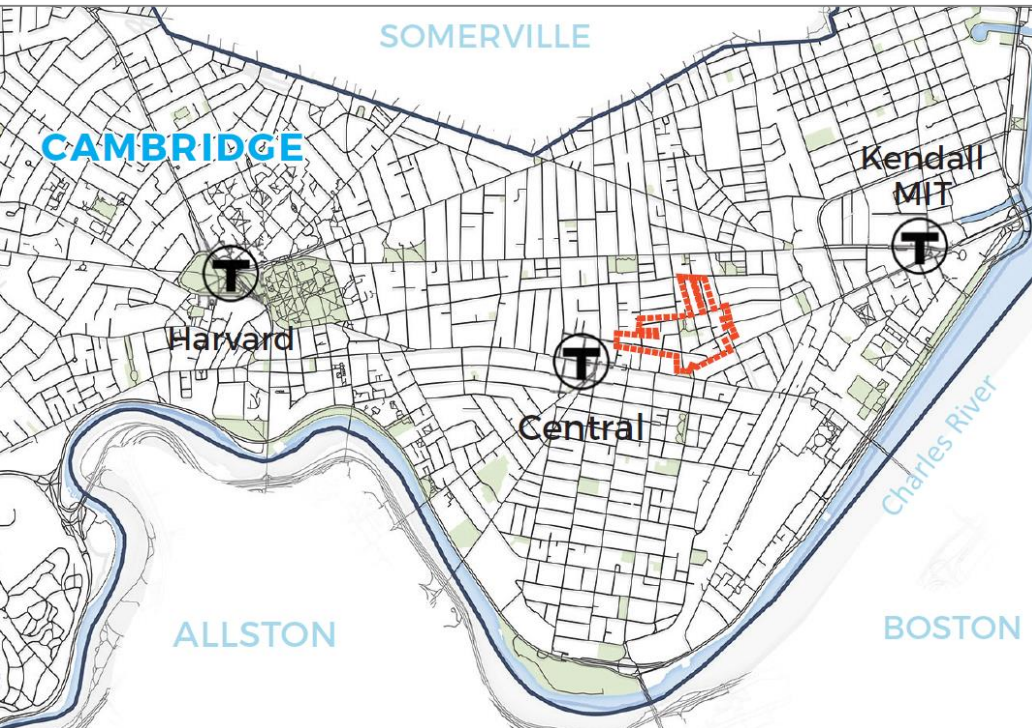


THE PORT PROJECT

Update



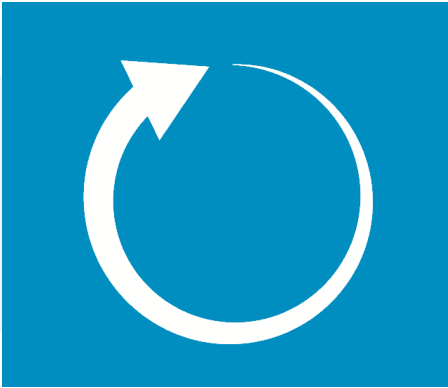
Bishop Allen Drive at School Street looking East - July 2010

Margaret Fuller House | December 8, 2016

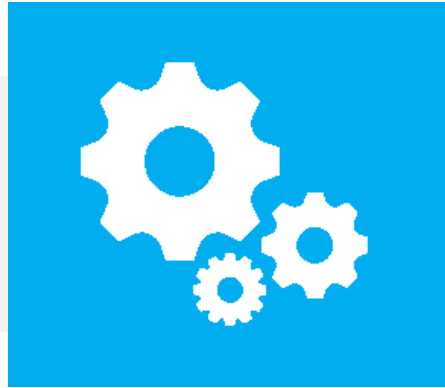
www.cambridgema.gov/theworks/theport

THE WORKS
CAMBRIDGE
DEPARTMENT
OF PUBLIC

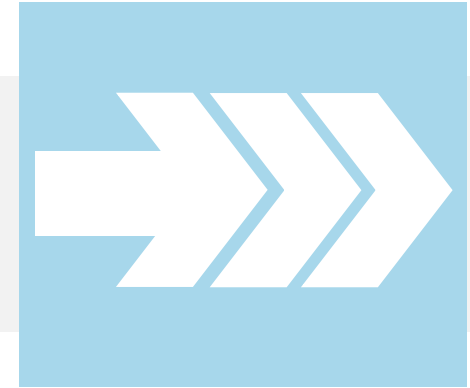
THE PORT PROJECT
Agenda



**Project
Overview**



**Design
Options**



**Next Steps
& Schedule**

Agenda

First time showing this presentation.

Thanks for participating in the trial run!

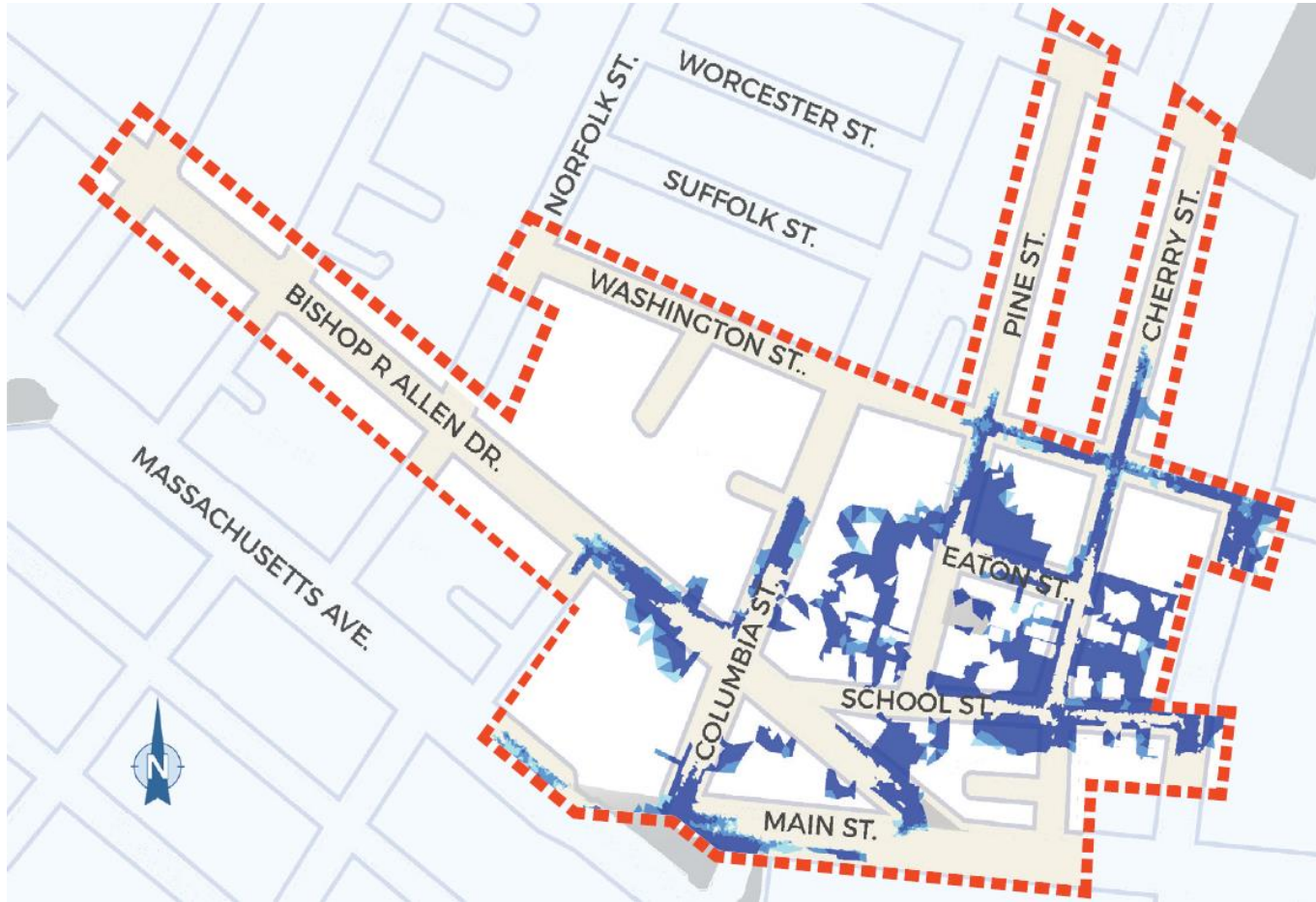
Would love feedback.

What helps explain the project?

What is confusing?

What would you like to know more (or less) about?

