



## District of West Vancouver Heritage Alteration Permit No. 14-025

Current Owner: Beverly Williams

This Alteration Permit applies to:

Civic Address: 4719 Pilot House Road

Legal Description: PID No. 007-324-111  
Lot E Block 2 District Lot 811 Plan 17059  
(the 'Lands')

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1. This Alteration Permit:
  - (a) imposes requirements and conditions for the development of the Lands, which are designated by the Official Community Plan as Lower Caulfeild Heritage Conservation Area to provide for the protection of the special heritage character of the Lower Caulfeild Area and subject to Guidelines HE6 specified in the Official Community Plan; and
  - (b) is issued subject to the Owner's compliance with all of the Bylaws of the District applicable to the Lands, except as varied or supplemented by this Permit.
  
2. The following requirements and conditions shall apply to the Lands:
  - 2.1 Buildings, structures, on-site parking, driveways and site development shall take place in accordance with the attached Schedule A.
  - 2.2 On site landscaping shall be installed at the cost of the Owner in accordance with the attached Schedule A.
  - 2.3 A valid Tree Removal Permit shall be acquired from the District prior to removal of the boulevard tree as shown on attached Schedule A and as described in Schedule B.
  - 2.4 Sprinklers must be installed in all areas as required under the Fire Protection and Emergency Response Bylaw No. 4366, 2004.
  - 2.5 No wood burning fireplaces shall be installed, constructed or otherwise permitted on the Lands or in any buildings on the Lands.
  - 2.6 All balconies, decks and patios are to remain fully open and unenclosed.
  - 2.7 New driveway grade must not exceed 20% slope at any portion of the driveway.
  - 2.8 Rock removal for the construction of the new dwelling, garage and driveway must comply to the District's Soil Removal and Deposit Regulation Bylaw and the Blasting Bylaw.

3. Prior to commencing site work or Building Permit issuance, whichever occurs first, the Owner must:
  - 3.1 Install protective fencing around the Laurel hedge that bounds Pilot House Road, which is to be retained, pruned and supplemented as shown on Schedule A to the satisfaction of the District's Environmental Protection Officer.
  - 3.2 Provide and implement a plan for traffic management during construction, to the satisfaction of the District's Manager of Development Engineering.
  - 3.3 Submit a "Sediment and Erosion Plan" to the District's Environmental Protection Officer for approval, and the owner shall be responsible for maintaining, repairing and implementing the sediment control measures.
  
4. Prior to Building Permit issuance:
  - 4.1 Engineering civil drawings detailing works, including but not limited to: (a) storm water management measures; (b) site service connections; and (c) any boulevard works along the frontage of the site, must be submitted for acceptance, and security provided for the due and proper completion of the engineering works, all to the satisfaction of the District's Manager of Development Engineering.
  - 4.2 Security for the due and property completion of the on-site landscaping set forth in Section 2.2 of this Heritage Alteration Permit shall be provided in the amount of \$17,200.00 (the 'Landscaping Deposit') to the District in the form of cash or an unconditional, irrevocable auto-renewing letter of credit issued by a Canadian chartered bank or credit union and:
    - (a) a minimum 20% of the initial value of the Landscaping Deposit shall be retained by the District for one year after installation of the landscaping, as a warranty deposit to ensure successful installation of the landscaping; and
    - (b) the initial value of the Landscaping Deposit may only be reduced to the warranty level and the warranty shall only be released when the registered member of the BSCLA for the project provides a field report to the District confirming successful installation of the on-site landscaping in accordance with Schedule A to this Heritage Alteration Permit.
  
5. In the event that the conditions are not completed as provided for in this Permit, and if the conditions fail to satisfy the objectives of the Heritage Conservation Area of the Official Community Plan Bylaw (2004), the District may, at its option, enter upon, carry out and complete the works so as to satisfy the objectives, and recover the costs of doing so from the security deposited, including the costs of administration and supervision.

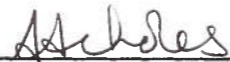
6. This Alteration Permit lapses if the work authorized herein is not commenced within 12 months of the date this permit is issued.

In the event the Owner is delayed or interrupted or prevented from commencing or continuing the development by reason of any Act of God, labour unrest (including strike and lockouts), weather conditions or any similar cause reasonably beyond the control of the Owner, the time for the completion of the work shall be extended for a period equal to the duration of the contingency that occasioned the delay, interruption or prevention, provided that the commercial or financial circumstances of the Owner shall not be viewed as a cause beyond the control of the Owner.

THE DIRECTOR OF PLANNING, LAND DEVELOPMENT AND PERMITS APPROVED THIS ALTERATION PERMIT ON July 15, 2014.




DIRECTOR OF PLANNING, LAND DEVELOPMENT AND PERMITS



MUNICIPAL CLERK

THE REQUIREMENTS AND CONDITIONS UPON WHICH THIS PERMIT IS ISSUED ARE ACKNOWLEDGED AND AGREED TO. IT IS UNDERSTOOD THAT OTHER PERMITS / APPROVALS MAY BE REQUIRED INCLUDING PERMITS / APPROVALS FOR BUILDING CONSTRUCTION, SOIL AND ROCK REMOVAL OR DEPOSIT, BOULEVARD WORKS INCLUDING TREE REMOVAL, AND SUBDIVISION.

 Beverly WILLIAMS July 9/2014  
Owner: Signature      Owner: Print name above      Date

FOR THE PURPOSES OF SECTION 6, THIS PERMIT IS ISSUED ON July 15, 2014

Schedules:

- A – Site Design, Architectural and Landscape Plans
- B – Arborist Reports

# SCHEDULE A



PROJECT: 4719 PILOT HOUSE ROAD  
 TITLE: LOCATION PLAN  
 SCALE: NOT TO SCALE  
 DATE: 1 JUNE 2014  
 ISSUED: CAULFIELD PANEL REVIEW

DRAWING # **1**

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 www.grahamsherwinstudio.com

4719 PILOT HOUSE ROAD

MUNICIPAL PARK  
 BYLAW 1110  
 (L.T.D. 3433K - SEE  
 KETTLES BUI LEASE  
 VERIFY L.T.D. OF  
 42951 B OF OR  
 D - 13557)

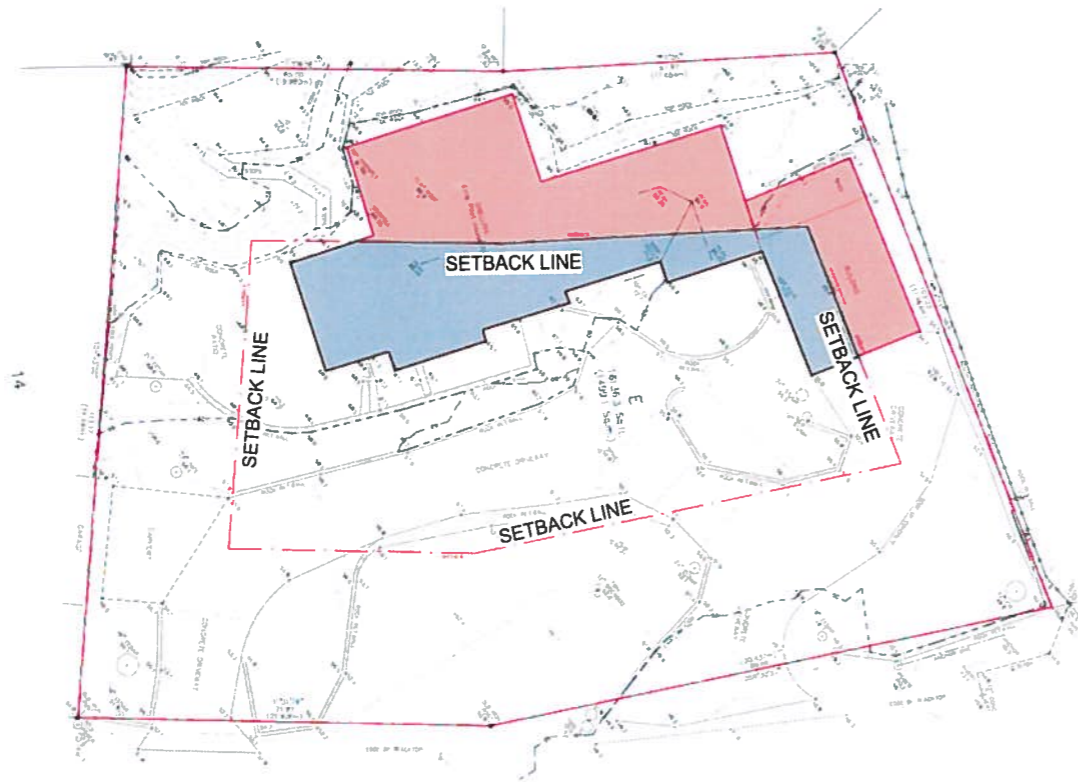
D.L. 811

D.L. 447

RECEIVED  
 JUN 06 2014

THE CORPORATION OF THE DISTRICT  
 OF WEST VANCOUVER  
 PLANNING, LAND DEVELOPMENT & PERMITS





**3** The property looks deep only because the house is pushed up against the back property line. In fact 60% of it is built within the rear and side setbacks. The property is actually averages only 115 feet deep -- shallower than a typical small Ambleside lot.



**4** The house was built at the back of the lot to be as high up the hill as possible to get the best view. That put the back of the house only feet away from the property line and right up against the rock face of the hill. The new house has to be brought forward so there is light in the rooms and access around the building.



**1** The existing house was once a lovely English cottage in a lush, mature garden looking out to sea. Not any more. The house is literally falling apart, destroyed by rot and ivy and deferred maintenance. It is now a "Grey Gardens" house, completely unsalvageable.



**2** The overgrown landscape hides the fact that most of the natural features of the original property were destroyed years ago – covered in building, driveway, terrace, walkway and retaining walls. Very few natural features are left.

PROJECT: 4719 PILOT HOUSE ROAD  
 TITLE: EXISTING HOUSE CONTEXT  
 SCALE: NOT TO SCALE  
 DATE: 1 JUNE 2014  
 ISSUED: CAULFIELD PANEL REVIEW

DRAWING # **2**

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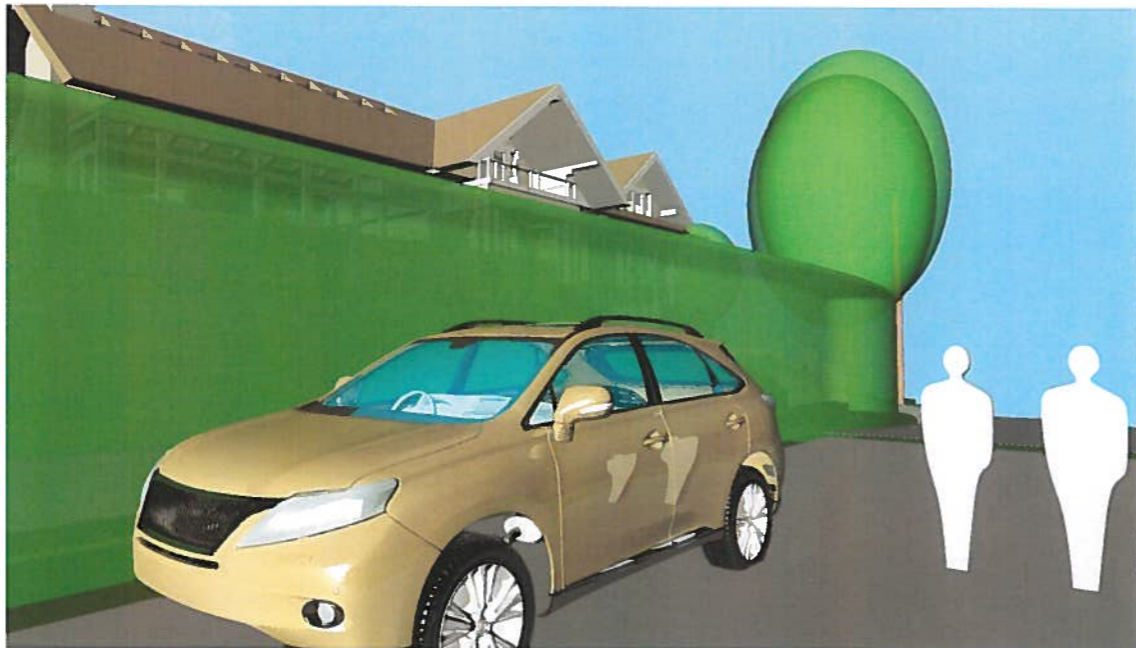
GRAHAM SHERWIN STUDIO



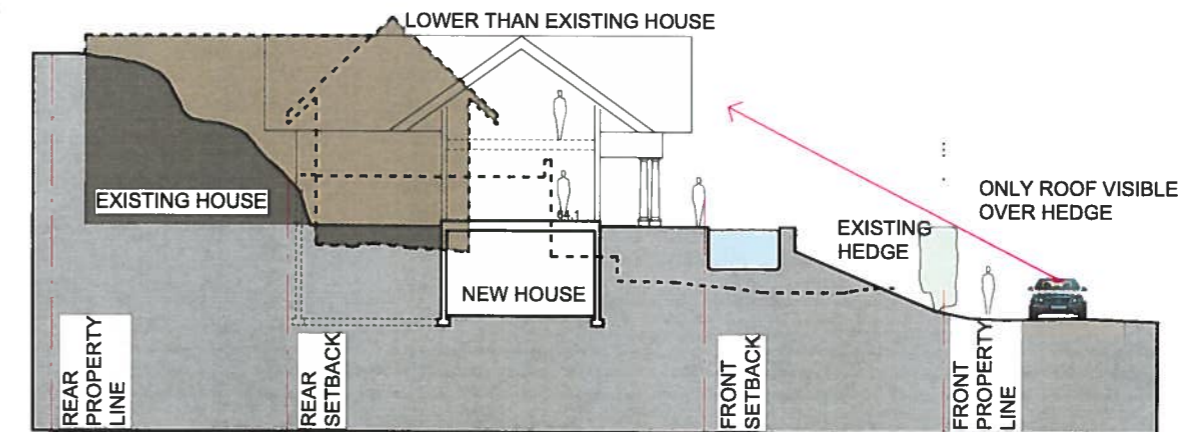
**7** The existing house has a collapsing carport in the second entrance to the circular driveway. The carport and circular driveway will be removed and replaced with terraced gardens, cutting the paved area to half its existing size. The old garage facing the street will be removed and a new garage will be completely hidden from view by stone walls and landscaping.



**8** When the second driveway entrance is removed and the existing hedge made continuous across the front of the property, only the roof of the new house will be visible from the street at the south end of the property, making the impact of moving the house forward on the lot minimal.



**5** The new house is designed to have a very similar appearance to the existing house -- a wide, single level English cottage with bedrooms up in two roof gables, all set in a lushly landscaped garden terracing down to the street.



**6** The main floor of the new house is also lower than the existing main floor so that as the house comes forward on the lot it is also brought down. The new roof is exactly the same height as the old roof so none of the views from the houses behind are impacted in any way. The roof is also within the height limit of the bylaw, so no variances are necessary.

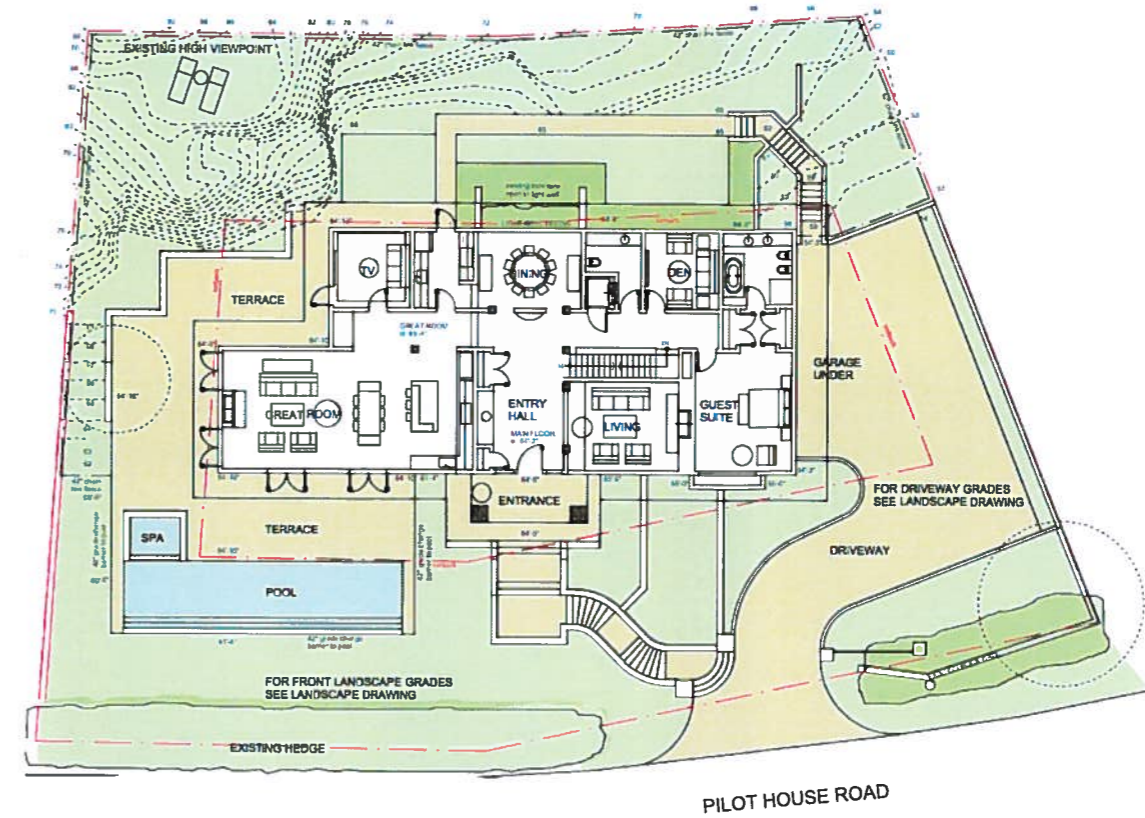
PROJECT: 4719 PILOT HOUSE ROAD  
 TITLE: NEW HOUSE CONTEXT  
 SCALE: NOT TO SCALE  
 DATE: 3 JUNE 2014  
 ISSUED: CAULFEILD PANEL REVIEW

DRAWING # **3**

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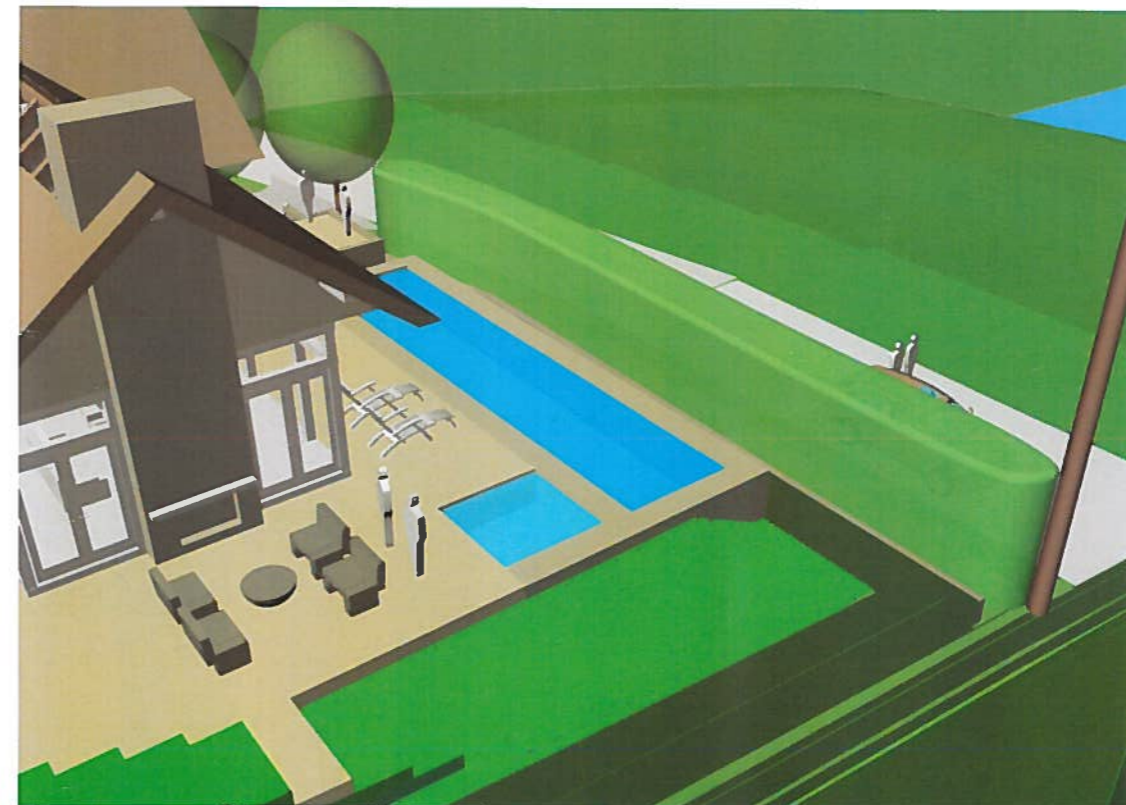


PROJECT: 4719 PILOT HOUSE ROAD  
 TITLE: NEW HOUSE CONTEXT  
 SCALE: NOT TO SCALE  
 DATE: 3 JUNE 2014  
 ISSUED: CAULFIELD PANEL REVIEW

DRAWING # 4

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- 9 The proposed house is moved forward on the site so it is entirely within the building setbacks. No variances for setbacks are required. In this new location none of the views of the houses on either side are impacted whatsoever.



