Duplex & Coach House Development

March 11, 2013

Submission Revised to reflect December 13, 2012 Design Review Committee comments and subsequent Planning Staff comments during January and February 2013

Rezoning & Development Permit Application – The Corporation of the District of West Vancouver

Presented By: Procon Projects Ltd. Designed By: Mason Kent Design Inc.

2074 Fulton Avenue, West Vancouver, BC

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PROCON **Procon Projects Ltd.**

Construction & Project Management

October 18, 2012:
(Submission revised to reflect comments from Planning staff December 5, 2012)
February 28, 2013:
(Submission revised to reflect December 13, 2012 Design Review Committee comments and subsequent Planning staff comments during January and February 2013)

Attention:
Mr. Stephen Mikicich, MCIP
Senior Community Planner
District of West Vancouver
750 17th Street,
West Vancouver BC
V7V 3T3

Reference: Development at 2074 Fulton Avenue.

Procon Projects Ltd. is pleased to present this revised submission for the Zoning Amendment and concurrent Development Permit Application for the above referenced property.

The design of this development has evolved from the District's Policy Section "Built Form and Character" and design guidelines previously approved under CD 47 for Hollyburn Mews, which addresses possible densities, setbacks and parking considerations. *The design additionally reflects comments received from the Design Review Committee at the meeting of December 13, 2012, and subsequent comments received as a result of further meetings with the Planning Department during January and February 2013.*

Procon Projects Ltd. has been building single and multi family residences since 1991, and has worked extensively in the Districts of North and West Vancouver. We are proud to have an excellent working relationship with the Planning, Engineering and Building department staff in both communities. Our design initiatives within the community over the years have been to create homes that provide a unique contemporary character that complements the "West Coast" theme coveted by so many purchasers.

Mason Kent Design Inc. has worked extensively in the same communities and has teamed up with Procon Projects Ltd. on more than ten occasions to produce some highly regarded contemporary designs. We are pleased to be working with Mason Kent Design on this project, and his design for this site addresses the requirements for infill housing units within an established neighbourhood.

The landscape design is presented by Forma Design Inc. under the attention of Mr. Bill Harrison who has had significant experience in the District with similar sensitive designs. The landscape design focuses on the following elements- the pedestrian flow on site, the management of rainwater in order to meet infiltration/retention requirements, and the use of low impact planting material to reduce irrigation requirements.

Horizon Engineering has been retained to design the rainwater retention/infiltration system which will ensure there is zero excess storm water leaving the site when compared to the existing site.

We look forward to continuing our good working relationship with staff at the District of West Vancouver and in particular to creating new and exciting alternatives for the people of West Vancouver to choose from.

Yours truly,
Andrew Kennett P.Eng.

1383 Lennox Street, North Vancouver B.C. V7H 1X4 Tel. 929-0174, fax 929-0172, cel. 240-3495
Email ak@proconpro.com

Examples of previous Procon Projects Ltd. homes

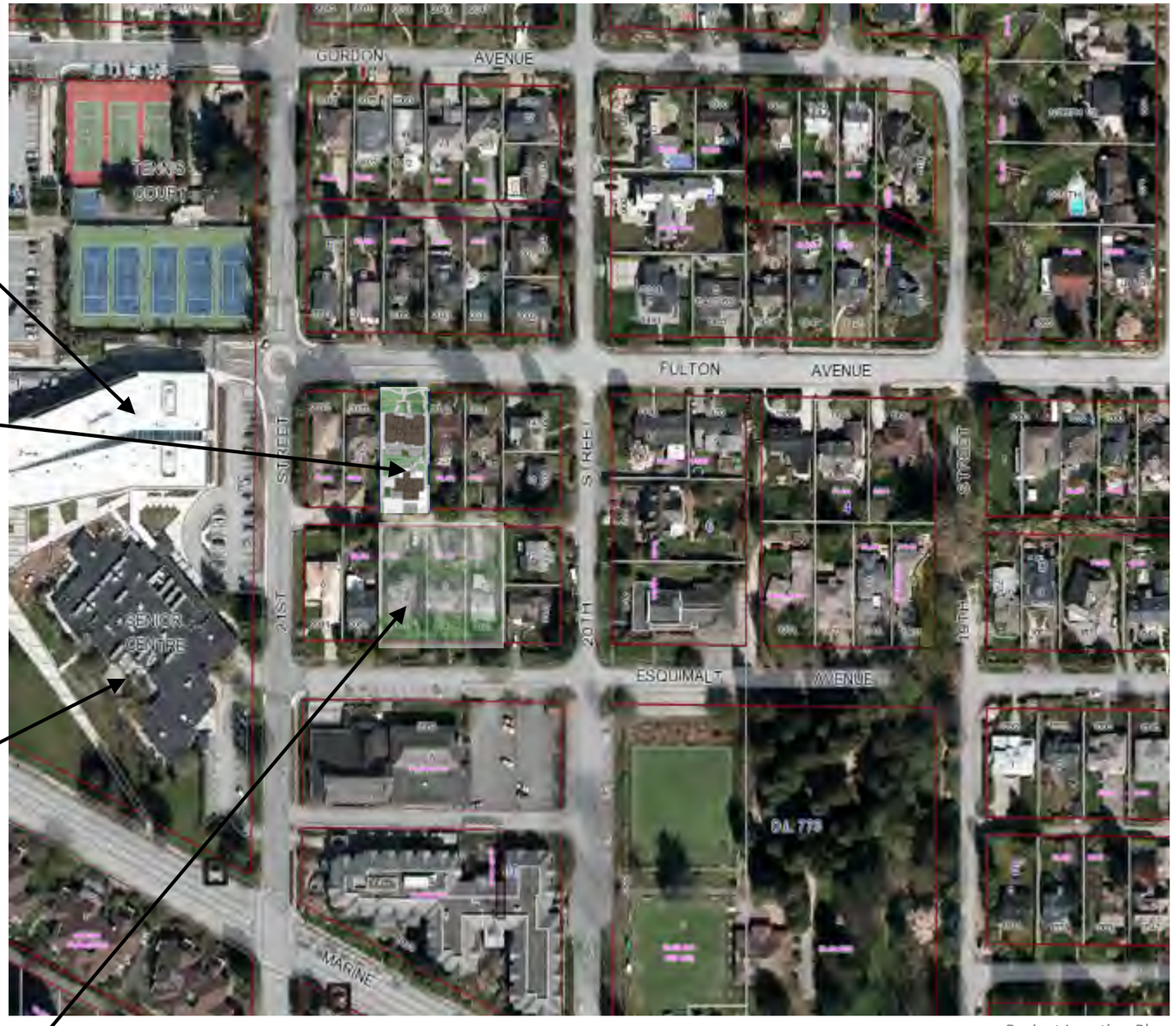
West Vancouver Rec Centre

Project Site

2074 Fulton Avenue, West Vancouver BC

West Vancouver Senior Centre

Hollyburn Mews development



Project Location Plan

Architectural Character

West Vancouver has a wide variety of architectural styles in its current housing inventory ranging from old timer cottages through a collection of modernist houses of the mid-century and on to a mixed variety of larger traditional form homes of the last few decades. We, as active professional designers and builders in this community, have sensed an emerging trend in market place over the last several years towards a cleaner lined, more modernist concept of design. We also recognize the changing demographics of the local population requesting “down-sized”, lower maintenance and less costly housing.

With these facts as our inspiration, our intention is to create thoughtful and elegant housing designs to compliment modern lifestyles. Through the use of simple and pleasing building massing, open and functional floor plans and natural exterior finishes we endeavour to reflect qualities from the west coast modern ideals while retaining the functional, liveability aspects of the more current housing designs.

All three units are approximately the same floor area of around 1,500 square feet on the main and upper floors plus approximately 800 square feet in the basements. Each unit is ground oriented and will have a distinct and separate entry point creating an individual home atmosphere. They will each have usable outdoor spaces with southern exposure, privacy, space for outdoor furniture and allowance for individual garden or vegetable plots.

The floor plans feature two bedrooms with en-suite bathrooms on the upper floor, open styled living space, a separate study on the main floor, and flexible space in the basement which could be used for storage, hobbies, media entertainment or games. A single enclosed garage is provided for each unit. The lane house is connected internally to the garage and the duplex units each have a separate path to their access doors.

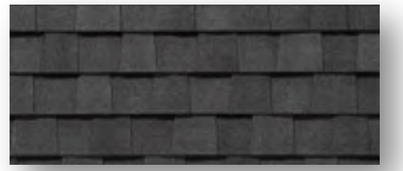
The landscape design provides access by pedestrians from both the lane and Fulton Avenue. Garage access connect the duplex units to the lane and the lane unit has access directly from its private patio.

Examples of homes by Mason Kent Design Inc.

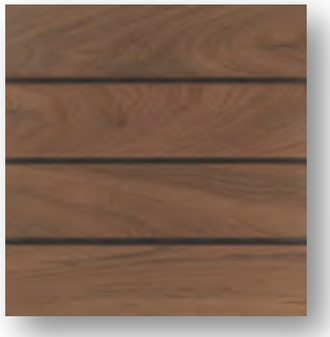
Front Elevation – Fulton Avenue

Sand float acrylic stucco
Benjamin Moore – HC105 – Rockport Grey

Vinyl window frames
Colour - Anthracite



Black asphalt shingles



Stained cedar siding
CBR Products – SLT – Mushroom 337

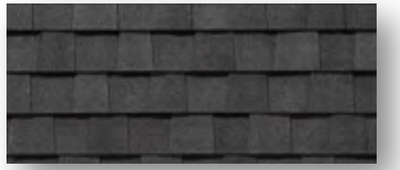
Front view from the north west

Front view from the northeast

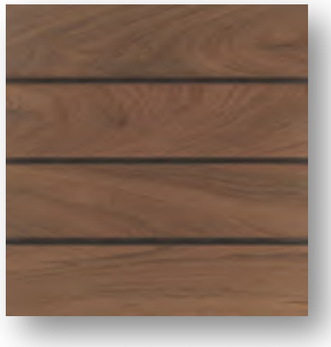
Basalt stone facing

Rear Elevation – Lane View

Vinyl window frames
Colour – anthracite



Black asphalt shingles



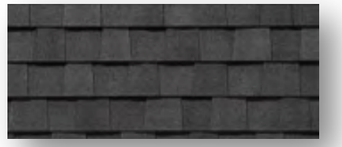
Stained cedar siding
CBR Products – SLT – Mushroom 337

Lane view from the southeast

Lane view from the southwest

Sand float acrylic stucco
Benjamin Moore – HC105 – Rockport Grey

Courtyard Elevations



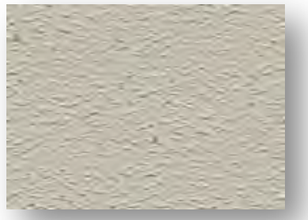
Black asphalt shingles

Vinyl window frames
Colour – anthracite

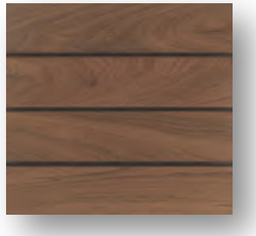
Basalt stone facing

Courtyard view of the lane house from the northeast

Courtyard view of the duplex from the southwest



Sand float acrylic stucco
Benjamin Moore – HC105 – Rockport Grey



Stained cedar siding
CBR Products – SLT – Mushroom 337

Project Statistics

IMPERIAL

BASED ON CD-47 ZONE

LEGAL DESCRIPTION: LOT 3 OF LOT 7, BLOCKS 7-12, D.L. 775, PLAN 4595
P.I.D. 011-469-137

LOT AREA:				7,529.00 SQ FT
SITE COVERAGE:				
BUILDING FOOTPRINTS INCLUDING GARAGES:				3,129.50 SQ FT
OTHER PROJECTIONS				20.20
TOTAL				3,149.70 SQ FT
SITE COVERAGE RATIO				0.42
BUILDING AREA:				
UNIT 1				
BASEMENT	779.7	(EXEMPT)	0.00	
MAIN FLOOR			775.20	
UPPER FLOOR			723.20	
				1,498.40 SQ FT
UNIT 2				
BASEMENT	782.70	(EXEMPT)	0.00	
MAIN FLOOR			769.60	
UPPER FLOOR			730.10	
				1,499.70 SQ FT
UNIT 3				
BASEMENT	830.10	(EXEMPT)	0.00	
MAIN FLOOR			809.00	
UPPER FLOOR			737.90	
				1,546.90 SQ FT
BASEMENT AREA PROJECTING BEYOND FLOORS ABOVE				38.70
3 SINGLE PARKING GARAGES	737.00 SQ FT	(EXEMPT)		0.00
TOTAL COUNTABLE AREA				4,583.70 SQ FT
FLOOR AREA RATIO				0.609
BASEMENT AREA CALCULATION:				
TOTAL BASEMENT FLOOR AREA				2,392.50 SQ FT
EXEMPT AREA: (GRADE IS LESS THAN 2' BELOW CLG)			-	2,392.50
REMAINING AREA:				0.00 SQ FT

BUILDING HEIGHTS:

NORTH DUPLEX BUILDING			
MID- HEIGHT OF PITCHED ROOF			116.71 FT.
LOWEST AVE. GRADE	(NATURAL GRADE)		93.95 FT.
BUILDING HEIGHT			22.76 FT.
ALLOWABLE BULDING HEIGHT			25.00 FT.
LANE UNIT BUILDING			
MID- HEIGHT OF PITCHED ROOF			112.79 FT.
LOWEST AVE. GRADE	(FINISH GRADE)		91.65 FT.
BUILDING HEIGHT			21.14 FT.
ALLOWABLE BULDING HEIGHT			25.00 FT.

METRIC

BASED ON CD-47 ZONE

LEGAL DESCRIPTION: LOT 3 OF LOT 7, BLOCKS 7-12, D.L. 775, PLAN 4595
P.I.D. 011-469-137

LOT AREA:				699.47 M2
SITE COVERAGE:				
BUILDING FOOTPRINTS INCLUDING GARAGES:				290.73 M2
OTHER PROJECTIONS				1.88
TOTAL				292.61 M2
SITE COVERAGE RATIO				0.42
BUILDING AREA:				
UNIT 1				
BASEMENT	72.43	(EXEMPT)	0.00	
MAIN FLOOR			72.02	
UPPER FLOOR			67.19	
				139.20 M2
UNIT 2				
BASEMENT	72.71	(EXEMPT)	0.00	
MAIN FLOOR			71.50	
UPPER FLOOR			67.83	
				139.32 M2
UNIT 3				
BASEMENT	77.12	(EXEMPT)	0.00	
MAIN FLOOR			75.16	
UPPER FLOOR			68.55	
				143.71 M2
BASEMENT AREA PROJECTING BEYOND FLOORS ABOVE				3.60
3 SINGLE PARKING GARAGES	68.47 M2	(EXEMPT)		0.00
TOTAL COUNTABLE AREA				425.83 M2
FLOOR AREA RATIO				0.609
BASEMENT AREA CALCULATION:				
TOTAL FLOOR AREA				222.26 M2
EXEMPT AREA: (GRADE IS LESS THAN 2' BELOW CLG)			-	222.26
REMAINING AREA:				0.00 M2

BUILDING HEIGHTS:

NORTH DUPLEX BUILDING			
MID- HEIGHT OF PITCHED ROOF			35.57 M
LOWEST AVE. GRADE	(NATURAL GRADE)		28.64 M
BUILDING HEIGHT			6.94 M
ALLOWABLE BULDING HEIGHT			7.62 M
LANE UNIT BUILDING			
MID- HEIGHT OF PITCHED ROOF			34.38 M
LOWEST AVE. GRADE	(FINISH GRADE)		27.93 M
BUILDING HEIGHT			6.44 M
ALLOWABLE BULDING HEIGHT			7.62 M

Greening & Sustainability

The District, in their policy guidelines, has requested that property developers address issues around sustainability and “Green” measures which address energy conservation and reduction of greenhouse gas emissions.

We are proponents of good building practice leading to energy efficiency of our homes. Our staff has been educated through the Home Warranty Builders Educational sessions and understand the implications and benefits of sealing a building to a high level of air tightness with subsequent integration of air exchange systems.

The AIBC news states that, “The Province of British Columbia has announced a delay in the anticipated release of the revised provincial codes. New editions of the *BC Building Code*, *BC Plumbing Code* and *BC Fire Code* (the “BC Codes”) are generally adopted by government in the year following the release of the new edition of the *National Building Code*. Thus, many in the industry have been anticipating the release of the BC Codes in the spring of 2011. However, the new National Building Code contained more than 850 changes, with some of the more substantial ones requiring further analysis. As a result, the province will be publishing the next editions of the BC Codes in the spring of 2012 with an effective date in the fall of 2012.”

