

# City of Beaumont

## Lot Grading



### COMMON REASONS WHY LOT GRADING INSPECTIONS FAIL



## INTRODUCTION

In this document, Lot Grading complied a set of most common deficiencies found during lot grading inspections. The City’s effort in this document is to provide feedback to homebuilders, contractors, and homeowners in order for them to strategically plan and execute lot grading acceptance. Applicants are encouraged to review Residential Lot Grading Guidelines to learn more about City’s lot grading operations.

## PURPOSE

The purpose of this document is to reduce the number of failed inspections and lead to quicker turnaround with higher possibility of positive outcome. This guide is intended to assist homebuilders and contactors with delivering a better lot grading product to City of Beaumont’s community/residents and minimize the loop of subsequent failed inspections.

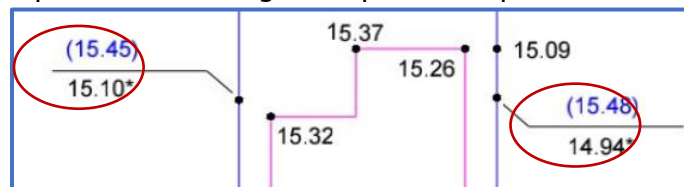
## BODY

Review the list and a brief explanation of most common reasons of inspection failures in the section below:

- **Surface Grade Elevations:** Applicants must ensure all elevations displayed on lot grading certificate are within City’s allowable tolerance. Rough and final grades have a different set of tolerances due to surface conditions and design elevations. Refer to the table below to review allowable tolerances for rough and final grade:

GRADE	TOLERANCE (METRIC)	TOLERANCE (IMPERIAL)
ROUGH GRADE	<b>-0.07 M TO -0.20 M</b>	<b>-2.75 IN TO -8.00 IN</b>
FINAL GRADE, ON TOPSOIL	<b>-0.01 M TO -0.10 M</b>	<b>-0.50 IN TO -4.00 IN</b>
FINAL GRADE, ON LANDSCAPING	<b>-0.05 M TO +0.05 M</b>	<b>-2.00 IN TO +2.00 IN</b>

Landscaping contractors usually try to match common swale grades with the adjacent property in order to tie-in the swale which may drive the elevations out of tolerance. Applicants should always follow the design elevations and maintain grades within allowable tolerance. However, elevations may need to be slightly out of tolerance in some cases to maintain positive drainage. The City may allow variance in rare cases upon analyzing site conditions, but applicant may still be asked to modify grades if needed. Applicants should always review the lot grading certificate to verify all grades are within allowable tolerance prior to submitting an inspection request.



Out of Tolerance Elevations on Rough Grade Certificate

- **Inadequate Grading:** This category covers a few sets of different aspects of lot grading deficiencies including negative drainage, low spots, and uncompacted areas etc. Lot

grading requirements are implemented on residential lots to minimize the risk of flooding and damaging the property. A brief breakdown of inadequate grading is provided below:

- **Negative Drainage:** Adequate Site drainage consists of surface runoff travelling away from foundation walls and towards the designated storm water catchment. In the event of negative slope/drainage, surface runoff may start draining towards the foundation wall and may result in ponding. Applicants must ensure that land is shaped in a way to force the surface runoff towards common swale or as designed according to accepted subdivision Lot Grading Plan.

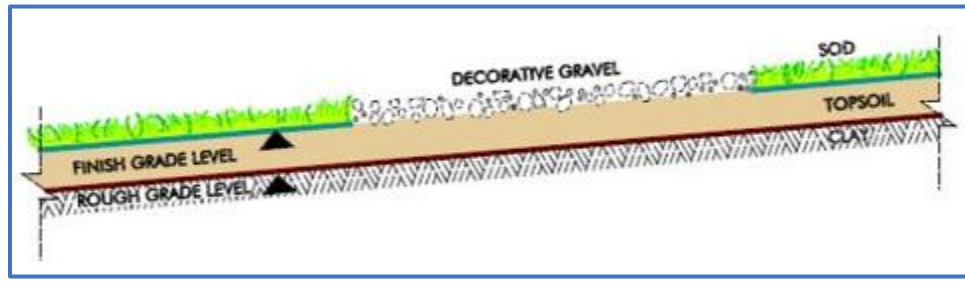


[Adequate Site Drainage – Sloping away from the building](#)

- **Low Spots:** This is commonly found at the final grade stage when homeowners choose to use decorative material such as rocks/mulch instead of sod. Rough grade surface must be raised to the designed/final grade elevation prior to installing decorative material. People tend to install decorative material as a replacement of topsoil which leaves low spots on the lot and cause ponding.



[Installing decorative material on RG surface creates ponding](#)



[Placement of decorative material on FG surface minimize or eliminate ponding](#)

- **Uncompacted Areas:**  
Settlement may occur in areas with uncompacted material leaving clay chunks or voids in the ground. Voids under the deck, concrete sidewalk/stairs and especially near foundation walls may accelerate water infiltration applying more pressure on sump pump. It is important to ensure that backfilled material is well compacted and voids/clay chunks are eliminated completely.



