



Infill Grading & Drainage Standards

This document outlines the minimum submission requirements for grading and drainage plans in support of building permit applications within the Town of Grimsby.

It is intended to:

- Ensure compliance with the Ontario Building Code (OBC), Division B
- Protect adjacent properties from adverse drainage impacts
- Provide clear, defensible standards for applicants, consultants, and reviewers

Authority:

Ontario Building Code, Division B, Article 9.14.6.1

Building Code Act, 1992

Town of Grimsby Zoning By-law and applicable Engineering / Public Works standards

1. Applicability

A lot grading and drainage plan, indicating the means by which the applicant will ensure the lot is to be adequately drained, is required. The following criteria stipulate when a lot grading and drainage plan is required:

- **Replacement dwellings**
- **New infill dwellings**
- **Larger additions**
- **Additions that alter drainage patterns**
- **Large accessory structures**
- **Any proposal where existing grades are modified**

The *Chief Building Official* (CBO) may require a grading plan at their discretion where drainage impacts are possible.

2. Professional Qualifications

The grading and drainage plan shall be prepared, signed, and sealed by a **qualified professional**, acceptable to the Town of Grimsby (e.g., P.Eng). The consultant shall assume professional responsibility for grading and drainage design.

3. Submission Requirements

Grading and drainage drawings shall clearly and accurately illustrate the following information.

3.1 General Information

- Municipal address and legal description
- Street name

- Lot and plan / concession number
- North arrow
- Metric scale (**freehand drawings will not be accepted**)

3.2 Existing Conditions

The plan shall illustrate existing conditions including

- Ground elevations at all property corners
- Elevations on adjacent lands where drainage may be affected
- Existing buildings and accessory structures
- Driveways, walkways, and patios
- Swales, ditches, and retaining walls
- Catch basins and visible drainage infrastructure

The existing grade elevations at all lot corners and significant changes in grade along property lines shall be clearly indicated.

Elevation Requirements:

- Elevations shall be provided in a grid interval (shall be 5.0 m grid)
- Existing grades shall be sufficient to define drainage patterns on subject and adjacent lands

3.3 Proposed Grading and Drainage

The proposed design shall demonstrate positive drainage away from structures and toward an approved outlet and shall not direct drainage onto adjacent properties unless consistent with existing approved drainage patterns.

Requirements:

- Surface drainage shall be directed at a legal outlet, including:
 - Municipal roadway
 - Storm sewer system
 - Municipal ditch

3.4 Building Elevations

The following elevations shall be provided:

- Top of foundation
- Top of finished floor
- The front grade of a house must be at least 375mm higher than the center line of the road when achievable. This may be waived depending on the existing elevations in the area and will be reviewed on a case-by-case basis.

Design Guideline:

Where feasible, the front foundation elevation should be a minimum of 375 mm above the

road centerline.

3.5 Softscape

All swales with less than 2% slope shall have a subdrain.

- Minimum slope away from buildings: 2.0%
- Minimum swale slope: 1.0 – 1.5% longitudinal
- Maximum side slope: 3:1 (33%)
- Swales shall have a minimum grade of 1%
- Swales shall have a minimum grade depth of 150mm
- Top of swale elevation shall be shown adjacent to the swale elevations to demonstrate that the 3H:1V side slope has been achieved.
- All swales must be detailed with sufficient information to show the direction of drainage and the amount of slope

Subdrain Requirements

Swales shall include:

- Top of bank, invert, and bottom width
- Longitudinal slopes
- Flow direction arrows

3.6 Hardscapes

- Minimum driveway grade shall be 2% and shall not exceed a maximum grade of 8%.
- Where boulevard widths are less than 1.0m, steeper grades may be permissible.
- Swales shall have a minimum grade of 1%.
- Standard single driveway width shall be a maximum of 4.0m
- Standard double driveway width shall be a maximum of 6.0m.

Additional Requirements

*Proposed driveway slopes shall be shown and comply with Town standards. *

- Walkways, patios, and other hard surfaces shall drain away from the building.
- No hard surface shall create ponding or redirect water toward buildings or adjacent properties. All proposed driveways shall be designed as per Town of Grimsby standards:
- If a new driveway culvert is being proposed, identify the
 - Invert elevations
 - Size
 - Material
 - Elevation of driveway above culvert
- If the proposed driveway entrance is to be altered in its alignment or width from the existing layout, the owner will be required to apply for an **entrance permit** through the Public Works department at the Town of Grimsby.
- Concrete or interlock driveway edging is not permitted to cross the front lot line into the Town right-of-way.

3.7 Roof Drainage

* All downspout locations shall be shown. *

- Downspouts shall be discharged:
 - Away from foundation walls

- Onto graded surfaces leading to a legal outlet
- Underground connections, where proposed, shall be detailed and approved.

3.8 Retaining Walls and Ditches

Retaining walls

Retaining walls shall show:

- Height
- Location
- Drainage provisions (weep holes / filter stone)

Ditches

Ditches (if applicable) shall show:

- Invert elevations
- Tie-in to existing municipal system

3.9 Erosion and Sediment Control

During construction, temporary erosion and sediment control measures shall be implemented, including:

- Silt fencing
- Construction access controls

4. Permit Close-Out Requirements

The plan shall include a professional certification statement

Where required by the Town, a Final Grading Certificate shall be submitted prior to occupancy or permit closure.

Certification Example:

“I certify that this grading and drainage plan has been prepared in accordance with the Ontario Building Code and Town of Grimsby standards and is suitable for construction.”

