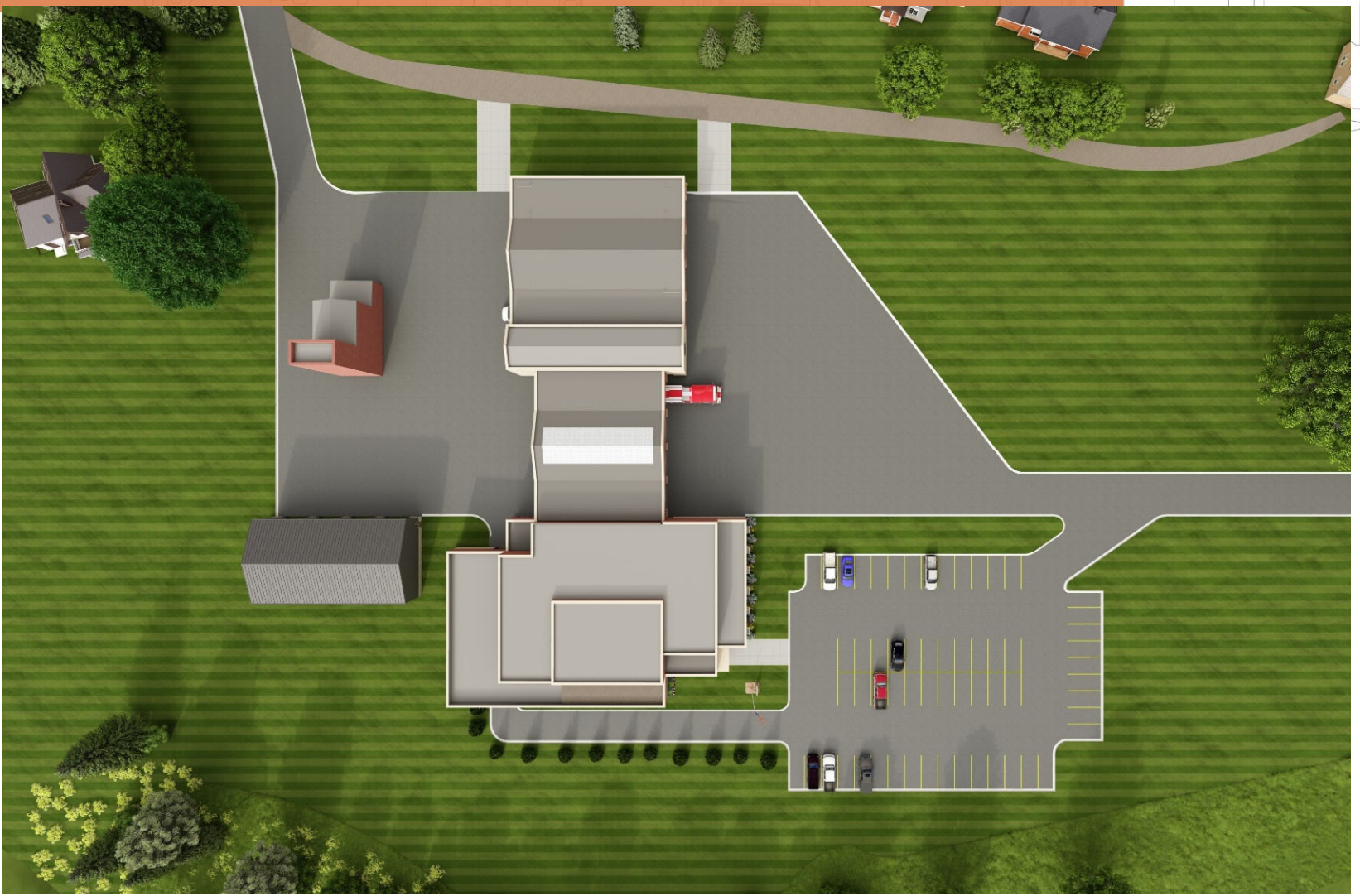
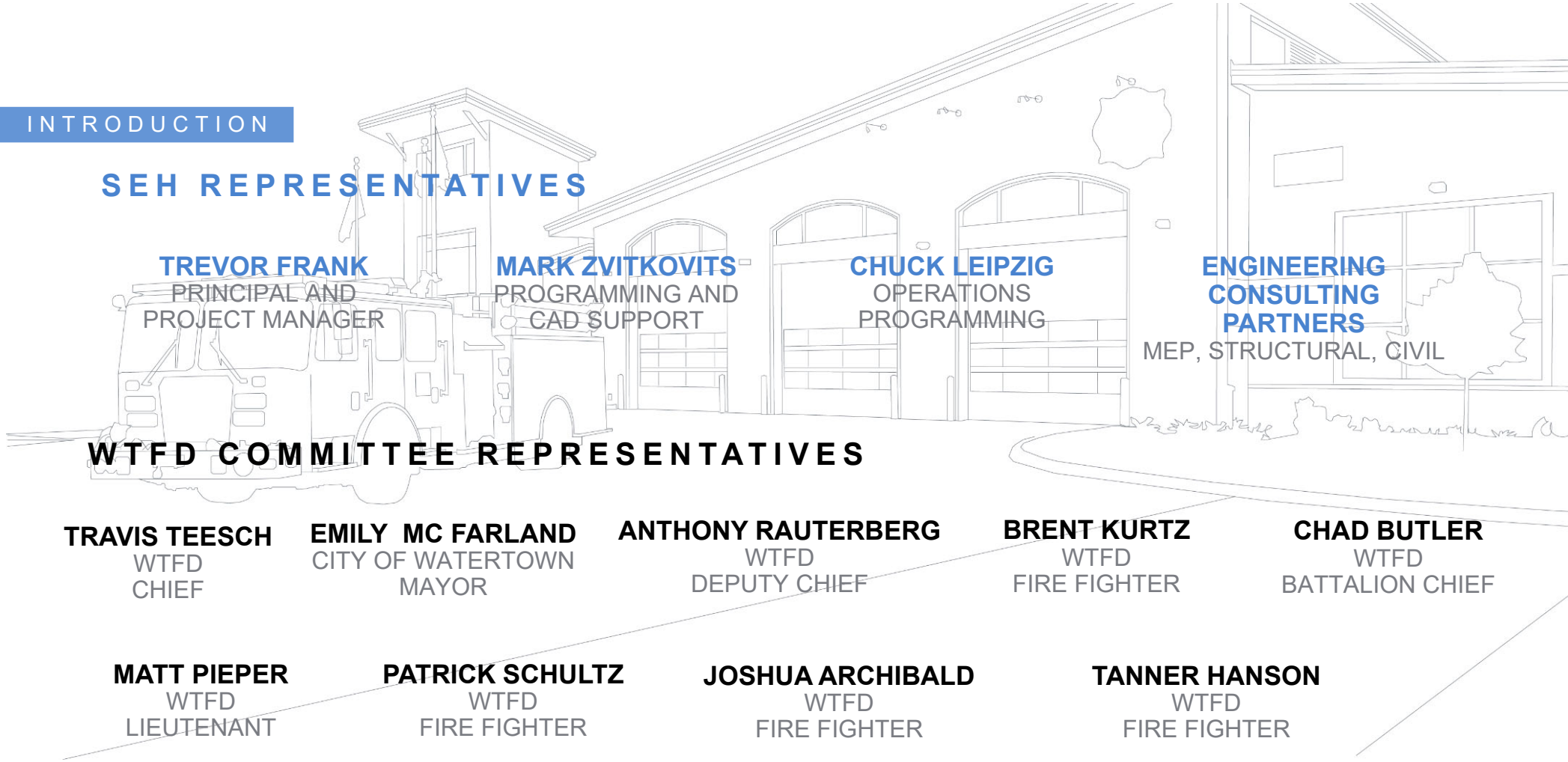
THE CITY OF
WATERTOWN
Opportunity runs through it.

