FOUNDATION & DRAINAGE INSPECTION REPORT

532 Smith St. CA 94065



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Inspection Date: 4/12/2026

Report Date: 4/13/2026

Address: 532 Smith St. CA 94065

Client: Joe Smith

References: (1) none

Attachments:
(1) Glossary of Terms
(2) Expansive Soil Illustrations
(3) Drainage Illustrations
(4) Seismic Retrofit Illustrations
(5) Foundation Underpinning Basics
(6) Terms & Conditions
(7) Contractor & Additional Engineer Resources
(8) Contractor Selection Advice
(9) Possible Causes of foundation movement

Dear Joe,

Background

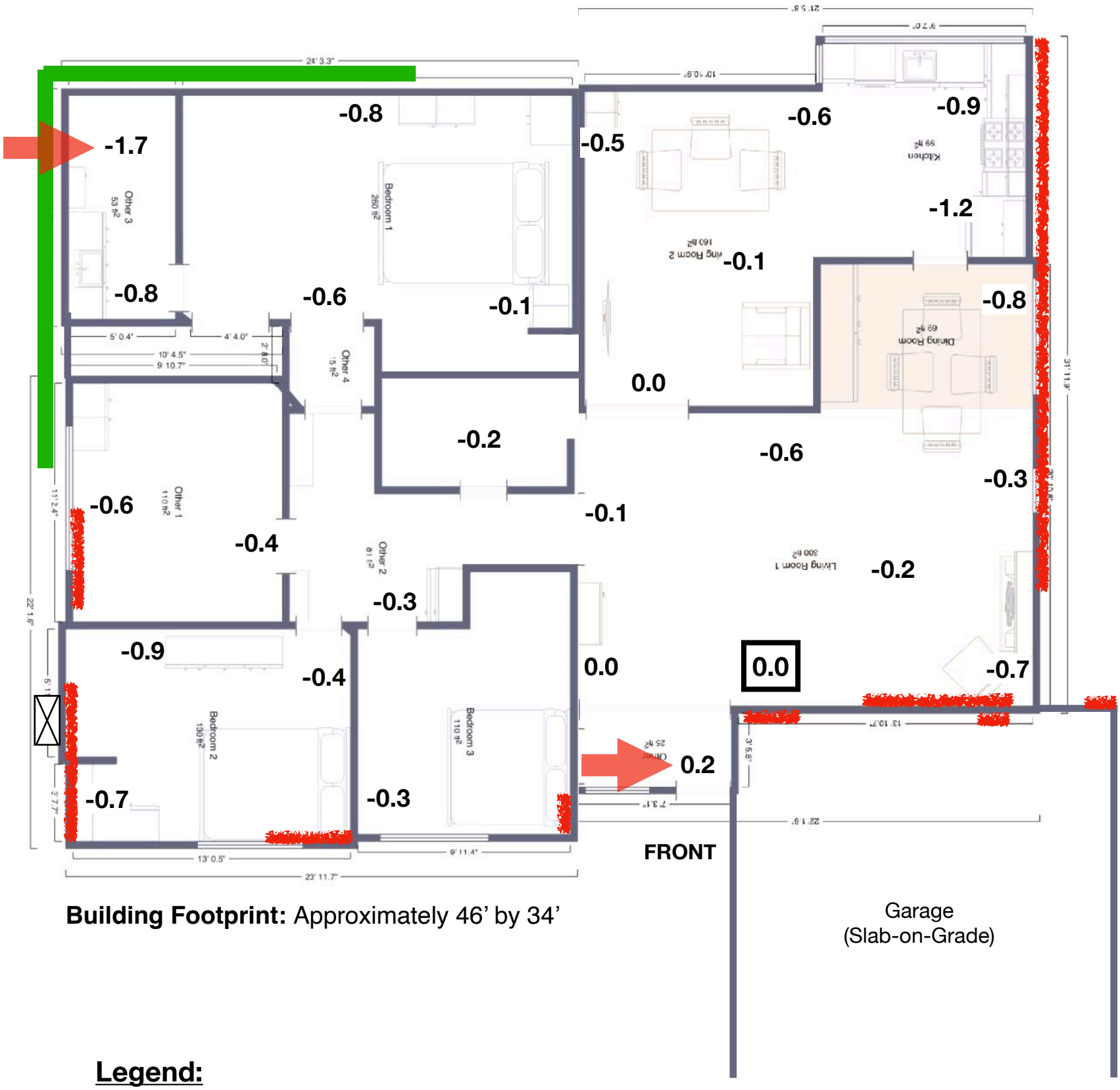
We inspected the interior and exterior of the above property to better understand the overall condition of the foundation & related drainage conditions from the standpoint of a foundation specialist. The client listed above was a homeowner at the time of the inspection. The observations/findings are included in this report along with the corresponding pictures & recommendations for addressing the areas. **The observations/findings are generally listed in order of relative importance.**

Notes:
1. The words left, right, front, rear, and center are used throughout this report to describe locations within or around the structure/property. These directions are all made relative to standing facing the structure/property from the front entry door and/or street.
2. The comments made herein are limited only to the exposed, visible & accessible portions of the foundations. Comments cannot be made on the foundation, drainage or seismic systems where hidden from view due to the soil height or blocked by piping, ventilation, low clearance height & similar conditions. The exact design of the foundations is generally not known if the drawings have not been made available, especially the portions of the foundation which are hidden from view such as below ground embedment depth and dimensions or existence and/or size, placement and amount of steel reinforcing bars within the foundation.
3. No engineering/architectural drawings were available for the structure. The inspection was performed without the benefit of formal soils investigation, slope stability analysis, drainage analysis or similar studies. Seismic analysis, code compliance, structural calculations or any other type of investigations are beyond the scope of this report. The amount and location of reinforcing steel (if present) can not be precisely determined without destructive testing.

Description

The structure was originally built in 1969 and the structure appears to have been built using conventional building practices consistent with the age. The house is a one-story wood framed structure supported by raised perimeter (poured concrete) spread footer foundations and interior individual concrete footers & posts. This type of foundation typically has a relatively shallow embedment depth into the ground and is consistent with the age of the structure. The crawlspace was dry at the time of the inspection.

Floor elevation results (inches) & signs of foundation movement



Building Footprint: Approximately 46’ by 34’

Garage
(Slab-on-Grade)

Legend:

0.0	Survey reference point
	Approximate locations of horizontal cracking
	Crawlspace entrance

Observed Condition - Floor elevation results & signs of foundation movement (cont'd)



Item Image 1



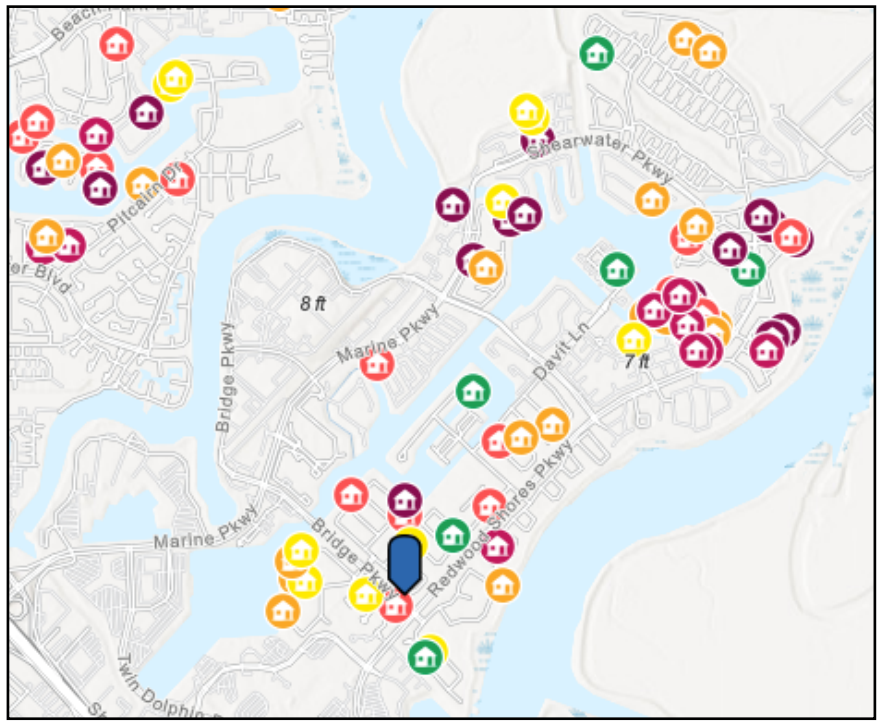
Item Image 2



Item Image 3



Item Image 4



Item Image 5

TOTAL DIFFERENTIAL ACROSS THE HOUSE (INCHES)

- 0-1”
- 1-2”
- 2-3”
- 3-4”
- 4-5”
- >5”
- Subject Property

Data By: Domalytx

- **Observation Details:**
  - The interior floors were spot checked for levelness using a Ziplevel, which is a high precision digital altimeter.
  - The maximum elevation change was observed to be 1.9” between the red arrows shown.
  - There were a few interior indications consistent with foundation movement as shown in the pictures above (note: we do not necessarily take a picture of every crack, rather a representative number). Homes on expansive soils are prone to future cracks. When homes are prepared for sale, cracks are periodically patched and painted over. Minimal cracks at this time does not indicate that there will not be future cracks.
  - The exact cause of the movement is unknown. Only a soils report with deep borings & lab analysis can provide the data necessary to fully analyze (this process is naturally quite expensive) - see Attachment 9 for a list of potentially contributing factors. On a high level, in the Bayside locations of San Mateo, Foster City and Redwood Shores, there has been differential settlement of the underlying soils over time since original development. This will commonly cause deformation and sloping of foundations. The precise cause of the differential movement is beyond the scope of this report, but in these areas, it's generally a result of a shallow foundation combined with the underlying soft Bay Mud. A licensed Geotech/ Soils Engineer would be better able to address this issue based on subsurface analysis (soils report). It is impossible to predict the future performance or ongoing rate of movement without subsurface information and past history of the property (such as past floor elevation surveys to compare and the history of interior painting and the formation of cracks). In general, movement related to consolidation occurs early in the life of the structure and then settles out (over a period of approximately 30 years).

Observed Condition - Floor elevation results & signs of foundation movement (cont'd)

- **Observation Details (cont'd):**
    - Due to the expansive soils, some of the individual foundation posts have shifted slightly and are leaning a few degrees, as shown in Image 4. This condition is not abnormal for this age/location.
    - Image 5 contextualizes the movement observed at this property by comparing it with others nearby and suggests this amount of movement is not uncommon for the area.
- **Severity:**
    - There are two tolerance levels for single family homes which we use.
        - The most stringent standard permits a total maximum differential of 1.5 inches before the house is considered out of level.
        - The second standard originates from the Uniform Building Code suggesting a maximum deflection of 1/240. This calculates to a maximum of 1 inch in 20 ft.
    - House Dimensions
        - The house is approximately 46 ft long which would equate to approximately 2.3 inches of elevation difference.
        - The house is approximately 34 ft wide which would equate to approximately 1.7 inches of elevation difference.
    - The structure is outside of the first tolerance but within the second when viewed across the full length of the house (note: localized areas could be outside of the second tolerance). The second tolerance is more applicable for homes of this age.
- **Recommendation:**
    - This amount of movement would not compromise the overall soundness of the structure and is not uncommon to encounter for the age/location.
    - It is important to be aware that the only way to fully prevent future movement is underpinning the foundation. Underpinning entails tapping into more stable soil or rock deep in the earth through push piles, helical anchors, drilled piers or similar deep underpinning technologies, as well as brackets or grade beams which anchor the foundation to the piles effectively supporting it on more stable ground (see illustrations on Attachment 5). For the interior footers, the common approach is to make them wider and deeper to improve their performance and/or install adjustable posts to allow for future adjustments as needed. In some instances, underpinning of these footers may be possible but is challenging and relatively rare given the additional complexities and limited working space.
    - At present, any decision to stabilize the home would be voluntary in nature. Based on the floor elevation results, the back and back corners of the home may benefit from stabilization either now or in the future. A budgetary cost range (all-in cost) is $3K to $4K per underpinning element with elements spaced at 5 - 7 ft. Based on the area shown, approximately 10 - 13 elements would be required and from that a total overall budgetary cost range can be determined. Note: this is just a conceptual overview and the final cost, design, and areas of stabilization would be based on decisions from the owner, the design engineer selected, the soils report (if one is required or performed) and the contractor pricing - all of which are not possible to fully ascertain at this stage.
- The posts could be straightened (Handyman or DIY repair - a minimal cost item) and monitored periodically.
- The final decision will depend on the owner and be a subject determination. The minimum recommendation is:
    - Ensure surface water is controlled around the property as well as possible as water combined with expansive soils can contribute to foundation settlement.
    - Patch existing cracks and monitor for future ones
    - Use this survey as a baseline for future readings to see if there is active movement occurring.