5. Municipal Enforcement

This checklist may be used by:

- Building Services (**OBC compliance**)
- Engineering / Public Works (**drainage impacts**)
- By-law Enforcement (**post-construction compliance**)

Failure to construct in accordance with the approved grading plan may result in enforcement action under the Building Code Act or applicable municipal by-laws.

Importance of Compliance

Compliance with grading and drainage requirements is essential to:

- Minimize risk of flooding and water damage
- Protecting neighboring properties
- Maintain municipal infrastructure performance
- Meet applicable regulatory requirements

APPENDIX

There are eight distinct lot grading styles, consisting of four basic configurations and four transitional variations.

Basic Lot Grading styles

Front to back Drainage (option A) – **Pg A01**

Back to Front Drainage (option B) – **Pg A02**

Split Drainage (option C) – **PgA03**

Walkout Basement Drainage (option D) – **Pg A04**

Transitional Lot Grading Styles

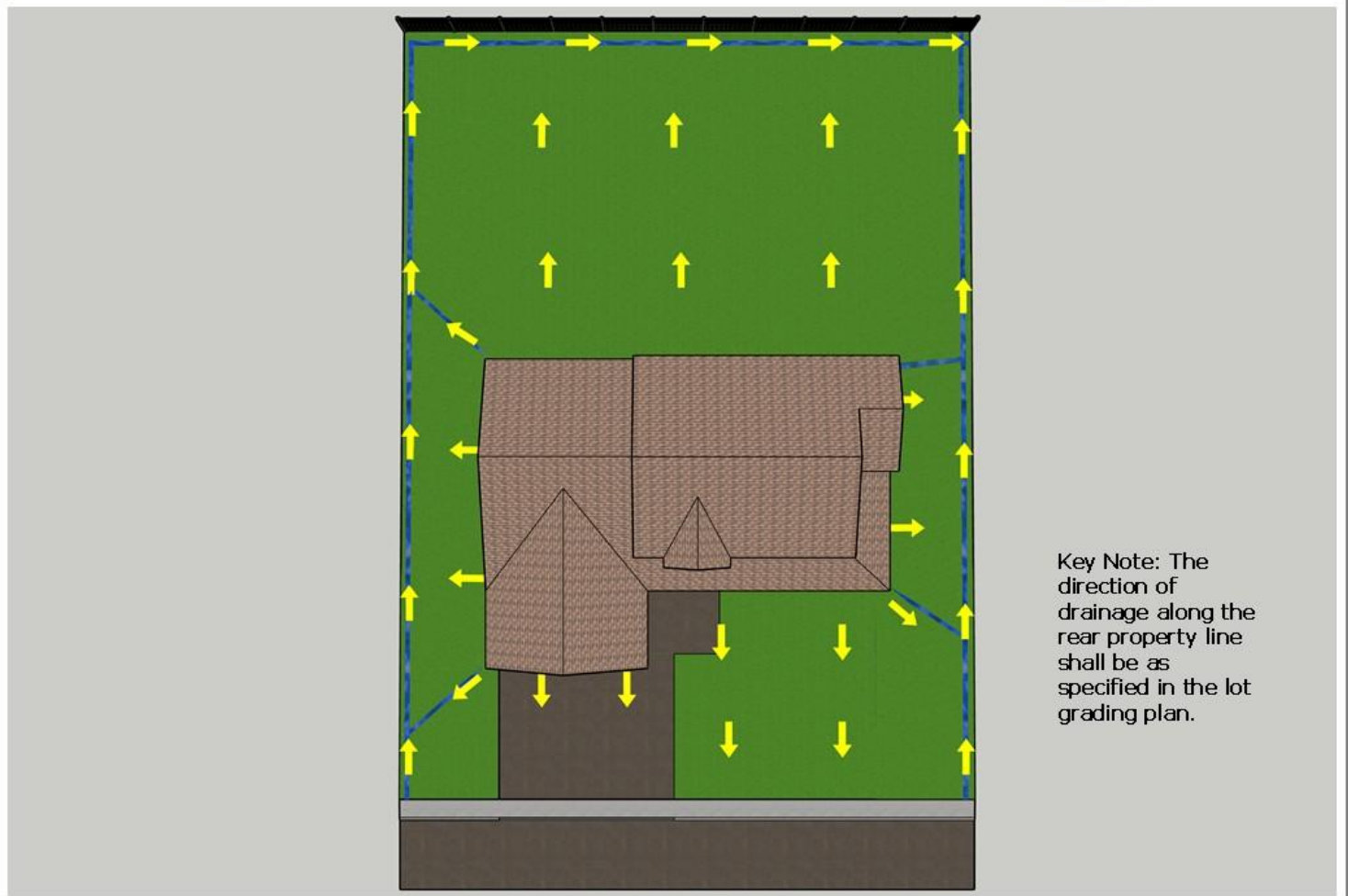
Split / Front to Back Drainage C/A – **Pg A05**

Back to Front / split Drainage B/C – **Pg A06**

Front to back / walkout Drainage A/D – **Pg A07**

Split / walkout Drainage C/D – **Pg A08**

***These guidelines are intended solely as general information. They do not constitute professional advice and should not be relied upon in place of consultation with a qualified professional. ***



