



City of Cambridge

Executive Department

YI-AN HUANG
City Manager

December 4, 2023

To the Honorable, the City Council:

I am hereby requesting the appropriation of \$4,280,000 from Free Cash to the Public Investment Human Services capital account to support several ongoing projects at Danehy Park including the synthetic turf field and track replacement at Field #4, irrigation improvements, Wheeler Water Park replacement, and the Danehy Capital Improvement planning project.

Project Elements: Field Turf 4 & Track replacement, Irrigation & Wheeler Water Park, Capital Improvement Plan

Field #4 Field and Track Replacement

The field and track, installed in 2012, are at the end of their useful life and need to be replaced. The scope of work will include the replacement of the synthetic turf field and the track, as well as upgrades to the adjoining amenities including team benches, bleachers, sports lighting (conversion to LED) and shot put and discus throwing areas. The design of the improvements is underway, with construction slated for the summer of 2024, contingent on MassDEP permitting. The new synthetic turf field material will be tested prior to installation and approval of the materials for PFAS compounds. In the next 3 to 5 years, additional work will be required to replace Field Turf 1, 2 and 3.

Irrigation System Improvements

Due to the overall age of the irrigation system, the operation and maintenance of the system has required improvements. Recently completed irrigation work includes:

- In 2022 an irrigation pump and several lines and irrigation heads were replaced.
- In the spring and summer of 2023, a comprehensive park-wide repair of lines, heads, and controllers on all 4 systems was completed.
- Contracts are currently in place to manage seasonal and on-call maintenance.

With these repairs, the irrigation system is fully operational. A full evaluation of the long-term irrigation system needs has begun as part of the Danehy Capital Improvement Planning Project, described in more detail below. The consultants are evaluating more efficient systems and anticipate making recommendations in the next 4 to 6 months. Several needs are likely to be identified including electrical upgrades to one of the booster pumps, which will be supported through this appropriation.



Wheeler Water Park

The splashpad surface, mechanical system and painted mural originally completed in 1998 are in poor condition and need to be replaced. The existing splashpad will be replaced, including new paving, water jets and an activation bollard. A new mural will also be painted on the surface of the circular splashpad, in coordination with the Arts Council. The work will include removing the existing material and appropriate permitting through MassDEP.

Capital Improvement Plan Goals

There is a need for a fresh look at Danehy as a facility, as the original construction, including the irrigation system, is 30-years old. The City has contracted with a landscape consultant team for planning services to develop a Capital Improvement Plan for Danehy Park to guide the future of the park in the next 10-20 years. The goal of the Capital Improvement Plan is for Danehy Park to be an exceptional public park that the citizens of Cambridge will continue to be proud of and cherish. It will be planned and designed with the intent of making an extraordinary contribution to the improved quality of life, health and wellness of its surrounding neighborhoods and the entire City. The Capital Improvement Plan will:

- complement the essential natural, historic, and visual character of the site.
 - be based on a strong inclusive public engagement process that prioritizes outreach to traditionally underrepresented groups and informs the park design and creates long-term support of the community. We anticipate our first public meeting will be held in mid-January 2024, and we are in the process of developing a community engagement process to ensure effective community participation and help guide this planning effort.
 - integrate ecological design and natural resource management that protect the site's natural systems while offering visitor experiences in these environments for enrichment, education, health and wellness outcomes.
 - incorporate measures from the City's recent resilience focused planning efforts to protect from, and mitigate, future flooding and heat impacts due to climate change.
 - offer a variety of choices for people of all ages, backgrounds and interests who will want to come to the park for relaxation, respite, play, exercise or to connect with other people.
 - evaluate the condition and quality of the parks features and systems, and propose a series of distinct projects/phased improvements (with cost estimates) to inform future capital planning.
- This includes, but is not limited to, the following:
- Landscape and Ecology
 - Utilities: drainage, water, electrical, irrigation, etc.
 - Bicycle and pedestrian access into and through the park
 - Accessibility (park was constructed prior to ADA/MAAB regulations)
 - Play: opportunities for multi-generational play as well as traditional fields and tot lots

The plan will be developed within the context of Danehy Park being a former landfill and where additional environmental control measures may need to be incorporated within the facility.