The Building and Safety Standards Branch of the Ministry of Energy and Mines is responsible for stewardship of the development and application of the BC Building Code. The new BC Building Code will be issued in the fall of 2012, with an amendment expected in early 2013. The amendment will encompass “Green” initiatives which are currently undergoing public consultation. This project will most certainly fall under the new Building Code and the subsequent greening requirements, thereby raising the standards from the current 2006 code.

Specifically, we will incorporate the following “Green” technologies and methods:

Heating System:

To achieve maximum comfort and energy efficiency for the homeowner we propose an in- floor radiant heating system, using a high efficiency boiler. The boiler will also heat the domestic hot water through an indirect hot water tank.

These systems are highly efficient. The hot water tank does not have its own direct source of heat (burner) as it is heated with a coil taken from the boiler. This not only provides a highly efficient heat exchange system for the domestic water (approximately 80% efficient versus 60% for conventionally direct vented hot water tanks) but also significantly extends the life of the hot water tank as there is no direct burner within the unit. The hot water tank itself does not require a vent to the exterior- only the boiler is vented, which results in one less penetration through the building envelope.

Heat Recovery Ventilation System:

A Heat Recovery Ventilation system will be installed. As building efficiency is improved with insulation and weather stripping, buildings are intentionally made more airtight, and consequently less well ventilated. Since all buildings require a source of fresh air, the need for HRVs has become obvious. While opening a window does provide ventilation, the building's heat and humidity will then be lost in the winter and gained in the summer, both of which are undesirable for the indoor climate and for energy efficiency, since the building's HVAC systems must compensate. HRV introduces fresh air to a building and improves climate control, whilst promoting efficient energy use. This drastically increases the energy efficiency of the home as required fresh air is circulated through a heat exchanger prior to entering the home. Outgoing stale air exchanges its heat with the incoming fresh air.

Other items Include:

Programmable timers with motion sensors for exterior lights
No pot lights in upper floor insulated ceilings (Pot lights in insulated ceilings generally result in penetrations/weakness in the vapour barrier)
Non solvent based damp proofing
Deck or veranda surfaces made from sustainable concrete products
Manufactured wood products used for floor system, beams and headers instead of conventional lumber
All sill plate sealed with foam seal gaskets or acoustical sealant to minimize air leakage
Non HCFC expanding foam around all window and door opening, and at joist ends
Attached garages fully insulated providing a buffer between the exterior and the interior spaces
Minimum 25 year manufacturer warranty roofing material
MDF Casings and baseboards (not solid wood)
Rough-in plumbing and structure for future roof-mounted solar collector panels
An engineered storm-water management plan to minimize impact on municipal services
Native species landscape planting selected to minimize watering requirements

Revised: June 25, 2012

westvancouver

GREENING YOUR HOME & PROPERTY: CHECKLIST

Please attach any additional comments and/or documentation if pertinent.

What is your target ENERGUIDE rating? _____ As required by 2012 Building Code

Have you scheduled your ENERGY AUDIT? *If* **YES**, *Indicate Date Here:*

PLEASE CHECK YES OR NO:

BUILDING ENVELOPE		**YES**	**NO**
INSULATION:	2 x 6 wall construction and high-density batt insulation to achieve in-wall-cavity insulation value of RSI 3.85 (R22)	X	
WINDOW PERFORMANCE:	Maximum thermal conductance (U value) of 2.00 W/K•m²) (Energy Star labelled)	X	
ENERGY EFFICIENCY		**YES**	**NO**
LIGHT FIXTURES	Install fixtures that do not accept incandescent or halogen bulbs in all non-living spaces (e.g. hallways, storage areas, patios, etc).	X	
ENERGY CONSUMPTION DISPLAY	Energy usage display meter capable of calculating & displaying electrical consumption on at least a monthly basis.		X
FIREPLACES	(No wood burning fireplaces.) Gas-fuelled fire places have electronic ignitions; are direct vented.	X	
HOT WATER	Electronically powered hot water tanks are insulated to provide min RSI 1.76 **OR** on-demand hot water heater is installed.	See Dialogue	
BUILDING ORIENTATION	Building is oriented for solar design and/or supports passive solar heating. See *Ideas Sheet* for details.	Site size restricts options	
WATER CONSERVATION		**YES**	**NO**
FIXTURES & TOILETS	Low flow water fixtures, including dual flush design toilets, with max single flush consumption of 6 Litres.	X	
INDOOR ENVIRONMENTAL QUALITY		**YES**	**NO**
HEAT RECOVERY VENTILATOR	Installation of a heat recovery ventilator. (Certified by a HRAI or HVC certified installer to meet CSA standards.)	X	
CONSTRUCTION WASTE MANAGEMENT		**YES**	**NO**
WASTE MANAGEMENT PLAN	Construction waste mgmt plan prepared and submitted. Target min 50% waste reduction; diversion rate to be documented, with disposal receipts.	Waste will be sorted onsite per Transfer Station requirements	

Document # 425985v2

"FUTURE PROOFING" YOUR HOME		**YES**	**NO**
PRE-PIPE FOR ROOF MOUNTED SOLAR	Vertical service shaft extends from water heater room to attic space (min 2 50mm pvc pipes, capped at both ends, ≥20° angle.	X	
PRE-WIRE FOR ELECTRIC VEHICLE(S)	Cable raceway leading from electricity circuit panel to enclosed outlet box in garage or carport.	X	
SENSITIVE SITE DEVELOPMENT		**YES**	**NO**
STORMWATER MANAGEMENT	Permanent, low-impact development (LID) measures installed to manage stormwater run-off at pre-development rates.	X	
MINIMIZE SITE DISTURBANCE	No invasive[1] plant species are introduced to the landscape	X	
	Established plant materials to have low water requirements[2]	X	
	Storage tank or rain barrels for retaining rainwater for irrigation	Low impact planting will be used	
	Tree Preservation Plan prepared and submitted[3]	X	
	1 tree; four 5 gal (or equiv) shrubs; **or** 4.6m² groundcover per 46m² of unpreserved lot area.	X	
	Drought tolerant turf and/or landscaping species	X	
	Mulch[4] or soil amendments added as appropriate	X	
	Topsoil maintained or enhanced to a minimum depth of 12inches	X	
REDUCE LOCAL HEAT ISLAND EFFECTS	One or both of the following: - Trees or other plantings provide shade to ≥50% of hard surfaces within 15m of home - Light coloured materials for ≥50% of hard surfaces (e.g. white/grey concrete; open pavers; vegetated roof to cover garage and/or accessory buildings.	X	

West Vancouver *Climate Action*

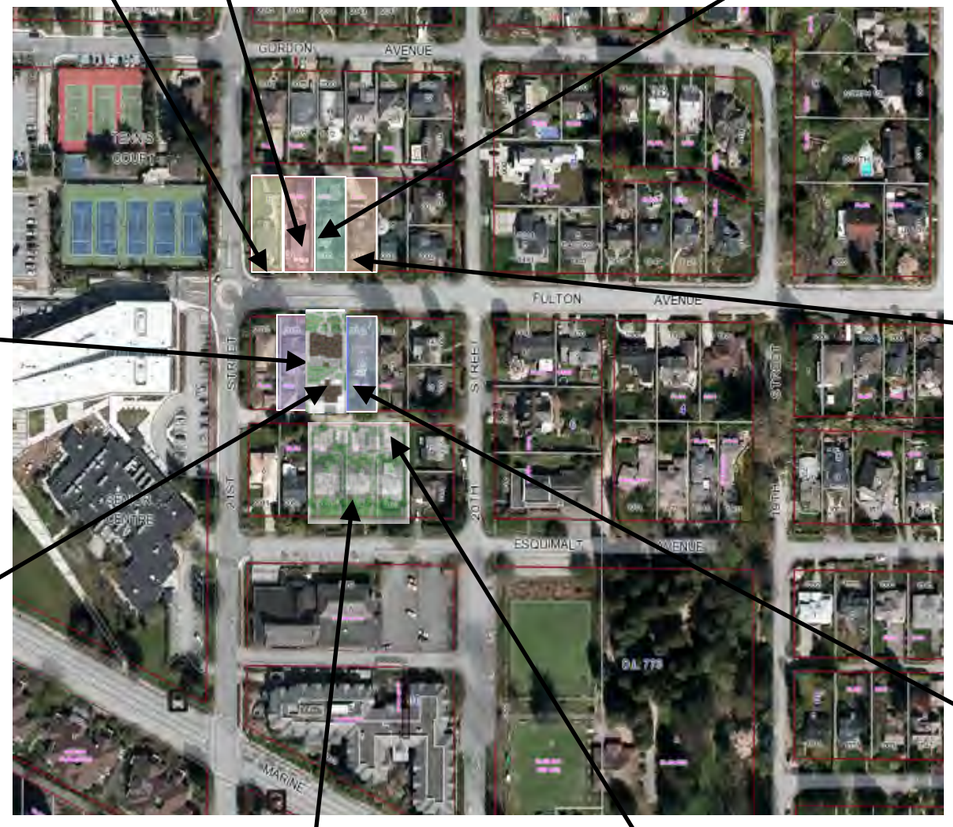
[1] Invasive plant species vary by region. Consult the Canadian Botanical Conservation Network invasive plants list for your area: http://www.rbg.ca/cbcn/en/projects/invasives/i_list.html
[2] Visit www.getwatersmart.com for water-conserving landscaping tips
[3] A sample Tree Preservation Plan can be found at: http://www.portlandonline.com/bds/index.cfm?&a=72537
[4] Mulch is as a covering placed around plants to reduce erosion and water loss and to help regulate soil temperature. Upon decomposition, organic mulches serve as soil amendments.

Neighbour across the street: 2093 Fulton Avenue

Neighbour across the street: 2077 Fulton Avenue

Neighbour across the street: 2065 Fulton Avenue

West next-door neighbour: 2076 Fulton Avenue



Neighbour across the street: 2047 Fulton Avenue

Project Site

2074 Fulton Avenue, West Vancouver BC

East next-door neighbour: 2040 Fulton Avenue

Rear neighbour: Hollyburn Mews development – view from Esquimalt Avenue

Rear neighbour: Hollyburn Mews development – view from lane

Duplex North Elevation from Fulton Avenue

East next-door neighbour: 2040 Fulton Avenue

Project Site: 2074 Fulton Avenue, West Vancouver BC

West next-door neighbour: 2076 Fulton Avenue

Landscaping Concept

The goal of the landscape concept is to create an attractive, cohesive design that compliments the character and suits the scale of the existing neighbourhood.

A new gravel walk is being proposed at the curb along Fulton Ave. to provide safe and unobstructed pedestrian access along the street edge. The boulevard will be landscaped to meet DWV standards and enhance the overall streetscape of Fulton Ave.

The mature, high quality Japanese maple at the north side of proposed Unit 2 is to be retained. This tree will help maintain the scale and integrity of the existing neighbourhood streetscape. Every effort will be made to protect it during construction, including regular monitoring by an arborist.

Additionally, each unit has been provided with pedestrian access to the lane, a critical link that will improve both the livability of the units and the quality of the lane edge. The lane is also being enhanced with on-property planting that will green the edge and improve the pedestrian experience of the lane in the future.

Each unit has been provided with important amenities that encourage an active, outdoors-oriented lifestyle. These amenities include: bicycle storage, individual urban agriculture/garden plots, and integrated outdoor living spaces.

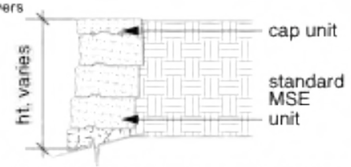
Storm water management facilities have been accommodated on site. Additional measures have been taken to increase site permeability and minimize the use of potable water for landscape irrigation on site. A drought tolerant plant palette will be used with high efficiency irrigation incorporated into the design if required.

Driveways will be permeable pavers while other hardscape areas will drain to the site landscape. The application of a green roof on the coach house is being explored to address sustainability, aesthetics, and livability for residents of the proposed project and site neighbours.

Finally, following assessment by an arborist and based on an existing agreement with the neighbour to the east, invasive species and dangerous trees will be removed from the site (see the arborist's report). Diseased plant material will also be removed from the site and disposed of properly. One specimen quality tree that cannot be accommodated on site will be offered for relocation (see arborist report).

Landscape Plan
Scale 1/16" = 1'0"

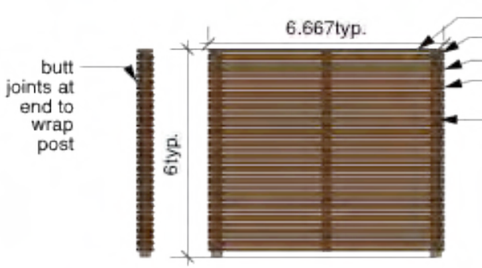
Address Sign Concept
NTS



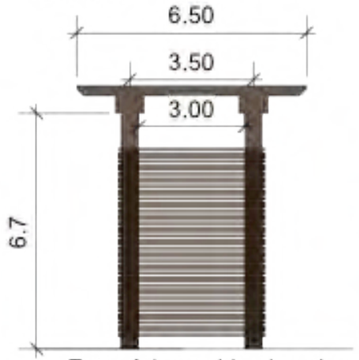
Typ. MSE retaining wall; Scale: 1/2" = 1'0"

All MSE walls to be Pisa 2 Cascade

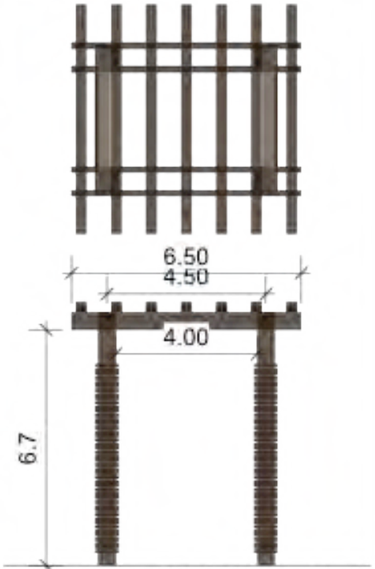
Fence - Typ. 5'-6" ht.



Privacy Screen front and side elevations - Typ. 5'-6" ht.
Scale 1/4" = 1'0"



Entry Arbour side elevation
Scale 1/4" = 1'0"



Entry Arbour front elevation and plan view (above)
Scale 1/4" = 1'0"

Unit 3 Upper Level Plan
Scale 1/16" = 1'0"

FORMA DESIGN INC.
www.formadesign.ca
209-828 Harbourside Dr.
North Vancouver
British Columbia
Canada V7P 3R9
tel 604-986-9193
fax 604-986-7320

LANDSCAPE LAYOUT PLAN + DETAILS

2074 Fullton Ave.
West Vancouver, BC

L1 OF 2

Landscape Design

PLANT LIST

TREES					
AC	6	Acer circinatum	Vine Maple	Multi-stem	B & B / 2.5m ht.
AG	1	Acer griseum	Paperbark Maple	4 cm cal.	B & B
HC	3	Chamaecyparis obtusa	Hinoki cypress	1.75 m ht.	B & B
PT	4	Populus tremula 'Erecta'	Columnar Trembling Aspen	5cm cal.	B & B / 2.5m ht.
STP	2	Stewartia pseudocamelia	Japanese Stewartia	4 cm. cal.	B & B / 2.5m ht.
SHRUBS					
Cht	7	Choisya dumosa	Mexican Orange Blossom (dwarf form)	-	#3 Pot
Rh3	3	Rhododendron sp.	Rhododendron 'Dora Amateis'	-	#7 Pot
Tp	96	Thuja Plicata var. Hedge	Western Red Cedar	-	B&B / 1.5mht.
Txh	10	Taxus x media 'Hicksii'	Yew Hedge	-	B&xB / 1.25m ht.
cl1	2	Lonicera 'Mandarin'	Climbing honeysuckle	-	#2 Pot
GROUNDCOVER / PERENNIALS					
ble	137	Blechnum spicant	Deer Fern	12"	#1 Pot
caa	102	Carex caryophyllea 'The Beatles'	'The Beatles' Sedge	12"	#1 Pot
epg	104	Epimedium grandiflorum	Barrenwort	-	#1 pot
hm	116	Heuchera micrantha	Alumroot	-	#1 Pot
hos	21	Hosta 'Americana'	Hosta	12"	#1 Pot
lis	378	Liriope spicata	Dwarf Liriope	12"	#1 Pot
pols	72	Polystichum setiferum	Alaskan Blade Fern	12"	#1 Pot


Acer griseum


Chamaecyparis obtusa


Acer circinatum


Stewartia pseudocamelia


Populus tremuloides 'Erecta'


Thuja plicata hedge


Taxus x media 'Hicksii' hedge

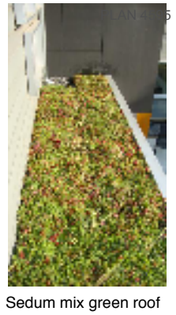

Blechnum spicant


Choisya dumosa (dwarf form)


Rhododendon 'Dora Amateis'


Epimedium grandiflorum


Lirope spicata


Sedum mix green roof


Carex caryophyllea 'The Beatles'


Lonicera mandarin


Heuchera micrantha


Hosta 'Americana'


Polystichum setiferum

2

PLAN 4155

FORMA DESIGN INC.
www.formadesign.ca
209-828 Harbourside Dr.
North Vancouver
British Columbia
Canada V7P 3R9
tel 604-986-9193
fax 604-986-7320

consultants:

revisions:

title:

project:

drawn: SR
checked: BH
date: OCTOBER 25, 2012

scale:

project no:

sheet no:

Landscape Design

October 12, 2012

Attn.: **Andrew Kennett**

Procon Projects Ltd
c/o Forma Design
Suite 209 - 828 Harbourside Drive
North Vancouver BC V7P 3R9

ACL File: **12256**

cc:

Project Ref: **2074 Fulton Avenue West Vancouver**
Proposed Multi-Family Development

Re: **Tree Retention Assessment Report**

Dear Mr. Kennett,

Arbortech Consulting Ltd has been retained to undertake a detailed study of the existing trees located on and within close proximity to the above noted site to determine their current condition, and to make preservation and protection recommendations in context to the proposed development.