Residential Infill Lot Grading Types

Option A

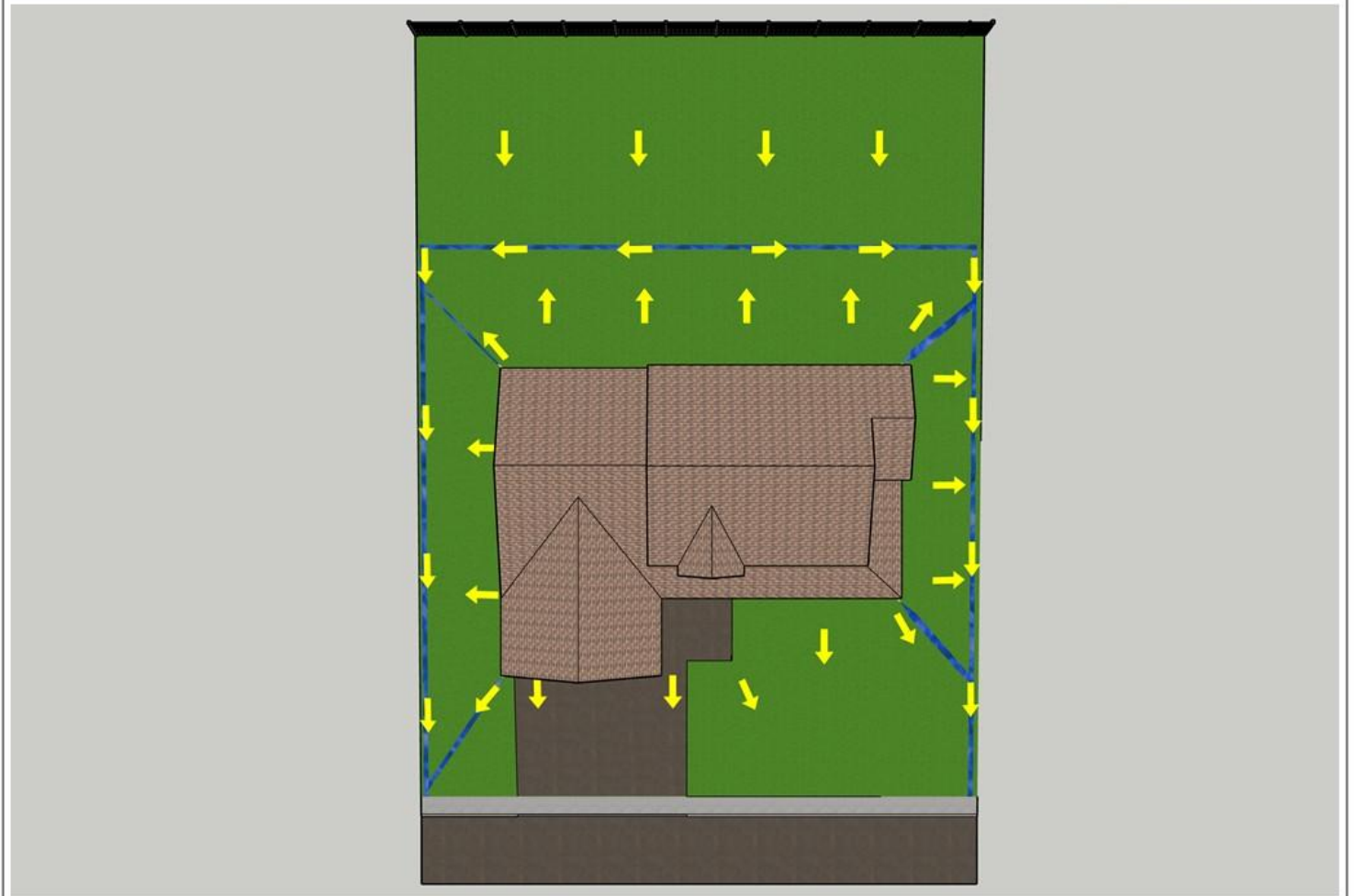
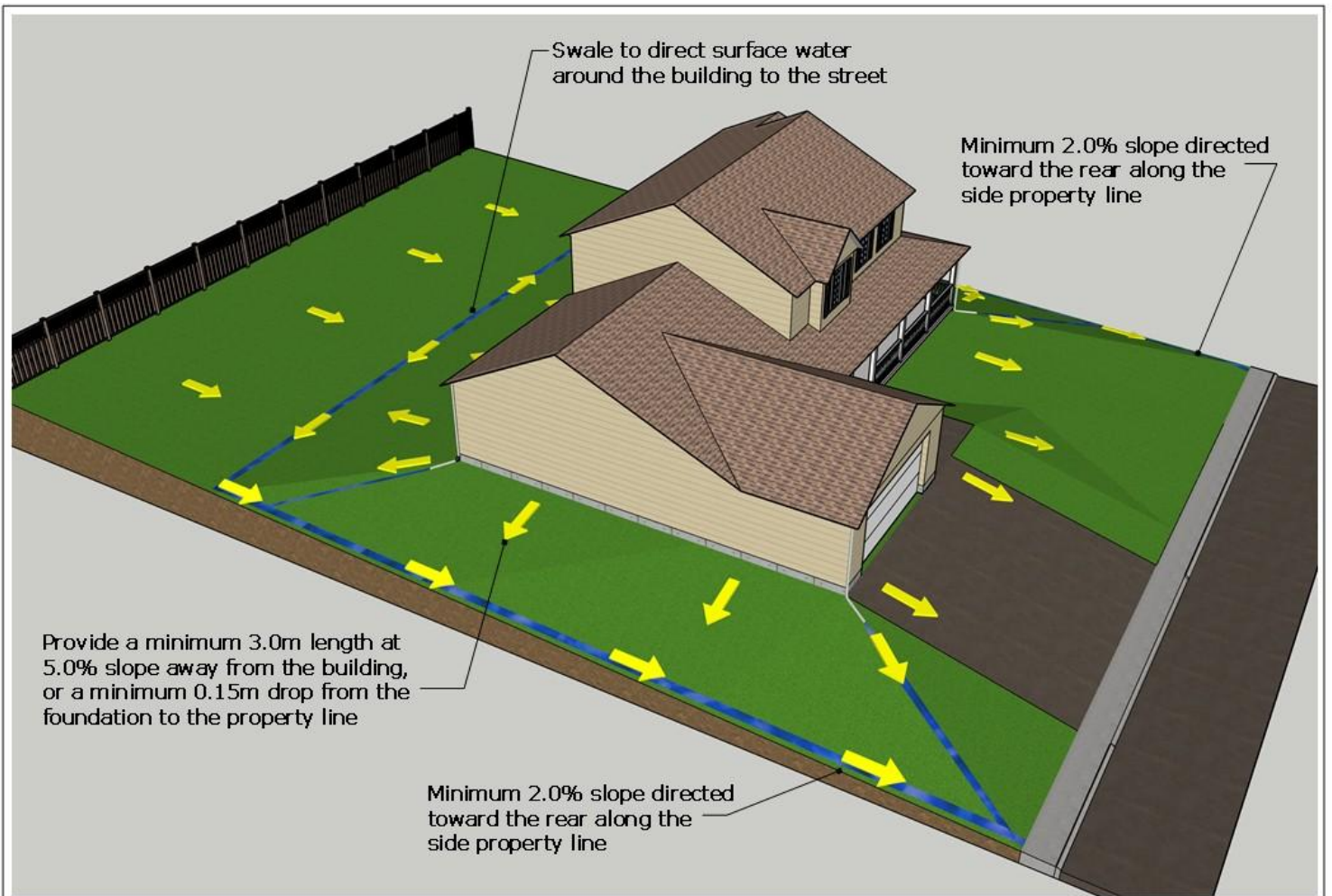


