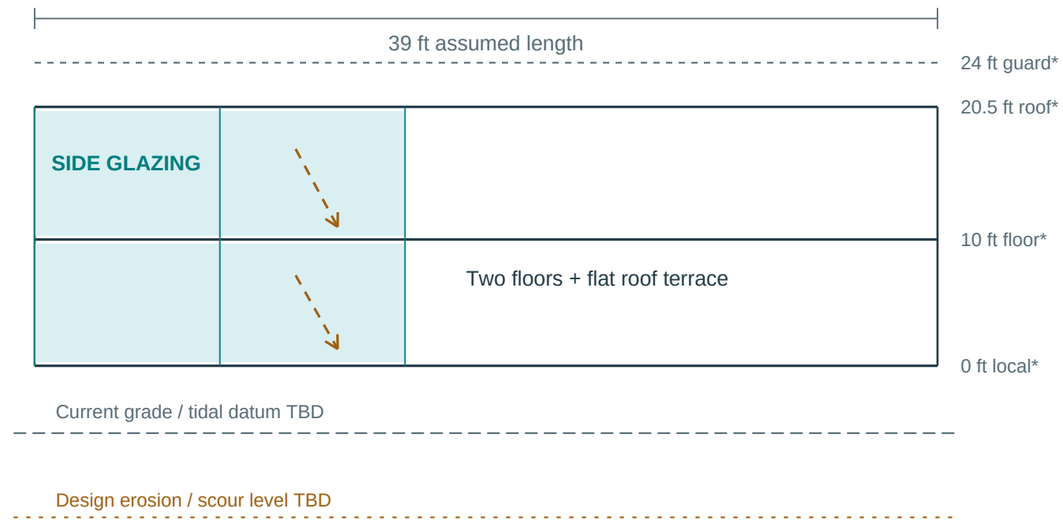
We have not established whether reusable house foundations remain. This option defines an investigation before any reuse decision. It does not identify existing caissons or select a foundation layout.

01 / CONCEPT PLAN - NTS - DO NOT SCALE



Model footprint: x = 3..25 ft, y = 0..39 ft within an assumed 28 x 39 ft parcel. Zero end setbacks and 3 ft side distances are unverified. This plan contains no surveyed foundation information.

02 / LONGITUDINAL SIDE SCHEMATIC - NTS



FOUNDATION PRESENCE + GEOMETRY UNKNOWN
Investigate below-ground conditions before assigning type, count, depth or support reactions.

No caisson, footing, tip, socket, diameter, beam or reinforcement is shown. Grade and scour lines express relationships only; their positions and separation are not measurements. Foundation depth remains TBD.

***Model levels only:** local 0 / 10 / 20.5 ft and 24 ft guard are not surveyed elevations. Actual FFE, lowest structural member, BFE/DFE and grade are unresolved.

Open outdoor study: 19 x 14 ft below the house at model z=-8 ft; removable furniture, no enclosure, excavation or deck. Actual clearance, support conflicts, OWTS, tidal/public access and flood obstructions remain unresolved.

CONDITIONAL EXISTING FOUNDATION REUSE FEASIBILITY

R1.2

FIELD INVENTORY + ENGINEERING HOLD POINTS / NO SUPPORT APPROVED FOR REUSE

03 / COMPLETE THESE STEPS BEFORE SELECTING REUSE

1 Recover + survey

Retrieve foundation plans, pile schedules, drilling/inspection logs, soil/coastal reports and finals. Establish what remains, then survey it. Do not assign support IDs until elements are identified in the field.

2 Establish condition + geometry

A California civil/structural engineer evaluates concrete feasibility. Verify buried geometry and reinforcement; inspect fire, debris-removal and corrosion damage. Use the City's concrete and reused-anchor testing protocol. Passing tests alone does not establish capacity. [1]

3 Resolve new loads + hazards

Check gravity, roof-terrace use, lateral and uplift loads for the revised glazed sidewalls. Loss of wall segments may change the frame and concentrate reactions. Complete beachfront geotechnical and coastal assessment, scour/bearing, flood levels and OWTS coordination. [2,3]

4 Obtain approvals + compare options

City feasibility review precedes current-code building-plan review. First-stage acceptance is not permission to build. Compare reuse IF verified, engineered partial reuse, and a new foundation. Quantities and costs remain TBD. [1]

Material gate: timber piles may not be used or reused. Existing concrete is conditional on verified soundness, capacity, geotechnical suitability and City acceptance for this design. [1,3]

04 / BLANK FIELD INVENTORY TEMPLATE - ACTUAL COUNT TBD

ID	Survey XY / elevation	Type / size / depth / rebar	Condition / test record	Capacity / new demand	Reuse / repair / replace

Blank rows are form space, not a proposed or existing quantity. Add rows only for field-verified elements. Attach survey, photographs, record references, test results and engineer acceptance criteria.

Photo limit: actual cleared-lot listing views do not establish a complete house-foundation inventory. Visible rods, obstructions and neighboring protection cannot be assigned reliably to the house foundations. [4]

Listing images labeled digitally rendered/altered were excluded. Actual site views were reviewed; their capture date is unavailable. The 1982-1983 review sheets contain no pile schedule or capacity certification. No current support count is claimed.

Underside use: investigate clear height, support conflicts, OWTS access and coastal/flood obstructions before approving the open outdoor area. No enclosed basement or excavation is proposed.

[1] City foundation-reuse process
Updated Aug. 14, 2025. General Information and Feasibility Report items 1-5; engineer-led testing and two review stages.

[2] July 2026 geotechnical guidelines
Revision July 16, 2026; pp. 1-2, 7-8, 14. Comprehensive beachfront/deep-foundation report; verify bearing for new loads.