Existing Conditions – Frequent / Smaller Storms



Anticipated flooding for a 2030, 10 year / 24 hour storm

Reduce surface flooding in the Port neighborhood

Risk of flooding expected to increase as climate changes

Opportunity to consider other neighborhood infrastructure

Goals

Existing Conditions – Frequent / Smaller Storms

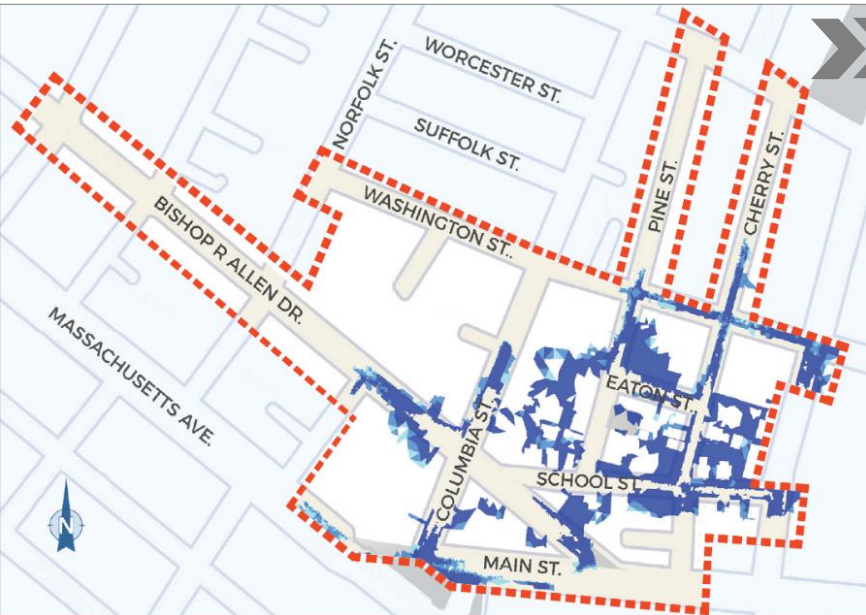


Bishop Allen Drive @ School St Looking East, July 2010

Flooding is a real risk to the community – today and will increase in the future, due to Climate Change.

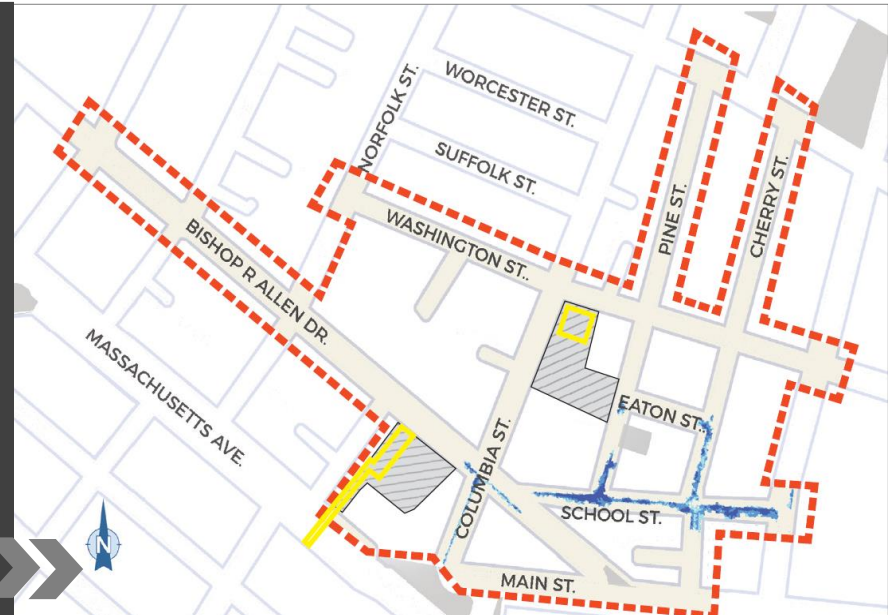
Benefits – Flood Reduction

Existing Conditions
Frequent / Smaller Storms



Decrease in surface flooding for frequent/smaller storms

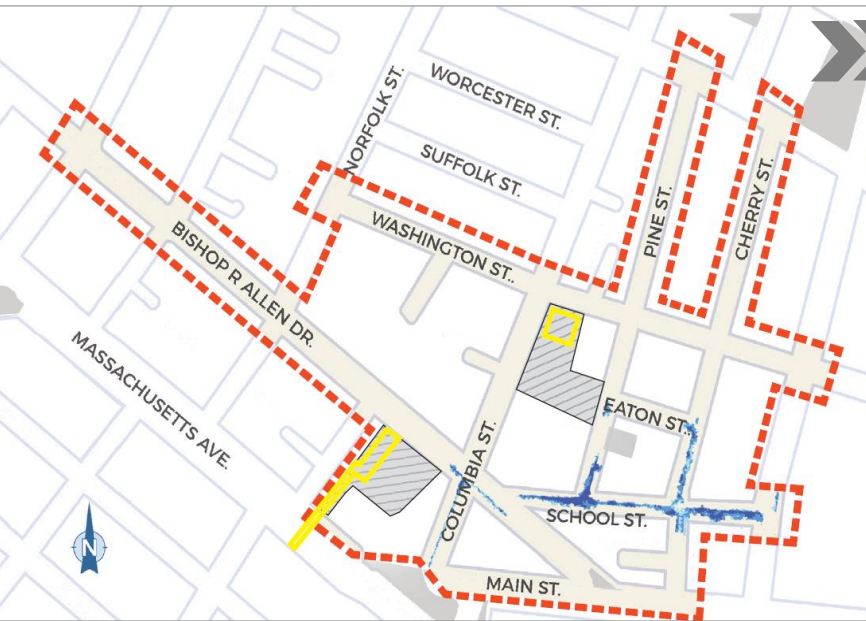
Storage Tanks Installed
Frequent / Smaller Storms



Anticipated flooding for a 2030, 10 year / 24 hour storm

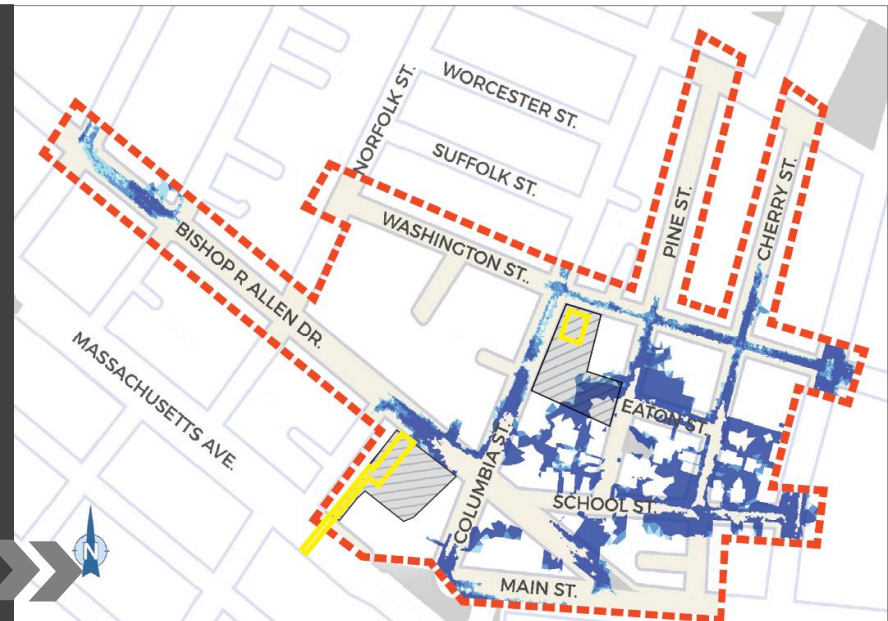
Benefits – Flood Reduction

Storage Tanks Installed
Frequent / Smaller Storms



Risk of surface
flooding
remains for
larger/less
frequent storms

Storage Tanks Installed
Less Frequent / Larger Storms



Anticipated flooding for a 2030,
10 year / 24 hour storm

Anticipated flooding for a 2030,
25 year / 24 hour storm

Benefits – Flood Reduction

CITY OF CAMBRIDGE

Flooding: Is Your Property Protected?

- Existing Conditions
- New Construction
- Climate Change

September 2016



WHAT CAN I DO?

① Use Flood Resistant Materials

You can reduce the damage caused by flood waters and make cleanup easier by using flood damage resistant building materials. Building materials are considered flood resistant if they can withstand direct contact with flood waters for at least 72 hours without being significantly damaged. Flood damage resistant materials should be used for walls, floors, and other parts of a building that are below the anticipated flood level.

Flooring Materials

- Concrete, concrete tile, and pre-cast concrete
- Latex or bituminous, ceramic, clay, terrazzo, vinyl, rubber sheets and tiles
- Pressure-treated or decay resistant lumber
- Pressure-treated wood and cold-formed steel

Other

- Hollow metal doors and metal cabinets

Wall and Ceiling Materials

- Brick, metal, concrete, concrete block, porcelain, slate, glass block, stone, and ceramic and clay tile
- Cement board, cold-formed steel, and reinforced concrete
- Polyester epoxy paint
- Pressure-treated and decay resistant lumber
- Pressure-treated and marine grade plywood
- Foam and closed-cell insulation

TIPS

- Although using flood damage resistant materials can reduce the amount and severity of water damage, it does not protect your buildings from other flood hazards, such as the impact of flood borne debris.
- All hardware used in areas below the anticipated flood level should be made of stainless or galvanized steel.

