



NEWLY CONSTRUCTED DETENTION FOR BASIN 122 IMPROVEMENTS

Stormwater Newsletter Fall 2020



October 30, 2020

IN THIS ISSUE

Fall 2020 Update

2020 provided a necessary respite for the stormwater sector. The dry year allowed for operations to gradually focus more on normal tasks and timelines rather than watching the weather and waiting for the next deluge. Construction site controls were more effective in handling rain events, leading to fewer issues. The dry weather has even allowed City staff to get a jump start on cleaning sediment out of the Big Sioux River! All in all, everyone needed a dry year and Mother Nature came through.

Private BMP Inspections

Increasing development has recently led to a surge in installed privately owned stormwater quality ponds, known as best management practices (BMPs). The City of Sioux Falls now has standards in place to

ensure private BMPs function properly over their lifespan. Inspection of privately owned BMPs has become more important over the last few years as a way to ensure private owners are doing their part to ensure BMP functionality. More about what to expect as a BMP designer or owner is on page 3.

Dust Control

2020 provided the dry weather needed to propel projects in town forward, but it also created many opportunities for unwanted dust production on construction sites. At times it is necessary to be reminded of the need for dust control as part of a well-rounded site SWPPP. Dust propagation and migration has the ability to impact property and drainage conveyances downstream. Jump to page 5 for more insight!



What Worked in Practice for 2020

Take a look at some great examples of erosion and sediment controls in practice this year.

Page 4



Importance of MGE

A reminder of the need to ensure minimum ground elevations are met.

Page 5

Individual Lot Grading—From Cradle to Grave

Development within the Sioux Falls area is still moving at a rapid pace. With this pace comes many opportunities for individuals to build homes and businesses on individual lots. There are numerous items on a to-do list for individual lots just as there are for larger developments. A lot within a larger common plan for development is typically covered under the minor impact construction site (MICS) umbrella. With this in place, the developer takes responsibility for environmental permitting through the State of South Dakota while typically signing agreements with individual lot builders. The agreements call for lot owners to take all responsibility for items such as erosion and sediment control, building permitting, and eventual stabilization of their lots.



Once a lot is platted and sold, the first tasks to tackle are to apply for a proper building permit and check into what must be done to comply with the development's specific erosion and sediment control plan (ESCP). Once permitting is complete, erosion controls must be installed correctly before beginning any grading or excavation. Erosion controls for individual lots typically consist of silt fence and vehicle tracking controls. A developer may allow for current controls such as existing sediment basins and diversion to be utilized, but that must be agreed upon prior to initiating work. During the project, any sediment leaving the construction area will be the responsibility of the lot owner.

When the end of a project is nearing, it is wise to double check if the lot grades match up well with the development's approved drainage plan. Grades must allow water to flow from lots to approved points of discharge in order to ensure there are no adverse effects on upstream or downstream neighbors. Minimum ground elevations around structures also need to be considered at this time, so be sure to check with the developer to ensure all site grading is in good shape before moving on to the final step in the process.

Establishing vegetation is the last item to tackle before completing an individual lot construction process. Typically, a developer ensures the lot buyer signs a notice of stabilization requirement during the lot buying process. This stipulates the need for the lot owner and builder to comply with stabilization requirements set forth in Sioux Falls City Code. Once a lot is at final grade, lot stabilization via seeding and mulching or sod placement must begin within two weeks. Remember, high quality topsoil placed at depths of 12" or more accelerates vegetative growth by promoting infiltration of stormwater! Once the next typical growing season hits and vegetation starts establishing, the project is considered final.

Importance of Privately Owned BMP Inspections

What is a BMP and why are they important? A BMP or Best Management Practice is an engineered system that treats stormwater flows prior to draining off the site. Private BMPs generally look like small ponds or depressed areas on the outer edge of a site. There are currently over 400 private BMPs, such as the one pictured below, across the City of Sioux Falls to help protect our local water bodies.



Each rooftop, parking lot, and street collects pollutants. These pollutants are washed away with every rainstorm and end up in downstream water bodies if they do not filter through a BMP. All BMP filters eventually need routine inspection and maintenance to properly function. An improperly maintained BMP results in poor water quality discharge and unwanted flooding to the surrounding infrastructure, much like what is pictured above.

The City of Sioux Falls routinely inspects private BMPs to protect life and property, uphold City stormwater standards, and ensure that we are doing our part to follow the Federal Clean Water Act. Each inspection starts by sending the property owner a letter to inform them that an inspection will take place during the current year. City staff will then visit the site and conduct a routine inspection to look for any items that are out of compliance. These items are based on the BMP design type that was chosen to treat the site. After the inspection a second letter is sent to the property owner informing them of any necessary maintenance that needs to take place. It is then up to the property owner to ensure that the BMP is in working order per the engineered design plan.