[3] April 2026 coastal guidelines
April 23, 2026, p. 2. No new/reused timber piles; beachfront report; VE seawall foundation separate from house supports.

[4] 19302 PCH listing photo evidence
MLS 25576895; listing updated Aug. 3, 2026. Photographs are visual context, not a survey or engineering record.

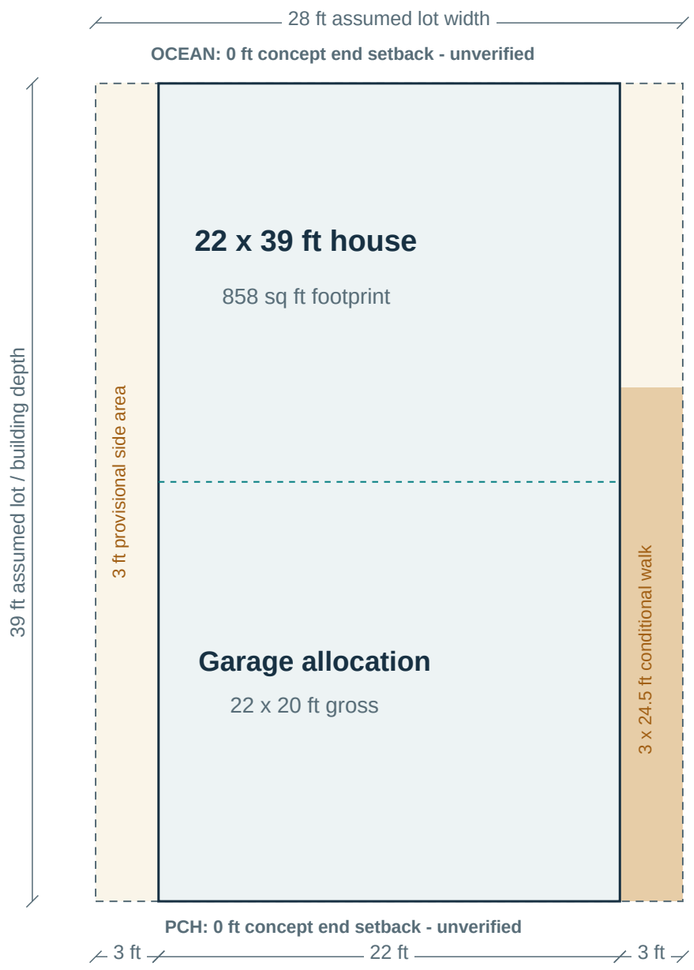
19302 PACIFIC COAST HIGHWAY / MALIBU / SET C

Assumed site + concept areas

A0

Vector geometry study | Street / ocean orientation only | NTS / not a survey

RECTANGULAR MODEL ASSUMPTION



Dashed outline is assumed, not surveyed. No geographic north arrow is inferred from model axes. Actual City GIS parcel shape is irregular.

AREA SCHEDULE / ASSUMED GEOMETRY ONLY

Parcel rectangle	**1,092 sq ft**
House footprint / ground enclosed gross	**858 sq ft**
Upper enclosed gross	**858 sq ft**
Combined enclosed gross	**1,716 sq ft**
Garage gross allocation (included above)	**440 sq ft**
Ground remainder gross allocation	**418 sq ft**
Non-garage gross, including walls/circulation	**1,276 sq ft**
Conditional uncovered side walk	**73.5 sq ft**
Net usable roof terrace	**Undetermined**

CONDITIONAL WALKWAY / OPEN-SIDE CONFLICT

The model places an uncovered 3 x 24.5 ft walkway in one side strip. Its 73.5 sq ft is excluded from enclosed gross. Permission, guards, structural support and clear access are unresolved; S1 also calls for both side strips to remain open. See S6.

Before fixing the envelope: obtain boundary/topographic survey, PCH right-of-way, title/easements, mean high tide, neighboring stringlines, lawful pre-fire records, approved setbacks and OWTS layout. No approved wastewater fit or two-car parking clearance is demonstrated.

19302 PACIFIC COAST HIGHWAY / MALIBU / SET C

Ground-floor model plan

A1

Local model floor z = 0 ft | Arbitrary datum, unrelated to surveyed grade or flood elevation



NTS / DO NOT SCALE. Native overhead model projection, not a conventional cut plan. Raster annotations are schematic; no individual clear-room dimensions have been verified.

MODEL GEOMETRY

22 x 39 ft footprint
858 sq ft enclosed gross

PROGRAM SHOWN

Two-car garage concept; side entry; kitchen/dining; ocean-facing living; powder room and stair. Garage allocation is **22 x 20 ft = 440 sq ft gross**; the remaining 418 sq ft includes walls and circulation.

REVIEW / COMPLETE NEXT

- Verify finished-face room and parking clearances, garage opening, driveway and pedestrian access.
- Resolve stair/egress geometry, emergency escape, fire separation, wall/opening restrictions and final schedules.
- Coordinate garage transfer loads, support grid, side walkway, OWTS and utilities.

