CITY OF VANCOUVER

P3

POLICY REPORT
DEVELOPMENT AND BUILDING

Report Date: April 6, 2010
Contact: Ingrid Hwang
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VanRIMS No.: 08-2000-20
Meeting Date: April 20, 2010

TO: Vancouver City Council

FROM: Director of Planning

SUBJECT: CD-1 Text Amendment - 2908 West 33rd Avenue

RECOMMENDATION

A. THAT the application by Mackenzie Street Development Inc., to amend CD-1 #190 (By-law No. 6155) for 2908 West 33rd Avenue (PID 013-283-006, 013-283-014, and 013-283-031; Lots 16, 17, and 18, all of Lot 1; Block 47; District Lot 2027; N.W.D; Plan 2972), to permit construction of a mixed-use development with 10 residential units and 4 commercial units at a floor space ratio (FSR) of 1.25, be referred to a Public Hearing, together with:

(i) plans received November 18, 2009;

(ii) draft CD-1 By-law amendments, generally as presented in Appendix A;

and

(iii) the recommendation of the Director of Planning to approve, subject to conditions contained in Appendix B.

FURTHER THAT the Director of Legal Services be instructed to prepare the necessary amending by-law generally in accordance with Appendix A for consideration at the Public Hearing.

B. THAT Recommendation A be adopted on the following conditions:

(i) THAT the passage of the above resolutions creates no legal rights for the applicant or any other person, or obligation on the part of the City and any expenditure of funds or incurring of costs is at the risk of the person making the expenditure or incurring the cost;

(ii) THAT any approval that may be granted following the public hearing shall not obligate the City to enact a by-law rezoning the property, and any costs incurred in fulfilling requirements imposed as a condition of rezoning are at the risk of the property owner; and

(iii) THAT the City and all its officials, including the Approving Officer, shall not in any way be limited or directed in the exercise of their authority or discretion, regardless of when they are called upon to exercise such authority or discretion.

GENERAL MANAGER'S COMMENTS

The General Manager of Community Services RECOMMENDS the foregoing.

COUNCIL POLICY

Relevant Council Policies for this site include:

- EcoDensity Action A-1 (Rezoning Policy for Greener Buildings) approved on June, 2008
- Arbutus Ridge/Kerrisdale/Shaughnessy (ARKS) Community Vision, adopted on November 1, 2005
- CD-1 #190 (By-law No. 6155) for 2908 West 33rd Avenue, enacted June 16, 1987 and last amended March 14, 2000
- Community Amenity Contributions – Through Rezonings, adopted on June 20, 1999
- Dunbar Community Vision, adopted on September 10, 1998.

PURPOSE AND SUMMARY

This report assesses an application to amend the CD-1 By-law for 2908 West 33rd Avenue. The proposed application would permit development of a mixed-use development consisting of 179.7 m^2 (1,934 sq. ft.) of commercial floor space at grade with residential rowhouses on the western portion of the site and a standalone two-family dwelling on the eastern portion of the site. The two buildings would be separated with a landscaped courtyard. The proposal has a maximum floor space ratio (FSR) of 1.25 and a maximum height of 12.2 m (40 ft.) for the mixed-use building and 10.7 m (35 ft.) for the two-family dwelling. The application includes 19 underground parking spaces and one at-grade accessible parking space and one at-grade loading space. The purpose of the rezoning is to allow additional height, density and uses beyond what is currently permitted under the existing CD-1 By-law.

This proposal responds to the Dunbar and Arbutus Ridge/Kerrisdale/Shaughnessy (ARKS) Visions to enhance this neighbourhood shopping area. Staff support the proposal and recommend that the application be referred to a Public Hearing and be approved, subject to conditions.

DISCUSSION

Site and Context — The rezoning site is located at the southwest corner of West 33rd Avenue and Mackenzie Street and is comprised of three legal parcels currently occupied with a one-storey gasoline-station. The current zoning of CD-1 (190) and only permits gasoline full-service use. This property is part of a local shopping area with C-1 (Commercial) zoned properties on the northwest and northeast corners, developed with single-storey commercial buildings. The property on the southeast corner was rezoned from C-1 and RS-1 to CD-1 in 1988 and is currently developed with an 8-unit multiple dwelling development at 0.84 FSR. The other properties surrounding this local shopping area are zoned RS-5 (Single-family) and are developed with one-family dwellings (see Figure 1). The subject site is within the Dunbar Community Vision area and borders the ARKS Vision area.

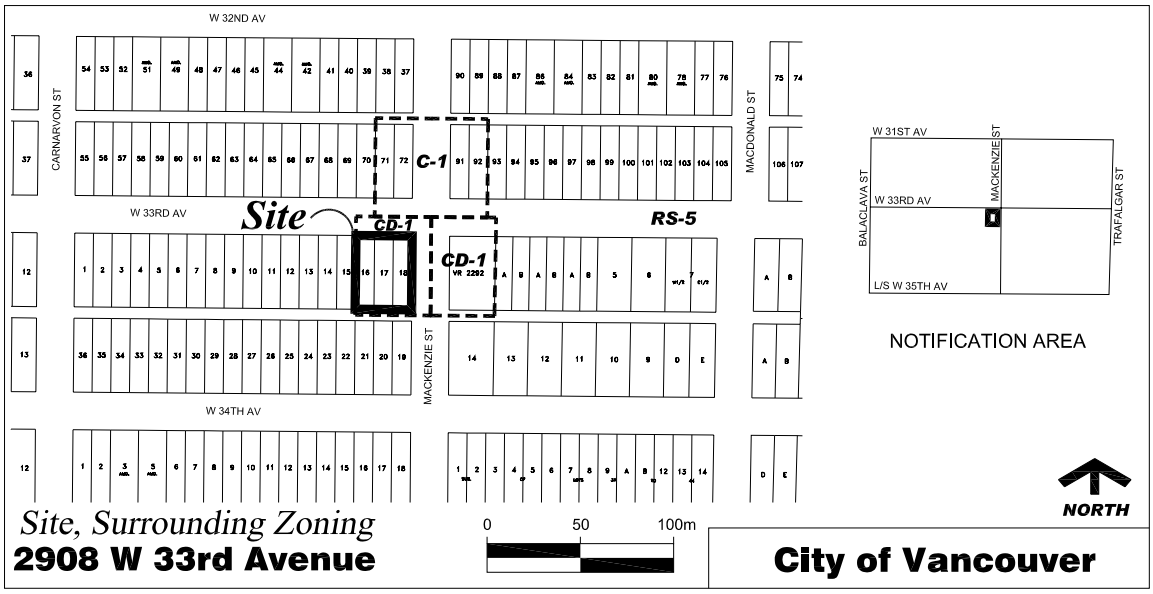


Figure 1: Site and Surround Zoning

Relevant Council Policy — Council approved the Dunbar Vision in September 1998 and the ARKS Vision in November 2005. In both Visions, the importance of keeping local shopping areas is recognized. ARKS Vision direction 20.1 concerning the Enhancement of Important Local Shopping Areas was strongly supported by the community. The rezoning policy for existing CD-1 zoned sites in Vision areas requires a rezoning process to be undertaken to ensure appropriate community consultation and to provide the City with the ability to deny or impose conditions on the proposed development. The application also meets the EcoDensity Rezoning Policy for Greener Buildings (Action A-1) as noted below under Sustainability.

Land Use and Density — The current CD-1 zoning permits up to 0.27 FSR for gasoline full-service station use. The application proposes an increase in density from 0.27 to 1.25 FSR to accommodate the proposed mixed-use development containing 10 residential units and 179.7 m^2 (1,934 sq. ft.) of commercial floor space located at the ground level at the corner of West 33rd Avenue and Mackenzie Street. Staff support the proposed land uses, which are outright approval uses in the surrounding C-1 zoning.

The C-1 District Schedule limits the overall FSR to 1.20, with residential uses not to exceed 0.75 FSR. The proposed residential floor area of 1 317.7 m^2 (14,184 sq. ft.), is equivalent to 1.1 FSR and combined with the commercial floor space results in an overall proposed density of 1.25 FSR. Staff support the proposed increase in density at this site given the proximity to transit and its location as part of a neighbourhood shopping area.

Height — The current CD-1 zoning permits a maximum height of 7.93 m (26 ft.) for the gasoline station. The adjacent RS-5 zoning permits a maximum of 10.7 m (35 ft.) providing all roofs have a minimum slope of 7:12 ratio over the whole roof area and are limited to gable, hip or gambrel roofs. The C-1 zoning of the properties to the north of this site permits a maximum height of 9.2 m (30.2 ft.) and the CD-1 (203) property to the east permits a height of 7.62 m (25.0 ft.). The rezoning application proposes to increase the maximum height to 12.2 m (40 ft.) for the mixed-use building on Mackenzie Street and to 10.7 m (35 ft.) for the two-family dwelling on the west side of the site. The proposed two-family building on the west portion of the site should be at 35 feet to respect the single-family context. The proposed design and setbacks addresses impact of additional height on neighbouring properties. Staff support the proposed increase in height subject to design development conditions noted in Appendix B and described below.

Form of Development (Note Plans: Appendix D) — The proposed form of development consists of two buildings separated by a landscaped courtyard. The architecture of both buildings has been designed to fit into the existing character of the neighbourhood with pitched roofs and individual entry porches. The materials chosen for the proposal further reflect the traditional character of the area.

The mixed-use building on Mackenzie Street consists of commercial use on the corner to act as a focus and to animate the commercial node. Located above the commercial space are four 2½-storey townhouses with pedestrian access and elevated private outdoor space from the landscaped courtyard. To the south, fronting along Mackenzie, the mixed-use building transitions into four 2½-storey townhouses. The upper massing of the end unit is stepped down, to provide a transition into the single-family houses south of the lane.

The west building is a 2½-storey two-family dwelling with massing that is designed to step down to the adjacent single-family context to the west. The maximum height of 10.7 m (35 ft.) matches the height of the adjacent RS-5 zoning.

Parking, Loading, and Circulation — The proposal includes 19 parking spaces located on one level of underground parking and 2 surface parking spaces (one loading space and one accessible parking space). Both the underground and surface parking are accessed from the rear lane off of Mackenzie Street. According to the Parking By-law, a total of 13 residential parking spaces, one commercial space, one accessible parking space, one loading space, and 14 bicycle spaces would be required for this proposed mixed-used development.

The site is served by the No. 22 Knight/Macdonald bus route on Mackenzie Street and a stop is currently located along the site's west frontage. Staff recommend relocation of this bus stop and bench to a location adjacent to the most southerly commercial retail unit (CRU) [see Appendix B, condition (b)(xix)].

As part of the rezoning application, the applicant submitted a Transportation Assessment Study of the proposed development. The report indicated that the traffic that would be generated, and its impact on the adjacent streets and lanes, would be less than that of the existing gas station. The study concluded that the new development will have no negative impact to area traffic operations. For more information regarding the transportation findings, see Appendix C.

Engineering Services staff have reviewed the traffic consultant's report and the rezoning application, and have no objections to the proposed rezoning provided that the applicant satisfies the conditions included in Appendix B [see Appendix B, conditions (b)(xi) to (xxv)]. While the proposed development would generate decreased amounts of traffic, relative to the existing gasoline station use, residents are concerned about the change in use and have submitted commentary regarding the existing and future traffic and parking concerns in the area.

Sustainability — For all rezonings for buildings that meet the minimum requirements to participate in the LEED™ program, EcoDensity Action Item A-1 requires that developments establish a design that would achieve (at minimum) either:

- LEED™ Silver, with specific targets, or
- BuiltGreen™ BC Gold with a score of Energuide 80, or
- An equivalent achievement in green design.

The applicant has submitted a BuiltGreen™ Checklist as part of their rezoning application. (For the full checklist, see Appendix E). Staff has reviewed this list and note that several targeted points pertain to construction materials and methods which are not possible to verify at this stage, measures ultimately used in the building design will evolve and change through subsequent permit phases. Staff recommend that the proposed design features be noted on the plans and elevations at the development application stage [see Appendix B, condition (b)(iii)].

Crime Prevention Through Environmental Design (CPTED) — No specific crime risks have been identified through the review process and staff are recommending some minor design refinements to the building to enhance resident safety and security. [see Appendix B, conditions (b)(iv) and (b)(xvii)]

Landscape — This application proposes additions and alterations to the existing mature landscaping. It is important for the landscape design to provide a residential appearance for the front yards of the townhouses facing on Mackenzie Street and on West 33rd Avenue. This means that each residential yard should be secure and have a substantial green setback between the front entry and the street.

