

TOD HOUSE, 2564 HERON STREET OAK BAY - CONDITION SURVEY AND SPECIFICATION DRAWINGS

PREPARED FOR THE DISTRICT OF OAK BAY



"The John Tod House in Oak Bay", 1934, Ref. No. 19501-001 BC Archives

Project Description:

Conservation and Repair
Specification, Tod House,
2564 Heron Street, Oak
Bay

Project Contacts

Signe K. Bagh, MCIP
Director of Strategic Initiatives
250-598-3311 ext 7415
sbagh@oakbay.ca



Heritage Consultant - Heritageworks Ltd
Gord Macdonald, Ben Gourley
2237 Windsor Rd,
Victoria, BC V8S 4A1
Tel: 778-677-3196 or 3192
gord@heritageworks.ca
ben@heritageworks.ca

HERITAGEWORKS

Aug. 2020

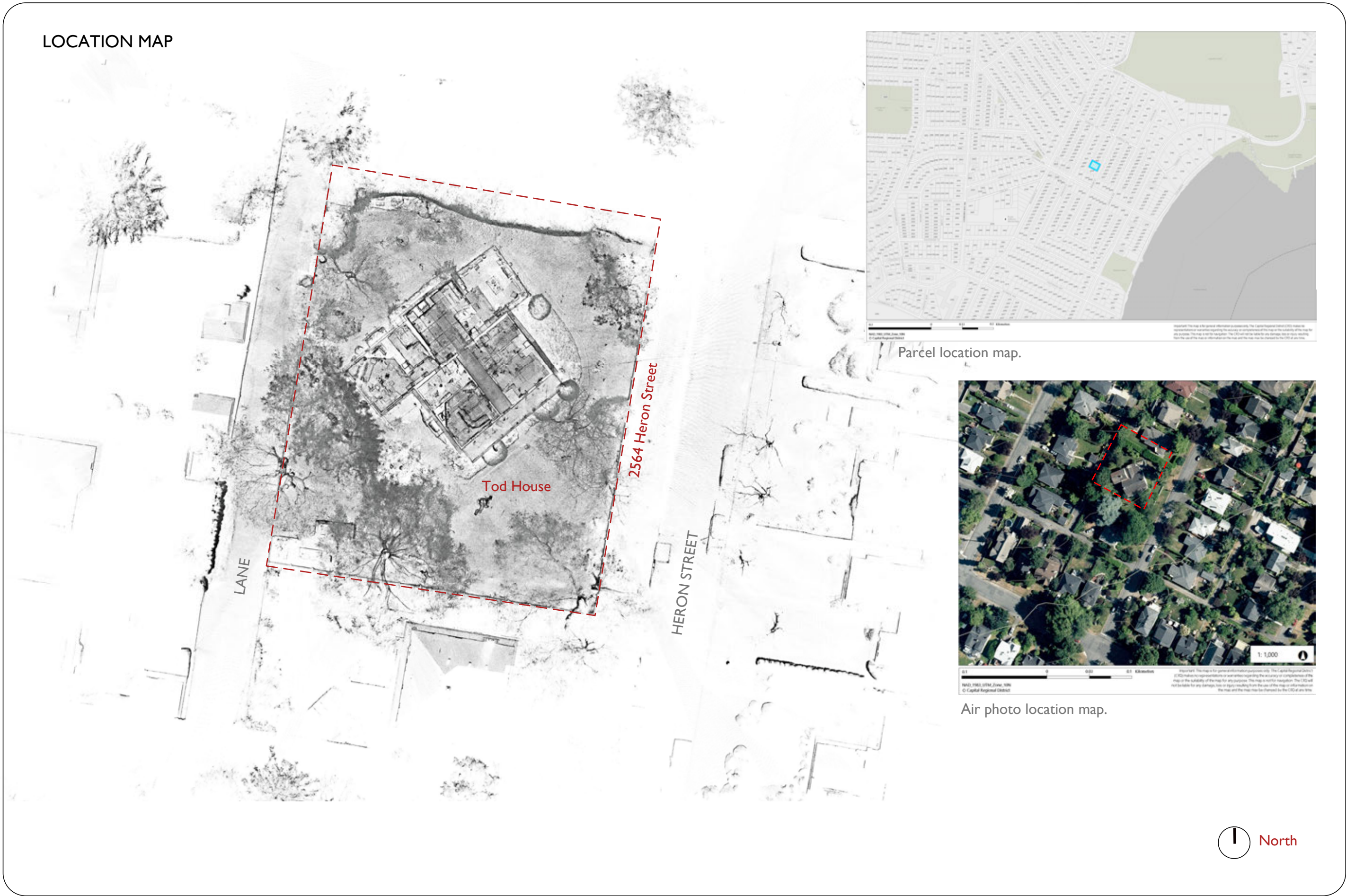
TOD HOUSE
2564 HERON STREET
OAK BAY

COVER

Scale: NTS

A0.0

LOCATION MAP



Parcel location map.

Air photo location map.



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TOD HOUSE
2564 HERRON STREET
OAK BAY

LOCATION MAP

Scale: NTS

A0.1

Conservation Philosophy:

Conservation of historic buildings must be responsive to the challenges of 'local distinctiveness' and to the broader tradition and context in which the buildings were constructed. Repair approaches and decisions should be rooted in this tradition, and in the material properties and building technologies of original construction.

Preservation of the construction skills and traditions (the retention of knowledge about traditional materials, tools and techniques) associated with the making of the building are to be regarded as being equally important to the preservation of the architectural object.

Repair Strategy:

The practical application of repairs to historic timber and masonry buildings is dependent upon the good judgement of skilled conservation carpenters and masons who must practice their craft within the context of many (often competing) objectives that may include:

- 1) Long-term planning and development objectives
- 2) Contract requirements
- 3) Aesthetics
- 4) Program restrictions
- 5) National and international conservation charters and policies
- 6) Cost
- 7) Environmental policies
- 8) Practicality of proposed repairs and/or specifications
- 9) Health and safety considerations
- 10) On-site conditions

For these reasons it is important that all stakeholders (typically including the owner, architect, and consultants) have a high degree of confidence in the craftspeople that are selected to perform the actual work. However, this in itself is not sufficient to ensure that 'best practices' will always be followed. There will inevitably remain a large degree of subjectivity in the worker's assessment of and response to the evolving situation.

Degrees of subjectivity - the conservation of historic buildings is a fluid process, where new and important information is often learned as part of the physical work. (e.g. the extent of rot and/or other changes such as historic building layout are often fully revealed only when repair work is well underway).

In simple terms, no individual can be sufficiently aware of all the competing objectives, or have all of the necessary skills to ensure that all stakeholders will be satisfied with each particular intervention. Good and frequent communication is essential to good conservation work.

All interventions must be prioritised as follows:

- Priority 1 - life safety (ensure the safety of workers, visitors, public, emergency responders, etc.)
- Priority 2 - safety of the building (minimize risks to the object)
- Priority 3 - safety of associated objects and site (minimize risks to the overall historic place)

Applicable Standards and Guidelines

- Parks Canada (2010), Standards and Guidelines for the Conservation of Historic Places in Canada
- Parks Canada (2016), Building Resilience: Practical Guidelines for the Sustainable Rehabilitation of Buildings in Canada
- ICOMOS (1964), International Charter for the Conservation and Restoration of Monuments and Sites (The Venice Charter)
- ICOMOS (1990), Charter for the Protection and Management of the Archaeological Heritage
- ICOMOS (2017), Principles for the Conservation of Wooden Built Heritage
- ICOMOS (1999), Charter on the Built Vernacular Heritage
- ICOMOS (1994), The Nara Document on Authenticity

Recommended References

- English Heritage (2013), Practical Building Conservation Series
- Larsen, K. and Marstein, N. (2000), Conservation of Historic Timber Structures
- Traditional Windows: Their Care, Repair and Upgrading (2017) Historic England

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TOD HOUSE
2564 HERON STREET
OAK BAY

GENERAL
SPECIFICATION

Scale: NTS

A0.2

General Carpentry and Construction Notes:

- 1) Each repair is unique and must be evaluated on that basis. However, groups of similar repairs must employ a consistent approach (joinery type, proportions, etc).
- 2) The maximum retention of historic surfaces, and evidence of construction is always the goal;
- 3) The minimum intervention necessary to achieve the repair is always preferred.
- 4) Repairs should match the original as best as possible. Tools used in construction should be the first-choice for those used in repair.
- 5) Mechanical repairs should be chosen by default in the first instance with chemical repairs reserved for situations where no other option is available.
- 6) Mechanical fasteners are preferred over adhesives.
- 7) Generally, chemical repairs should only be used at interior locations where the host wood is not subject to seasonal wetting.
- 8) Exposed fasteners should match originals when exposed.
- 9) Concealed fasteners should be stainless steel or galv.
- 10) Patches should be made from dry/stable wood that is free of major defects.
- 11) Wood species, grain, features and growth characteristics should match the host material as closely as possible with careful attention to matching traditional tool marks or 'witness marks'.
- 12) No machine-conversion marks should be visible on finished repairs.
- 13) Hewn or sawn wood surfaces should match the style of the original as closely as possible.
- 14) All interventions must be documented before, during, and after implementation.
- 15) Repairs should be broadly reversible or sacrificial to the historic fabric as the case may be.
- 16) Traditional methods of conversion, cutting and tooling will be used for the preparation of all new timbers used in repairs. Carpenter's tools should appropriately match those originally used.
- 17) All new materials will be permanently and discretely marked with the year of intervention to be distinguishable from historic material. The preferred method for marking new wood/timber is hand stamping onto end grain with letter and number punches.
- 18) Only non-treated timber shall be used. Natural durable wood species may be substituted for non-durable species as an alternative to preservatives where necessary.
- 19) Carpenters may use the '8ft rule' to determine when material should be hand-converted vs. machined, and when fasteners must be plugged-over as opposed to simply counter-sunk flush. This rough guideline is intended to focus the more labour-intensive and costly repairs at areas where visitors can get up close to the work.
- 20) No finishes, sealants or preservatives should be applied unless specified in the repair drawings.
- 21) No attempt shall be made to distress or prematurely 'age' the material in any way unless specified in the repair drawings.
- 22) Make any intervention physically and visually compatible with the historic place, and identifiable upon close inspection.
- 23) Every effort should be made to ensure that repairs do not permit the collection of moisture. Any repairs and abutments between new and old work shall be designed to minimize the chance of snow and ice accumulating in the joint and allow moisture to escape from the joint or abutment when the temperature rises above freezing.
- 24) Water resistant, cross-linking, polyvinyl acetate (pva) glues are acceptable for performing wood-to-wood carpentry repairs. Great care must be taken to ensure that these glues are set in a controlled environment such as the carpentry workshop if it is not practical to set glues in the workshop, then temporary shrouds should be erected around the work piece to ensure that the glues set and cure at an appropriate temperature. Electric heaters or heat guns are sometimes effective for warming the materials prior to and during glue-up. Generally, it is wise to support the jointing faces of glued repairs with some form of permanent mechanical connection such as a headless brad point nail, etc. The preferred brands of pva wood glue are Tighbond ii or Tighbond iii. Polyurethane glues may be used only when specified in the repair drawings.
- 25) Thermosetting polymer epoxy resins may be used for metal-to-wood connections, and to consolidate wood at failed connections such as 'stripped' metal screw holes etc.
- 26) When dismantling and reassembling wooden parts, surfaces must be protected from being scuffed by metal tools using wooden blocks or other means.
- 27) Wood wedges are typically the most effective way to pry apart historic joinery without damaging it.
- 28) Carpenters must take great care to keep track of building fabric that is dismantled as part of the repair process. White chalk may be used to temporarily mark wood components.
- 29) Taper-cut wooden plugs of appropriate wood species should be used to cover counter-sunk fasteners at exposed locations. Care should be taken to align the grain of the plugs to suit the host material, and plugs should be trimmed flush so that the grain does not break below the surface of the host material.
- 30) Conservators must ensure that all associated metals (including fasteners) are compatible. This specifically means preventing against galvanic corrosion of metals by consulting the relative tables of nobility of metals (anodic index) to ensure that associated parts are compatible for the specific circumstances of their location/environment.
- 31) Exterior metals should be no more than 0.15v difference on the anodic index.
- 32) Interior metals should be no more than 0.25v difference on the anodic index.
- 33) The most successful repairs are the ones that are completely invisible at first glance, and only reveal themselves upon careful inspection. A good repair will blend seamlessly with its surroundings: neither too carefully nor too crudely made that it is obvious. A successful repair will be made to last for 30-40 years, with minimal maintenance.
- 34) Structurally compromised areas of the building or structure are typically indicated as red in the drawings.
- 35) Structural joinery to be cut to a tolerance not to exceed +/- 1/8" of specified dimensions. Finish carpentry joints to be cut to a tolerance not to exceed +/- 1/16" of specified dimensions. Cabinetry and mill work joints to be cut to a tolerance not to exceed 1/32" of specified dimensions.
- 36) Drillings/bores in timber to be 2mm (1/16") larger than bolt/rod sizes UNO.
- 37) Temporary support and temporary and permanent bracing of load bearing and non-load bearing elements during construction to resist dead, live and construction loads is the responsibility of the contractor. Design of the temporary supports is the responsibility of the contractor and must be coordinated with the project engineers.
- 38) The design has been prepared on the assumption that the owner and/or the operator has a site safety plan in place to address and mitigate safety hazards, both common and specific to this project.
- 39) Wood framing to conform to NLGA Standard Grading Rules for Canadian Lumber and CSA086-09 Engineering Design in Wood (Limit States Design).
- 40) Wire nails, spikes and staples to CSA 19111-1974.
- 41) All construction not specifically labelled on these drawings to conform to Part 9 of the B.C.B.C 2018.
- 42) Acceptable timber-to-timber structural screws: ASSY, ROTHOBLOSS or GRK. Refer to details and specifications for exact size. Fully threaded screws to be installed such that 50% of screw is embedded in each member. Any substitutions to structural fasteners must be approved by the designers.
- 43) Wood that is used for repairs shall be selected from timbers of an appropriate species, dimension and section to match the original fabric as closely as possible. Timber characteristics as well as structural grades must be considered. These include:
 - a) Minimal sapwood
 - b) Medium to 'dense' annular ring count of 12 rings per inch
 - c) Minimum 30% summerwood content per annular ring
- 44) New timbers shall meet or exceed NLGA Select Structural grade.
- 45) Timbers shall be untreated. Unless noted otherwise in the drawings, timber should not have any pressure-treatment or brushed on preservative chemicals or any other coatings.

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2564 HERON STREET
OAK BAY

CARPENTRY
SPECIFICATION

Scale: NTS

A0.3

HERITAGEWORKS

Tod House Category 1 Repairs, Emergency Works	1.1	Replace Roofing <ul style="list-style-type: none"> Strip all exterior roofs to reveal/inspect the condition of underlying sarking boards. Do not remove any of the historic shakes visible within the attic. Repair the minimum amount of sarking necessary using materials that exactly match the historic fabric. Install new split cedar shakes to match the original roofing and exposure to the weather as existing in the attic above the Kitchen/Hall. Fire retardant should be considered but wood preservatives should not be used. Install new metal flashings throughout. Look for evidence of original flashings to determine the correct type. In areas of complex roof intersections (e.g., interior valleys) make such improvements to the flashings as necessary to improve the performance of the roof. Do not impede the breathability of the roof by inserting impermeable 'peel and stick' type membranes. Remove and dispose of all waste. 	High
	1.2	Repoint Chimneys <ul style="list-style-type: none"> Systematically inspect and repoint each of the chimneys with mortar that exactly matches the original. Replace any modern, cementitious mortars/repairs that are encountered, with compatible material. Remove all vegetation. Repair all cracks with mortar. Cap the chimneys with mortar to protect them. Install new metal flashings in reglets as necessary to enable roofing repairs. Replace and reinforce any dislocated bricks. Do not seal the bricks. 	High
	1.3	Repaint Exterior <ul style="list-style-type: none"> Prepare (by hand) all exterior surfaces for painting in accordance with original color scheme. Perform carpentry repairs as necessary at windows, siding and trims. Paint all exterior surfaces with KEIM mineral paints. Limewash exposed stone chimney using materials that match original. 	High
	1.4	Reinstate Rainwater/Down-water Goods <ul style="list-style-type: none"> Ensure all gutters, downspouts and rainwater leaders are free of debris and flowing freely. Check all gutter slopes. 	High
	1.5	Repair Exterior Porches & Patios <ul style="list-style-type: none"> Remove concrete patio north elevation (outside kitchen). Install new drainage and waterproofing. Re-grade to fall away from house, and lay patio area with porous landscaping pavers. 	High
	1.6	Repair/Replace Fencing <ul style="list-style-type: none"> Systematically inspect and repair all parts of the perimeter fence (including the gates). Match the existing configuration and design. Repaint the fence with white paint. 	Med
	1.7	Improve Landscaping <ul style="list-style-type: none"> Permanently remove all material/debris stored against the house. This will improve the durability and longevity of exterior siding and finishes. Cut back all vegetation from eaves, roofs, and gutters. This will improve drainage and prevent gutters from overflowing. 	Med

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SCHEDULE OF REPAIRS

Scale: NTS

A0.4

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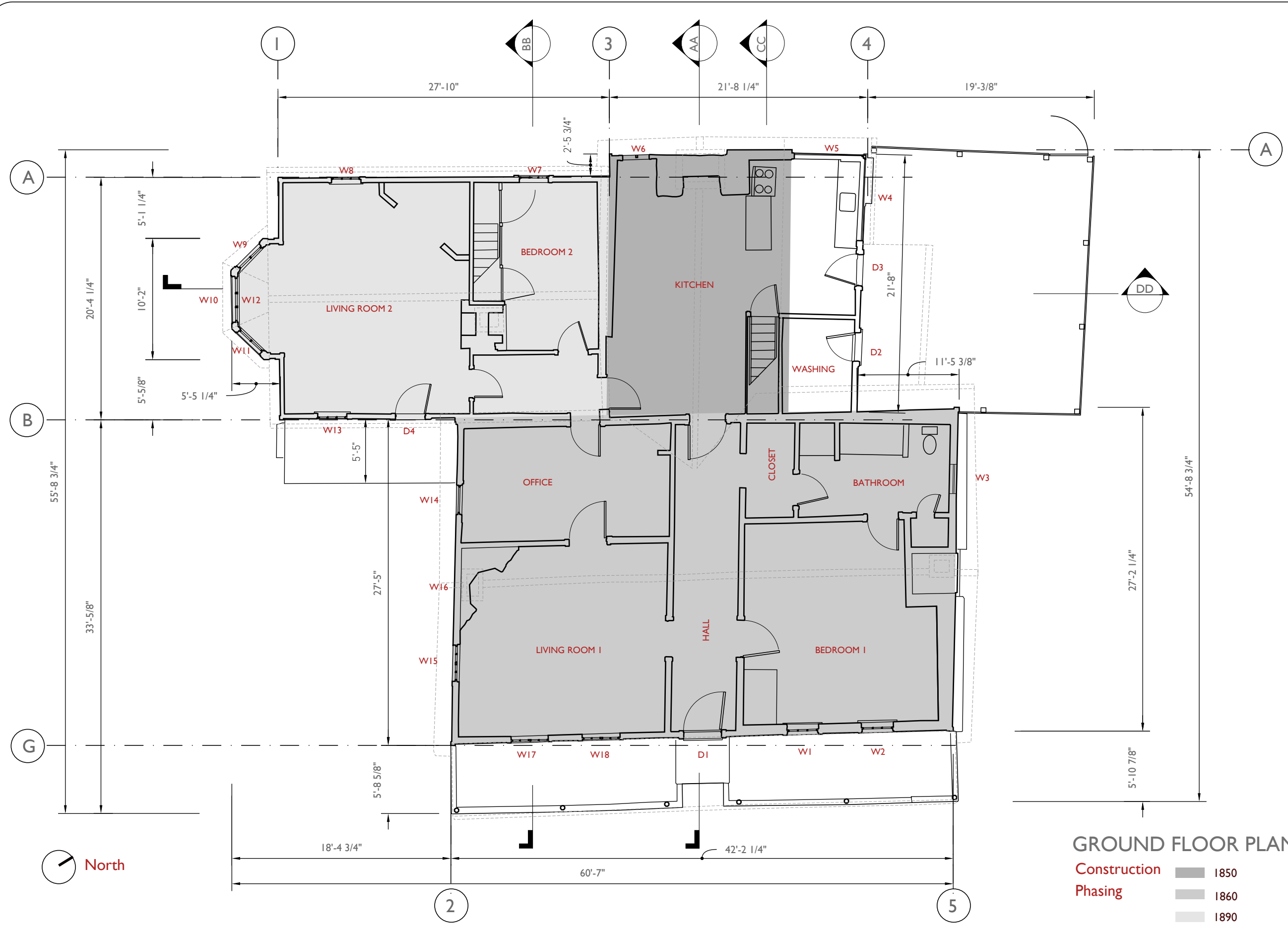
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PHASING
FLOOR PLAN