Fire Department Facility Design Report

SEH
Building a Better World for All of Us®

WATERTOWN, WI | JULY 5, 2023





INTRODUCTION

SEH REPRESENTATIVES

TREVOR FRANK
PRINCIPAL AND
PROJECT MANAGER

MARK ZVITKOVITS
PROGRAMMING AND
CAD SUPPORT

CHUCK LEIPZIG
OPERATIONS
PROGRAMMING

ENGINEERING CONSULTING PARTNERS
MEP, STRUCTURAL, CIVIL

WTFD COMMITTEE REPRESENTATIVES

TRAVIS TEESCH
WTFD
CHIEF

EMILY MC FARLAND
CITY OF WATERTOWN
MAYOR

ANTHONY RAUTERBERG
WTFD
DEPUTY CHIEF

BRENT KURTZ
WTFD
FIRE FIGHTER

CHAD BUTLER
WTFD
BATTALION CHIEF

MATT PIEPER
WTFD
LIEUTENANT

PATRICK SCHULTZ
WTFD
FIRE FIGHTER

JOSHUA ARCHIBALD
WTFD
FIRE FIGHTER

TANNER HANSON
WTFD
FIRE FIGHTER

AGENDA:

Project History, Progress and Schedule

Site and Context Plan

Floor Plans and Materials

Programming Comparisons

Sustainability

Updated Cost Estimates

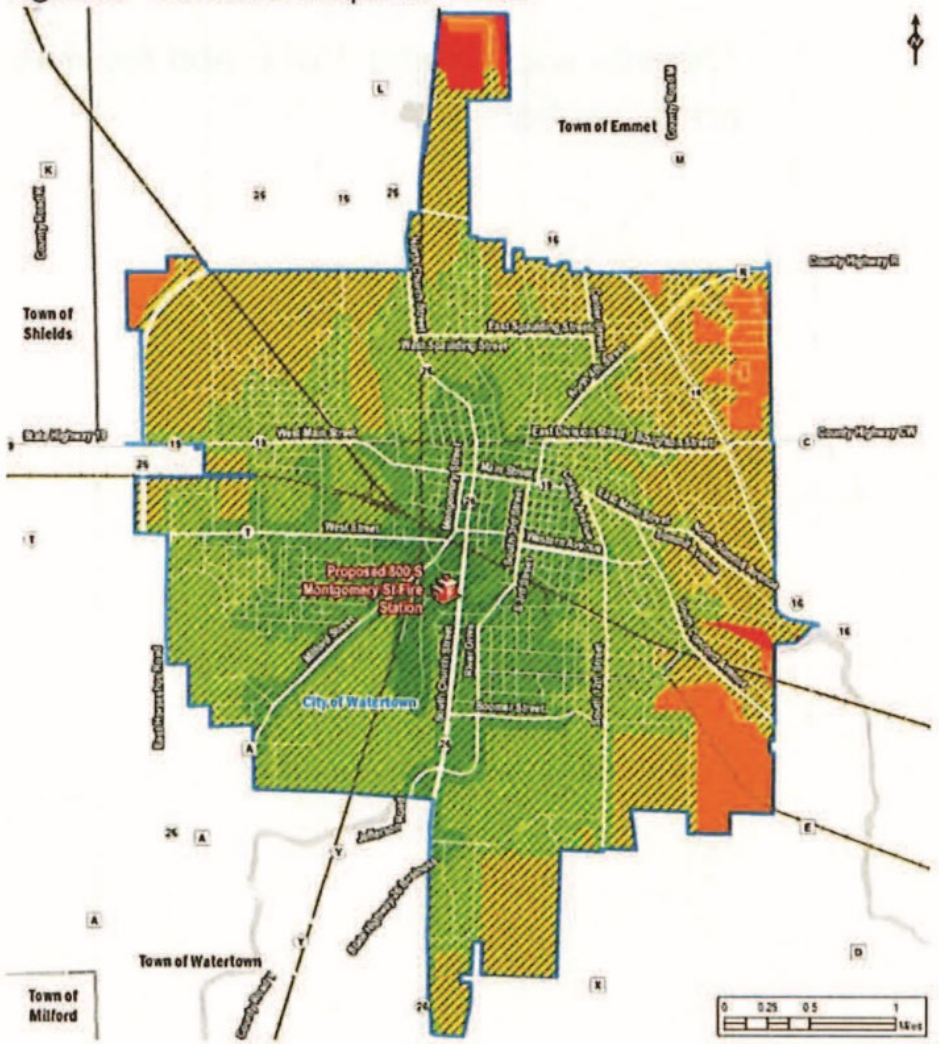
Action and Next Steps

PREVIOUS EFFORTS

SITE LOCATION AND RESPONSE MAPPING

- Prior Activities
  - *Drive time analysis for 9 identified sites*
  - *Johnson/Bernard Street Site was ranked highest among other available and appropriately sized site locations*
  - *94% of responses were within 8 minutes*
  - *Better response time than the current fire station*

Figure 3 – 12: Site 5 Response Times



Drive Time Summary (% of City of Watertown Municipal Boundary)

Location	Rank by Drive Time	0-2 Minutes (%)	2-4 Minutes (%)	4-6 Minutes (%)	6-8 Minutes (%)	8 Minute Total (%)
701 S Church St	1	7.7	23.9	40.1	26.1	97.8
GIS Generated Site (107 E Main St)	2	7.3	26.3	31.1	30.6	95.3
800 S Montgomery St	4	4.8	18.8	39	30.8	93.4
709 Lafayette St	5	4.6	20.3	33.8	32.8	91.5
727 W Cady St	6	4.7	17.7	34.1	33.9	90.4
Existing Fire Station	7	5.9	22.7	32.2	29.2	90
304 Hart St	8	5.2	15.5	32.7	35.3	88.7
828 W Division St	9	3.1	9.8	24.7	38.1	75.7
Johnson Street / Bernard Street	3	6.1	21.8	34.8	31.3	94