Effort should be made to retain existing healthy trees and protection of retained trees should be considered wherever possible. If trees are removed, they must be replaced with specimens of equal or better value. The arborist report clearly outlines a conflict with the neighbour-owned 12 inch diameter maple tree at the west property line and alongside proposed building foundations. It is important to resolve this conflict by shifting excavation away from the tree or obtaining permission from the neighbour to remove the tree. Staff have included design development conditions in Appendix B to:

- Resolve the conflict between retained trees on the subject and neighbouring sites;
- Review the proposed retention and relocation of trees to ensure that construction excavation activities do not place these trees at risk;
- Ensure design of Courtyard Mews to maximize security of residents and visitors.

[see Appendix B, conditions (b)(v) to (x)]

Public Benefit — Effective January 1, 2010, the Development Cost Levy (DCL) at the City-Wide rate for residential development with FSR over 1.2, commercial and other uses, is $7.70 per square foot. This DCL would be charged on the amount of floor area constructed and is payable at building permit issuance. Based on the above rate, a DCL payment of $124,113 is anticipated for this development which will go towards public benefits city-wide including parks, replacement housing, child care, and green transportation infrastructure.

In addition, under Council's interim Community Amenity Contribution (CAC) Policy in effect at the time of the application's submission, the site is considered a standard rezoning. A contribution of $32.29 per m^2 ($3.00 per sq. ft.) would be made for the increase in allowable floor area. A cash CAC of $37,911 based on the above rate is recommended for this rezoning to be paid at the time of enactment. [see Appendix B, condition (c)(xii)]

Public Input — Pre-Application: The applicant undertook a public consultation process with neighbours and businesses in the area in 2008. At that early stage, City staff were not involved in the discussions with neighbours. Nearby residents were invited to an open house on September 30, 2008. The display boards presented at the open house included information on the background and context of the site, the development objectives, examples of developments that demonstrate different form and scale, and a general timeline and schedule of the project. Comments received at this stage focused on preference of form, character, scale, traffic, public realm, some commented on the desire to have housing variety and affordability in area. Most comments were supportive of a residential development at this site of a height and density that would fit with the neighbourhood. There were comments supportive of commercial on this site to provide services and offices and there was a preference of rowhouse or townhouse form over an apartment form. The applicant took the neighbours comments into consideration and submitted a rezoning application on November 18, 2009. A total of 41 individuals signed in at this open house.

In addition to the open house, the applicant met with the Dunbar and ARKS Vision Implementation Committees, the ARKS Vision Housing Committee and the Dunbar Residents Association. Individual meetings were also held with the property owners and the commercial tenants in the immediate vicinity of the site.

Public Input — Post-Application: After the rezoning application was submitted, two rezoning information signs were installed on the site on December 16, 2009, and a notification postcard and invitation to a public information open house was mailed to 542 surrounding property owners and business owners on December 18, 2009. The notification area of the mailing is shown in Figure 1 of this report. The public open house was held on January 12, 2010 at Knox Fellowship Centre. 37 individuals came to the open house and 16 comment forms were submit at the open house and six comment forms were received from the City's rezoning web page. Two phone calls were received from neighbouring property owners who subsequently submitted online feedback forms outlining their concerns. Although neighbours have been largely in support of the proposal, concerns were expressed about the

proposed height, density, and form of development. Issues of increased traffic and on-street parking demand were also noted. The neighbour adjacent to the proposed two-family dwelling expressed concern of shadowing, privacy, CPTED, and the impact the proposed development to trees on their property. A more detailed summary of comments is provided in Appendix C. Staff have included design development conditions in Appendix B to respond to these concerns.

At the post-application stage, the applicant again met with Dunbar and ARKS Vision Implementation Committees, the ARKS Vision Housing Committee and the Dunbar Residents Association. Two letters were received from the Vision Committees, one from the Dunbar Vision Implementation Committee and one from the ARKS Vision Housing Committee. Both committees support the proposal.

FINANCIAL IMPLICATIONS (Do not remove)

Approval of the report recommendation will have no financial implications with respect to the City's operating expenditures, fees, or staffing.

CONCLUSION

The proposed rezoning for 2908 West 33rd Avenue to allow a mixed-use development with 10 residential units and 179.7 m^2 (1,934 sq. ft.) of commercial is consistent with Dunbar and Arbutus Ridge/Kerrisdale/Shaughnessy Community Vision directions. The Director of Planning recommends that the application be referred to a Public Hearing, together with draft amendments to the CD-1 By-law No. 6155 (Reference No. 190) for 2908 West 33rd Avenue, generally as shown in Appendix A with a recommendation that it be approved, subject to the conditions of approval listed in Appendix B, including approval in principle of the form of development shown in plans included as Appendix D.

* * * * *

2908 West 33rd Avenue
DRAFT AMENDMENTS TO CD-1 BY-LAW NO. 6155 (#190)

Note: A By-law will be prepared generally in accordance with the provisions listed below, subject to change and refinement prior to posting.

Replace Section 2 with the following:

2 Use

- Cultural and Recreational, limited to Fitness Centre;
- Dwelling Uses, limited to Dwelling Units in conjunction with any of the uses listed in this section except that no portion of the first storey of a building to a depth of 10.7 m from the front wall of the building and extending across 50% of the width from West 33rd Avenue shall be used for residential purposes except for entrances to the residential portion;
- Office Uses, limited to Financial Institution, General Office, Health Care Office, Health Enhancement Centre;
- Retail Uses, limited to Neighbourhood Grocery Store, Retail Store;
- Service Uses, limited to Barber Shop or Beauty Salon, Beauty and Wellness Centre, Laundromat or Dry Cleaning Establishment, Photofinishing or Photography Studio, Repair Shop – Class B, Restaurant – Class 1;
- Accessory Uses customarily ancillary to the above uses.

Replace Section 3 Floor Space Ratio with the following:

3 Density

- The number of dwelling units on the site must not exceed 10.
- Maximum floor space ratio for all uses, combined 1.25, except the floor space ratio for dwelling uses shall not exceed 1.1.
- For the purpose of computing floor space ratio, the site is deemed to be 1 198 m^2 (12,895 sq. ft.), being the site size at the time of application for rezoning, prior to any dedications.
- Computation of floor space ratio must include:
    - all floors, of all buildings including accessory buildings, both above and below ground level, to be measured to the extreme outer limits of the building.
    - stairways, fire escapes, elevator shafts , and other features which the Director of Planning considers similar, to be measured by their gross cross-sectional areas and included in the measurements for each floor at which they are located.

- Computation of floor space must exclude:
    - open residential balconies or sundecks and any other appurtenances which, in the opinion of the Director of Planning, are similar to the foregoing, provided that the total area of all exclusions does not exceed eight percent of the residential floor area being provided;
    - patios and roof gardens for residential purposes only, provided that the Director of Planning first approves the design sunroofs and walls;
    - where floors are used for off-street parking and loading, the taking on or discharging of passengers, bicycle storage, heating and mechanical equipment or uses which in the opinion of the Director of Planning are similar to the foregoing, those floors or portions thereof so used which:
        - are at or below the base surface, provided that the maximum exclusion for a parking space shall not exceed 7.3 m in length; or
        - are above the base surface and where developed as off-street parking are located in an accessory building situated in the rear yard, provided that the maximum exclusion for a parking space shall not exceed 7.3 m in length;
    - amenity areas, including recreational facilities and meeting rooms accessory to a residential use, to a maximum total area of 10 percent of the total permitted floor area.
    - all residential storage space above or below base surface, except that if the residential storage space above base surface exceeds 3.7 m^2 per dwelling unit, there will be no exclusion for any of the residential storage space above base surface for that unit;
    - where exterior walls greater than 152 mm in thickness have been recommended by a Building Envelope Professional as defined in the Building By-law, the area of the walls exceeding 152 mm, but to a maximum exclusion of 152 mm thickness, except that this clause shall not apply to walls in existence prior to March 14, 2000; and
    - with respect to exterior:
        - wood frame construction walls greater than 152 mm thick that accommodate RSI 3.85 (R-22) insulation; or
        - walls other than wood frame construction greater than 152 mm thick that meet the standard RSI 2.67 (R-15),

      the area of such walls that exceed 152 mm to a maximum exclusion of 51 mm of thickness for wood frame construction walls and 127 mm of thickness for other walls, except that this clause is not to apply to walls in existence before January 20, 2009. A registered professional must verify that any exterior wall referred to in subsection (ii) of this section meets the standards set out therein.
- Computation of floor space ratio may exclude, at the discretion of the Director of Planning or Development Permit Board:

- Enclosed residential balconies, provided that the Director of Planning first considers all applicable policies and guidelines adopted by Council and approves the design of any balcony enclosure, subject to the following:
  - The total area of all open and enclosed balcony or sundeck exclusions does not exceed eight percent of the residential floor area being provided; and
  - No more than fifty percent of the excluded balcony floor area may be enclosed.

Replace Section 4 Height with the following:

4 Height

- For the mixed-use building, a maximum of 12.2 m (40 ft.) as measured from base surface.
- For the two-family dwelling, a maximum of 10.7 m (35 ft.) as measured from base surface.

Replace Section 5 Off-street Parking and Loading with the following:

5 Setback

- For the eastern mixed-use building, a minimum setback of 0.91 m (3.0 ft.) from the north property line at West 33rd Avenue.
- For the western two-family dwelling, a minimum setback of 4.42 m (14.5 ft.) from the north property line at West 33rd Avenue.
- A minimum setback of 0.30 m (1.0 ft.) from the east side-yard property line.
- A minimum setback of 1.52 m (5.0 ft.) from west side-yard property line.
- A minimum setback of 0.44 m (1.44 ft.) from south rear-yard property line.

Insert the following Sections after Section 5:

6 Parking

- Parking, loading, and bicycle spaces shall be provided and maintained according to the provisions of the Parking By-law, including those concerning exemption, relaxation, and mixed-use reduction.

7 Horizontal Angle of Daylight

- All habitable rooms in buildings used for residential purposes shall have at least 1 window on an exterior wall which complies with the following:

- the window shall be located so that a plane or planes extending from the window and formed by an angle of 50 degrees, or 2 angles with a sum of 70 degrees, shall be obstructed over a distance of 24.0 m; and
- the plane or planes shall be measured horizontally from the centre of the bottom of the window.

- If the Director of Planning or Development Permit Board first considers all the applicable policies and guidelines adopted by Council; and the minimum distance of unobstructed view is not less than 3.7 m; the Director of Planning or Development Permit Board may reduce the horizontal angle of daylight requirement.
- The following shall be considered as obstructions:
  - the theoretically equivalent building located on any adjoining sites in any R district in a corresponding position by rotating the plot plan of the proposed building 180 degrees about a horizontal axis located on the property lines of the proposed site;
  - part of the same building including permitted projections;
  - accessory buildings located on the same site as the principal building;
  - the maximum size building permitted under the zoning on any adjoining sites.
- The following shall not be considered as habitable rooms:
  - bathrooms; and
  - kitchens, unless the floor area is greater than 10 percent of the total floor area of the dwelling unit, or 9.3 m^2, whichever is the greater.

8 Acoustics

- A development permit application for dwelling uses shall require evidence in the form of a report and recommendations prepared by persons trained in acoustics and current techniques of noise measurement demonstrating that the noise levels in those portions of the dwelling units listed below shall not exceed the noise levels expressed in decibels set opposite such proportions of the dwelling units. For the purposes of this section the noise level is the A-weighted 24-hour equivalent (Leq) sound level and will be defined simply as the noise level in decibels.

Portion of Dwelling Unit	**Noise Level (decibels)**
Bedrooms	35
Living, dining, recreation rooms	40
Kitchens, bathrooms, hallways	45

* * * * *

2908 West 33rd Avenue
PROPOSED CONDITIONS OF APPROVAL

Note: Recommended approval conditions will be prepared generally in accordance with the draft conditions listed below, subject to change and refinement prior to finalization of the agenda for the Public Hearing.

PROPOSED CONDITIONS OF APPROVAL OF FORM OF DEVELOPMENT

(a) THAT the proposed form of development be approved by Council in principle, generally as prepared by Ramsay Worden Architects Ltd., and stamped "Received City Planning Department, November 18, 2009", provided that the Director of Planning may allow minor alterations to this form of development when approving the detailed scheme of development as outlined in (b) below.