Staff from this office visited the site on October 9 2012 to inspect the trees and pre-development site conditions. The topographic plan and the conceptual architectural layout plan for the development project have been provided for our use in completing this report. The purpose of this study is to;

a) Determine the condition of the existing tree resource and compile an inventory that meets the municipal requirements for reporting,
b) Determine which trees are viable for retention consideration,
c) Determine if any off-site trees are expected to be impacted from construction,
d) Guide the approval and design revision process to the extent possible so that tree retention and tree replacement objectives are achieved, and
e) Specify tree protection and impact mitigation recommendations for implementation in the construction process.

The tree condition data and tree retention recommendations are compiled herein and on the enclosures. This report should be read in conjunction with the ***Tree Retention Drawing*** attached.

METHODOLOGY

Using our standard inventory and analysis procedures, all significant trees located on or within close proximity to the development site have been assessed using Visual Tree Assessment (VTA) procedures. Photos were taken and are used herein and/or kept on file. Please note that this study is not a certified tree risk assessment (CTRA), however some trees may pose a risk to the site or surrounding lands. Within the tree inventory we present tree specific data and observations relevant to the land use that is proposed. We have rated the condition of the trees based on health and structural factors as

determined from our VTA, which guide us in determining the suitability for retention in the proposed land use. We have considered those findings in our review of the current project design, and developed a recommended tree retention strategy. The tree retention scheme can be revised, however tree protection setbacks should be determined by this office if any additional trees are selected for retention.

PROPOSED LAND USE

The proposed development consists of two buildings with three residential units. The associated re-grading of the lands, the construction of new underground services/utilities, and the construction of the buildings/driveways and related amenities will result in comprehensive disturbance across most of the site. With due consideration to the tree retention suitability findings, tree retention opportunities on this site are restricted and limited to the only those trees in suitable condition, and located in an area of the site where disturbances to the roots and crowns can be adequately moderated and/or mitigated. In this project, working space for excavation and site access is required from the rear lane. The front yard is the only area where space may available for tree protection.

Tree retention will only be successful if the trees can be protected to meet the alignments of and restrictions within the TPZ's as noted on the Tree Retention Drawing attached. Please refer to that drawing for the tree locations and TPZ information in relation to the proposed development concept. Our plan is based on the current project design that was available at the time of writing. The detailed engineering, architectural and/or landscape drawings require coordination with the findings in this report and attachments.

TREE ASSESSMENT FINDINGS

The site is comprised of a modest single family home with landscaped front and rear yards. A lack of regular landscape maintenance in the recent history is evident. The site slopes generally with a south aspect, but the existing grades of the front driveway and the existing house and road grades at the northeast corner have created an isolated zone of northwestern slope where tree # 1 is growing.

Trees on the subject site consist of the following:

- There are three landscape ornamental trees found on site, one in the front yard and two in rear yard. Two of these trees are in excellent condition while one is marginal due to an inherent structural defect affecting its form.
- In addition, there is a grove of 3 native conifers located in the rear yard, clustered in a co-dominant grove along the eastern property line. Those 3 native conifers are observed to have a history of being topped in the distant past, resulting in the growth of large weakly formed replacement leaders.

Notwithstanding that if the subject lands were not to be developed, it is possible that existing trees could be retained intact, and would survive for many years into the future.

However, the proposed construction works will cause site changes that will either directly conflict or indirectly damage certain existing trees. This retention study considers our arboricultural assessment, our determination of the anticipated impacts from construction, the feasibility of implementing design strategies or innovative construction materials and methods to protect suitable valuable trees. We also consider general landscape management objectives to retain trees that will have reasonable survivorship expectations and that will provide reasonable value (aesthetic and functional) to the site and the community for the long term.

Tree condition ratings are determined by the assessor based on the following:

- **Unsuitable** denotes a Very Poor condition tree that has advanced health decline or significant structural defects, not to be considered for retention.
- **Marginal** denotes a Poor condition tree that has a moderate defect that may be considered for retention, but conditional to special measures if the design meets tree protection requirements.
- **Suitable** denotes a tree in Fair to Good condition with no identifiable significant defects with retention conditional to the design accommodating tree protection requirements.

The recommended ***Retain*** trees as noted in the **ACTION** column are designated as such pursuant to the TPZ restrictions and alignments, and with any special measures noted herein or on the attached ***Tree Retention Drawing***. The Remove trees are designated as such because the current project design does not afford sufficient aerial or root protection space to accommodate their retention. Unless the design can be revised to meet the restrictions and alignments of a TPZ, then they are proposed to be removed to accommodate the development. These findings are conditional to city permitting and/or other required approvals.

PROCON PROJECTS – FORMA DESIGN
PROPOSED MULTI-FAMILY DEVELOPMENT
2074 FULTON AVENUE WEST VANCOUVER BC
TREE RETENTION ASSESSMENT REPORT
OUR FILE: 12256

Table 1. DETAILED INVENTORY AND RETENTION ASSESSMENT OF ON-SITE TREES

TAG #[1]	DBH[2]	HT[3]	SPR[4]	SPECIES	CONDITION	ACTION	RATIONALE	TPZ
01	26	8	4.5	*Acer palmatum*	Suitable	RETAIN	Specimen quality tree in front yard.	See Plan

- Specimen quality tree in excellent condition.
- This tree is slightly asymmetric with bias toward the south, and it has exposed roots on the sloped growing site. A portion of the root zone is covered with asphalt driveway on the east side, and hedge plants are growing within the northern interface.

02	23	8	2.8	*Magnolia grandiflora*	Suitable	Remove	Located in footprint of proposed building.	

- This is a specimen quality tree in excellent condition.
- While it is in the large size category, it may be possible to transplant this tree. In order to be successful, it should be moved only once. Since there is insufficient space on this site to accommodate the tree, perhaps it could be offered for rescue by others at their own cost.

[1] **TAG #** denotes the serial numbered tag affixed to the trunk (or reference ID on off-site trees).
[2] **DBH** denotes the diameter of the trunk, measured in cm as per arboricultural standards.
[3] **HT** denotes the height of the tree measured in metres.
[4] **SPR** denotes the radius, measured in m, of the furthest reaching branches and foliage (i.e. dripline).

03	72	26	6	*Thuja plicata*	Unsuitable	Remove	Due to condition and due to conflict with proposed building.	

- Previously topped at two heights and resulting weakly formed leaders have grown.
- The crown is carried fully by the replacement leaders, and is heavily biased toward the northwest.
- This tree is nearly fully reliant on structural support and wind buffering by the adjacent trees in the grove.

04	68	28	6	*Thuja plicata*	Unsuitable	Remove	Due to condition and due to conflict with proposed building.	

- Previously topped and resulting weakly formed leaders have grown, including marms (vertical limbs) taking on the dominant vertical form.
- The crown is carried predominantly (estimated 75%) by the replacement leaders, and is heavily biased toward the northwest.
- This tree is nearly fully reliant on structural support and wind buffering by the adjacent trees in the grove.

05	88	26	6	*Thuja plicata*	Unsuitable	Remove	Due to condition and due to conflict with proposed building.	

- This tree was previously topped and a single stem, weakly attached, carries approximately 50% of the crown. The old topping site may be decayed.
- The replacement leader is spindly, with minimal taper, and the crown is heavy asymmetry toward the east.
- This tree is nearly fully reliant on structural support and wind buffering by the adjacent trees in the grove.

See photo for tree 04 above.

06	19, 11	10	2.5	*Chamecyparis nottkatensis* 'Pendula'	Marginal	Remove	Located in footprint of proposed building.	

- This young tree has a subdominant stem growing from the base of the trunk.
- The crown of the tree is asymmetric toward the southwest due to competition for light with the adjacent tree grove (trees 03 to 05)
- Both defects noted above can be treated if the tree were retained.

Off-Site Tree Notes:

- The shared ownership tree noted above (#5) appears to be jointly owned with the east neighbour. With the following factors considered:
  a) The removal of the adjacent trees from this co-dominant grove would increase wind exposure,
  b) The pre-existing structural impairment from historical topping has created inherent weaknesses in its form,
  c) The root loss expected from the excavation for the new building would negatively affect the tree, and
  d) The developer intends to access through the root zone for construction purposes.
  Authorization from that neighbour for its removal is strongly recommended.

- Perimeter hedges will be affected by construction, therefore ownership of those hedges and authorizations from their respective owners should be sought before proceeding with any removals. The bamboo growing in some perimeter areas of the site is invasive in nature, and is extending well into the site. IT should be eradicated via digging the roots out. This would require cooperation with the neighbour(s) to be effective.
- A 30 cm (estimated) dbh Hawthorne tree is located in the front yard of the west adjacent home, directly adjacent the common property line. The recommended minimum setback for excavation disturbance is 1.2m from the property line, and conditional to root pruning being undertaken at the time of excavation. With the building foundation design considered, the available space for root protection is a mere 0.2m from the property line. The result would be the loss of approximately 50% of the root system, destabilizing the tree, and possibly killing it. While the tree is relatively small, it would pose a high risk to persons and property within striking range – especially on the west side, the direction it would likely fail toward. The west neighbour should be consulted to consider the removal of this tree. If the neighbour does not approve, then it is recommended that protection be implemented to the 1.2m setback from the property line. If this cannot be achieved, the developer may wish to seek legal advice as to rights and responsibilities relating to the off-site tree.

CONCLUSIONS

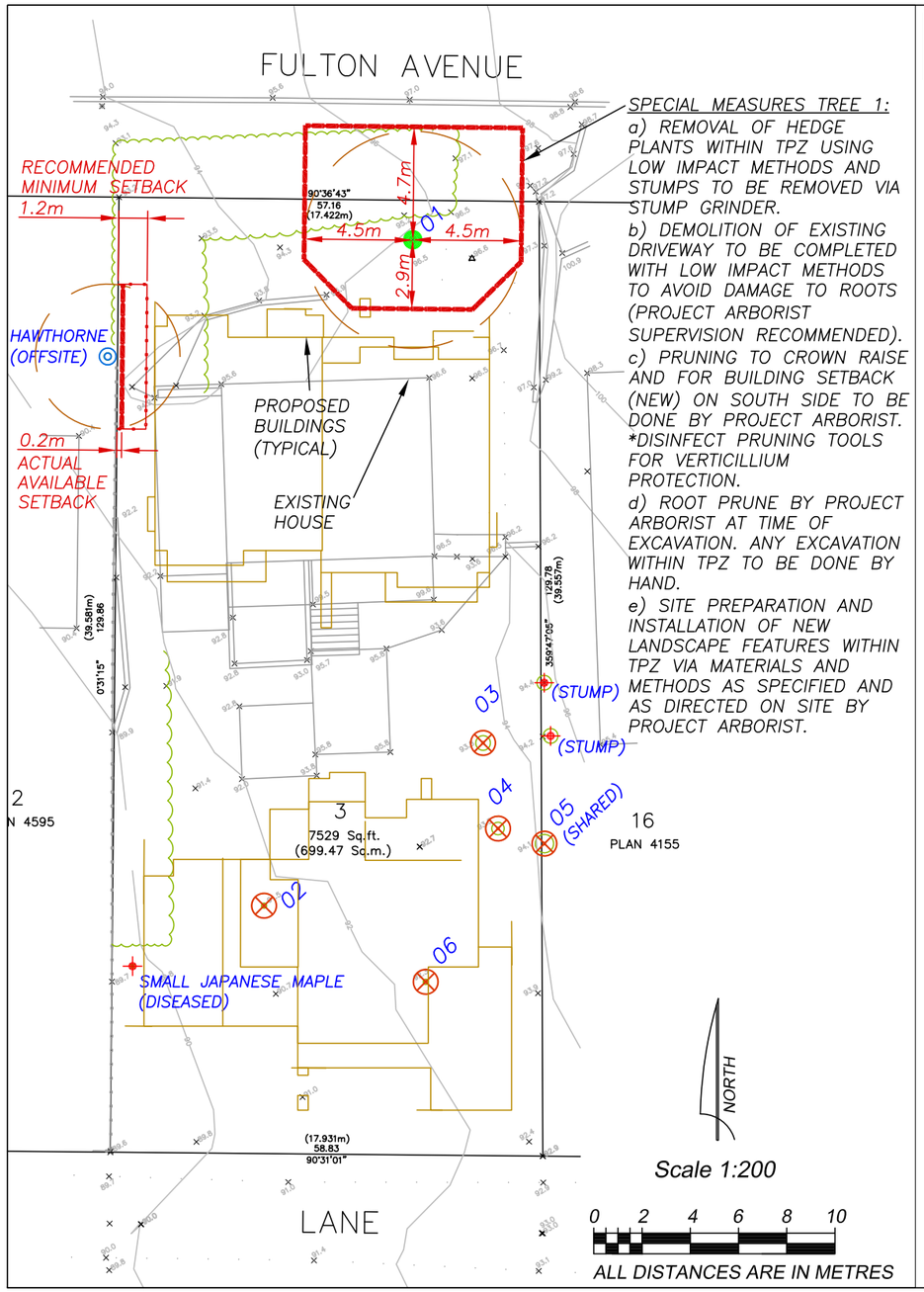
We have assessed six existing site trees using VTA procedures, and we have we have determined that three trees are in suitable or marginal condition, and were considered for retention in the proposed land use. In a review of the currently available project design, we have found that one tree can be retained and protected adequately. We have also found that certain off-site trees will require either; permission for their removal, or protection measures to be implemented within the site. Tree replacement will be determined and specified by the landscape architect in coordination with the municipality. Tree protection measures are outlined on the attached drawing for design reference purposes and for implementation during construction.

Thank you for choosing Arbortech for your tree assessment needs. If you require any further information, please call me directly at 604 275 3484 to discuss.

Regards,

Norman Hol,
Consulting Arborist
ISA Certified Arborist #PN-0730, Certified Tree Risk Assessor #0076, Wildlife and Danger Tree Assessor (Parks and Recreation Module)

Enclosures; Tree Retention Drawing



SPECIAL MEASURES TREE 1:

a) REMOVAL OF HEDGE PLANTS WITHIN TPZ USING LOW IMPACT METHODS AND STUMPS TO BE REMOVED VIA STUMP GRINDER.

b) DEMOLITION OF EXISTING DRIVEWAY TO BE COMPLETED WITH LOW IMPACT METHODS TO AVOID DAMAGE TO ROOTS (PROJECT ARBORIST SUPERVISION RECOMMENDED).