- 10 From the driveway at the street, the pool will present as a simple low-height retaining wall in the garden. From the house the pool will mainly be a reflecting pond bringing the water view closer and adding a subtle layer of privacy to the terrace.



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**13** Wall shingles will be # 1 boxed "perfection" resawn and rebuffed Western red cedar shingles stained with General Paint "Glutted" colour semi-solid stain, 5" to weather. The roof will be quaternian treated resawn western red cedar, 5 1/2" to weather



**11** The materials, colours and textures of the exterior of the house will be reminiscent of the shingle-style craftsman houses built in West Vancouver a hundred years ago at the time lower Caulfeild was being developed. The columns, for example, will be in the rectangular form that carpenters built on site.



**14** General look and feel of relationship between house and garden.



**12** Stone wall facing and garden walls will be in white "Ambleside" granite as supplied by Northwest Landscape Supply in full thickness veneer, matchint the neighbouring house at 4727 Pilot House Road.

PROJECT: 4719 PILOT HOUSE ROAD  
 TITLE: MATERIALS AND COLOURS  
 SCALE: NOT TO SCALE  
 DATE: 3 JUNE 2014  
 ISSUED: CAULFEILD PANEL REVIEW

DRAWING # **5**

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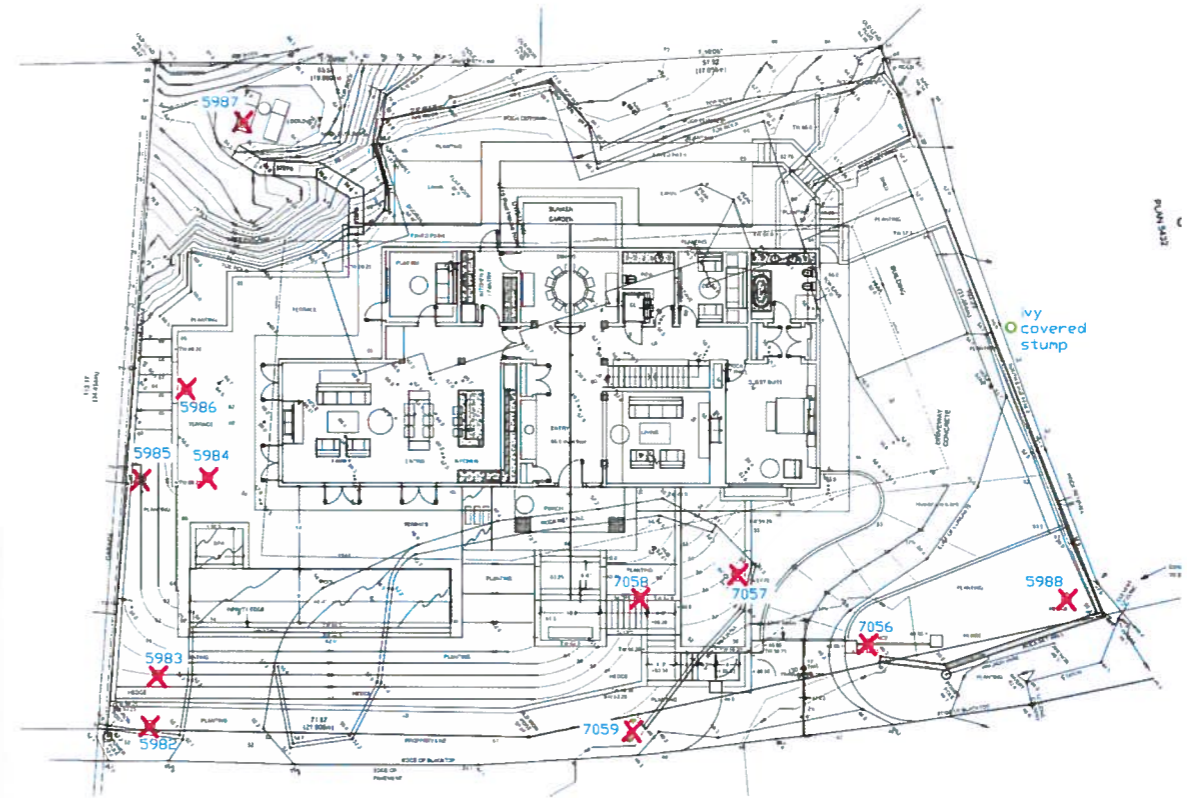
**17** Many of the existing trees have been topped in the past for views of the water but were then let go to grow into mangled masses. Others have simply rotted in place.



**15** Unfortunately, almost none of the existing garden can be saved and incorporated in the new garden. Like the existing house, virtually everything in the landscape has gone to ruin through years of deferred maintenance.



**18** The new curved landscaped stairs from the driveway to the landing outside the front door will bring a casual order to the new terraced garden. As the landscape plans will show, the front garden will be heavily planted to regain the sense of lush profusion that is the one most notable feature of the existing garden.



**16** In the case of the larger trees, deferred maintenance has been compounded by poor topping and pruning. As the arborist's report describes in detail, no significant tree is healthy enough to retain. The red Xs on this drawing show where they are recommended to be removed.

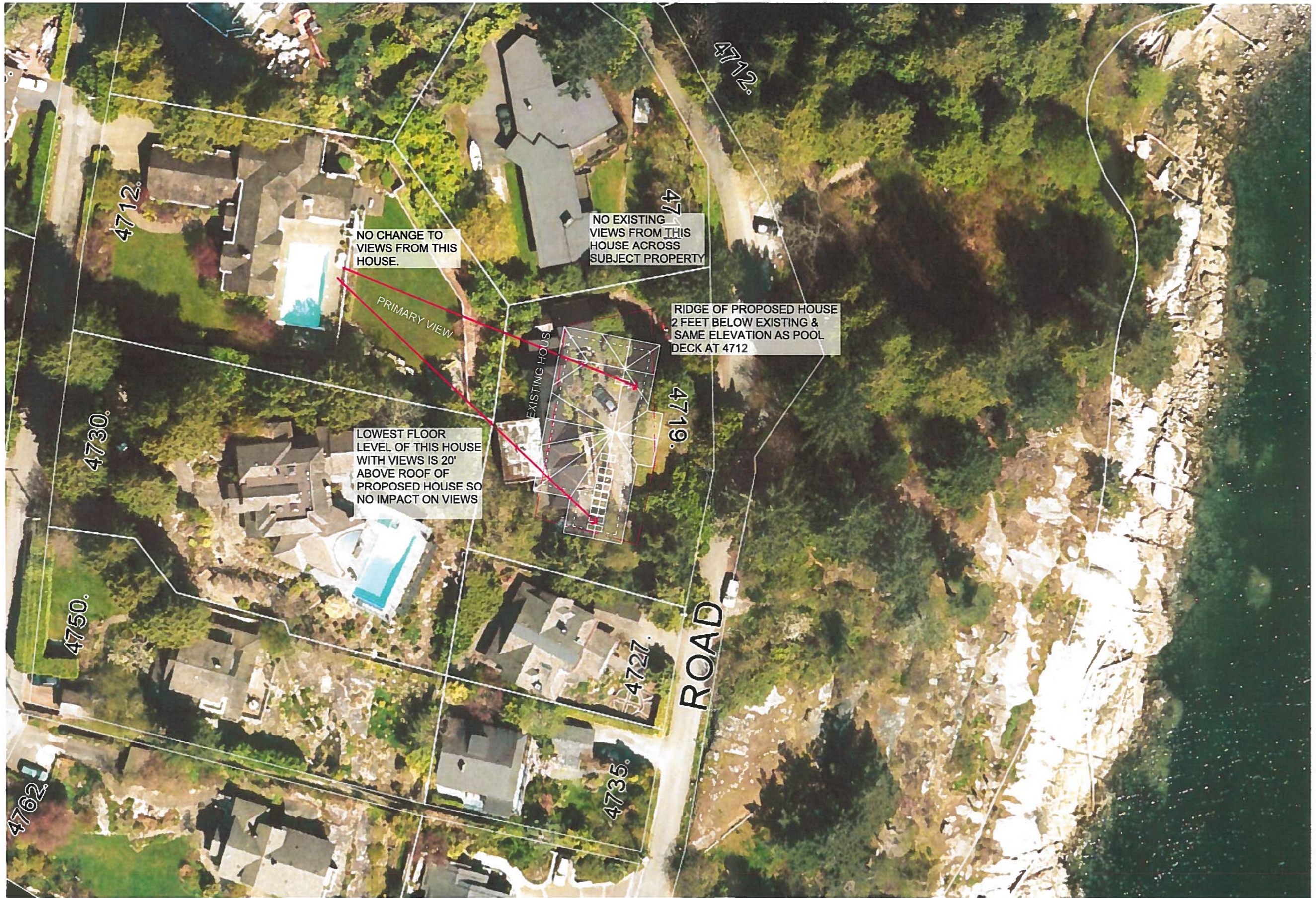
PROJECT: 4217 PILOT HOUSE ROAD  
 TITLE: TREES AND LANDSCAPE  
 SCALE: NOT TO SCALE  
 DATE: 3 JUNE 2014  
 ISSUED: CAULFEILD PANEL REVIEW

DRAWING # **6**

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PROJECT: 4719 PILOT HOUSE ROAD  
TITLE: CONTEXT AND VIEW IMPACT PLAN  
SCALE: NOT TO SCALE  
DATE: 1 JUNE 2014  
ISSUED: CAULFIELD PANEL REVIEW

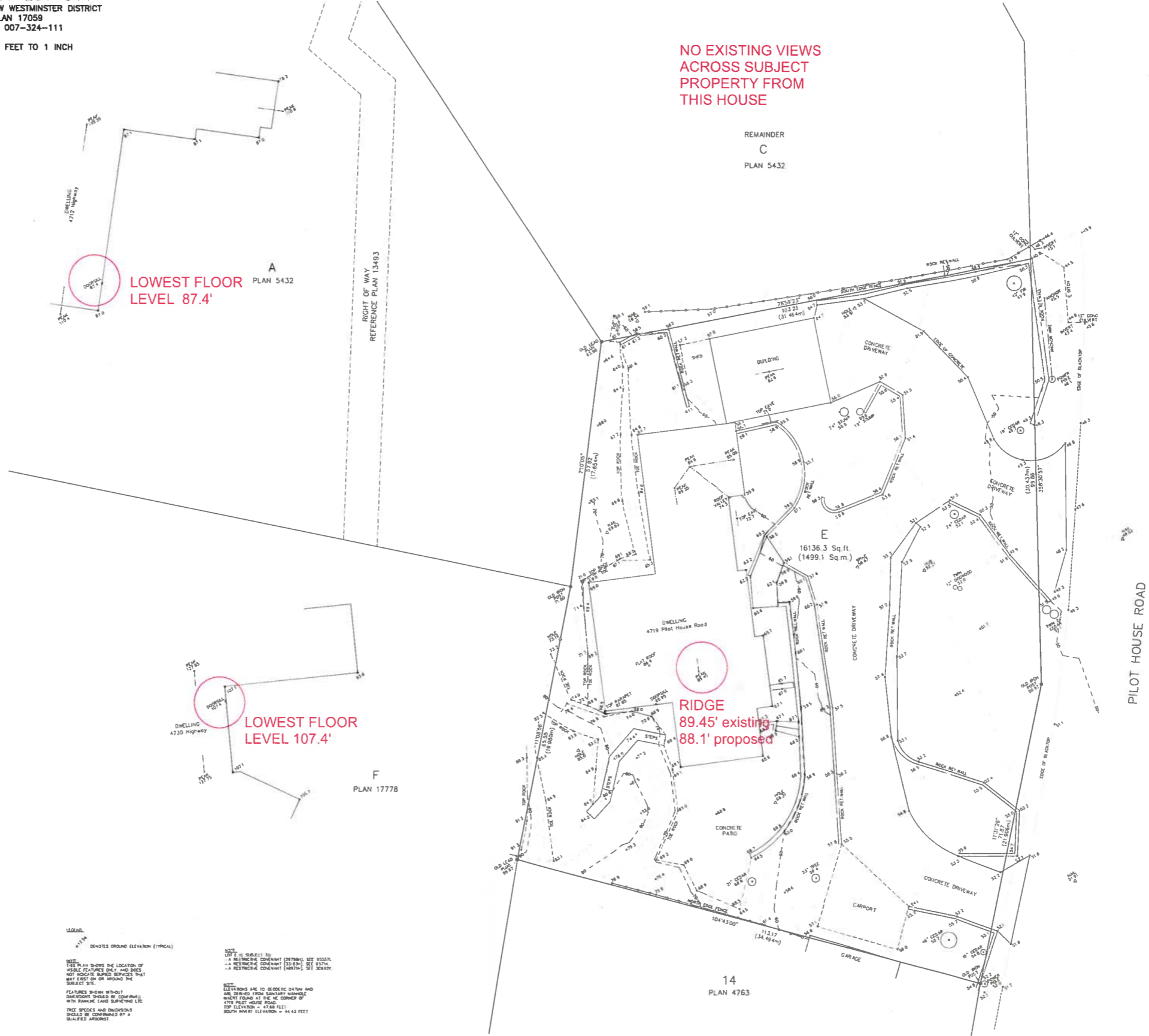
DRAWING # 7

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PLAN SHOWING ELEVATIONS ON  
 LOT E BLOCK 2  
 DISTRICT LOT 811  
 GROUP ONE NEW WESTMINSTER DISTRICT  
 PLAN 17059  
 P.I.D. 007-324-111  
 SCALE: 8 FEET TO 1 INCH



NO EXISTING VIEWS  
 ACROSS SUBJECT  
 PROPERTY FROM  
 THIS HOUSE

REMAINDER  
 C  
 PLAN 5432

LOWEST FLOOR  
 LEVEL 87.4'

LOWEST FLOOR  
 LEVEL 107.4'

RIDGE  
 89.45' existing  
 88.1' proposed

PROJECT: 4719 PILOT  
 HOUSE ROAD  
 TITLE: CONTEXT AND  
 VIEW IMPACT  
 SURVEY PLAN  
 SCALE: NOT TO SCALE  
 DATE: 1 JUNE 2014  
 ISSUED: CAULFIELD PANEL  
 REVIEW

DRAWING# 8

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NOTE:  
 PROPERTY DIMENSIONS MAY VARY  
 SLIGHTLY FROM A REPOSING SURVEY

NOTE:  
 THIS DOCUMENT SHOWS THE RELATIVE  
 LOCATION OF THE BOUNDARY DIMENSIONS  
 AND FEATURES WITH RESPECT TO THE  
 BOUNDARIES OF THE PARCEL DESCRIBED  
 HEREIN. THIS DOCUMENT SHALL NOT BE  
 USED TO DEFINE PROPERTY LINES OR  
 PROPERTY CORNERS.

THIS DOCUMENT IS NOT VALID UNLESS  
 ORIGINALLY SIGNED AND SEALED  
 CERTIFIED CORRECT ACCORDING  
 TO SURVEY DIMENSIONS

SCALE: 8 FEET TO 1 INCH

LEGEND

--- DENOTES GROUND ELEVATION (TYPICAL)

NOTE:  
 THIS PLAN SHOWS THE LOCATION OF  
 MEASURED ELEVATIONS ON L AND B ONLY.  
 NOT SHOWN: BOUNDARY DIMENSIONS THAT  
 MAY EXIST ON OR AROUND THE  
 SUBJECT SITE.