(b) THAT, prior to approval by Council of the form of development, the applicant shall obtain approval of a development application by the Director of Planning, who shall have particular regard to the following:

Design Development

(i) Design development to the Mackenzie Street elevation to improve integration of the upper storeys with the ground level storey.

Note to Applicant: This can be achieved by shifting the mass of the storeys above the commercial use to the east. This will also broaden the separation between the two buildings, reducing privacy impacts.

(ii) Design development to the roof and expression of the western building to reduce the impacts to the western neighbour.

Note to Applicant: The west elevation of the two-family building presents a large portion of blank wall, blocky massing with upper bulk, long building depth, and a high springline to the western neighbour. Design development considering composition, privacy, materials, and detailing is required to reduce the impact. An alternate roof shape with a lower springline should also be considered. The Kitsilano RT-7 and RT-8 Guidelines may provide a useful reference.

Sustainability

(iii) Submission of details on strategies necessary to achieve BuiltGreen^{TM} BC Gold with a score of Energuide 80.

Note to Applicant: In particular, features, which will reduce building energy and water consumption, should be identified on the final approved permit drawings.

Crime Prevention through Environmental Design (CPTED)

(iv) Design development to take into consideration the principles of CPTED having particular regard for reducing opportunities for:

- Unintended cut-throughs;
- Theft in the underground parking;
- Break and enter;
- Mischief in alcoves; and
- Nuisance activity such as graffiti.

Landscape Design

(v) Provision of a fully illustrated and detailed Landscape Plan.

(vi) Resolution of the conflict between retained trees on the subject and neighbouring sites and proposed construction as outlined on the Landscape Plans submitted by Durante and Kreuk Ltd. and date stamped received November 2009.

Note to Applicant: Further design development is needed to limit excavation within the drip line of the 12 inch neighbour-owned Maple and the 14 inch Maple on the development site. Talk with the neighbour about risks to tree health. Neighbour's written consent is required for tree removal. Shift proposed hard landscaping away from the trunk of the retained 14 inch Maple in the front yard of West 33rd Avenue.

(vii) An arborist report submitted by an ISA Certified Arborist confirming the method of safe retention of retained trees and a letter of assurance confirming arborist supervision during excavation and construction as needed.

(viii) Design development to maximize security for the residents and visitors to the Courtyard Mews by providing the mews entryways with gates, and illustrated on the Landscape Plan.

(ix) Provision of illustration details at ¼"=1'-0" scale showing the project's public realm interface at the street edge; include illustration of semi-private front yards with privacy screening, planter walls, fence and or gates, stairs, landscaping, street trees and bus stop.

(x) Provision of large scale illustration/section details at ½"=1'0" scale confirming soil depth in planters.

Engineering

(xi) Provision of required bicycle parking spaces within a bicycle room.

Note to Applicant: Where bicycle spaces are proposed near the parking space, these should be enclosed within a hard shell locker.

(xii) Provision of correctly dimensioned disability parking space as per the Parking By-law.

Note to Applicant: The required width is 4.0 m.

(xiii) Provision of a loading bay throat as per the Engineering Parking and Loading Design supplement.

Note to Applicant: This will require changes to the position of the adjacent disability parking space to set it further back, thereby allowing the loading throat to be provided.

(xiv) Provision of a parking ramp slope not to exceed 10% for the first 20 ft. from the property line and a maximum 12.5% thereafter.

Note to Applicant: If a ramp slope steeper than 12.5% is required after the first 20 ft., provision of a transition slop of 7.5 to 10% at the bottom will be required.

(xv) Provision of a parabolic mirror in the bottom corner of the parking ramp to allow drivers of exiting vehicles visibility of oncoming vehicles on the parking ramp.

(xvi) Provision of column setback from the entrance into the parking space as per the Engineering Parking and Loading Design Supplement.

Note to Applicant: 2 ft. long columns which encroach into the standard parking space must be set back 2 ft. from the end of the space.

(xvii) Relocate the overhead security gate to the top of the parking ramp at the building line.

Note to Applicant: For CPTED reasons, this is necessary.

(xviii) Delete landscaping and curbing shown in the lane.

(xix) Make arrangements to the satisfaction of the General Manager of Engineering Services for relation of the bus stop and bench on Mackenzie Street. (Note: A bench located adjacent to the most southern CRU is preferred by Engineering and Coast Mountain Bus Company. A widened canopy and bench should be provided to achieve this. If not the default location for the bench will place it in front of a residential unit.)

(xx) Clarify proposed canopy design of the CRU's. Canopies must be fully demountable and drained to the buildings internal drainage system. (Note: The proposed canopy appears to be an extension of the concrete slab which is not an acceptable design). Engineering encourages the provision of wide canopies to provide shelter for transit users.

(xxi) Make separate application to the General Manager of Engineering Services for the proposed sidewalk café. (The development permit process will not provide an approval for the sidewalk café).

(xxii) Clarify garbage pick up operations. Please provide confirmation from a waste hauler that they can access and pick up from the location shown without reliance of bin storage on the City lane, or provide garbage storage at grade adjacent the lane so bins can be picked up and immediately be returned to the storage area and not remain in the lane.

(xxiii) Provision of separate retail and residential garbage storage areas.

(xxiv) Delete specialty sidewalk/paving and landscaping area shown as a sidewalk café and make separate application to the General Manager of Engineering Services.

(xxv) Sidewalk relocation should result in a 4 ft. exposed aggregate front filler and a 6 ft. wide standard sidewalk with the balance in either grass or concrete in the back filler area as necessary.

PROPOSED CONDITIONS OF BY-LAW ENACTMENT

(c) THAT, prior to enactment of the CD-1 By-law, the registered owner shall make arrangements for the following to the satisfaction of the General Manager of Engineering Services, at no cost to the City and on terms and conditions satisfactory to the Director of Legal Services:

Engineering

(i) Consolidation of lots 16, 17 and 18 is required.

(ii) Release of easement and indemnity agreement 145906M (crossing agreement) prior to occupancy of the site.

(iii) Provision of adequate water service to meet the fire flow demands of the project. The current application lacks the details to determine if water main upgrading is required, please supply project details including projected fire flow demands to determine if water system upgrading is required, should upgrading be necessary then arrangements to the satisfaction of the General Manager of Engineering Services and the Director of Legal Services will be required.

(iv) Provision of upgraded disability ramps at the south west corner of West 33rd Avenue and Mackenzie Street to current Engineering standards.

(v) Provision of an improved lane entry including standard concrete curb returns, at the lane south of West 33rd Avenue on the west side of Mackenzie Street.

(vi) Provision of an infill street light on Mackenzie Street at West 33rd Avenue to achieve minimum lighting standards.

(vii) Provision of street trees adjacent the site where space permits.

(viii) Undergrounding of all new utility services from the closest existing suitable service point. All services and in particular electrical transformers to accommodate a primary service must be located on private property. The development site is not to rely on secondary voltage from the existing overhead network. Any alterations to the existing underground/overhead utility network to accommodate the development will require review and approval by the Utilities Management Branch. Early contact with the Utilities Management Branch is encouraged.

Soils

(ix) The applicant will do all things and/or enter into such agreements deemed necessary by the City to fulfill the requirements of Section 571B of the Vancouver Charter, on terms and conditions satisfactory to the Manager of Environmental Protection and the Director of Legal Services in their sole discretion.

(x) The applicant will execute a Section 219 Covenant, as required by the Manager of Environmental Protection and the Director of Legal Services, convenanting that there will be no occupancy of any buildings or improvements on the site constructed pursuant to this rezoning, until Certificates of Compliance or other instruments acceptable to the City have been provided to the City by the Ministry of Environment.

(xi) Provision of an off-site contamination agreement that requires contamination in the road to be remediated to City standards on terms and conditions that the General Manager of Engineering Services and the Director of Legal Services deems necessary, in their sole discretion, which may include Section 219 Covenants which provide that there will be no occupancy of any buildings or other improvements until the City has received the confirmation that the road has been remediated.

Community Amenity Contribution

(xii) Offering to the City of a Community Amenity Contribution (CAC) in the amount of $37,911.

Where the Director of Legal Services deems appropriate, the preceding agreements are to be drawn, not only as personal covenants of the property owners but also as Covenants pursuant to Section 219 of the Land Title Act.

The preceding agreements are to be registered in the appropriate Land Title Office, with priority over such other liens, charges and encumbrances affecting the subject site as it considered advisable by the Director of Legal Services, and otherwise to the satisfaction of the Director of Legal Services prior to enactment of the by-law.

The preceding agreements shall provide security to the City including indemnities, warranties, equitable charges, and letters of credit, and provide for the withholding of permits, as deems appropriate by, and in form and contents satisfactory to, the Director of Legal Services.

The timing of all required payments if any shall be determined by the appropriate City official having responsibility for each particular agreement, who may consult other City officials and City Council.

* * * * *

2908 West 33rd Avenue
ADDITIONAL INFORMATION

Site, Surrounding Zoning and Development: This 1 198 m² (12,895 sq. ft.) site is comprised of three parcels on the south side of West 33rd Avenue, west of Mackenzie Street and it is zoned CD-1 (190). Properties at the intersection corners north of this site are zoned C-1 (Commercial), the property across Mackenzie Street to the east is zoned CD-1 (203) for use as a multiple dwelling, and the properties surrounding this local shopping node is zoned RS-5 (Single-family). The site has a frontage of 30.1 m (99 ft.) and a depth of 39.8 m (130.5 ft.). gasoline station with an automotive service garage is currently location on site.

Proposed Development: Proposed is a mixed-use development with 1 317.7 m^2 (14,184 sq. ft.) 10 units of residential and 179.7 m^2 (1,934 sq. ft.) of commercial. The residential units range from 117.7 m^2 (1,267 sq. ft.) to 154.2 m^2 (1,660 sq. ft.). The project comprises of two buildings separated by a landscaped courtyard. The east building consists of commercial use at the corner of West 33rd Avenue and Mackenzie Street to with 4 - 2 ½ storey townhouses located above, access to these units are from the landscaped courtyard. The commercial units occupies half of the frontage along Mackenzie Street, the remaining half of the Mackenzie Street frontage is occupied by 4 – 2 ½ storey rowhouses that are set back from commercial units and the sidewalk along Mackenzie Street. Located on the west portion of the property is a two-family dwelling designed of a scale and mass to transition into the single-family homes to the west. The front yard of the two-family dwelling is setback to complement the larger front yard setbacks of the houses along West 33rd Avenue. The maximum height of 10.7 m (35 ft.) for the two-family dwelling is in keeping with the neighbouring RS-5 zoning. A single level of underground parking provides 19 vehicle spaces and is access from the land at the south edge of the site. The rowhouse and two-family dwelling units have direct access to the underground parking via private staircase. The commercial units and residential units above the commercial access the underground parking through communal stairs. One loading space and one accessible space are located on the surface and are accessed off the lane to the south of the property.

Parking, Loading, and Circulation: The Transportation Assessment Study submitted as part of the application indicated that the volume of vehicle traffic that would be generated by the proposed development is expect to be lower than that of current. The development is anticipated to generate approximately 12-14 vehicle trips of total traffic (inbound and outbound combined) during the weekday afternoon peak hour traffic period. The number of trips is roughly evenly split between residential and commercial trips. This anticipated number of trips is roughly half of the peak period traffic that was observed for the gasoline station in June 2008. The proposed development is expected to generate less volume than the gasoline station on a daily basis and would result in less traffic travelling through Mackenzie Street and West 33rd Avenue.

Public Input — Pre-Application: Nearby residents were invited to an open house on September 30, 2008, this was hosted by the applicant, at this early stage, City staff were not involved in the discussions with neighbours. Comments received at this stage focussed on preference of form, character, scale, traffic, public realm, some commented on the desire to have housing variety and affordability in area. Most comments were supportive of a residential development at this site of a height and density that would fit with the neighbourhood. There were comments supportive of commercial on this site to provide

services and offices and there was a preference of rowhouse or townhouse form over an apartment form. The applicant took the neighbours comments into consideration and submitted a rezoning application on November 18, 2009. 41 individuals signed in at this open house.

In addition to the open house, the applicant met with the Dunbar and ARKS Vision Implementation Committees, the ARKS Vision Housing Committee and the Dunbar Residents Association. Individual meetings were also held with the property owners and the commercial tenants in the immediate vicinity of the site.