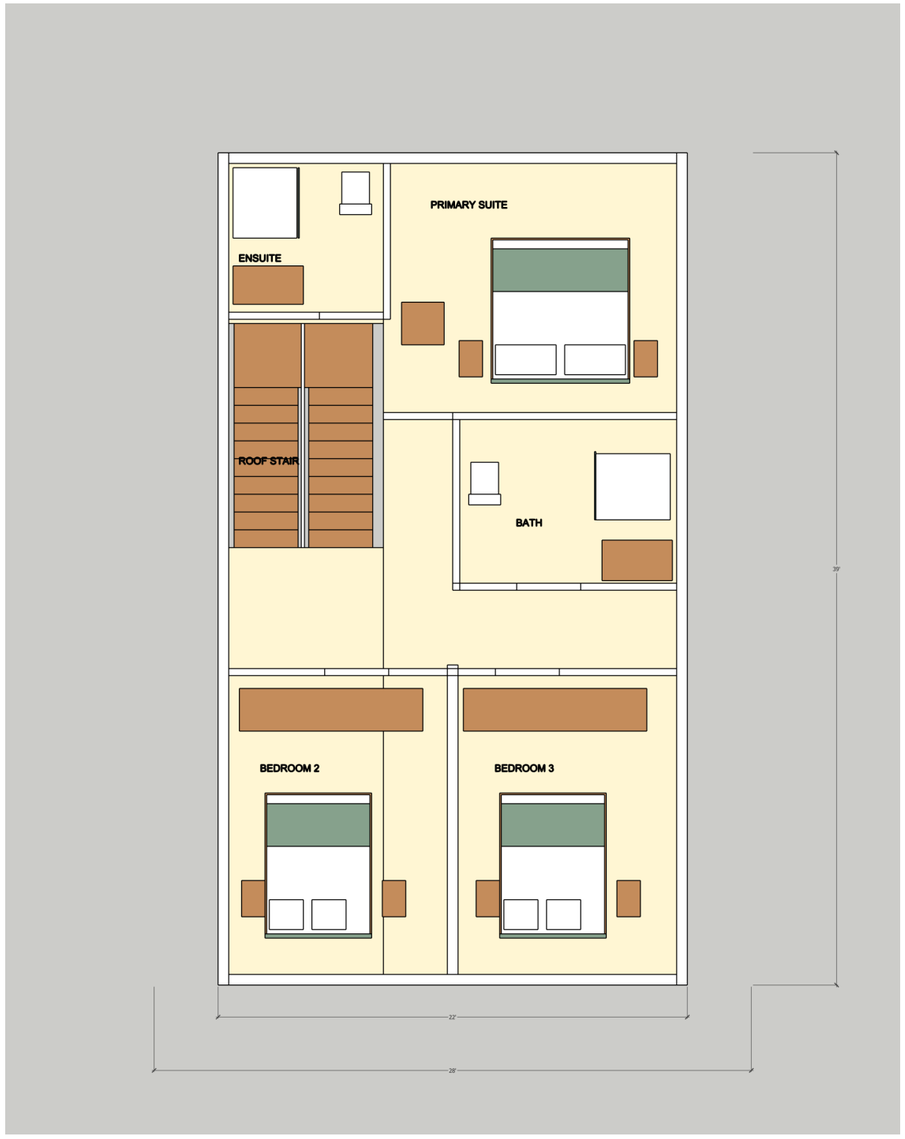
Flood dependency: proposed ground-floor living may require fundamental revision when FEMA zone/BFE and the required structural-member elevation are established. A gross garage allocation does not prove compliant parking.

19302 PACIFIC COAST HIGHWAY / MALIBU / SET C

Upper-floor model plan

A2

Local model floor z = 10 ft | Concept floor interval is 10 ft; clear ceiling height is not established



NTS / DO NOT SCALE. Native overhead model projection, not a conventional cut plan. Raster annotations are schematic; no individual clear-room dimensions have been verified.

MODEL GEOMETRY

22 x 39 ft footprint
858 sq ft enclosed gross

PROGRAM SHOWN

Primary suite with ensuite; bedrooms 2 and 3; common bath; circulation and roof-access stair. **Three bedrooms and two full bathrooms** are program targets, not a completed room/fixture schedule.

REVIEW / COMPLETE NEXT

- Measure rooms, doors, circulation and plumbing layouts at intended finished faces.
- Verify bedroom emergency escape, stairs/headroom, guards and required fire/energy assemblies.
- Confirm full upper-story eligibility, setbacks/view corridors and coordinated gravity/lateral support.