PROJECT PROGRESS

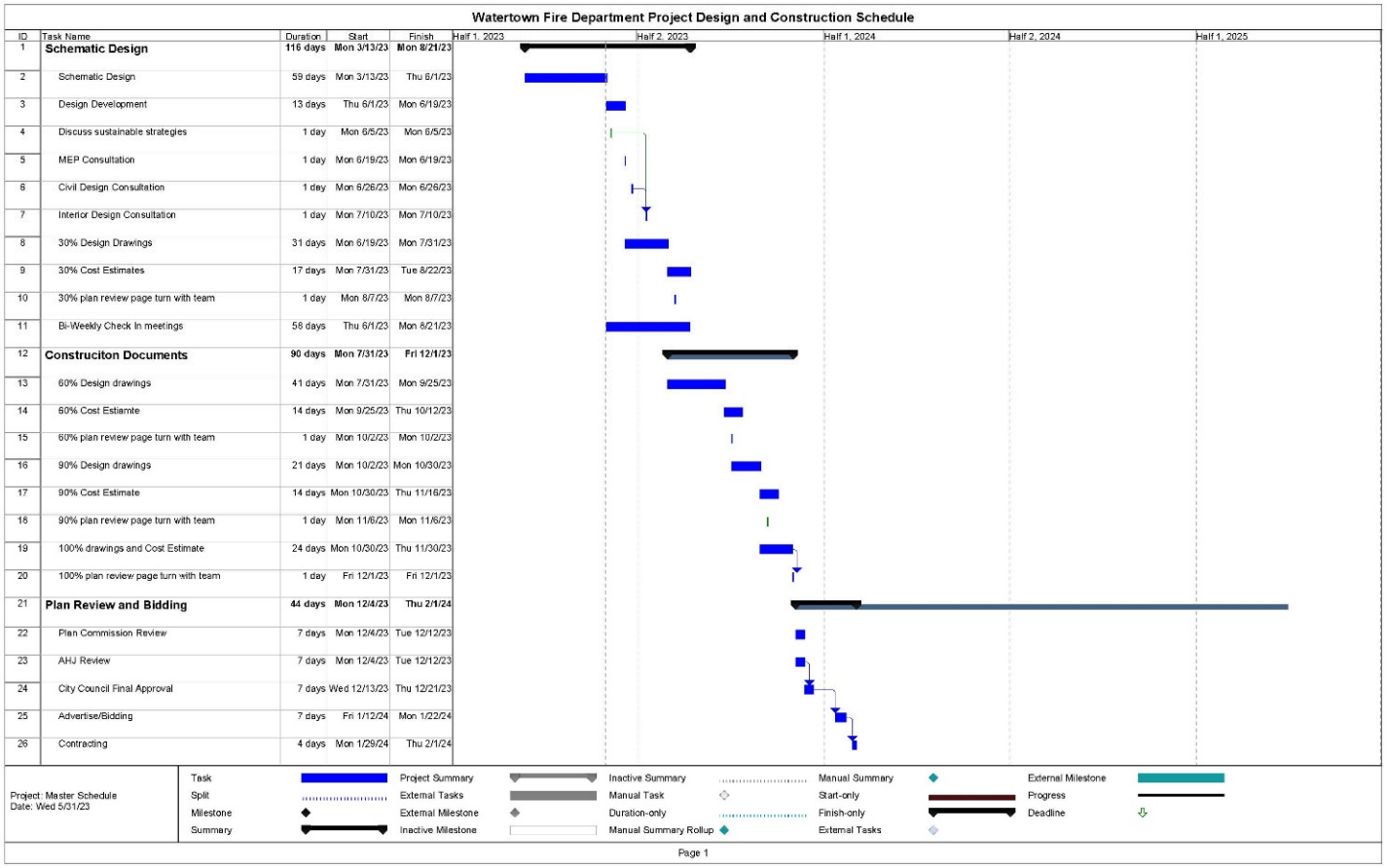
CURRENT STATUS

- Project Activity
  - *Programming Completed*
  - *Equipment Test Fits*
  - *Preliminary Site Plan*
  - *Draft Floor Plans*
  - *Preliminary MEP/Structural/LA Design*
  - *Interior and Exterior Material Discussion*
  - *Station Tours to View Completed Projects*
  - *Owner Provided Equipment Coordination*
  - *CSM Approved*
  - *Public hearing 8/1 on Zoning Change*