Observed Condition - Concrete cracking/spalling from steel rebar rusting



Item Image 1



Item Image 2



Item Image 3



Item Image 4



Item Image 5



Item Image 6

Observed Condition - Concrete cracking/spalling from steel rebar rusting (cont'd)



Item Image 7



Item Image 8



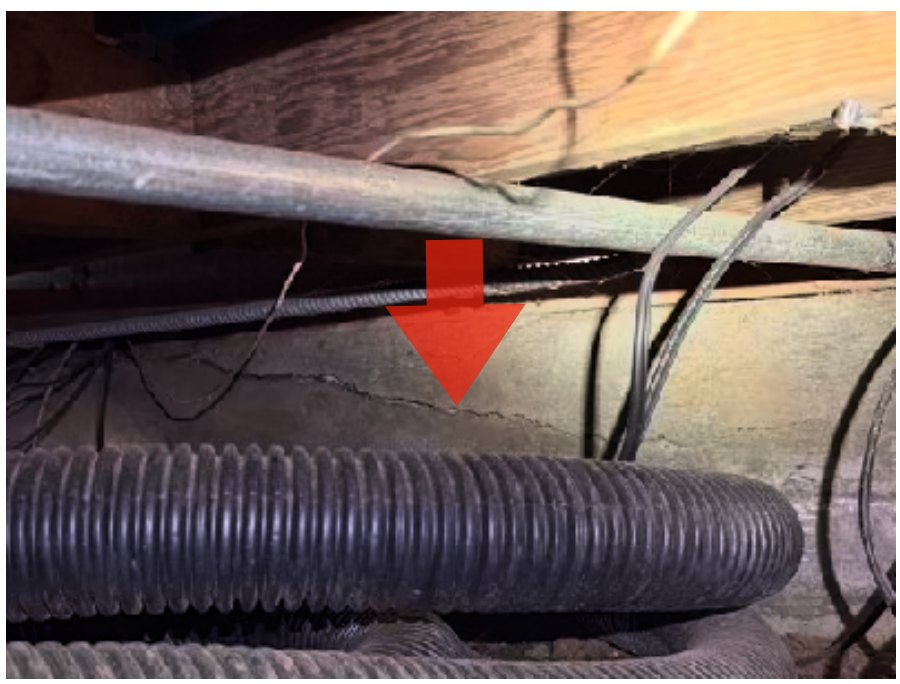
Item Image 9



Item Image 10



Item Image 11



Item Image 12

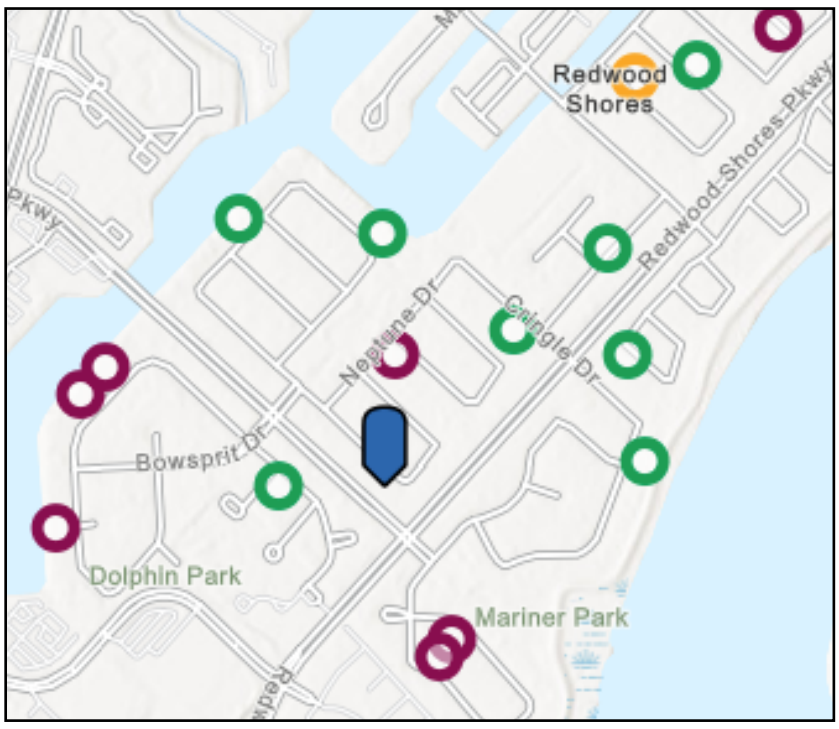
Observed Condition - Concrete cracking/spalling from steel rebar rusting (cont'd)



Item Image 13



Item Image 14

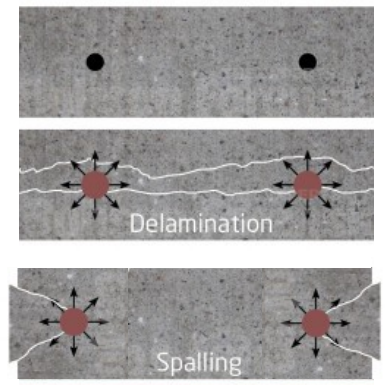


LEGEND

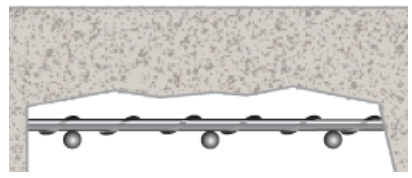
- No HC
- 1 to 10'
- 11' to 40'
- Over 40' HC
- **Subject Property**

Data By:

Domalytx



Spalling process



Repair top view (Option 1)

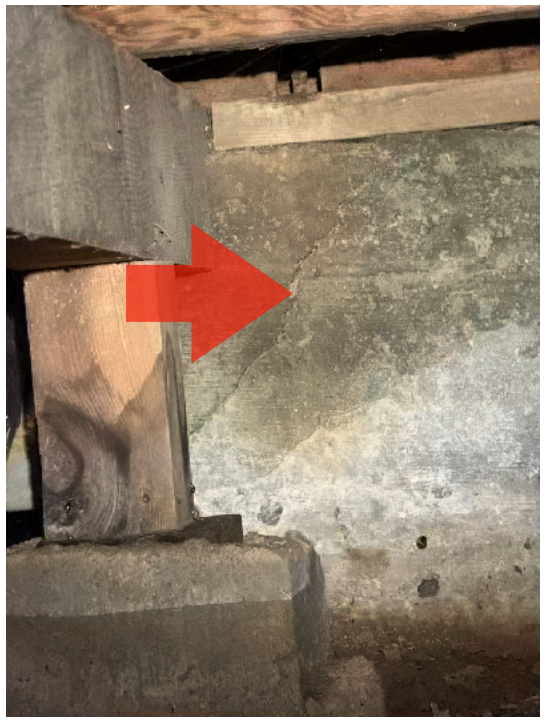
Item Image 15

- **Observation Details**: This horizontal cracking is likely due to rusting of the rebar (reinforcing bar) within the foundation, which is a form of corrosion related 'spalling'. The rust causes the steel to expand which is a strong enough force to cause the concrete to crack (see image to the right). There are code-required clearances from edge of steel to concrete surface (formwork) and in some instances this distance is not achieved during construction. When this happens, these weaker areas are prone to spalling. Another source of the rusting can be wicking of water up through the damp soils. As suggested by Image 15, this condition to this extent is not uncommon for the area.
- **Severity**: We observed approximately 47' in the areas shown on the floor plan on the back wall of the garage (Images 1-2) and from the crawlspace.
- **Options:**
  - Option 1: The least intrusive process is one that many contractors are familiar with. The overview of the procedure is cracked concrete areas are chipped away, then the rebar is either cleaned or replaced, and finally special epoxies and mortar are used to seal and repatch the area (see image to the right). A budgetary price range for this repair process is typically in the $400/ linear ft range (+/- 30%) but can be much more for very short lengths.
  - Option 2: The more extensive repair generally involves a partial removal and replacement of the foundation. Unless performed in sections, this requires the installation of temporary shoring to safely support the structure while the foundation is removed and replaced or for sections to be performed at a time with pros and cons for each. Epoxy coated vertically installed steel reinforcing bar dowels are installed into the remaining bottom portion of the existing foundation, horizontally installed epoxy coated steel reinforcing bars are installed to the vertically installed steel dowels. Concrete forms are installed. The new upper portion of the foundation is poured with concrete treated with Xypex (an additive that helps the new concrete become more water resistant) which helps protect the new epoxy coated steel and helps to prevent spalling concrete. A budgetary price range for this repair process is typically in the $800/linear ft range (+/- 30%).

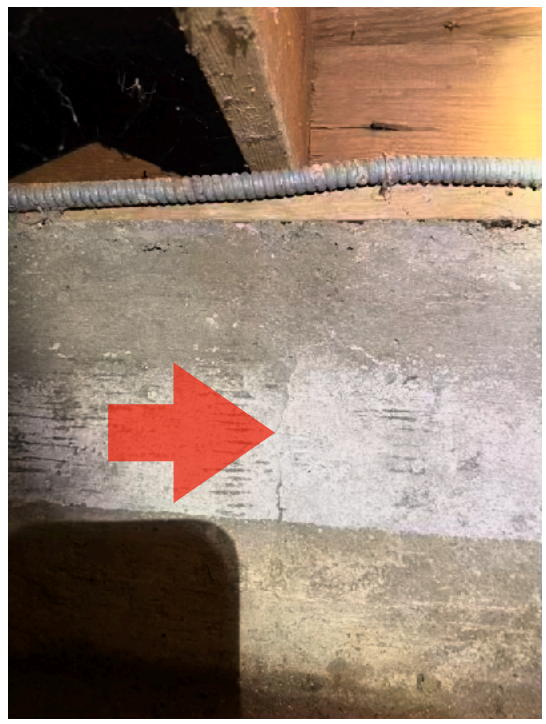
Observed Condition - Concrete cracking/spalling from steel rebar rusting (cont'd)

- **Recommendations**:
  - Relative to the age, this degree of horizontal cracking is common and would advance slowly so it's not an immediate repair requirement, but it's better to address as soon as is practical.
  - In our opinion, the first approach should be satisfactory for this particular case (note that different contractors and engineers (if involved in the design for the repair) take different approaches); obtain multiple quotes and decide on the degree of repair you desire.
  - From a budgetary cost standpoint, a reasonable estimate would be $1K/linear ft x 45 ft = $45K (+/- 30%). At these lengths and extents, it is realistic that the final cost may be less due to a blended repair approach over long lengths.

Observed Condition - Foundation cracks (small)



Item Image 1



Item Image 2

- **Observation Details**: These cracks generally occur from a combination of shallow foundation embedment depth and expansive soils which will swell when wet and contract when dry (see Attachment 2), foundation settlement, or past seismic activity.
- **Severity**: There was approximately 1 crack 1/4" or less (Image 1) and approximately 1 crack 1/8" or less.
- **Options**:
  - Option 1: Mark & monitor (negligible cost - homeowner or handyman task).
  - Option 2: Cover the crack surface with epoxy, caulking or mortar and monitor ($200 +/- 30% per crack - homeowner or handyman item).
  - Option 3: Inject structural epoxy under pressure into the crack ($500 +/-30% range per crack - qualified contractor repair).
- **Recommendation**: We'd recommend Option 3 on cracks less than 1/4". Total budgetary cost range would be $500 +/- 30%. Either Option 1 or 2 would suffice at this time on remaining cracks.

Observed Condition - Drainage Improvements - Continually damp crawlspace



Item Image 1



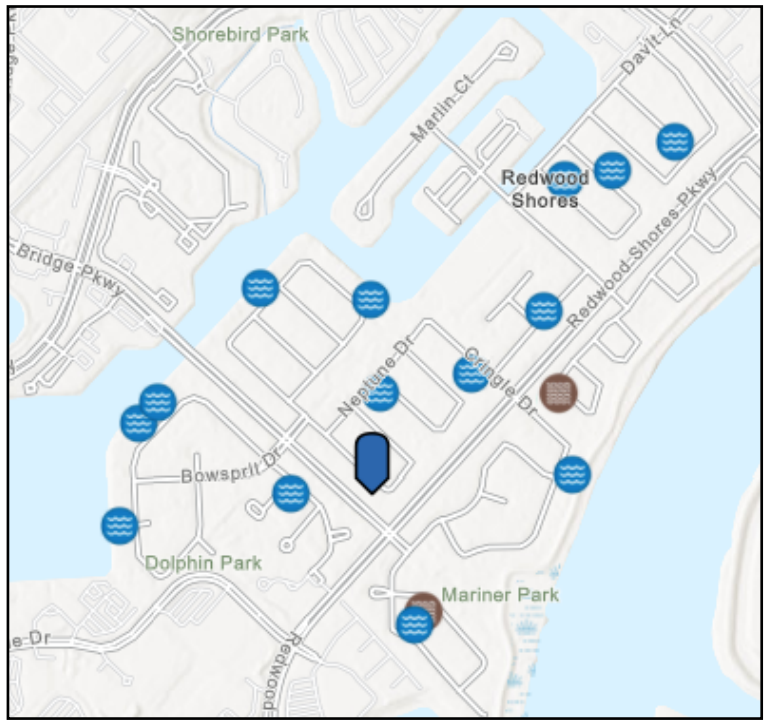
Item Image 2



Item Image 3



Item Image 4



Item Image 5

LEGEND

- NO SIGNS OF GROUNDWATER
- POSSIBLE SIGNS OF GROUNDWATER
- Subject Property

Data By: Domalytx

- **Observation Details**: The full surface of the crawlspace was damp which is consistent with a high water table. The full background and hydrogeology of this area can only be ascertained through a soils report and further research, which is beyond the scope of this report, but is not uncommon in some areas of the Bay Area, as suggested by Image 5. The crawlspace currently contains one sump pump. Past standing water lines, as shown in Image 2, were apparent around the perimeter. The crawlspace soil exhibited mud cracks from expansive soils hydrating and drying (Image 3) and a few instances of mold (Image 4).
- **Recommendation**:
  - Perform drainage recommendations in report.
  - An upgraded sump pump would be recommended (budgetary cost $3K range +/- 30% for pump & pit installed).
  - As budget allows, a vapor barrier would keep the humidity levels down and reduce chances for rot and mold. A low cost vapor barrier might be a few thousand dollars. A robust system with welded seams and a thick membrane might be in the $12K range (+/- 30%) and would likely be a good idea in the long run.
  - Note: when planning crawlspace improvements, any foundation work should be completed before the installation of the vapor barrier. Otherwise, additional costs will be required in order to patch or repair portions of the vapor barrier following the foundation work.

Observed Condition - Drainage Improvements - Exterior grade/slope



Item Image 1



Item Image 2



Item Image 3



Item Image 4



Item Image 5



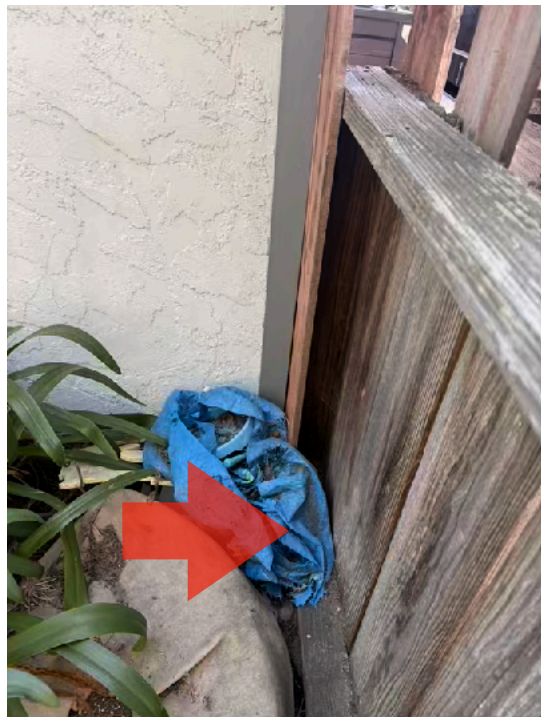
Item Image 6

- **Observation Details**: It is recommended to ensure adequate slope away from the house in all areas such that surface water will flow away from the foundation. Arrows in the images above show the direction that water should be flowing.
- **Options (see Attachment 3 for illustrations)**:
  - Option 1: Re-grade the soil around the structure to slope away from the foundation. This is generally a relatively minimal cost and can be either DIY or accomplished by qualified landscaping companies.
  - Option 2: Install hardscape (i.e. an impervious surface such as concrete or tightly spaced pavers) to slope away from the foundation; a budgetary cost range per side of an average sized house would be approximately $6K +/- 30%. In areas where hardscape already exists, replace it altogether or apply mud jacking (also known as slab jacking or poly-level) to elevate one side of the slab and achieve positive slope away from the house; budgetary cost range would be $4K +/- 30% per slab area and this would only need to be applied where the hardscape currently slopes toward the house.
  - Option 3: Install subsurface drainage (French drains or similar) to minimize the water near the foundation (full French drains around an average sized house would be approximately in the $45K +/- 30% range).
- **Recommendation**:
  - In this case, Option 2 would likely be sufficient and would likely be the path that most owners would take.