[Uncompacted Surface](#)



[Clay voids under concrete structure and undefined swale](#)

- **Undefined Drainage Swale:** Drainage swales are shallow-sided sloped ditches intended to transport surface runoff and are usually located along common property lines. Common swales must be properly defined to ensure surface runoff travels towards City storm system without leaving major runoff on the lot.

For example, heavy precipitation may erode clay/topsoil away leaving the common swale undefined prior to the inspection. Applicants should always double check the site to ensure if it is still ready for the inspection after such case. If the site require repairs, applicant must request Lot Grading to reschedule the inspection. Making repairs beforehand may be more timely and financially beneficial than being stuck in the loop of failed inspections.

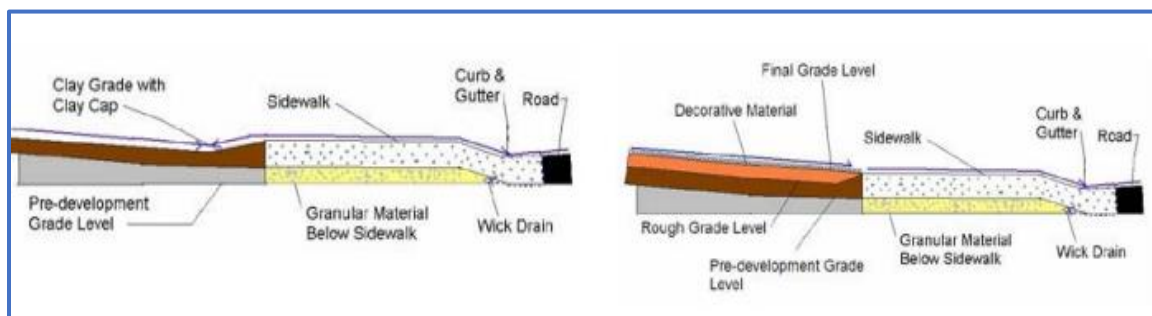


Common Property Line Drainage Swale

- Sidewalk Capping:** To protect City infrastructure, Lot Grading ensures that front sidewalks are properly capped to prevent surface runoff infiltration underneath sidewalk structure. Lot Grading requests all applicants to overlap the top of sidewalk with site native material (clay/topsoil). Overlapped material provides a path for surface runoff to travel over the sidewalk instead of ponding or seeping in granular structure under the structure.

Contractors usually leave the surface grades lower if homeowner plans to add decorative material in their front yard which may create low spots in the lot as explained in the section above.

Applicants must ensure sidewalks are properly capped off at both rough and final grade stages.



Sidewalk Cap at Rough Grade

Sidewalk Cap at Final Grade

- Missing Window Well Extension:** Homebuilders usually install window wells at the time of new house construction but fail to add extensions in some cases. Window well extensions are required where an insufficient gap exist between bottom of the window

and finished grade surface. The top of window well must be minimum 25-30cm (10-13 inches) higher than the rough grade and 15cm (6 inches) higher than final grade.

Ensure window well extensions are installed properly, and bottom of window well must be completely in the ground.

*Reminder: Washed rocks are required to be installed uniformly 5-10cm (2-4 inches) thick in all window wells.*



[Window Well Extension](#)

- **Obstructions within Right-of-Way:** Homeowners typically install concrete sidewalks to side entrances which may be poured within City ROW/easement. Inspection may get rejected if a structure exists within the ROW and applicants may be asked to remove or modify the structure providing minimum setbacks as required. Homeowners should always confirm with the builder to seek the eligibility before installing any structure. In some cases, homeowners place storage sheds within the ROW which would also classify as an obstruction and result in inspection failure.
- **CC Valve Cap:** This section is related to home builders, or the landscaping contractors hired by the homebuilders. Damage deposit inspections occur at the same time as rough grade inspection if rough grade inspection passes. DD inspections include examining the condition and functionality of CC valve as well as curbs and sidewalk assessment.

DD inspections commonly fail due to damaged key nut or debris/concrete collected around the cap head. If Lot Grading Inspector is not able to open the cap, inspection is automatically failed. Doing due diligence prior to the submission of inspection request may be a simple and effective way to avoid inspection failure. Applicants are always encouraged to verify that CC valve can be easily opened and ensure CC pipe is not filled with mud/debris before the inspection takes place.

These are some of the most common deficiencies found at the time of lot grading inspections, but every case could be unique and may be analyzed individually based on site conditions. Applicants should review Residential Lot Grading Guidelines as well as this guide before undertaking lot grading work in Beaumont to learn more about City's requirements. Applicants may also contact Lot Grading department to clarify any uncertainty if needed.

#### Lot Grading Contact Info

Lot Grading Team

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