Other Ongoing Danehy work:

Environmental Monitoring Program for Danehy Park

With Danehy Park being a former landfill, the management of the site is controlled by permitting through the MassDEP, Division of Solid Waste. The goal is to ensure that the site is managed in a safe manner and that landfill gases are properly managed and allowed to safely vent. To that end, the City contracts with CDM Smith to conduct quarterly monitoring, inspect the methane trench (which is the stone-filled trench around the perimeter of the park) annually, and develop an annual environmental monitoring report that is submitted to MassDEP. City staff also meet regularly with MassDEP staff and CDM Smith to review the monitoring, and coordinate on projects such as the Universal Playground at Danehy Park,

which was completed in 2022; the short-term improvements to the softball field, which are currently underway; the Sports Pavilion, which is currently in design; and a new public toilet, which is also in design. All projects and improvements in and around Danehy Park are closely reviewed and monitored to ensure that they are implemented in a way that is consistent with MassDEP regulations and continue to properly manage the landfill gases.

On March 21, 2023, a contractor working for the city performing soil borings identified a methane pocket beneath the clay cap in Danehy Park. Methane is a natural by-product of the biological degradation of organic waste deposited over several decades. The design of the park, with perimeter venting, was intended to allow methane to naturally vent and limit the extent of methane migration beyond the boundaries of the park. Methane itself does not pose an immediate significant health risk to people in an open and well-ventilated area. Like other gases that are not acutely toxic (e.g. CO₂) the primary health risk comes from displacement of oxygen in an enclosed space. Methane can be explosive at certain concentration levels (between the Lower Explosive Limit or LEL (5%) and Upper Explosive Limit or UEL(15%)) if allowed to accumulate in an enclosed space.

Since we identified the methane pocket beneath the clay cap in Danehy Park in March, we have been working closely with DEP to install additional venting structures to allow the landfill gases to safely vent and have also increased monitoring in the park to ensure the effectiveness of the venting modifications. I am happy to report that the increased ventilation has been effective at decreasing the methane levels in the samples. We are continuing to work with DEP to close out this immediate response and develop an enhanced monitoring program, which will include a site-wide assessment beginning later this fall and continuing into 2024. Getting these sampling locations lowered was the first critical step in this process. DEP has asked the city, out of an abundance of caution, to continue limiting construction activities in the park, as well as temporarily remove the charcoal grills.

The planned investigation activities seek to further delineate the presence of landfill gas at Danehy Park as well as characterize the nature and extent of landfill-derived, leachate-impacted groundwater. The investigation will consider site conditions such as the extent of landfilled wastes, limit of landfill cap, depth of fill materials, proximity to the landfill gas vent trench, former clay pit excavations, and areas of potential offsite landfill gas and groundwater migration. The landfill gas assessment will involve a site-wide subsurface utility investigation to expand upon the locations screened in the current Environmental Monitoring Plan.

Girls Softball Improvements

The city has a deep commitment to equity and to the softball community. Recognizing that we need to do better providing quality fields and facilities, the City Council appropriated \$600,000 in November 2022, to support immediate softball field improvements at Danehy Park. In the Winter and Spring of 2023 improvements began on the softball fields. This included painting fence posts, adding new fence fabric and windscreens, resurfacing 3 infields, re-grading the 3 infields, softball bleachers on 4 fields were revitalized, and 15' of new sod surrounding 2 infields were installed. The dug outs were resurfaced and new team benches will be installed in the Fall of 2023. Also in the Fall of 2023, 15' of new sod surrounding 2 additional infields will be installed and 1 additional infield will be resurfaced. Additionally, small drainage improvements will be made, as the large drainage system that services the park is reconsidered by a landscape architect, watershed engineer and City Staff.

Sports Pavilion

As part of the efforts to provide equitable access to facilities, activate foot traffic to the park, and to preserve and improve the site landscape and parking lot, the city appropriated \$11 million to fund the design and construction of a Sports Pavilion and other associated site improvements at the New Street entrance to Danehy Park. Unfortunately, the design of this facility has been paused due to the methane issues described above. The structural design of the building and the foundations cannot proceed until the

contractor can remobilize to complete the soil borings. Once we are able to get a timeline for completing the soil borings, we will update the overall project schedule.

There may be additional recommendations over the next several months and years, as projects are implemented and we continue to address needs throughout the park.

As of December 4, 2023 the City's Free Cash Balance is \$177,149,757.

Very truly yours,

A handwritten signature in black ink, appearing to read 'Yi-An Huang', with a stylized flourish at the end.

Yi-An Huang
City Manager