FEATURES SHOWN WITHOUT  
 DIMENSIONS SHOULD BE CONSIDERED  
 WITH BOUNDARY LINES SUBJECTIVE ETC.  
 THESE SPECIES AND DIMENSIONS  
 SHOULD BE CONFIRMED BY A  
 QUALIFIED ARBORIST

NOTE:  
 LEGAL COVENANTS:  
 - A RESTRICTIVE COVENANT (287866) SEE 555375  
 - A RESTRICTIVE COVENANT (22886) SEE 83774  
 - A RESTRICTIVE COVENANT (48875) SEE 508424

NOTE:  
 ELEVATIONS ARE TO GEODESIC DATUM AND  
 ARE DERIVED FROM BOUNDARY MARKING  
 ADJACENT TO THE NE CORNER OF  
 4719 PILOT HOUSE ROAD.  
 TOP ELEVATION = 4748 FEET  
 SOUTH INVERT ELEVATION = 4443 FEET

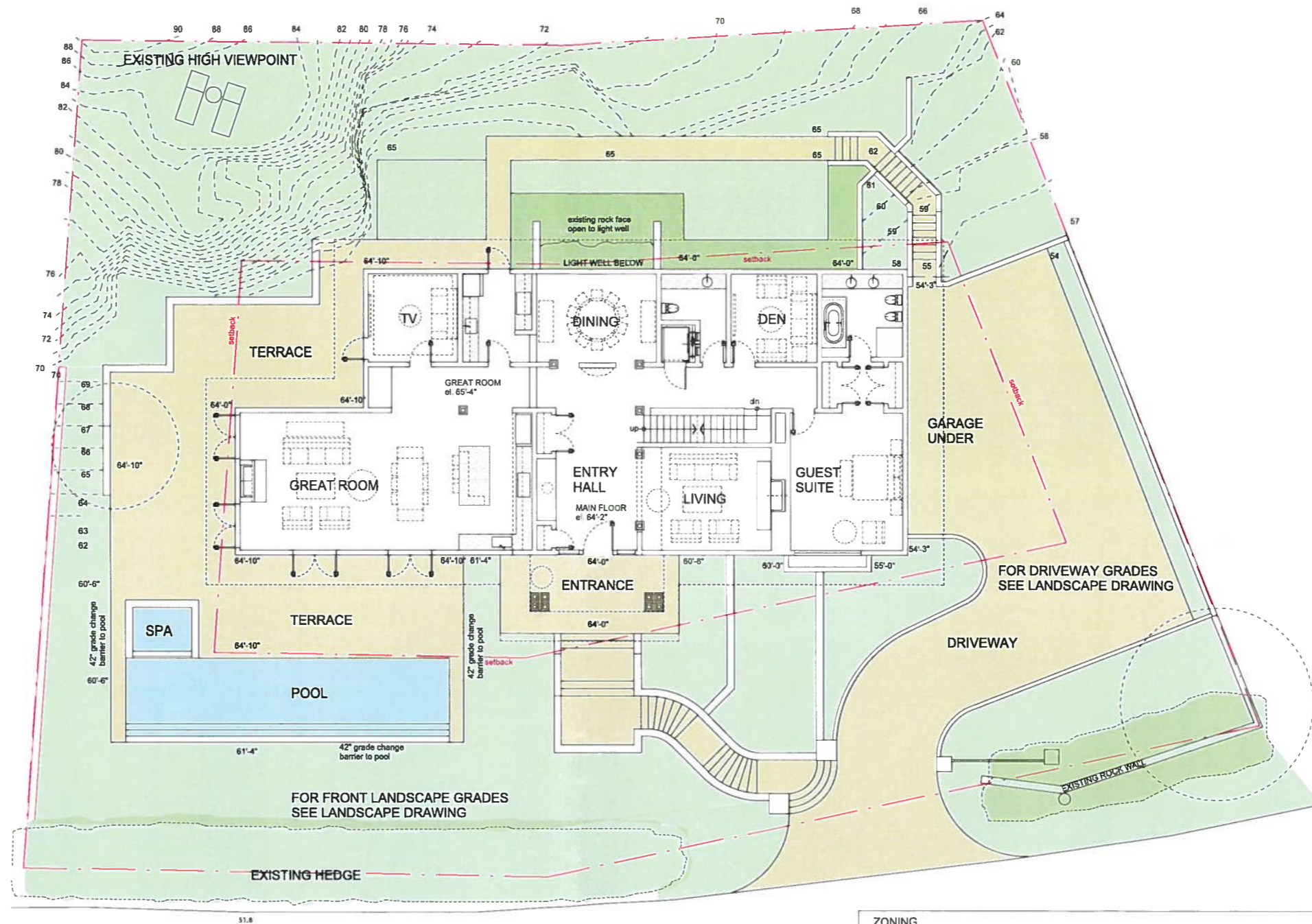


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 STUDIO

PROJECT: 4719 PILOT HOUSE ROAD  
 TITLE: SITE PLAN AND ZONING DATA  
 SCALE: 1/8" = 1'-0"  
 DATE: 1 JUNE 2014  
 ISSUED: CAULFIELD PANEL REVIEW

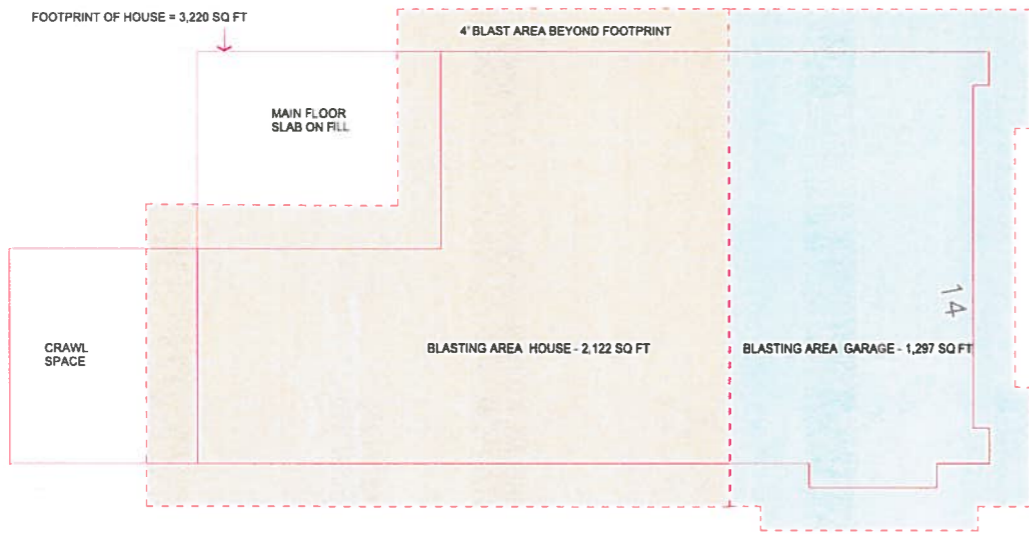
DRAWING # **9**

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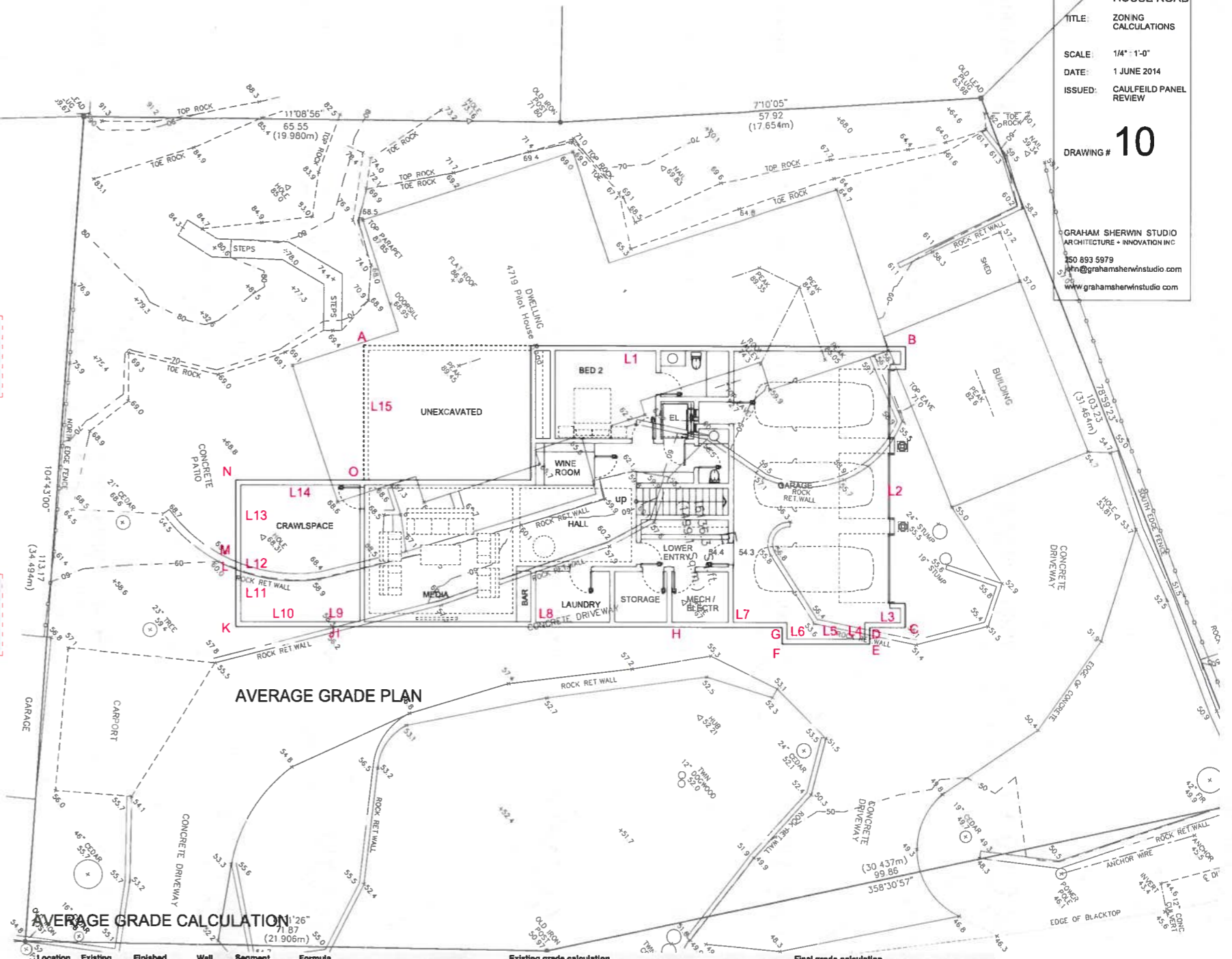


ZONING	RS-3	ALLOWED	PROPOSED
Zone:	RS-3		
Site area:	16,136 sq ft		
Frontage @ setback:	157.2'		
Site coverage:		30% = 4,800 sq ft	3,220 sq ft = 20.2%
Floor area ratio:		0.35 = 5,600 sq ft	1,776 upper floor (incl. balcony)* + 3,220 main floor + + 2,417 bsmt floor = - 1,421 sq ft bsmt exemption (58.8%) - 400 sq ft garage) = 5,592 sq ft total floor area (complies)
Side yards:		5' minimum, 10% of site width min. 25% of site width combined	22' min. = 11.4% of site width 46' 1' combined = 29%
Front yard:		30'	30'-2"
Rear yard:		30'	30'-2"
Building height:		25'	25'
Highest building face:		22'	22'





BLASTING PLAN



AVERAGE GRADE PLAN

ALLOWABLE ROCK REMOVAL CALCULATION

$3,220 \text{ sq ft} / 10.76 \text{ sq ft/sq m} = 299.3 \text{ sq m} \times 1.5 = 449 \text{ cu m} \times 35.31 \text{ cu ft/cu m} = 15,850 \text{ cu ft}$  (less of 600 cu m x 35.31 = 21,186 cu ft)

ROCK REMOVAL VOLUME CALCULATION

basement (including 4' around perimeter)  $2,122 \text{ sq ft} \times 5' \text{ ave.} = 11,672 \text{ cu ft}$   
 garage (including 4' around perimeter)  $1,297 \text{ sq ft} \times 3' \text{ ave.} = 3,891 \text{ cu ft}$   
 total = 15,562 cu ft (complies)  
 allowable = 15,850 cu ft

BASEMENT EXEMPTION CALCULATION

average grade elevation - basement floor elevation  $\times 100 = \frac{60.1 - 54.4}{64.1 - 54.4} \times 100 = 58.8\% \text{ exempt}$   
 main floor elevation - basement floor elevation

ROCK REMOVAL NOTE

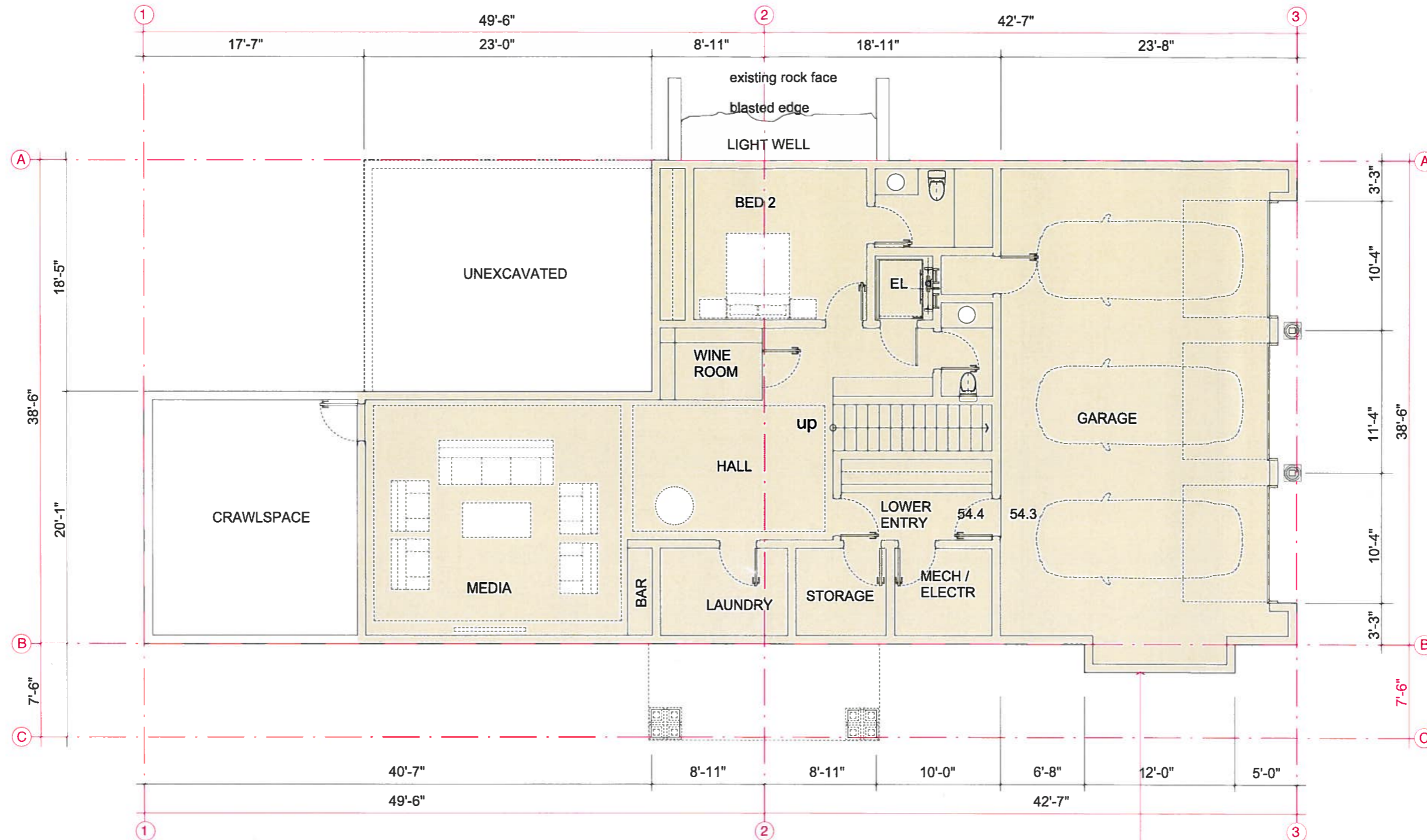
The profile and elevation of bedrock on this property is complex. Exact rock elevations will not be known until the existing house and landscape have been removed. Average height of rock to be removed is included in these calculations as an estimate only.

If the actual volume of rock to be removed to build the house as designed is determined to be less than the allowable volume, the owner will request an amendment to the building permit to allow the crawl space storage area to be extended to full height.

AVERAGE GRADE CALCULATION

Location	Existing grade	Finished grade	Wall segment	Segment Length	Formula	Existing grade calculation	Final grade calculation		
A	68.8	64.0	L1	74.5	(A + B) / 2 x L1 = x1	(68.8 + 56.1) / 2 x 74.5 = 4,652.5	(64.0 + 54.3) / 2 x 74.5 = 4,406.7		
B	56.1	54.3	L2	40.5	(B + C) / 2 x L2 = x2	(56.1 + 56.1) / 2 x 40.5 = 2,272.1	(54.3 + 54.3) / 2 x 40.5 = 2,199.2		
C	56.1	54.3	L3	5.0	(C + D) / 2 x L3 = x3	(56.1 + 56.1) / 2 x 5.0 = 280.5	(54.3 + 55.0) / 2 x 5.0 = 273.3		
D	56.1	55.0	L4	2.2	(D + E) / 2 x L4 = x4	(56.1 + 52.0) / 2 x 2.2 = 118.9	(55.0 + 55.0) / 2 x 2.2 = 121.0		
E	52.0	55.0	L5	12.0	(E + F) / 2 x L5 = x5	(52.0 + 63.9) / 2 x 12.0 = 635.4	(60.0 + 60.0) / 2 x 12.0 = 690.0		
F	53.9	60.0	L6	2.2	(F + G) / 2 x L6 = x6	(53.9 + 54.2) / 2 x 2.2 = 118.9	(60.0 + 60.0) / 2 x 2.2 = 132.0		
G	54.2	60.0	L7	14.4	(G + H) / 2 x L7 = x7	(54.2 + 56.2) / 2 x 14.4 = 794.0	(60.0 + 64.0) / 2 x 14.4 = 892.8		
H	56.2	64.0	L8	47.0	(H + I) / 2 x L8 = x8	(56.2 + 56.2) / 2 x 47.0 = 2,641.4	(64.0 + 64.0) / 2 x 47.0 = 3,008.0		
I	56.2	64.0	L9	0.0	(I + J) / 2 x L9 = x9	0.0 = 0.0	(64.0 + 64.0) / 2 x 0.0 = 0.0		
J	58.3	64.0	L10	13.8	(J + K) / 2 x L10 = x10	(58.3 + 58.0) / 2 x 13.8 = 802.5	(64.0 + 64.0) / 2 x 13.8 = 883.2		
K	58.0	64.0	L11	10.3	(K + L) / 2 x L11 = x11	(58.0 + 59.8) / 2 x 10.3 = 606.7	(64.0 + 64.0) / 2 x 10.3 = 659.2		
L	59.8	64.0	L12	0.0	(L + M) / 2 x L12 = x12	0.0 = 0.0	(64.0 + 64.0) / 2 x 0.0 = 0.0		
M	68.5	64.0	L13	11.8	(M + N) / 2 x L13 = x13	(68.5 + 68.8) / 2 x 11.8 = 810.1	(64.0 + 64.0) / 2 x 11.8 = 765.2		
N	68.8	64.0	L14	17.8	(N + O) / 2 x L14 = x14	(68.8 + 68.6) / 2 x 17.8 = 1,222.9	(64.0 + 64.0) / 2 x 17.8 = 1,139.2		
O	68.6	64.0	L15	19.5	(O + A) / 2 x L15 = x15	(68.6 + 68.8) / 2 x 19.5 = 1,339.7	(64.0 + 64.0) / 2 x 19.5 = 1,248.0		
						Lt	xt		
						271	16,296.3		
						avg existing grade = xt / Lt =	60.1	avg finished grade = xt / Lt =	60.5





GROSS AREA OF  
MAIN FLOOR  
(shown shaded)  
2,417 sq ft

PROJECT: 4719 PILOT HOUSE ROAD  
 TITLE: BASEMENT  
 SCALE: 1/4" = 1'-0"  
 DATE: 1 JUNE 2014  
 ISSUED: CAULFIELD PANEL REVIEW