ESTIMATED COST

- The cost of using flood damage resistant materials will vary, depending on the size of the project you undertake.

BENEFITS: HELPS PREVENT DAMAGE TO A STRUCTURE AND MAKES FLOOD CLEANUP EASIER.

② Build Exterior Floodwalls

An exterior floodwall can protect a window well or stair against low level flooding. Constructed of concrete or masonry, the walls should be supported by and securely tied into a footing so they will not be undercut by scouring. Understanding your particular flood situation and soil conditions is important in order to properly evaluate if a flood wall is the right solution for you.

Construct a watertight flood wall around the perimeter of the opening. The wall should be designed by an engineer and be constructed of steel reinforced poured concrete or steel reinforced concrete masonry units to prevent failure under flood conditions. Install a proper footing and anchor the floodwall to existing walls. Install a watertight, springloaded steel access door and watertight gaskets on sides and bottom of frame at any necessary opening.



③ Install Backwater Valves

Flooding can cause flow from sanitary sewer and drain lines to back up through pipes into buildings. These backups cause damage. Backups can be prevented by installing backwater valves, a device installed to prevent sewage and drainage from flowing backwards into basement fixtures which allows wastewater to flow in one direction, out towards the street, but closes automatically and does not allow flow back.

TIPS

- Changes to the plumbing in your property must be done by a licensed plumber or contractor.
- Valves should be installed on sewer and drain lines that are connected to equipment that is below the potential flood level. Therefore, valves may be needed on washing machine drain lines, laundry sinks, floor drains, and sump pumps.

WHERE TO INSTALL

- Install on the plumbing of each basement fixture.
- Valves should be accessible for monthly maintenance.
- A licensed plumber can determine the appropriate installation location.

BENEFITS: HELPS PREVENT DAMAGE TO A STRUCTURE AND AVOID HAZARDOUS AND COSTLY CLEANUP, AS WELL AS PROTECT THE HEALTH AND SAFETY OF THE OCCUPANTS OF THE STRUCTURE.

Public Outreach and Education

Benefits – Flood Reduction

THE PORT PROJECT
CITY OF CAMBRIDGE
OVERVIEW

- FLOODING
- STREETS & SIDEWALKS
- PUBLIC ART

OCTOBER 2016



Many neighborhoods in the Cambridge area are susceptible to the impacts of flooding. Particularly at risk are those properties with basement spaces and first levels at a lower elevation. The City's assessment on climate change vulnerability has shown the risk of flooding is increasing over time, as the impacts of climate change lead to more frequent and intense rainfall events.

The Port has experienced significant flooding in the past. The City is focusing on this area in the coming years via The Port Project to improve these conditions.

The maps below highlight areas of flooding if nothing is done ("Existing Conditions") and the potential areas of flooding once this project is complete ("Storage Tanks Installed").

While change remains an inevitable process, infrastructure projects like these will decrease future flooding risks.

Existing Conditions - Frequent / Smaller Storms



Anticipated flooding for a 2030, 10 year / 24 hour storm

Proposed PL-6 Storage Tank Section



By building two underground storage tanks, stormwater during rain events will be captured and pumped to systems that can carry the water away from the Port to the Charles River, via a Mass. Ave. storm pipe.

Phase 1 includes building a stormwater tank in Parking Lot 6 (PL-6) across from St. Paul's AME Church, highlighted in yellow above, likely to begin construction in Summer 2017.

Phase 2 includes installation of a second stormwater storage tank, along with other roadway and sidewalk improvements. Residents and business owners in the project area will be notified before the start of the community process.

Storage Tanks Installed - Frequent / Smaller Storms



Anticipated flooding for a 2030, 10 year / 24 hour storm

Example of Storage Tank Construction



What is a 10 Year Storm ?

A 10 year storm is a frequent / smaller storm that can have drastic effects on the community. The 10 year storm has a 10% chance of happening in any year, making the average time between storms of this size 10 years.

Map Key

- Project Limits (dashed red line)
- Flooding Areas (blue)
- Stormwater Storage Tanks (yellow)
- Project Parcels (grey)

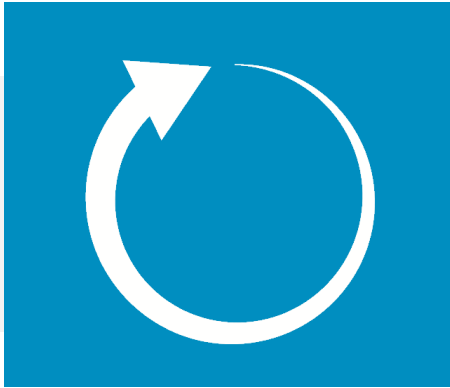
Storage Tanks Installed - Less Frequent / Larger Storms



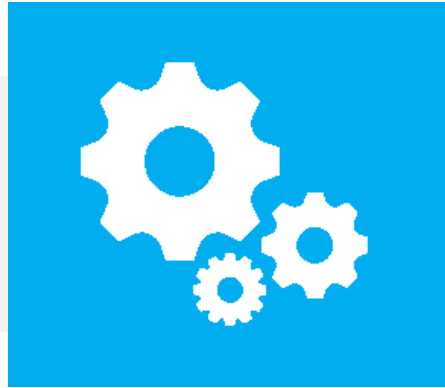
Anticipated flooding for a 2030, 25 year / 24 hour storm