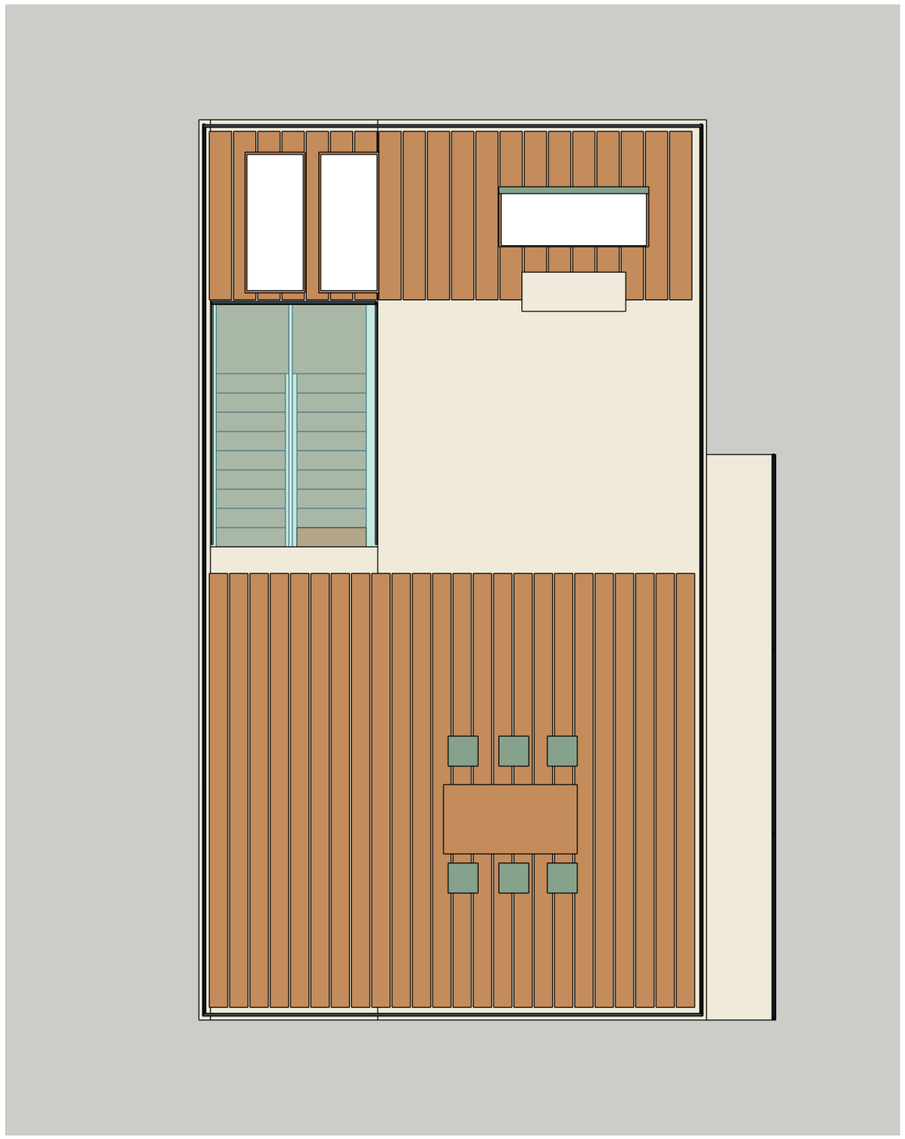
Area limit: upper and ground floors total 1,716 sq ft enclosed gross. This is not a certified living-area figure or approved development allowance; lawful pre-fire and current definitions must be reconciled.

19302 PACIFIC COAST HIGHWAY / MALIBU / SET C

Roof-terrace model plan

A3

Open roof terrace | Local roof z = 20.5 ft and guard top z = 24 ft are concept elevations only



NTS / DO NOT SCALE. Native overhead model projection, not a conventional cut plan. Raster annotations are schematic; no individual clear-room dimensions have been verified.

MODEL GEOMETRY

Open terrace
Net usable area undetermined

PROGRAM SHOWN

Perimeter guards, roof stair opening/cover concept, lounge areas and dining furniture. The roof is the third plan view of a **two-story residence with an open roof terrace**, not an assumed approved third occupied floor.

REVIEW / COMPLETE NEXT

- Confirm terrace/access-cover entitlement and allowable height, guard rise and boundary conditions.
- Design roof-terrace gravity/lateral loads, guard anchorage, drainage, waterproofing and corrosion protection.
- Resolve retractable-cover product, movement envelope, safe access, headroom and emergency operation.

Unverified details: no roof loading, drainage slope, waterproofing assembly, guard attachment or access-cover mechanism is engineered here. Furniture and deck finishes are illustrative.

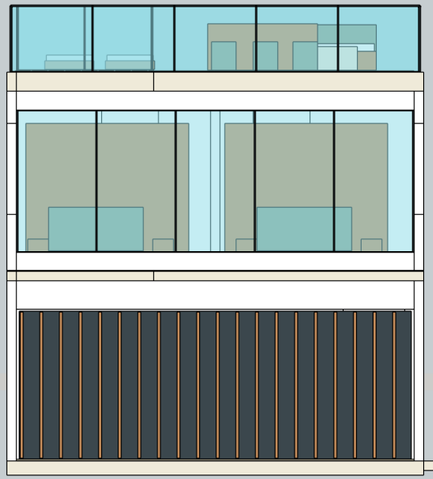
19302 PACIFIC COAST HIGHWAY / MALIBU / SET C

PCH + ocean elevations

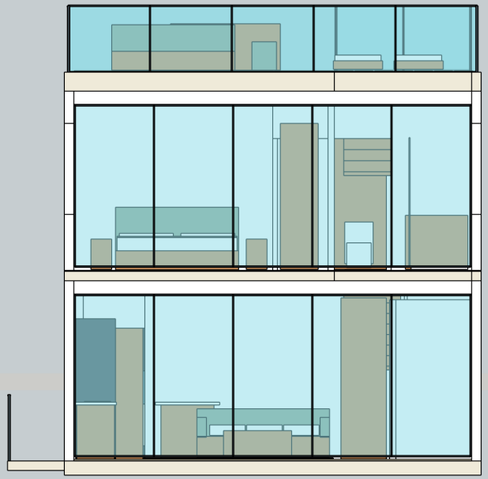
A4

Native orthographic model views | NTS / DO NOT SCALE | Site grade and foundations are not established

A4.1 / PCH STREET ELEVATION



A4.2 / OCEAN ELEVATION



LOCAL MODEL LEVELS / GEOMETRY ONLY

0 ft
Ground reference

10 ft
Upper reference

20.5 ft
Roof terrace

24 ft
Guard top

Local zero is arbitrary. These are model levels, not surveyed FFE, BFE, grade, flood freeboard or permitted building height. Intervals do not establish clear ceilings or assembly depths.

Materials, glazing and guards are schematic. Window/door sizes, assemblies, structural attachments and professional certifications remain to be developed.

COORDINATION REQUIRED

Confirm street access and garage clear opening, coastal glazing/guards, flood-dependent floor elevation, lawful building bulk and all gravity/lateral systems. Colored slabs and horizontal bands are architectural geometry, not engineered member sizes.

The model background/ground plane is visualization only. It is not a measured beach profile, PCH grade, flood line, seawall or foundation design.