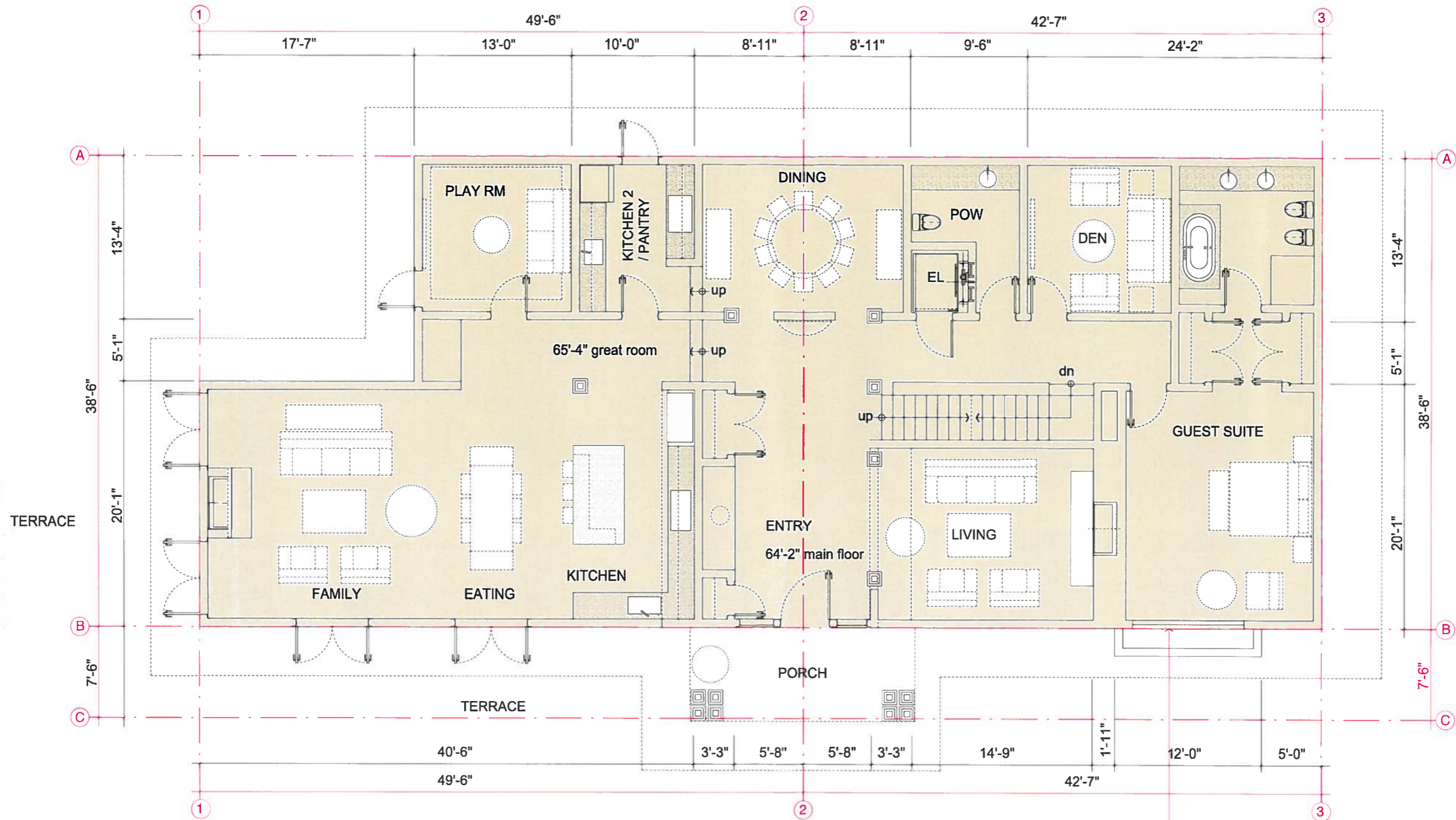
DRAWING # **11**

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PROJECT: 4719 PILOT HOUSE ROAD  
 TITLE: MAIN FLOOR  
 SCALE: 1/4" = 1'-0"  
 DATE: 1 JUNE 2014  
 ISSUED: CAULFEILD PANEL REVIEW

DRAWING # **12**

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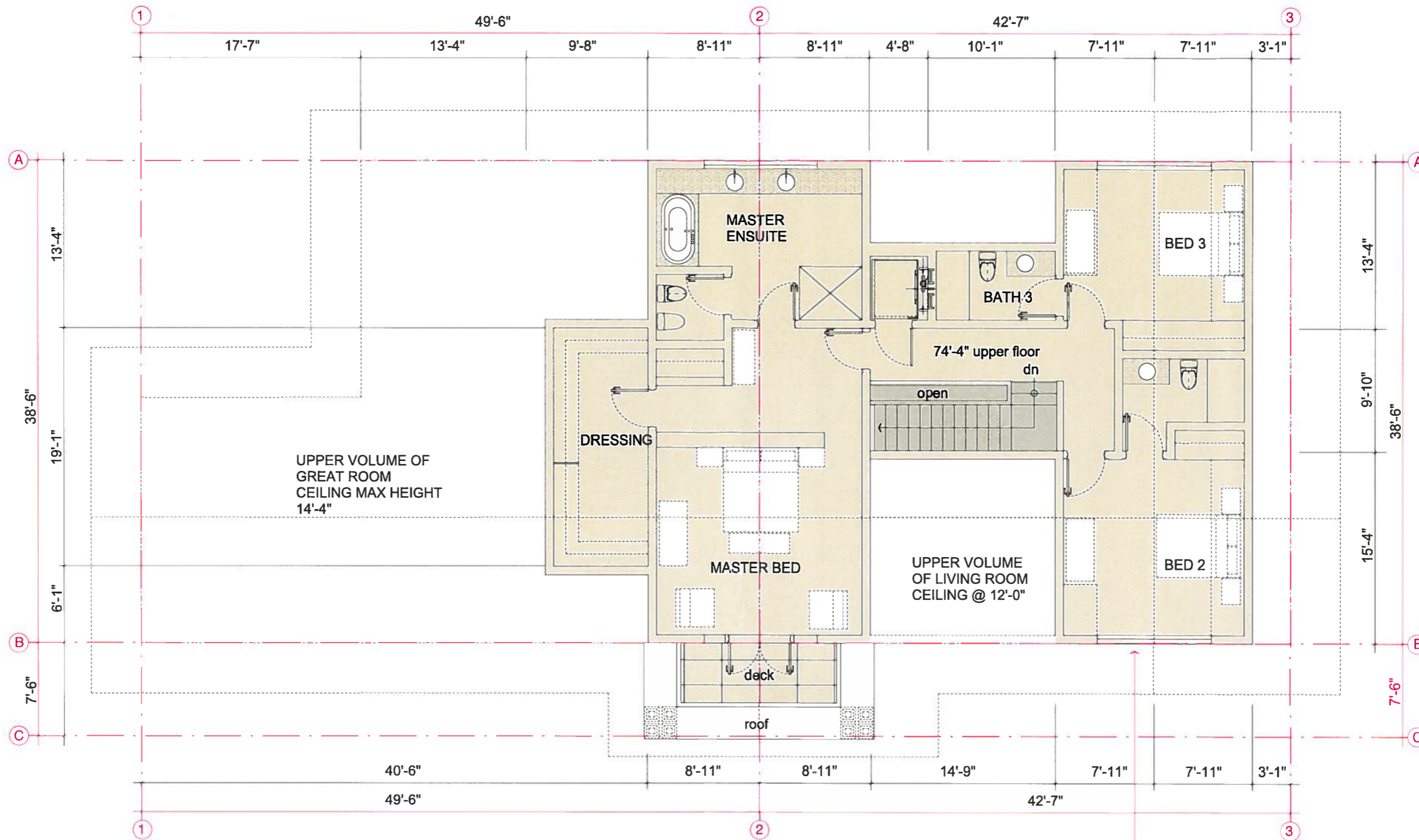


centre line of main floor entrance

GROSS AREA OF MAIN FLOOR (shown shaded) 3,220 sq ft



GRAHAM SHERWIN STUDIO



centre line of  
main floor entrance

GROSS AREA OF  
UPPER FLOOR  
(shown shaded)  
1,776 sq ft

PROJECT: 4719 PILOT HOUSE ROAD  
 TITLE: UPPER FLOOR  
 SCALE: 1/4" = 1'-0"  
 DATE: 1 JUNE 2014  
 ISSUED: CAULFIELD PANEL REVIEW

**DRAWING # 13**

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 ARCHITECTURE + INNOVATION INC.  
 250 893 5979  
 john@grahamsherwinstudio.com  
 www.grahamsherwinstudio.com

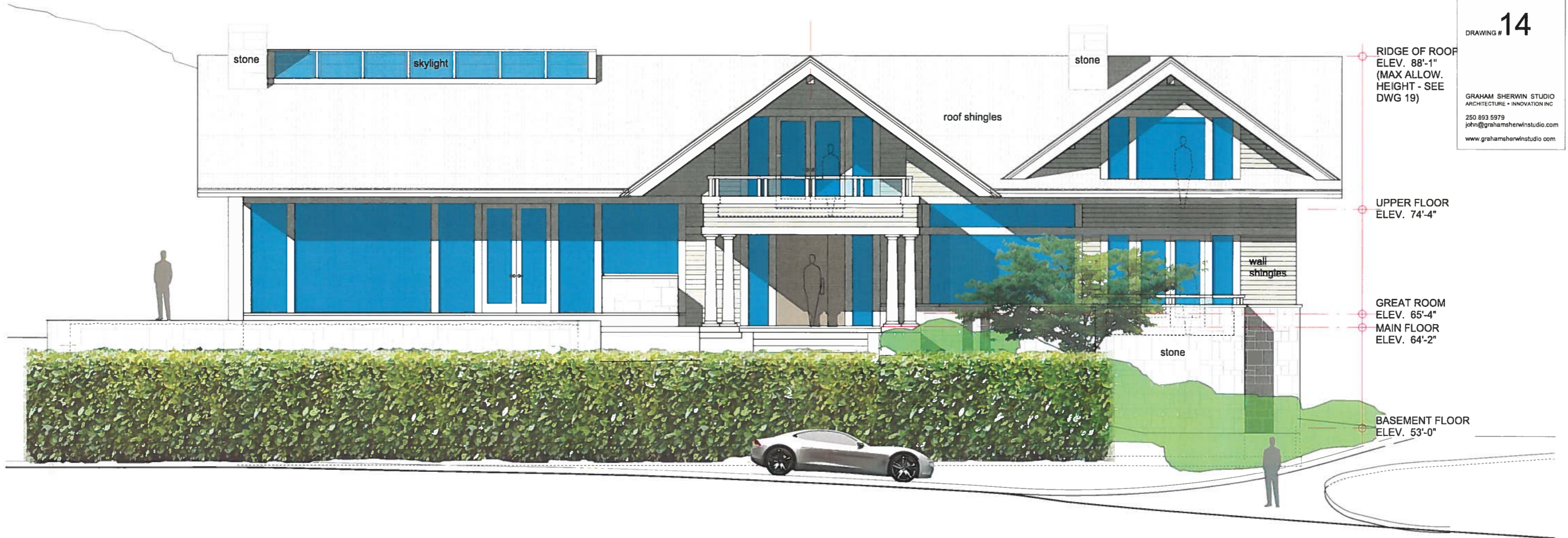




PROJECT: 4719 PILOT  
HOUSE ROAD  
TITLE: EAST ELEVATION  
SCALE: 1/4" = 1'-0"  
DATE: 1 JUNE 2014  
ISSUED: CAULFEILD PANEL  
REVIEW

DRAWING # **14**

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RIDGE OF ROOF  
ELEV. 88'-1"  
(MAX ALLOW.  
HEIGHT - SEE  
DWG 19)

UPPER FLOOR  
ELEV. 74'-4"

GREAT ROOM  
ELEV. 65'-4"  
MAIN FLOOR  
ELEV. 64'-2"

BASEMENT FLOOR  
ELEV. 53'-0"

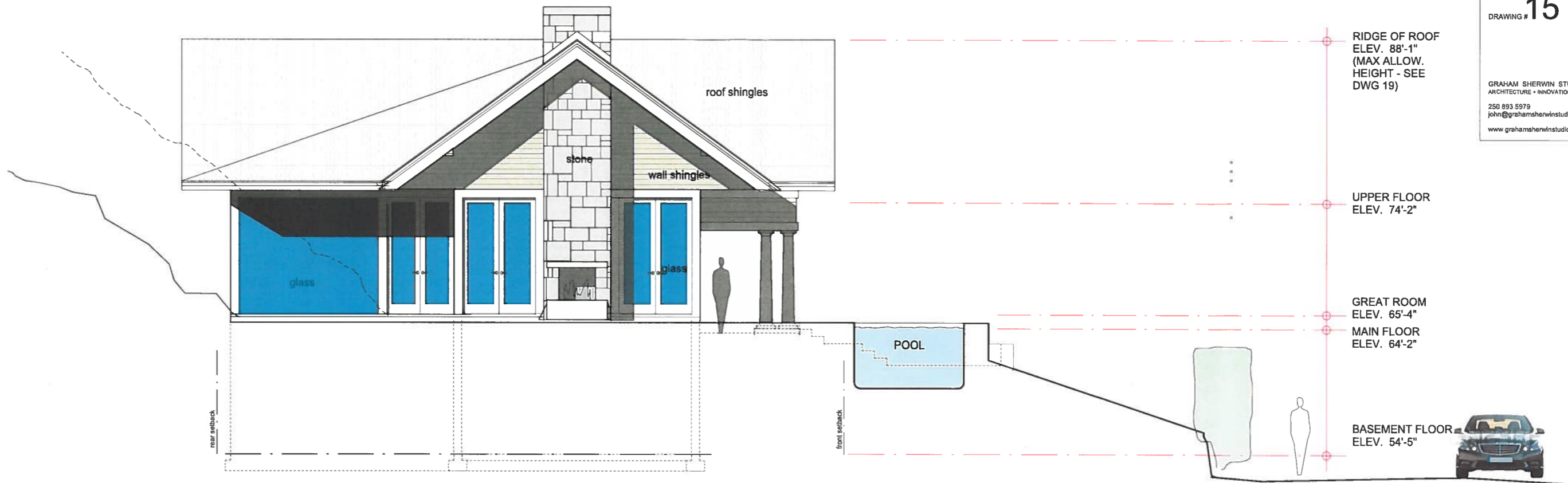


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SHERWIN  
STUDIO

PROJECT: 4719 PILOT  
HOUSE ROAD  
TITLE: SOUTH ELEVATION  
SCALE: 1/4" = 1'-0"  
DATE: 1 JUNE 2014  
ISSUED: CAULFEILD PANEL  
REVIEW

DRAWING # **15**

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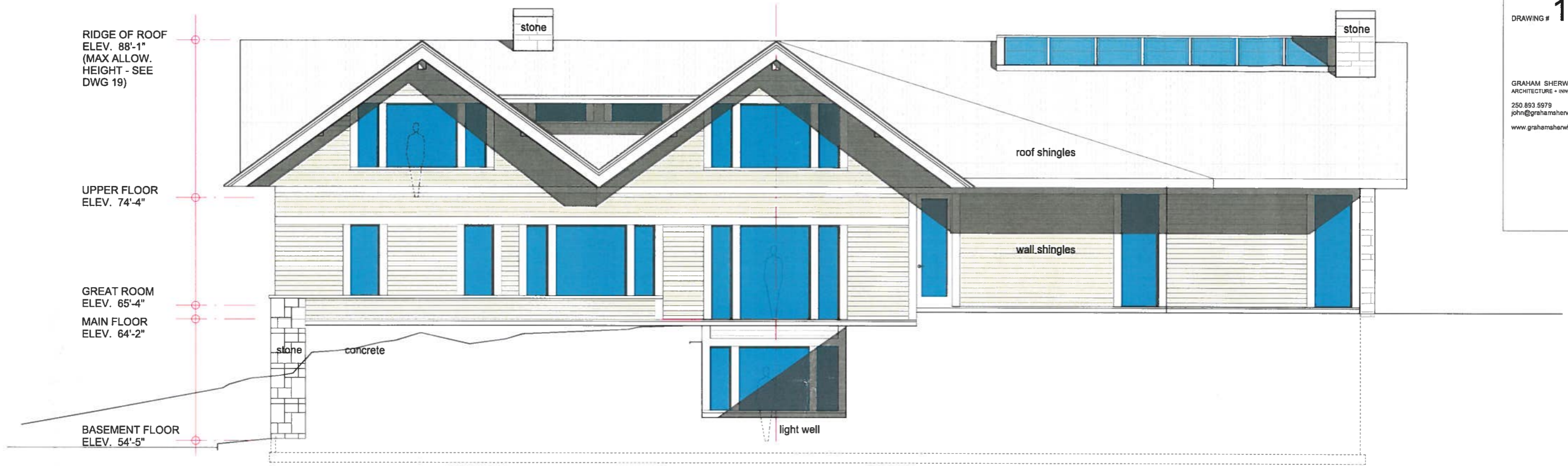


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PROJECT: 4719 PILOT HOUSE ROAD  
TITLE: WEST ELEVATION  
SCALE: 1/4" = 1'-0"  
DATE: 1 JUNE 2014  
ISSUED: CAULFEILD PANEL REVIEW

DRAWING # 16

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SHERWIN  
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PROJECT: 4719 PILOT  
HOUSE ROAD

TITLE: NORTH ELEVATION

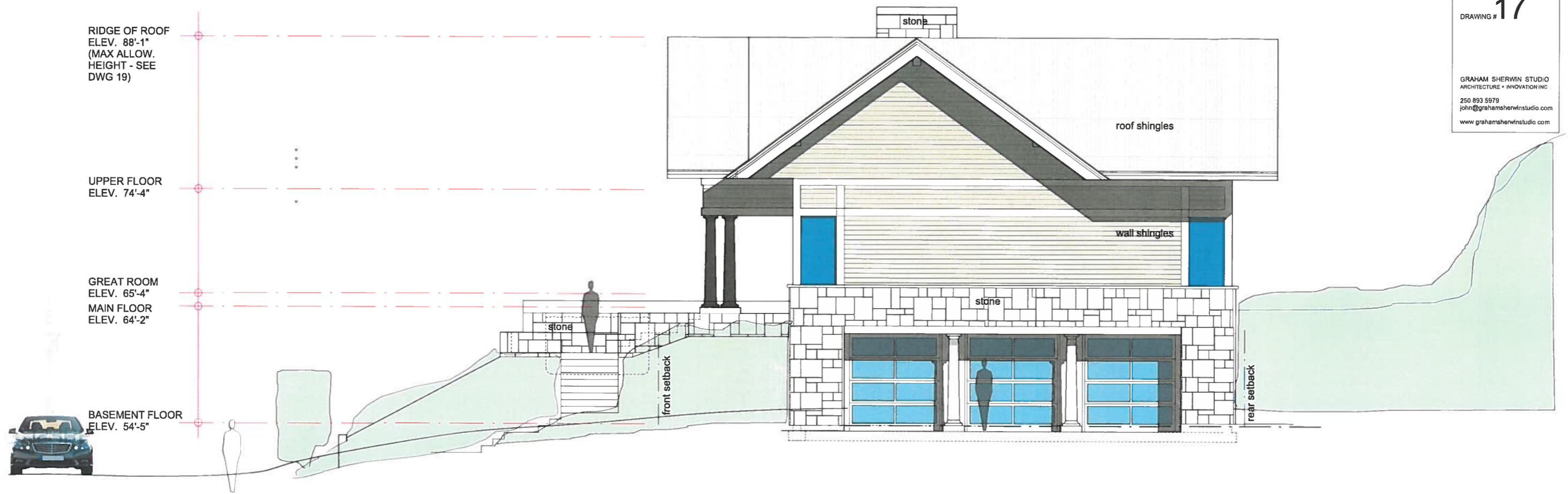
SCALE: 1/4" = 1'-0"