Public Input — Post-Application: Two rezoning information signs were installed on the site on December 16, 2009, and a notification postcard and invitation to a public information open house was mailed to 542 surrounding property owners and business owners on December 18, 2009 (notification area of the mailing is shown in Figure 1 of this report). The public open house was held on January 12, 2010 at Knox Fellowship Centre. 37 individuals came to the open house and 16 comment forms were submit at the open house and six comment forms were received from the City's rezoning web page. Two phone calls were received from neighbouring property owners who subsequently submitted online feedback forms outlining their concerns. No one came to City Hall to view plans. Responses from the neighbourhood were largely in support of redevelopment at this site, comments in support of the proposal included:

- Positive addition to the area;
- Support development, scale and design is suitable for the area;
- Support of the open space, landscaped courtyard of the proposal;
- Support for commercial units, addition of commercial units will help to enhance existing retail shops at intersection;
- Support additional housing variety in the neighbourhood.

Comments received also expressed opposition, principal concerns as follows:

- Impacts of the height and density, the fit with the existing neighbourhood;
- Impacts of increased traffic and parking demands especially from the commercial;
- Increased traffic congestion, width of West 33rd Avenue narrows west of Mackenzie Street;
- Safety of pedestrians crossing at the intersection;
- Impacts of the commercial units in comparison to the existing gasoline station, also the viability of the commercial use in the area;
- Concerns about the increase in noise;
- Concerns from the adjacent property owner on shadowing, privacy from the proposed window locations of two-family dwelling, CPTED issues from the alley, construction disturbance to existing Maple tree at the backyard, soil contamination during construction;
- Adjacent property owner suggested improvements for a privacy fence between the two properties and improvements on landscaping for a more mature landscape.

At the post-application stage, the applicant again met with Dunbar and ARKS Vision Implementation Committees, the ARKS Vision Housing Committee and the Dunbar Residents Association. Two letters were received from the Vision Committees, one from the Dunbar

Vision Implementation Committee and one from the ARKS Vision Housing Committee. Both committees support the proposal. Comments from the Committees include:

- The proposed development is of a scale and design suitable for the area;
- There is a general desire to keep small shopping nodes in the area and the commercial units proposed is in keeping with this desire;
- Addition of commercial use at this intersection may help to enhance the existing retail/commercial shops;
- Some concerns on the narrow width of commercial units at base;
- Proposal meets the ARKS directions 16.5 and 16.6.

Comments of the General Manager of Engineering Services: The General Manager of Engineering Services has no objection to the proposed rezoning, provided that the applicant complies with conditions as shown in Appendix B.

Urban Design Panel Comment: The Urban Design Panel reviewed this proposal on January 13, 2010 and supported the proposed use, density and form of development and offered the following comments:

EVALUATION: SUPPORT (6-0)

Introduction: Ingrid Hwang, Rezoning Planner, introduced the proposal for a rezoning application at the southwest corner of West 33rd Avenue and Mackenzie Street. The site is currently developed with an automotive service garage under the existing CD-1 zoning. The application proposes to amend the CD-1 zoning to allow a mixed-use development with eight residential units and four commercial units, fronting onto Mackenzie Street. A separate duplex building is proposed on the western portion of the site. The site is located in the Dunbar Vision area and it borders the Arbutus-Ridge/Kerrisdale/ Shaughnessy Vision area located to the east of Mackenzie Street. Both visions recognize the importance of this commercial node and encourages the retention and the enhancement of local shopping areas. Under the Vision Rezoning Policy for existing CD-1 zones, this rezoning application will be assessed based on its own merits in the context of the surrounding neighbourhood. An open house was held were there was significant commentary from the residents.

Patrick O'Sullivan, Development Planner, further described the proposal noting the general massing approach which will be a robust 4-storey mass with relatively tight setbacks at the corner and a smaller two family dwelling on the west part of the site as a transitional massing to the adjacent single family use. The proposal has four townhouses above the commercial with entries from the courtyard and four rowhouses with entries from Mackenzie Street. Four commercial modules are proposed on the corner for either retail or other commercial uses such as offices. The project proposes Built Green BC – Gold. Nineteen parking spaces below grade are proposed with one space at the lane and one Class B loading space. Mr. O'Sullivan described the proposed materials noting the brick, siding and shingle cladding.

Advice from the Panel on this application is sought on the following:

- The proposal's density, form of development, and overall building design and character;
- The relationship of the development with adjacent residential site to the west considering mass, roof shape and resolution of the elevations.

Ms. Hwang and Mr. O'Sullivan took questions from the Panel.

Applicant's Introductory Comments: Doug Ramsay, Architect, further described the project noting that they have had several public meetings regarding the proposal. The plans call for commercial on the corner transitioning down to the residential, single family RS-5 both on the south and the west side of the project. He added that the commercial in the area is under utilized and often vacant. Mr. Ramsay added that the Planning Department supported more commercial in the area. The proposal calls for 1,800 square feet of commercial on the corner to help make the commercial more vibrant in the area. They have tried to design the commercial with some flexibility so that it can be connected through to the residential units. As there is a bus stop in the area, they thought the commercial might be more rentable and provide some outdoor space on the corner as the building has been set back. Mr. Ramsay said they tried to create a wide palette in terms of colour to give the project some variety and to break down the scale of the building. In terms of sustainability, the site was a service garage and the whole site will be remediated. As well they have retained a sustainability consultant and plan to build the project under the Built Green Gold program. From an energy point of view, they are looking at individual air source heat pumps and heat air recovery ventilation.

Peter Kreuk, Landscape Architect, noted that the landscaping is basic with some plantings around the patios and courtyard. There is a handicap spot on the loading dock with reinforced grass paving and as well there are some trellis and vines planned to prevent graffiti.

The applicant team took questions from the Panel.

Panel's Consensus on Key Aspects Needing Improvement:

- Consider simplification of roof lines and removing the chimneys from roof valleys; and
- Consider increasing the continuity between the rowhouses above and commercial below including consideration of canopy redesign.

Related Commentary: The Panel supported the proposal and thought it was a wonderful little infill project.

The Panel supported the City's initiative to make the commercial work in the area but was curious that an adjacent commercial development didn't appreciate the synergy of having more commercial in the area. Several Panel members were concerned that the applicant was not making a commitment to have the commercial to have it be more successful as the Panel supported having commercial/retail space on the corner. One Panel member noted that there was a lack of synergy vertically as well for the live/work units. It was suggested that the commercial better relate to the residential and be a different kind of commercial than those across the street. The Panel supported the height, density and

character of the project and thought it was a good reflection of the more traditional house shapes in the neighbourhood.

Several Panel members noted that the street on the Mackenzie Street side of the site was tight although the ground plane and landscaping was well handled. They also thought the courtyard was efficient with good access and liked the amount of open space in the front yards. A couple of Panel members noted that the canopy was fighting against the character of the building and thought the base needed to relate better to the rowhouse rhythm. They also thought there was a disconnect between the commercial and the rowhouses above and needed a stronger relationship between them. One Panel member thought the entrances and windows needed more design development.

A couple of Panel members were concerned with the complexity of the roof lines, considering there are only six units. It was suggested that the roof line be simplified, bring the chimneys closer and remove them from the bottom of the valleys in order to have less heat loss and improve the character of the project.

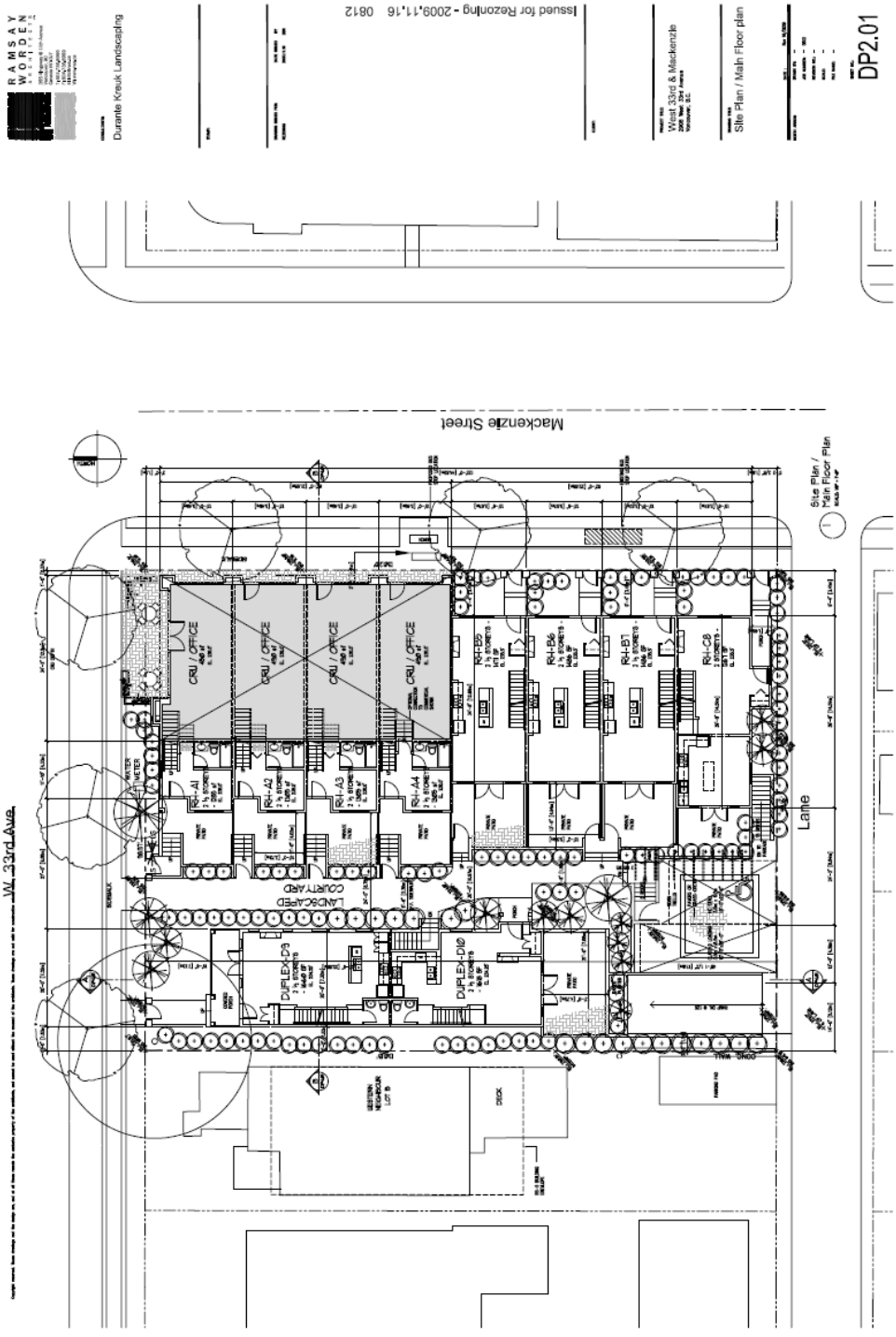
Applicant's Response: Mr. Ramsay thanked the Panel for their comments. He said he agreed with their comments regarding the canopy and the relationship with the retail to the residential. Mr. Ramsay added that they are trying to pull the commercial detailing around to the residential and maybe it needs to be the other way around.

Environmental Implications: This application includes sustainable design features and meets Council's EcoDensity policy in terms of providing minimum targets for sustainable performance. Nearby access to transit and commercial services may reduce dependence on use of automobiles.