19302 PACIFIC COAST HIGHWAY / MALIBU / SET C

Side A + side B elevations

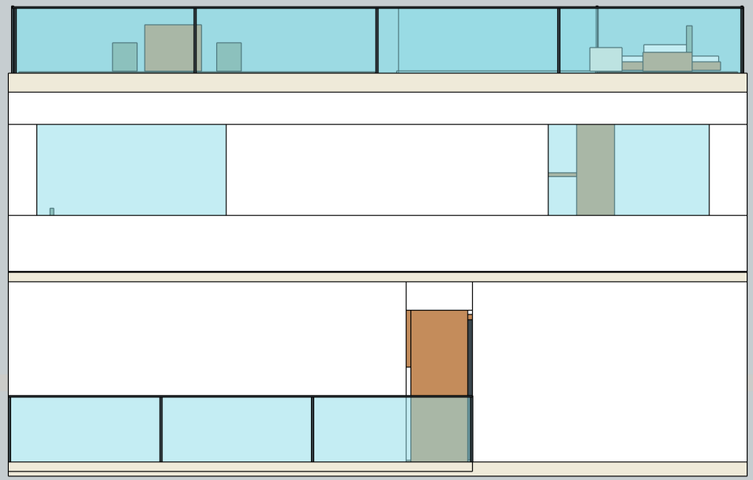
A5

Native orthographic model views | NTS / DO NOT SCALE | Site grade and foundations are not established

A5.1 / SIDE A ELEVATION



A5.2 / SIDE B ENTRY ELEVATION



LOCAL MODEL LEVELS / GEOMETRY ONLY

0 ft	10 ft	20.5 ft	24 ft
Ground reference	Upper reference	Roof terrace	Guard top

Local zero is arbitrary. These are model levels, not surveyed FFE, BFE, grade, flood freeboard or permitted building height. Intervals do not establish clear ceilings or assembly depths.

Materials, glazing and guards are schematic. Window/door sizes, assemblies, structural attachments and professional certifications remain to be developed.

COORDINATION REQUIRED

Side B shows the conditional entry walk and guard. Side strips, openings, fire separation, view corridors, neighboring structures and encroachments require review. Neither side is assigned a compass direction without a verified site reference.

The walkway occupies part of a provisional side strip. It does not demonstrate a compliant clear yard or open view corridor; see A0 and S6.

19302 PACIFIC COAST HIGHWAY / MALIBU / SET C

Exterior perspectives

A6

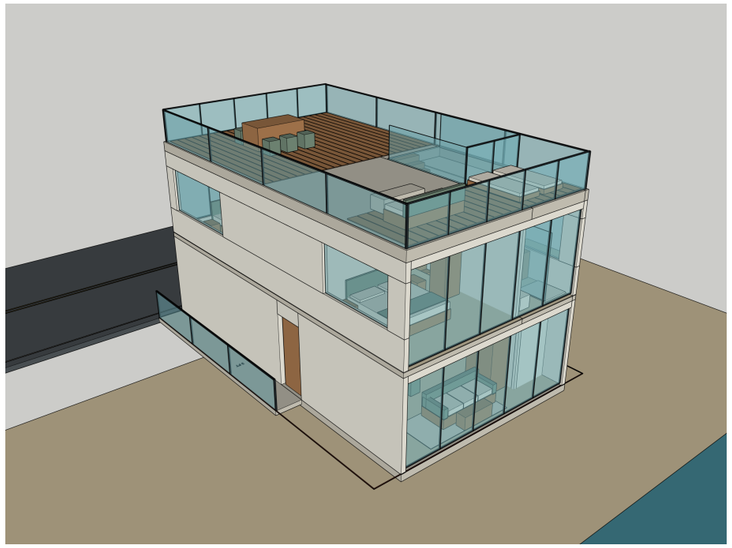
Three native-model viewpoints | Illustrative design intent / NTS

PCH STREET APPROACH



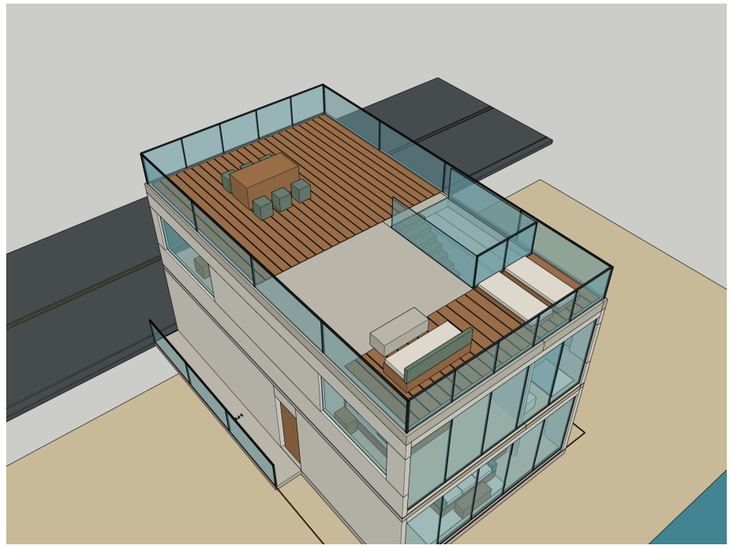
Garage frontage, side-entry relationship and roof terrace.

OCEAN PERSPECTIVE



Ocean glazing, two enclosed levels and open roof terrace.

ROOF PERSPECTIVE



Terrace use, perimeter guards and roof-access concept.

MODEL SCOPE

Views show the current architectural geometry, furniture and illustrative materials. They are model exports, not photographs, surveyed context or predictions of the approved exterior. Ground/background surfaces and neighboring conditions are not verified.