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Front to Back Drainage Lot

Surface drainage is conveyed to side property line swales, which are graded to drain toward the rear property line.

A 01



Residential Infill Lot Grading Types

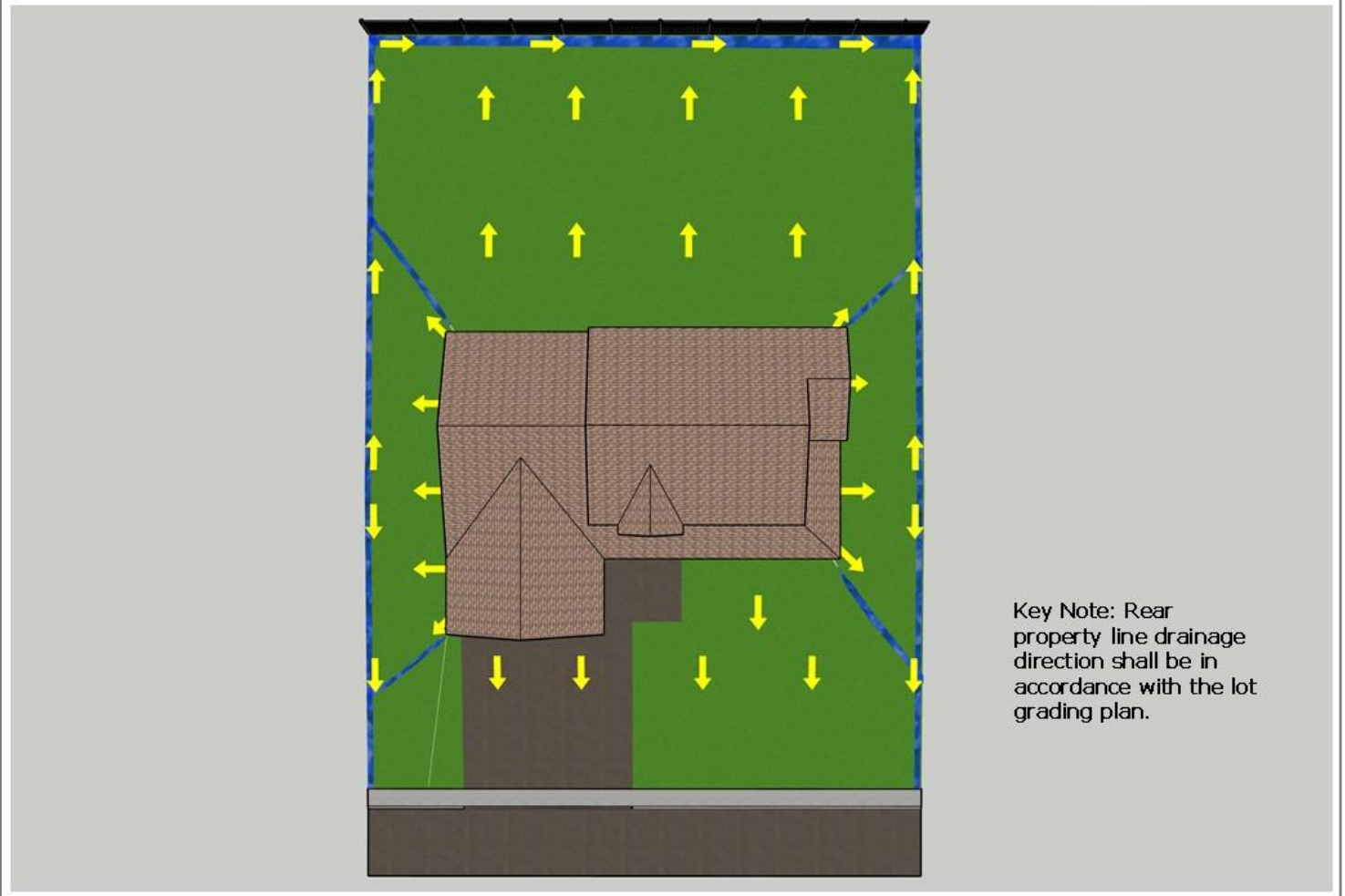
Option B

