PROJECT SPOTLIGHT

WASTE HEAT RECOVERY

WILDLIFE CONSERVATION SOCIETY
WCS
WE STAND FOR WILDLIFE

New York Power Authority

RAMBOLL

NYC DCAS
Citywide Administrative Services

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Site & Project Description

- Existing **on-site natural gas cogeneration plant** provides electricity across the zoo
- **Waste heat from the engines generates Medium Temperature Water** (MTW), distributed to supplement heating and domestic hot water production at 13 zoo buildings
- Energy Conservation Measures: **Replace the Waste Heat Recovery (WHR) units**, including building heat exchangers, MTW loop pumps & EMS

Total Building Area | 390,750 ft²

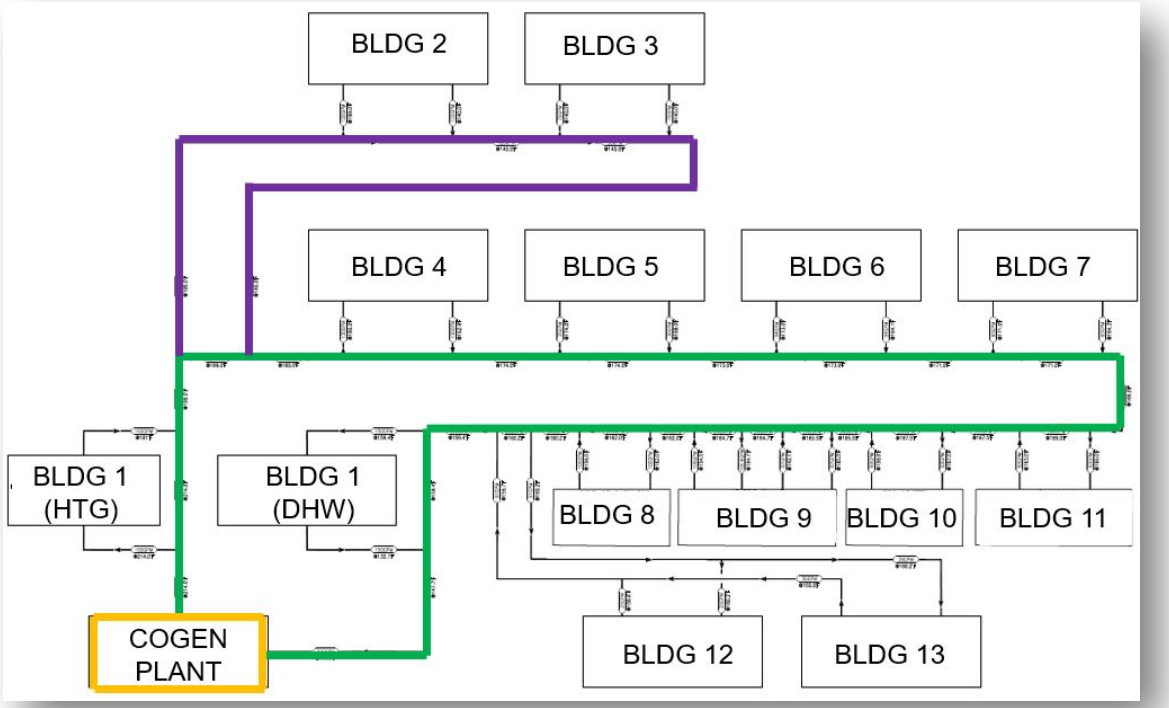
Across | 265 acres

Scope of Work | Key Objectives

- Decarbonization of zoo heating system
- Reduce energy costs
- Reduce greenhouse gas emissions
- Enhance staff, visitors, and wildlife comfort

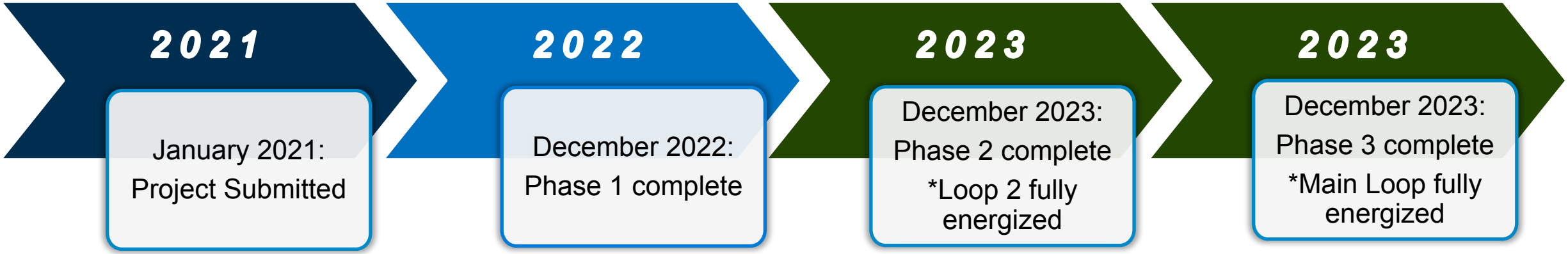
What are we Looking to Accomplish?

- Meet **NYS CLCPA, NYC CMA, and NYC LL97** environmental goals
  - 50 percent reduction in government operations carbon emissions by 2030
- Existing cogen plant inefficient, generates excess heat and electricity



Solution Implemented

- Energy Conservation Measures: Replace the Waste Heat Recovery (WHR) units including building heat exchangers, MTW loop pumps, and EMS
- Project **claimed in 3 phases** due to extended construction schedule



- Pipe lining process for MTW loops concurrently

Results

Total Project Cost:
$3,886,495

Total Incentive Paid:
$2,720,546.50

Greenhouse gas emissions reduction	**3,100 metric tons**
Total Lifetime Energy Savings	**883,166 LMMBTu**
Annual Gas Energy Savings	**588,777 therms** **58,878 AMMBTu**
Gas Peak Day Impact Savings	**1,531 therms** **153 MMBTu**
NYC energy and maintenance savings	**$500,000 annually**

Conclusion & Next Steps

- Supports decarbonization and resiliency of zoo operations
- Extends life of infrastructure
- Upgrades to heating pipe lining continue
- Expected completion date winter 2025