

## **5.01: Discussion on Topsoil Requirement and Potential Amendments or Alternatives (Project No. 146)**

City Planner Anderson presented the staff report. He noted that the Board previously held a general discussion on the City's topsoil standard. The impetus for that discussion (and this case) was a request from a developer/builder that the City revise the topsoil standard by eliminating the specification for Premium Topsoil Borrow. The request identified two negative effects of the current topsoil requirement. First, that the topsoil is doing too good of a job in terms of holding water; they acknowledge that many homeowners are not adjusting their irrigation system to account for the topsoil and are actually contributing to the problem. Secondly, they identified price as a concern compared to the cost of "regular" black dirt. He stated that as part of the initial discussion, staff was asked to gather information on what similar peer communities (with similar sandy soils) require and what the purpose of the requirement was (to see if it is an apples-to-apples comparison). Additionally, staff has attempted to compile water usage data for the City over the past ten years in an attempt to assess the effectiveness of the current topsoil requirement to reduce water usage.

City Planner Anderson noted that while topsoil is a beneficial addition, both for water conservation and vegetation establishment, the cost difference of an engineered soil compared to a more standard black dirt is significant. Focusing more on the irrigation systems and water efficient technologies rather than engineered soils, along with additional educational information on irrigation systems, should be as effective as the current standard regarding reducing demand on groundwater. It would certainly be accomplished at a lower cost to the future homeowner (and possibly current homeowners if a rebate program were implemented). Thus, staff would recommend proceeding with an Ordinance Amendment to modify the definition of topsoil consistent with other peer communities (such as "black dirt composed of unconsolidated material, largely undecomposed organic matter with no more than 35% sand").

City Engineer Westby stated that staff is involved with other groups on the topic of water supply, both regionally and across the metro, and provided background information on the groups that he is involved with. He stated that he has worked with Capstone over a number of years on the developments that they have been working on in Ramsey. He stated that he become more involved in the topsoil specification and the fallout caused by the specification, specifically in the Brookfield 7<sup>th</sup> and 8<sup>th</sup> additions. He provided examples of backyards in that neighborhood that consistently hold water after rain events or from upstream property owners overwatering their yards. He stated that staff worked with Capstone in those areas to use a Ramsey topsoil which has a higher portion of sand and lesser organic material as test cases and that seems to have worked well. He stated that since the time the topsoil requirement was enacted, the cost for smart sensor technology for irrigation has come down significantly and is a much more effective manner to conserve water. He stated that he has attended a lot of workshops, especially those sponsored by the University of Minnesota, to learn more on the topic.

Board Member Hiatt asked if there is information in the infiltration and the improvement in infiltration that would be provided through the newly proposed topsoil compared to the current topsoil.

City Planner Anderson stated that he does not have definitive figures. He stated that the soil will have more structure to it because of the increase in sand which will provide additional opportunity for infiltration and reduction of that sogginess.

Board Member Hiatt asked for information on the test sites in Brookfield.

City Engineer Westby provided background information on the test sites in Brookfield as well as soils used by other communities such as Monticello and Big Lake. He stated that ground would be less saturated and soggy using the new proposed topsoil.

Board Member Hiatt stated that if something is going to be changed, he would want to ensure that enough is being done to provide better infiltration to get the water back into the aquafer. He stated that perhaps there can be quantifiable data that would show the comparison of infiltration between the current topsoil requirement and the newly proposed topsoil.

City Engineer Westby stated that the once the topsoil mix is completed, it can be tested to provide that infiltration rate information.

Board Member Fetterley stated that her concern would be whether the City is currently doing a better job protecting the aquafer using the current topsoil requirement compared to other communities.

City Planner Anderson stated that he does not have comparable data of water use over time for other communities. He stated that the City has already amended the zoning code to state that if an irrigation system is going to be installed it must include some form of water efficient technology. He was unsure if other communities have enacted similar regulations. He stated that he could request water usage data from the other communities to determine if their topsoil standard has had an impact.

Chairperson Valentine commented that this was a great presentation that clarifies the parameters of the issue. He stated that at some level there needs to be an effort to quantify the value that is being received from the systems put in place to conserve groundwater. He stated that Ramsey has residents on municipal water and residents that have their own wells and therefore there is a need for different education materials for those residents as both impact the aquafer. He stated that he would support the staff recommendation to change the topsoil requirement and beyond that there is a broader framework that needs to continue to be looked at as there are many dimensions to this topic.

City Engineer Westby stated that from a cost-benefit side, implementing a soil moisture sensor provides a savings of about \$200 to a homeowner in water savings in the first growing season, which pays for itself within that first year. He stated that staff is attempting to provide infiltration to recharge the aquafer and the lower organic content will provide additional infiltration opportunities.

Board Member Moore asked if there has been any talk about whether it would be beneficial for different parts of the City to have different soil requirements because of the different soil conditions that exist throughout the community.

City Planner Anderson stated that staff has soils maps that identify fingers of clay but noted that the majority of Ramsey is composed of sandy soils. He stated that it would be difficult to design a standard based on an underlying soil type, noting that sometimes the soils maps are inaccurate, or pockets of clay are found that were previously unknown.

Board Member Hiatt referenced the proposal from Capstone which requested the change to the topsoil requirement and a mandate for inground irrigation with water sensors. He stated that water sensor information was not included in this recommendation and asked if the City already requires that.

City Planner Anderson confirmed that the zoning code was previously amended to require a form of water efficient technology. He explained that the language was left broader, providing examples, to ensure that the City would not preclude new technology that is developed after the code was enacted. He stated that a majority of the irrigation systems in the City were already installed prior to the adoption of that ordinance change.

Motion by Board Member Hiatt and seconded by Chairperson Valentine to direct staff to prepare an Ordinance Amendment to revise the definition of topsoil.

Motion carried. Voting Yes: Chairperson Valentine, Board Member Covart, Hiatt, Madison, and Moore. Voting No: None. Absent: Board Member Bernard and Fetterley.

Board Member Hiatt stated that perhaps this would be a good time to work on an incentive-based model that would encourage those that already have irrigation systems to install the new sensor technology to reduce water usage.

City Planner Anderson noted that although education was not a focus of this discussion, it will continue to be an element going forward. He stated that staff can develop and make available all the educational material, but people have to actually read it. He agreed that staff could connect with other communities that have enacted incentives to gather information and develop a proposed implementation plan.

Chairperson Valentine asked if staff would need additional support in order to move this forward with sufficient speed.

City Planner Anderson stated that he is unsure of the staffing needs but agreed that there would be added time to administrating any incentive-based program. He noted that there would be options for interns or other options that may not have a cost to the City. He did agree that there would be added resources needed from staff to implement a program of that nature and would be included in anything that comes forward for review.