Observed Condition - Drainage Improvements - Downspouts and/or gutters



Item Image 1



Item Image 2



Item Image 3

- **Observation Details**: It is important that water from the roof flows away from the foundation at downspouts a minimum distance of 5 feet is recommended. Water control around properties is critical to the longevity of the foundation.
- **Options**:
  - Option 1 - Add extenders to discharge water at least 5’ from the house.
  - Option 2 - Add properly sloped hardscape that drains water away from the foundation at least 5’.
  - Option 3 - Discharge into hard piping which is then routed to discharge water an appropriate distance from the foundation.
- **Recommendation**: In this case, we would recommend any of the options at the owners discretion but Option 1 at a minimum. The downspout shown in Image 1 should be extended down the side of the home then at least 5’ away from the foundation. The downspout shown in Image 2 should be unblocked.

Observed Condition - Drainage Improvements - Planters near foundation



Item Image 1



Item Image 2

- **Observation Details**: It is best to avoid planters near the structure as they tend to trap water next to the foundation.
- **Recommendation**: Remove planters and ensure there is positive sloping of the grade away from the foundation.
  - Note: If planters must remain, limit water by using drip irrigation and project water/provide a drainage pathway away from the house.

Observed Condition - Drainage Improvements - Signs of efflorescence



Item Image 1

- **Observation Details**: Efflorescence is an indication of excessive moisture that appears when water that contains soluble salts evaporate from the surface of the foundation or soil, resulting in a crystalline salt deposit. The deposits are usually white but they can also be green, brown, or gray depending on the mineral composition.
- **Severity**: Not a severe condition in and of itself but can be an indication of inadequate site drainage. Note: this is a very common condition and we do not take pictures of every location.
- **Recommendation**: Performing the recommended drainage improvements would help mitigate the amount of water (and therefore this condition).

Observed Condition - Seismic detailing and risk mitigation notes



Item Image 1



Item Image 2



Item Image 3

- **Observation Details:** The property is located in a high seismic region. Additionally, the structure is within a **liquefaction (OR) landslide** hazard zone according to the California Geologic Survey. Please refer to Attachment 4 for additional information. The seismic detailing within the crawlspace is currently consistent with the age of construction.
- **Options**: As desired, more comprehensive seismic upgrades could be installed to the sub-structure area.
    - Additional foundation anchors could be installed between the mud sill and foundation.
    - Metal framing connectors could be installed between the rim joist of the sub-floor and the anchored mud sill.
    - Metal framing connectors could be installed between the individual posts and the floor joists above as well as the concrete footers below (generally optional during a standard seismic retrofit but a good idea to include this in the scope).
    - These recommendations are detailed in the pre-engineered plan set for single family homes in the Applied Technology Council (ATC) report “Seismic Rehabilitation Guidelines for Detached, Single-Family, Wood–Framed Dwellings” (document ATC-50-1). Additional information can be found at the following: Earthquake Brace & Bolt (California Residential Mitigation Program) www.earthquakebracebolt.com, California Earthquake Authority www.earthquakeauthority.com & Quake Prepare www.quakeprepare.com.
    - The chimney would be another risk area and could be braced (or removed if not needed in the future).
- **Recommendation:** In general it is best to retrofit homes.

Observed Condition - Typical minor stucco cracking



Item Image 1



Item Image 2



Item Image 3



Item Image 4



Item Image 5

- **Observation Details**: The exterior stucco cracks shown above could be related to foundation movement, but stucco is also prone to cracking due to thermal dilations, curing shrinkage, service loads, or excessive moisture. Stucco cracks are quite common. In some areas, such as on the left side of the home near the crawlspace entrance (Image 5) horizontal stucco cracks may be related to horizontal foundation cracking due to rusting rebar as these areas of the foundation appear to be covered by stucco.
- **Severity:** Not a structural concern relative to the house/foundation.
- **Recommendation**: Keep painted/sealed as part of general exterior maintenance/upkeep.

Observed Condition - Concrete slab cracks



Item Image 1

- **Observation Details:** Typical minor concrete slab cracking and not a structural concern relative to the house/foundation (note: we do not take pictures of every location).
- **Recommendation:** Seal cracks to limit water entry and monitor; a minor cost handyman or homeowner repair.

Conclusion

The report is listed in order of priority.

The observed systems appear to remain capable of performing their intended purpose with the completion of maintenance and repair items noted in this report. We did not observe systems or conditions that presented an imminent threat to the overall serviceability of the structure at this time.

It was a pleasure working with you. Please let us know if you have any other questions or concerns either now or in the future.

Sincerely,

Inspection Performed by:



Caroline Robertson, E.I.T.
Residential Foundation and Drainage Specialist

Reviewed & Approved by:



Nathan M. Toothman, P.E. (CA #C92336)
Owner & Principal Engineer

Disclaimer:

This inspection report should not be considered a warranty or guarantee, implied or expressed, of the structure in general, including but not limited to the building superstructure, slabs, foundations, repairs recommended or repairs performed. Locations in crawlspaces that are too tight or unsafe to enter are not entered so we can not comment on conditions in such areas. Structures including but not limited to their foundations and slabs may be affected severely by changes in climate, land use, drainage, soil moisture conditions, soil characteristics, and other factors too numerous to list. The conclusions presented in this letter are based on the conditions visually observed during our visit. It is performed without the benefit of formal soils investigation, slope stability analysis, drainage analysis or similar studies. This report is for use by the above named individual and is not to be used by any other individuals and is not transferable. Our opinions and recommendations are subject to change based on new information as it becomes available. ***Regarding Budgetary Cost Ranges*** *- these are budgetary numbers for what we have observed in the Bay Area, they are subject to change with market conditions, contractors should be consulted for their bids and recommend at least 3 bids for any expensive work. In providing opinions of budgetary cost ranges, the client understands that Bear Engineering has no control over costs or the price of labor, materials, or equipment, or over the Contractor's method of pricing, and that the opinions of probable construction costs provided herein are to be made on the basis of Bear Engineering's qualifications and experience. Bear Engineering makes no warranty, expressed or implied, as to the accuracy of such opinions as compared to bid or actual costs. If the client wishes greater assurance as to Project or Construction Costs, they shall employ an independent cost estimator.*

Attachment 1 - Glossary of Terms (Page 1 of 2)

ANCHOR BOLT: A steel bolt anchoring a wood frame structure to the foundation. Current UBC Code requires anchor bolts at 6" centers and within 4" to 12" of the end of each sill board.

BEARING PILE: A shaft or column drilled or driven into the ground to act as a foundation by transferring the load that it supports to the very firm soil or bedrock on which it rests.

BEDROCK: The solid crust of the earth, which may be exposed at the surface or located several hundred feet below the surface.

CAP: A concrete pad that ties the top end of a pile group together either in a cluster or row, which in turn supports a column or wall.

CATCH BASIN: Surface drain inlet with grate (also "drop inlet").

COSMETIC: Minor distress that does not impact structural integrity, i.e. drywall cracks, door offsets.

CREEP: The slow down slope movement of near surface soils usually related to annual wetting and drying cycles of expansive clay soils or poorly consolidated fill.

CRIPPLE WALL: The wall in the crawl space of a home between the foundation and home's first floor.

CUT: The ground surface remaining after the removal of soil by excavation.

EARTH TO WOOD SEPARATION: Current UBC Code and good construction practice requires a 6" separation between soil and the wood elements of a home to minimize pest infestation and rot problems.

EFFLORESCENCE: An indication of excessive moisture resulting in a white salt deposit remaining on a concrete surface after repeated drying cycles (also calcium deposit).

END BEARING PIER: A drilled or driven shaft, extended to bedrock, providing foundation support.

EXCAVATION: The digging out and removal of soil from a site.

EXPANSIVE SOIL: A type of clay soil which expands when moisture is added and shrinks during drying cycles.

FILL: The material used to fill & level, or adjust the grade of, a sloping site or to rebuild the base of an excavation to the required height (imported, not native soil).

FINGER DRAIN: A finger drain is constructed much like a sub-drain, but is typically positioned in the sub-area, just inside the perimeter foundation. A finger drain is typically 8" wide and varies in depth from 6" to 15" and often outlets to an 18" diameter, 30" deep, cased sump that is provided with a float-switch activated pump.

FLOATING FOUNDATION: A continuous spread footing foundation that extends under an entire building replacing many separate footings (also "mat").

FLOOR JOISTS: any of the small timbers or metal beams ranged parallel from wall to wall in a structure to support a floor or ceiling.

FOOTING: The portion of the foundation that bears on the supporting soil.

FORM WORK: The temporary mold into which liquid concrete is poured to create a specific shape and the associated structure.

FOUNDATIONS: The structural system constructed below a building that transfers the vertical weight and lateral loads of the building to the ground on which it stands.

FOUNDATION WALL: A wall (usually poured concrete or concrete block) built below ground level to transfer the weight of the exposed wall it supports to the footing on which it rests (also stem wall).

FRICTION PIER: A drilled or driven shaft extended into the ground normally filled with reinforced concrete which provide support through friction between the piers surface and the soil.

FRICTION PILE: A shaft or column that is drilled or hammered into the ground until the pressure or friction developed between the pile surface and the soil into which it is forced (driven) enables it to become a firm foundation support on which, when combined or grouped with other piles, to build heavy structures.

GRADE: Soil surface or the inclination of a pipe or the property (also site slope). Grade is often expressed as a ratio of the horizontal to the vertical components of slope i.e. 2:1.

GRADE BEAM: A reinforced concrete foundation element used to distribute building loads to foundations piers and to interconnect the piers.

HONEYCOMB: Voids in concrete typically resulting from inadequate vibration during placement (also "popcorn concrete").

INVERT: The lowest point on the inside surface of a pipe or channel.

Attachment 1 - Glossary of Terms (Page 2 of 2)

LANDSLIDE: A slope failure resulting in the downward movement of a section of a hillside.

LATERAL LOAD: A horizontally applied force typically resulting from seismic loads on foundations and wind loads on walls.

PIER: A column or shaft (also caisson) in the ground that serves as a foundation constructed by drilling a hole and filling it with concrete and reinforcing steel.

PIPE PILES: A type of underpinning in which steel pipes are driven into the ground below an existing foundation to provide stable support (also mini-pile).

PONY WALL: A less than standard height stud wall (also known as a cripple wall). It is usually employed to provide support between the foundation and the floor on a sloping site.

REINFORCING: The deformed steel rods or mesh embedded in concrete to strengthen it.

RETAINING WALL: A wall built to retain soil or support a foundation on sloping ground. The Uniform Building Code requires walls over 4 feet to be designed by a licensed Civil or Structural Engineer.

SEISMIC STRAP: A steel strap used to restrain the structure or an element of the structure from the lateral forces developed during earthquakes by connecting the frame to the foundation (also "tie-down). The term used to describe the exact location of a building.

SHEARPLY: Plywood reinforcement used to improve the strength of stud walls to resist lateral loads (earthquake forces).

SHEAR TRANSFER TIE: A metal brace nailed into both the shear wall and the floor joists that allows the shear wall to support the house during the shaking of an earthquake.

SHEAR WALL: Sheets of plywood nailed to the studs of an exterior wall, such as a cripple wall, to provide bracing against the shaking forces of an earthquake.

SILL: The first wood element above the foundation (also mudsill).

SIMPSON: A manufacturer of steel connectors for wood frame construction.

SLAB: A flat, thin, horizontal concrete element.

SLIPOUT: A small slope failure that moves (also "mud flow").

SLOPE: The degree to which a surface tends upward or downward – see definition for GRADE

SOFT STORY: An open area, commonly a garage, at ground level with a room directly above it. Because of the garage door, one wall of the house can’t be secured with shear wall.

SOIL PROFILE: A vertical cross-section drawing of the ground showing the type and depth of each layer of material between the surface and bedrock.

SPOT FOOTER: A spot or pad footing is used to support a single point of contact, such as under a pier or post.

SPREAD FOOTING FOUNDATION: A very common type of foundation that involves placing a wide flat concrete footing under the perimeter building walls distributing the weight over a greater area.

STANDING WATER: Water within the crawl space that has not evaporated or percolated away.

STEM WALL: The portion of the foundation above the footing that supports the wood frame by connection to the sill plate.

SUBDRAIN: A subsurface moisture collection system normally designed to cut off underground water flow (also "back drain", "curtain drain" or "french drain").

SWALE: Linear depression which forms a drainage channel.

UBC: Uniform Building Code; the code that each building permit authority uses as a basis for review and acceptance at residential design and construction (the code is updated periodically).

UNDERPINNING: Added foundation support placed under an existing building foundation.

WATERPROOF MEMBRANE: An impermeable barrier placed to prevent moisture intrusion.

WATER TABLE: The distance below the surface at which the soil is completely saturated with water. A perched water table can develop above the actual water table when a clay lens or other impermeable layer prevents or delays vertical percolation.