Public Outreach and Education

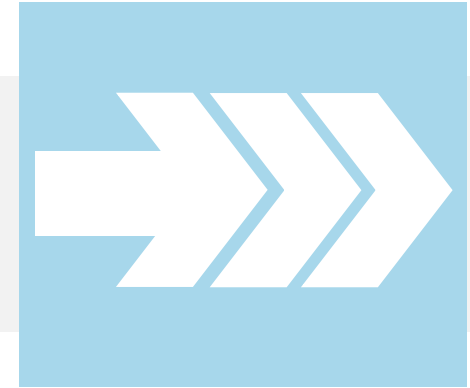
THE PORT PROJECT
Agenda



**Project
Overview**



**Design
Options**



**Next Steps
& Schedule**

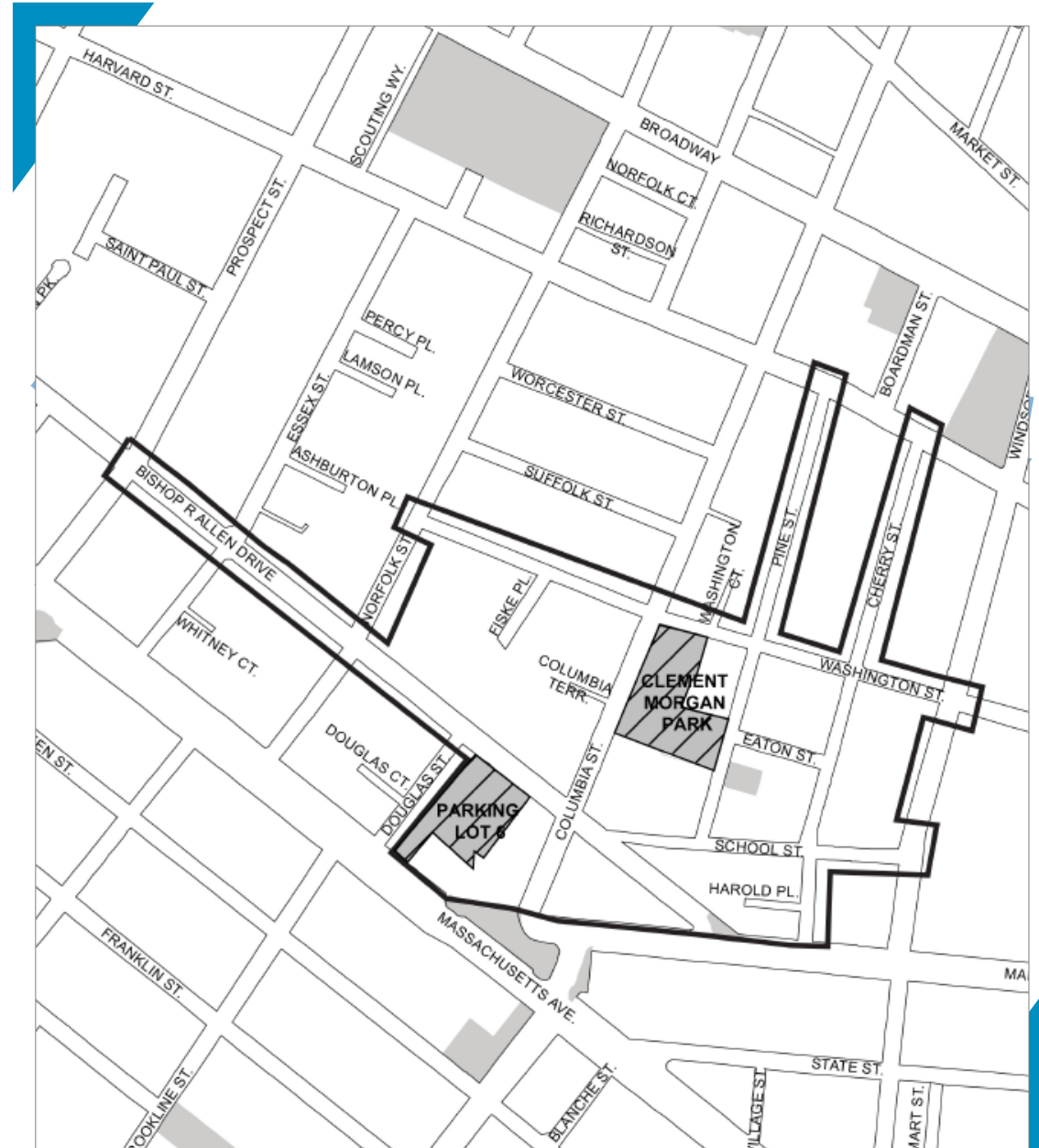
Project Scope

Phase 1: PL6

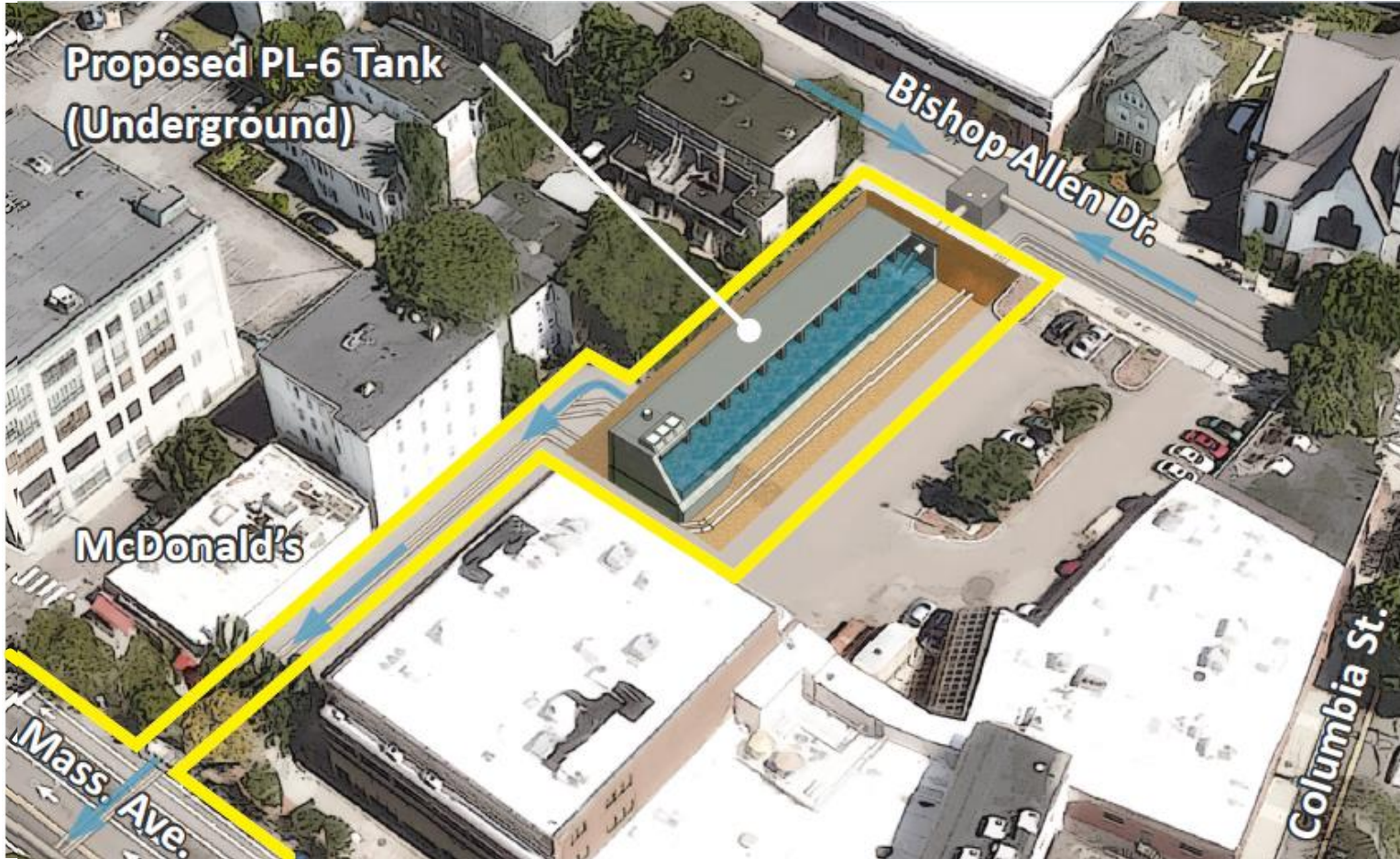
- Underground storage tank
- Connection to Mass. Ave. drain

Phase 2:

- Underground storage tanks
- Roadway & sidewalk reconstruction



Phase 1: PL6

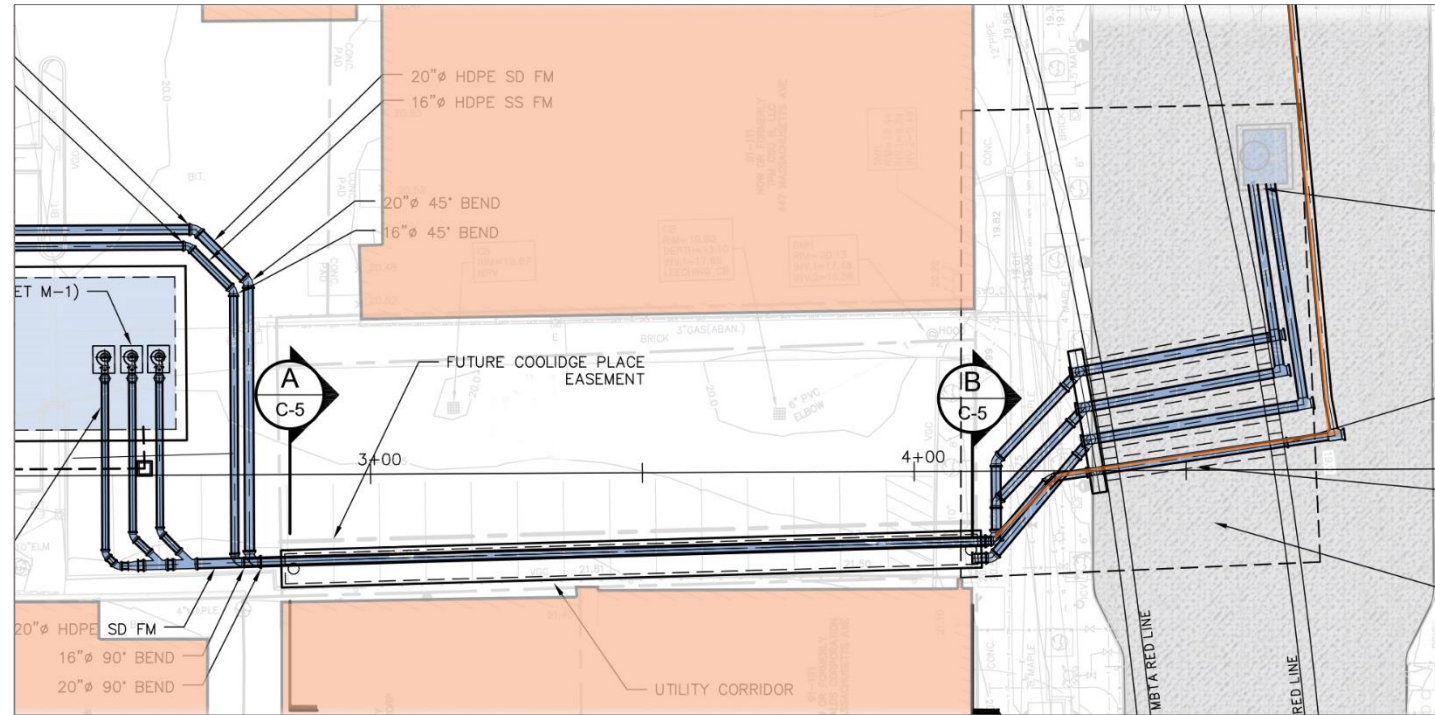


Tank constructed under City-owned Parking Lot 6

Four 20" pipes from the tanks through Coolidge Place and across Mass. Ave.

