



Environmental Services Commission

City of Tacoma | Environmental Services Department

Environmental Services Commission

March 10, 2022





Agenda

- Welcome
- Introduction of New Commissioner: Jeff Paradise
- Overview of Budget and Rates Calendar
- Overview of Gas Energy Program
- Jefferson/Hood Interceptor Project Update
- Central Treatment Plant Electrical Upgrade Project Update
- Other Items of Interest
- Adjournment



Budget Development Process

Baseline Budget



Budget Proposals



Proposed to Adopted Budget

Jan - April

April - August*

August - November

Budget Clean-up

Six-Year Forecast

Proposal Approvals

Adopted Budget



Presentation

Gas Energy Program:

Presenter:

Lance Bunch, P.E., Project Manager, lbunch@cityoftacoma.org

Contractor:

McKinstry Essention, LLC

Designer:

Kennedy Jenks



Project Location

CENTRAL WASTEWATER TREATMENT

COMPONENTS INVOLVED

- Replace outdoor lights with LEDs.
- Install Digester pump mixing system.
- Install Bio-CNG processing unit.
- Install pipeline from CTP to PSE main line.
- Upgrade boilers and blowers fuel system.
- Upgrade HVAC system in two buildings.





Project Goals

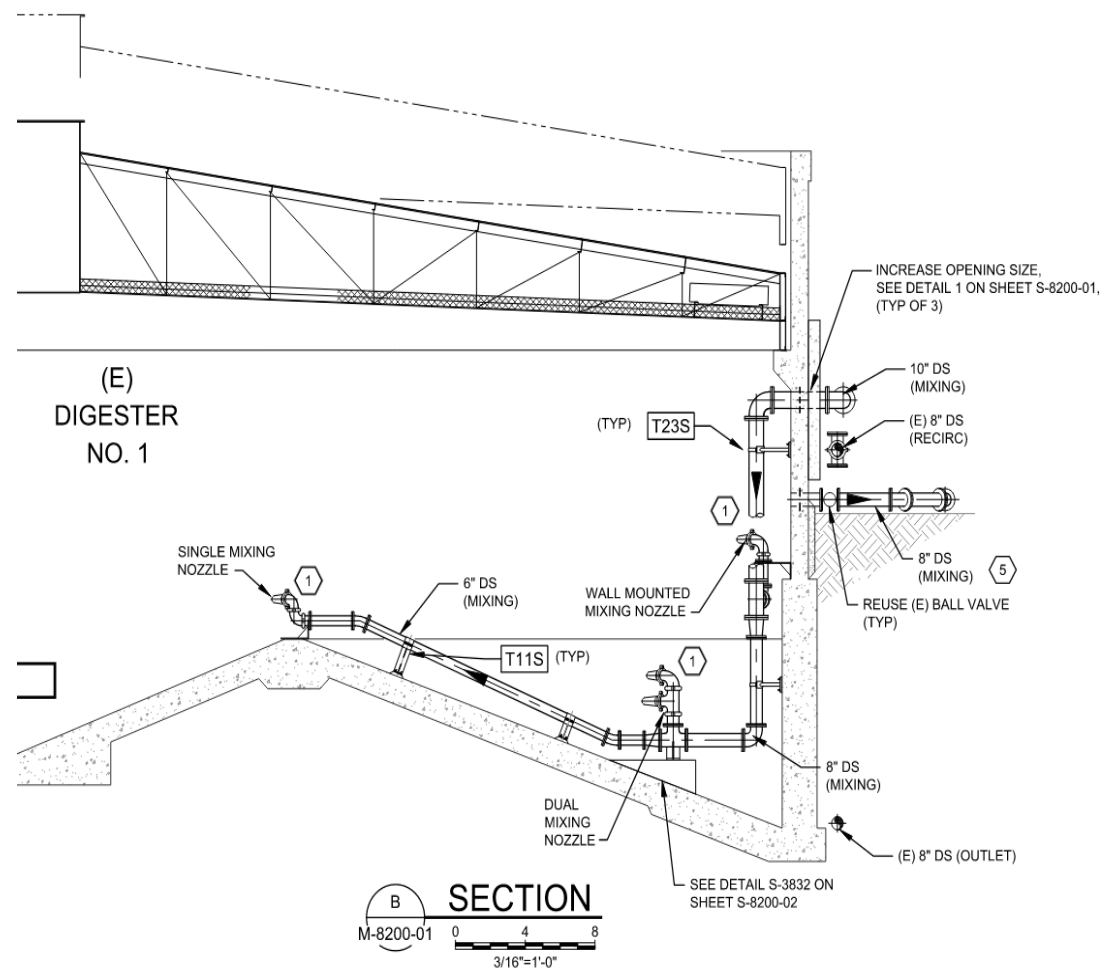
- Allow cleaner natural gas to be used in the boilers - reducing air pollutants from the plant.
- Eliminate flared gas which provides no value to the utility.
- Create a renewable fuel that can displace more carbon intensive fuels such as diesel or gasoline.
- Reduces the City's greenhouse gas emissions.
- Generate revenue by sale of Bio-methane.