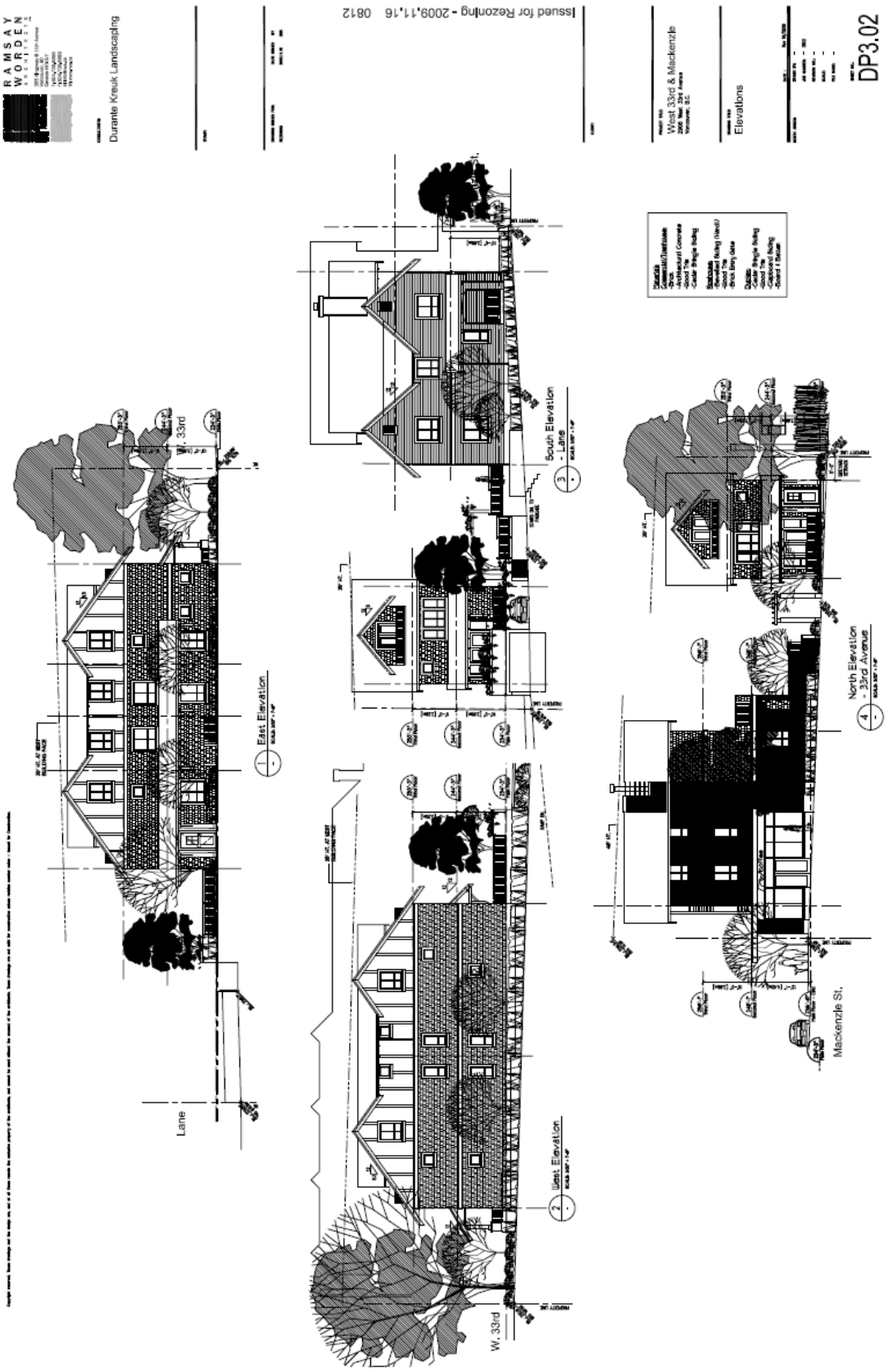
Comments of the Applicant: The applicant has been provided with a copy of this report and concurs with the content.

* * * *

2908 West 33rd Avenue
FORM OF DEVELOPMENT



RAMSAY WORDEN
Durante Kreuk Landscaping
Issued for Rezoning - 2009.11.16 0812
West 33rd & Mackenzie
Elevations
DP3.01
W. 33rd
Lane
West Elevation
MacKenzie Street
East Elevation
- Courtyard


RAMSAY WORDEN
Durante Kreuk Landscaping
Issued for Rezoning - 2009.11.16 0812
West 33rd & Mackenzie
Elevations
DP3.02
East Elevation
South Elevation - Lane
West Elevation
North Elevation - 33rd Avenue
W. 33rd
Lane
Mackenzie St.

2908 West 33rd Avenue
BuiltGreen BC CHECKLIST

BUILT GREEN™ CHECKLIST 2009

Effective January 1st, 2009

To select points, click on boxes and select point value from drop-down list

Builder: MacKenzie Street Properties Inc. House Address: Vancouver, BC

Section 1: 29 Section 2: 29 Section 3: 13 Section 4: 19 Section 5: 16 Section 6: 13 Section 7: 18 Section 8: 15 = TOTAL POINTS: 152

I. OPERATIONAL SYSTEMS

This section awards points for construction methods and types of products that contribute toward lower energy consumption as well as alternative heating and electrical systems.
Minimum 10 Points Required

1-1	Zoning from a HVAC source utilizing two or more thermostatically controlled zones or zoning from separate systems programmed through separate thermostats. (2 zones = 2 points, 3 zones = 3 points, 4 zones = 4 points.) Efficiency can be significantly improved by only heating or cooling when occupants are present and by only heating/cooling to the exact desired temperature. Different desired temperatures can be set in each room or space and an individual zone can be turned off when not occupied. This type of system results in a dramatic reduction of energy consumption and operating costs.	2	2, 3 or 4
1-2	Install high efficiency, sealed combustion heating appliance with a minimum 92% AFUE (1 point), 94% AFUE (2 points) or 95% AFUE and above (3 points). (Not for electric heat.) High efficiency furnaces or boilers, such as condensing systems, reduce energy consumption and consequently fossil fuel reliance. Because AFUE takes into account efficiency losses during start-up and cool down its rating is slightly lower.		1, 2 or 3
1-3	Install ground or water source heat pumps (10 points) or air source heat pumps (6 points) for heating and cooling. Heat pumps can significantly reduce primary energy use for building heating and cooling. The renewable component displaces the need for primary fuels, which, when burned, produce greenhouse gases and contribute to global warming. Please Note: Cool climate heat pump systems are often more efficient due to the costs of electricity however cold climate heat pump systems are often not as efficient as typical boiler/furnace natural gas systems.	6	6 to 10
1-4	Install power vented domestic hot water (DHW) tank system (1 point), sealed combustion 2 pipe tank system (2 points), or condensing DHW tank system (3 points) Hot water heater is direct vented with a closed combustion system. All air for combustion is taken directly from the outside. A direct system utilizes a co-axial vent pipe (pipe inside a pipe) draws combustion air in through the outer pipe, and exhausts the products of combustion through the inner pipe. A power vented heater exhausts air out of the building via a positive exhaust during main burner operation. Both systems eliminate the need for conventional chimneys or flue systems.	2	1, 2 or 3
1-5	Install instantaneous "tankless" hot water heater. A tankless water heater does not have a storage tank to keep heated all day, or a pilot light; it burns gas only when you need hot water. This eliminates standby heat loss and its higher efficiency will save on utility costs.		4
1-6	Install high efficiency (AFUE 90 or better) boiler domestic hot water system.		4
1-7	Install geoexchange DHW heating system to supply a minimum of 25% of the peak DHW heating load and 70% of the total DHW energy load. A geoexchange system uses the earths constant temperature to heat water for the home.		4
1-8	Install drainwater heat recovery units on the main drainage stack. 3 foot stack (1 point), 6 foot stack (2 points) Drainwater heat recovery units transfer the heat from waste water to incoming water. This reduces the amount of energy needed for the DHW system.	2	1 or 2
1-9	Sealed combustion fireplace with electronic ignition if gas fueled. Sealed combustion fireplaces involve a double-walled special vent supplied by the manufacturer that normally vents through a sidewall in a horizontal position. The unit must be Sealed Combustion meaning that combustion gasses can not enter the home even if the home becomes depressurized.		2
1-10	Install an EPA or CSA certified high-efficiency wood stove or pellet stove with a minimum efficiency of 72% (1 point) or 85% (2 points). State-of-the-art wood and pellet stoves are among the cleanest burning heating appliances and deliver a high overall efficiency. EPA and CSA certified stoves ensure reduced emissions.		1 or 2
1-11	Install fireplace fan kit to circulate warm air into room (1 point per fan, maximum 2 points). A fan kit allows the heat generated by a fireplace to be transferred into the home more effectively.		1 or 2

1-12	All windows in home are ENERGY STAR labeled or equivalent for the climatic zone of home. ENERGY STAR labeled windows save energy by insulating better than standard windows, making the home more comfortable all year round, reducing outside noise and can result in less condensation forming on the window in cold weather.	2	2
1-13	Electric range is self cleaning and/or Convection based Ranges that self clean or have convection are better insulated and sealed, performing at or less than 500 kwh (520 kwh for convection) when rated by EnerGuide.	1	1
1-14	Refrigerator is an ENERGY STAR labeled product. An ENERGY STAR label for refrigerator indicates the product has met strict requirements to reduce energy consumption.	2	2
1-15	Dishwasher is an ENERGY STAR labeled product. An ENERGY STAR label for a dishwasher indicates the product has met strict requirements to reduce energy consumption.	1	1
1-16	Clothes washer or combo washer dryer is an ENERGY STAR labeled product. An ENERGY STAR label for a clothes washer indicates the product has met strict requirements to reduce energy consumption.	1	1
1-17	Clothes dryer has an energy performance "auto sense" dry setting which utilizes a humidity sensor for energy efficiency.	1	1
1-18	Home is built "Solar Ready" following Canadian Solar Industries Association (CANSIA) guidelines. Designing a home to be solar ready will make the addition of panels in the future much easier. Contact the Canadian Solar Industries Association for more info: www.cansia.ca.	2	2
1-19	Install active solar hot water heating system. Sized for 30% of DHW load (4 points), 50% (6 points), 80% (8 Points)		4, 6,8
1-20	Install photovoltaic electrical generation system. Sized for 30% of electric load (4 points), 50% (6 points), 80% (8 points). A photovoltaic system will greatly reduce the reliance on fossil fuel energy and reduce greenhouse gas emissions. System capacity must be verified by professional installer or engineer.		4, 6, 8
1-21	50% (2 points) or 100% (4 points) of electricity used during construction of home is generated by wind power or equivalent green power certificate.	2	2 or 4
1-22	50% (2 points) or 100% (4 points) of electricity used by homeowner during first year of occupancy is generated by wind power or equivalent green power certificate. (prepaid by builder)		2 or 4
1-23	A properly supported and wired ceiling fan and a wall mounted switch roughed in for future installation. Intended to allow for future temperature equalization.	1	1
1-24	Install interior motion sensor light switches. 1 point per switch to a maximum of 3 points. Motion sensor switches prevent lights from remaining on in rooms that are unoccupied. This helps reduce electricity consumption. Switches on closet doors and pantries are also acceptable.	1	1 to 3
1-25	Install central, computerized control systems capable of unified automation control of lighting loads. Lighting and automation control systems prevent lights from remaining on in rooms without occupants, thereby reducing electricity consumption.		4
1-26	Minimum 25% (1 point), 50% (2 points), 75% (3 points) or 100% (4 points) of interior and exterior light fixtures are fluorescent, compact fluorescent light bulbs or LEDs. Fluorescent, compact fluorescent and LED lamps use 50% less energy than standard lamps and last up to ten times longer.	2	1 to 4
1-27	Minimum 50% of recessed lights use halogen bulbs. Halogen bulbs are slightly more energy efficient, last longer and provide a more effective task light than conventional bulbs.		1
1-28	Air tight, insulation contact-rated recessed lights are used in all insulated ceilings, or insulated ceilings have no recessed lights. Prevents heated air from exhausting through ceiling. Air tight light fixtures lead to a more airtight, energy efficient home.	1	1
	TOTAL SECTION POINTS	29	

II. BUILDING MATERIALS

This section deals with building components that make up the structure of the home. Items involve alternatives to using large dimensional lumber, products with a recycled component, utilizing wood products that come from sustainably managed forests and reducing the overall amount of lumber used.