Successful ESCP Installations in Practice for 2020

8th Street Bridge Rehabilitation



A temporary access road was constructed and the slope was reinforced with large riprap, curtailing the possibility of erosion. Adding silt curtain as pictured helped to further contain any particulates.

Avera Addiction Care Center



The pictured area had been seeded and is pictured here with good establishment. Having the horseshoe filter in place as pictured was an easy way for this site to remain compliant while waiting for vegetative establishment.

Warehouse at 800 E 60th ST N



Proper hydro-mulch coverage in conjunction with good erosion control blanket installation helped to drastically reduce erosion on the pictured slope.

W 85th Street Project



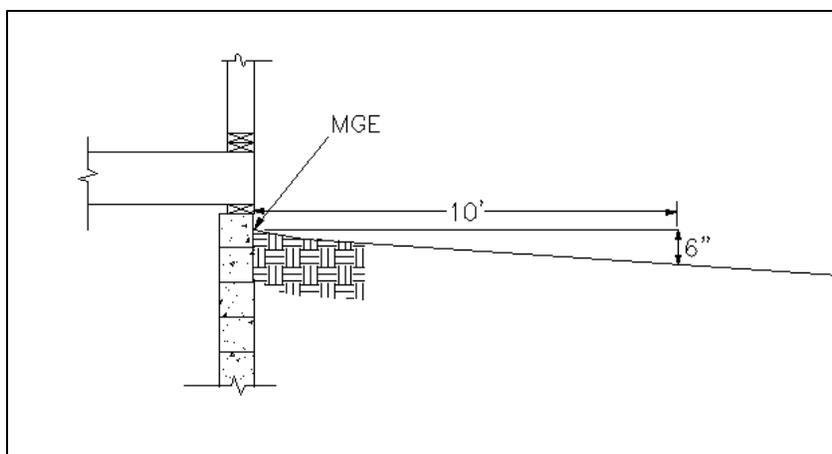
This photo highlights the often overlooked importance of properly functioning inlet protection. The protection used here allowed for a good amount of sediment deposition while continuing to drain the area.

Importance of Minimum Ground Elevations (MGE)

The MGE or Minimum Ground Elevation is the top of black dirt under the grass or the top of landscape material at the lowest exposed part of the structure. The MGE is the benchmark to ensure proper drainage away from the structure. As shown in the graphic below, current building codes require the grade away from the MGE to fall at least 6 inches in the first 10 feet.

The MGE is included on the grading plan which also includes drainage flow paths for each lot. In residential developments, the MGE helps set the conveyance along the backyards and between the homes. If the home is adjacent to a detention pond or drainage way, the MGE shall be 2 feet above the overflow elevation or 100-year design storm elevation (whichever is higher). Overflow from street drainage is also a concern, but if the home is constructed at the MGE the embankment should not obstruct this flow.

Please review the grading plan to ensure the structure is constructed at or above the Minimum Ground Elevation.



Don't Forget About Dust Control!

Dry years bring a longing for rain and the wonderful freshness it adds to the air. These years also bring the possibility for dust formation to become a larger concern in regard to a development's SWPPP. Due to the length of the dry period this summer and fall, many situations similar to what is depicted on the next page played out. At times this year, dust and its deposition off site became a more common form sediment loss than typical stormwater runoff.

Dust control is expected to be undertaken when conditions exist promoting dust generation. The most widespread approach for tackling dust generation on larger sites is regular watering of common areas of travel for heavy machinery. These areas typically include hauling routes on site and areas of active grading/scraping.

Other important practices to note should be familiar to most in the Midwest. When planning to leave an area of the site untouched for a week or two, it is wise to consider ripping the ground and roughening the surface. This practice helps reduce the erosive force of wind at the soil's surface. Another important way to avoid unnecessary dust formation involves proper phasing of operations. If an area has reached final grade it is wise to apply black dirt, roughen it, and ready the area for seeding promptly. This is wise to keep the project moving forward and for reducing erosion from the forces of both wind and water. Following these tips could mean the difference between a clean and compliant site and a site creating issues similar to what is pictured on the next page.



2020 Annual Seminar and Summit

The City of Sioux Falls is pleased to announce the 2020 Annual Stormwater Seminar will be virtual. There will be no specific time and date this year. Presentations will be recorded and posted to siouxfalls.org/public-works/storm-drainage by 12/11/2020.

This year's Big Sioux River Water Summit is still planned to be held in person at the Sioux Falls Convention Center on December 7th from 1 to 5 PM. The Summit may become completely virtual, so stay tuned. Please consider joining us again this year if possible!