DATE: 1 JUNE 2014

ISSUED: CAULFIELD PANEL  
REVIEW

DRAWING # **17**

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PROJECT 4719 PILOT HOUSE ROAD

TITLE: ELEVATION COMPARISON

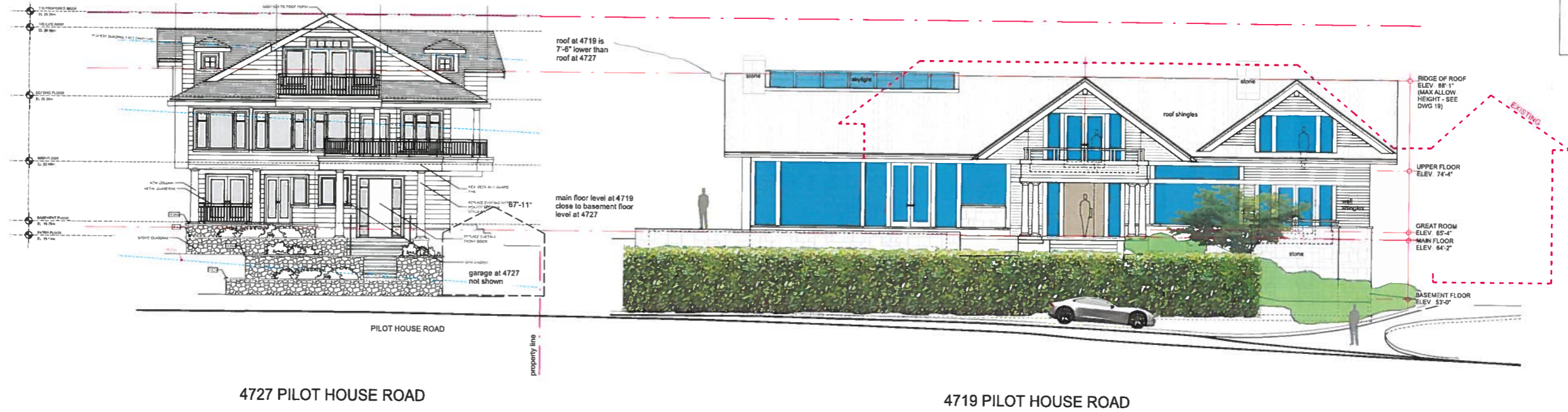
SCALE: 1/8" = 1'-0"

DATE: 1 JUNE 2014

ISSUED: CAULFIELD PANEL REVIEW

DRAWING # 18

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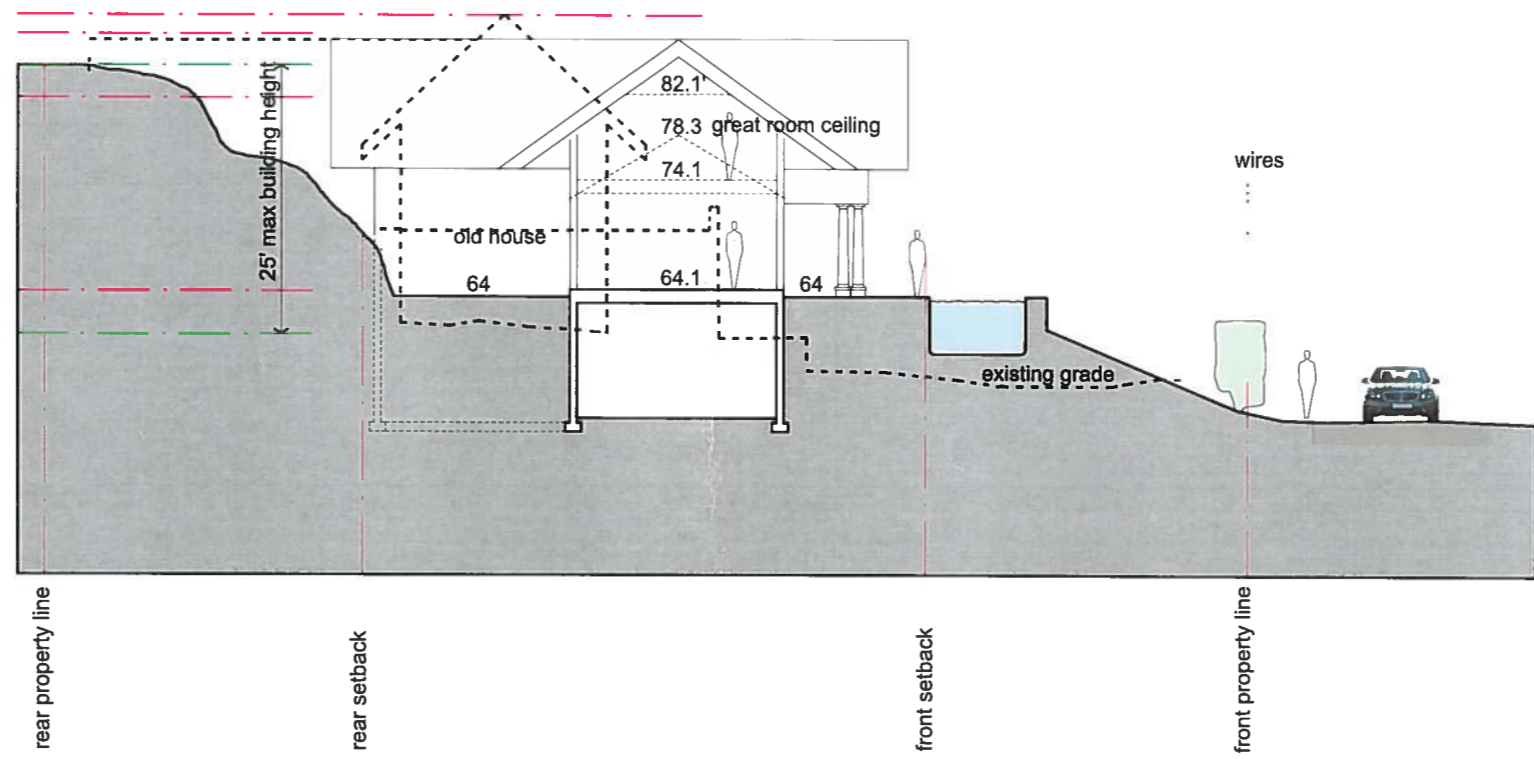
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PROJECT: 4719 PILOT HOUSE ROAD  
 TITLE: CROSS SECTION THROUGH SITE  
 SCALE: 1/8" = 1'-0"  
 DATE: 1 JUNE 2014  
 ISSUED: CAULFEILD PANEL REVIEW

DRAWING # 19

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89.35 existing roof at 4719 Pilot House  
 88.1' max height to top of roof  
 85.1' max height to midpoint of roof  
 82.1' 8' line above upper floor  
  
 64.1' main floor  
 60.1' lowest average grade

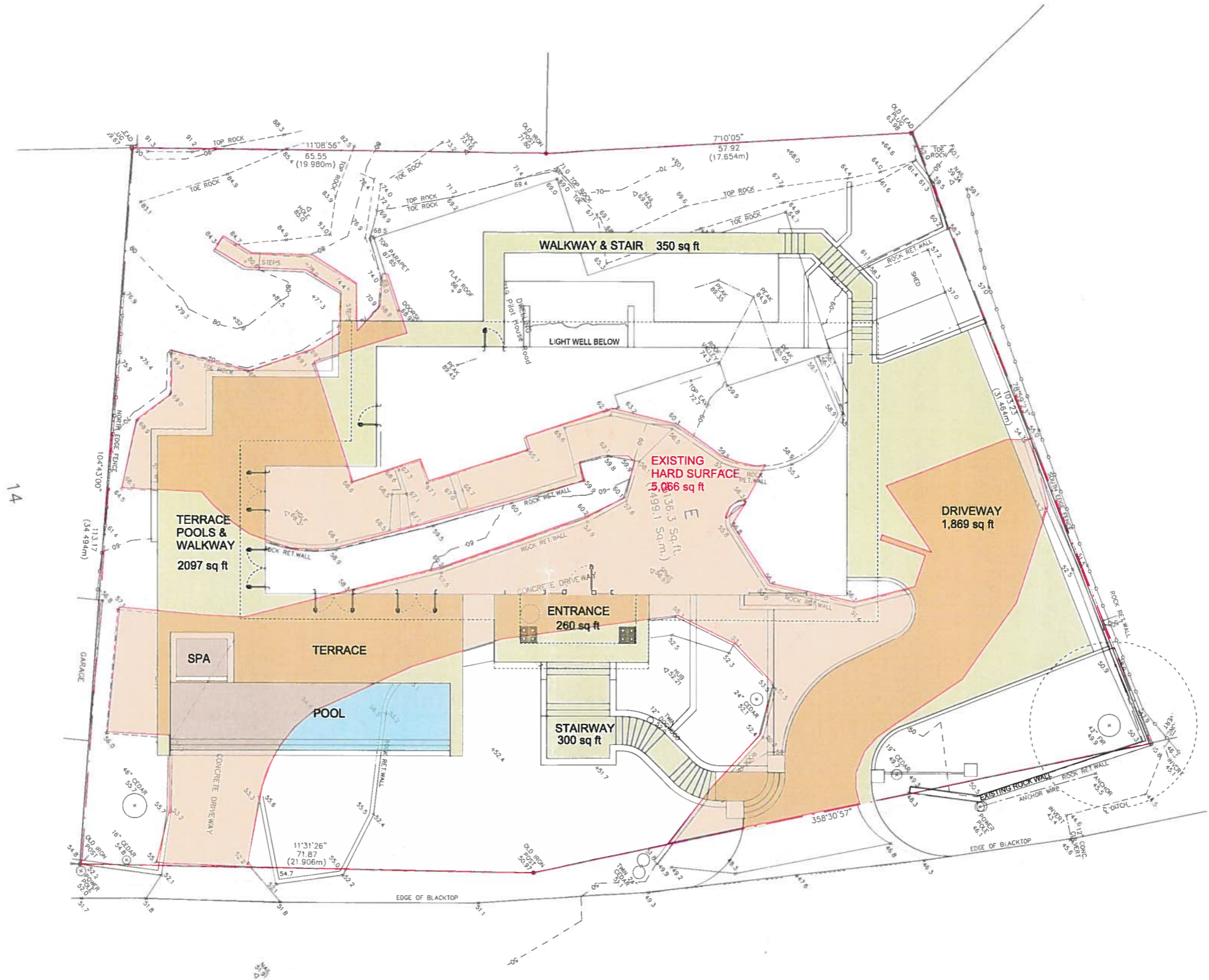


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PROJECT: 4719 PILOT HOUSE ROAD  
 TITLE: HARD SURFACE COMPARISON  
 SCALE: 1/8" = 1'-0"  
 DATE: 1 JUNE 2014  
 ISSUED: CAULFIELD PANEL REVIEW

DRAWING # **20**

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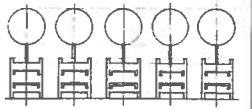


14

TOTAL PROPOSED HARD SURFACE 4,876 sq ft  
 TOTAL EXISTING HARD SURFACE 5,066 sq ft



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**Project:**  
**4719 PILOT HOUSE ROAD, WEST VANCOUVER**



**GENERAL LANDSCAPING NOTES**

1. VERIFY ALL DIMENSIONS AND ELEVATIONS ON SITE BEFORE CONSTRUCTION. REPORT ANY DISCREPANCIES/OMISSIONS TO LANDSCAPE ARCHITECT.
2. LAYOUT TO BE APPROVED BEFORE CONSTRUCTION BY LANDSCAPE ARCHITECT.
3. MINIMUM STANDARDS OF ALL LANDSCAPE CONSTRUCTION TO MEET BCSLA/BCLTA STANDARDS.
4. ALL DRAINAGE TO BE AWAY FROM BUILDING, APPROX. 2% SLOPE.
5. ALL WALKWAYS AND PAVED AREAS TO BE SLOPED FOR DRAINAGE APPROX. 2%.
6. ALL WALLS TO BE 8" IN THICKNESS UNLESS OTHERWISE SPECIFIED.
7. REMOVAL OF ANY TREES IS SUBJECT TO MUNICIPAL APPROVAL.
8. ALL DIMENSIONS AND ELEVATIONS SHOWN ARE IN FEET.
9. ALL SPECIFIED SAW CUTS TO BE MADE TO A DEPTH 1/2" OF CONCRETE THICKNESS.
10. PERIMETER OF ALL BUILDINGS TO BE BORDERED WITH A MINIMUM 12" WIDTH OF GRAVEL OVER APPROPRIATE FOUNDATION DRAINAGE.

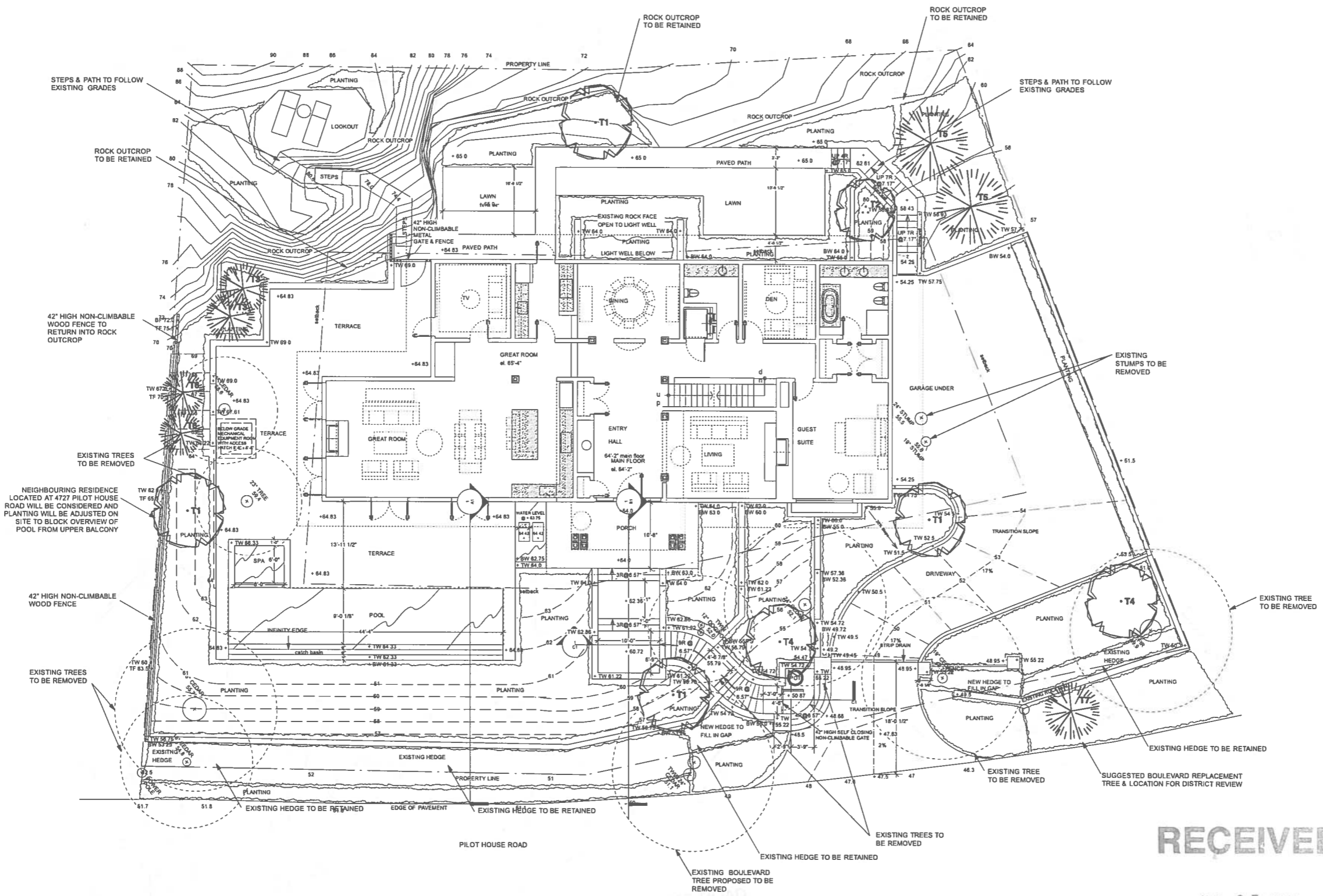
**GENERAL PLANTING NOTES**

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4. SCARIFY NEW SOIL INTO EXISTING SOIL.
5. ALL SOD IS TO BE UNNETTED.
6. ALL SPECIFIED PLANT MATERIAL IS NOT GUARANTEED TO BE TOTALLY WINTER HARDY.