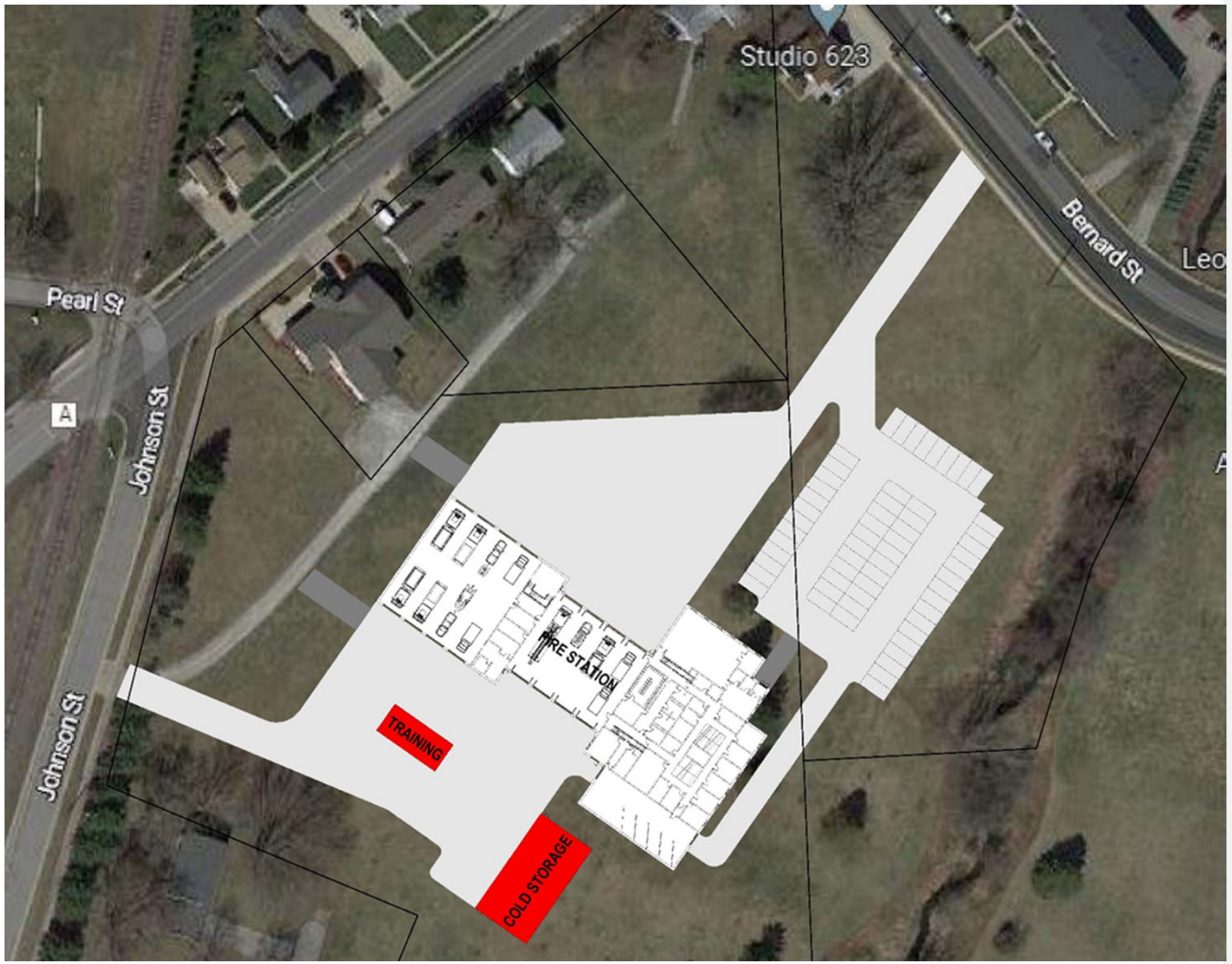
PROJECT PROGRESS

SCHEDULE

- Overview
  - *30% Review July 2023*
  - *CM evaluations*
  - *60% Review September 2023*
  - *90% Review October 2023*
  - *AHJ and City Permitting/Review December 2023*
  - *Estimated Bidding Date December/January 2024*
  - *Goal of Construction April 2024- May 2025*