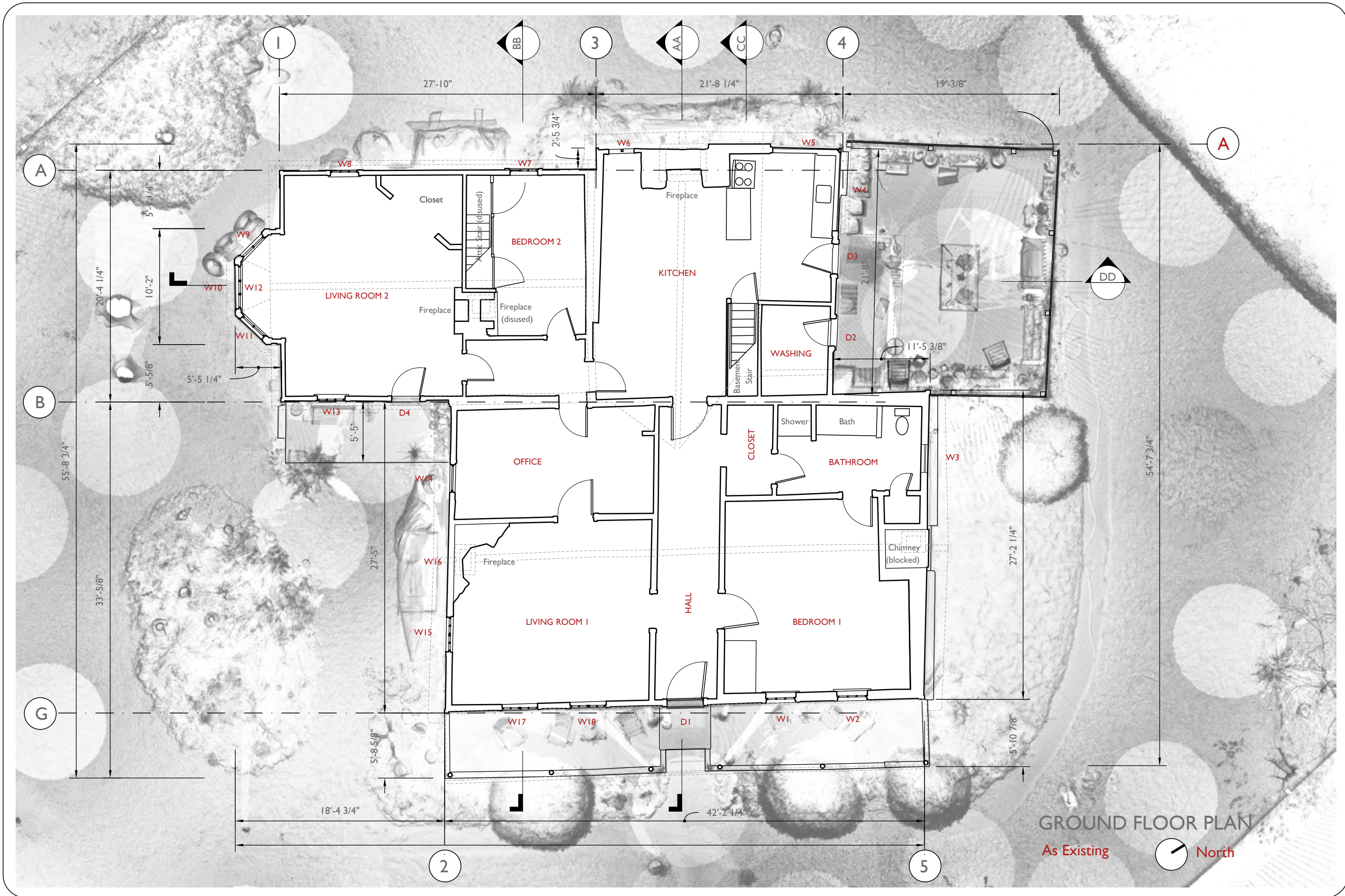
Scale: 1/8" = 1'

A1.0



GROUND FLOOR PLAN

Construction	■	1850
Phasing	■	1860
	■	1890



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FLOOR PLAN
WITH CONTEXT

Scale: 1/8" = 1'

AI.1



BASEMENT FLOOR PLAN

As Existing



North

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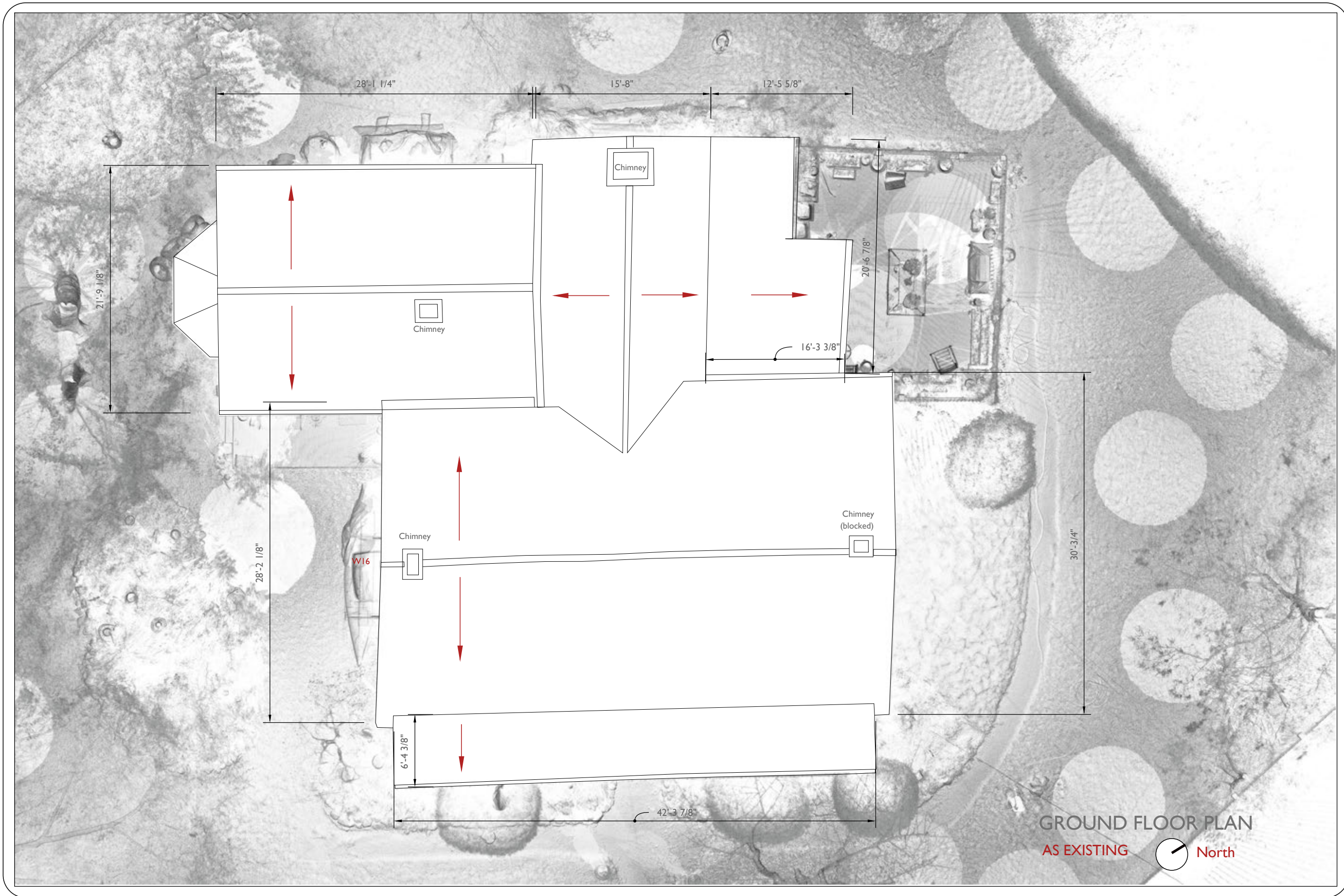
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BASEMENT
FLOOR PLAN

Scale: 1/8" = 1'

A1.2



GROUND FLOOR PLAN
 AS EXISTING



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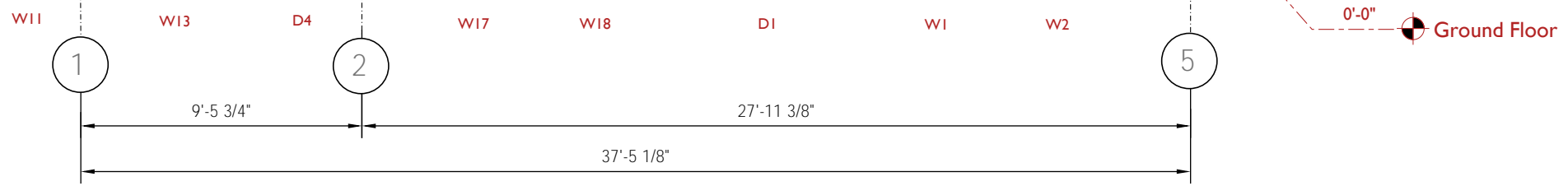
ROOF PLAN