Attachment 2 - Properties of Expansive Soils

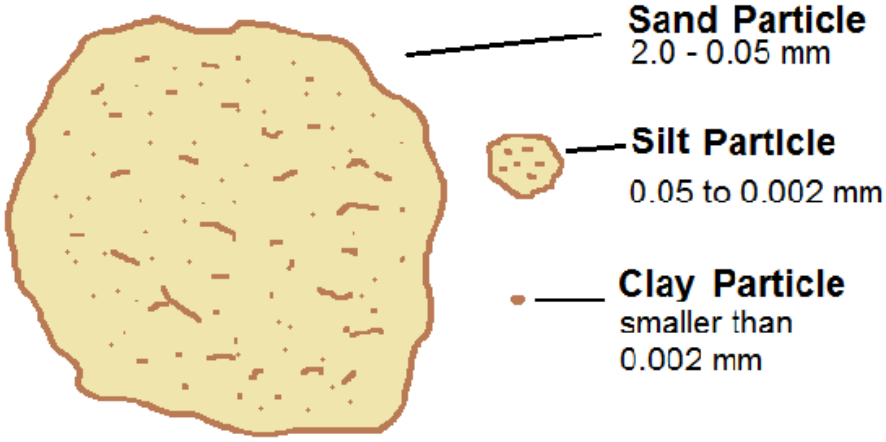


Fig 1 - Relative Particle Sizes

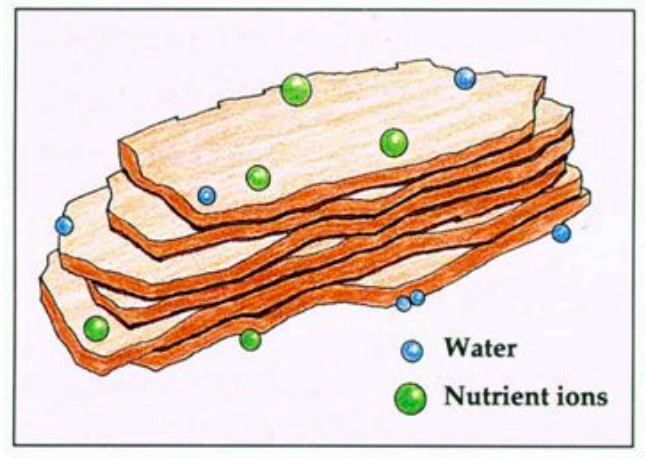


Fig 2 - Clay Shape

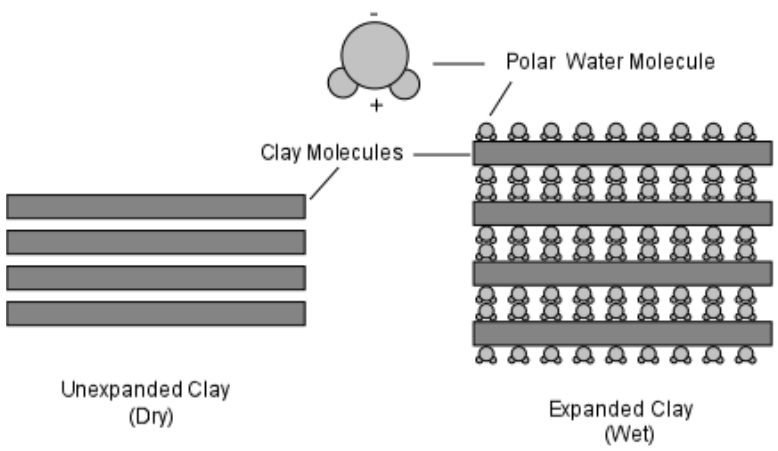


Fig 3 - Expansive Mechanism



Fig 4 - Visual Appearance of Expansive Soils When Dry

copyright: Various, Non-Bear

Attachment 3 - Drainage Illustrations

(Note: these are basic illustrations & not for design purposes)



Fig 1 - Drainage Slope Relative To The Structure

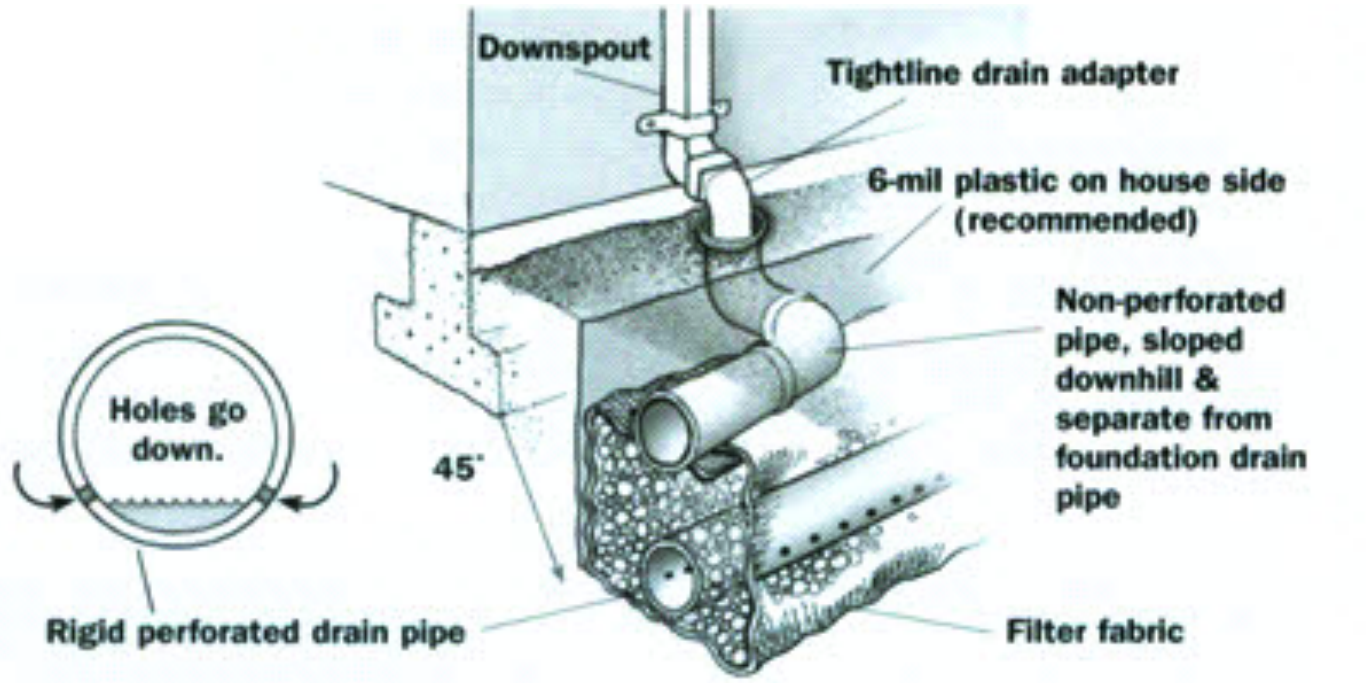


Fig 2 - Subsurface (French) & Surface Drain Overview

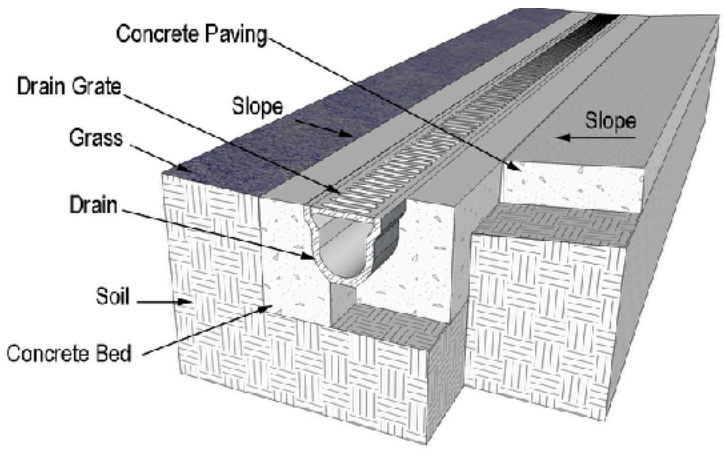


Fig 3 - Trench Drain



Fig 4 - Exterior Sump Pump

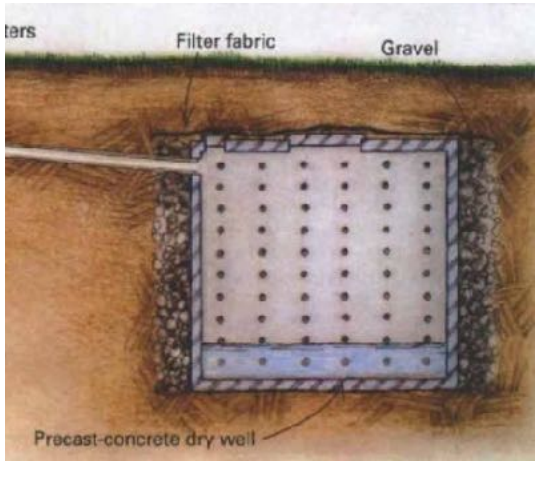


Fig 5 - Dry Well

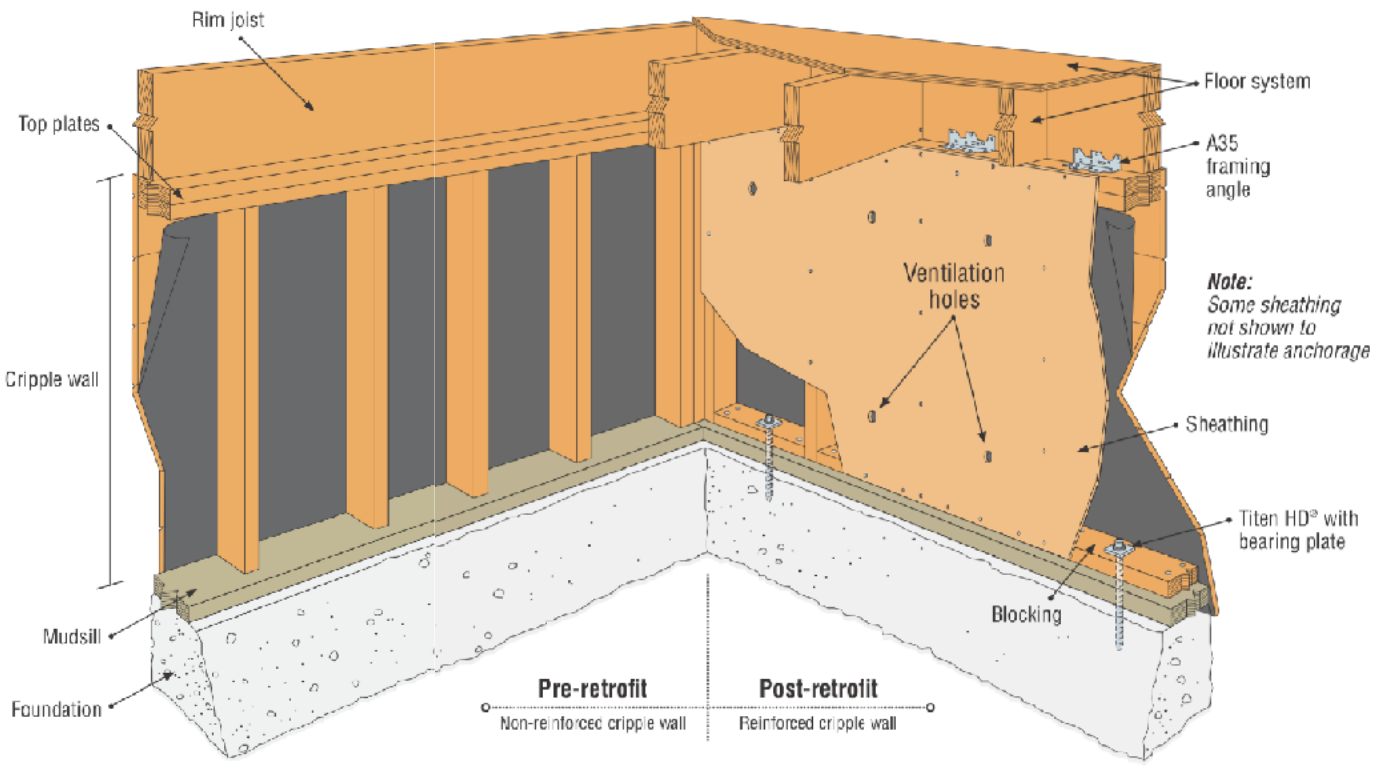


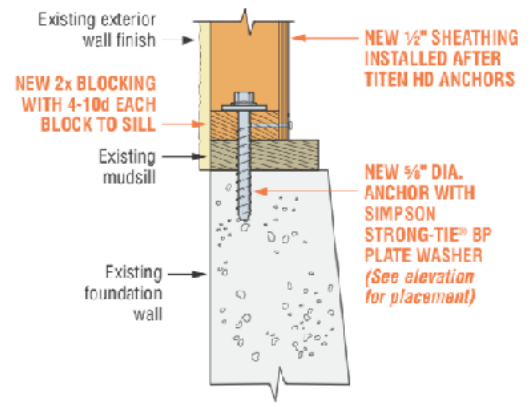
Fig 6 - Interceptor Curtain Drain

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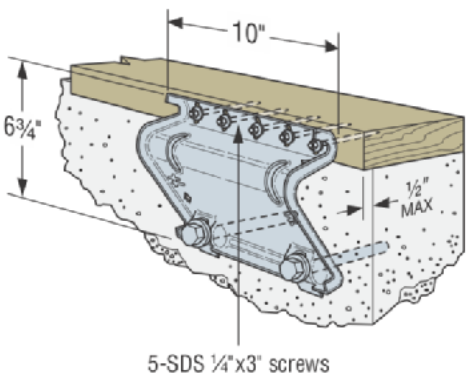
Attachment 4 - Seismic/Earthquake Retrofit - Basic Illustrations

(Note: these are basic illustrations & not for design purposes)