Minimum 15 Points Required

2-1	Insulated Concrete Form (ICF) system used for foundation walls. Insulating Concrete Forms (ICF) are hollow building elements made of plastic foam that are assembled, often like building blocks, into the shape of a buildings exterior walls. The ICFs are filled with reinforced concrete to create structural walls. Unlike traditional forms, the ICFs are left in place to provide insulation and a surface for finishes.		2
2-2	Insulated Concrete Form (ICF) system used for main house walls. See description in 2.1.		3
2-3	Non-solvent based damp proofing (seasonal application). Water based damp proofing products use water as a thinner. Oil based damp proofing gives off a number of volatile organic compounds (VOCs) as the solvent evaporates after application. These VOCs can be a strong irritant and can add to air pollution.	1	1
2-4	Steel studding made from a minimum of 75% recycled steel is used to replace a minimum of 15% of wood studs in the home.		1
2-5	Exterior and interior wall stud spacing at 19.2" on-center (1 point) or 24" on-center (2 points) . Increasing stud spacing reduced the thermal performance of homes while saving materials.		1 or 2
2-6	Use of insulated headers / lintels (either manufactured or site built insulated headers) with minimum insulation value of R10. Headers can either be insulated on site or can be a pre-manufactured product (often insulated with a foamed plastic).	1	1
2-7	Install manufactured insulated rim/band joist, or build on-site built header wrap detail for continuous air barrier. Rim and band joists can either be insulated on site or can be pre-manufactured (often insulated with a foamed insulation).	1	1
2-8	Elimination of headers at non-bearing interior and exterior walls. It is not necessary to use the additional wood involved in header construction if the opening is less than 4' wide and is non-load bearing. For more details on Optimum Value Engineering framing principles see www.buildingscience.com.	1	1
2-9	Use of header hangers instead of jack studs. Using metal header hangers instead of jack studs allows for savings in wood use. For more details on Optimum Value Engineering framing principles see www.buildingscience.com.		1
2-10	Elimination of cripples on hung windows. For hung window openings, cripples are only necessary for siding or gypsum board attachment. For more details on Optimum Value Engineering framing principles see www.buildingscience.com.	1	1
2-11	Elimination of double plates, using single plates with connectors by lining up roof framing with wall and floor framing. Stack framing principles might allow for reduced wood usage. For more details on Optimum Value Engineering framing principles see www.buildingscience.com.		1
2-12	Use of two stud corner framing with drywall clips or scrap lumber for drywall backing instead of studs. Drywall clips can be used instead of a third corner stud allowing for reduced wood usage. For more details on Optimum Value Engineering framing principles see www.buildingscience.com.		1
2-13	Deck or veranda surfaces (1 point) and/or structure (1 point) made from a third-party certified sustainably harvested wood source. Wood must come from a sustainably harvested source with certification from Forest Stewardship Council (FSC), Sustainable Forestry Initiative (SFI), or Canadian Standards Association's Sustainable Forest Management Standard (CAN/CSA-Z809-02).	2	1 or 2
2-14	Deck or veranda surfaces (1 point) and/or structure (1 point) made from a third-party certified sustainable concrete. Concrete produced from aggregates derived from a pit or quarry with a valid reclamation plan approved by Materials and Resources Canada or the governing provincial body.	2	1 or 2
2-15	Structural insulated panel system used for at least 75% of roof (4 points) and/or 75% of walls (6 points). Reduces thermal migration and controls air leakage – keeps heating and cooling costs to a minimum compared to a conventionally framed wall.		4 or 6
2-16	Dimensional lumber from a third-party certified sustainably harvested source used for floor framing. Saves old growth forests by using trees form a second generation forests.		1
2-17	Dimensional lumber from a third-party certified sustainably harvested source used for wall framing. Saves old growth forests by using trees form a second generation forests.	2	2

2-18	Dimensional lumber from a third-party certified sustainably harvested source used for roof framing. Saves old growth forests by using trees form a second generation forests.	1	1
2-19	Use manufactured wood products for floor systems instead of dimensional lumber. Engineered wood floor systems saves old growth forests by using components from second generation forests and the use of recycled materials.	2	2
2-20	Reduce dimensional lumber use by using engineered product for all load bearing beams & columns. Engineered products include wood products, concrete and recycled steel.	2	2
2-21	Reduce dimensional lumber use by using engineered products for all exterior window and door headers. Engineered products include wood products, concrete and recycled steel.	1	1
2-22	Finger-jointed plate material and/or engineered plate material used for all framing plates. Use of recycled materials saves old growth forests.	1	1
2-23	Reduce dimensional lumber use by using engineered stud material for 10% of structural stud wall framing. Use of engineered lumber products saves old growth forests by using components from second generation forests and the use of recycled materials.		1
2-24	Finger-jointed studs for 90% of non-structural (1 point) and/or 90% of structural (1 point) wall framing. Use of recycled materials saves old growth forests.	1	1 or 2
2-25	Recycled and/or recovered content gypsum wallboard, minimum of 15% recycled content.	1	1
2-26	Recycled content exterior wall sheathing (minimum 50% pre- or post-consumer).	2	2
2-27	Use rain screen system separating cladding from the wall sheathing with a drainage plane (2 point), 60% or more recycled content (additional 1 point). Use of recycled content polypropylene, steel or aluminium rain screen strapping may replace the traditional use of wood strapping on rain screen systems.	1	1 or 2
2-28	Advanced sealing package, non HCFC expanding foam around window and door openings and all exterior wall penetrations. Controls air leakage and keeps heating and cooling costs to a minimum.	2	2
2-29	All sill plates sealed with foam sill gaskets or a continuous sandwiched bead of acoustical sealant. Controls air leakage and keeps heating and cooling costs to a minimum.	1	1
2-30	All insulation used in home is certified by a third-party to contain a minimum recycled content: 40% (1 point) or 50% (2 points).		1 or 2
2-31	Install site applied spray foam to insulate entire rim joist area (1 point), Garage to Bonus room floor (2 points) and/or house walls (2 points). Spray insulations provide excellent air sealing and insulation value. Spray foam must be fire protected and some types cannot come in contact with heating ducts or lines. Consult supplier or installer for further information.	2	2 or 4
2-32	Replace exterior wood sheathing with insulating sheathing and structurally required metal bracing. Using less materials when possible saves the forest reserves, reduces thermal migration and controls air leakage and keeps heating and cooling costs to a minimum compared to a conventional wall.		2
2-33	Install R5 (1 point), R8 (2 points) or R12 (3 points) above building code required under entire basement slab. Insulation installed under the basement slab will reduce the downward heat transfer into the ground below the slab, especially when hydronic in-slab heating is installed. Insulation under the slab can reduce temperature swings in the heated space and respond quicker to new changes in thermostat settings.		1,2 or 3
2-34	Install Exterior Insulations system using extruded Polystyrene (XPS) on exterior of foundation, 1.5" R7.5 (1 point), 2" R10 (2 points), or 3" R15 (3 points) Insulation on the outside of a foundation system reduced energy loss		1, 2 or 3
2-35	Overhead garage door is made of 75% or greater recycled material.		1
2-36	Attached garage overhead door is insulated with R8 to R12 (1 point) or greater than R12 (2 points).		1 or 2
2-37	Attached garage is fully insulated. A fully insulated garage serves an additional insulating capacity for any walls encapsulated by it, further slowing heat loss through those walls.		1
2-38	Builder uses passive solar design shading devices for home. Permanent horizontal and/or vertical exterior shading devices for glazing (2 points), computer controlled devices (additional 1 point). Excludes interior blinds.		2 or 3
2-39	Install 100% recycled content carpet underlayment.		1
2-40	Install finished concrete interior floors instead of other types of finished floors (tile, carpet, hardwood, etc). For 300-500 ft² (1 point), 501-1000 ft² (2 points), 1001-1500 ft² (3 points), 1501+ ft² (4 points). Not applicable in unfinished basement areas. Using the concrete itself as a finished floor where concrete is being used regardless (for in floor heat or basement slabs) provides a durable floor with less material usage.		1 to 4
2-41	Install weather-stripped and insulated (R15 minimum) manufactured interior attic hatch (1 point), or no interior attic access (1 point)	1	1
	TOTAL SECTION POINTS	29	

III. EXTERIOR and INTERIOR FINISHES

This section focuses on the finish materials used both inside and outside of the home. The items listed include using longer lasting products, products with recycled content and products that are harvested from third-party certified sustainably managed forests.

Minimum 10 Points Required

3-1	Exterior doors with a minimum of 15% recycled and/or recovered content. Recycled or recovered content ensures we keep our landfill use to a minimum. Not including overhead garage doors (see 2-33).		1
3-2	Interior doors with a minimum of 15% recycled and/or recovered content.		1
3-3	Interior doors made from third-party certified sustainably harvested wood. Uses trees from forests managed sustainably, that prevent clear cutting and replant trees in areas from which they've been harvested.		2
3-4	All exterior doors manufactured from fiberglass. Fiberglass doors insulate better than steel skinned or wood doors, have a longer lifespan, do not warp, twist or crack, and therefore reduce landfill use.		1
3-5	Exterior window frames contain a minimum of 10% recycled content. Reusing materials such as plastics reduces landfill usage and may not be biodegradable.		1
3-6	Exterior window frames made from third-party certified sustainably harvested wood. Uses trees from forests managed sustainably, that prevent clear cutting and replant trees in areas from which they've been harvested.		2
3-7	Natural cementitious stone/stucco/brick or fiber cement siding – complete or combination thereof for 100% of exterior cladding. Strong, long lasting, fireproof material.	4	4
3-8	Recycled or reclaimed exterior cladding material. 1/3 of exterior (1 point), 2/3 or more of home (2 points). Recycled brick blocks etc, intent is to replace siding materials, primarily exterior finish materials.		1 or 2
3-9	Fiber cement fascia and soffit. Fiber cement fascia and soffit, made with recycled content from sawmill waste and Portland cement, is a strong, long lasting and fireproof material.	2	2
3-10	Recycled and/or recovered-content fascia and soffit (minimum 50% pre- or post-consumer). Recycled and/or recovered-content fascia and soffit reduces the amount of new material used in production by gluing up mill scraps into large pieces, which conserves natural resources and reduces landfill usage.		1
3-11	Recycled and/or recovered-content siding (minimum 50% pre- or post-consumer). Recycled and/or recovered-content siding reduces the amount of new material used in production by gluing up mill scraps into large pieces, which conserves natural resources and reduces landfill usage.		4
3-12	Exterior trim materials are made from alternatives to solid lumber. Trim materials manufactured from OSB uses a laminating process to make larger pieces from smaller pieces or strands of wood. The process saves old growth forests by using trees from forests managed sustainably, that prevent clear cutting and replant trees in areas from which they've been harvested.		1
3-13	Exterior trim materials have recycled and/or recovered-content (minimum 50%). Recycled and/or recovered-content trim materials reduce the amount of new material used in production by gluing up mill scraps into large pieces, which conserves natural resources and reduces landfill usage.		3
3-14	All exterior trim is clad with pre-finished metal (1 point over wood backings, 2 points without wood backings). Trim clad with pre-finished metal is a durable long lasting product that requires no maintenance and reduces waste in landfills due to long life of product.		1 or 2
3-15	Deck or veranda surfaces made from low maintenance materials - deck surfaces do not need maintenance of any kind, including painting, for a minimum of 5 years. Materials that last longer reduce landfill usage and tend to require little to no maintenance, saving replacement costs and reducing energy use.	2	2
3-16	Minimum 25-year manufacturer warranty roofing material (2 points plus 1 point for each additional 5 years). A 25-year roof system saves homeowners money in replacement costs, and reduces the use of landfills due to the longevity of the product.	2	2 or more
3-17	Minimum 25% recycled-content roofing system (1 point underlay and 2 points roofing finish). Recycled content roofing material reduces the use of new resources and waste in landfills.		1 to 3
3-18	Domestic wood from reused/recovered or re-milled sources, 500 ft² minimum for flooring or all cabinets or all millwork. Reused, recovered or re-milled sources eliminate the need for new resources, saving energy, transportation costs, and forestry from depletion.		6
3-19	Natural or recycled-content carpet pad made from textile, carpet cushion or tire waste (rebond still qualifies). Natural or recycled-content carpet pad is a good use of reusable resources.		2