REVIEW THE DRAWINGS TOGETHER

Use A0-A3 for gross areas and plan assumptions; A4-A5 for local elevations; S0-S6 for evidence gaps and foundation coordination. No support layout, foundation tip, building load or complete permit discipline is established by these views.

Design decisions still required: lawful building envelope, survey/flood levels, OWTS fit, structural system, roof access, stairs/egress, rated assemblies, drainage, MEP/energy and construction details.

19302 PACIFIC COAST HIGHWAY / MALIBU

Foundation decisions begin with evidence

S0

What is known, what remains unmeasured, and what this sheet set can support

DECISION STATUS

No foundation depth, required support count, or least-cost system has been established. The 8 / 10 / 12 layouts compare candidate axes only. They help brief a design team; they do not establish capacity, constructability, safety or price.

01 / ACTUAL PARCEL RECORDS RETRIEVED

Three original County geology review sheets identify historical actions. They contain no boring logs, groundwater levels, bearing values or residential pile dimensions.

08 JUL 1982 PLAN CHECK 7594

Addition | 19302 PCH

04 NOV 1982 PLAN CHECK 8995

Bulkhead | 19302 PCH

31 MAY 1983 PLAN CHECK 1480

Bulkhead only | 19264-19302 PCH

Geological approval is marked on each sheet; report-date fields are blank. This does not prove construction, present condition, current approval or reuse eligibility. See S4 for retrieval instructions and the source-file index.

CONCEPT GEOMETRY, NOT A SURVEY

28 x 39 ft site model; 22 x 39 ft building study; two 3 ft side strips. Garage allocation: 22 x 20 ft. Property lines, usable clearances, legal setbacks and buildable envelope require confirmation.

02 / REQUIRED BEFORE DESIGNING FOUNDATIONS

- **Ground:** support strata, rock quality, loose deposits, groundwater and seismic ground-movement potential.
- **Coast:** official flood zone/elevation, design beach profile, scour, waves and debris demands.
- **Structure:** real building loads, lateral system, garage opening, roof-deck loads and load paths.
- **Site:** remaining foundations, septic/OWTS, bulkhead, adjacent structures, PCH access and utilities.

CURRENT LOCAL REQUIREMENTS

- Comprehensive geotechnical report for beachfront sites. [01]
- No timber piles used or reused; VE-zone seawall supports separate from house supports. [02]
- Concrete reuse requires testing and subsequent code review; feasibility acceptance alone is not approval. [04]

Best first spend: recover old records, coordinate the survey and coastal/septic constraints, then commission the minimum sufficient investigation specified by the project engineers.

19302 PACIFIC COAST HIGHWAY / MALIBU

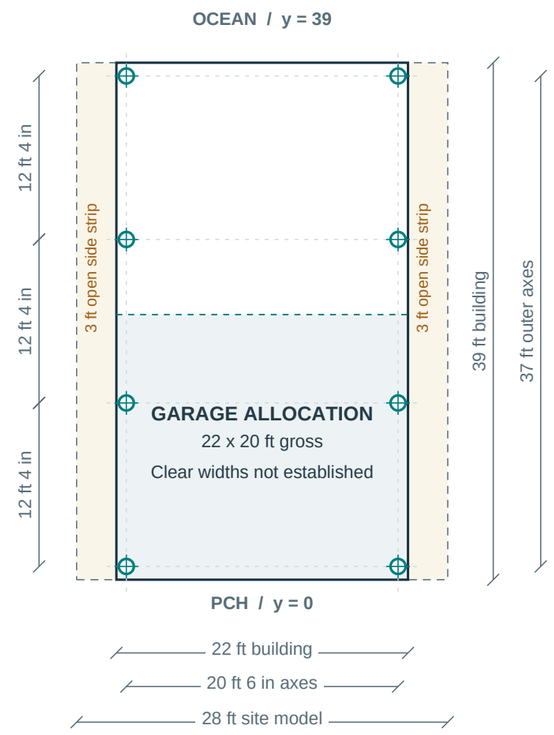
Three support-axis hypotheses

S1

All options retain an open center. None is a required count, a safe design, or a demonstrated cost winner.