Scale: 1/8" = 1'

A1.3



SOUTH ELEVATION



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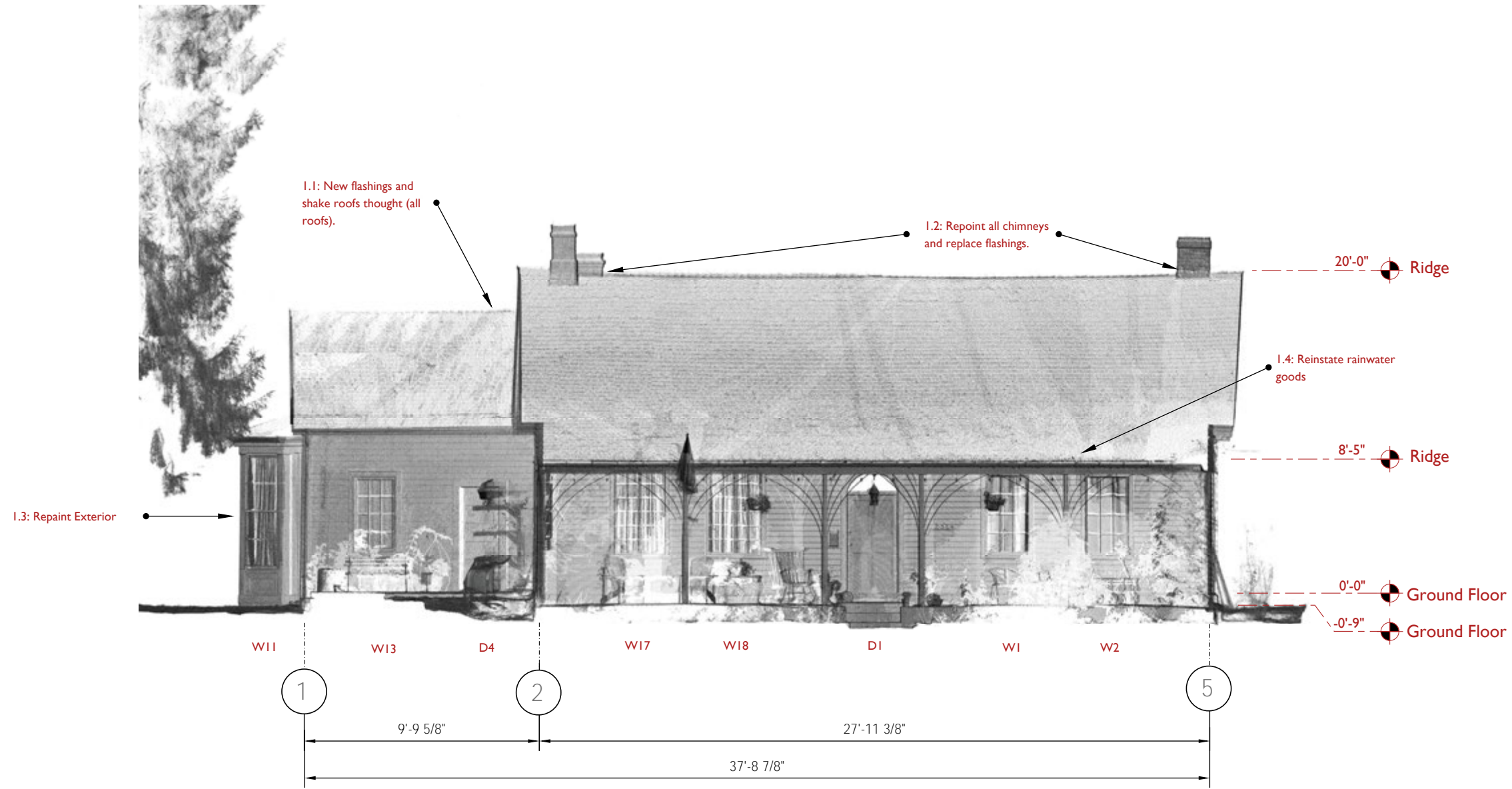
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OAK BAY

SOUTH ELEVATION
WITH CONTEXT

Scale: 1/8" = 1'

A2.0

HERITAGEWORKS



SOUTH ELEVATION

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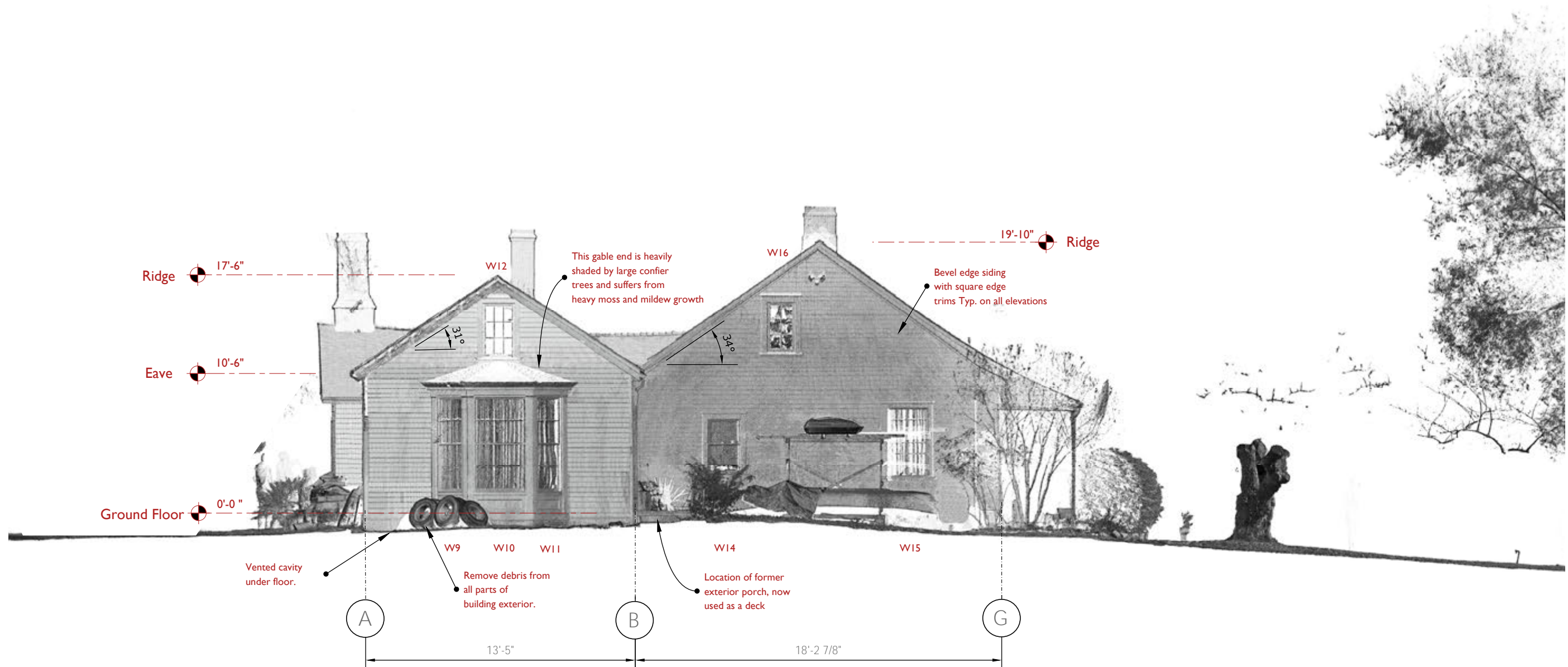
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OAK BAY

SOUTH ELEVATION

Scale: 1/8" = 1'

A2.1

WEST ELEVATION



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OAK BAY

WEST ELEVATION

Scale: 1/8" = 1'

A2.2

NORTH ELEVATION



HERITAGEWORKS

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OAK BAY

NORTH ELEVATION

Scale: 1/8" = 1'

A2.3

EAST ELEVATION



HERITAGEWORKS

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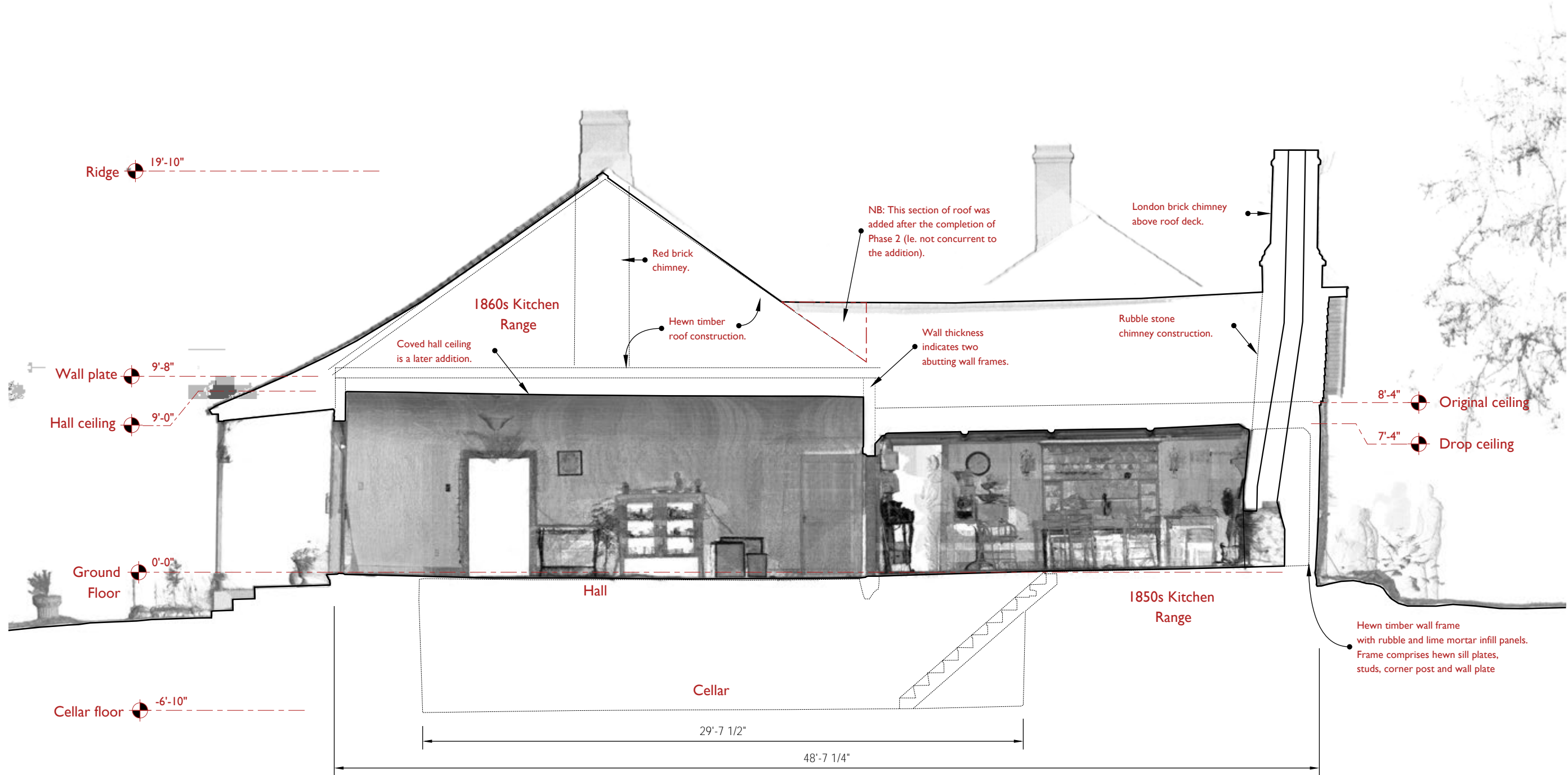
TOD HOUSE
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OAK BAY