**Title:**  
**LANDSCAPE PLAN**

**Sheet:**  
**SITE PLAN**

Date: 25 July 2014	Rev:
Job No: 2014-05	Supersedes all previous revisions.
Drawn: DBT/ST/KS	<b>L1.0</b>
Scale: 1/8"=1'-0"	

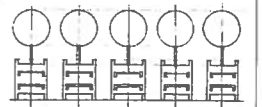


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Project:  
**4719 PILOT HOUSE ROAD, WEST VANCOUVER**



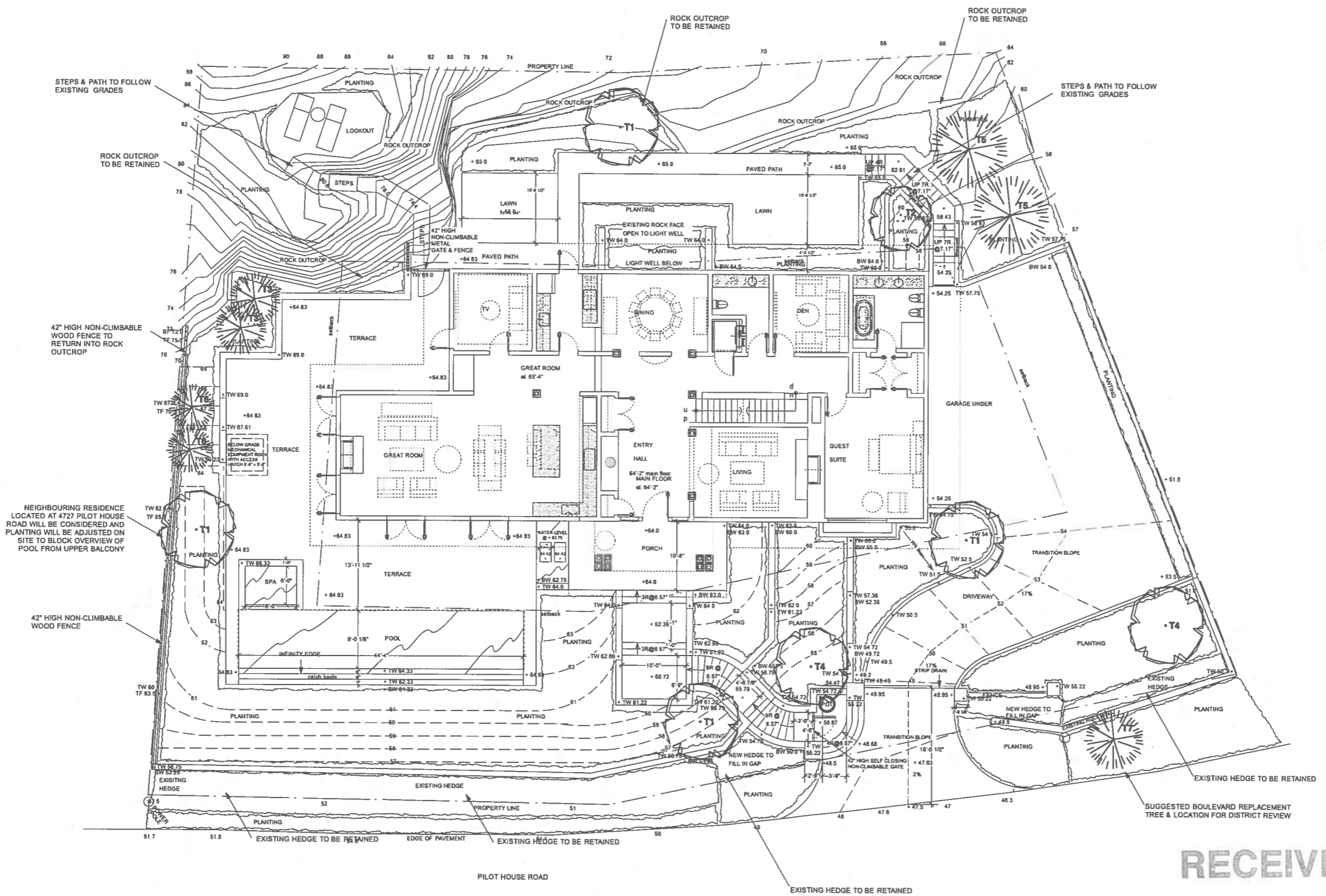
- GENERAL LANDSCAPING NOTES**
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Title:  
**LANDSCAPE PLAN**

Sheet:  
**GRADING PLAN**

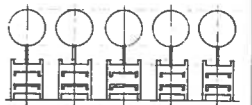
Date: 25 July 2014	Rev:
Job No: 2014-05	Supersedes all previous revisions.
Drawn: DBT/ST/KS	<b>L1.1</b>
Scale: 1/8"=1'-0"	



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Project:  
**4719 PILOTHOUSE ROAD, WEST VANCOUVER**



**GENERAL LANDSCAPE NOTES**

1. VERIFY ALL DIMENSIONS AND ELEVATIONS ON SITE BEFORE CONSTRUCTION. REPORT ANY DISCREPANCIES/COMMISSIONS TO LANDSCAPE ARCHITECT.
2. LAYOUT TO BE APPROVED BEFORE CONSTRUCTION BY LANDSCAPE ARCHITECT.
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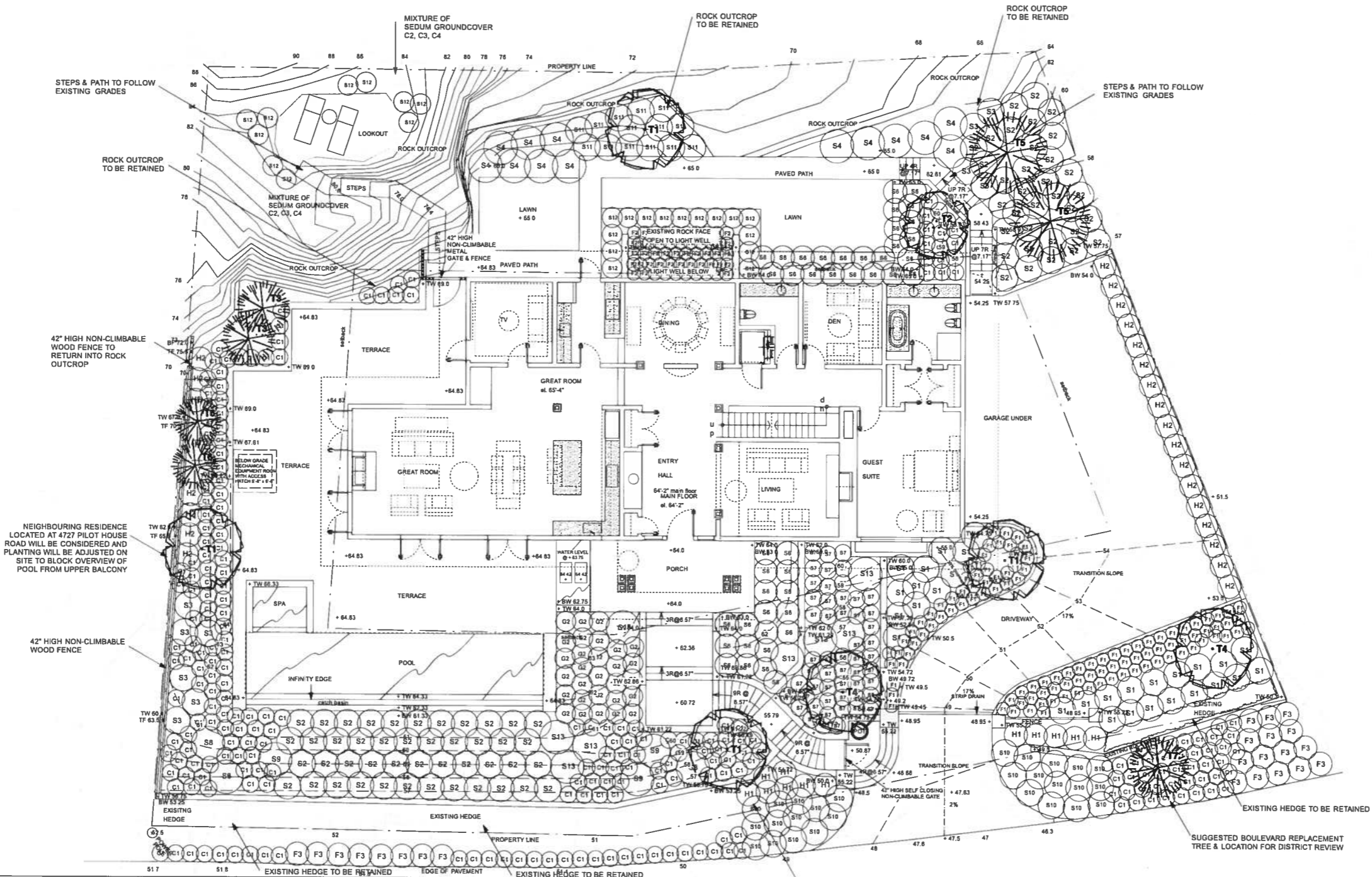
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Title:  
**LANDSCAPE PLAN**

Sheet:  
**PLANTING PLAN**

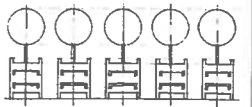
Date: 25 July 2014 Rev:  
 Job No: 2014-05 Supersedes all previous revisions.  
 Drawn: DBT/ST/KS  
 Scale: 1/8"=1'-0" **L2.0**



Code	Qty	Botanical Name	Common Name	Details
<b>TREES</b>				
T1	4	Acer palmatum (Green Leaf)	Green Leaf Japanese Maple	15' + tall / B&B
T2	1	Acer circinatum	Multi-trunk Vine Maple	8' + tall / B&B
T3	2	Chamaecyparis Noctkalensis Pendula	Weeping Noctka False Cypress	12' + tall / B&B
T4	2	Sorbus aucuparia 'Cardinal Royal'	Mountain Ash	12' + tall / B&B
T5	2	Pseudotsuga menziesii	Douglas Fir	15' + tall / B&B
T6	2	Thuja plicata	Western Red Cedar	15' + tall / B&B
T7	1	Pinus contorta var. contorta	Shore Pine	8'-10' tall / B&B
<b>HEDGES</b>				
H1	12	Prunus laurocerasus	English Laurel	3'-0" o.c. / 6'-0" HIGH
H2	24	Thuja plicata 'Exoniata'	Western Red Cedar	3'-0" o.c. / 6'-0" HIGH
<b>SHRUBS</b>				
S1	29	Azalea 'Northern Hi-Lights'	Northern Hi-Lights Deciduous Azalea	4'-0" o.c. / 2'-0" HIGH
S2	79	Lonicera nidula 'Malgrun'	Bot-Leaved Honeyuckle	3'-0" o.c. / 2'-0" HIGH
S3	10	Arbutus unedo 'Compacta'	Compact Strawberry Bush	4'-0" o.c. / 3'-0" HIGH
S4	13	Coleus coggygria 'Young Lady'	Smoke Bush (Green)	4'-0" o.c. / 3'-0" HIGH
S5	9	Cosmos glaucus 'Double Bayan'	Paint-Pepper-Salifornia-Lilac	2'-0" o.c. / 4'-0" HIGH
S6	43	Hebe pingulifolia 'Sutherlandi'	Sutherland Hebe	3'-0" o.c. / 1'-6" HIGH
S7	53	Skimmia japonica 'Rubella'	Rubella Skimmia	2'-0" o.c. / 1'-6" HIGH
S8	3	Pinus sylvestris 'Watereri'	Waterer Scotch Pine	4'-0" o.c. / 5 GAL POT
<b>SHRUBS</b>				
S9	3	Pinus densiflora 'Umbraculifera'	Tanyosho Pine	4'-0" o.c. / 5 GAL POT
S10	27	Pinus sylvestris 'Hillside Creeper'	Hillside Creeper Pine	3'-0" o.c. / 1'-0" HIGH
S11	14	Berberis thunbergii 'Royal Cloak'	Royal Cloak Japanese Barberry	4'-0" o.c. / 2'-0" HIGH
S12	25	Pinus mugo 'Mughus'	Mugo Pine	2'-0" o.c. / 1'-0" HIGH
S13	8	Rhododendron (to be selected)	Field Grown Rhododendron	5'-0" o.c. / 4'-0" HIGH
<b>GRASSES</b>				
G1	0	Phyllostachys-sauze	Golden Bamboo	3'-0" o.c. / B&B
G2	29	Miscanthus sinensis 'Morning Light'	Malden Grass	2'-6" o.c. / 2 GAL POT
<b>FERNS</b>				
F1	112	Dryopteris erythrosora 'Brilliance'	Autumn Fern	1'-5" o.c. / #1 POT
F2	52	Asplenium scolopendrium	Hart's Tongue Fern	1'-8" o.c. / #1 POT
F3	23	Polystichum munium	Western Sword Fern	3'-0" o.c. / #1 POT
<b>GROUND COVERS</b>				
C1	251	Gaulltheria Shallon	Salal	1'-6" o.c. / #1 POT
C2	126	Sedum pachycladus 'White Diamonds'	Stoncrop	1'-0" o.c. / 4" POT
C3	126	Sedum Hispanicum var. minus	Stoncrop	1'-0" o.c. / 4" POT
C4	126	Sedum caulicola 'Lidkense'	Stoncrop	1'-0" o.c. / 4" POT

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Project:  
**4719 PILOT HOUSE ROAD, WEST VANCOUVER**



**GENERAL LANDSCAPING NOTES**

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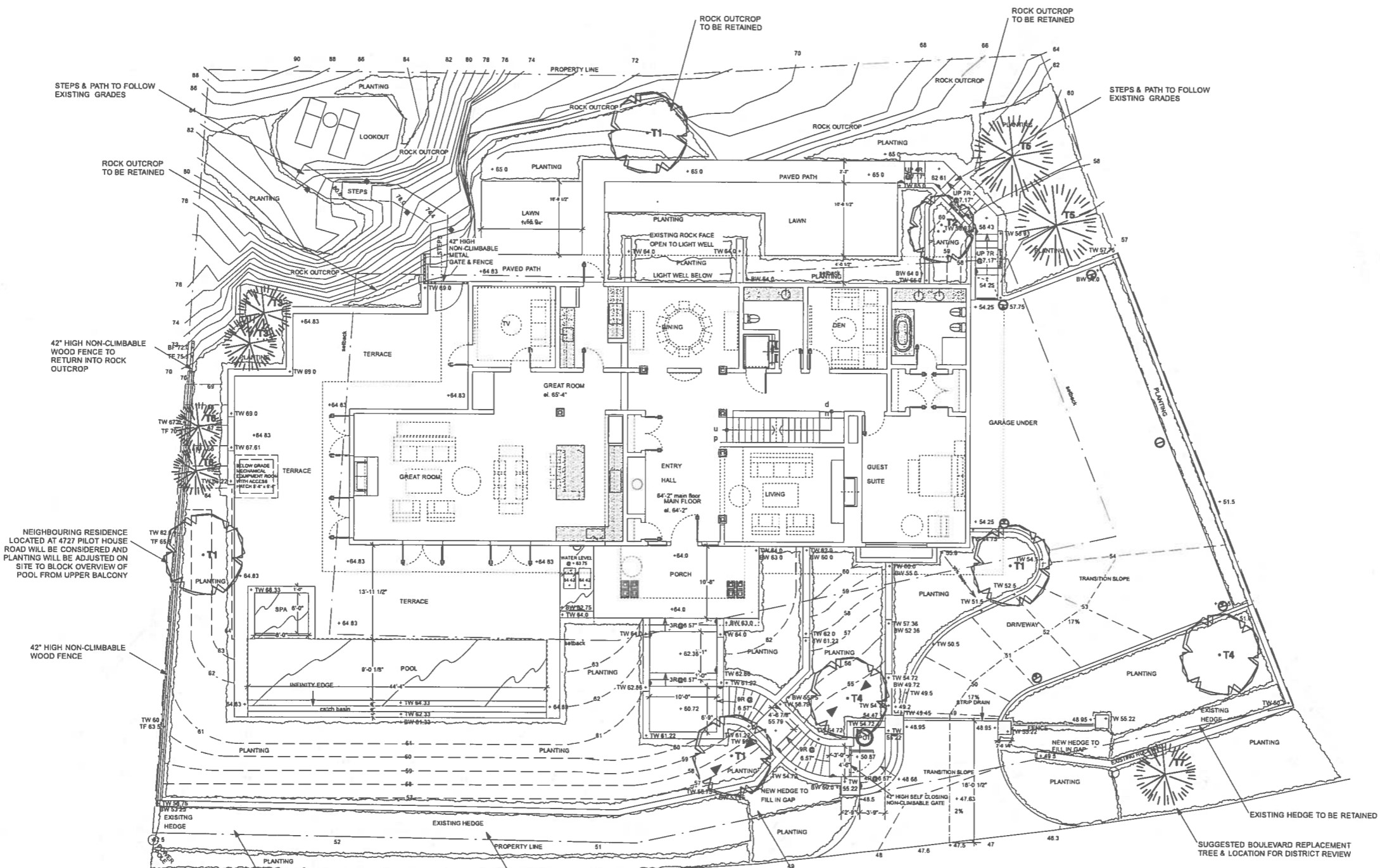
**GENERAL PLANTING NOTES**

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Title:  
**LANDSCAPE PLAN**

Sheet:  
**LIGHTING PLAN**

Date: 25 July 2014 Rev:  
 Job No: 2014-05 Supercedes all previous revisions.  
 Drawn: DBT/ST/KS  
 Scale: 1/8"=1'-0" **L3.0**



**LANDSCAPE LIGHTING KEY**

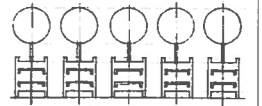
1	Stake mount adjustable tree light BK Delta Star	BK Delta Star 3W-LED DS-LED-E36-MFL-AR-BLP-12-A	BK DR2 Series Precision2 In-Grade (1 or 2 opening) In-Ground Driveway Light	Philips Hako LED Pathlight (CL20W2)
2	Water Feature Light Shed lighting contractor to confirm specifications for lighting fixture	MP L03 Submersible Pool Light L03-1-W275-W-C-30-AC-B-X-68	BK DR2 Series Precision2 In-Grade (1 opening) DR2-RS-29-BLP-1	
13	Step Light - Side wall core mount	BK Mini-Micro 3W-LED Wall Mount Step Light CM-LED-CM-BLP	BK DR2 Series Precision2 In-Grade (2 opening) DR2-RS-29-BLP-2	
5	In-ground Driveway Marker Light		Philips Hako LED Pathlight (CL20W2) - Finish in Black	
1	In-ground Driveway Marker Light			
4	Pathway Light			

**LIGHTING NOTES**

1. Fixtures to have LED in same colour value range.
2. Adjustable spotlights to be directed up towards associated tree.
3. Lighting contractor to confirm all specifications and whether the specified lights will require a remote magnetic transformer.
4. All fixed bases and mounting brackets to be reviewed with general contractor, electrician, and fixture supplier for application before ordering order.
5. Water feature lights to be approved by lighting contractor.
6. Any and all modifications must be approved by Landscape Architect.
7. Pool contractor to specify and approve pool & spa lights.
8. Reconnect using the BK Portable Transformer with the BK Lights.