*c) PRUNING TO CROWN RAISE AND FOR BUILDING SETBACK (NEW) ON SOUTH SIDE TO BE DONE BY PROJECT ARBORIST. *DISINFECT PRUNING TOOLS FOR VERTICILLIUM PROTECTION.*

d) ROOT PRUNE BY PROJECT ARBORIST AT TIME OF EXCAVATION. ANY EXCAVATION WITHIN TPZ TO BE DONE BY HAND.

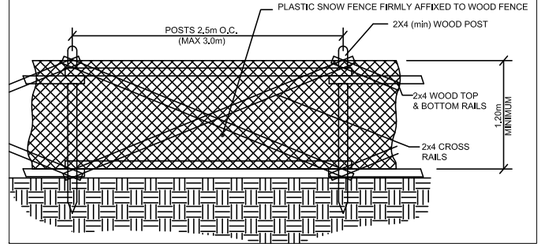
e) SITE PREPARATION AND INSTALLATION OF NEW LANDSCAPE FEATURES WITHIN TPZ VIA MATERIALS AND METHODS AS SPECIFIED AND AS DIRECTED ON SITE BY PROJECT ARBORIST.

Plan Notes:

1. ***This plan is based on a topographic and tree location survey provided by the owners' Registered British Columbia Land Surveyor (BCLS) and layout drawings provided by the owners' Engineer (P Eng) and/or Design Consultants.***
2. ***This plan is provided for context only, and is not certified as to the accuracy of the location of features or dimensions that are shown on this plan. Please refer to the original plans for those purposes.***

TREE PROTECTION FENCE DETAIL

NOT TO SCALE



LEGEND

- denotes SITE LIMITS
- 25 denotes TREE NUMBER. Refer to tree inventory for type, size and condition data.
- denotes tree to be RETAINED.
- denotes tree to be REMOVED.
- denotes small or insignificant tree not considered for retention.
- denotes OFFSITE tree. Refer to Report for recommended treatment. Owner approval for any proposed action/treatment to off-site trees would be required.
- denotes TREE PROTECTION ZONE (TPZ) alignment. Fence to be installed to meet applicable municipal standards. See Tree Protection Notes for restrictions on activities within or in close proximity of TPZ.

TREE PROTECTION NOTES:

a) Tree Protection Zones *(TPZ's) alignments are shown on the drawing for reference. These alignments are based on site and tree conditions as determined by the project arborist, and they supersede any other tree protection setbacks provided by others (including city guideline derived setbacks).*

b) Tree Protection Fences *(Barriers) must be erected at alignments as shown on the drawing, maintained in good condition until the project meets substantial completion, and the restrictions implemented as per the guidelines herein. The fence construction is to meet or exceed the municipal standards. Tree protection fencing must be inspected and approved by the municipality and/or the project arborist prior to any demolition, site preparation or construction work commencing. Any contemplated changes to the TPZ fences must be approved in advance by the project arborist.*

c) IMPORTANT! *If any tree protection fences are aligned with or within close proximity to a Restrictive Covenant, a Property Line, and/or an Environmentally Sensitive or Protected Area, the contractor must undertake a survey of the location of those lines such that the tree protection fence can be installed and inspected accurately.*

d) IMPORTANT! *Unauthorized removal of, or damage to retained trees, and/or encroachment into the TPZ may constitute an offence under municipal bylaw provisions, and may be subject to fines, penalties and/or delays in the project. The owner, their contractors or their sub-contractors would be liable for such fines and or any other related costs. Extra costs may include certain remedial treatments to the trees and/or the soil in the tree protection zones as specified by ACL and/or the municipality, tree replacement planting, and/or other measures.*

e) Signs *stating* ***"TREE PROTECTION AREA - NO ENTRY"*** *should be placed on the tree protection fence at a suitable frequency. If the general contractor or owner has secured a compliance monitoring contract with ACL, we will supply signage with our contact information for reference by the contractors, subcontractors and trades in case they require access therein. It is recognized that certain unpredictable construction conflicts may arise that could interfere with the retention of the selected trees, however any changes to the tree retention scheme are subject to approvals in advance by the project arborist and the municipality. Restrictions may be waived if they are considered by the Project Arborist to be acceptable, and these approvals will be conditional to special measures specified by ACL to protect or enhance the trees, their roots and the soil from damaging impacts.*

f) Tree Protection Guidelines*:*
Any work activities within TPZ's should include the advance approval and the on-site supervision of the project arborist. Supervision and direction on site may be required. The trunks, branches, foliage and roots of retained trees, as well as the soil within the tree protection zones, must not be damaged by construction activities. This includes direct mechanical damage from machinery operation, we as indirect damage such as soil hydrology changes or burns to the foliage from equipment exhaust, etc. Activities within and access to the TPZ's are restricted during the ***site preparation***, ***construction*** *and* ***landscape installation*** *phases of the project as follows (except as approved and directed by the project arborist) as follows:*

- *removal of trees/stumps from within or directly adjacent to TPZ's is restricted as to method*
- *no soil disturbance within TPZ's including trenching, excavation, fill placement, etc*
- *no storage or transport of; soil, spoil, construction materials, waste materials, etc through TPZ*
- *no concrete, stucco, drywall, paint, etc washed within or adjacent to TPZ*
- *no passage or operation of vehicles or equipment through TPZ*
- *no placement of temporary structures or services, etc within TPZ*
- *no affixing lights, signs, cables or any other device to retained trees*
- *no unauthorized pruning or cutting of retained trees. Any pruning or other treatment of a retained tree must be completed by a qualified arborist or tree service firm employing ISA Certified Arborists, to comply with ANSI A300 standards, and/or under the direction of a project arborist from this office.*
- *excavations adjacent to the TPZ requires attendance/root pruning by the Project Arborist*

g) IMPORTANT! *The landscaping phase is when retained trees can be damaged the most severely. The process of soil placement, grading for hard landscape features(i.e. sidewalks), excavation for retaining wall construction, excavation for fences and landscape features, digging of planting holes for new plants and trees, the digging of trenches for irrigation, drainage and lighting, the placement of turf and other finishing works all have a very high potential for tree damage (i.e. root loss, trunk wounds, soil damage affecting tree growth and disease development, etc.). It is vital that the landscape works respect the limitations on activities within the TPZ's, therefore on-site direction by the project arborist is strongly recommended.* ***The landscape contractor should be made aware that any grade changes, including the shallowest of trenches and the thinnest layer of top dressing can be a signified negative impact on existing trees.***

h) Permitting and Regulatory Items. *Any tree proposed for removal may be subject to city permitting requirements and conditions, and may require neighbour authorization (i.e. in the case of off-site or shared ownership trees). It is the owners' responsibility to obtain permits and authorizations accordingly. The active nests of protected bird species, and any nest of certain species, are protected by Federal and Provincial laws or statutes. The owner is encouraged to retain a qualified professional (R.P. Bio.) to provide nest assessment and impact mitigation advice as necessary. The recovery and sale of marketable timber from tree removal and/or land clearing will legally require that the owner obtain a Timber Mark. In the Greater Vancouver and Fraser Valley Regions, contact the Chilliwack Forest District office at 604 586 4400.*

TREE RETENTION DRAWING

Client:	PROCON PROJECTS LTD
Project:	PROPOSED MULTI-FAMILY DEVELOPMENT
Address:	2074 FULTON AVENUE WEST VANCOUVER BC
Date:	OCTOBER 12 2012
Our File:	12256

ACL
arbortech consulting ltd
Suite 200 - 3740 Chatham Street
Richmond, BC Canada V7E 2Z3
P 604 275 3484 F 604 275 9554
email: trees@arbortech.bc.ca

DUPLEX AND COACH HOUSE DEVELOPMENT

2074 FULTON AVENUE, WEST VANCOUVER, B. C.

CONTENTS:

project:
DUPLEX & COACH HOUSE DEVELOPMENT
2074 FULTON AVE, WEST VANCOUVER, B.C.

Mason Kent design inc.
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604-644-7950
masonkent@shaw.ca
www.masonkentdesign.com

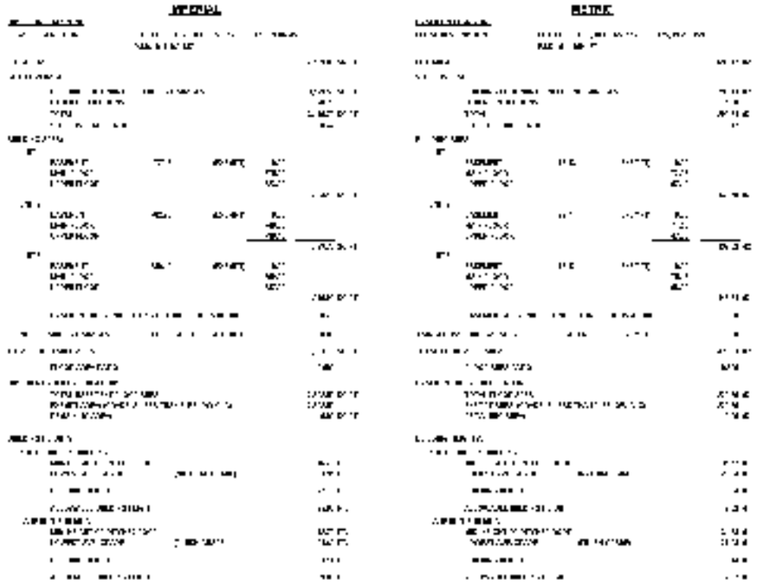
revisions and notes:
30/11/12 - general revisions for DVP staff comments
15/01/13 - general revisions for DRC & staff comments
20/02/13 - general revisions for staff comments

sheet name:
COVER

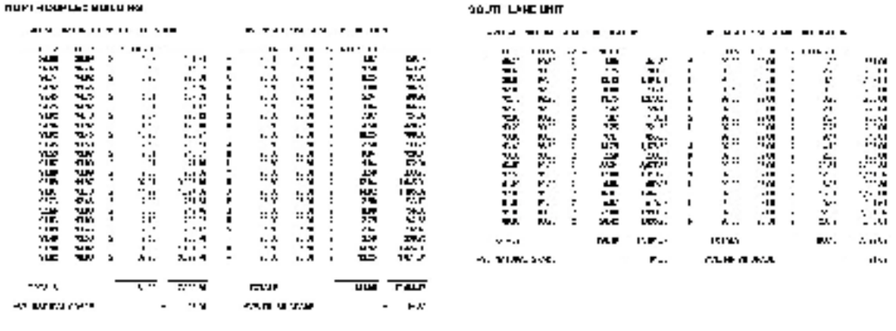
scale:
created: OCTOBER 5, 2012

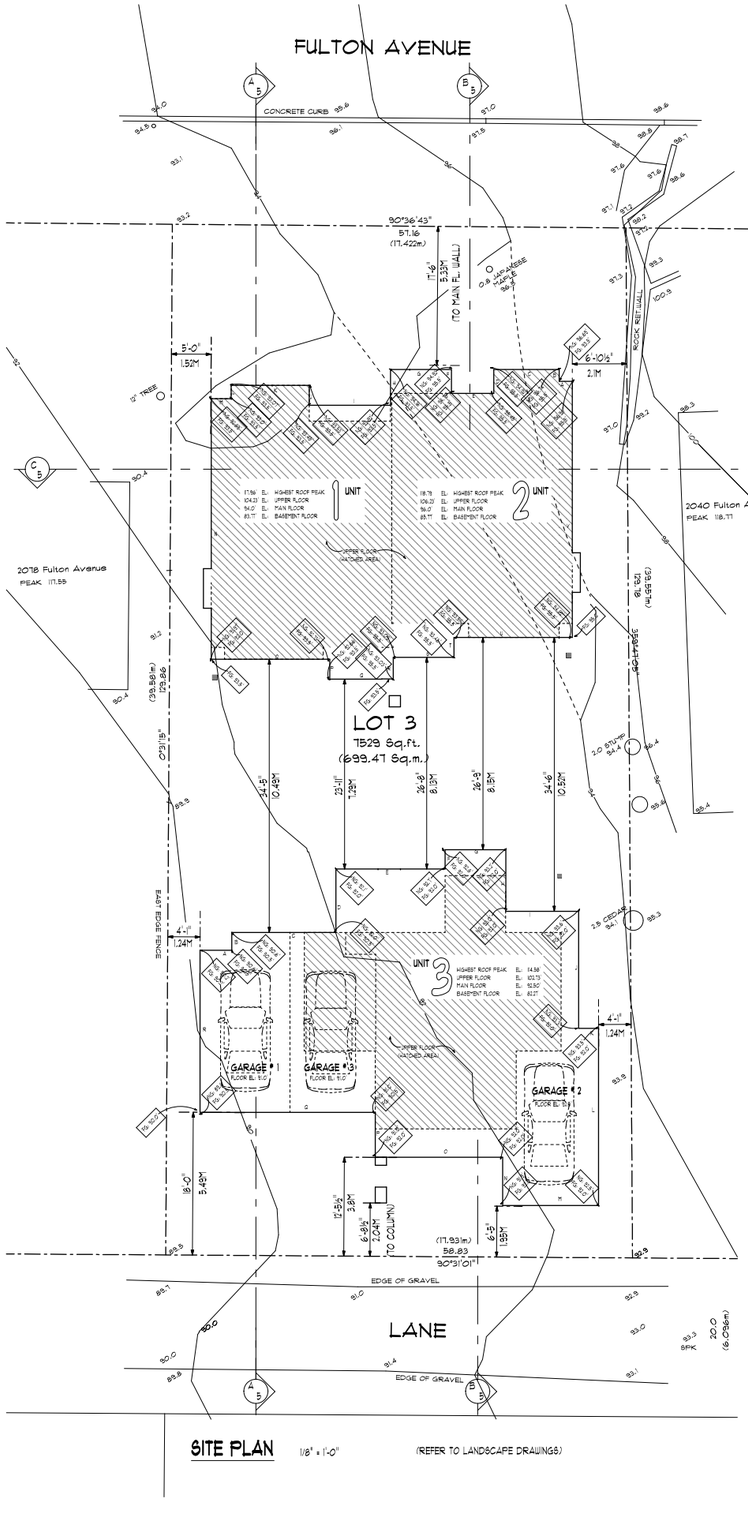
sheet no.:
1
of 11

PROJECT STATISTICS



NATURAL & FINISHED GRADES AT BUILDING WALLS





SITE PLAN 1/8" = 1'-0" (REFER TO LANDSCAPE DRAWINGS)

NORTH

DUPLEX & COACH HOUSE DEVELOPMENT

2014 FULTON AVE, WEST VANCOUVER, B.C.

project:

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20/02/13 - general revisions for staff comments

sheet name:

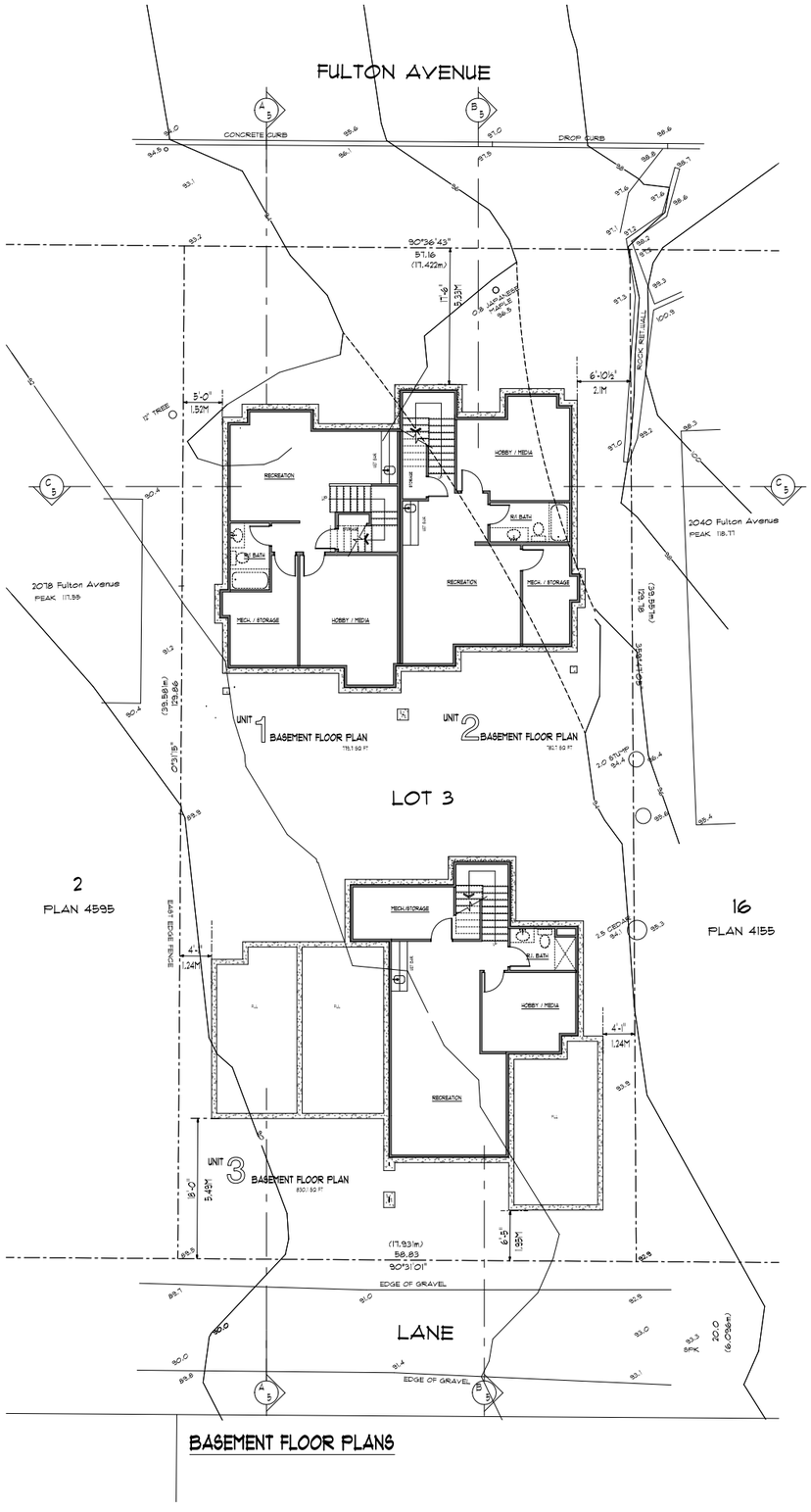
SITE PLAN

PROJECT DATA

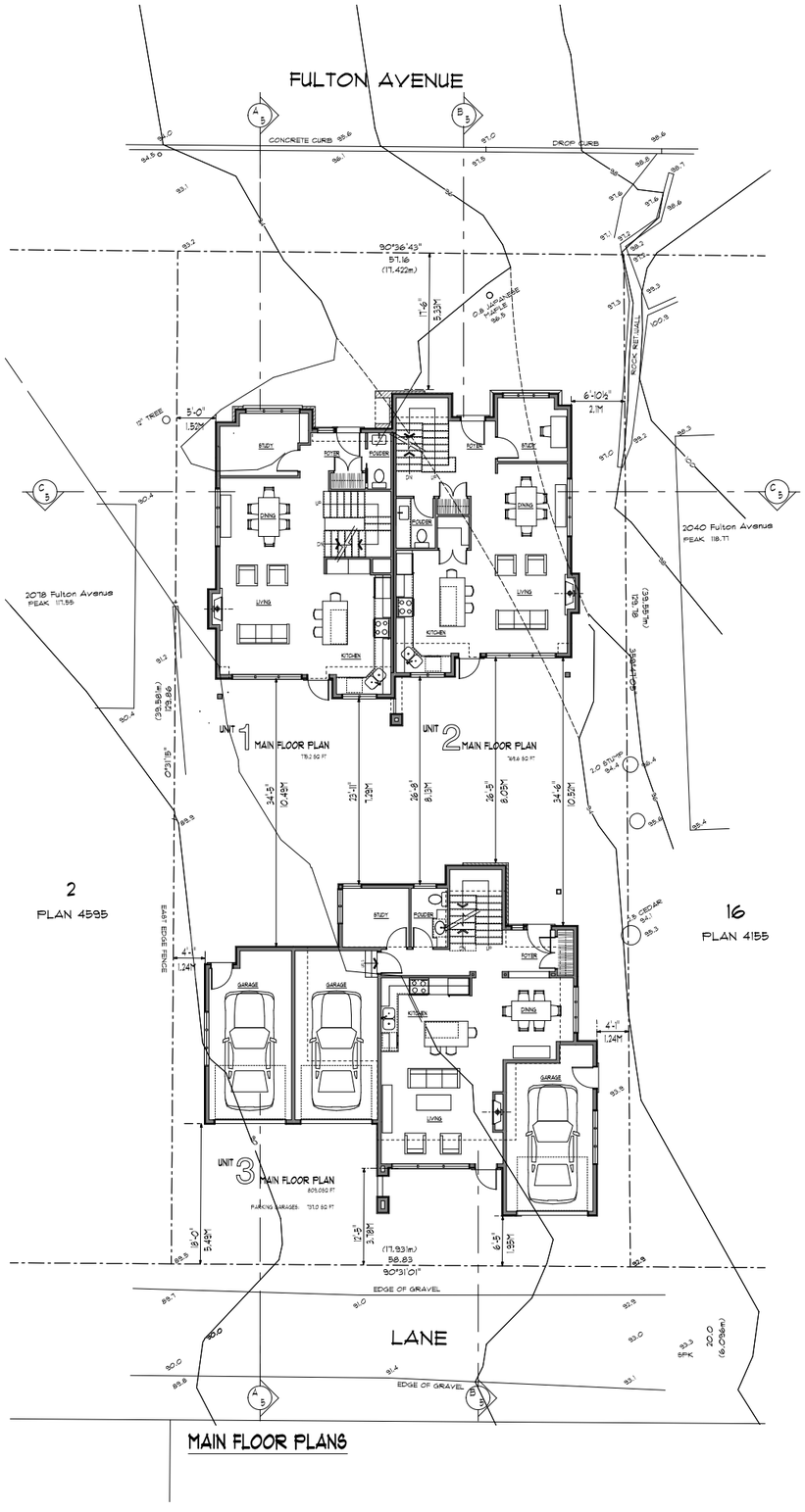
scale:

created: OCTOBER 15, 2012

sheet no.: 2 of 11



BASEMENT FLOOR PLANS



MAIN FLOOR PLANS

NORTH

DUPLEX & COACH HOUSE DEVELOPMENT

2074 FULTON AVE, WEST VANCOUVER, B.C.

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sheet name:

BASEMENT AND MAIN FLOOR PLANS (OVERALL SITE)

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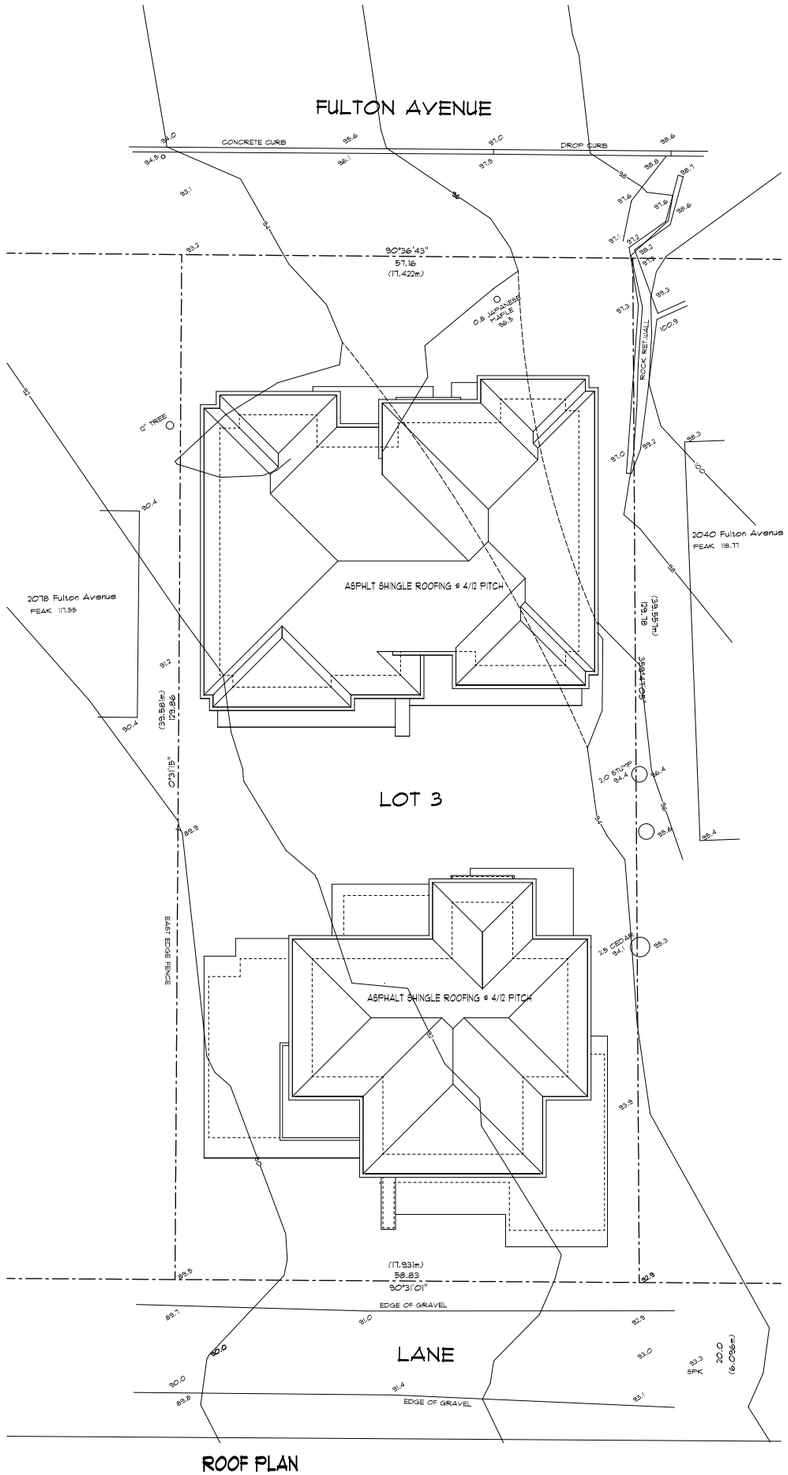
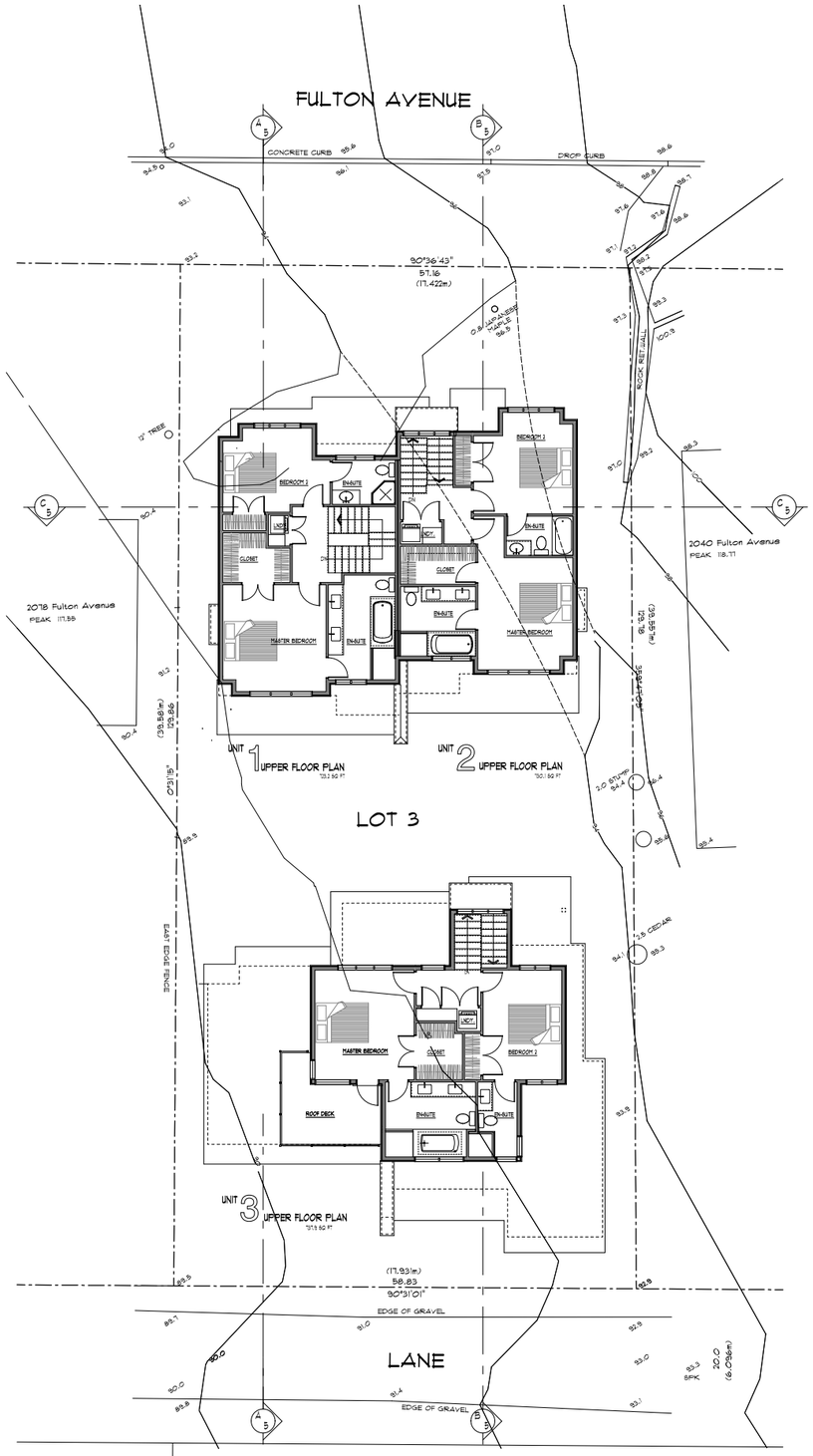
sheet no.: 3 of 11

Drawings



ROOF PLAN



UPPER FLOOR PLANS

NORTH

DUPLEX & COACH HOUSE DEVELOPMENT

2014 FULTON AVE, WEST VANCOUVER, B.C.

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revisions and notes:

30/11/12 - general revisions for DVP staff comments

15/01/13 - general revisions for DRC & staff comments

20/02/13 - general revisions for staff comments

sheet name:

UPPER FLOOR & ROOF PLAN (OVERALL SITE)

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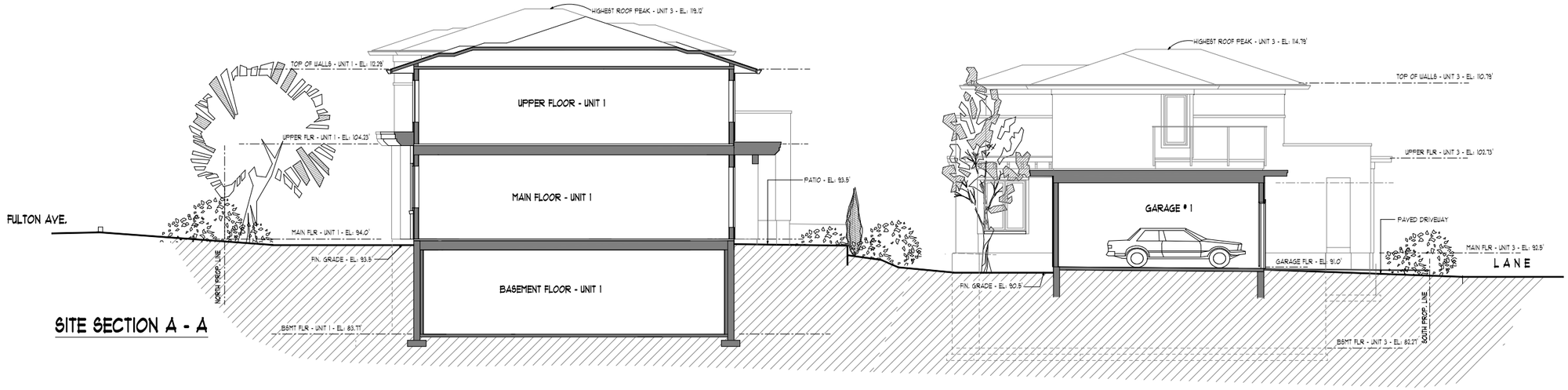
created: OCTOBER 8, 2012

sheet no.: 4

of 11

Drawings



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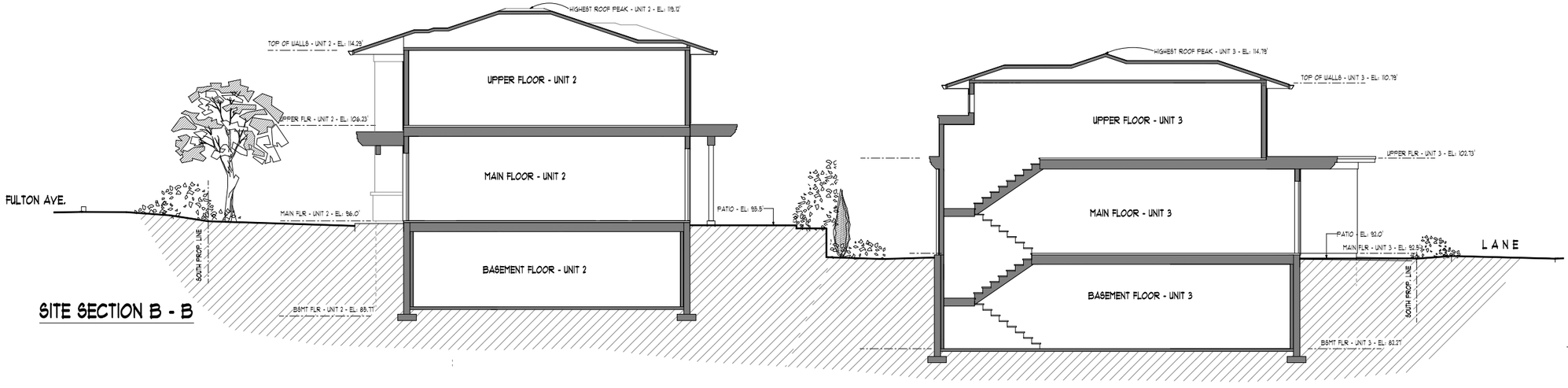