EAST ELEVATION

Scale: 1/8" = 1'

A2.4

SECTION A-A



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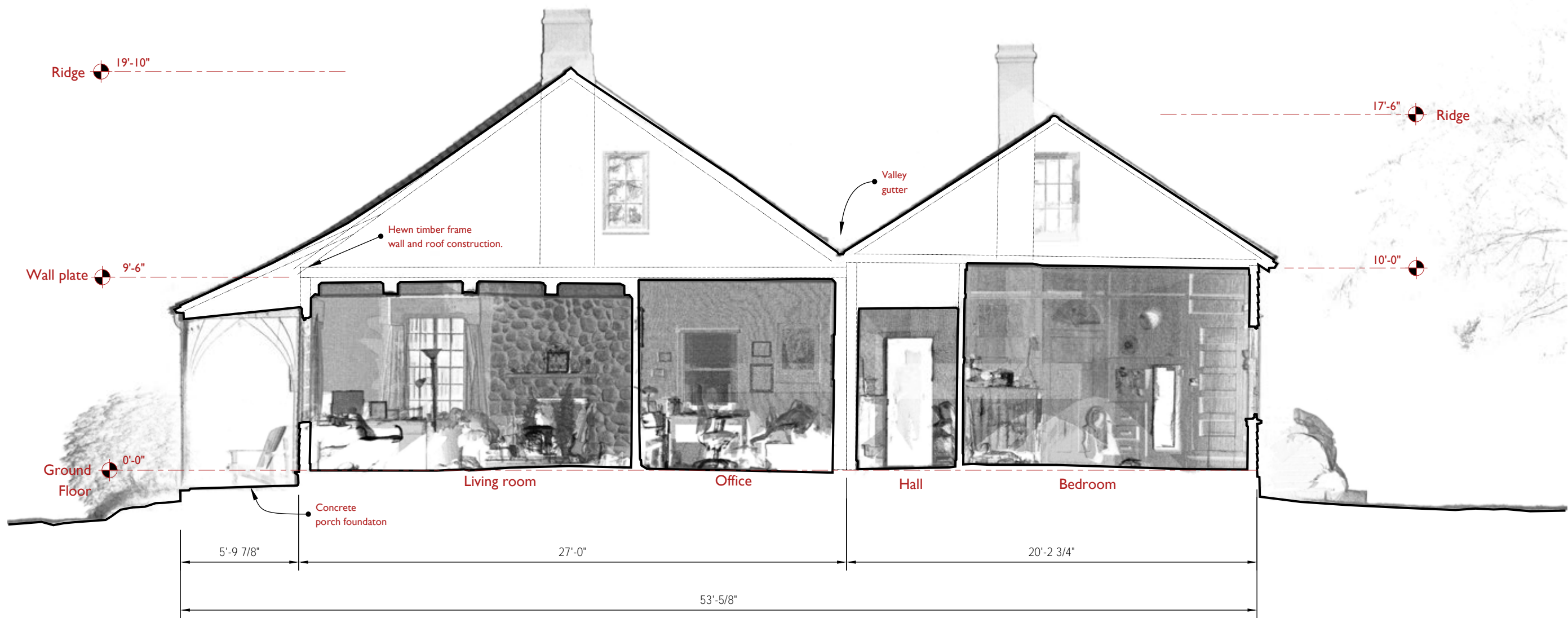
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OAK BAY

SECTION A-A

Scale: 3/16" = 1'

A3.0

SECTION B-B



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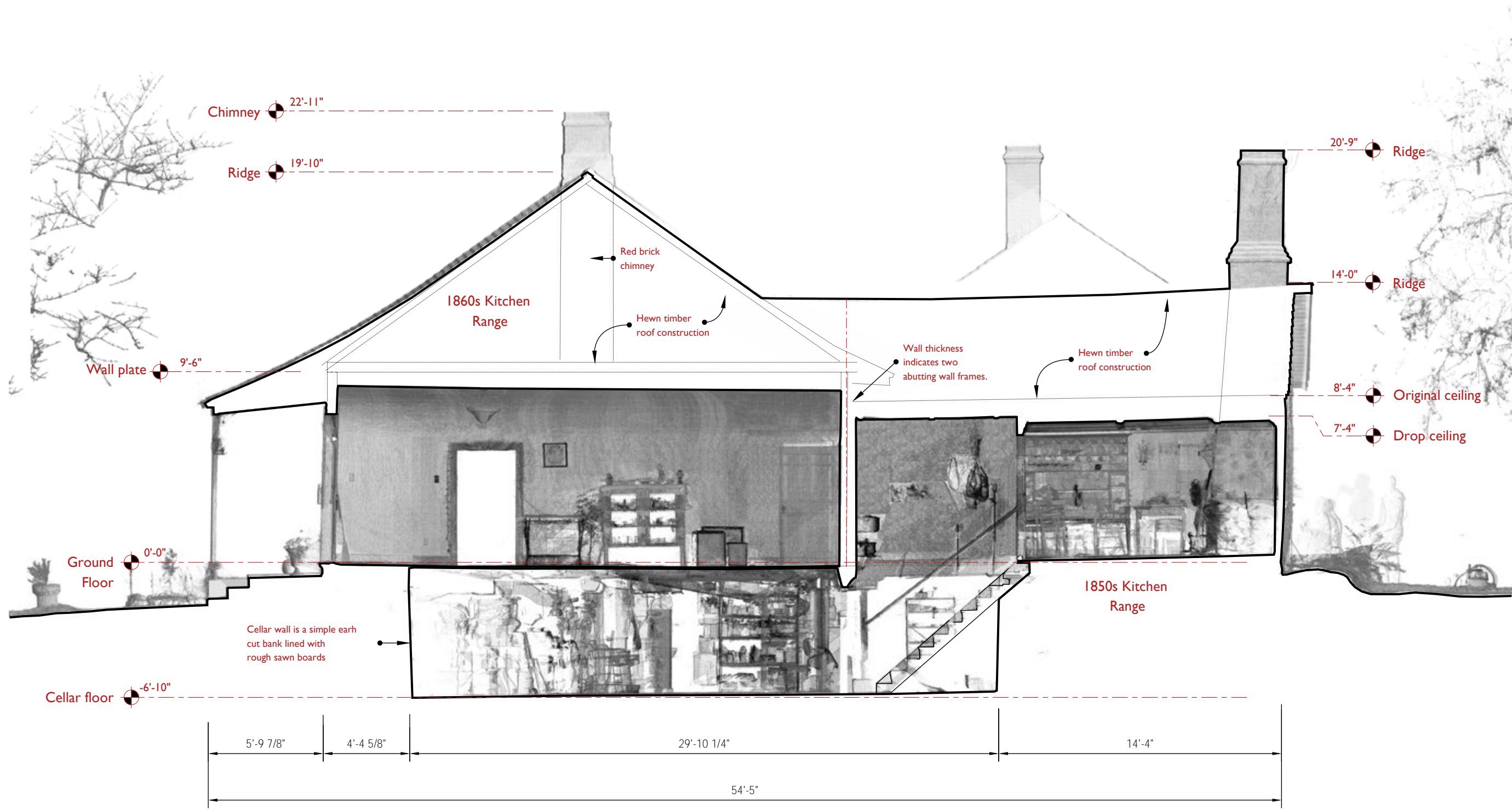
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SECTION B-B

Scale: 3/16" = 1'