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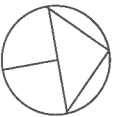
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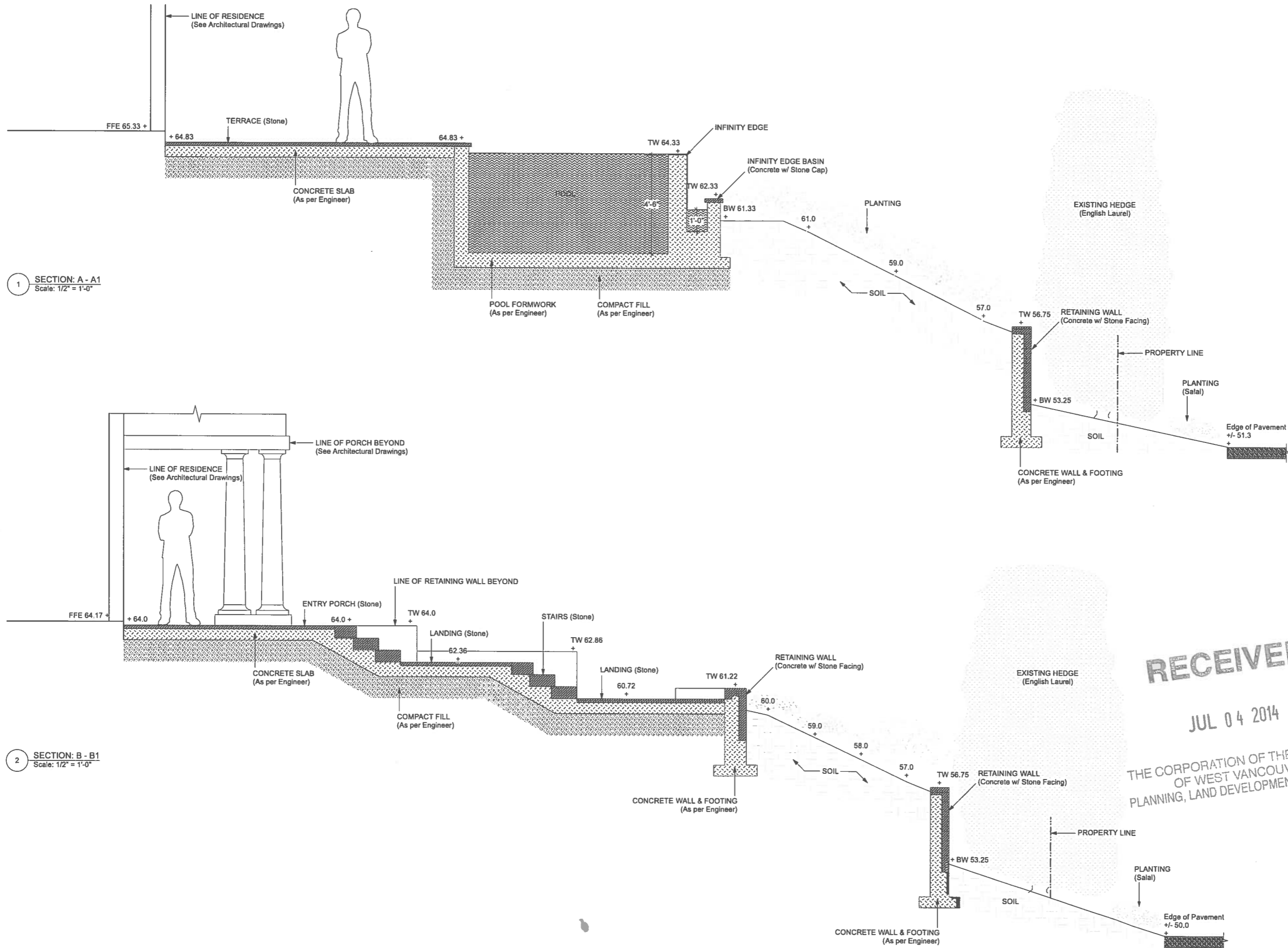
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Project:  
**4719 PILOT HOUSE ROAD,  
 WEST VANCOUVER**



- GENERAL LANDSCAPING NOTES**
1. VERIFY ALL DIMENSIONS AND ELEVATIONS ON SITE BEFORE CONSTRUCTION. REPORT ANY DISCREPANCIES/OMISSIONS TO LANDSCAPE ARCHITECT.
  2. LAYOUT TO BE APPROVED BEFORE CONSTRUCTION BY LANDSCAPE ARCHITECT.
  3. MINIMUM STANDARDS OF ALL LANDSCAPE CONSTRUCTION TO MEET BCSLABCNIA STANDARDS.
  4. ALL DRAINAGE TO BE AWAY FROM BUILDING. APPROX. 2% SLOPE.
  5. ALL WALKWAYS AND PAVED AREAS TO BE SLOPED FOR DRAINAGE. APPROX. 2%.
  6. ALL WALLS TO BE 8" IN THICKNESS UNLESS OTHERWISE SPECIFIED.
  7. REMOVAL OF ANY TREES IS SUBJECT TO MUNICIPAL APPROVAL.
  8. ALL DIMENSIONS AND ELEVATIONS SHOWN ARE IN FEET.
  9. ALL SPECIFIED SAW CUTS TO BE MADE TO A DEPTH 1/3 OF CONCRETE THICKNESS.
  10. PERIMETER OF ALL BUILDINGS TO BE BORDERED WITH A MINIMUM 12" WIDTH OF GRAVEL OVER APPROPRIATE FOUNDATION DRAINAGE.

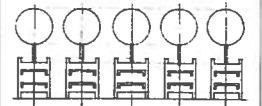
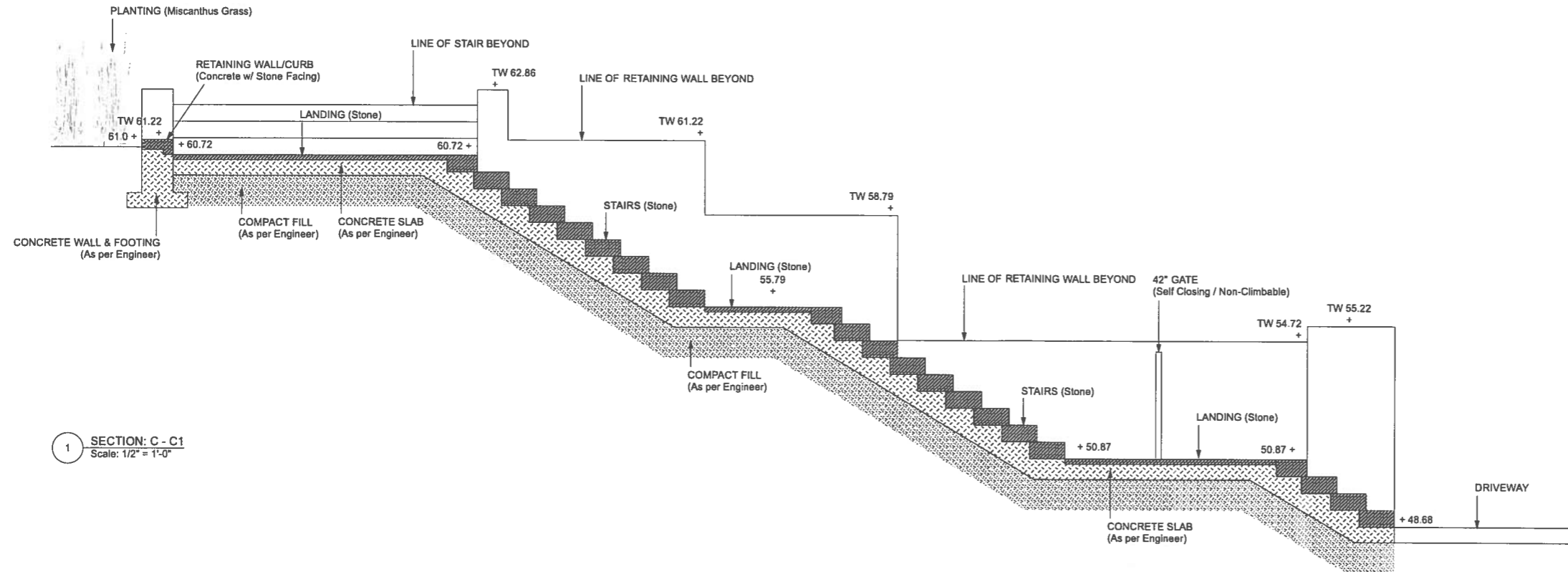
- GENERAL PLANTING NOTES**
1. PLANTS IN THIS PLANT LIST ARE SPECIFIED ACCORDING TO THE LANDSCAPE CANADA GUIDE SPECIFICATION FOR NURSERY STOCK AND THE BCNTA STANDARD FOR CONTAINER GROWN PLANTS.
  2. STAKE ALL TREES SECURELY.
  3. MINIMUM SOIL DEPTHS TO BE: 6" IN LAWN AREAS; 8" IN GROUND COVER AREAS; 12" IN SHRUB AREAS; AND ONE CUBIC YARD PER TREE ROOT BALL.
  4. SCARIFY NEW SOIL INTO EXISTING SOIL.
  5. ALL SOD IS TO BE UNNETTED.
  6. ALL SPECIFIED PLANT MATERIAL IS NOT GUARANTEED TO BE TOTALLY WINTER HARDY.



Title:  
**LANDSCAPE PLAN**

Sheet:  
**SECTIONS**

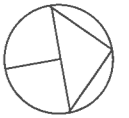
Date: 4 July 2014	Rev:
Job No: 2014-05	Supersedes all previous revisions.
Drawn: KAS	<b>L4.0</b>
Scale: As Noted	



**RON RULE CONSULTANTS LTD.**  
2221 Gordon Ave., West Vancouver, B.C., Canada, V7V 1W2  
Tel: 604-926-1696 Fax: 604-926-1629

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Project:  
**4719 PILOT HOUSE ROAD, WEST VANCOUVER**



- GENERAL LANDSCAPING NOTES**
1. VERIFY ALL DIMENSIONS AND ELEVATIONS ON SITE BEFORE CONSTRUCTION. REPORT ANY DISCREPANCIES/OMISSIONS TO LANDSCAPE ARCHITECT.
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  3. MINIMUM STANDARDS OF ALL LANDSCAPE CONSTRUCTION TO MEET BC SLAB/CNTA STANDARDS.
  4. ALL DRAINAGE TO BE AWAY FROM BUILDING. APPROX. 2% SLDPE.
  5. ALL WALKWAYS AND PAVED AREAS TO BE SLOPED FOR DRAINAGE. APPROX. 2%.
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Title:  
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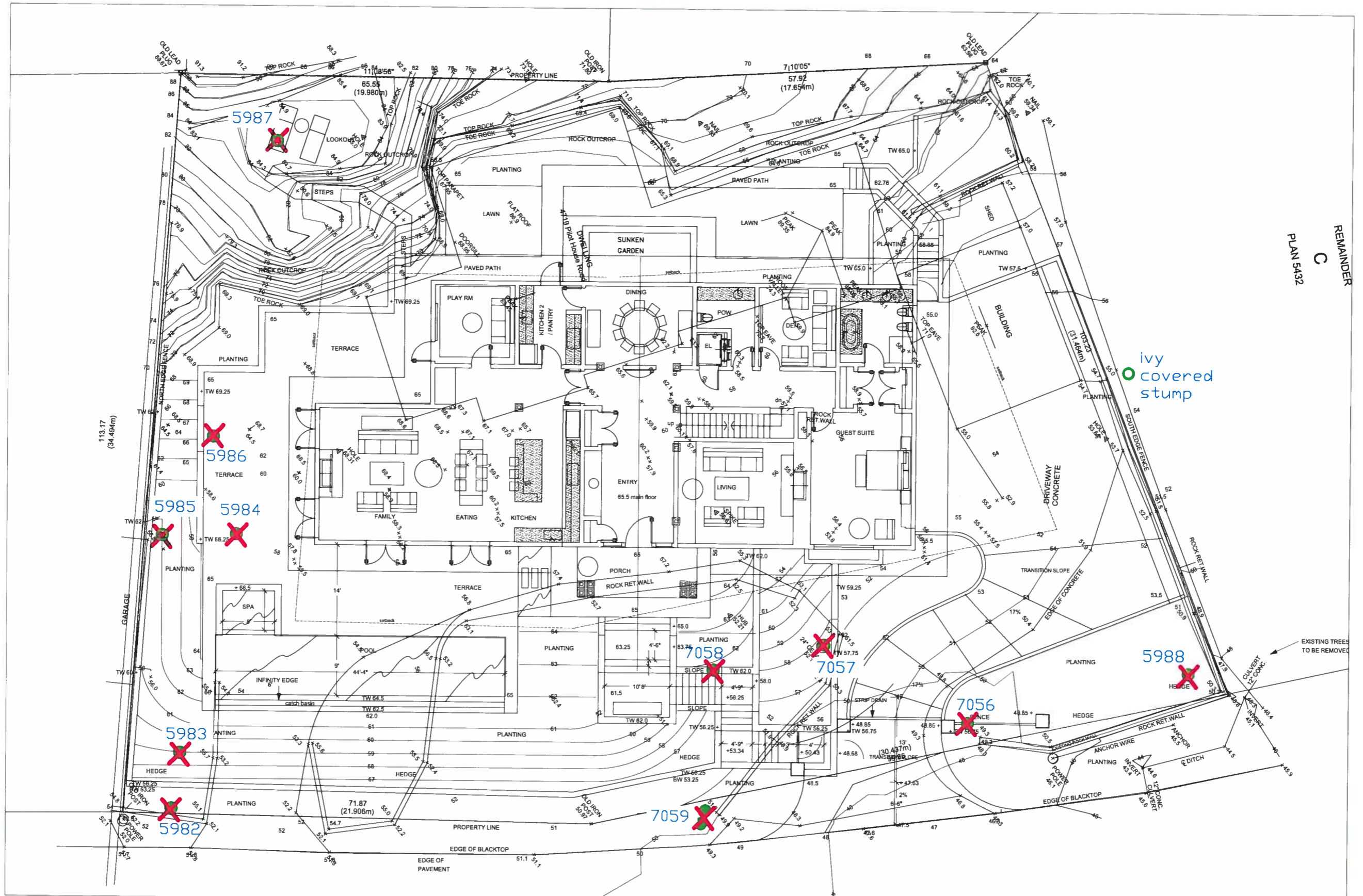
Sheet:  
**SECTIONS**

Date: 4 July 2014	Rev:
Job No: 2014-05	Supersedes all previous revisions.
Drawn: KAS	<b>L4.1</b>
Scale: As Noted	

**RECEIVED**

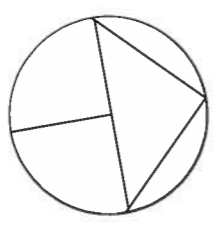
JUL 04 2014

THE CORPORATION OF THE DISTRICT OF WEST VANCOUVER  
PLANNING, LAND DEVELOPMENT & PERMITS



REMAINDER  
C  
PLAN 5432

ivy covered stump



- LEGEND
- TREE TO BE RETAINED
  - ⊗ TREE TO BE REMOVED
  - UNSURVEYED TREE
  - ROOT PROTECTION ZONE
  - ROOT PROTECTION FENCING

DATE  
APRIL 2 2014

CLIENT  
Rimrock Developments Ltd.  
#212 2438 Marine Drive West Vancouver V7V 1L2

**DIAMOND HEAD CONSULTING LTD.**  
342 WEST 8TH AVENUE  
VANCOUVER, BC V5Y 3X2  
PHONE 604.733.4886

TITLE  
TREE PROTECTION AND REMOVAL PLAN  
4719 Pilot House Road West Vancouver BC

SCHEDULE B

**Diamond Head Consulting Ltd.  
Arborist Report**

For:

4719 Pilot House Road  
West Vancouver, BC

March 24, 2014

To be submitted with Tree Protection Plan  
Dated: April 2, 2014

Submitted to:

Rimrock Developments Ltd.  
#212 2438 Marine Drive  
West Vancouver  
V7V 1L2

Submitted by:



**DIAMOND HEAD  
CONSULTING LTD.**

342 West 8<sup>th</sup> Avenue  
Vancouver, BC  
V5Y 3X2



The following Diamond Head Consulting staff performed the site visit and prepared the report. All general and professional liability insurance and individual accreditations have been provided below for reference.



Max Rathburn  
ISA Certified Arborist (PN0599A)  
ISA Certified Tree Risk Assessor (159)

This report summarizes the planned management of trees on the site. If there are any questions or concerns as to the contents of this report, please contact us at any time.

#### Contact Information

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Website: [www.diamondheadconsulting.com](http://www.diamondheadconsulting.com)

#### Insurance Information

WCB: # 657906 AQ (003)  
General Liability: Northbridge General Insurance Corporation - Policy #CBC1935506,  
\$5,000,000 (Mar 2014 to Mar 2015)  
Errors & Omissions: Lloyds Underwriters – Policy #1010346D, \$1,000,000 (June 2011 to June 2015)



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## 1.0 Introduction

Diamond Head Consulting Ltd. (DHC) was asked to complete an assessment of the trees on and adjacent to the following proposed development:

Civic address:	4719 Pilot House Road, West Vancouver BC
Project No.:	unknown
Client name:	Rimrock Developments
Date of site visit:	March 27 2014
Weather during visit:	Clear with average seasonal temperatures

The trees at the site were assessed, including: species, diameter at breast height (dbh) measured to the nearest 1 cm at 1.4 m above tree base, estimated height and general health and defects. Critical root zones were calculated for each of the trees with the potential for development impacts. Tree hazards were assessed according to International Society of Arboriculture and WCB standards. Suitability for tree retention was evaluated based on the health of the trees and their location in relation to the proposed building envelopes and infrastructure. This report outlines the existing condition of the trees on and adjacent to the property, summarizes the proposed tree removals and retention trees as well as suggested guidelines for protecting the remaining trees during the construction process.

### 1.1 Limits of Assignment

- Our investigation is based solely on our visual inspection of the trees on March 27<sup>th</sup> 2014. Our inspection was conducted from ground level. We did not conduct soil tests or root examination to assess the condition of the root system of the trees.
- This report does not provide any estimates to implement the proposed recommendations provided in this report.
- This report is valid for six months from the date of submission. Additional site visits and report revisions are required after this point to ensure accuracy of the report for the District's development permit application process.

### 1.2 Purpose and Use of Report

- Provide documentation pertaining to on and off site trees to supplement the proposed development permit application.



Figure 1. Location of site – 4719 Pilot House Road West Vancouver

## 2.0 Observations

### 2.1 Site Overview

The site consists of lot that contains the existing house and carport. The yard is heavily tree, and these trees have all been previously topped several times throughout their history. The on-site trees consist of a mix of mature coniferous and deciduous trees that include Western Redcedar (*Thuja plicata*), Douglas-fir (*Pseudotsuga menziesii*), Sawara Cypress (*Chamaecyparis pisifera*), Western hemlock (*Tsuga heterophylla*), and Pacific dogwood (*Cornus nuttallii*).

The on-site trees were tagged and recorded within the inventory and report. In the context of the proposed development the majority of the trees will not be suitable for retention based on their pre-existing conditions, species composition, patterns of failure and the changes to site hydrology. Tree attributes, critical root zones and recommendations for the trees are listed below in **Table 1**.

### 2.2 Tree Inventory

The following is an inventory of assessed trees, each of which was marked with a numbered tag. Tree species, characteristics, comments, recommendations and required root protection zones have been suggested (Table 1). Their locations are illustrated on the accompanying map.

#### Overall Health and Structure Rating

**Excellent** = Tree of possible specimen quality, unique species or size with no discernible defects. Or a heritage tree.

**Normal** = These trees are in fair to good condition, considering its growing environment and species.

**Poor** = These trees have low vigour, with noted health and/or structural defects. This tree is starting to decline from its typical species growth habits.

**Very poor** = These trees are in serious decline from its typical growth habits, with multiple very definable health and/or structural defects.

**Dead/Dying** = These trees were found to be dead, and/or have severe defects and are in severe decline.

**High Risk** = These trees have been deemed hazardous by a Certified Tree Risk Assessor utilizing CTRA methods. They have a probability of failure of 3 or higher with a total overall risk rating of 8 (Moderate 3) or above.

#### Tree Retention Suitability Ratings

**Unsuitable** = Not suitable for retention in context of the proposed project design and land use changes. These trees have pre-existing health and structural defects. There is a significant chance that these trees will not survive or may become a hazard given the proposed future land use.

**Moderate** = These trees have moderate structural defects or health issues. The retention of this class of trees is not always successful or viable due to their pre-existing structural defects or health issues; however these trees may be viable for retention with the use of special measures.

**Suitable** = These trees have no obvious structural defects or health issues, and are worthy of consideration for retention in the proposed development.

**Suitable as group** = These trees have grown up in groups (groves) of other trees, and have not developed the type of trunk and root structure that will allow them to be safely retained on their own. These trees should only be retained in groups.

### 2.3 Photographs



Photo 1. Tree # 7058, this dogwood tree is severe health and structural decline.



Photo 2. Tree # 7059, previously topped, displaying large patches of crown dieback.



Photo 3. Tree # 7056, previously topped with decay visible at the stem union.



Photo 4. Tree # 5988 previously topped that resulted in the large replacement leaders.



Photo 5. Tree # 5985 is growing through the existing carport roof.



Photo 6. Tree # 5984, is growing in close proximity to the existing carport.



Photo 7. Showing topped tree # 5982.



Photo 8. Showing the decay conk growing on Tree # 5983.