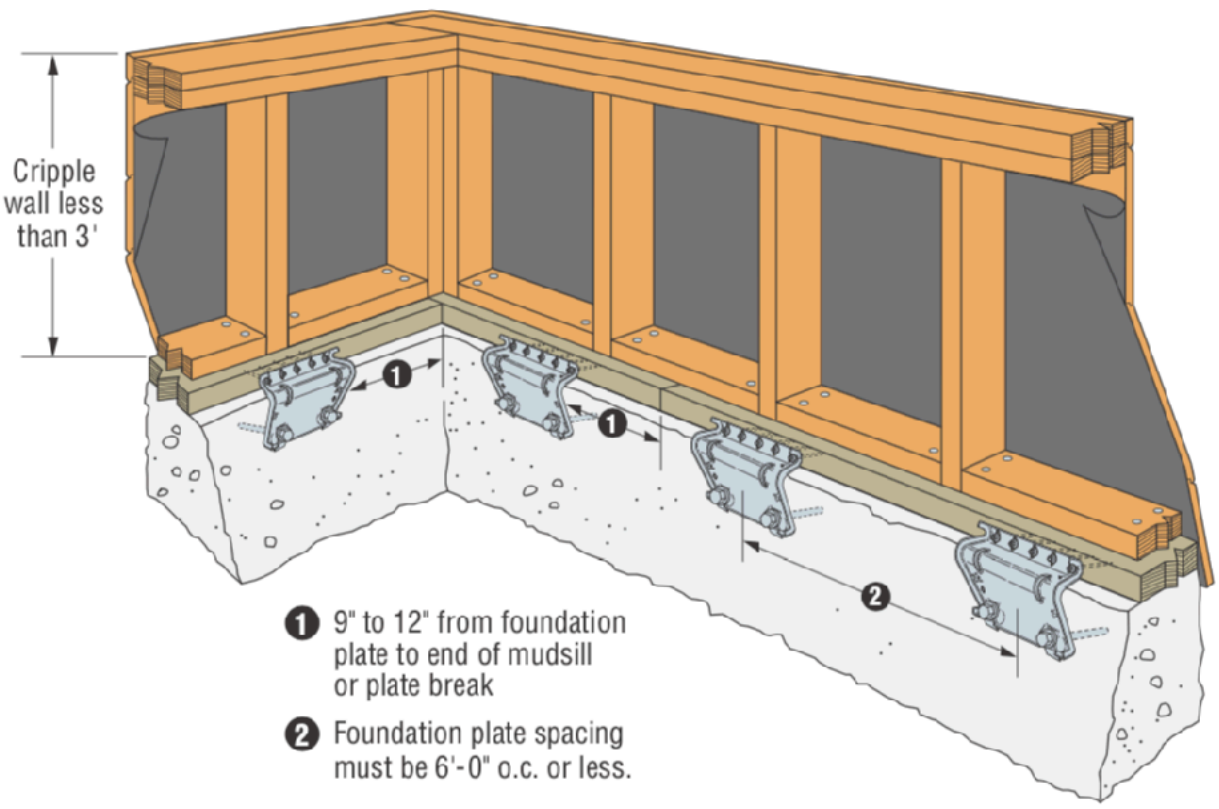


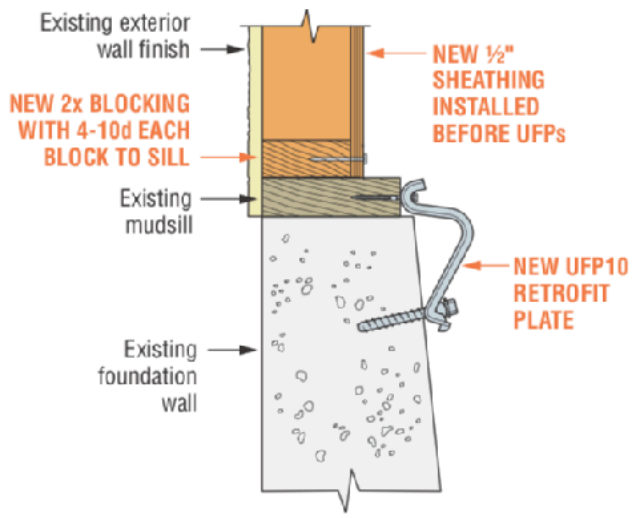


Anchoring Mudsill to Foundation with Titen HD Anchor

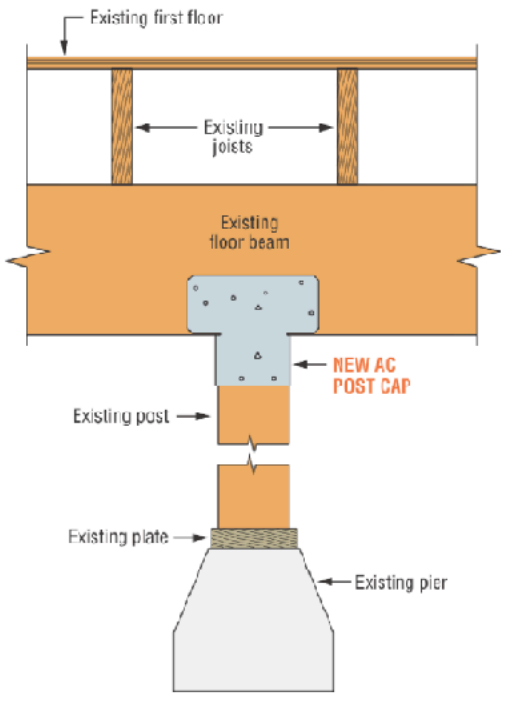


UFP





Anchoring Mudsill to Foundation with UFP



Typical Interior Post Detail*



No Cripple Wall Example - UFP only

copyright Simpson Hardware

Attachment 5 - Foundation Underpinning - Basic Illustrations

(Note: these are basic illustrations & not for design purposes)

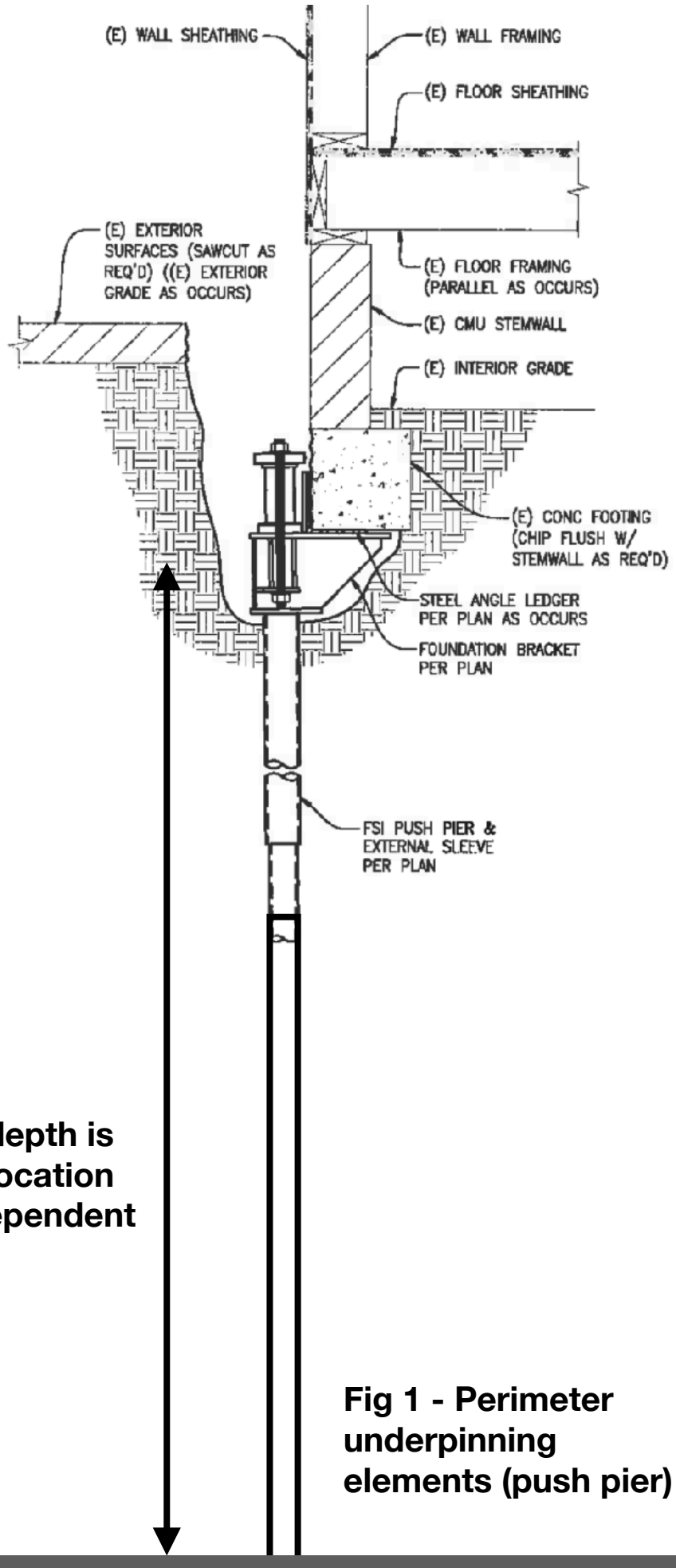


Fig 1 - Perimeter underpinning elements (push pier)

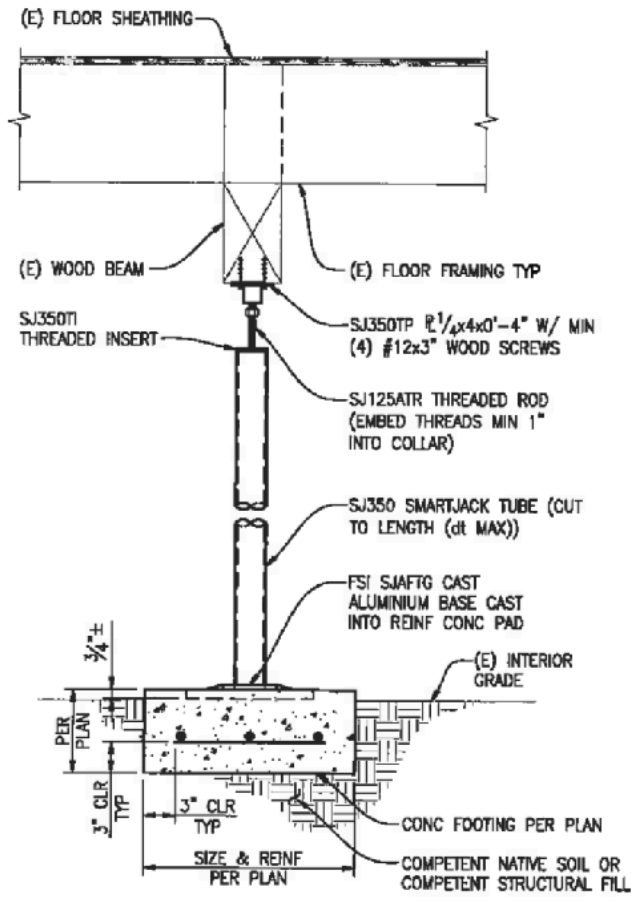


Fig 2 - Interior new footers and adjustable posts

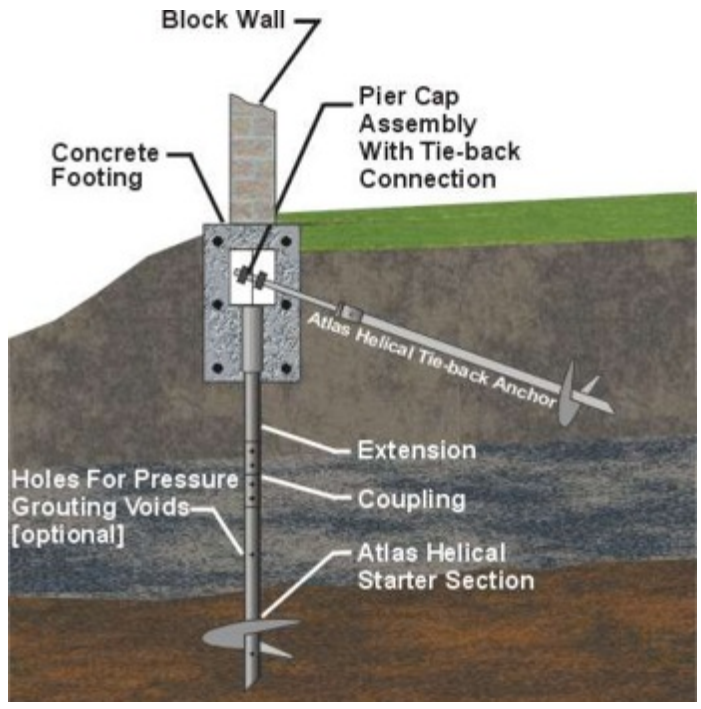


Fig 3 - Helical anchor & tieback

Rock or Suitable End-Bearing Material

copyright: Various, Non-Bear

Attachment 6 - Inspection Terms & Conditions (Page 1 of 4)

1. SECTION 1 – GENERAL

1.1. These Inspection Terms & Conditions ("Agreement") are entered into by and between Bear Engineering, Inc. ("Bear Engineering", "we", "us", "our") and the client that signs an ordering document that incorporates this Agreement by reference or otherwise agrees to be bound by this Agreement ("Client"). The inspection (the "Inspection" or "Project") of the property referenced in the applicable ordering document ("Property") is subject to the limitations and conditions set out in this Agreement. Because evaluation of the existing structure requires certain assumptions be made regarding existing conditions, and because some of these assumptions cannot be verified without expending additional sums of money or destroying otherwise adequate or serviceable portions of the building, the Client, to the fullest extent permitted by law, agrees to indemnify and hold harmless Bear Engineering against all damages, liabilities or costs, including reasonable attorneys' fees and defense costs, arising out of or in any way connected with this Project.

1.2. The Inspection is based on a visual examination of the readily accessible features of the Property. The Inspection does not include identifying defects that are hidden behind walls, floors or ceilings. This includes wiring, heating, cooling, structure, plumbing and insulation that are hidden or inaccessible. Some intermittent problems may not be obvious on an inspection because they only happen under certain circumstances. As an example, we may not discover leaks that occur only during certain weather conditions or when a specific tap or appliance is being used in everyday life. We will not find conditions that may only be visible when storage or furniture is moved and we do not remove wall coverings (including wallpaper) or lift flooring (including carpet) or move storage to look underneath or behind.

1.3. WE WILL HAVE NO LIABILITY FOR ANY CLAIM OR COMPLAINT IF CONDITIONS HAVE BEEN DISTURBED, ALTERED, REPAIRED, REPLACED OR OTHERWISE CHANGED BEFORE WE HAVE HAD A REASONABLE PERIOD OF TIME TO INVESTIGATE.

1.4. We hereby grant the Client a perpetual license to use the written inspection report ("Inspection Report") that we prepare in connection with the Inspection and to reproduce it solely for the Client's internal assessment purposes. The Client agrees that no use of the Inspection Report by any other party is permitted. The Client further acknowledges and agrees that we will retain ownership of any and all information, data and materials generated in connection with the Inspection (the "Inspection Materials"), including without limitation the Inspection Report and any all field notes, progress drawings and models and other proprietary parts of the process used to generate the final Inspection Report. We reserve the right to use the Inspection Materials for our own business purposes as determined by us on our sole discretion. Those business purposes may include, but are not limited to: (a) compiling statistical and performance information related to the provision and operation of our services; (b) supporting benchmarking or similar features of our services; (c) analyzing, improving, marketing and developing our existing products and services or new products and services; (d) training predictive models; (e) conducting research; and (f) informing our marketing and advertising campaigns.

1.5. This Inspection should not be considered a warranty or guarantee, implied or expressed, of the structure in general, including but not limited to the building superstructure, slabs, foundations, repairs recommended or repairs performed. Structures including but not limited to their foundations and slabs may be affected severely by changes in climate, land use, drainage, soil moisture conditions, soil characteristics, and other factors too numerous to list. The conclusions presented in the Inspection Report are based on the conditions observed during our visit. Our opinions and recommendations are subject to change based on new information as it becomes available to us.