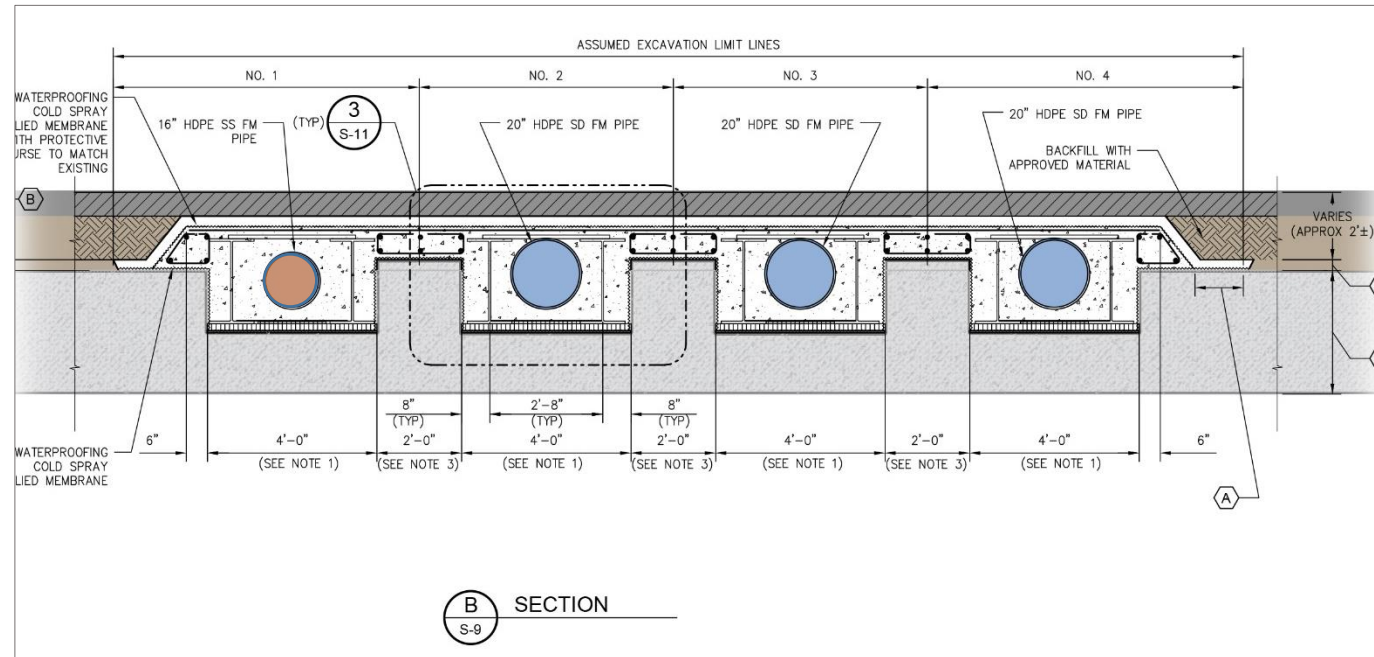
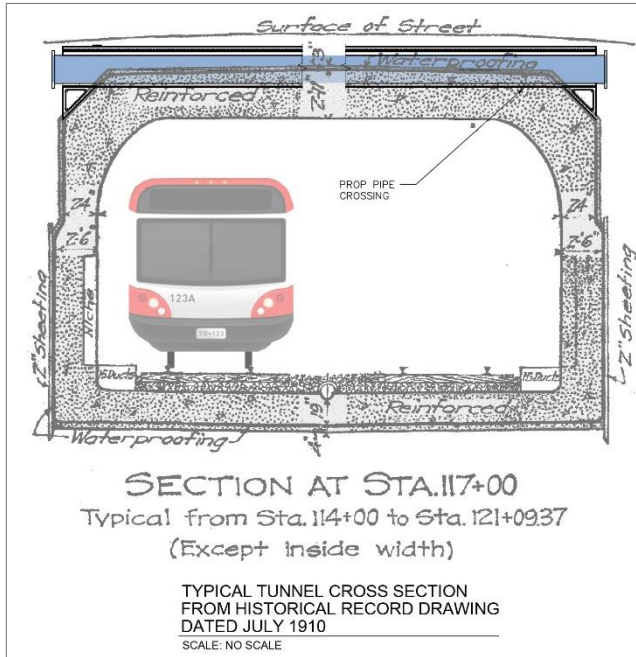
Coolidge Place pedestrian walkway: City right of way between McDonald's and proposed Mass + Main building

Mass. Ave. Crossing



- Designed to cross Mass. Ave. below roadway, across MBTA Red Line tunnel
- MBTA had minimal comments/concerns following review in 2007

Mass. Ave. Crossing



- Notch into tunnel roof and cross over top of tunnel
- Met with MBTA & they raised structural concerns with tunnel crossing
- MBTA requested that we evaluate other options

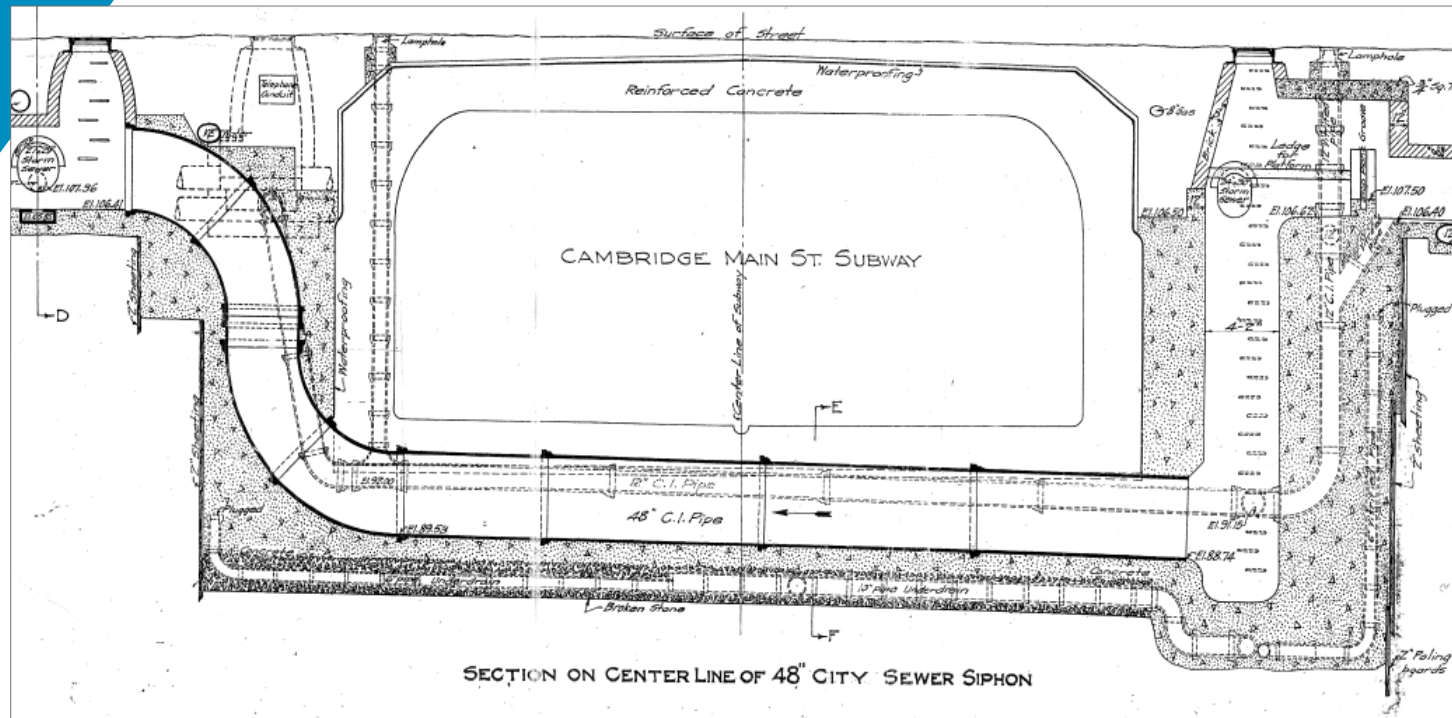
Mass. Ave. Crossing



Other Options

- Use existing crossing @ Douglass
- Pipe jack underneath tunnel

Use Existing City Crossing



45% increase in flooding for the 25-year, present day storm.