FACILITY PLACEMENT AND OPERATIONS



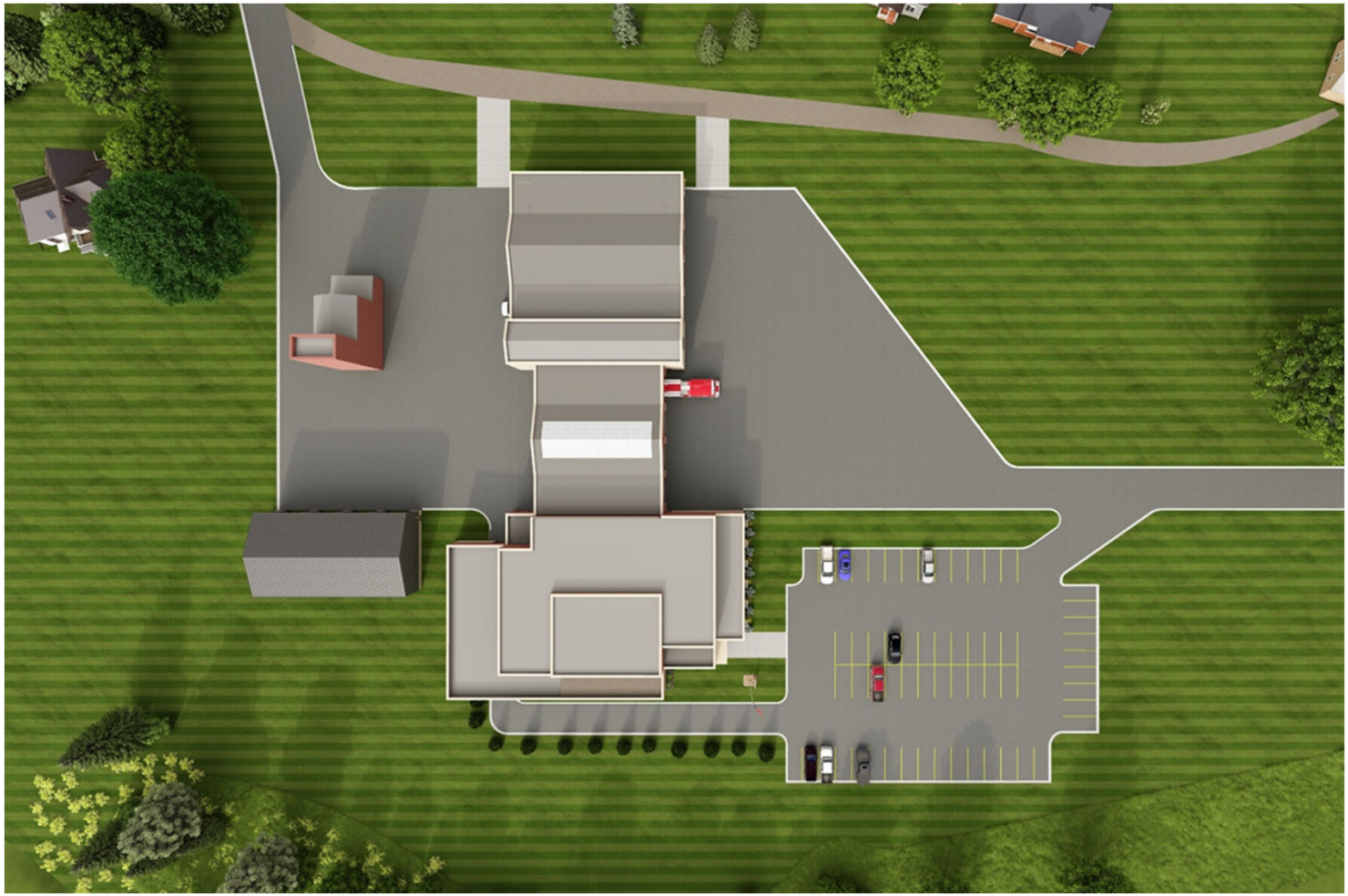
- Siting and Operations

  Building orientation intentional to minimize neighborhood impact

  - *One way traffic for operations vehicles*
  - *First out apparatus deploy on Bernard return on Johnson Street*
  - *Command vehicles deploy on Johnson Street to avoid comingling*
  - *First response vehicles buffered by buildings*
  - *Scale reduction along Bernard Street*
  - *Building position take advantage of microclimate and topography*
  - *Accessible entrances and parking areas*
  - *Turning radius accommodations*
  - *Safety, Access and Security improvements*