A3.1

SECTION C-C



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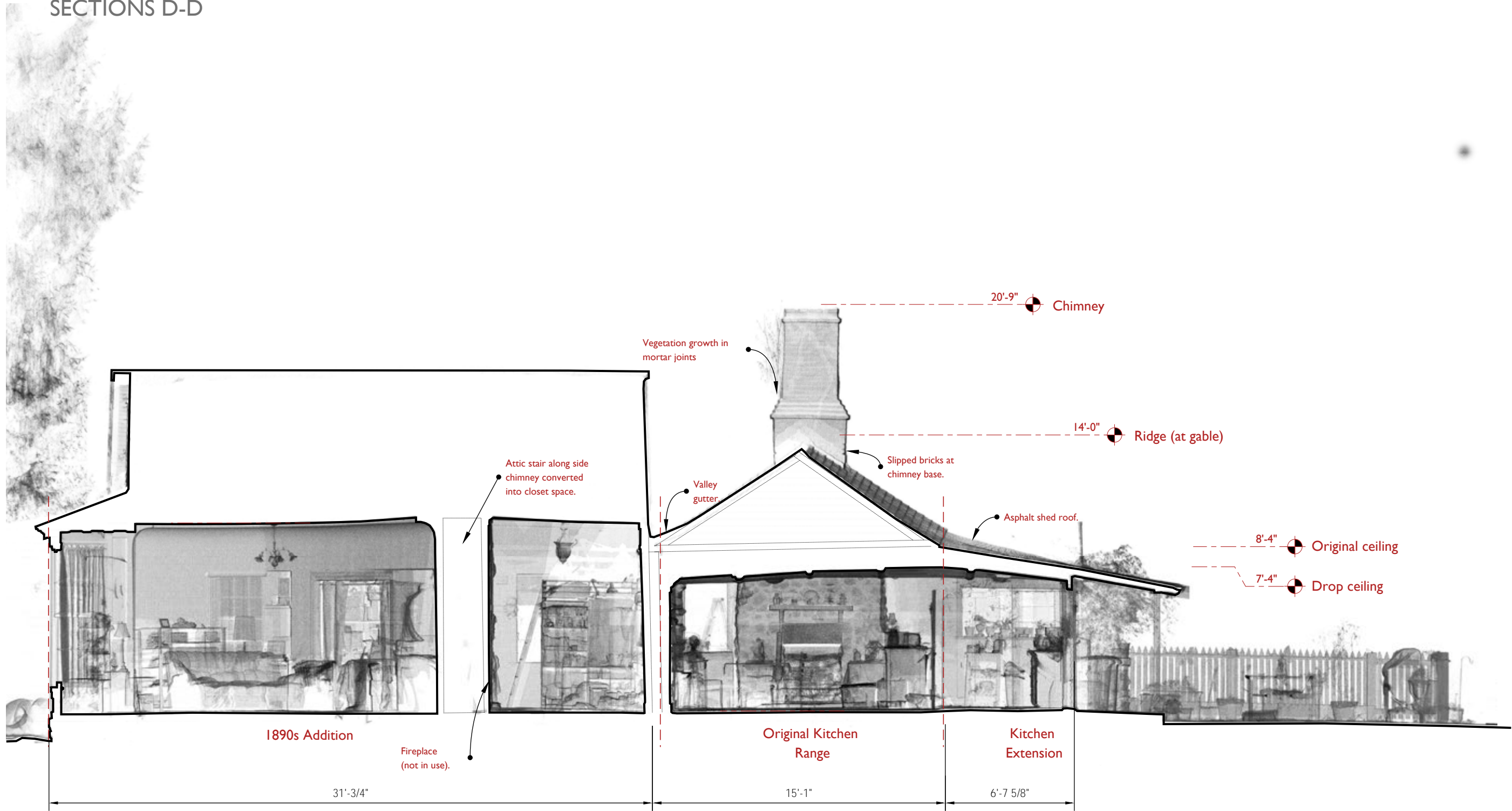
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SECTION C-C

Scale: 3/16" = 1'

A3.2

SECTIONS D-D



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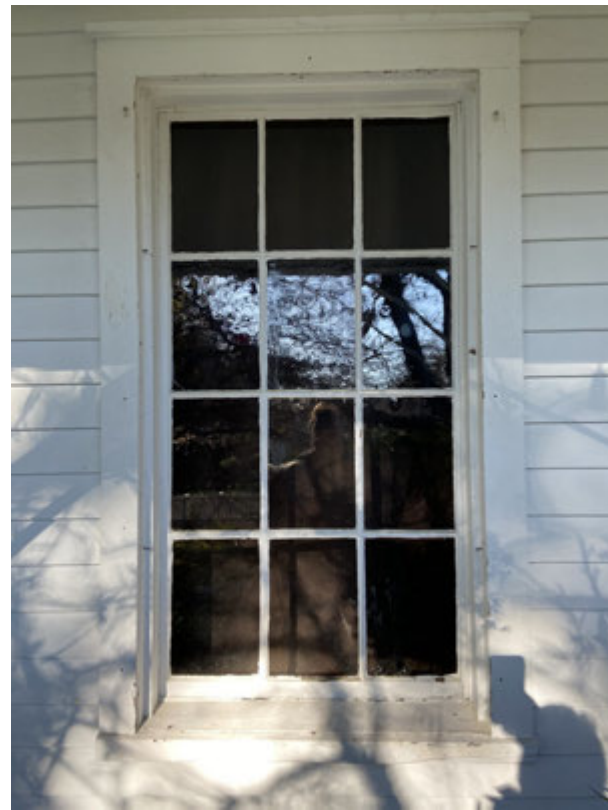
SECTION D-D

Scale: 3/16" = 1'

A3.3



D1 South Elevation.



W1 South Elevation.



W2 South Elevation.



W3 East Elevation.



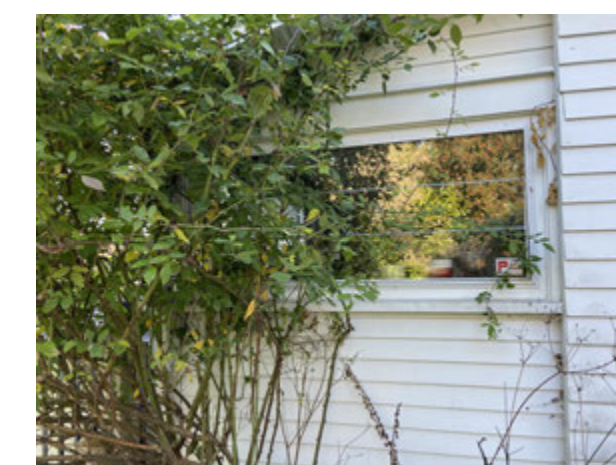
D2 East Elevation.



D3 East Elevation.



W4 East Elevation.



W5 North Elevation

HERITAGEWORKS

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TOD HOUSE
2564 HERRON STREET
OAK BAY

WINDOWS
AND DOORS I

Scale: NA

A4.0



W6 North Elevation.



W7 North Elevation 1890s addition.



W8 North Elevation 1890s addition.



W9 Bay window 1890s addition.



W10 Bay window 1890s addition.



W11 Bay window 1890s addition.



W12 Attic 1890s addition.



W12 sill with roof flashing.

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TOD HOUSE
2564 HERRON STREET
OAK BAY

WINDOWS
AND DOORS 2

Scale: NA

A4.1



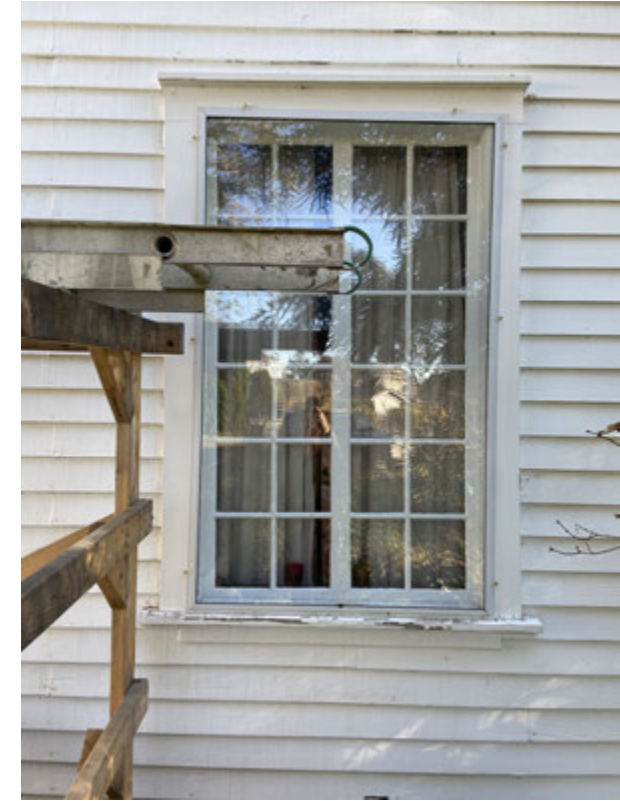
W13 South Elevation 1890s addition.



D4 South Elevation 1890s addition



W14 West Elevation.



W15 West Elevation.



W16 Attic.



W17 South Elevation.



W18 South Elevation.

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OAK BAY

WINDOWS
AND DOORS 3

Scale: NA

A4.2



East Elevation, concrete curb poured against wall framing.



East Elevation. Different phases of concrete work built up against wall at chimney .



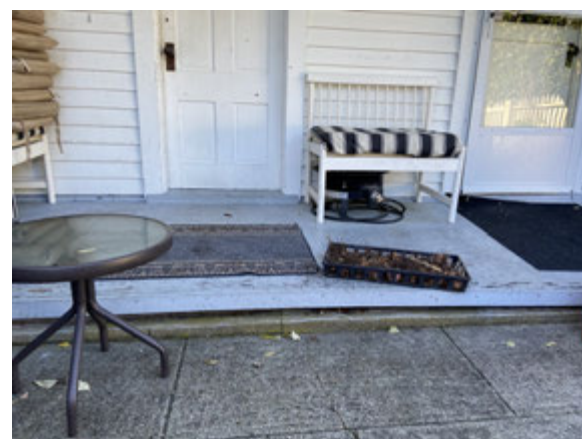
East Elevation. Gap behind curb is a vulnerable location for collecting rain and surface water.



Brick chimney stack encased in concrete with form board finish to exterior wall .



East Elevation. Soil pipe vent detail.



East Elevation. Rear patio with plywood deck under porch roof.



East Elevation. Rear patio rodent proofing at foundation level.



Northeast corner. Detached downspout and surface drain typical of most downspouts.