- Existing siphon at Douglas Street
- Pipe could be sliplined through siphon
- Significant loss of flood reduction benefit
- Only accommodates PL6 crossing

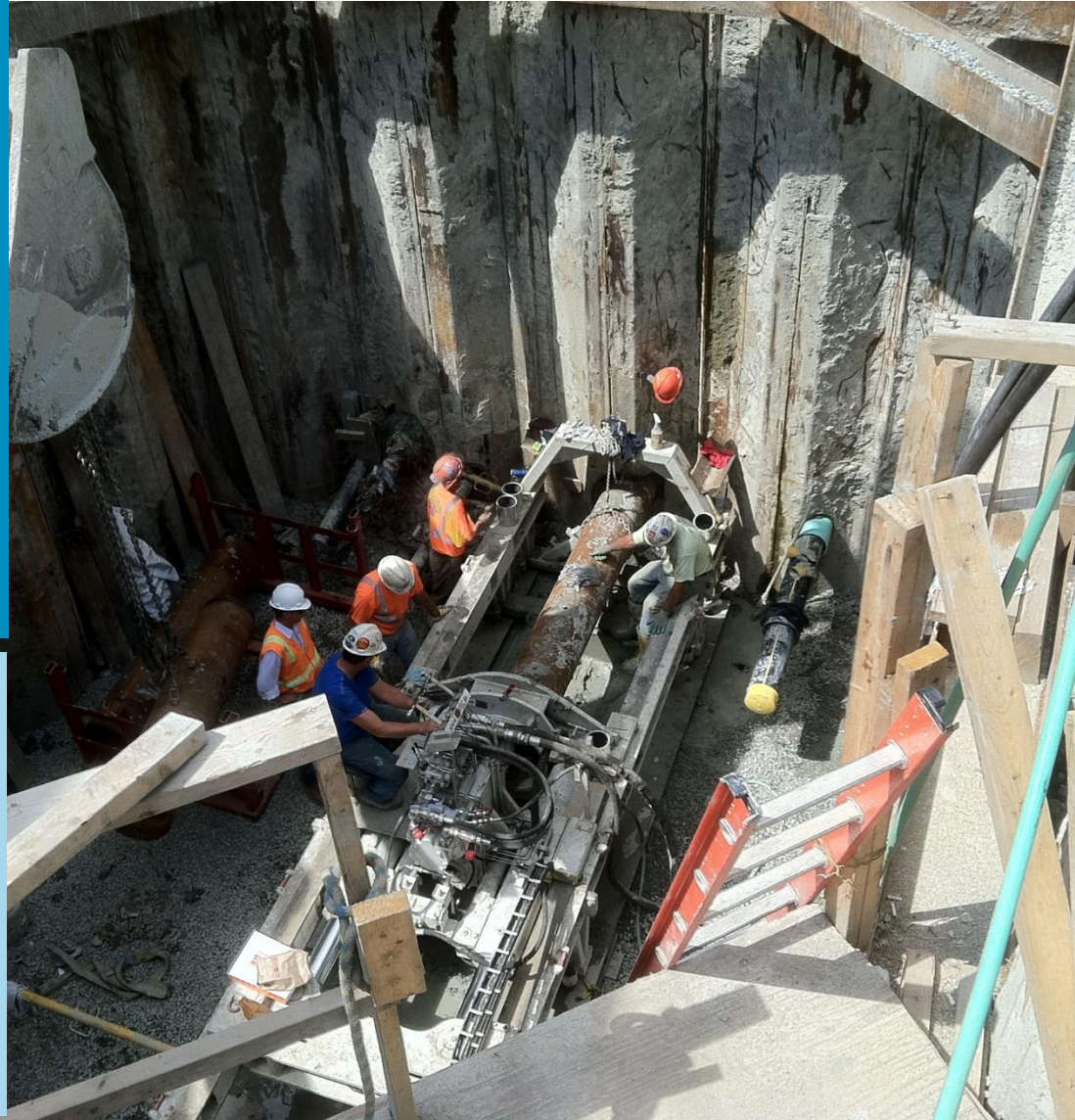
DESIGN OPTIONS

Pipe Jack Beneath Tunnel



Pipe Jack Beneath Tunnel

Multiple jacking operations beneath tunnel



Feasibility:
limited space for launch / receiving pits

MBTA tunnel still impacted

Cost impacts

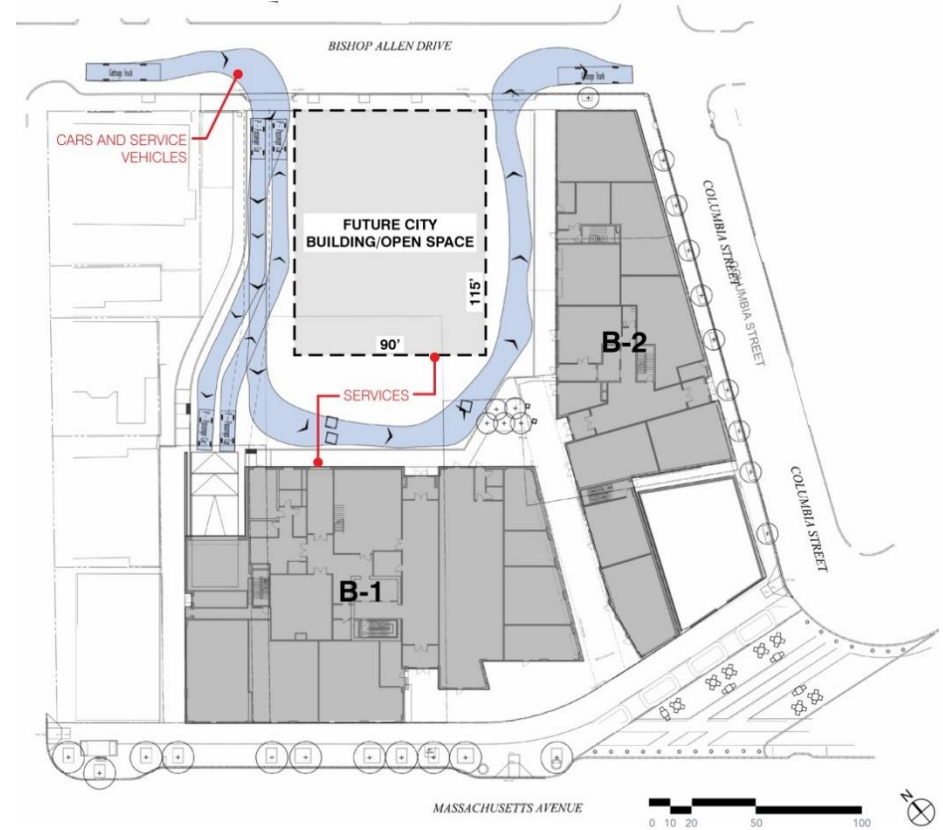
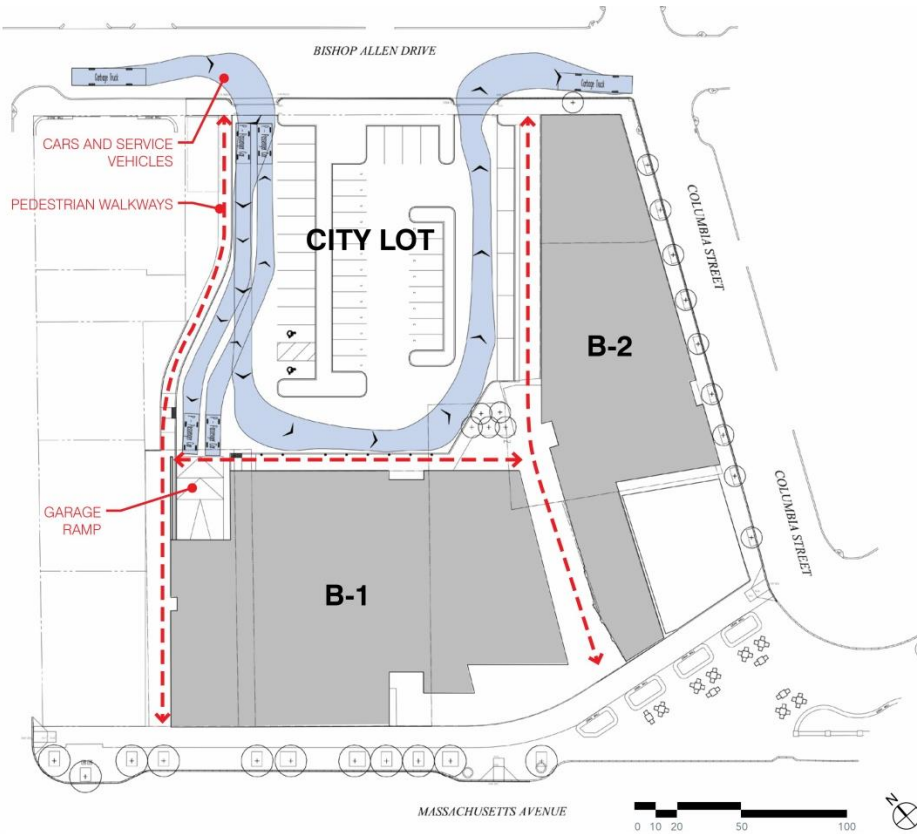
Mass. Ave. Crossing