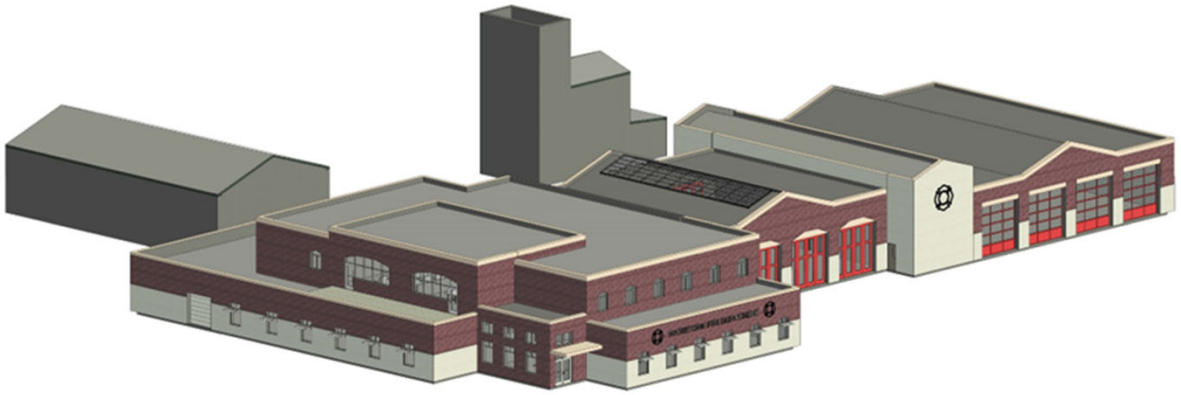
SITE PLAN

- Operations:
  - *Active areas centralized on the site*
  - *Passive areas- administration and reserve vehicle storage adjacent to property lines*
- Parking and Public Areas:
  - *Public access off Bernard Street*
  - *Parking adjacent to commercial properties*
- Training tower and cold storage:
  - *Centralized in rear of site*
  - *Natural site elements and landscape buffering*

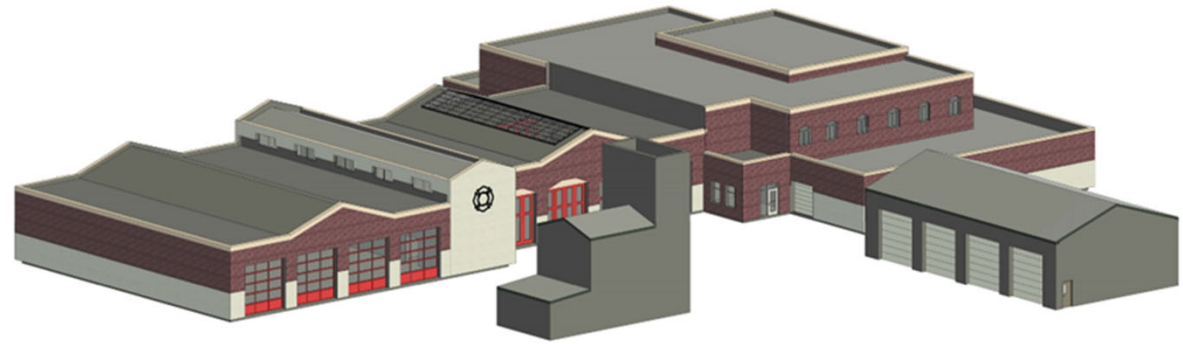


FACILITY DESIGN

BUILDING SIZE AND AREA DETAILS



OVERALL ARCHITECTURAL - EXTERIOR 3D



OVERALL ARCHITECTURAL - EXTERIOR 3D

- Building size and height
  - *37,268 s.f. total building area*
  - *2-story station*
- Remote training tower
  - *1,017 s.f. foot print*
  - *40’ high*
- Remote cold storage building
  - *3,500 s.f. foot print*
  - *25’ high*

FLOOR PLANS AND MATERIALS

BUILDING DESIGN

- Context Sensitive Design
  - *Complimentary to surrounding buildings*
  - *Earthtones and muted colors*
  - *Masonry construction*
  - *Pronounced public entry*
  - *Scale reduction along Bernard Street (Front)*
  - *Natural daylighting*
  - *Male/female accommodations*
  - *Energy conscious design*
  - *Operational Efficiency*
  - *Accessibility*
  - *Safety, Access and Security improvements*