## Tree Inventory Table

Table 1. Tree Inventory.

Tag #	Common Name	Botanical Name	DBH (cm)	Ht (m)	Overall Condition	Retention Suitability	Comments	Retain/Remove	Tree Retention Comments
5982	Western redcedar	<i>Thuja plicata</i>	54	7	Very poor	Unsuitable	This tree has been previously topped to the height of 7m for overhead Hydro line clearance. Decay is visible at the historic topping wounds. The tree is growing in an above grade rock walled planter.	Remove	Due to pre-existing very poor health and structural condition.
5983	Western hemlock	<i>Tsuga heterophylla</i>	93	10	Very poor	Unsuitable	This tree has been previously topped and there is decay visible at the historic topping site. There is a fruiting body of decay (conk - Ganoderma applanatum) located approximately 1.5m above grade. This conk is an indicator of severe internal decay.	Remove	Due to pre-existing very poor health and structural condition.
5984	Purpleleaf plum	<i>Prunus cerasifera</i>	Mul ti	5	Very poor	Unsuitable	This tree has been previously topped with the limbs having been headed. The crown is comprised mostly of shoot growth. There are significant decay cavities throughout the main stems. This tree is growing adjacent a retaining wall for the adjacent carport.	Remove	Due to pre-existing very poor health and structural condition.
5985	English Holly	<i>Ilex aquifolium</i>	28	5	Very poor	Unsuitable	This tree is growing through the existing carport roof, and there several boards embedded in the tree's trunk. In addition the tree has been topped to approximately 5m above grade.	Remove	Due to pre-existing very poor health and structural condition. This tree will not survive demolition of the adjacent carport.
5986	Western redcedar	<i>Thuja plicata</i>	80	8	Very poor	Unsuitable	This tree has been previously topped at approximately 5m above grade, resulting in the formation of several replacement leaders. These replacement leaders have been topped as well. This tree is growing adjacent the concrete deck and the deck is embedded into the trunk. The tree's crown is infested with ivy.	Remove	Due to pre-existing very poor health and structural condition. This tree will not survive demolition of the adjacent wood and concrete deck.

Tag #	Common Name	Botanical Name	DBH (cm)	Ht (m)	Overall Condition	Retention Suitability	Comments	Retain/Remove	Tree Retention Comments
5987	Black locust	<i>Robinia pseudoacacia</i>	20	7	Poor	Moderate	This is a cluster of small diameter volunteer trees growing close proximity to each other. These tree sweep to the south and have spindly trunks.	Remove	Due to pre-existing poor structural condition. In conflict with proposed project design.
5988	Douglas-fir	<i>Pseudotsuga menziesii</i>	110	18	Very poor	Unsuitable	This has been previously topped at 3m above grade, which has resulted in the formation of 7 replacement leaders. The replacement leaders sweeps in different direction, and these leaders have all been topped at different heights. The main stem union is covered in ivy.	Remove	Due to pre-existing very poor health and structural condition.
7056	Sawara cypress	<i>Chamaecyparis pisifera</i>	52	7	Very poor	Unsuitable	This tree has been previously topped at 2m above grade, and there is significant decay visible at the historic topping site. The replacement leaders have been topped at approximately 6m above grade.	Remove	Due to pre-existing very poor health and structural condition.
7057	Lawson cypress	<i>Chamaecyparis lawsoniana</i>	44	16	Very poor	Unsuitable	This tree has been previously topped at several different heights. The large scaffold limbs sweep outward and are growing vertical. There are large patches of crown die-back.	Remove	Due to pre-existing very poor health and structural condition.
7058	Pacific dogwood	<i>Cornus nuttallii</i>	40+ 20	8	Very poor	Unsuitable	The largest trunk (40cm) is hollow with a cavity that spans from the base to 3m above grade. This tree is infected with Dogwood anthracnose that has resulted in the majority dieback of the crown.	Remove	Due to pre-existing very poor health and structural condition.
7059	Western redcedar	<i>Thuja plicata</i>	71+ 69	16	Very poor	Unsuitable	This tree has been previously topped at approximately 4m and 6m above grade to accommodate the overhead Hydro power line. There are significant decay cavities from what appears to be historic vehicle damage. In addition it appears that the replacement leader has failed from the north stem, leaving a cavity.	Remove	<b>Note this tree will require the Districts authorization to be removed.</b>



### 3.0 Summary

The site inventory identified and assessed ten on-site trees and one off-site district owned tree, for retention suitability in context to the proposed project design. The majority of the trees were found to be in very poor health and structural condition mostly due to historic topping. The historic topping has left the trees with impaired crowns with replacement leaders that are very prone to fail due to the presence of decay.

All of the tagged trees have been found to unsuitable for retention and recommended to be removed. There is one District owned tree that is recommended for removal and will require the approval from the District. The locations of subject trees, to be removed have been shown on the accompanying Tree Protection and Removal Plan.

### 4.0 Trees on Adjacent Properties

There is a 5m high stump located on the adjacent north property; the neighbours should be consulted about removing this stump prior to construction on the subject site. There are no other off-site trees that are within the zone of influence to the subject site.



## 5.0 Limitations

1. Except as expressly set out in this report and in these Assumptions and Limiting Conditions, Diamond Head Consulting Ltd. ("**Diamond Head**") makes no guarantee, representation or warranty (express or implied) with regard to: this report; the findings, conclusions and recommendations contained herein; or the work referred to herein.
2. This report has been prepared, and the work undertaken in connection herewith has been conducted, by Diamond Head for the "**Client**" as stated in the report above. It is intended for the sole and exclusive use by the Client for the purpose(s) set out in this report. Any use of, reliance on or decisions made based on this report by any person other than the Client, or by the Client for any purpose other than the purpose(s) set out in this report, is the sole responsibility of, and at the sole risk of, such other person or the Client, as the case may be. Diamond Head accepts no liability or responsibility whatsoever for any losses, expenses, damages, fines, penalties or other harm (including without limitation financial or consequential effects on transactions or property values, and economic loss) that may be suffered or incurred by any person as a result of the use of or reliance on this report or the work referred to herein. The copying, distribution or publication of this report (except for the internal use of the Client) without the express written permission of Diamond Head (which consent may be withheld in Diamond Head's sole discretion) is prohibited. Diamond Head retains ownership of this report and all documents related thereto both generally and as instruments of professional service.
3. The findings, conclusions and recommendations made in this report reflect Diamond Head's best professional judgment in light of the information available at the time of preparation. This report has been prepared in a manner consistent with the level of care and skill normally exercised by arborists currently practicing under similar conditions in a similar geographic area and for specific application to the trees subject to this report as at the date of this report. Except as expressly stated in this report, the findings, conclusions and recommendations set out in this report are valid for the day on which the assessment leading to such findings, conclusions and recommendations was conducted. If generally accepted assessment techniques or prevailing professional standards and best practices change at a future date, modifications to the findings, conclusions, and recommendations in this report may be necessary. Diamond Head expressly excludes any duty to provide any such modification if generally accepted assessment techniques and prevailing professional standards and best practices change.
4. Conditions affecting the trees subject to this report (the "**Conditions**", including without limitation structural defects, scars, decay, fungal fruiting bodies, evidence of insect attack, discoloured foliage, condition of root structures, the degree and

direction of lean, the general condition of the tree(s) and the surrounding site, and the proximity of property and people) other than those expressly addressed in this report may exist. Unless otherwise stated: information contained in this report covers only those Conditions and trees at the time of inspection; and the inspection is limited to visual examination of such Conditions and trees without dissection, excavation, probing or coring. While every effort has been made to ensure that the trees recommended for retention are both healthy and safe, no guarantees, representations or warranties are made (express or implied) that those trees will remain standing or will not fail. The Client acknowledges that it is both professionally and practically impossible to predict with absolute certainty the behaviour of any single tree, or groups of trees, in all given circumstances. Inevitably, a standing tree will always pose some risk. Most trees have the potential for failure and this risk can only be eliminated if the risk is removed. If Conditions change or if additional information becomes available at a future date, modifications to the findings, conclusions, and recommendations in this report may be necessary. Diamond Head expressly excludes any duty to provide any such modification of Conditions change or additional information becomes available.

5. Nothing in this report is intended to constitute or provide a legal opinion, and Diamond Head expressly disclaims any responsibility for matters legal in nature (including, without limitation, matters relating to title and ownership of real or personal property and matters relating to cultural and heritage values). Diamond Head makes no guarantee, representation or warranty (express or implied) as to the requirements of or compliance with applicable laws, rules, regulations, or policies established by federal, provincial, local government or First Nations bodies (collectively, "**Government Bodies**") or as to the availability of licenses, permits or authorizations of any Government Body. Revisions to any regulatory standards (including by-laws, policies, guidelines and any similar directions of a Government Bodies in effect from time to time) referred to in this report may be expected over time. As a result, modifications to the findings, conclusions and recommendations in this report may be necessary. Diamond Head expressly excludes any duty to provide any such modification if any such regulatory standard is revised.
6. Diamond Head shall not be required to give testimony or to attend court by reason of this report unless subsequent contractual arrangements are made, including payment of an additional fee for such services as described in the fee schedule and contract of engagement.
7. In preparing this report, Diamond Head has relied in good faith on information provided by certain persons, Government Bodies, government registries and agents and representatives of each of the foregoing, and Diamond Head assumes that such information is true, correct and accurate in all material respects. Diamond Head accepts no responsibility for any deficiency, misinterpretations or fraudulent acts of or information provided by such persons, bodies, registries, agents and representatives.

8. Sketches, diagrams, graphs, and photographs in this report, being intended as visual aids, are not necessarily to scale and should not be construed as engineering or architectural reports or surveys.
9. Loss or alteration of any part of this report invalidates the entire report.

## 7.0 Appendix 1 – Overall risk rating and action thresholds

**The Overall Risk Rating and Action Thresholds**

<b>Risk Rating</b>	<b>Risk Category</b>	<b>Interpretation and Implications</b>
3	Low 1	Insignificant - no concern at all.
4	Low 2	Insignificant - very minor issues.
5	Low 3	Insignificant - minor issues not of concern for many years yet.
6	Moderate 1	Some issues but nothing that is likely to cause any problems for another 10 years or more.
7	Moderate 2	Well defined issues - retain and monitor. Not expected to be a problem for at least another 5 - 10 years.
8	Moderate 3	Well defined issues - retain and monitor. Not expected to be a problem for at least another 1 - 5 years.
9	High 1	The assessed issues have now become very clear. The tree can still reasonably be retained as it is not likely to fall apart right away, but it must now be monitored annually. At this stage it may be reasonable for the risk manager/owner to hold public education sessions to inform people of the issues and prepare them for the reality that part or the entire tree has to be removed.
10	High 2	The assessed issues have now become very clear. The probability of failure is now getting serious, or the target rating and/or site context have changed such that mitigation measures should now be on a schedule with a clearly defined timeline for action. There may still be time to inform the public of the work being planned, but there is not enough time to protracted discussion about whether or not there are alternative options available.
11	High 3	The tree, or a part of it has reached a stage where it could fail at any time. <b>Action to mitigate the risk is required within weeks rather than months.</b> By this stage there is not time to hold public meetings to discuss the issue. Risk reduction is a clearly defined issue and although the owner may wish to inform the public of the planned work, he/she should get on with it to avoid clearly foreseeable liabilities.
12	Extreme	This tree, or a part of it, is in the process of failing. <b>Immediate action is required.</b> All other, less significant tree work should be suspended, and roads or work areas should be closed off, until the risk issues have been mitigated. This might be as simple as removing the critical part, drastically reducing overall tree height, or taking the tree down and cordoning off the area until final clean up, or complete removal can be accomplished. The immediate action required is to ensure that the clearly identified risk of harm is eliminated. For areas hit by severe storms, where many extreme risk trees can occur, drastic pruning and/or partial tree removals, followed by barriers to contain traffic, would be an acceptable first stage of risk reduction. There is no time to inform people or worry about public concerns. Clearly defined safety issues preclude further discussion.

The Table shown above outlines the interpretation and implications of the risk ratings and associated risk categories. This table is provided to inform the reader about these risk categories so that they can better understand any risk abatement recommendations made in the risk assessment report.

# Diamond Head Consulting Ltd. Tree Assessment

For: 4719 Pilot House Road  
West Vancouver, BC

April 2, 2014

---

Submitted to:

Rimrock Developments Ltd.  
#212 2438 Marine Drive  
West Vancouver  
V7V 1L2

Submitted by:



342 West 8<sup>th</sup> Avenue  
Vancouver, BC V5Y 3X2



The following Diamond Head Consulting staff performed the site visit and prepared the report. All general and professional liability insurance and individual accreditations have been provided below for reference.



Max Rathburn  
ISA Certified Arborist (PN0599A)  
ISA Certified Tree Risk Assessor (159)

If there are any questions or concerns as to the contents of this report, please contact us at any time.

#### Contact Information

Phone: 604-733-4886  
Fax: 604-733-4879  
Email: [max@diamondheadconsulting.com](mailto:max@diamondheadconsulting.com)  
Website: [www.diamondheadconsulting.com](http://www.diamondheadconsulting.com)

#### Insurance Information

WCB: # 657906 AQ (003)  
General Liability: Northbridge General Insurance Corporation - Policy #CBC1935506, \$5,000,000  
(Mar 2014 to Mar 2015)  
Errors & Omissions: Lloyds Underwriters – Policy #1010346D, \$1,000,000 (June 2011 to June 2015)

## 1.0 Introduction

Diamond Head Consulting Ltd. (DHC) was asked to undertake an assessment of a district owned tree fronting 4719 Pilot House Road by the current owner of the subject property. This tree is has been assessed in conjunction with the Arborist Report required for the building permit application at 4719 Pilot House Road, West Vancouver.

The objective of this report is to assess the subject tree's current health and structural condition to determine the retention suitability given the proposed redevelopment of the subject site.

### Limits of Assignment

- Our investigation is based solely on our visual inspection of the trees on March 27<sup>th</sup> 2014. Our inspection was conducted from ground level. We did not conduct soil tests or below ground root examinations to assess the condition of the root system of the trees.
- This report does not provide any estimates to implement the proposed recommendations provided in this report.
- This report is valid for six months from the date of submission. Additional site visits and report revisions are required after this point to ensure accuracy of the report for the District's development permit application process.

## 2.0 Observations

The subject tree is a Western redcedar (#7059) located east of the subject site's property line. This tree is located at the edge of the driveway as well as the edge of Pilot House Road and within the limits of the overhead BC Hydro power line.

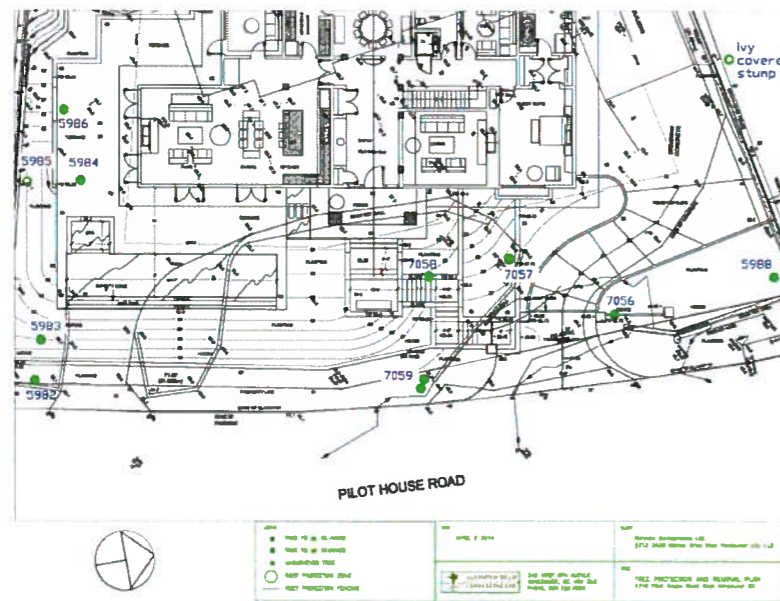




Figure 1. Location of the subject tree #7059 located on District property adjacent 4719 Pilot House Road West Vancouver

### 2.1 Photographs



Photo 1: The subject tree has significant wounds on both trunks most likely from historic vehicle damage.



Photo 2: View of a previous replacement leader failure.



Photo 1: View of the very poor structural condition and the previously topped from of the subject tree. Note the necrotic bark extends from the base to into the top.



Photo 2: The existing rock wall is embedded into the trees trunk.

### 3.0 Tree Assessment

#### Overall Health and Structure Rating

Excellent = Tree of possible specimen quality, unique species or size with no discernible defects. Or a heritage tree.

Normal = These trees are in fair to good condition, considering its growing environment and species.

Poor = These trees have low vigour, with noted health and/or structural defects. This tree is starting to decline from its typical species growth habits.

Very poor = These trees are in serious decline from its typical growth habits, with multiple very definable health and/or structural defects.

Dead/Dying = These trees were found to be dead, and/or have severe defects and are in severe decline.

High Risk = These trees have been deemed hazardous by a Certified Tree Risk Assessor utilizing CTRA methods. They have a probability of failure of 3 or higher with a total overall risk rating of 8 (Moderate 3) or above.

#### Tree Retention Suitability Ratings

Unsuitable = Not suitable for retention in context of the proposed project design and land use changes. These trees have pre-existing health and structural defects. There is a significant chance that these trees will not survive or may become a hazard given the proposed future land use.

Moderate = These trees have moderate structural defects or health issues. The retention of this class of trees is not always successful or viable due to their pre-existing structural defects or health issues; however these trees may be viable for retention with the use of special measures.

Suitable = These trees have no obvious structural defects or health issues, and are worthy of consideration for retention in the proposed development.

Suitable as group = These trees have grown up in groups (groves) of other trees, and have not developed the type of trunk and root structure that will allow them to be safely retained on their own. These trees should only be retained in groups.

Table 1. Tree Assessment Table

Tag #	Common Name	DBH (cm)	Ht (m)	Overall Condition	Retention Suitability	Comments
7059	Western redcedar	71+69	16	Very poor	Unsuitable	<ul style="list-style-type: none"> <li>This tree is comprised of two main stems that join at the basal union.</li> <li>Both stems have been previously topped at approximately 4m and 6m above grade to accommodate the overhead Hydro power line. The main scaffold limbs have been headed to stubs as well.</li> <li>This topping has resulted in the formation of replacement leaders that are attached to the decaying unions. These replacement leaders have topped at several different heights.</li> <li>Decay is visible at the historic topping sites</li> </ul>

Tag #	Common Name	DBH (cm)	Ht (m)	Overall Condition	Retention Suitability	Comments
						<p>(replacement leaders).</p> <ul style="list-style-type: none"> <li>In addition it appears that one of these replacement leaders has previously failed from north stem, leaving a cavity in the main stem.</li> <li>There are significant decay cavities and necrotic bark wounds located on the main trunks from what appears to be historic vehicle damage. Note the necrotic bark extends into the upper crown.</li> </ul>

#### 4.0 Recommendations

The subject tree has several severe structural defects and health issues as a result of decades of cyclical power line clearance pruning and topping, as well as the harsh growing environment provided by its road side location. This tree cannot be restored and given its severe decline in health and close proximity to Pilot House Road, adjacent property, and the BC Hydro power line I strongly recommend this to be removed. This is a District owned tree, and will require District approval for its removal.

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