

Bingham Creek Regional Park – Water Quality and Soils

Request for additional funding to treat topsoil, install sod, and replace damaged trees and shrubs.

Summary

- Planting of trees, shrubs, and turf seed have been ongoing throughout the summer months. Expected germination and growth in seeding and plantings have not occurred. The grass is simply not growing and newly planted trees are struggling to stay alive.
- Re-attempts to seed the soccer fields (3 times) and hydroseeding throughout the park continued but have seen no germination.
- Other challenges being experienced: discoloration of the trees and plants, noticeable leaf scorch, and water booster pump filters repeatedly clogged and damaged.
- Concerned, the contractor took water and soil samples to be tested by Utah State University Analytical Labs to evaluate the causes of lack of growth and damage to trees/plants despite being adequately fertilized and watered.
- Soil sample results:
 - Soils do not meet the guidelines for Soluble Salts, Sodium Absorption Ratio, and Nitrate Nitrogen.
 - Recommendation: Soils are not recommended for landscaping purposes. The soluble salts and sodium are very high. If these soils are used for landscaping purposes, expect plant mortality. Nothing is going to grow.
- Water sample results:
 - Extremely high salt contents noted with the following interpretations: very high salinity – not suitable for irrigation under normal conditions. Leaf burn may occur. Severe soil problems, severe toxicity to plants.
- Contractor sent test results to Idaho State, Oklahoma State, and Texas A&M which recommended the following:
 - Remove existing topsoil and replace with new suitable soils OR
 - Contact Simplot, a turf and fertilization with expertise in mitigating problem soils.
 - Simplot and Bear River Coop have recommended a treatment to the soils followed by sodding in lieu of replacing the soil. A test plot of this recommendation is currently being installed onsite.
 - Note: Simplot highly recommended installing sod. To re-seed the site, repeated treatment of the soil will need to be done for a minimum of 1 year before seeding can occur. There is still no guarantee that after a year of treatment the soils will support germinating seed.

Warranty Issues:

- Contractor has noted a high mortality rate on the plant material (tree's & shrubs) that have been installed. Because water and soil tests have come back as unusable for landscape purposes the contractor will not warranty trees and shrubs planted and irrigated with secondary water. Although the proposed SWAT solution will be a good alternative to replacing the topsoil on the fields, due to the extremely bad soils report, contractor will not warranty the new sod.
- We typically expect to replace 10% of plant materials during the 1-year warranty period. We expect a higher % of plant loss and will need funding for those replacements.

Irrigation Water

- Park can be irrigated by either secondary canal water or culinary water. It is the intent that this park be irrigated by secondary water.

- Irrigation water for the park comes from Welby Jacob Canal. During initial discussions on using this water source.
- At the beginning of September, water was switched from secondary to culinary water.
- Several existing South Jordan City parks are irrigated with the canal water. Based on this, it is assumed that this water is sufficient for irrigating existing vegetation. It is not sufficient for germinating seed or establishing new shrubs and trees. Once the sod is installed it is expected to survive and do well with the secondary water. It is not clean enough to germinate new grass.

Topsoil Installed

- Before construction, the topsoil was tested for suitability for growing vegetation. Testing indicated that with the planned amendments, the soils were well suited for plant growth. There was no indication of high salt content or concerns the soils would not be able to grow vegetation.
- Indications are that the secondary water contaminated the soil, not that the soil was contaminated to begin with.
- Further testing of the topsoil is being done on soils that have not been irrigated with secondary water.