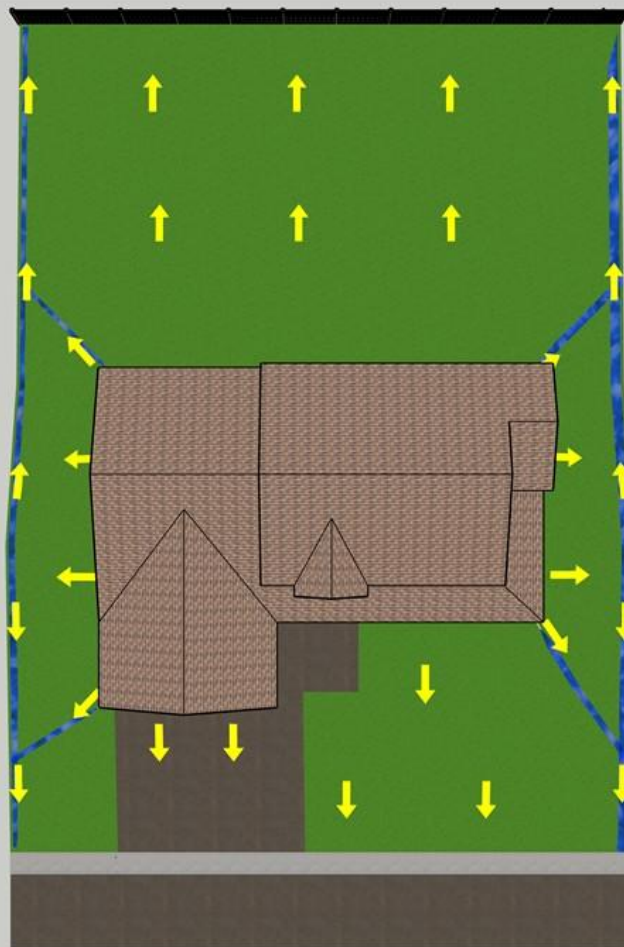
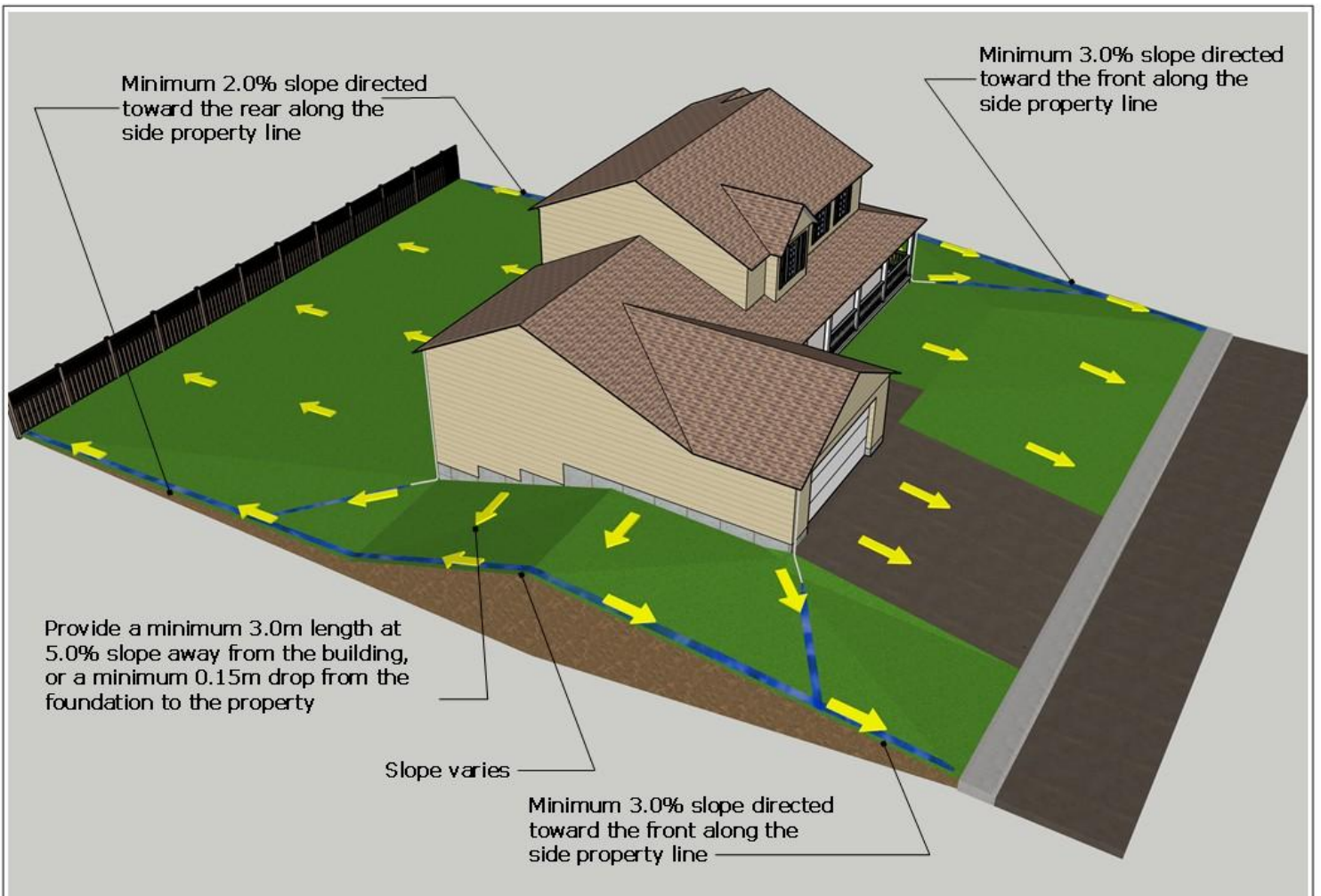


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Back to Front Drainage Lot

Surface runoff is conveyed to swales along the side property lines, which are graded to drain toward the front street.