Digester Pump Mixing System



Pump Mixing System inside digester 1



Section view of piping and nozzles



Gas Treatment Facility



- Digester Gas (DG)
- Blended Gas (BG)
- Natural Gas (NG)
- Bio-Methane



Gas Treatment Facility Cont.



Right to Left: Hydrogen Sulfide, VOC, and Siloxane scrubbing vessels. PSE meter and piping facility protected by bollards.



Boiler and Blower Room



Boiler modification required to run on natural gas (NG), Blended gas (BG), or Digester gas (DG)



Digester Gas Blower Room (delivers digester gas to boilers).



Presentation

Jefferson & Hood Street Storm Interceptor and New Outfall Project

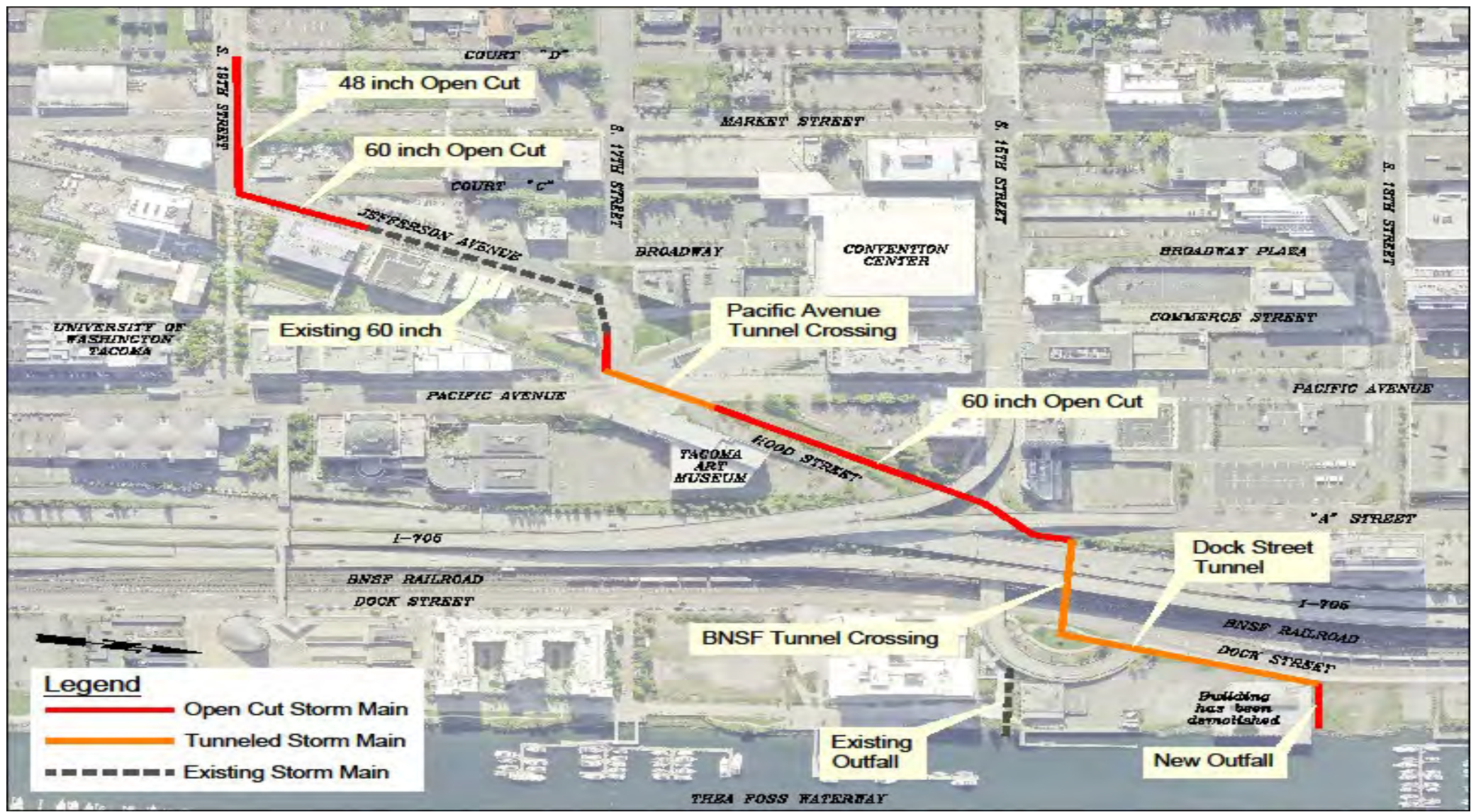
Presenter:

- Christa Lee, P.E., Project Manager, clee@cityoftacoma.org





Project Location





Project Goals

- Improve and provide excess stormwater conveyance capacity for future growth in the downtown area
- Minimize stormwater flooding in the lower downtown area
- Provide outreach program to mitigate construction impacts on the downtown community, adjacent businesses and the traveling public
- Deliver project improvements that represent the “best value” to Tacoma’s ratepayers



Project Delivery Method

- “Progressive Design Build” has a single point of contact
- City works closely with the design build team
- Provides increase in opportunities for innovation during design & construction by having the contractor and designer on the same team
- Design Build Team:
 - Contractor, James W. Fowler out of Dallas, Oregon
 - Design firm, Kennedy Jenks out of Federal Way
 - City of Tacoma
- Progresses in two phases
 - Stage 1 - Preliminary services develops a design to 60%
 - Stage 2 - 60% design to final design and through complete construction



Project Complexities

- Complex and technically challenging site conditions
- Wide variety of construction methods necessary
 - Tunnel construction Pacific Ave/ Sound Transit and BNSF rail corridors
 - Tunnel construction Dock St - parallel to Thea Foss Waterway
 - Deep open cut excavation
 - Construct new marine outfall into Thea Foss Waterway
- Plan for known soil and groundwater contamination
- Obtain many regulatory permits





Photos Stage 1 Preliminary Services



Soil sample to define contamination



Pilot tube exploratory investigation



Auger bore



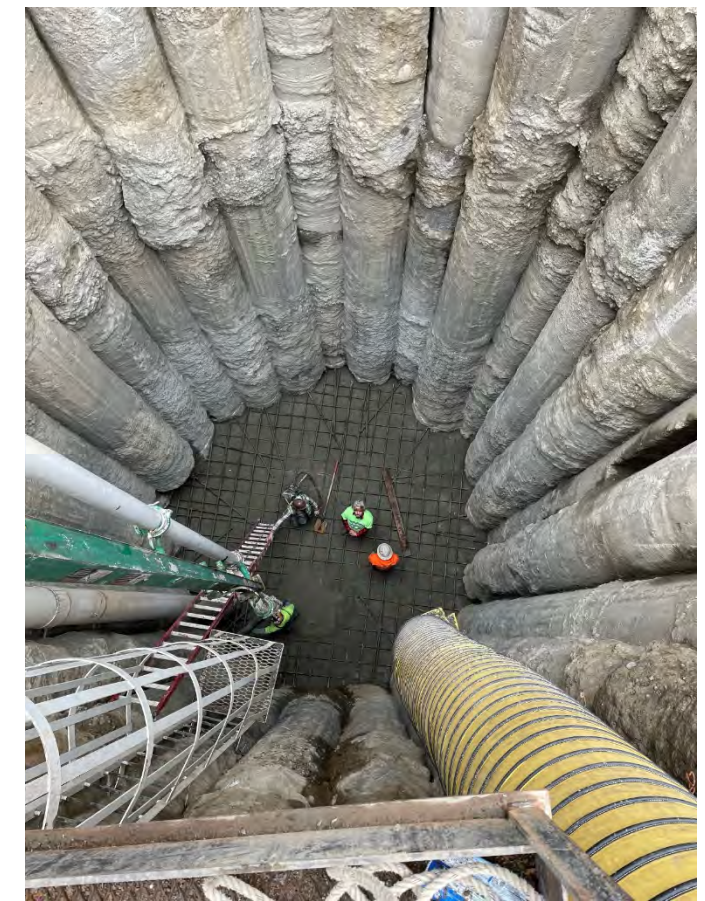
Photos Stage 2 Construction



Outfall energy dissipater



Shoreline restoration



Receiving pit for BNSF tunnel crossing