3-20	Install carpet that has a minimum of 50% recycled content. Recycled-content carpet is a good use of renewable resources, lessens off-gassing and improves air quality.		2
3-21	Install a minimum of 300 ft² of laminate flooring.		2
3-22	Bamboo, cork or hardwood flooring used in home, minimum of 300 ft² installed. Products must be third-party certified from sustainably managed forests or certified sustainable sources. Cork flooring comes from stripping the bark off cork oak, which regenerates itself. The cork tiles are moisture, rot and mould resistant, providing a floor that can last over 30 years. Bamboo flooring is a good use of natural resources because it is fast growing, durable and flexible. All hard floorings promote better indoor air quality by not trapping contaminates.		3
3-23	All ceramic tile installed in home has a minimum of 25% recycled-content. Reduces landfill usage.		2
3-24	MDF and/or finger jointed casing and baseboard used throughout home (1 point), and all jambs (1 point) Medium Density Fiberboard (MDF) casing is created from sawdust and glues, utilizing all wood waste to create usable product.	1	1 to 2
3-25	Solid hardwood trim from third-party certified sustainably harvested sources approved for millwork and/or cabinets (2 points per application – maximum of 4 points). This process saves old growth forests by using trees from forests managed sustainably, that prevent clear cutting and replant trees in areas from which they've been harvested.		2 or 4
3-26	Paints or finishes with minimum of 20% recycled content. Paints or finishes made form recycled content are environmentally friendly because recycling paint reduces the hazardous waste in landfills.		1
3-27	Domestically sourced natural granite, stone or recycled glass (30% of content) countertops in 100% of the kitchen. Natural product is more durable, easy to clean and maintain, resistant to heat and scoring. By quarrying and sourcing in Canada, the environmental cost of shipping is greatly reduced. Foreign stone cut or polished in Canada is not acceptable.		2
3-28	Natural granite, stone, recycled glass or concrete countertops for all other countertop areas. Natural product is more durable, easy to clean and maintain, resistant to heat and scoring.		1
3-29	100% agricultural waste or 100% recycled wood particle board used for shelving. Products such as wheat board are made from agricultural waste.		2
3-30	PVD finish on all door hardware. Physical Vapour Disposition provides a more durable product. No toxic wastes are produced making it.	1	1
3-31	PVD finish on all faucets. Physical Vapour Disposition provides a more durable product. No toxic wastes are produced making it.	1	1
3-32	Install only Type 1 or 2 grade door hardware with lifetime mechanical and coating warranty. High quality, durable Type 1 and 2 hardware will not require replacing for life of home.		2
	TOTAL SECTION POINTS	13	

IV. INDOOR AIR QUALITY

This section focuses on the quality of the air within the finished home. Products listed here include materials that are low in VOC's, products made from all natural materials as well as various air cleaning and ventilation systems.
Minimum 15 Points Required

4-1	Install pleated media filter on HVAC system with minimum MERV 7 rating. MERV rating system specifies allowable amounts and practical sizes that a filter must catch. The higher the MERV rating, the smaller and greater number of particulates are caught, providing better indoor air quality.		1
4-2	Install electrostatic air cleaner on HVAC system. Permanent washable air filter that traps and removes airborne particles from the air before being circulated through the furnace and into the home.		2
4-3	Install electronic air cleaner on HVAC system. An electronic air cleaner offers a superior level of filtration by using advanced, 3-stage filtration technology to trap and filter airborne particles like dust, cat dander and smoke. It works by placing an electric charge on airborne particles, and then collecting the charged pollutants like a magnet. The air cleaner cells can be washed in your dishwasher or sink.		3
4-4	Install HEPA filtration system in conjunction with an HVAC system. HEPA stands for High-Efficiency Particle Arresting. HEPA filtration offers the highest particulate removal available - 99.97% of particles that pass through the system including dust, cat dander, certain bacteria, pollens and more. The system is connected to the cold air return of the forced air heating/cooling system which provides a whole house filtration system.		6
4-5	Install ultraviolet air purifier on HVAC system. Ultraviolet (UV) air treatment systems kill mould spores and certain live, airborne bacteria passing by the lamp to prevent them from being re-circulated into the air of the home.		2
4-6	Install thermostat that indicates the need for the air filter to be changed or cleaned. This feature displays filter maintenance reminders on the thermostat. Regular furnace maintenance is required to keep your mechanical equipment running efficiently and problem free as well as ensuring a healthy indoor air environment.		1
4-7	Install hardwired carbon monoxide detector outside main sleeping areas. Carbon monoxide detectors warn against high levels of toxic carbon monoxide.	1	1
4-8	Power vacuum all HVAC ducting prior to occupancy by homeowner. This process helps eliminate pollutants that drop into the HVAC ducting during the construction process from being circulated into the home.	2	2
4-9	Central vacuum system vented to exterior & central vacuum system has Carpet and Rug Institute (CRI) IAQ approval. A central vacuum system collects dust centrally, while exhausting to the exterior so that dust mites and bacteria do not have the opportunity to re-circulate. The result is cleaner, healthier air. Note: install far enough from air intake areas, see manufacturer's installation guidelines.		1
4-10	All insulation in the home is third-party certified or certified with low or zero formaldehyde. Formaldehyde is colorless gaseous organic compound, water soluble, with a characteristic pungent and stifling smell. Products with low formaldehyde emission levels will improve indoor air quality of homes and long term owner health.	2	2
4-11	Low formaldehyde sub floor sheathing (less than 0.18 ppm). Formaldehyde is colorless gaseous organic compound, water soluble, with a characteristic pungent and stifling smell. Products with low formaldehyde emission levels will improve indoor air quality of homes and long term owner health. Industry Standard ANSI A208.1-1999 sets a 0.20 ppm limit. Built Green™ requires a 10% better level of performance at 0.18 ppm. Products using Phenol Formaldehyde, or PMDI or MDI will meet this standard without testing.		3
4-12	Low formaldehyde underlayment is used in home (less than 0.18 ppm). Low formaldehyde (phenol) and formaldehyde-free binders (PMDI) are available and becoming more common. FSC certified OSB is becoming more common, reducing environmental impacts on air, water, social quality.		1
4-13	Low formaldehyde particle board/MDF (less than 0.18 ppm) = 1 point, or zero formaldehyde particle board/MDF (2 points) used for cabinets. Urea formaldehyde-free fiberboard can be used in the same way as conventional fiberboard, but with the added caution of greater potential for water damage.		1 or 2
4-14	Low formaldehyde particle board/MDF (less than 0.18 ppm) = 1 point, or zero formaldehyde particle board/MDF (2 points) for shelving. Urea formaldehyde-free fiberboard can be used in the same way as conventional fiberboard, but with the added caution of greater potential for water damage.		1 or 2
4-15	All interior wire shelving is factory coated with low VOC / no off gassing coatings Vinyl coating on conventional shelving units and site built MDF shelving offgas VOCs.	2	2
4-16	Water-based urethane finishes used on all site-finished wood floors. Water-based epoxy finish (generally referred to as epoxy-modified finish) differs from its solvent-based counterpart in that the epoxy resin is itself the catalyst for an acrylic or urethane resin.		2

4-17	All wood or laminate flooring in home is factory finished. Installing a pre-finished floor eliminates the time, the dust and the odours associated with the on-site sanding and finishing of an unfinished product.	2	2
4-18	Water-based lacquer or paints are used on all site built and installed millwork, including doors, casing and baseboards. (less then 200 grams/litre of VOC's) Water based interior finish products reduces VOC off-gassing which improves indoor air quality.	3	3
4-19	Interior paints used have low VOC content (less than 200 grams/litre of VOCs). Volatile Organic Compounds (VOCs) are a class of chemical compounds that can cause short or long-term health problems. A high level of VOCs in paints/finishes off-gas and can have detrimental effects to a buildings indoor air quality and occupant health.	2	2
4-20	Interior paints used have no VOC's in base paint prior to tint. Volatile Organic Compounds (VOCs) are a class of chemical compounds that can cause short or long-term health problems. A high level of VOCs in paints/finishes off-gas and can have detrimental effects to a buildings indoor air quality and occupant health.		3
4-21	Natural linoleum in place of any vinyl sheet flooring. Linoleum installed with low VOC adhesives (low VOC standard is less than 150 grams per litre). Natural linoleum is made from natural linseed and other abundant renewable materials.		2
4-22	All ceramic tiles are installed with low VOC adhesives and plasticizer-free grout (low VOC standard is less than 150 grams per litre). Most adhesives are still based on SB latex which releases large quantities of VOCs. The volatile solvents are used to emulsify (or liquefy) the resin that acts as the bonding agent. However, water-based adhesives emit far less VOCs than their conventional solvent based counterparts. There are three types of low-VOC formulas: water-based (latex and acrylics); reactive (silicone and polyurethane); and exempt solvent-based (VOC-compliant solvents). While all three technologies yield low- or zero-VOC caulks, sealants, and adhesives, their performance is slightly different.		1
4-23	All vinyl flooring in home is replaced by hard surface flooring. Hard surface flooring is generally more durable and improves the Indoor Air Quality within a building. Carpets collect dust, dust mites and other allergens which when disturbed become airborne particulates, directly affecting the health of the occupants.	2	2
4-24	Carpet and Rug Institute (CRI) IAQ label on all carpet used in home. To identify carpet products that are truly low-VOC, CRI has established a labeling program. The CRI Indoor Air Quality Carpet Testing Program green and white logo displayed on carpet samples in showrooms informs the consumer that the product type has been tested by an independent laboratory and has met the criteria for very low emissions.	2	2
4-25	Carpet and Rug Institute (CRI) IAQ label on all underlay used in home. The adhesives used to install carpets and the latex rubber by some manufacturers to adhere face fibers to backing materials generate volatile organic compounds (VOCs). Carpets also cover large surfaces within an interior environment and can provide "sinks" for the absorption of VOCs from other sources.	1	1
4-26	Natural material based carpet in all living areas. Natural wool carpets are durable and use less secondary backing materials and chemicals. Off-gassing is typically caused by the secondary backings and chemical additives in synthetic carpets, for controlling mildew, fungus, fire and rot.		2
4-27	All carpet in home is replaced by hard surface flooring. Hard surface flooring is generally more durable and improves the Indoor Air Quality within a building. Carpets collect dust, dust mites and other allergens which when disturbed become airborne particulates- directly affecting the health of the occupants.		4
	TOTAL SECTION POINTS	19	

V. VENTILATION

This section covers the mechanical ventilation systems in the home, including filtrations and heat recovery.

Minimum 6 Points Required

*** Platinum Level Note* Platinum level homes must use item 5-9 " Ventilation system is installed according to CSA Standard F326, as recommended by the Heating, Refrigeration and Air Conditioning Institute of Canada (HRAI)." as well as 6 additional points from this section.**

5-1	All ductwork joints and penetrations sealed with low toxic mastic or aerosolized sealant system. Duct mastic is a preferred flexible sealant that can move with the expansion, contraction, and vibration of the duct system components. A high quality duct system greatly minimizes energy loss from ductwork. The system should be airtight, sized and designed to deliver the correct airflow to each room.	3	3
5-2	Programmable ENERGY STAR thermostat with dual set back and continuous fan setting. A set back thermostat regulates the heating/cooling system to provide optimum comfort when the house is occupied and to conserve energy when it is not.	2	2
5-3	Install HVAC appliance with variable speed fan (ECM). A variable speed fan motor (ECM or DC powered) is designed to vary its speed based on the homes heating and air conditioning requirements. Working in conjunction with the thermostat, it keeps the appropriate air temperature circulating through the home, reducing temperature variances in the home. It also provides greater air circulation and filtration, better temperature distribution, humidity control, higher efficiency and quiet performance.		3
5-4	Install motorized damper on fresh air inlet (must be interlocked with furnace system). A constantly open fresh air supply (passive air) wastes energy. Positive control of this air will assure building comfort, safety and energy efficiency.		1
5-5	Install all ventilation fans (bath or in-line type) to meet or exceed the Energy Star requirements Energy Star fans have to meet standards for efficiency, and sound transmission, providing quiet and effective ventilation fans. www.oee.nrcan.gc.ca/energystar/english		2
5-6	Install a programmable time or humidistat controlled ventilation fan meeting the Energy Star requirements for efficiency and sound level A programmable timer ensures necessary, regular, automatic mechanical ventilation of the home.	2	2
5-7	Install passive Heat Recovery Ventilator (HRV) and verify balanced installation. A Heat Recovery Ventilator (HRV) is an air exchanger that exhausts humid, stale, polluted air out of the home and draws in fresh, clean outdoor air into the home. Invisible pollutants produced by common household substances, plus dust and excess humidity that get trapped in today's houses, can increase your risk of chronic respiratory illness and your homes risk of serious structural damage. A passive HRV unit does not have its own internal fan and is 100% furnace assisted. It works by tying the exhaust side of the unit to the supply air plenum which forces air to exhaust from the home and at the same time fresh air enters from outside through the unit and into the cold air return duct work.		2
5-8	Install an active Heat Recovery Ventilator or Energy Recovery Ventilator (HRV or ERV) and verify balanced installation. A Heat Recovery Ventilator (HRV) is an air exchanger that exhausts humid, stale, polluted air out of the home and draws in fresh, clean outdoor air into the home. Invisible pollutants produced by common household substances, plus dust and excess humidity that get trapped in today's houses, can increase your risk of chronic respiratory illness and your homes risk of serious structural damage. Much like the HRV, the ERV recovers heat; however, it also recuperates the energy trapped in moisture, which greatly improves the overall recovery efficiency. In dry climates and humidified homes the ERV limits the amount of moisture expelled from the home. In humid climates and air conditioned homes, when it is more humid outside than inside, the ERV limits the amount of moisture coming into the home.	4	4
5-9	Ventilation system is installed according to CSA Standard F326, as recommended by the Heating, Refrigeration and Air Conditioning Institute of Canada (HRAI). www.hrai.ca	5	5
5-10	All bath fans used throughout home have a noise level of 1 sone or less Installing quiet fans will encourage use for home ventilation.		1
	TOTAL SECTION POINTS	16	