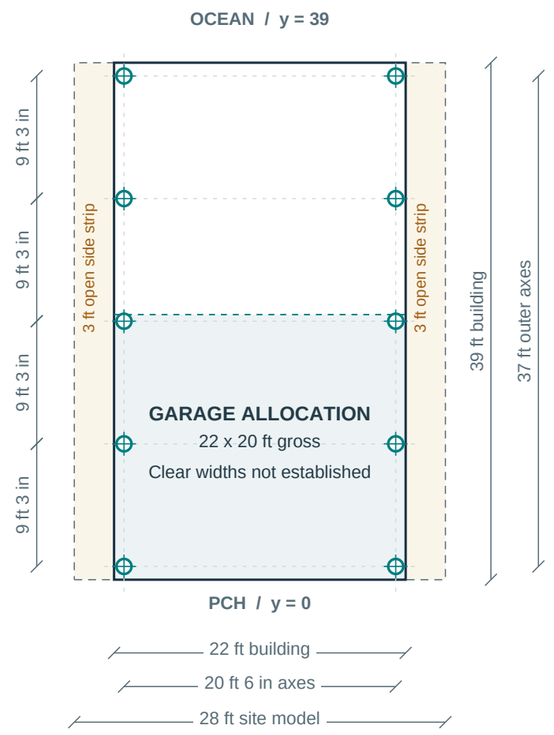
A / 8 MARKERS

2 x 4 rows | 12 ft 4 in intervals



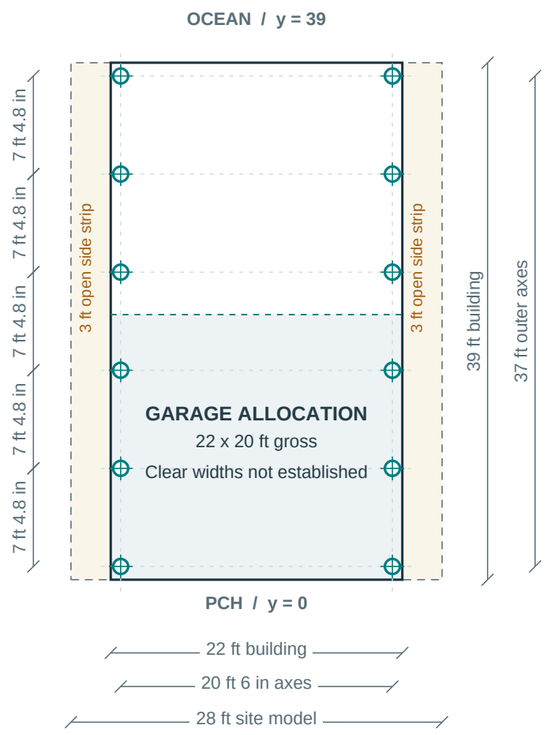
B / 10 MARKERS

2 x 5 rows | 9 ft 3 in intervals



C / 12 MARKERS

2 x 6 rows | 7 ft 4.8 in intervals



DRAWING KEY / SHARED LIMITS

Uniform cross-circle markers have **no physical diameter**. Dashed lines are axes, **not beams**. 20.5 ft / 37 ft are center-to-center geometry, not clear spans. Axes are 9 in inside side outlines and 1 ft inside end outlines by drafting assumption.

Open center is a layout intent, not verified garage clearance. Actual supports, walls and connections can intrude. Keep both 3 ft side strips open; coordinate septic, bulkhead, utilities and egress before selecting any grid. Dimensions govern this study; do not scale.

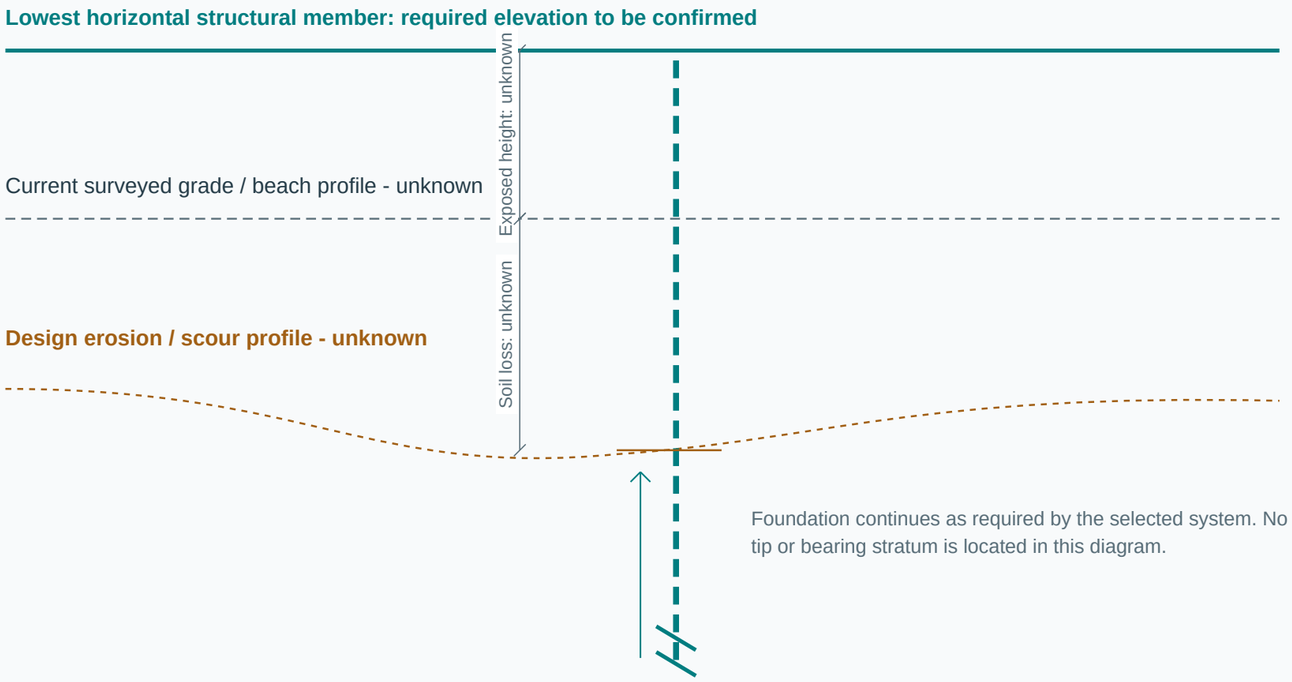
19302 PACIFIC COAST HIGHWAY / MALIBU

Depth cannot be read from the model

S2

Not to scale / No assumed rock layer, pile diameter, support depth, foundation elevation or socket

CONCEPTUAL SECTION / VARIABLES TO ESTABLISH



WHAT SETS THE TIP AND SECTION?

- **Support and ground response:** compression, uplift, settlement, lateral stiffness and group effects.
- **Coastal exposure:** erosion/scour, waves, debris, corrosion and abrasion.
- **Earthquake response:** liquefaction, lateral spreading, downdrag and foundation/structure interaction.
- **Installation:** feasible equipment, casing, groundwater, obstructions and quality acceptance.