Residential Infill Lot Grading Types

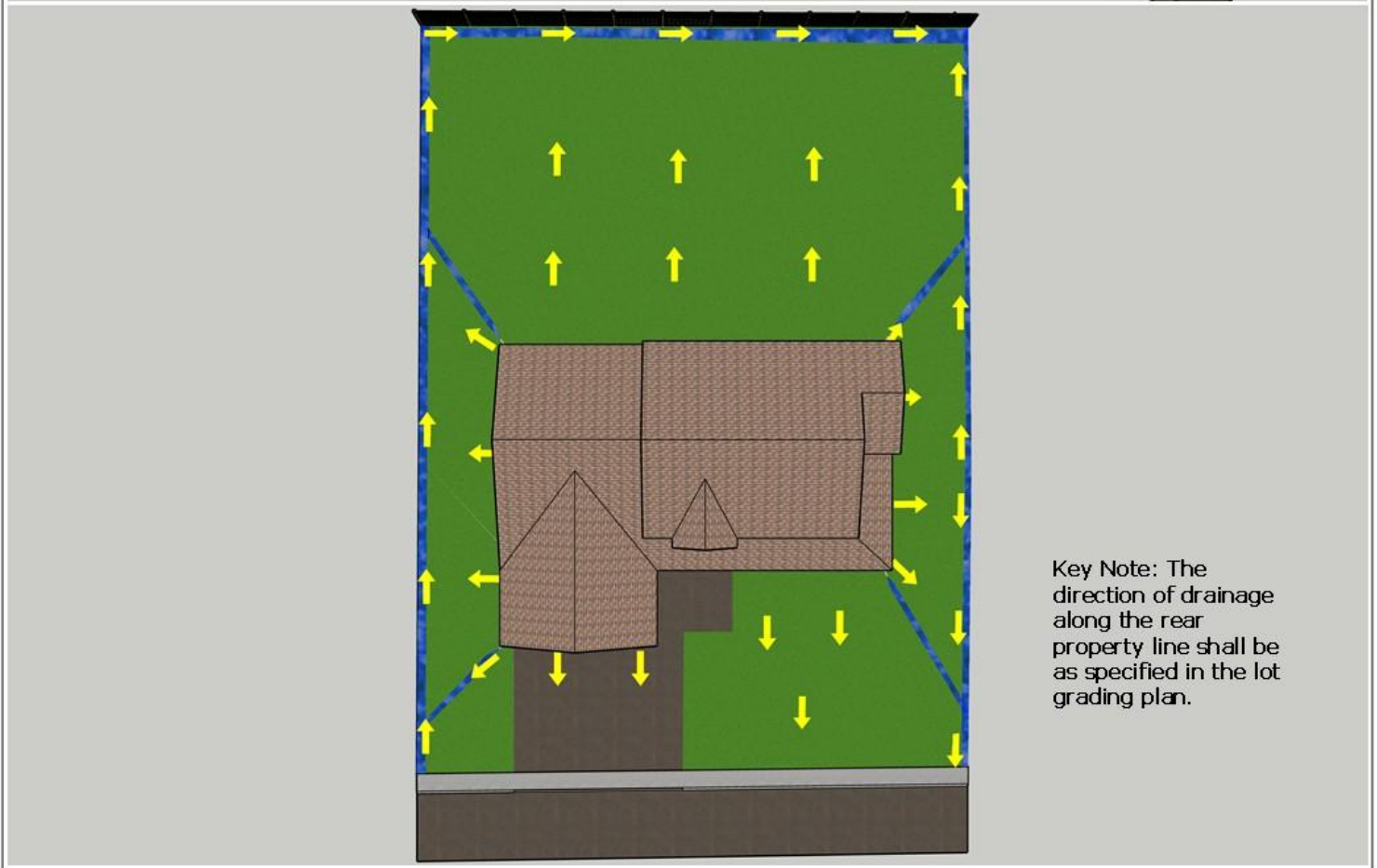
Option D



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Walkout Drainage Lot

Surface runoff is conveyed toward the street and the rear property line.



