



CITY OF  
*Crystal Lake*  
ILLINOIS

**CRYSTAL LAKE WATERSHED  
EXISTING URBANIZED RESIDENTIAL REQUIREMENTS  
Effective January 1, 2020**

As referenced in Chapter 630 of the City Code, the following steps shall be followed when developing or improving an existing urbanized residential property.

1. Determine if the proposed improvement includes substantial grading and/or removal of brush or wooded areas. Substantial impact is defined as greater than 50% of the area being impacted. Brush area is area that cannot be mowed that does not include a wooded area. A wooded area is any area where the tree canopy is interlocking.
  - a. If it does not include substantial grading and/or removal of brush or wooded areas, chose the “Simplified Analysis Calculator.”
  - b. If it does include substantial grading and/or removal of brush or wooded areas, chose the “Detailed Analysis Calculator”
2. Utilizing the appropriate calculator:
  - a. Enter the total lot area in square feet. You can find this area by reviewing the plat of survey or visiting the McHenry County GIS Athena website ([www.mchenrycountygis.org/Athena](http://www.mchenrycountygis.org/Athena)).
  - b. Enter in the total existing impervious area on the lot in square feet by reviewing the plat of survey.
  - c. Enter in the proposed impervious area in square feet created by the improvement.

The calculator will provide the “Total Impervious Surface”. The maximum total impervious surface lot coverage allowed per zoning requirements is 50% for single family and 60% for two family residences. If the values exceed this requirement, contact the City’s Planning Division.

The calculator will also provide the “Increase in Impervious Surface” on the overall lot. If the percentage increase is less than 1.5%, stormwater storage is not needed with this improvement. The amount of new added impervious will be tracked and counted towards future improvements. If the percentage increase is greater than 1.5%, stormwater storage is required with this improvement.

If stormwater storage is required for the improvement, continue:

- d. Enter the properties Unified Soil Classification System (USCS) symbol(s). Visit the McHenry County GIS Athena website ([www.mchenrycountygis.org/Athena](http://www.mchenrycountygis.org/Athena)) to find the USDA Soil Series number (SS number) for the property. This can be found by turning on the “Soil Layer” and adjusting the transparency slide bar to view the soils map overlay over the property on the street map. Enter in up to 3 types of soils listed for the property. If only 1 or 2 are applicable, leave the last column blank.

The calculator will provide the “Total Length of Infiltration Trench Required”. The maximum length of the infiltration trench is 50 feet. The minimum length of trench drain is 5 feet. If the number provided by the calculator is less than 5 feet, a 5 foot trench drain must be installed but a credit will be provided to the property for future improvements.

The calculator will provide the “Total Number of Days to Drain”. The maximum number of days to drain is 3 days.

If the proposed infiltration trench is greater than 50 feet and/or 3 days to drain then the soil may not be able to infiltrate the required water back into the ground. A soil scientist/geotechnical engineer shall be engaged by the owner to perform an infiltration test which will determine the rate at which water would soak into the ground to determine if it differs from the USCS infiltration rate. If the rate does not differ and it still appears that water cannot appropriately infiltrate into the ground, other alternatives need to be explored. City staff shall work with the owner to review any feasible alternatives. A civil engineer with an Illinois Professional Engineering license in the state of Illinois may need to be engaged.

If the proposed infiltration trench is less than 50 feet and/or 3 days to drain then the soil is able to infiltrate the required water back into the ground. A soil scientist/geotechnical engineer is not required and the infiltration trench can be installed at the length output by the calculator. Reminder that a minimum length of 5 feet shall be installed due to constructability.

### 3. Permit Requirements

- a. A permit review shall be required and the City's infiltration detail followed. Exact location of the infiltration trench will be determined by the City.
- b. The infiltration trench and any other facilities associated with the stormwater system, including but not limited to downspouts directly connected to the trench drain, shall be placed in a minimum 6-foot wide easement. The purpose of the easement is to ensure the stormwater system is maintained in perpetuity and not altered. The City's standard "Grant of Stormwater Management Easement for Infiltration Trench Agreement" shall be utilized. It shall be recorded by McHenry County by the City with the recording fee assessed at permit issuance.