Currently
the most
challenging
issue

Continuing
to work with
the MBTA

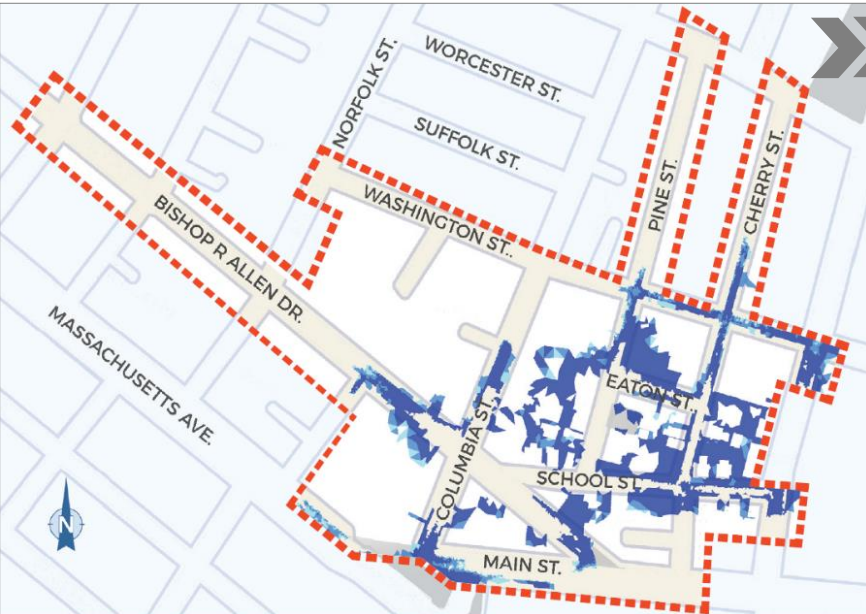
City Parking Lot 6



Parking Lot 6 -- Now and in the future Strong coordination with Mass + Main development

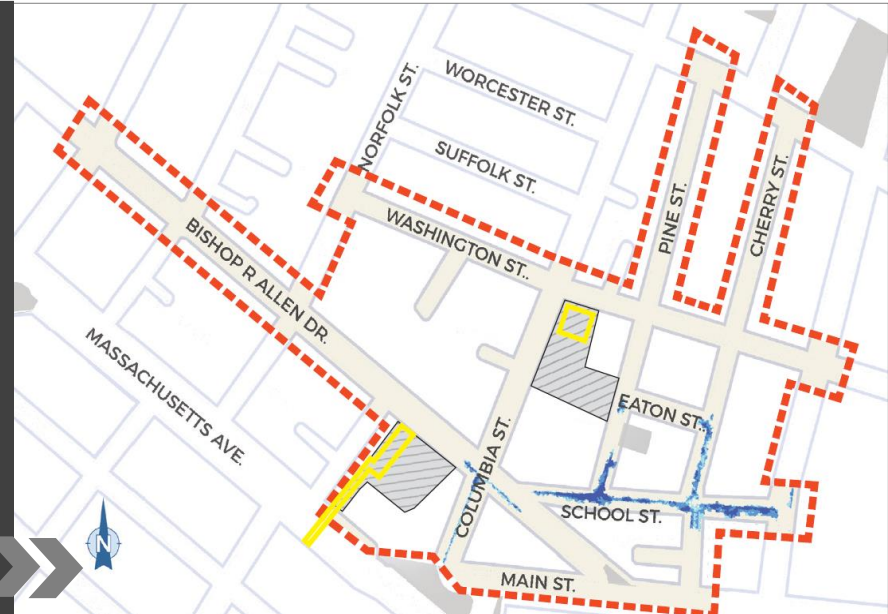
Benefits – Flood Reduction

Existing Conditions
Frequent / Smaller Storms



Decrease in
surface
flooding for
frequent/
smaller storms

Storage Tanks Installed
Frequent / Smaller Storms



Anticipated flooding for a 2030, 10 year / 24 hour storm

Benefits – New Streets & Sidewalks



Accessible Sidewalks

Benefits – New Streets & Sidewalks



Accessible Sidewalks

Benefits – New Streets & Sidewalks



Possible Shared Streets



Benefits – New Streets & Sidewalks



Winthrop Street – Before & After

Benefits – New Streets & Sidewalks



Palmer Street



Fern Street

Benefits – Street Trees & Plantings





Benefits – New Streets, Sidewalks, Trees & Plantings



Work with the community to determine best designs for streets, sidewalks, plantings, etc.

Benefits – Public Art

flow . . . UN PROGRAMA DE SUBVENCIÓN PARA EL BARRIO PORT

Estamos buscando personas, organizaciones, artistas, negocios, jóvenes y las escuelas que tienen ideas para un proyecto de construcción de la comunidad del Port. Este proyecto del público pone al artista en el papel central.



APLICACIONES:
Aplicaciones están ahora disponibles en el sitio web o llamando al 617-349-4389 o por correo electrónico a lhsu@cambridgema.gov. Se puede recibir asistencia técnica llamando a nosotros al 617-349-4389.

lunes: 8:30am a 8:00pm
martes, miércoles y jueves: 8:30am a 5:00pm
viernes: 8:30am a 12:00pm
cambridgeartscouncil.org

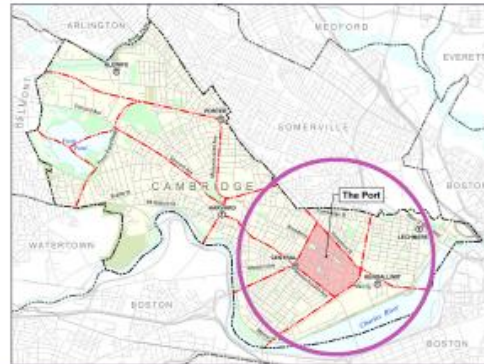
FECHA TOPE:
1 de mayo, 2017

CATEGORIAS:
Cambridge concederá un total de \$300,000 que se distribuirá sobre varios proyectos. Las propuestas serán aceptadas en las siguientes categorías de financiamiento:
\$1-20,000
\$20,000-50,000
\$50,000-150,000

CAMBRIDGE

flow . . . A GRANT PROGRAM FOR THE PORT

Calling all individuals, collaborative groups, organizations, artists, businesses, youth, or schools who have an idea for a community-building public project for the Port neighborhood that places the arts in a central role.



APPLICATIONS:
Applications are available now. Visit our website at cambridgeartscouncil.org, call 617-349-4389, or email lhsu@cambridgema.gov.
Technical assistance is available to all applicants —give us a call!
Mon: 8:30-8:00
Tues-Thurs: 8:30-5:00
Fri: 8:30-12:00
DEADLINE:
May 1, 2017

CATEGORIES:
Cambridge will grant a total of \$300,000 which will be distributed over multiple projects. Proposals will be accepted in the following funding categories:
\$1-20,000
\$20,000-50,000
\$50,000-150,000

INFORMATION:
Public information sessions will be held at the Community Art Center, 119 Windsor Street on:
Sat. / Jan. 14 / 9:00am
Wed. / Jan. 18 / 9:00am
Mon. / Jan. 23 / 6:00pm

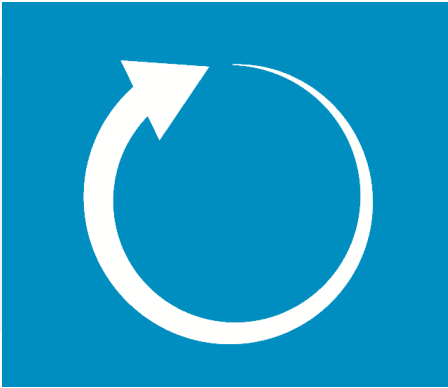
CAMBRIDGE

ARTS

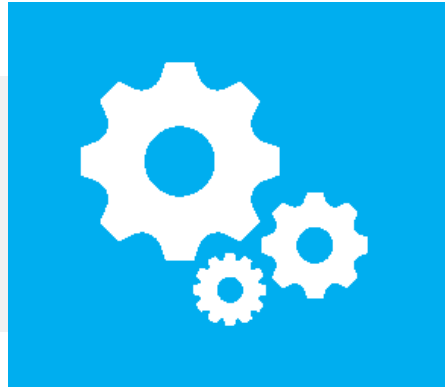


City 1% for Art
Grant Program
Partnering with the
Community Art
Center
Engaging community

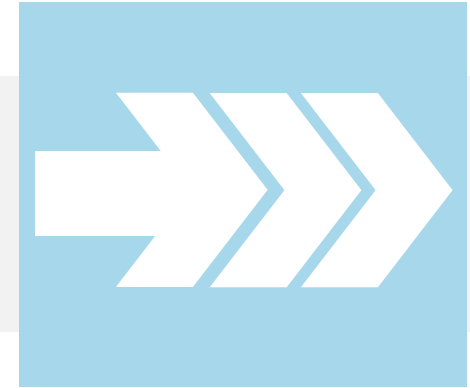
THE PORT PROJECT
Agenda



**Project
Overview**



**Design
Options**

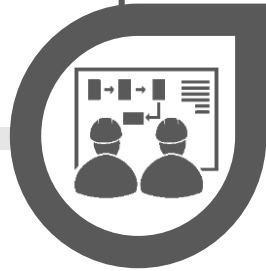


**Next Steps
& Schedule**

Next Steps & Schedule – Phase 1 PL6



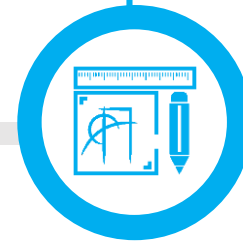
Community Outreach



Developer
Coordination



Community
Design
Process



Complete
Final Design



Construction
Start
Summer
2017

Community Process



Fully engage community

Go **to** the community

Thoughts about groups, events that we should be reaching out to?