1.6. Bear Engineering shall perform those professional services as specified in the applicable ordering document and detailed herein. In rendering these services, Bear Engineering shall apply the skill and care ordinarily exercised by professionals of the same discipline currently practicing under similar circumstances at the same time and in the same or similar locality. Upon notice to Bear Engineering and by mutual agreement between the parties, Bear Engineering will, without additional compensation, correct those services not meeting such a standard.

1.7. Bear Engineering shall put forth reasonable professional efforts to comply with the applicable laws, codes and regulations in effect as of the date of the execution of this Agreement. Changes made necessary by newly enacted laws, codes and regulations after this date shall entitle Bear Engineering to a reasonable adjustment in the schedule and additional compensation in accordance with the additional services provisions of this Agreement. BEAR ENGINEERING MAKES NO WARRANTIES EXCEPT FOR THOSE PROVIDED IN THESE SECTIONS 1.6 AND 1.7. ALL OTHER WARRANTIES, EXPRESS AND IMPLIED, ARE EXPRESSLY

Attachment 6 - Inspection Terms & Conditions (Page 2 of 4)

DISCLAIMED, INCLUDING WITHOUT LIMITATION ANY IMPLIED WARRANTIES OF MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE OR NON-INFRINGEMENT.

1.8. The Client shall cooperate with Bear Engineering in its performance of the services and provide access to the Client's premises, employees, contractors, equipment, and information as required to enable Bear Engineering to provide the services without delays.

2. SECTION 2 - FEES AND OTHER COMPENSATION

2.1.1. Fees for basic services, additional services, and compensation for reimbursable expenses are set forth in the applicable ordering document.

2.1.2. If Bear Engineering's services covered by this Agreement have not been completed within 12 months of the date hereof, through no fault of Bear Engineering, the remaining fees shall be escalated at the rate of 5% per year.

2.1.3. ADDITIONAL SERVICES: Services beyond the scope of work indicated in the applicable ordering document shall be on a cost-plus basis using billing rates in effect at the time these services are performed, however, before any additional services are provided, Bear Engineering must receive the Client's consent to these services.

2.2. PAYMENTS ON ACCOUNT

2.2.1. Invoices for Bear Engineering's services shall be submitted, at Bear Engineering's option, either on a monthly basis or upon completion of any phase of the Service. Invoices shall be payable when rendered and shall be considered past due if not paid within 15 days after the invoice date. Any Project with payment past due, Bear Engineering retains the right to suspend any services until the past due payment is received and the Client's account is in good standing.

2.2.2. Retainers, if applicable to this Project, shall be credited to the final invoice(s).

2.2.3. Any inquiry or questions concerning the substance or content of an invoice shall be made to Bear Engineering in writing within 30 days of receipt of the invoice. A failure to notify Bear Engineering within this period shall constitute an acknowledgement that the Service has been provided.

2.3. LATE PAYMENTS

2.3.1. A service fee of 1.5% (18% annual rate) per month or the maximum allowable by law will be charged on the outstanding balance of "past due" accounts.

2.3.2. In the event that any portion of an account remains unpaid 90 days after billing, Bear Engineering may, without waiving any claim or right against the Client, and without liability whatsoever to the Client, suspend the performance of the services. Notwithstanding anything to the contrary in this Agreement, Bear Engineering shall not be in material breach of this Agreement for failure to carry out the services to the extent Bear Engineering is prevented from doing so by the Client's failure to discharge its obligations under Section 1.8.

3. SECTION 3 - INSURANCE, INDEMNIFICATION AND LIMITATION OF LIABILITY

3.1. INSURANCE. Bear Engineering shall secure and maintain professional liability insurance and automobile liability insurance to protect Bear Engineering from claims which may arise out of the performance of Bear Engineering's services under this Agreement, and from claims under applicable workers' compensation laws. Bear Engineering shall, if requested in writing, issue certificates confirming such insurance to the Client.

3.2. LIMITATION OF LIABILITY

3.2.1. IN NO EVENT SHALL BEAR ENGINEERING BE LIABLE TO THE CLIENT OR TO ANY THIRD PARTY FOR ANY LOSS OF USE, REVENUE, OR PROFIT OR LOSS OF DATA OR DIMINUTION IN VALUE, OR FOR ANY CONSEQUENTIAL, INCIDENTAL, INDIRECT, EXEMPLARY, SPECIAL, OR PUNITIVE DAMAGES WHETHER ARISING OUT OF BREACH OF CONTRACT, TORT (INCLUDING NEGLIGENCE), OR OTHERWISE, REGARDLESS OF WHETHER SUCH DAMAGE WAS FORESEEABLE AND WHETHER OR NOT BEAR ENGINEERING HAS BEEN ADVISED OF THE POSSIBILITY OF SUCH DAMAGES, AND NOTWITHSTANDING THE FAILURE OF ANY AGREED OR OTHER REMEDY OF ITS ESSENTIAL PURPOSE.

3.2.2. IN RECOGNITION OF THE RELATIVE RISKS AND BENEFITS OF THE PROJECT TO BOTH THE CLIENT AND BEAR ENGINEERING, THE RISKS HAVE BEEN ALLOCATED SUCH THAT THE CLIENT AGREES, TO THE FULLEST EXTENT PERMITTED BY LAW, TO LIMIT THE LIABILITY OF BEAR ENGINEERING, ITS OFFICERS, EMPLOYEES, AND SUB-CONSULTANTS ON THIS PROJECT FOR ANY AND ALL NEGLIGENT ACTS, INJURIES, CLAIMS, LOSSES, EXPENSES, DAMAGES OF ANY NATURE WHATSOEVER OR CLAIMS EXPENSES FROM ANY CAUSE OR CAUSES, INCLUDING ATTORNEYS' FEES AND COSTS AND EXPERT WITNESS FEES AND COSTS, SO THAT THE TOTAL AGGREGATE LIABILITY OF BEAR ENGINEERING SHALL

NOT EXCEED THE AMOUNT OF FEES PAID TO BEAR ENGINEERING UNDER THIS AGREEMENT. IT IS INTENDED THAT THIS LIMITATION APPLY TO ANY AND ALL LIABILITY OR CAUSE OF ACTION HOWEVER ALLEGED OR ARISING, UNLESS OTHERWISE PROHIBITED BY LAW.

3.2.3. TIME BAR TO LEGAL ACTION: All legal actions by either party against the other arising out of or in any way connected with this Agreement or the services to be performed hereunder shall be barred and under no circumstances shall any such legal action be initiated by either party after five (5) years from the date of substantial completion, unless this Agreement shall be terminated earlier, in which case the date of termination of this Agreement shall be the date on which such period shall commence.

3.3. INDEMNIFICATION

3.3.1. The Client agrees, to the fullest extent permitted by law, to indemnify and hold harmless Bear Engineering, its officers, directors, employees and sub-consultants (collectively, the “Indemnitees”) against all damages, liabilities or costs, including reasonable attorneys’ fees and defense costs, to the extent caused by the Client’s material breach of this Agreement or the Client’s negligent acts in connection with the Project and the acts of its contractors, subcontractors or consultants or anyone for whom the Client is legally liable. The Client agrees that any and all limitations of the Indemnitees’ liability, waivers of damages by the Client to the Indemnitees and indemnifications by the Client to the Indemnitees shall include and extend to those individuals and entities the Indemnitees retain for performance of the services under this Agreement, including but not limited to Bear Engineering’s officers, partners and employees and their heirs and assigns, as well as Bear Engineering’s sub consultants and their officers, employees, heirs, and assigns. Neither the Client nor the Indemnitees shall be obligated to indemnify the other party in any manner whatsoever for the other party’s own negligence or for the negligence of others.

3.4. THIRD-PARTY BENEFICIARIES

3.4.1. Nothing contained in this Agreement shall create a contractual relationship with or a cause of action in favor of a third party against either the Client or Bear Engineering. Bear Engineering’s services under this Agreement are being performed solely for the Client’s benefit, and no other party or entity shall have any claim against Bear Engineering because of this Agreement or the performance or nonperformance of services hereunder. The Client and Bear Engineering agree to require a similar provision in all contracts with contractors, subcontractors, sub consultants, vendors and other entities involved in this Project to carry out the intent of this provision.

4. SECTION 4 - MISCELLANEOUS PROVISIONS

4.1. OPINIONS OF PROBABLE CONSTRUCTION COST. In providing opinions of probable construction cost, the Client understands that Bear Engineering has no control over costs or the price of labor, materials, or equipment, or over the applicable contractor’s method of pricing, and that the opinions of probable construction costs provided herein are to be made on the basis of Bear Engineering’s qualifications and experience. Bear Engineering makes no warranty, expressed or implied, as to the accuracy of such opinions as compared to bid or actual costs. If the Client wishes greater assurance as to project or construction costs, the Client shall employ an independent cost estimator. Services to modify the contract documents to bring the construction cost within any limitation established by the Client shall be considered additional services and paid for as such by the Client.

4.2. ENTIRE AGREEMENT. This Agreement, including and together with any related exhibits, schedules, attachments and appendices, constitutes the sole and entire agreement of the parties with respect to the subject matter contained herein, and supersedes all prior and contemporaneous understandings, agreements, representations and warranties, both written and oral, regarding such subject matter.

4.3. NOTICES. Each party shall deliver all communications in writing either in person, by certified or registered mail, return receipt requested and postage prepaid, or by email (with confirmation of transmission).

4.4. SEVERABILITY. If any term or provision of this Agreement is found by a court of competent jurisdiction to be invalid, illegal or unenforceable in any jurisdiction, such invalidity, illegality or unenforceability shall not affect any other term or provision of this Agreement or invalidate or render unenforceable such term or provision in any other jurisdiction; provided, however, that if any fundamental term or provision of this Agreement is invalid, illegal or unenforceable, the remainder of this Agreement shall be unenforceable. Upon a determination that any term or provision is invalid, illegal or unenforceable, the parties shall negotiate in good faith to/the court may modify this Agreement to effect the original intent of the parties as closely as possible in

Attachment 6 - Inspection Terms & Conditions (Page 4 of 4)

order that the transactions contemplated hereby be consummated as originally contemplated to the greatest extent possible.

4.5. AMENDMENTS. No amendment to or modification of or rescission, termination or discharge of this Agreement is effective unless it is in writing, identified as an amendment to or rescission, termination or discharge of this Agreement and signed by each party.

4.6. WAIVER. No waiver by any party of any of the provisions of this Agreement shall be effective unless explicitly set forth in writing and signed by the party so waiving. Except as otherwise set forth in this Agreement, no failure to exercise, or delay in exercising, any right, remedy, power or privilege arising from this Agreement shall operate or be construed as a waiver thereof, nor shall any single or partial exercise of any right, remedy, power or privilege hereunder preclude any other or further exercise thereof or the exercise of any other right, remedy, power or privilege.

4.7. ASSIGNMENT. The Client shall not assign, transfer, delegate or subcontract any of its rights or delegate any of its obligations under this Agreement without the prior written consent of Bear Engineering. Any purported assignment or delegation in violation of this Section 4.7 shall be null and void. No assignment or delegation shall relieve the Client of any of its obligations under this Agreement.

4.8. SUCCESSORS AND ASSIGNS. This Agreement is binding on and inures to the benefit of the parties to this Agreement and their respective permitted successors and permitted assigns.

4.9. RELATIONSHIP OF THE PARTIES. The relationship between the parties is that of independent contractors. The details of the method and manner for performance of the services by Bear Engineering shall be under its own control, the Client being interested only in the results thereof. Bear Engineering shall be solely responsible for supervising, controlling and directing the details and manner of the completion of the services. Nothing in this Agreement shall give the Client the right to instruct, supervise, control, or direct the details and manner of the completion of the services. Nothing contained in this Agreement shall be construed as creating any agency, partnership, joint venture or other form of joint enterprise, employment or fiduciary relationship between the parties, and neither party shall have authority to contract for or bind the other party in any manner whatsoever.

4.10. DISPUTES RESOLUTION. All claims, counterclaims, disputes and other matters in question between the parties hereto arising out of or relating to this Agreement or breach thereof will be presented to non-binding mediation, subject to the parties agreeing to a mediator(s).

4.11. GOVERNING LAWS. Unless otherwise specified, this Agreement shall be governed by the laws of the state of California without reference to any conflicts of law principle that would apply the substantive laws of another jurisdiction to the parties' rights or duties. The parties consent to the personal and exclusive jurisdiction of state and federal courts located in San Francisco, California for all cases and controversies arising out of or related to this Agreement, including without limitation tort cases.

4.12. FORCE MAJEURE. Bear Engineering shall not be liable or responsible to the Client, nor be deemed to have defaulted under or breached this Agreement, for any failure or delay in fulfilling or performing any term of this Agreement, when and to the extent such failure or delay is caused by or results from acts beyond Bear Engineering's reasonable control, including, without limitation, the following force majeure events: (a) acts of God; (b) flood, fire, earthquake, other potential disaster(s) or catastrophe(s), such as epidemics, or explosion; (c) war, invasion, hostilities (whether war is declared or not), terrorist threats or acts, riot or other civil unrest; (d) government order, law, or actions; (e) embargoes or blockades in effect on or after the date of this Agreement; (f) national or regional emergency; (g) strikes, labor stoppages or slowdowns, or other industrial disturbances; (h) shortage of adequate power or transportation facilities; and (i) other similar events beyond the reasonable control of Bear Engineering.