Residential Infill Lot Grading Types

Option C/A

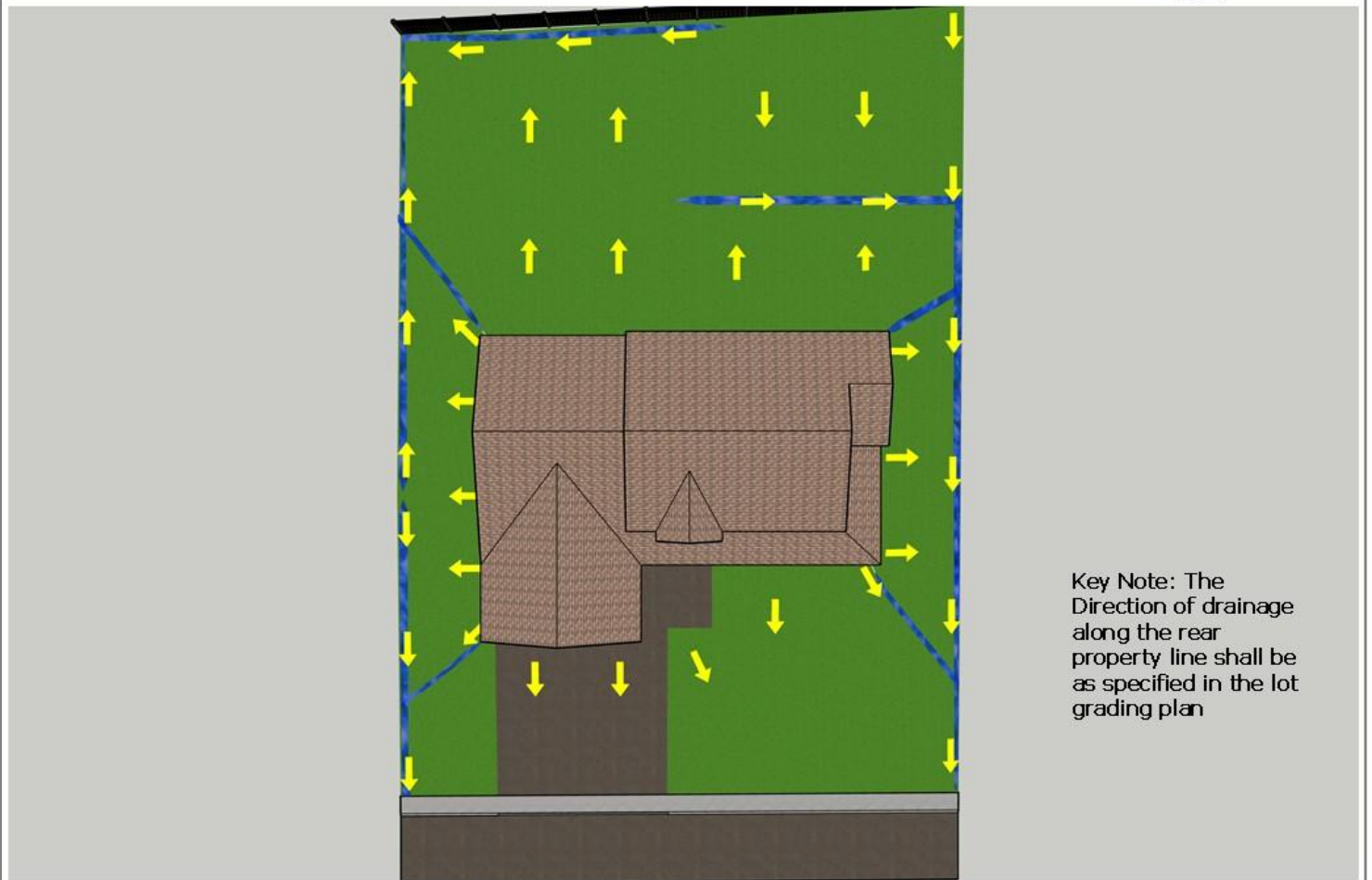


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Split/Front to Back Drainage Lot

One side property line is graded to drain toward both the front street and the rear property line, while the opposite side is graded to drain solely toward the rear property line.