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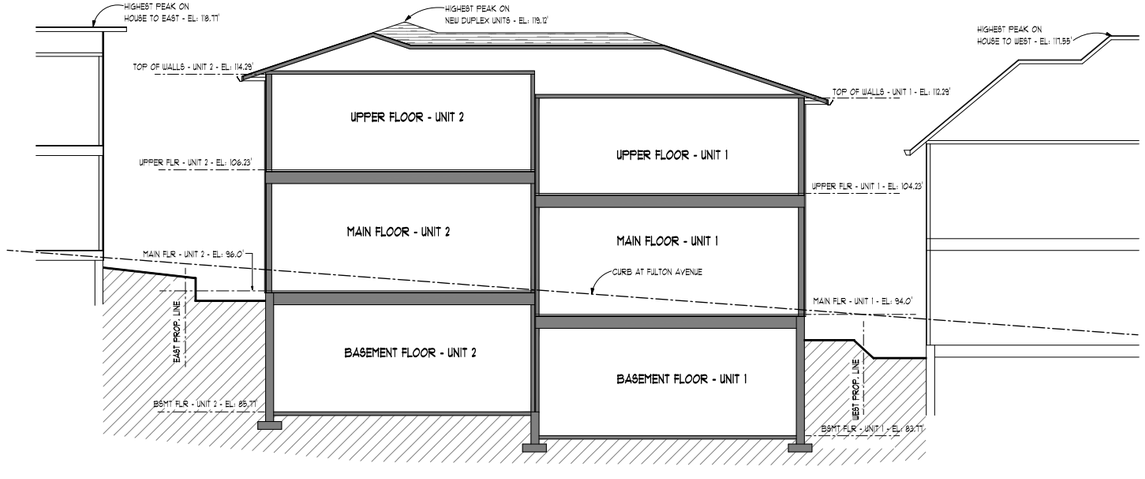

SITE SECTION C - C

DUPLEX & COACH HOUSE DEVELOPMENT

project:

2074 FULTON AVE, WEST VANCOUVER, B.C.

Mason Kent design inc.
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www.masonkentdesign.com

revisions and notes:

30/11/12 - general revisions for DVP staff comments

15/01/13 - general revisions for DRC 4 staff comments

20/02/13 - general revisions for staff comments

sheet name:

SITE SECTIONS

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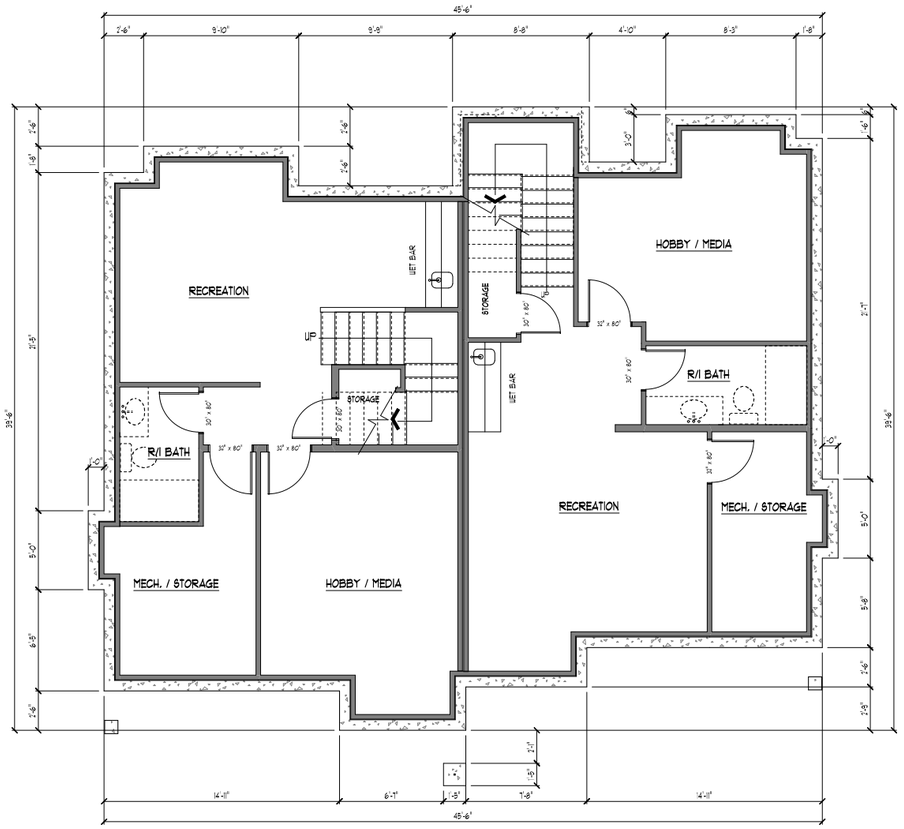
created: OCTOBER 15, 2012

sheet no.:

5

of 11

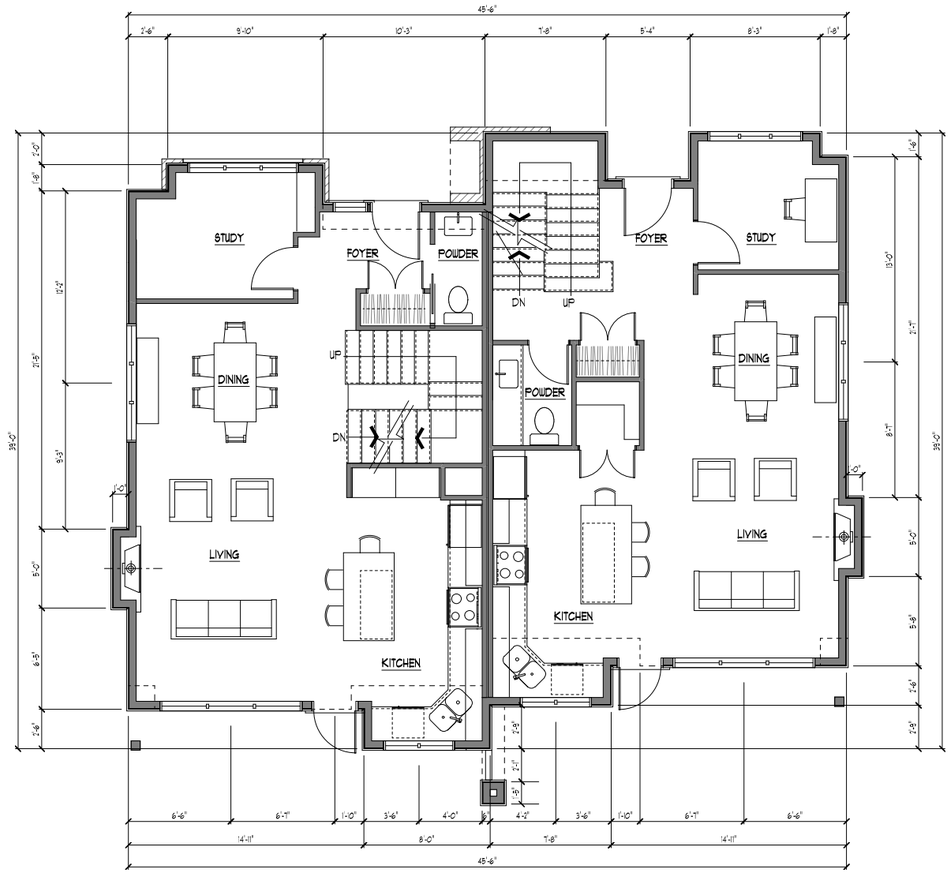


UNIT 1 BASEMENT FLOOR PLAN

779.7 SQ FT

UNIT 2 BASEMENT FLOOR PLAN

782.7 SQ FT



UNIT 1 MAIN FLOOR PLAN

775.2 SQ FT

UNIT 2 MAIN FLOOR PLAN

769.6 SQ FT

NORTH

DUPLEX & COACH HOUSE DEVELOPMENT

2074 FULTON AVE, WEST VANCOUVER, B.C.

project:

Mason Kent design inc.

West Vancouver B. C.

604-644-7950
masonkent@shaw.ca
www.masonkentdesign.com

revisions and notes:

30/11/12 - general revisions for DVP staff comments

15/01/13 - general revisions for DRC 4 staff comments

20/02/13 - general revisions for staff comments

sheet name:

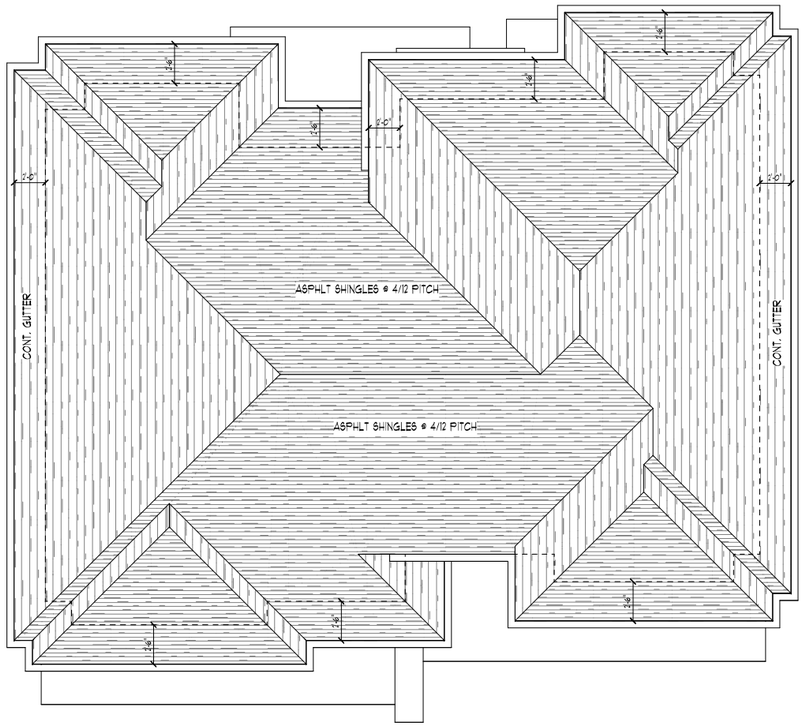
UNITS 1 & 2
NORTH DUPLEX
MAIN FLOOR PLANS

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

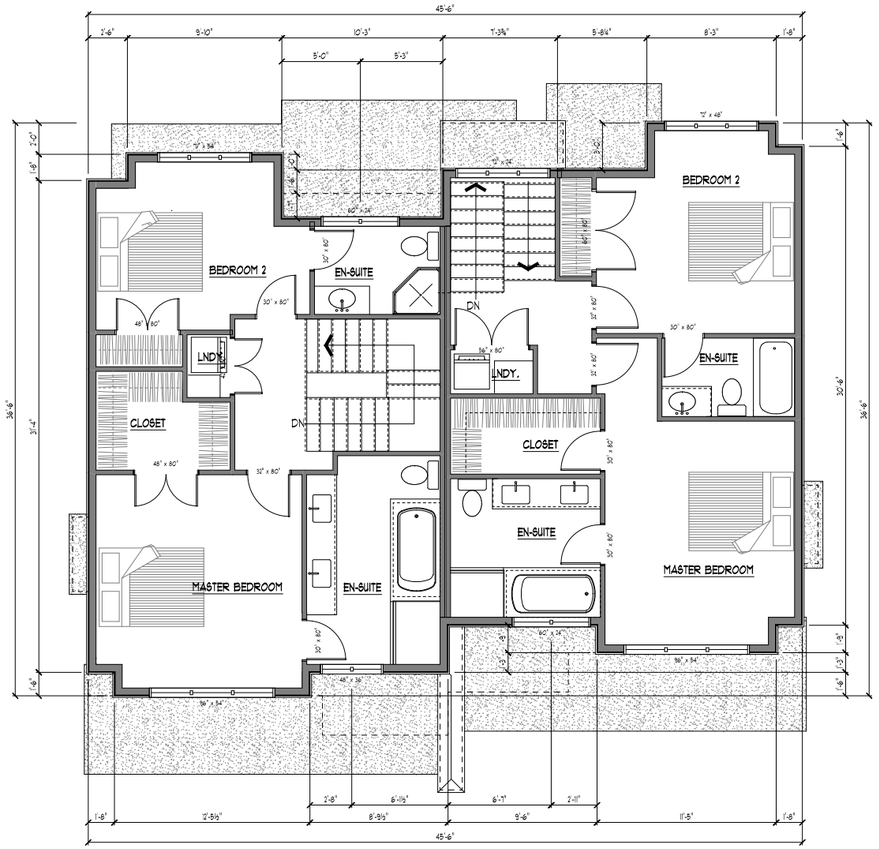
created: OCTOBER 15, 2012

sheet no.: 6 of 11

Drawings



UNIT 1 & 2 ROOF PLAN



UNIT 1 UPPER FLOOR PLAN
723.2 SQ FT

UNIT 2 UPPER FLOOR PLAN
730.1 SQ FT

NORTH

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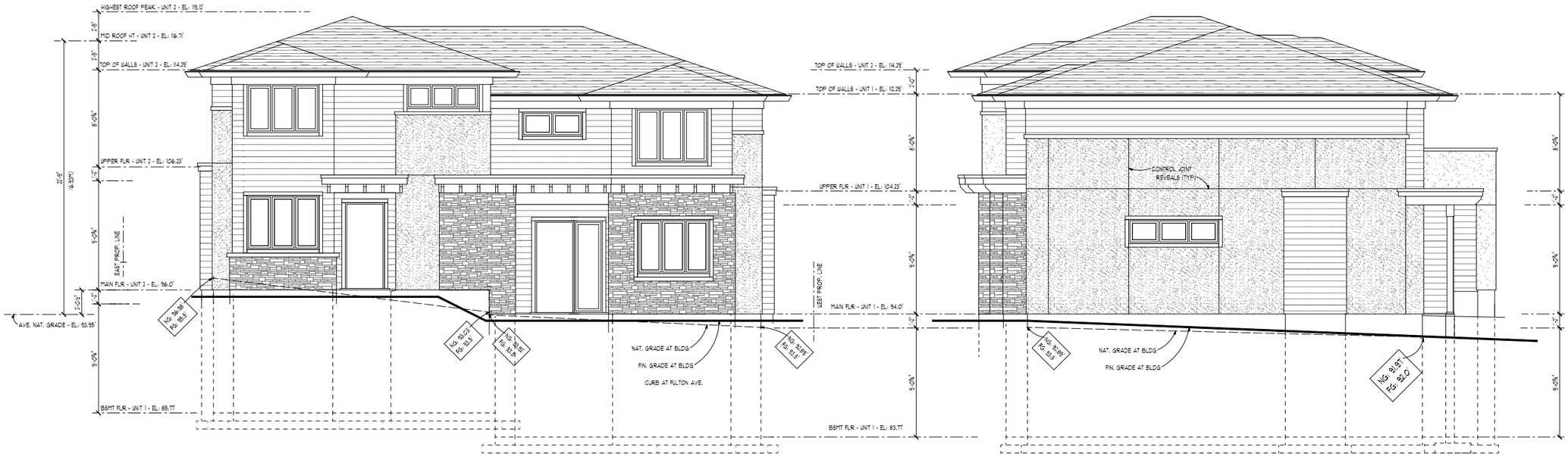
sheet name:

UPPER FLOOR & ROOF PLAN
UNITS 1 & 2
DUPLEX BUILDING

scale: 1/4" = 1'-0"
created: OCTOBER 15, 2012

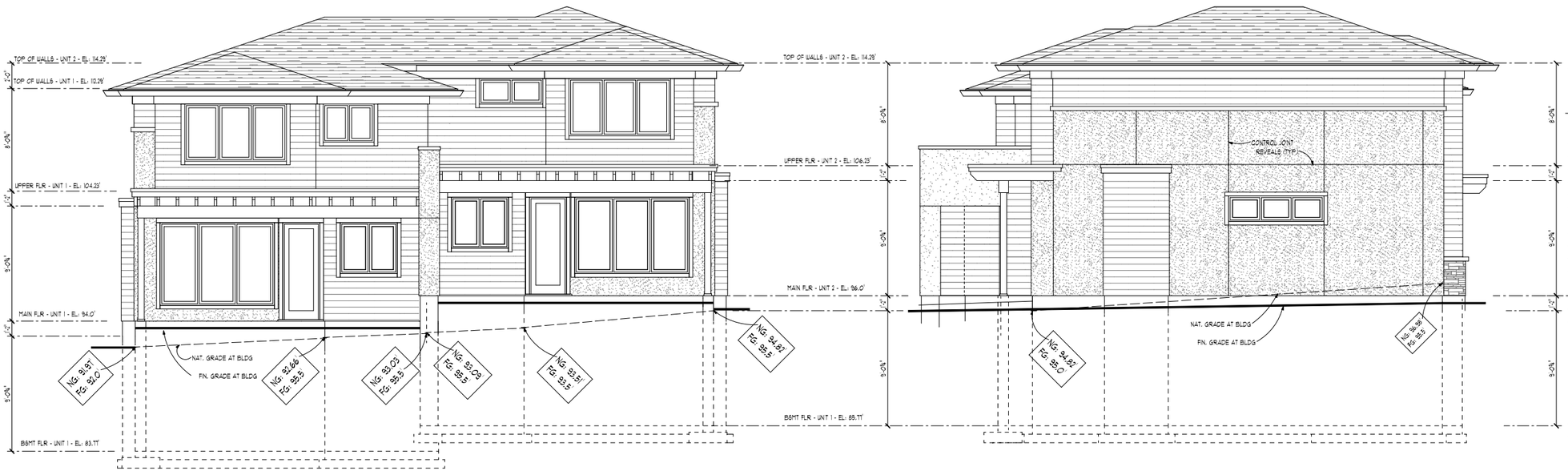
sheet no.: 7
of 11

Drawings



NORTH ELEVATION

WEST ELEVATION



SOUTH ELEVATION

EAST ELEVATION

DUPLEX & COACH HOUSE DEVELOPMENT

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20/02/13 - general revisions for staff comments

sheet name:

ELEVATIONS
NORTH DUPLEX BLDG.

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

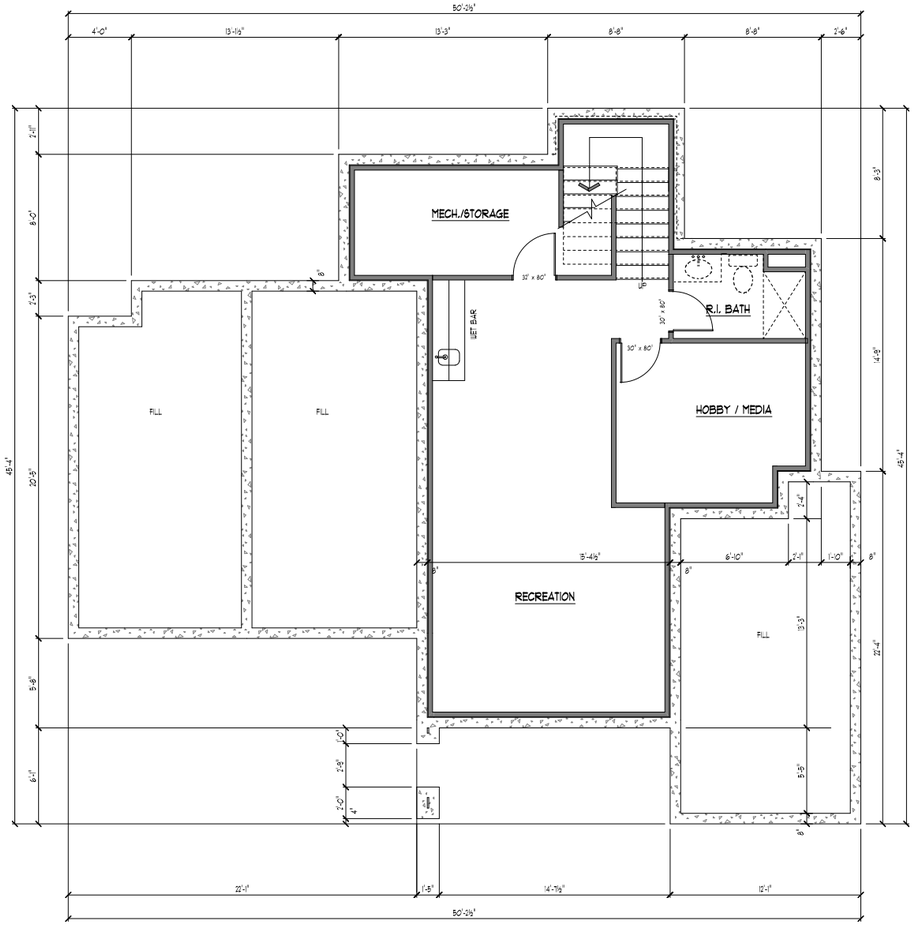
created: OCTOBER 15, 2012

sheet no.:

8

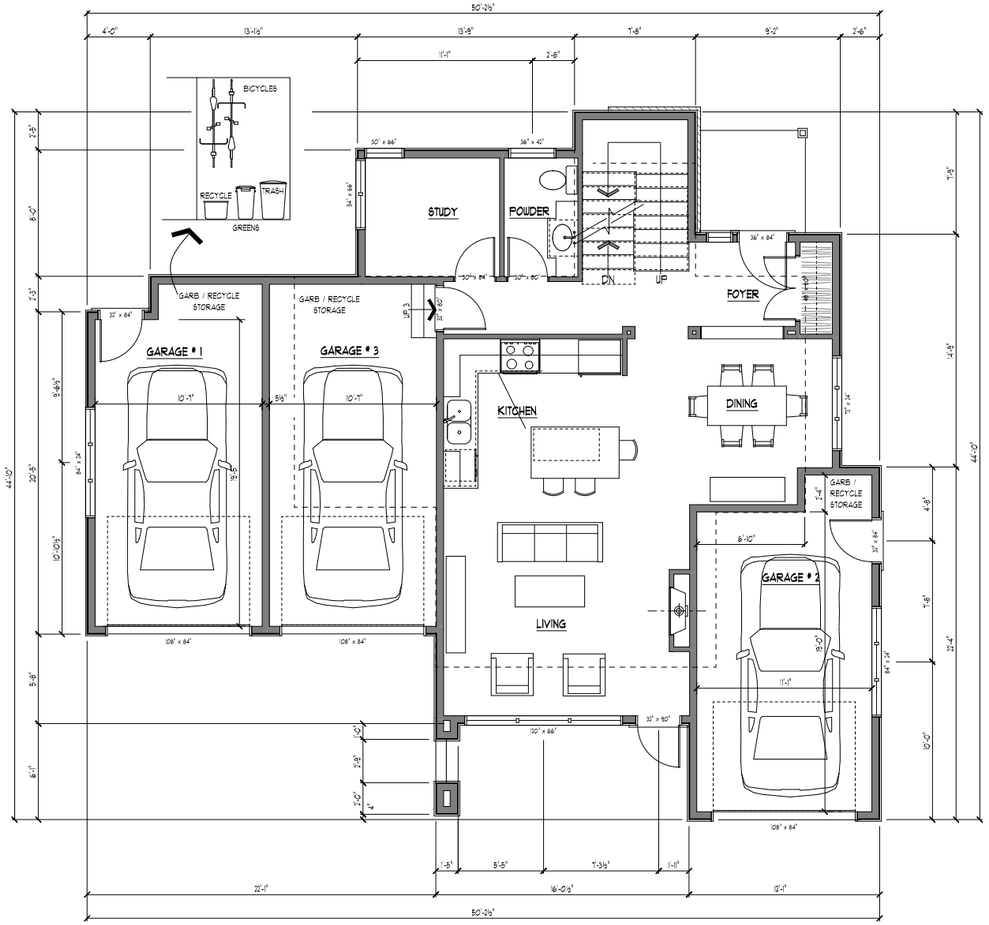
of 11

Drawings



UNIT 3 BASEMENT FLOOR PLAN

830.1 SQ FT



UNIT 3 MAIN FLOOR PLAN

809.0 SQ FT

PARKING GARAGES: 737.0 SQ FT

NORTH

DUPLEX + COACH HOUSE DEVELOPMENT

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15/01/13 - general revisions for DRC + staff comments

20/02/13 - general revisions for staff comments

sheet name:

BASEMENT + UPPER FLOOR PLAN
UNIT 3 - LANE BUILDING

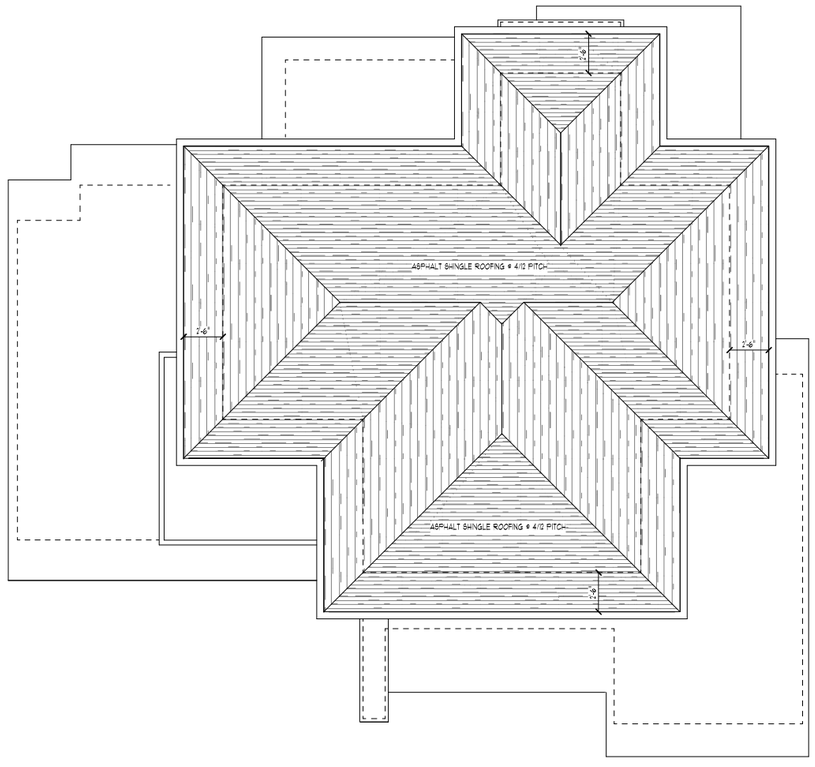
scale: 1/4" = 1'-0"

created: OCTOBER 15, 2012

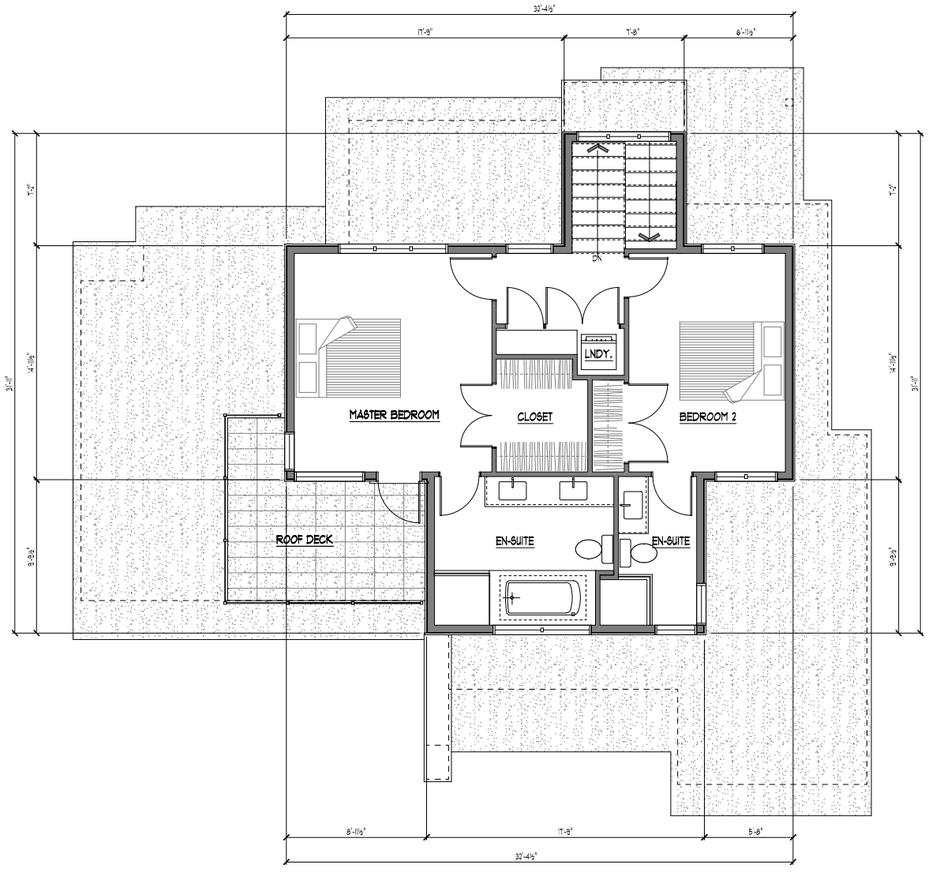
sheet no.: 9

of 11

Drawings



UNIT 3 ROOF PLAN



UNIT 3 UPPER FLOOR PLAN

737.2 SQ FT

NORTH

DUPLEX & COACH HOUSE DEVELOPMENT

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sheet name:

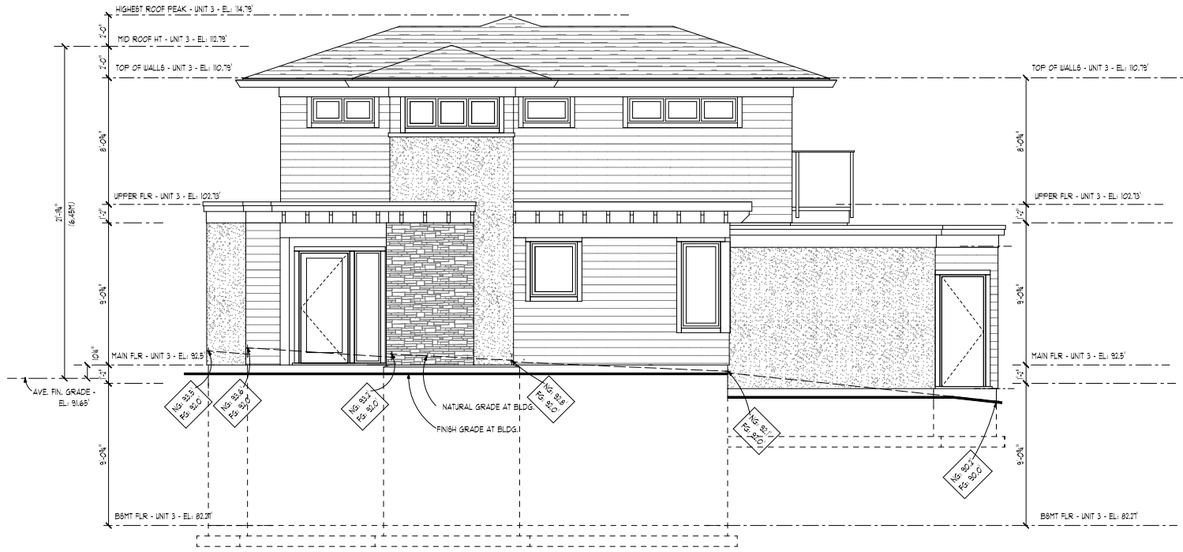
UPPER FLOOR & ROOF PLAN
UNIT 3
LANE UNIT