Attachment 7 - Bay Area Resources

(listed in alphabetical order)

FOUNDATION & DRAINAGE CONTRACTORS

	Company Name	Services and Specialties	Coverage
FD1	**Avalon Structural** Aptos, CA (831)479-4389 info@avalonstructural.com	Foundation Underpinning Vertical Crack Repair Horizontal Crack Repair Drainage systems New Foundations Seismic retrofits Sump pumps	Most of the Bay Area
FD2	**DoBel Construction Inc** San Carlos, CA (650)593-4600 https://www.dobelconstruction.com/	All Drainage (also have cameras to scope lines) Crack Repair Seismic retrofitts Hardscape Underpinning (drilled concrete piers) Sump pumps	Peninsula focus but can travel
FD3	**East Bay Retrofit Construction** Richmond, CA (510) 253-8628 https:// www.eastbayretrofitconstruction.com/	Foundation Replacement Foundation Underpinning Drainage systems Seismic retrofits	Northern & Eastern Bay Area
FD4	**Foundation Solutions/RamJack** Santa Clara, CA (408) 297-0123 https://foundationsolutions.com/	Foundation Stabilization (RAM Jack tech.) & Lifting Vertical & Horizontal Crack Repair Under house adjustments	Most of the Bay Area
FD5	**Foundation Technologies** Woodside, CA (650) 851-3697 Bruce Matheson, P.E. bruce@fticonstruction.com	Large foundation replacements Large horizontal crack repairs Larger drainage projects Lifting Drilled Piers	Mostly the Peninsula
FD6	**Foundation Strategies** San Jose, CA (408) 539-1850 https://www.foundationstrategiesinc.com/	Underpinning Crack Repair Hardscape Drainage systems Seismic retrofits Sump pumps	Morgan Hill/Gilroy, South Bay, Peninsula
FD7	**GCD, Inc.** Los Gatos, CA Jason Drew (952) 426-8807 jason.drew@mogotanifast.com	Crack Repair (horizontal & vertical) Drainage systems Sump pumps	Most of the Bay Area
FD8	**Gil Construction & Associates** Daly City, CA (650) 992-7800 mary@gilconstruction.com http://gilconstruction.yolasite.com	New Foundations Foundation Alteration Concrete Flatwork Retaining Walls Interior Remodels Seismic Retrofit	Upper Peninsula (SF & San Mateo Counties)
FD9	**Golden Bay Foundation Builders** 925-812-5612 Info@goldenbayfoundationbuilders.com	Helical Piers - Underpinning Crawlspace reinforcement and support Earthquake Retrofit, Foundation replacement	Most of the Bay Area
FD10	**Golden State Seismic and Structural** Antioch, CA (510) 706-9170 http://www.gs3inc.net/	Foundation Repair and Replacement Seismic Retrofits, Drainage Systems, Retaining Walls, Framing	SF Bay Area, East Bay

Note: these are local contractors that we have come across, they are not specific recommendations or referrals, this information is provided as a courtesy only, you should perform your own thorough research and due diligence for all contractors and we'd recommend at least 3 quotes for all sizable projects.

Attachment 7 - Bay Area Resources

(listed in alphabetical order)

FOUNDATION & DRAINAGE CONTRACTORS (CONTINUED)

	Company Name	Services and Specialties	Coverage
FD11	**Hinkson Construction Inc.** Concord Ca. (925)497-8311 Hinksonconstruction@gmail.com	Specializing in all aspects of foundation repair Underpinning (Drilled Concrete Piers). Various crack repairs, Drainage systems Seismic retrofits, Foundation replacement New foundations for additions, Cosmetic re-levels	East Bay Oakland, Orinda, Walnut Creek, Concord, Martinez, Danville, Pleasanton
FD12	**Jim Gardner Construction** https://jimgardnerconstruction.com/ jim@JimGardnerConstruction.com (510) 655-3409 Oakland, CA	Foundation Replacement and Repair, Drainage Systems, Basement Digouts, Stairs & Porches, Driveways & Driveway Bridges, Garages	Alamo, Alameda, Albany, Berkeley, Concord, Danville, Emeryville, Kensington, Lafayette, Oakland, Orinda, Piedmont, Pleasant Hill, San Leandro
FD13	**Larrabee & Associates, Inc.** San Jose, CA (408) 460-7630 Walt Larrabee team@larrabeeandassociates.com	New foundations/partial replacements only Crack Repair Drainage systems Seismic retrofits (anchors only, no sheer walls) Sump pumps Horizontal Crack Repair	Redwood City to Gilroy
FD14	**McNulty Construction** San Francisco, CA (415) 420-2267 mick@mcnultyconstructionsf.com https://mcnultyconstructionsf.com	Foundation Repairs Concrete Work Retaining Walls Soft Story Retrofit Structural Construction	San Francisco
FD15	**Peace of Mind Structural** San Mateo, CA (650) 343-3133 caroline@peaceofmindstructural.com http://www.earthquakefoundation.com/	Seismic Retrofits Vertical Crack Repair Horizontal Crack Repair Hardscape Foundation replacement	Mostly Peninsula
FD16	**Perma Level & Valentine Corporation** (415) 453-3732 Ext. 14 https://www.permalevel.com/	Foundation Underpinning/Stabilization/Lifting	Most of the Bay Area
FD17	**RSL Structural** San Bruno, CA (530) 551-7660 rslstructural@gmail.com http://www.rslearthquakebrace.com	Foundation Repairs Drainage Systems Crawlspace Upgrades Seismic Retrofit	Most of the Bay Area
FD18	**Soil Engineering Construction, Inc.** Redwood City, CA (650) 367-9595 https:// www.soilengineeringconstruction.com/	Geotech Underpinning Landslide Repair/Slope Stabilization Retaining Walls	All of CA - has office in Redwood City, site in Santa Cruz, office in San Diego
FD19	**Solares House Movers** Antioch, CA (925) 777 9053 https://www.solareshousemovers.com/	Home raising Shoring Leveling	Full Bay Area
FD20	**Soil Technologies** San Jose, CA (408) 499-2628 Rick Colindres, Owner	Underpinning & Leveling, Foundation Repairs Retaining Wall Systems, Landslide & Settlement Repairs, Drainage Installation & Repairs, Floor Level Surveys Test Pits for Soil Analysis, Seismic Retrofits	All Bay Area, down to Carmel and up to Santa Rosa, East Bay

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Attachment 7 - Bay Area Resources

(listed in alphabetical order)

FOUNDATION & DRAINAGE CONTRACTORS (CONTINUED)

	Company Name	Services and Specialties	Coverage
FD21	**Terra Firma** Oakland, CA (415) 672-5094 Oscar, Owner terrafirmastructural@gmail.com https://terrafirmastructural.com/	Seismic Retrofits Crack Repair Hardscape Partial & Full Foundation replacement Horizontal Crack Repair	East Bay
FD22	**Underpinning Specialists** San Jose, CA (408) 396-9377 mlopez@underpinninginc.com https://underpinninginc.com/	Foundation Stabilization & Lifting via Hand-dug Underpinning Reinforced Concrete Piers Vertical crack repair Concrete slabs Foundation Replacement Drainage systems	San Jose to SF & East Bay
FD23	**Vini Joy and Uni-Struct** 415-699-3100 vinijoy@comcast.net https://www.uni-struct.com/	Foundation Replacement Horizontal Crack Repair Underpinning - drilled piers Retaining walls Drainage Patching cracks Hardscape and Landscape grading Any General Contractor work as well	South SF to San Jose

GROUTING & GROUND MODIFICATION CONTRACTORS

	Company Name	Services and Specialties	Coverage
GG1	**GeoGrout** San Francisco, CA (415) 285-2400 inquiries@gggms.com https://www.gggms.com	All Grouting Types	Full Bay Area
GG2	**The Pressure Grout Company** Hayward, CA (510) 887-2275 pgc@pressuregrout.com https://www.pressuregrout.com/index.html	Chemical Grouting Compaction Grouting Lense Grouting Pressure Grouting Grout Injected Micropiles	Full Bay Area

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(listed in alphabetical order)

SEISMIC RETROFIT CONTRACTORS

	Company Name	Services and Specialties	Coverage
SR1	**Bay Area Retrofit** Albany, CA (510) 548-1111 info@bayarearetrofit.com http://bayarearetrofit.com	Seismic retrofits	SF Bay Area
SR2	**DoBel Construction Inc** San Carlos, CA (650)593-4600 Bob Dobel, Owner/President info@dobelconstruction.com	All Drainage (also have cameras to scope lines) Crack Repair Seismic retrofitts Hardscape Underpinning (drilled concrete piers) Sump pumps	Peninsula focus but can travel
SR3	**Golden State Seismic and Structural** Antioch, CA (510) 706-9170 http://www.gs3inc.net/#intro	Foundation Repair and Replacement Seismic Retrofits Drainage Systems Retaining Walls Framing	SF Bay Area, East Bay
SR4	**Peace of Mind Structural** San Mateo, CA (650) 343-3133 caroline@peaceofmindstructural.com http://www.earthquakefoundation.com/	Seismic Retrofits Patching cracks Hardscape Landscape grading Lifting	Peninsula
SR5	**Quake Busters** Oakland, CA (510) 763-6933 info@qbusters.com https://qbusters.com/	Seismic Retrofits	East Bay
SR6	**Soil Technologies** San Jose, CA (408) 499-2628 Rick Colindres, Owner	Underpinning & Leveling Foundation Repairs Retaining Wall Systems Landslide & Settlement Repairs Drainage Installation & Repairs Floor Level Surveys Test Pits for Soil Analysis Seismic Retrofits	All Bay Area, down to Carmel and up to Santa Rosa, East Bay

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(listed in alphabetical order)

RETAINING WALL CONTRACTORS

	Company Name	Specialties	Coverage
RW1	**Golden State Seismic and Structural** Antioch, CA (510) 706-9170 http://www.gs3inc.net/#intro	Foundation Repair and Replacement Seismic Retrofits Drainage Systems Retaining Walls Framing	SF Bay Area, East Bay
RW2	**Ideal landscape & Concrete, Inc.** Burlingame, CA (650) 347-4222 info@ideallandscape.org https://www.ideallandscape.org/	All landscaping and hardscaping projects	South City Pacifica to Sunnyvale/ Campbell
RW3	**Loerke Cresci** San Carlos, CA (650) 593-2196 https://www.loerke-cresci.com/	Foundation/Basement/Retaining Wall Drainage Landcape/Hardscape Masonry Thermal and Moisture Protection Drywall Lath and Plaster Fireplaces Flooring	Peninsula
RW4	**R. Issakhani** San Jose, CA (408) 892-2453 info@rissakhani.com https://rissakhani.com	Retaining Walls Concrete Flatwork Drainage Systems Landscaping Solar Systems Generator Installations	Santa Clara San Mateo Alameda
RW5	**Soil Engineering Construction, Inc.** Redwood City, CA (650) 367-9595 https://www.soilengineeringconstruction.com/	Geotech Underpinning Landslide Repair/Slope Stabilization Retaining Walls Drilled Caissons/Piers/Tiebacks	All of CA - has office in Redwood City, site in Santa Cruz, office in San Diego
RW6	**Soil Technologies** San Jose, CA (408) 499-2628 Rick Colindres, Owner	Underpinning & Leveling, Foundation Repairs, Retaining Wall Systems, Landslide & Settlement Repairs, Drainage Installation & Repairs, Floor Level Surveys, Test Pits for Soil Analysis	All Bay Area, down to Carmel and up to Santa Rosa, East Bay
RW7	**Octagon Pavers and Outdoor Living** Palo Alto, CA (650) 440-9568 https://octagonpavers.com/	Pavers Hardscape Landscaping Retaining Walls	South Bay, Peninsula, Half Moon Bay, Pacifica, SF, South SF

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(listed in alphabetical order)

GENERAL CONTRACTORS

	Company Name	Specialties	Coverage
GC1	**ASL Remodeling** Los Gatos, CA (669) 649-4120 https://aslremodeling.com/	General Contracting Bathroom Kitchen Addition Remodel	South Bay and Peninsula
GC2	**de Jong Construction** Petaluma, CA (415) 747-7023 mdejong1112@gmail.com www.dejongconstruction.com	Foundation Replacement Structural Rennovations	San Francisco Marin Sonoma Napa
GC3	**Lemon Remodeling and Services** San Jose, CA (408) 883-0191 https://lemonremodeling.com/	General Contracting Kitchen remodel Bathroom remodel Home remodel Electrical services Virtual consults Painting Room additions	South Bay and Peninsula
GC4	**Matthew Kelly Construction** San Francisco, CA (415) 881-0904 https://matthewkellyconstruction.com/	ADUs Home Additions Home Remodels	Bay Area
GC5	**NCLS Building Contractor Inc** South SF, CA (650) 808-7619 https://www.yelp.com/biz/ncls-building-contractor-inc-south-san-francisco	General Contracting Bathroom Remodel Residential Services Carpentry Home Remodel Kitchen Remodel Decks and Railings Room Additions	SF Bay Area, South Bay, East Bay
GC6	**The Concrete Kid** San Francisco, CA (415) 305-9227 todd@concretekid.com https://concretekid.com	Structural Concrete Sidewalks Decorative Concrete Concrete Polishing Custom Concrete	Full Bay Area
GC7	**Tinka Construction** Berkeley, CA (510) 695-4119 https://www.tinka-construction.com/	General Contracting Kitchen Bathroom Additions Flooring Decking Design and Planning Electrical	East Bay

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(listed in alphabetical order)

CRAWLSPACE CLEANING, VAPOR BARRIERS, SUMP PUMPS CONTRACTORS

	Company Name	Specialties	Coverage
CR1	**Bay Area Moisture Control** (415) 884 0500 https://bayareamoisturecontrol.com/	Vapor Barrier, Crawlspace Liner, Sump Pump, Interior and Perimeter Drainage Systems, Mold & Dry Rot	Full Bay Area
CR2	**Clean CrawlSpace Inc.** 1-866-379-2729 https://www.cleancrawlspace.com/	Moisture, Mold, Sump Pumps	Greater SF Area, San Jose, Oakland, Fremont
CR3	**E Mora Construction: The Crawlspace Specialists** Dublin, CA (925) 526-0632 crawlspace.emora@gmail.com www.emoraconstruction.com	Vapor barriers Sump pump install Moisture removal	East Bay, South Bay, Peninsula, Marin

PLUMBERS

	Company Name	Specialties	Coverage
P1	**Advanced Plumbing & Drain** San Francisco, CA (415) 749 9144 https://advancedplumbingsf.com/	Sewer & Drain Repair Water Heaters Emergency Services	San Francisco and San Mateo Counties
P2	**Lucky Rooter and Plumbing** San Jose, CA (408) 813-5613 https://luckyplumbing102.wixsite.com/luckyplumbing	All plumbing work Pipe repair Hydrojetting Water heater install and repair	South Bay and surrounding areas
P3	**San Mateo Handyman** San Mateo, CA (650) 200-6079 ravertynorman@gmail.com https://sanmateo-handyman.com/	All handyman work and plumbing	San Mateo County and surrounding areas
P4	**T-Kor Plumbing** Redwood City, CA (650) 743-5363	All plumbing work Scoping pipes	Redwood City and surrounding areas
P5	**Wizard Plumbing and Drain** San Mateo, CA (650) 843-9911 www.wizardplumbinganddrain.com	All plumbing work Sump pumps	San Mateo and surrounding areas

