

Overland Drainage Information

General

Effective drainage is one of the most important issues to keep in mind when purchasing an existing home and or developing land for any use. Poor drainage and planning can lead to ongoing costs associated with flooding damage both inside and outside the home. In addition, insurance may not cover damages associated with overland drainage. Therefore, it is the homeowner's responsibility to ensure that these crucial issues are addressed.

Typically, country residential lots are sold "as is", with minimal disturbance from natural state except for an approach or driveway to the property line and a water well. Some lots even have significant permanent or seasonal drainage ditches that cross the property which can cause significant damage if not accommodated.

The following information is intended to aid home buyers and builders in developing their land such as to ensure that potential damage due to overland drainage is minimized.

Professional advice is recommended if unclear on any of the below items. Money spent upfront is well spent to avoid future problems.

Home and Building Placement

One of the most common mistakes made in new home construction is the building elevation. The building elevation should be established to achieve the following:

Buildings shall be constructed on a high point of land to ensure that water will flow away from them.

Ideally, the finished grade around a building should be higher than the adjacent road ditch bottom. In areas, where the lot is below or downhill of the access road or any road, the drainage from above must be redirected around the building to the downstream side to prevent flooding.

Grades within 4 meters (13 ft) of the foundation must be maintained to at least 2%. That is, an elevation drop of 8 cm (3 inches) at 4 meters (13 ft) away from the home is required. Grades beyond 4 meters of structures must be maintained at a minimum 0.5% to ensure effective drainage.

Avoid areas of high groundwater tables and ensure that at least 1 meter (3 feet) of elevation is present from the bottom of the foundation footings.

In areas that are in close proximity to a watercourse, a minimum elevation of 1 meter (3 feet) above the 100-year flood level for building footings is required. However, higher elevations are suggested as more intense flood events may occur as recently encountered. As a rule, the higher, the better.

Lot Grading and Drainage

Lot grading can dramatically affect neighbours if natural drainage thru your property is not maintained. As a rule of thumb, utilize existing drainage paths and/or ditches on the land to accommodate your drainage needs. Blocking off or damming of natural water paths or ditches through your property is not allowed. Filling in of natural low areas within your land is also not permitted. Low lying areas serve to collect and buffer the effects of intense rainfall events. Ensure that if a low-lying area is present that it has a release point to adjacent land at an elevation below that of your buildings foundation.

Roof drainage gutters downspouts must be installed and directed to the side of the home of lowest elevation and should have positive drainage away from the home. Gutter downspouts with extensions of at least 2.4 meters (8 feet) away from the foundation are recommended.

Walkout basements must have positive drainage (2%) away from the walkout portion to prevent ponding and subsequent flooding.

Driveway Construction

The construction of driveways to buildings can often cause significant drainage problems if drainage is not considered. Natural drainage paths must be maintained if at all practical with the installation of a culvert thru the driveway. It is recommended that if this is the case, a professional engineer should be consulted to establish the culvert elevation and size of the pipe required.

Sump Pumps

Foundation drain sump pumps are recommended in all locations due to the possibility of groundwater level changes. Groundwater levels can change dramatically from year to year as well as seasonally.

Never pump foundation drains or sumps to the septic system. This increased flow to the field can cause it to fail and back-up prematurely.

Drainage has the potential to affect the supply of water from water wells and could pose a health risk. Wells must never be located in an area prone to flooding. Positive drainage away from the well is also required such as to ensure that no water ponds or collects around the well itself. If water collects around a well, there is a possibility that the water may seep down the well casing and contaminate the water supply.

As a minimum, the top of the well casing must be at least 0.2 meters (8 inches) above the finished ground level and at least 0.6 meters (2 feet) above the highest recorded flood level.

Should the safety of your water supply be in question at any time, contact the Calgary Health Authority to arrange for testing of your well water to confirm whether or not it is safe to drink. This service is available at a very economical cost.

Waste Disposal

Septic tank and field must comply with Alberta Private Sewage Systems Standard of Practice.

Never install a septic field in an area that does not have effective drainage. Poor drainage above a septic field could lead to the infiltration of rainwater into the soil and saturation of the soil and premature septic field failure.

Audible or visual high-level alarms on a septic tank are recommended to warn against high tank levels which may lead to back-up within your home.

Water and Sewer Information Sheet

Foothills County is committed to ensuring that a safe and plentiful water supply is available for future generations to come.

Foothills County provides water services to the Fish Creek Ranch, Millarville Landing & Silvertip subdivisions, the Hamlets of Aldersyde, Blackie, Cayley, the Hwy 2A industrial corridor, Warner Business Park, Regional Field House, Scott Seaman Sports Rink, Red Deer Lake School & Heritage Heights School. Sanitary sewer service is currently provided in the Hamlets of Cayley and Blackie.

Water/Sewer Service Billing

Inquiries regarding billing rates and status can be directed to the Tax & Utilities Department at the Foothills County administration office, Monday to Friday between the hours of 8:30 AM to 4:30 PM at (403) 652-2341. Please check the County website at www.foothillscountyab.ca for current rates. All billing periods are for two months. (One cubic meter is equivalent to 1000 litres – approximately 220 imperial gallons.)