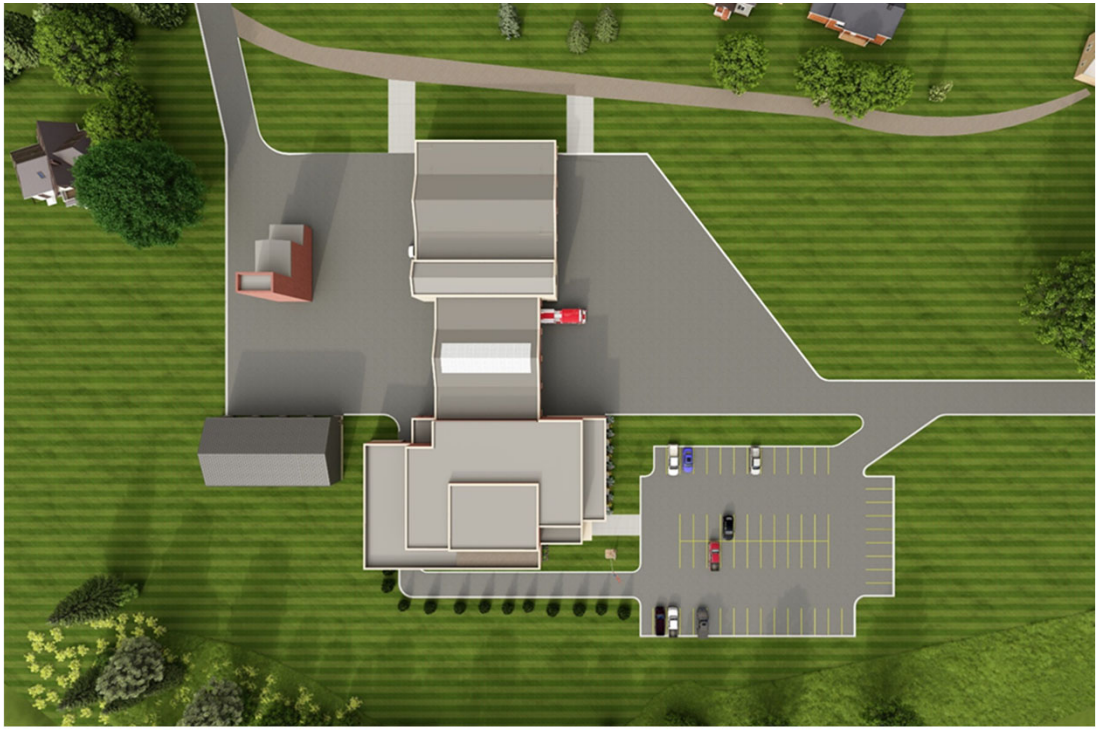
BUILDING DESIGN

- Major trends in design
  - *Cancer prevention (Hot warm and cold zone design)*
  - *Future proof stations (Single occupant toilet and individual bunk rooms)*
  - *Decompression areas*
  - *Health and fitness*

PROGRAMMING COMPARISONS

STUDY VS. CURRENT DESIGN

- Square foot area comparisons:
  - *Current station: 17,268 s.f.*
  - *Initial programmed building size 41,835 s.f.*
  - *Current Plan: 37,268 s.f.*
  - *Building area based on a 20-year staffing and equipment need*
  - *Building plan is expandable*
  - *Site will accommodate growth*



SUSTAINABILITY

SUSTAINABLE FEATURES

- Under Consideration:
  - *Geothermal Heating and Cooling*
  - *Solar PV generation*
  - *LED Lighting*
  - *Locally sourced building materials*
  - *High recycled content material*
  - *Energy conscious design*
  - *Natural daylighting*
  - *Direct UV control*
- Decision point
  - *Finance committee July 10th meeting*

SUSTAINABILITY

BUILDING FEATURES

- Cost Comparisons:
  - ***Geothermal Heating and Cooling***
  - *$300,000 added up front cost*
  - *Additional MEP design beyond current scope and contract fee ($45,000)*
  - *FOE design grant +$20,000 if qualified*
  - *14 year payback, 50 year lifespan*
  - *$21,400 energy saving per year*

  - ***Solar PV generation***
  - *Based on 182kW system*
  - *$364,000 added up front cost*
  - *FOE design grant $11,000 if qualified*
  - *17 year payback, 25 year lifespan*
  - *$21,000/year in energy savings*

COST ESTIMATES

ESTIMATE OF PROBABLE COST AT 30% PLAN COMPLETION

- Cost based on square foot:
  - *Programmed fire station building size 37,268 s.f.*
  - *Fire station= $11,200,000*
  - *Training Tower: 1,100 s.f.= $1,000,000*
  - *Cold Storage: 3,500 s.f.= $700,000*
  - *Total project cost= $12,900,000*
  - *Estimated numbers based on 2023 dollars. Costs will fluctuate as design progresses and is influenced by market costs*

ACTION

ACTION AND NEXT STEPS

- Plan development
  - *30%, 60%, 90% plan reviews, estimate updates and page turns*
  - *Further development of the SWMP, erosion control plan, landscaping plans*
  - *Site and building lighting plans*
  - *7/10 Finance Committee solar, geothermal decision*
  - *7/10 pre-authorization borrowing*
  - *7/10 CM RFP release*
  - *August re-zoning hearings*

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Questions and Discussion

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- Long term maintenance costs:

  - ***Geothermal Heating and Cooling vs conventional HVAC systems***
  - *Same systems between geothermal and conventional HVAC system*
  - *Indoor air handling units and downstream VAV boxes are the same*
  - *Only difference is where the hot and cold water come from- boilers/chillers vs ground source heat pumps.*
  - *Glycol will be used in both systems so fluid maintenance is the same*
  - *Life expectancy of the MultiStack(Geothermal) is 20 years*
  - *Life expectancy of the boilers and pumps is 20 years*
  - *Chillers and condensing unit life expectancy is 15 years*
  - *Maintenance between the 2 systems is similar.*
  - *For this comparison assume they are equal in maintenance and life expectancy*