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ARBORISTS

	Company Name	Specialties	Coverage
A1	**Aesculus Arboricultural Consulting** (408) 675-1729 https://aacarbor.com/	Consulting arborist	Full Bay Area
A2	**Bartlett Tree Experts** (415) 206 0790 https://www.bartlett.com/	Cable & Bracing, Fertilization, Insect & Disease, Plant Diagnostics, Pruning, Tree Removal	Full Bay Area
A3	**Ellyn Shea** San Francisco, CA (415) 846-0190 ellyn.shea@sbcglobal.net www.garden-guidance.com/arborism	Consulting arborist and horticulturalist Plant healthcare (Can refer to proper contractors if work is needed)	SF Bay Area
A4	**Precision Tree Care** Pacifica, CA (650) 355-1277 precisiontreecare@yahoo.com https://precisiontreecareinc.com/	Fire Prevention Stump Grinding/Removal Brush Clearance Removal of Challenging Trees View Clearing	Pacifica, Half Moon Bay, Montara, most of Peninsula up to South SF
A5	**Urban Tree Management** Los Gatos, CA info@urbantreemanagement.com https://www.urbantreemanagement.com/	Tree pruning Tree root excavation Tree cabling/support	South Bay to Marin

LANDSCAPING COMPANIES

	Company Name	Specialties	Coverage
LC1	**Black Diamond Paver Stones and Landscaping** (408) 877-5763 customercare@blackdiamondlandscape.com blackdiamondlandscape.com	Hardscape Pavers Retaining Walls Landscape regrading Pool deck Patio/deck Driveway construction	Full Bay Area Has locations in San Jose, San Mateo, Novato, Santa Cruz, San Ramon, Monterey
LC2	**Ideal landscape & Concrete, Inc.** Burlingame, CA (650) 347-4222 info@ideallandscape.org https://www.ideallandscape.org/	All landscaping and hardscaping projects	South City Pacifica to Sunnyvale/Campbell
LC3	**Machtinger Landscaping** Menlo Park, CA (415) 794-6122 machtingerlandscaping@gmail.com http://machtingerlandscaping.com/	Landcape design and construction Hardscapes Drainage (French drains, swales, subsurface drainage)	Peninsula
LC4	**Stones Landscaping Inc** San Jose, CA (408) 204-8414 stoneslandscapinginc@gmail.com https://stoneslandscapinginc.com/	Pavers Concrete driveways and patios Retaining walls Fences and gates Landscape and maintenance	SF Bay Area

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(listed in alphabetical order)

HANDYMEN

	Company Name	Specialties	Coverage
H1	**Barcadon Construction and Remodeling** Los Gatos, Pleasant Hill, San Francisco (650) 334-8300 https://barcadon.com/	All general handyman work	Full Bay Area
H2	**Flores Handyman** Redwood City, CA (650) 274-6133 floressolution@gmail.com http://floreshandyman.net/	Remodeling Tile repair Plumbing Hardwood repair Drywall Deck repair	Peninsula
H3	**Mazariegos Builder** San Pablo, CA (415) 412-7944 mazariegosbuilder@gmail.com https://mazariegosbuilder.squarespace.com/	All handyman work: Maintenance Repair Decks and Fencing Remodels Gutters Masonry Plumbing Drywall	SF, East Bay
H4	**Residential Repair and Maintenance** San Jose, CA (408) 332-9473	All indoor handyman work (nothing in crawlspace)	South Bay
H5	**San Mateo Handyman** San Mateo, CA (650) 200-6079 https://sanmateo-handyman.com/ ravertynorman@gmail.com	All handyman work and plumbing	San Mateo County and surrounding areas

DRYWALL CONTRACTORS

	Company Name	Specialties	Coverage
DW1	**Barcadon Construction and Remodeling** Los Gatos, Pleasant Hill, San Francisco (650) 334-8300 https://barcadon.com/	All handyman work Drywall	Branches in SF, Pleasant Hill, and Los Gatos
DW2	**Hole in the Wall** San Jose, CA (408) 978-4653	Drywall patching Sheetrock and texture	SJ, Cupertino, Mountain View (mostly South Bay)
DW3	**Mazariegos Builder** San Pablo, CA (415) 412-7944 mazariegosbuilder@gmail.com https://mazariegosbuilder.squarespace.com/	Drywall & various handyman	SF, East Bay

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(listed in alphabetical order)

STRUCTURAL ENGINEERS

	Company Name	Specialties	Coverage
SE1	**4x Engineering Inc** San Jose, CA (408) 642-5464 https://www.4xengineering.com/	Existing structure seismic/retrofit upgrade Retaining walls Foundation seismic retrofit Legalizing existing non-compliant structures	San Jose to SF, Napa, Monterey
SE2	**ECR Engineering** San Francisco, CA (415) 205 3804 https://ecrengineering.com/	Additions Soft Story Retrofit Basement Conversion Deck/Story Additions	San Francisco and surrounding area
SE3	**Hohbach-Lewin** Palo Alto, CA (650) 617-5930 San Francisco, CA (415) 318-8520 https://www.hohbach-lewin.com/contact-us/	Structural design Seismic design Civil engineering design and surveying	Peninsula to South Bay
SE4	**Morris Shaffer Engineering, LLP** San Carlos, CA (650) 595-2973 x110 Kerry MacDonald, P.E., S.E. kerry@morris-shaffer.com www.morris-shaffer.com	New Construction Additions & Remodels Retaining Walls Landslide Repairs Soft-Story Retrofits Settlement & Foundation Repairs	Full Bay Area
SE5	**Nova Structures** Berkeley, CA 925-289-9370 https://novastructuresgroup.com/	Structural Design & Drawings Renovations, ADU's, Home Additions Seismic Retrofit Designs Load Bearing Wall Removal Retaining Walls, Swimming Pools, Foundation Design	Focus area is SF, East Bay and some South Bay but will consider jobs in other parts of the Bay Area & Greater LA
SE6	**Optimal Design Group** San Francisco, CA (415) 441-0809 http://www.optimaldesigngroup.com/	Structural design Architectural design Helical Pier foundation design	Full Bay Area
SE7	**ProStruct Engineering** https://prostructengineering.com/ 844-750-0773	New Build, Retaining Walls, ADU's, Home Addition/Remodel, Load Bearing Wall Removal, Decks, Foundation Design	Full Bay Area
SE8	**Quilici Engineering, Inc.** Campbell, CA 408 583 0323 http://www.qengineers.com/about.html	General Structural & Civil Engineering Forensic Engineering Residential & Commercial	Full Bay Area
SE9	**Silicon Valley Civil & Structural Engineers** Campbell, CA 408 583 0323 Extension #2 Mike Koontz, P.E. (Owner / President) MKoontz@SVCSE.com http://www.svcse.com/	General Structural & Civil Engineering (Residential) Pools, New Construction Additions, Forensic Engineering, Grading & Drainage Plans	Full Bay Area
SE10	**Universal Structural Engineers** San Mateo, CA (650) 312-9233 universalstructuralengineers.com	Building design Seismic retrofits	Lower Peninsula and SJ, Some East Bay and down to Gilroy
SE11	**Zenith Engineers** Hayward, CA (415) 619-6000 https://zenithengineers.com/	Seismic retrofits Structural design Retaining wall design	Full Bay Area

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SOIL/GEOTECH ENGINEERS

	Company Name	Specialties	Coverage
GE1	**AC ENGINEERING INC.** Orion Agnew, PE San Rafael, CA https://www.agnewcivil.com/ (415) 295-2152 orion@agnewcivil.com	Soil Reports, Grading Plans, Drainage Plans, Retaining Structures, Septic System Design & Inspection	North Bay
GE2	**BEAR ENGINEERING GROUP** Mark Schroeder https://bearengineeringgroup.com/ bearengineeringgroup@yahoo.com	Specializes in geotechnical engineering, geological services and material testing	Bay Area
GE3	**C2Earth** Campbell & Capitola c2@c2earth.com www.c2earth.com	Soil Reports, Fault Rupture, Rockfall, Coastal Issues, Debris Flow, Landslides, On-SIte Consultations, Real Estate Purchases, Expert Witness	Bay Area
GE4	**Michelucci & Associates** Burlingame, CA (650) 692-0163 info@michelucci.com https://michelucci.com/	Soils report Geologic mapping Retaining wall design criteria Slope stability/landslide studies	San Francisco Bay Area, Sonoma County and North State
GE5	**Murray Engineers** San Rafael, CA (650) 559-9980 https://www.murrayengineers.com/	Soils reports Retaining wall recommendations Surface/Subsurface drainage design Liquefaction/Slope stability seismic hazard analysis Pavement design and repair	Focus area is North Bay
GE6	**Romig Engineers** San Carlos, CA (650) 591-5224 romigengineers.com	Residential Soils report Slope stability analysis Tieback and earth anchors Foundation engineering	Focus area is from S.F. down to San Jose, some jobs further south, minimal East Bay
GE7	**Sigma Prime Geosciences Inc** Half Moon Bay, CA (650) 728-3590 info@sigmaprime.net	Soils reports Slope stability Liquefaction analysis Surveying	Coastal Area Focus SF Bay Area

Attachment 8 - Contractor Selection Advice

1. Get Multiple Estimates

Talk to several contractors and get written estimates from at least three. Make sure you're comparing apples to apples when you get multiple estimates. Look at building materials, work methods, timelines and other factors that may vary by contractor. Be cautious of estimates that are too high or too low.

2. Hire Local, Licensed Contractors Whenever Possible

Local contractors are easier to contact if problems develop with the work in the future, and they are more likely to be familiar with building codes in your area. Ask the contractor for their local, physical address. Be suspicious of anyone who goes door-to-door or refuses to leave a contract overnight.

3. Check Their Past Work

How has their worked turned out in the past? Do they specialize in the kind of work you want done? Check references about the quality of their products, their workmanship and their customer service. Inquire about their professional reputation and years in business with the Better Business Bureau. A contractor with more than five years of experience is preferable.

4. Take Your Time Making a Decision

Get multiple bids before making a decision. Don't be pressured into making an immediate decision, particularly with regard to signing a contract. Be cautious when asked to pay a large deposit up front. Make sure to read the fine print on all estimates and contracts. If you're having emergency repairs done and don't have time to thoroughly research a contractor, ask neighbors, family or friends to see if they have had a good experience with an emergency services contractor.

5. Check Insurance and Bonding

Make sure the contractor is properly insured and bonded. Ask the contractor for a certificate of insurance (COI), which should provide the name of the insurance company, policy number and policy limits the contractor carries. You can contact the insurance company directly to verify the coverage and make sure the policy is still in effect. Do not do business with a contractor who does not carry the appropriate insurance coverage. If the contractor is not insured, you may be liable for accidents that occur on your property.

6. Get Everything in Writing

Secure a comprehensive contract before work begins. Get everything in writing, and make sure the contract is clear and well written. Consider having a lawyer review the proposed contract for your protection before you sign it if the project involves substantial costs. The contract should include:

- A detailed description of the work to be completed and the price of each item.
- A payment schedule – for example: one-half down and one-third when work is partially completed, and the balance due upon completion
- The estimated start date and completion date on larger projects.
- Any applicable guarantees, which should be written into the contract and clearly state what is guaranteed, who is responsible for the guarantee, and how long the guarantee is valid.
- Changes to the contract should be acknowledged by all parties in writing.

7. Understand Your Right to Cancel

Federal law may require a "cooling off" period, in which you can cancel the contract without penalty. Check with the Federal Trade Commission and the laws of your state to understand your rights. Be sure to follow applicable rules during the cooling off period. If you do cancel, consider sending the notice of cancellation by registered mail to ensure you have proof of the cancellation.

8. Don't Pay Up-Front In Full

Don't pay for the entire project before it is completed. Make sure you make checks payable to a company, not an individual, and do not pay in cash. For larger projects, it is standard practice to pay one-third of the estimated costs as an initial payment. That way, you can retain your cashed check as a receipt.

9. Anticipate Delays

Delays happen, and may not be the fault of your contractor. In spite of the timeline outlined in your contract, circumstances such as weather may prevent the work from remaining on schedule. Be realistic and prepare to adjust your plans accordingly.

10. Keep a Job File

Keep your contract and all the supporting documents in one folder. Your file should also contain any change orders, plans and specifications, bills and invoices, canceled checks, and certificates of insurance and any letters, notes, or correspondence with the contractor.

Attachment 9 - Possible causes of foundation movement

Low Bearing Capacity Soils Some soils are not capable of supporting the weight or bearing pressure exerted by a building's foundation.	▬
Poor Fill Compaction In some cases lots are created by adding soils brought in from off-site locations or cutting one area of the hillside and filling another to create a more level lot and when fill soils are not adequately compacted, they can compress under a foundation load.	▬
Excessive Moisture Content Excess moisture can saturate foundation soils, which often leads to softening or weakening of clays and silts. The reduced ability of the soil to support the load results in foundation movement and/or cracking. The moisture is often a consequence of poor surface drainage around the structure, leaks in water lines or plumbing, or a raised groundwater table.	▬
Expansive Soils Expansive soils will swell when wet and contract when dry.	▬
Lateral Sliding/Soil Creep Soil creep is caused by slow downward movement of expansive soils under the influence of gravity and the effect of moisture changes. The depth to which this occurs varies depends on moisture amounts and soil types but can often times extend down below the depth of most shallow foundations. (Note: slow moving landslides can fall into this category)	✗
Insufficient Footers Sometimes footers are either nonexistent, designed too small for the current loads or not built to the design at the time and hence have inadequate bearing capacity.	✗
Soil Consolidation Consolidation occurs when the weight of a structure or newly-placed fill soils compress lower, weak clay based soils. Consolidation results in downward movement or settlement of overlying structures. Settlement caused by consolidation of foundation soils may take weeks, months, or years to be considered "complete."	✓
Soil Compaction Vibration from heavy equipment or vehicular traffic.	✗
Seismic Activity Vibration from seismic activity.	✗
Impact from Trees As trees mature, their demand for water also grows and the root systems continually expand and can draw moisture from the soil beneath the foundation. Clay-rich soils shrink as they lose moisture, resulting in settlement of overlying structures. Foundations closer to the surface are more often affected by soil dehydration due to tree roots than are deep, basement level foundations.	✗
Soil Erosion Most likely causes include poor surface drainage, faulty drains, leaking water mains or other underground water movements.	✗
Apparent Settlement Due to Construction or Sagging Wood This is where the area in question was built with a slope to it, greater than normal such that it looks as if it has settled when in fact it may not have moved or where the wood members have sagged (i.e old redwood)	✗

✗ Unlikely to be contributing based on data available at the time of the inspection

✓ Likely contributing based on data available at the time of the inspection

▬ Possibly contributing but further data, analysis (soils report) and/or history would be needed