VI. WASTE MANAGEMENT

This section deals with the handling of waste materials on the construction site and encourages recycling.
Minimum 7 Points Required

6-1	Comprehensive recycling program for building site including education, site signage and bins. A comprehensive recycling program that is strictly followed significantly reduces the amount of waste ending up in landfills. Currently it is estimated that up to 50% of landfill waste is construction related.		2
6-2	Collection of waste materials from site by a waste management company that is a current member of a provincial recycling council or equivalent association and verifies that a minimum of 10% of the materials collected from the construction site have been recycled. Not only does this reduce overall waste of product, it ensures that as much product as possible is being utilized for the production of future resources.	4	4
6-3	Suppliers and trades recycle their own waste, including leftover material and packaging (1 point per trade - maximum 4 points). Trades being responsible for recycling and removal of waste not only reduces landfill waste, but also promotes a cleaner and safer working environment.		1 to 4
6-4	Minimum 25% (2 points) or 50% (6 points) by weight of waste materials collected from construction site is diverted from waste stream. Trades being responsible for recycling and removal of waste not only reduces landfill waste, but also promotes a cleaner and safer working environment.	2	2 or 6
6-5	Use of recycled materials derived from local construction sites (1 point for each different product used, to max. of 3). Products recycled from the construction site, such as mulched wood cut offs or mulched gypsum are often useable as either clay/soil water retention additives or for organic burning.		1 to 3
6-6	Trees and natural features on site protected during construction. The protection of existing trees and other natural features such as streams, ponds and other vegetation reduces environmental and ecosystem impact. Many of these features can be protected simply by following good waste management procedures.	1	1
6-7	Metal or engineered durable form systems used for concrete foundation walls. The use of metal forming systems reduces the requirement of lumber, a limited resource.		1
6-8	Concrete used in home has a minimum supplementary cementing material of 25% (1 point) or 40% (2 points) within the scope of proper engineering practices. For every one ton of Portland cement generated, eighth tenths of a ton of carbon dioxide is produced. Supplementary cementations products include fly ash, blast furnace slag as well as metakaolin.	2	1 or 2
6-9	Reusable bracing is used for framing. The use of reusable bracing for framing reduces the requirement of lumber, a limited resource.	1	1
6-10	Install recycling center with two or more bins. By installing built in recycling centers, which can be as simple as labeled containers (paper, cardboard, cans, plastics, etc), homeowners are more likely to utilize the pre-existing facilities and thus contribute to the reduction in landfill waste.	3	3
6-11	Provide composter to homeowner. Providing a composter promotes a reduction in wastes heading to the landfill by giving homeowners an option for organic waste such as food leftovers.		2
6-12	Existing dwellings onsite are recycled or moved instead of demolished (recycled 2 points, moved 4 points).		2 or 4
	TOTAL SECTION POINTS	13	

VII. WATER CONSERVATION

This section encourages a reduction in the amount of water used in the home or in individual units within multi-story buildings.

Minimum 7 Points Required

7-1	CSA approved single flush toilet averaging 1.6 GPF or less installed in all bathrooms (1 point)		1
7-2	Install a dual flush or pressure assisted toilet in one or more bathrooms (3 points for first, 1 additional point for each after) Dual flush toilets offer a choice between two water levels for every flush; at minimum should use, 1.6 GPF (6 LPF) or 0.8 GPF (3 LPF).	4	3 or more
7-3	Install a 1.28 GPF toilet in one or more bathrooms (2 points for first, 1 additional point for each after) 1.28 GPF (Gallon per Flush) is general considered the new standard in water efficiency		2 or more
7-4	Install manufactured non-electric composting toilet (3 points each, max of 6 points). A composting toilet uses no water and is odourless. It uses a biological processes to break down the human excrement into organic compost material.		3 or 6
7-5	Insulate the hot water lines with flexible pipe insulation, first three feet of the water lines (1 point) or all hot water lines (2 points). Minimizing the heat loss in the water line will decrease the initial water wasted by delivering hot water faster.	2	1 or 2
7-6	Install hot water recirculation line with insulted hot water lines and pump system. Having the hot water re-circulated from the hot water source to the fixture points will decrease the initial water wasted by delivery the hot water faster. Pump should be on program or timer to reduce stand-by losses.		3
7-7	Install low flow faucets for all kitchen faucets and lavatories (2 points), all showers & tub/showers (additional 1 point). Reduces water consumption by lowering the flow rate. Showers must use 9.8 L/min (2.2 imp. Gal/min) or less. Faucets, both kitchen and bath, must use 8.3 L/min (1.8 imp. Gal./min) or less.	3	2 or 3
7-8	Install hands free lavatory faucets. 1 point per faucet/unit. Battery powered electronic sensor minimizes the spread of germs and saves water.		1 per unit
7-9	Provide front loading clothes washer (3 points), or Condensing Combination wash/dry unit (4 points) Front loading clothes washers conserve water by design, as they are only required to fill up the washing compartment 1/3 full to effectively wash clothing. Additionally they use up to 75% less environmentally damaging laundry detergent, AND they also conserve electrical or gas energy by significantly reducing drying time for clothes with a more thorough spin cycle.	3	3 or 4
7-10	Install water saving dishwasher that uses less than 26.0 L/water per load. Water saving dishwasher use technology to reduce both the amount of water required as well as electrical energy requirements. The EnerGuide appliance directory put out by Natural Resources Canada has a comprehensive listing of all manufacturers and models of dishwashers and other appliances with water usage and energy efficiency ratings.	1	1
7-11	Install efficient irrigation technology that utilizes automatic soil moisture-based sensor technology at minimum Show storm water management plan & design; water efficient irrigation systems, sensors, regulators, micro drip feed systems etc.		3
7-12	Install permeable paving materials for all driveways and walkways. Permeable paving allows for storm water to flow back into the ground rather than into the storm sewers.		3
7-13	Provide a list of drought tolerant plants and a copy of the local municipality water usage guide to homebuyers with closing package. Most municipalities provide a guide that gives the water requirements of various plants and grasses. When properly designed, landscaping choices can significantly contribute to water conservation.	1	1
7-14	Builder supplies a minimum of 8" of topsoil or composted yard waste, as finish grading throughout site. Compared to subsoil materials, topsoil usually has higher aggregate stability, lower bulk density, and more favorable pore size distributions which leads to higher hydraulic conductivity, water holding capacity, and aeration porosity.	2	2
7-15	Builder incorporates water wise landscaping or xeriscaping in show home or customer home (customers 50% of lawn 2 points, 100% 4 points). Xeriscaping (or drought resistant landscaping) plans and options can be obtained from professional landscaping contractors, and once a xeriscaping landscape is in place, it requires no manual watering. (Rain barrel usage, astro turf ineligible.)	2	2 or 4
7-16	Builder attaches water barrel with insect screen to downspout. Water barrel should also have a drain spout and overflow spout (1 point per barrel - maximum of 3 barrels). Supplying a water barrel encourages homeowners to use rainwater for landscaping needs and therefore save on potable water.		1, 2 or 3
7-17	Install grey water system collecting waste from sinks, shower and/or kitchen to capture and treat for use in toilets or irrigation (6 pts), rough-in for future grey water system (3 points) By reusing waste water, consumption can be drastically reduced. Rough-in must include clearly identified grey water drain stack, separated from sewer line.		6
	TOTAL SECTION POINTS	18	

VIII. BUSINESS PRACTICE

This section deals more with manufacturers and builders office and business practices.
Minimum 6 Points Required

8-1	Products used for home are manufactured within 800 km (1 point for each product - maximum of 5). Products made closer to the location of use will have less embodied energy. Basically this means that the shorter the transportation distance the less energy used in moving the product. Less energy used means fewer emissions.	4	1 to 5
8-2	Builder provides Built Green™ homeowner manual, completed Built Green™ checklist and educational walkthrough with sale or possession.	3	3
8-3	Builders office and show homes purchase a minimum of 50% (1 point) or 100% (2 points) solar, wind or renewable energy. Wind energy is a cleaner way to provide energy. Lower CO2 emissions will benefit the environment.	1	1 or 2
8-4	Manufacturers and/or suppliers purchase 50% or more solar, wind or renewable electricity. Wind energy is a cleaner way to provide energy. Lower CO2 emissions will benefit the environment.		1
8-5	Builder has written an environmental policy which defines their commitment (must include an office recycling program and energy efficient lighting). A statement of commitment helps to emphasize priority and ultimately define a corporate culture.	1	1
8-6	Manufacturer and/or supplier has written an environmental policy which defines their commitment (must include an office recycling program and energy efficient lighting). (1 point per supplier/manufacturer - maximum of 2 points).		1 or 2
8-7	Builder has written an environmental policy which prioritizes milestones for future net zero housing developments.		1
8-8	Builders' company vehicles are hybrid or bio-diesel vehicles (1 point per vehicle - maximum of 3 points). A commitment to the environment shouldn't stop at construction. Using a hybrid vehicle produces lower harmful emissions. Diesel construction vehicles converted to bio-diesel reduce fuel consumption by up to 75%.		1 to 3
8-9	Environmental certification for builders place of business (building, office, etc). Many commercial buildings have been rated with various energy efficiency standards. Does your company work within an ENERGY STAR, EnerGuide for Houses (EGH), EnerGuide for New Houses (EGNH), REAP or LEED (or other certification standard) certified office building?		3
8-10	Builder agrees to construct and label a minimum of 50% of all homes to the Built Green™ standard per calendar year (3 points for 50%, 5 points for 100%).	5	3 or 5
8-11	Contracted trades and/or suppliers have successfully taken and maintained Built Green™ Builder Training status (1 point per trade organization, Max 5).	1	1 to 5
	TOTAL SECTION POINTS	15	
	TOTAL CHECKLIST POINTS	152	

Reviewed 26/11/2009
Troy Glasner
LEED AP

APPLICANT, PROPERTY, AND DEVELOPMENT PROPOSAL INFORMATION

APPLICANT AND PROPERTY INFORMATION

Street Address	2908 West 33rd Avenue
Legal Description	PID 013-283-066, 013-283-014, and 013-283-031; Lots 16, 17, and 18 of Lot 1; Block 47; District Lot 2027; NWD; Plan 2972
Applicant	Geoffrey Glotman, Mackenzie Street Developments Inc.
Architect	Doug Ramsay, Ramsay Worden Architects, Ltd.
Developer	Mackenzie Street Development Inc.

SITE STATISTICS

	GROSS	DEDICATIONS	NET
SITE AREA	1 198m^2 (12,895 sq. ft.)	n/a	1 198m^2 (12,895 sq. ft.)

DEVELOPMENT STATISTICS

	DEVELOPMENT PERMITTED UNDER EXISTING ZONING	PROPOSED DEVELOPMENT	RECOMMENDED DEVELOPMENT (if different than proposed)
ZONING	CD-1 (190)	CD-1 (190) amended	
USES	Gasoline full-service station	Multiple dwelling in conjunction with Office; Retail; and Service Uses	
DWELLING UNITS	0	10	
MAX. FLOOR SPACE RATIO	0.27	1.25	
MAXIMUM HEIGHT	7.93 m (26 ft.)	east mixed-use building – 12.2 m (40 ft.) west two-family dwelling – 10.7 m (35 ft.)	
MAX. NO. OF STOREYS	1	2½	
PARKING SPACES	Per Parking By-law	19 residential spaces 1 accessible space 1 loading space	
FRONT YARD (NORTH) SETBACK	13.4 m (44 ft.)	east mixed-use building - 0.9 m (3.0 ft.) west two-family dwelling - 4.4 m (14.5 ft.)	
SIDE YARD (EAST) SETBACK	0	0.30 m (1.0 ft.)	
SIDE YARD (WEST) SETBACK	1.5 m (5.0 ft.)	1.52 m (5.0 ft.)	
REAR YARD (SOUTH) SETBACK	12.5 m (41 ft.) to c/l of lane	0.44 m (1.44 ft.)	