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

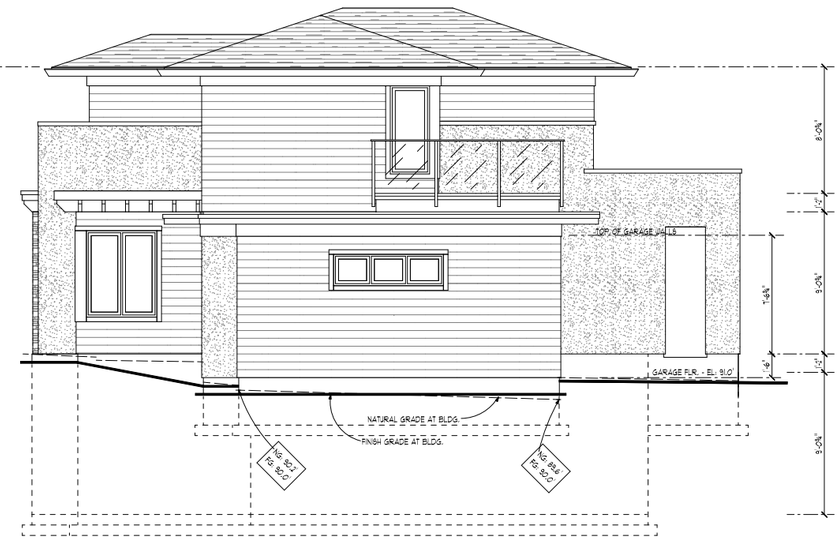
created: OCTOBER 15, 2012

sheet no.: 10 of 11

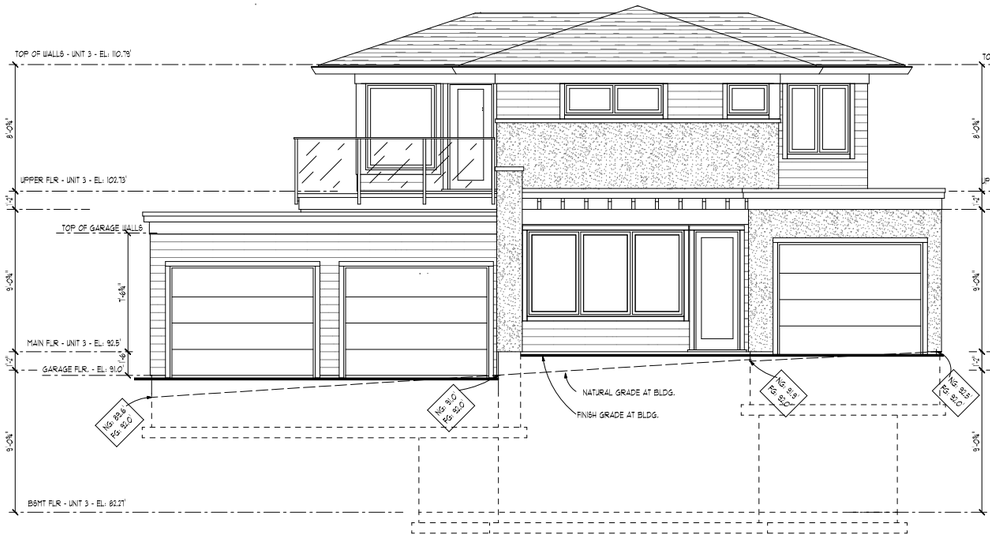
Drawings



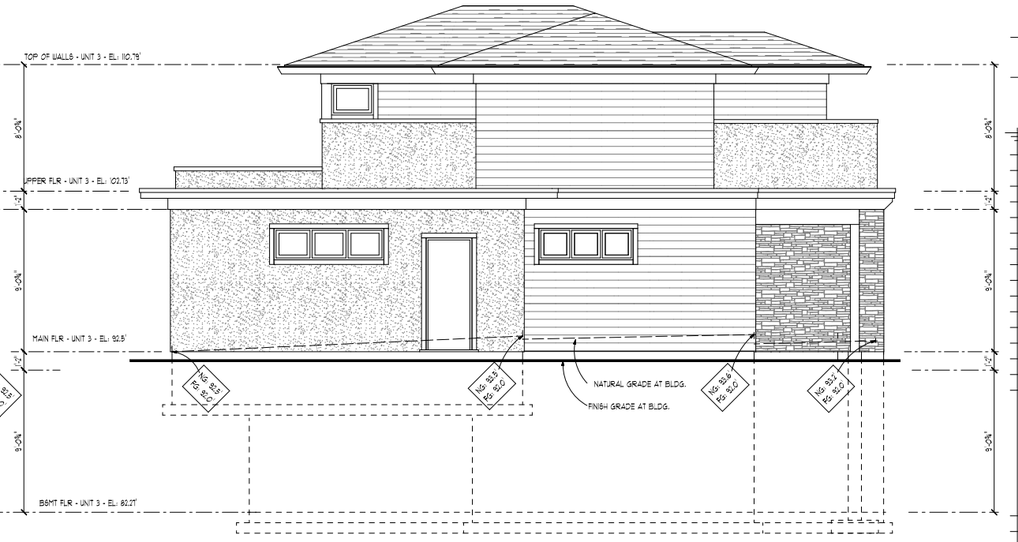
NORTH ELEVATION



WEST ELEVATION



SOUTH ELEVATION



EAST ELEVATION

DUPLEX & COACH HOUSE DEVELOPMENT

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sheet name:

ELEVATIONS
LANE UNIT 3

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

created: OCTOBER 15, 2012

sheet no.:

11

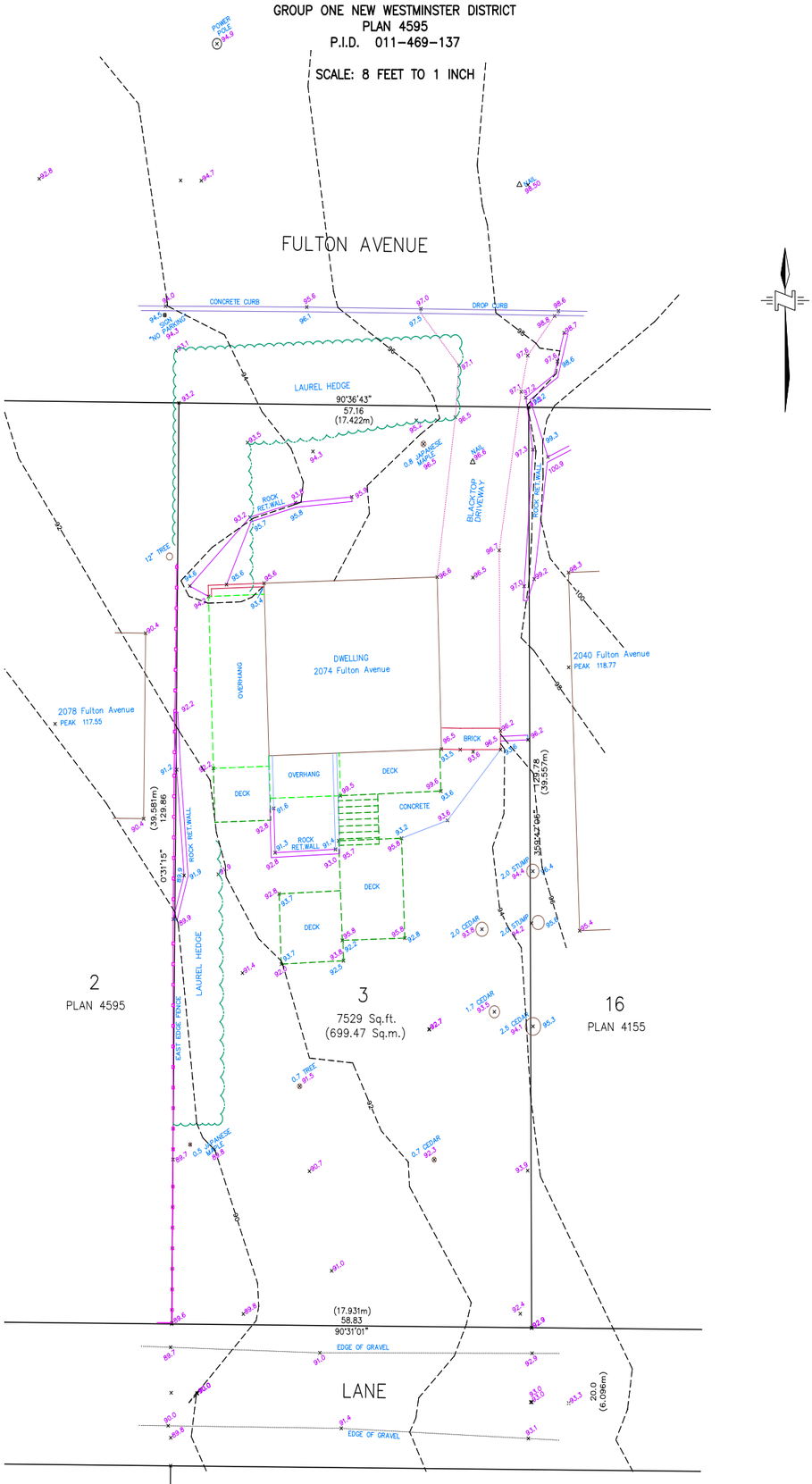
of 11

PLAN SHOWING ELEVATIONS ON

LOT 3 OF LOT 7 BLOCKS 7 TO 12
DISTRICT LOT 775

GROUP ONE NEW WESTMINSTER DISTRICT
PLAN 4595
P.I.D. 011-469-137

SCALE: 8 FEET TO 1 INCH



NOTE:
ADJACENET DWELLINGS AND ROOF PEAKS ADDED 16 AUGUST, 2012.

NOTE:
PROPERTY DIMENSION MAY VARY SLIGHTLY ON A REPOSTING SURVEY.

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

THIS DOCUMENT IS NOT VALID UNLESS ORIGINALLY SIGNED AND SEALED.

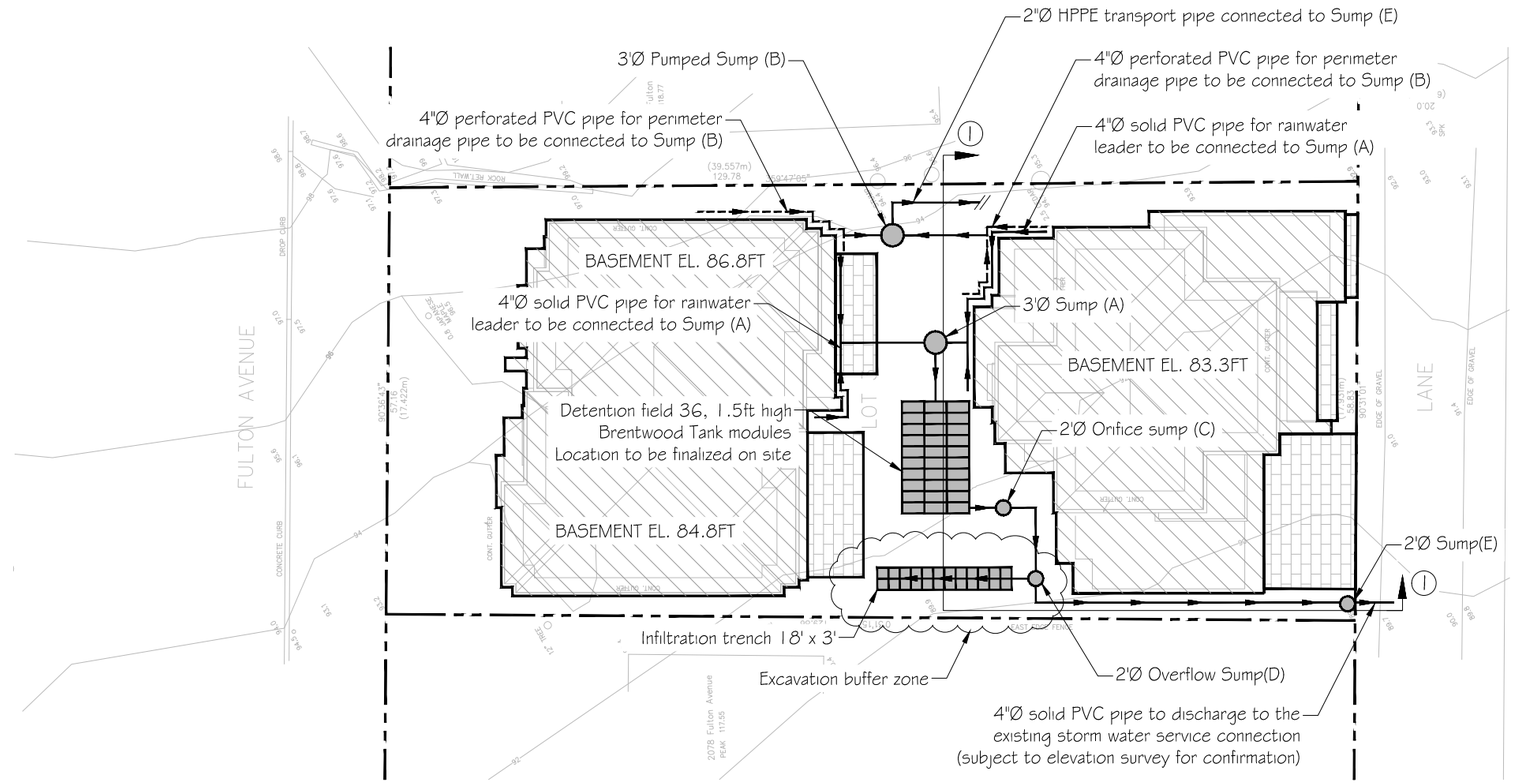
CERTIFIED CORRECT ACCORDING TO SURVEYED DIMENSIONS:

_____ BCLS
THIS 2ND DAY OF AUGUST, 2012

NOTE:
ELEVATIONS ARE TO GEODETIC DATUM AND ARE DERIVED FROM SANITARY MANHOLE FOUND AT THE INTERSECTION OF FULTON AVENUE AND 20TH STREET.
RIM ELEVATION = 113.35 FEET
INVERT ELEVATION = 107.25 FEET

JOB: 12088 FB: 452 P.30
FILE: L135-34 COMP: 12088X_R1.DWG

RANKINE LAND SURVEYING LTD.
300 - 1000 WEST 14TH STREET
NORTH VANCOUVER, BC V7P 3P3
TEL: 604-987-7772
Email: rankinesurveys@shaw.co



LEGEND:

- Post-Development Roof area (4,020sq-ft, C=1.0)
- Post-Development Patio and Driveway area (545sq-ft, C=0.6)

PRE-DEVELOPMENT CONDITION:

- Pre-Development Roof area (1195sq-ft, C=1.0)
- Pre-Development Driveway area (376sq-ft, C=1.0)
- Pre-Development Deck area (453sq-ft, C=0.6)

NOTE:

- All plumbing details shown are for information only. A contractor certified by the District of West Vancouver must be retained for plumbing works. The contractor is responsible for quality of plumbing and mechanical details and installation.
- All perimeter drain pipes from the proposed north duplex and proposed lane unit to be directed to Sump (B) and rainwater leaders from the proposed north duplex and lane unit to be directed to Sump (A).
- All patios and driveways are paved by segmental pavement blocks.

REFERENCE DRAWINGS
See Specifications

NO	DATE	REVISION
5		
4		
3		
2		
1		

HORIZON ENGINEERING INC
114 - 2433 Dollarton Highway
North Vancouver, BC, V7H 0A1
Phone 604-990-0546
Fax 604-990-0583

MR. ANDREW KENNETT
2074 Fulton Avenue,
West Vancouver, BC

Proposed Development
2074 Fulton Avenue,
West Vancouver, BC

Stormwater Disposal System - Plan

SCALE 1/16" = 1'	DATE Oct12
DRAWN RL	CHECKED KS
DESIGN HS	ISSUED
FIGURE 1 OF 5	
JOB NUMBER 112-3158	

22-Oct-12, 4:57:26 PM, Ryan, N:\2012 Projects\112-3158 WA 2074 Fulton Ave\Drawings\112-3158 Stormwater Disposal System Rb.dwg