DO NOT SUBSTITUTE A RULE OF THUMB

The City's recommended 4-10 ft scour range is **not** a verified site scour depth or a pile length. More embedment cannot fix inadequate bending strength. A larger section cannot fix inadequate embedment. [02, 07]

The model's local z = 0 is arbitrary. It is not surveyed grade, BFE, design flood elevation, scour level, or pile tip. For VE-zone design, floor elevation is referenced to the lowest horizontal member; underfloor living space is not allowed. Confirm the parcel classification before applying zone-specific requirements. [03]

19302 PACIFIC COAST HIGHWAY / MALIBU

Find the lowest complete-system cost

S3

Compare engineered alternatives on the same scope / No dollar estimate or winning foundation is asserted

01 / THE COUNT TRADEOFF TO TEST

A — 8 markers

Fewer locations; longer longitudinal intervals may increase framing, connection and support demands.

B — 10 markers

Intermediate grid; test whether installation and framing requirements balance efficiently.

C — 12 markers

More locations; shorter longitudinal intervals may reduce some framing demands, but savings are unproven.

02 / PRICE THE SAME COMPLETE PACKAGE

- Access, mobilization, working platform and PCH traffic/staging.
- Installation, casing, spoil/dewatering, materials and marine durability.
- Pile caps/grade beams, transfer framing, connections and reinforcement.
- Testing, inspection, engineering responses and contingency unit rates.

Use foundation-contractor input after engineers screen feasibility. Compare at least two viable systems; do not assume cost is proportional to marker count. FHWA cost principles are general guidance, not a Malibu estimate. [09]

03 / COORDINATED INVESTIGATION + ENGINEERING

1. **RECOVER**
   Retrieve County plan checks 7594, 8995 and 1480; request Caltrans same-frontage logs and as-builts.
2. **ESTABLISH**
   Survey the parcel and structures; verify flood basis, coastal scour, septic/bulkhead constraints and equipment access.
3. **INVESTIGATE**
   Engineer specifies the minimum sufficient borings/CPT, sampling and lab work, with depths and termination criteria justified by the actual design.
4. **COMPARE**
   Price feasible caisson/drilled-shaft and micropile systems; test concrete reuse only where assessment supports it.
5. **DESIGN + VERIFY**
   Complete coordinated calculations, plans, permit review, construction observations and system-specific testing/acceptance.

Value strategy: retain useful prior data, keep the structural layout simple, resolve septic conflicts early, and obtain comparable bids. Do not remove mandatory investigation or quality checks to reduce a headline price.

19302 PACIFIC COAST HIGHWAY / MALIBU

Evidence register + exact records to retrieve

S4

Clickable primary sources / Read new fire guidance together with adopted code and project-specific determinations

01 **Malibu fire-rebuild geotechnical guidelines**

Revised July 16, 2026 (footer July 13). Pages 2, 7-8: beachfront comprehensive reports; pp.11-14: scope and characterization.

02 **Malibu fire-rebuild coastal engineering guidelines**

v2, April 23, 2026. Pages 1-2: flood/design basis, timber and VE seawall separation; p.4: recommended scour parameters.

03 **MMC 15.20.150 - coastal high-hazard areas**

Current floodplain chapter; Ordinance 533, March 9, 2026. Pile/column anchorage, below-floor space and fill restrictions.

04 **City foundation reuse and testing requirements**

Updated August 14, 2025. Concrete feasibility testing followed by plan/code review. Timber reuse prohibited.

05 **Malibu baseline geotechnical guidelines**

November 2013. Printed pp.42-44 / PDF pp.46-48, section 7.2: deep foundations and micropiles in wave uprush.

06 **CGS Special Publication 117A**

2008. Printed pp.36-40 / PDF pp.46-50: liquefaction investigation, groundwater, SPT and CPT.

07 **FEMA P-550 - coastal foundation guidance**

Second edition, December 2009. Pages 3-15 to 3-18: erosion/scour and embedment versus bending; older guidance, not site design.

08 **FHWA GEC 015 - foundation acceptance**

April 18, 2022. Section 6.5, pp.6-12 to 6-14: micropile verification/proof testing. Nonbinding transportation guidance.

09 **FHWA drilled-shaft construction cost guidance**

FHWA-NHI-18-024, 2018. Chapter 18: compare complete construction costs and site/method/access effects.

10 **CCC 4-00-225 - same-frontage Caltrans project**

January 2002. Pp.1, 5-6: 19232-19306 PCH highway retaining wall; pp.3, 15: underlying report references. Not a home investigation.

PARCEL FILES: EXACT RETRIEVAL KEYS

City OnBase > ESD - Geology Files > street number 19302. County reviews: **7594** addition (July 8, 1982); **8995** bulkhead (November 4, 1982); **1480** bulkhead only (May 31, 1983), indexed/addressed 19264-19302. Request full stamped plans, reports, logs and inspections.

Retrieved one-page files: 19302-County-Geology-1982-07-08.pdf; 19302-County-Geology-1982-11-04.pdf; 19302-County-Geology-1983-05-31.pdf. No boring or house-foundation specification appears in these sheets.

CALTRANS SUPPORTING FILES: REQUEST, DO NOT ASSUME

Las Tunas Beach Retaining Wall Replacement: geotechnical recommendations **November 16, 1998** (Emad Araim / John Ehsan); updates **December 3, 2001** (Aziz Elatter) and **December 18, 2001** (Sandra Lavender); wave-runup/beach-impact study **April 23, 2001** (Jerrel Kam). Source [10], pp.3 and 15.

Start with City records instructions and Caltrans Palisades Fire as-built archive. Exploration locations must be checked against this parcel; highway details are not residential design criteria.