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OAK BAY

GENERAL CONDITION
FOUNDATIONS AND
GRADE

Scale: NA

A4.3



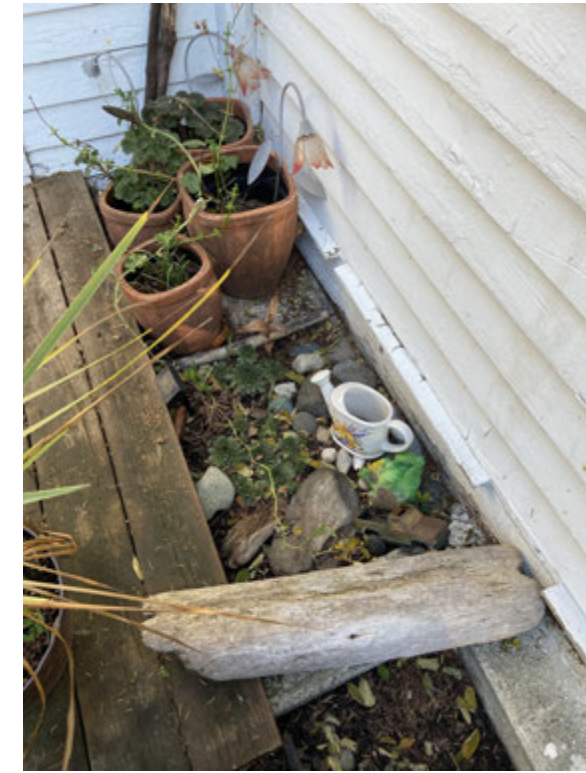
North Elevation. Original rubble foundation with hewn fir bottom sill.



Northwest corner. Brick and block foundation detail.



West Elevation, bay window. Heavily weathered trim boards at foundation level.



foundation of demolished sun room on South elevation of the 1890s addition.



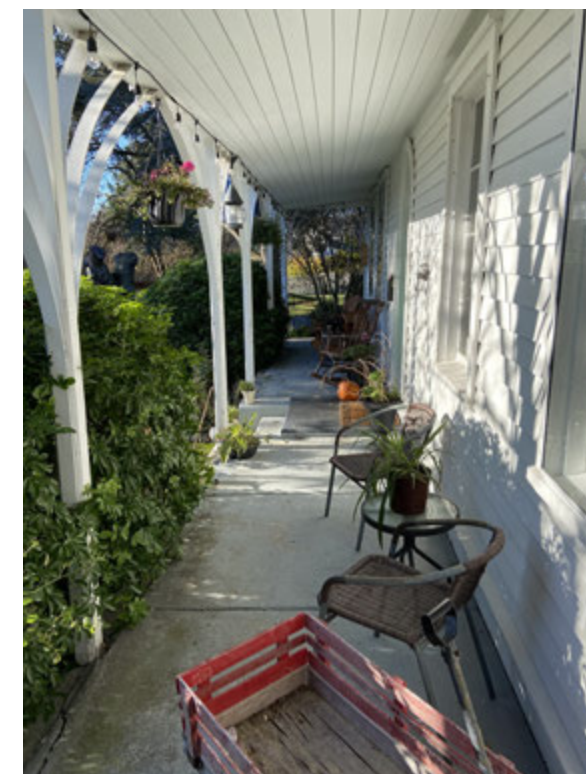
North Elevation. Vented crawl space.



Bay window, current conditions.



Downspout detail Southwest corner.



South Elevation. Concrete porch foundation.

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GENERAL CONDITION
FOUNDATIONS AND
GRADE 2

Scale: NA

A4.4



North Elevation rubble and brick chimney detail belonging to oldest part of the house.



Peeling vinyl base paint (typ.) over old red ochre paint on window trims.



Soffit detail, North Elevation.



Valley gutter detail West Elevation.



North Elevation rubble and brick chimney with connection to the 1890s addition on the right side of photo .



Rubble and lime mortar infill between hewn studs belonging to timber frame.



North Elevation outside kitchen. Timber framing exposed in the oldest part of the house.

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OAK BAY

GENERAL
CONDITION

Scale: NA

A4.5



Roof over 1890s addition facing northwest. Valley gutters are full of leaf litter.



Roof and chimney over 1850s range. Asphalt roof over kitchen extension. Photo facing northeast.



Typical roof valley.



Typical condition of cedar shingles showing moss and lichen growth and debris from fir adjacent conifers..



Gutters require regular cleaning.



Valley gutter flashing detail.

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ROOF
CONDITION

Scale: NA

A4.6



London Stock brick chimney. London bricks are a distinctive yellow/ buff colour and were imported to the new colony in the early years .



Chimney flashings require replacing and the lower brick courses repointing. Vegetation should be removed and joints repointed mortar is missing or detached.



Red brick chimney over 1890s addition. Step flashings should be replaced and mortar joints re-pointed



Lead flashing cover on plumbing vent pipe.

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CHIMNEY
CONDITION

Scale: NA

A4.7

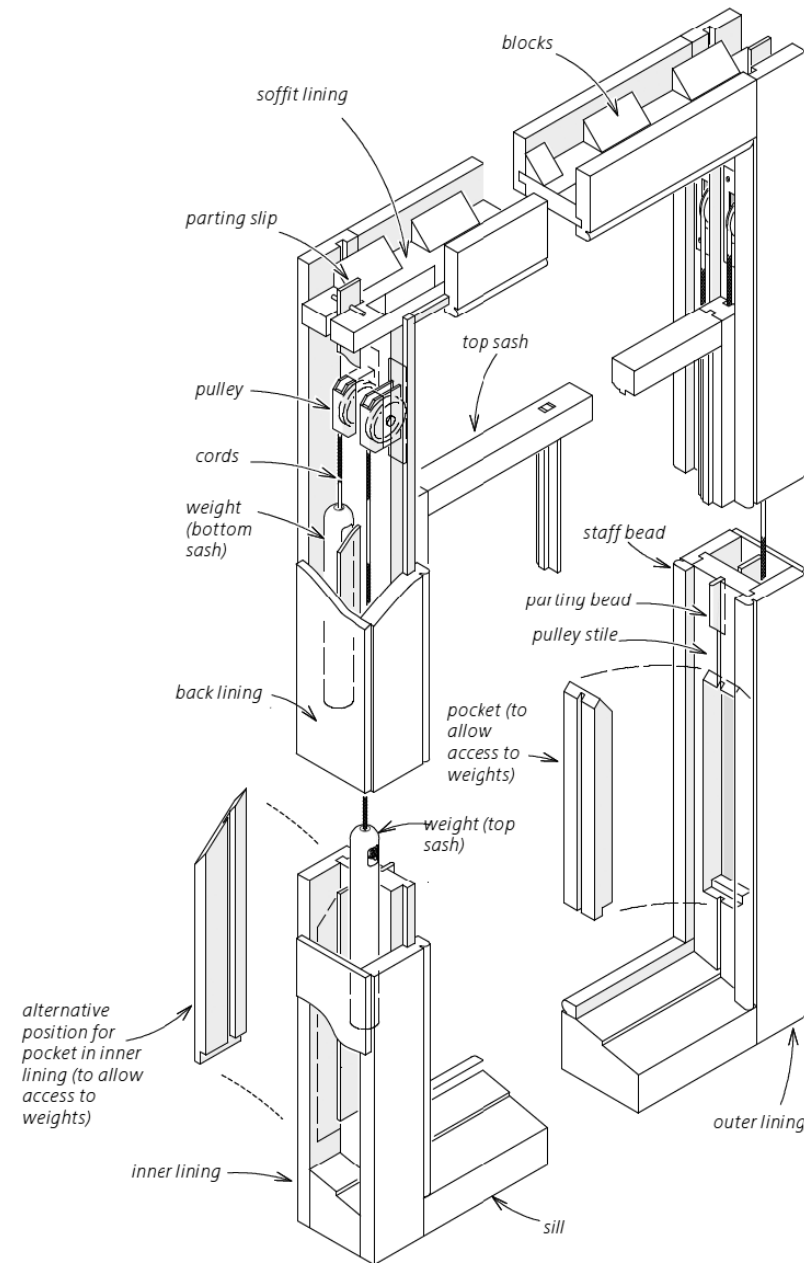
Typical Window Repairs

Sash window repairs

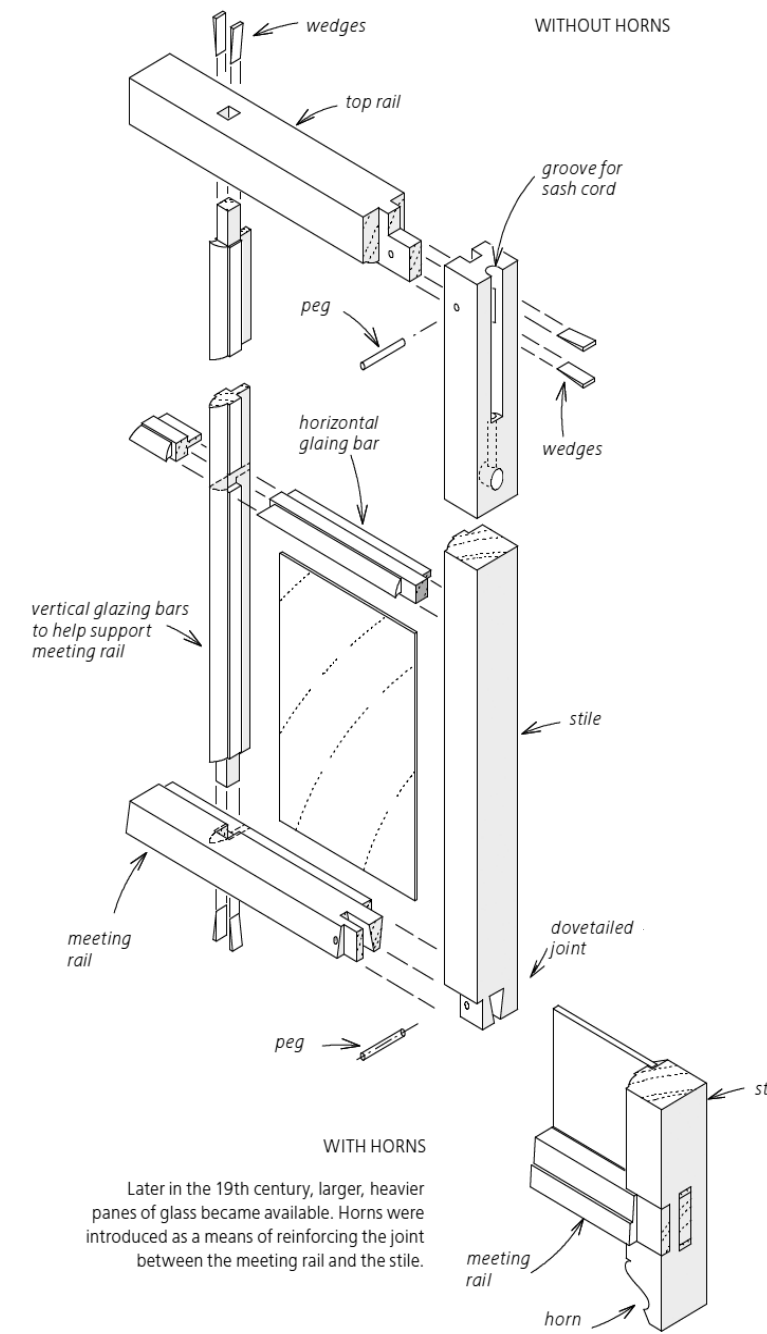
Many of the window sashes can be repaired rather than replaced. Wherever this is possible, we recommend the following approach:

- Document the window and name the parts (for reassembly after repair)
- Remove the sashes
- Remove the jambs only if necessary to repair them (follow same basic steps below)
- Hand-scrape to remove loose paints and putty from all joinery (following best practice for lead paint abatement)
- Remove window panes/glass only if necessary (remove the glazing points)

Figures extracted from
Historic England's Traditional
Windows; Their Care, Repair and
Upgrading



A Window Frame Construction



B Typical Sash Joinery

April, 2020

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WINDOW
SPECIFICATION

Scale: NTS

A5.0

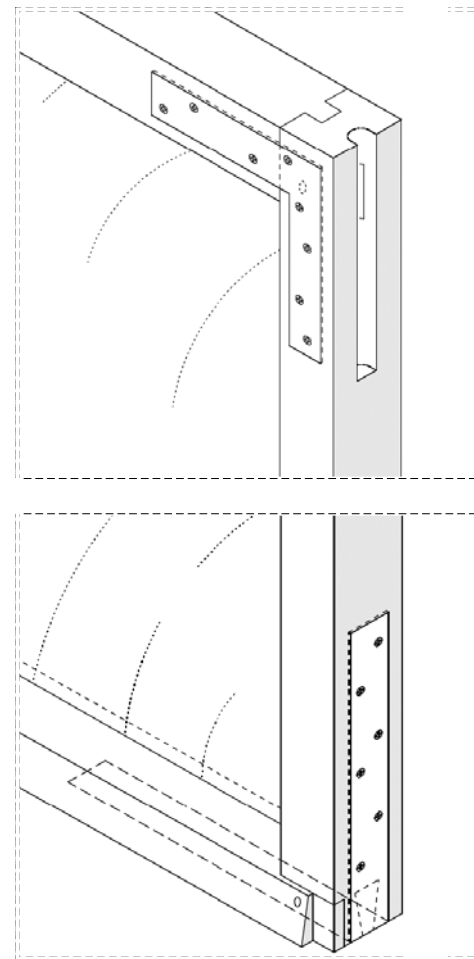
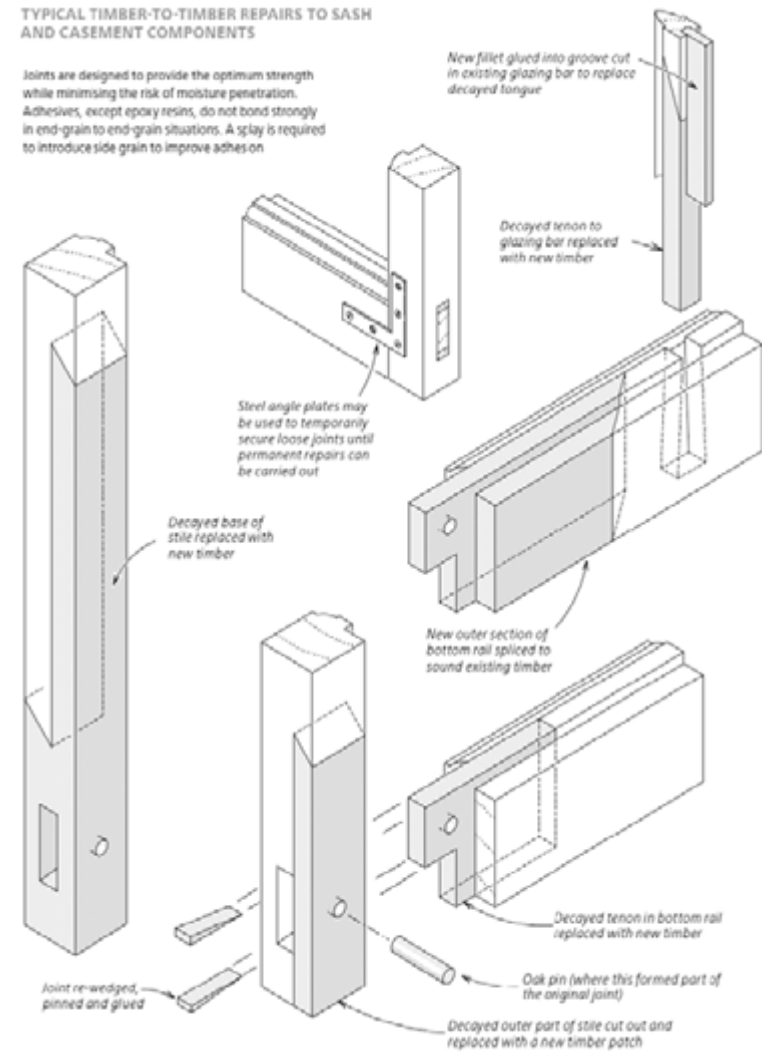
TYPICAL WINDOW REPAIRS

- Float the freshly-exposed woodwork with linseed oil that has been thinned with turpentine to re-invigorate the dry wood
- Disassemble and replace any badly damaged stiles/rails; reconstruct joints with traditional drift pins (no glue is to be used)
- Fill cracks and voids in the woodwork with traditional glazing putty (chalk & linseed oil), allow to set
- Prime glazing bars with shellac
- Set glazing in place and secure with glazing points, then putty (or Lawrence traditional glazing putty)
- Remove excess putty and clean with mineral spirits
- Prime the windows and leave to dry
- Paint the windows and leave to dry
- Reinstall the windows at original locations and add hardware

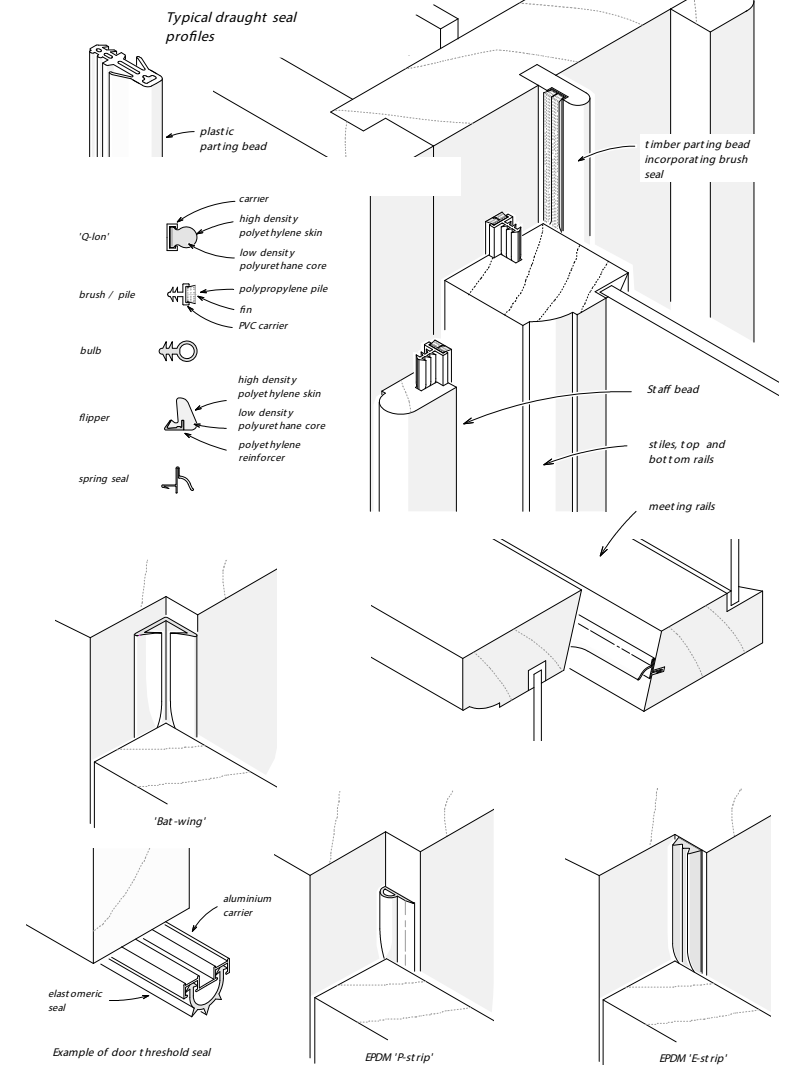
Figures extracted from
Historic England's Traditional
Windows; Their Care, Repair and
Upgrading

TYPICAL TIMBER-TO-TIMBER REPAIRS TO SASH AND CASEMENT COMPONENTS

Joints are designed to provide the optimum strength while minimising the risk of moisture penetration. Adhesives, except epoxy resins, do not bond strongly in end-grain to end-grain situations. A splay is required to introduce side grain to improve adhesion.



Example of draught proofing for sash windows



C TYPICAL FRAME AND SASH REPAIRS

D SPLINT REPAIRS

E COMMON DRAFT SEAL DETAILS

April, 2020

TOD HOUSE
2564 HERON STREET
OAK BAY

WINDOW
SPECIFICATION

Scale: NTS