Who is not at the table?

Variety of options for participating

Community Process



Traditional Meeting Format

Next Steps

Community Process



Recent DPW Outreach Efforts

Next Steps

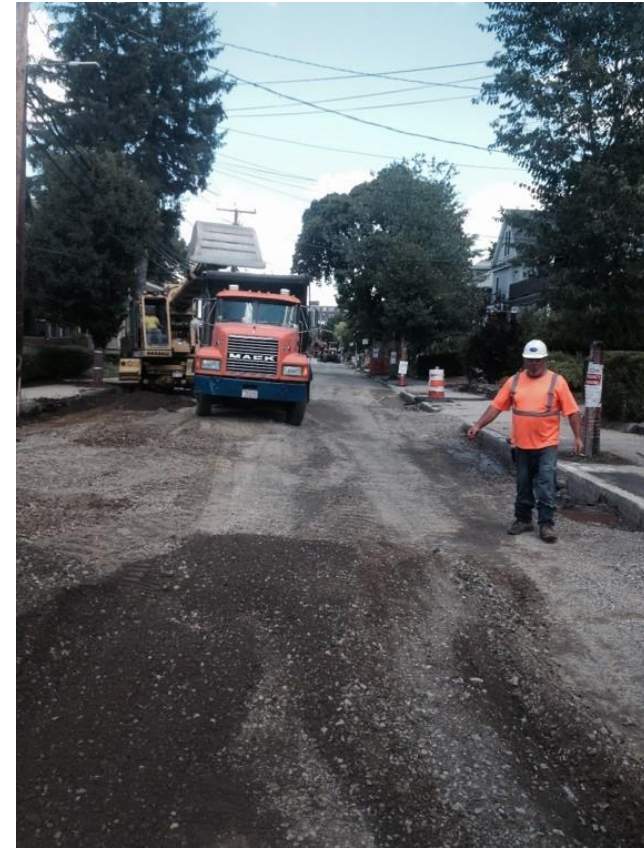
Community Process



Recent DPW Outreach Efforts

Next Steps

Construction Impacts



Typical Street and Sidewalk Construction

Construction Impacts



Manage parking impacts

Identifying replacement parking for Parking Lot 6 during construction

Construction Impacts



Myths and Facts About Rats

- 1. Myth:** Rats the size of cats live in Cambridge.
Fact: Most rats in our area weigh no more than one pound. When a rat is scared, it will fluff up its fur and look bigger, to scare away its enemies.
- 2. Myth:** "Rat cities" are in our sewers and subway system.
Fact: Only small pockets live in sewers and subways. Most rats live in burrows at ground or basement level.
- 3. Myth:** City rats are "immune" to poison.
Fact: Today's poisons work fine – but only if rats eat them. When garbage is easily accessible, rats don't take the bait.
- 4. Myth:** More than one kind of rat lives in Cambridge.
Fact: Only the Norway rat lives here. It varies in color and size, depending on how old it is and where it lives. As a result, people call it different names (city rat, brown rat, sewer rat, wharf rat, river rat, alley rat, house rat). It's all one species.
- 5. Myth:** Cats, dogs, hawks, skunks, possums, and other animals help control city rats.
Fact: They may kill an occasional rat, but they can't keep up with rats' rapid breeding rates. Only people can make a difference!



Pre-Construction Management

Work with property owners to minimize food supply and harborage

Baiting before and during construction

Rodents

Next Steps

Schedule

Phase 1: PL6

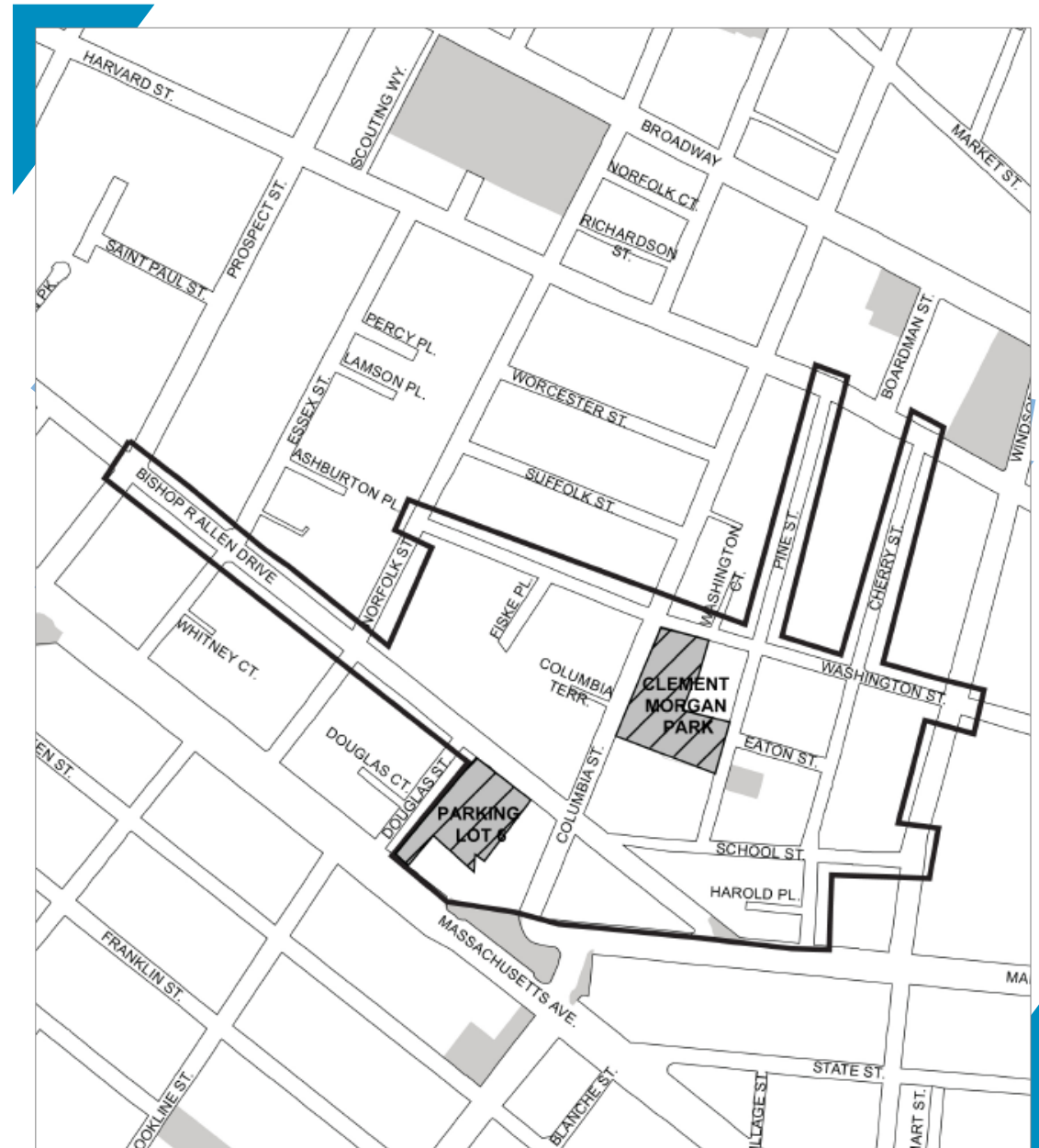
Begin Construction Summer 2017

Phase 2: 2nd Tank

Construction 2019

Includes streets and sidewalks

Need to consider phasing of street and sidewalk work to manage construction impacts



NEXT STEPS

Phase 2 – Second Tank



Concerns – Evaluating Options

COMMENTS & QUESTIONS

CAMBRIDGE
DEPARTMENT
OF PUBLIC
**THE
WORKS**



For More Information:

www.cambridgema.gov/theworks/theport

Katherine Watkins, City Engineer

kwatkins@cambridgema.gov / 617.349.4751

KyAnn Anderson, Community Relations

Community.Cambridge@Kleinfelder.com /

617.498.4708



Margaret Fuller House, 71 Cherry Street, 1806