A 05



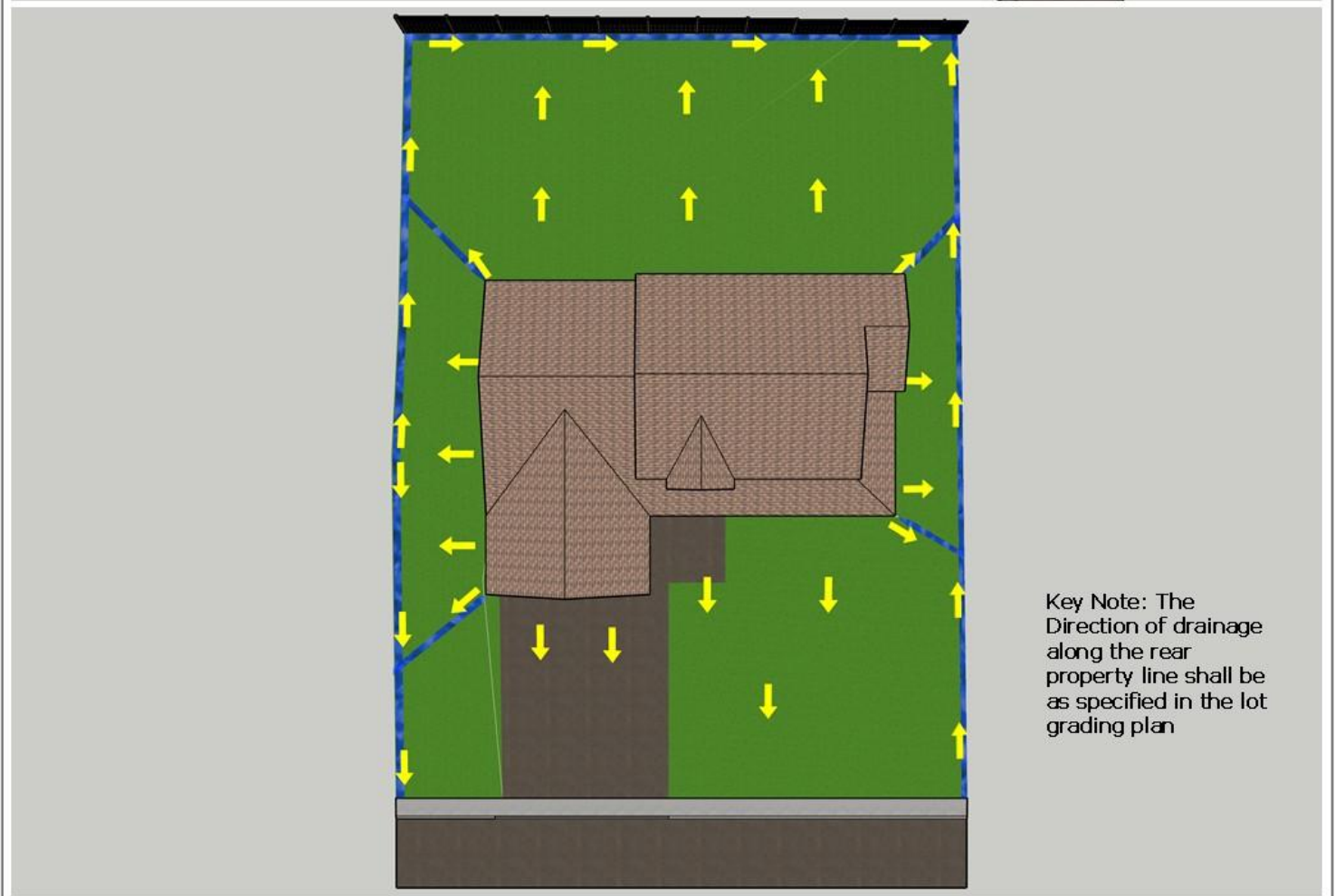
Residential Infill Lot Grading Types

Option B/C



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Back to Front/Split Drainage Lot
One side property line directs runoff to the front street only, while the other directs runoff to both the front street and rear property line.



Residential Infill Lot Grading Types

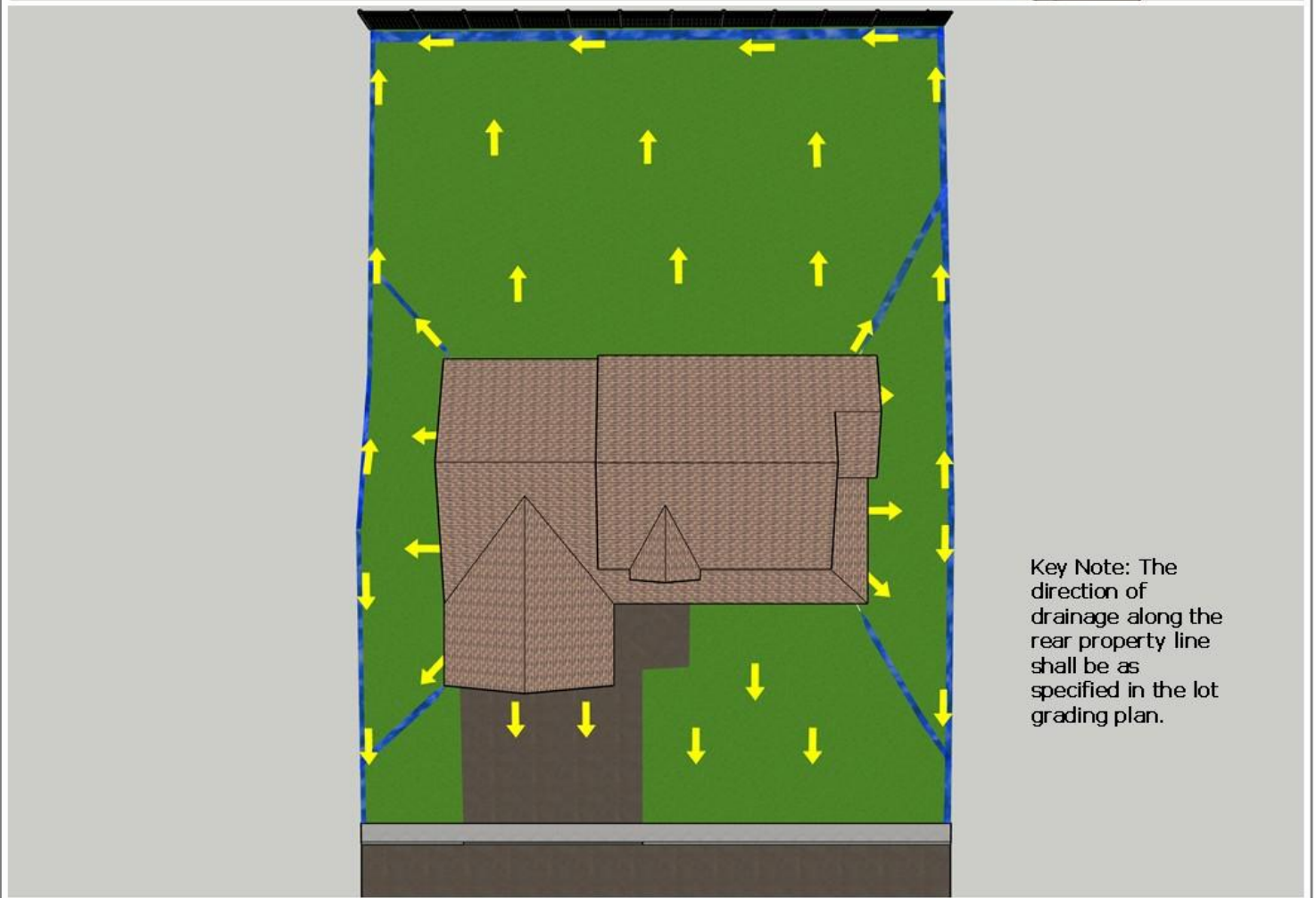
Option A/D



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Front to Back/ Walkout Drainage Lot

One side property line drains to the rear, while the other drains to both the front street and rear, with significant grade change for a potential walkout basement.



Key Note: The direction of drainage along the rear property line shall be as specified in the lot grading plan.

