



Photo : Sergio Ruiz, SPUR

# DISTRICT SYSTEMS

## City Council Study Session

Thursday, March 25, 2021 | 1:30 PM



# Public Engagement - Comments

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- If you would like to speak during the public comments section at the end of the meeting, please use the **Raise Hand** feature through the Zoom platform (instructions on the next slide).
  - Same rules as City Council meetings
- You can also submit electronic comments to Lori Severino at [lori.severino@sanjoseca.gov](mailto:lori.severino@sanjoseca.gov).



# Zoom Webinar Information

Zoom Meeting Link:

<https://sanjoseca.zoom.us/j/95189084728>

Phone number: 408-638-0968 or (Toll Free) 888-475-4499

Webinar ID: 951 8908 4728

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# Meeting Agenda

- I. Introduction
- II. Google's proposed district systems approach with its Downtown West development project
- III. Council Questions and Feedback
- IV. Public Comments
- V. Adjourn

*Note: Meeting is being recorded and livestreamed*



SAN JOSE DIRIDON STATION AREA  
COMMUNITY ENGAGEMENT



# Introduction

## What is a District System?

- Privately owned/operated
- Connected to overall municipal systems

## Why a District System?

- Resiliency
- Sustainability
- Operational efficiency



# Introduction

## What District Systems are Proposed

- Utility corridors (“utilidors”) for privately owned utilities within the public rights-of-way
- Electrical distribution system
- Wastewater collection and treatment and recycled water distribution systems
- Building heating and cooling systems





# Introduction

## How a District System could be implemented

- Conditions of Approval relating to buildings and connection to City/municipal utilities such as water, sewer, storm drainage



# Memorandum of Understanding (2018)

- **Environmental Sustainability:** “Advance the City’s sustainability goals as outlined in the City’s “Climate Smart San José” plan, including reducing greenhouse gas emissions aligned with the Paris Agreement to combat climate change.”
- **District Systems:** “Collaborate in the study and evaluation of a district wide program of shared utilities, such as electricity, data, water, storm water, waste and sewer that allows for necessary City easements.”





# District Systems and Downtown West

# District Systems Alignment



## Reduce per capita energy 50% by 2022

- Facilitate 200,000 solar roofs by 2040
- 100 M sq ft green buildings by 2040
- Recycle or beneficially reuse 100% of wastewater



## Paris-compliant pathway

- Renewable energy, density
- Embracing the Californian climate
- Creating local jobs and innovation



## Strategic & Master Plan

- Increase recycled water to 40,000 AFY by 2025 and 50,000 AFY by 2035.

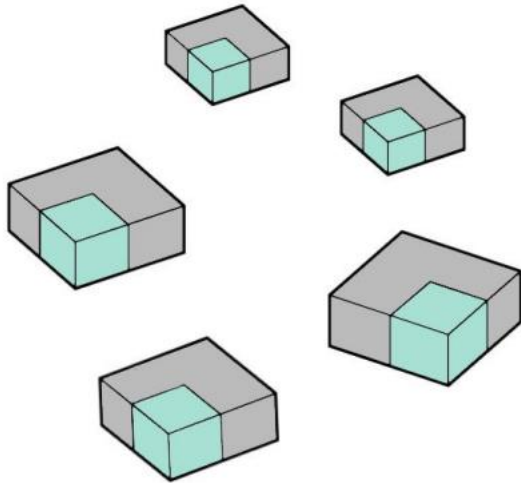


## All-electric buildings with no new gas connections

- Higher penetrations of electric vehicles for all building types
- Solar-ready buildings

# Centralized Systems

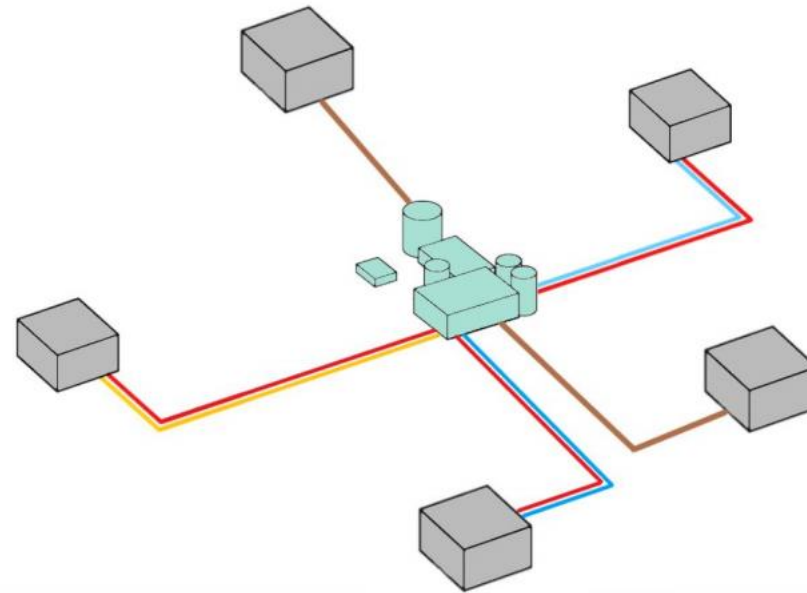
## Typical Systems



Individual “back of house” systems per building, each system sized for peak load



## District Systems

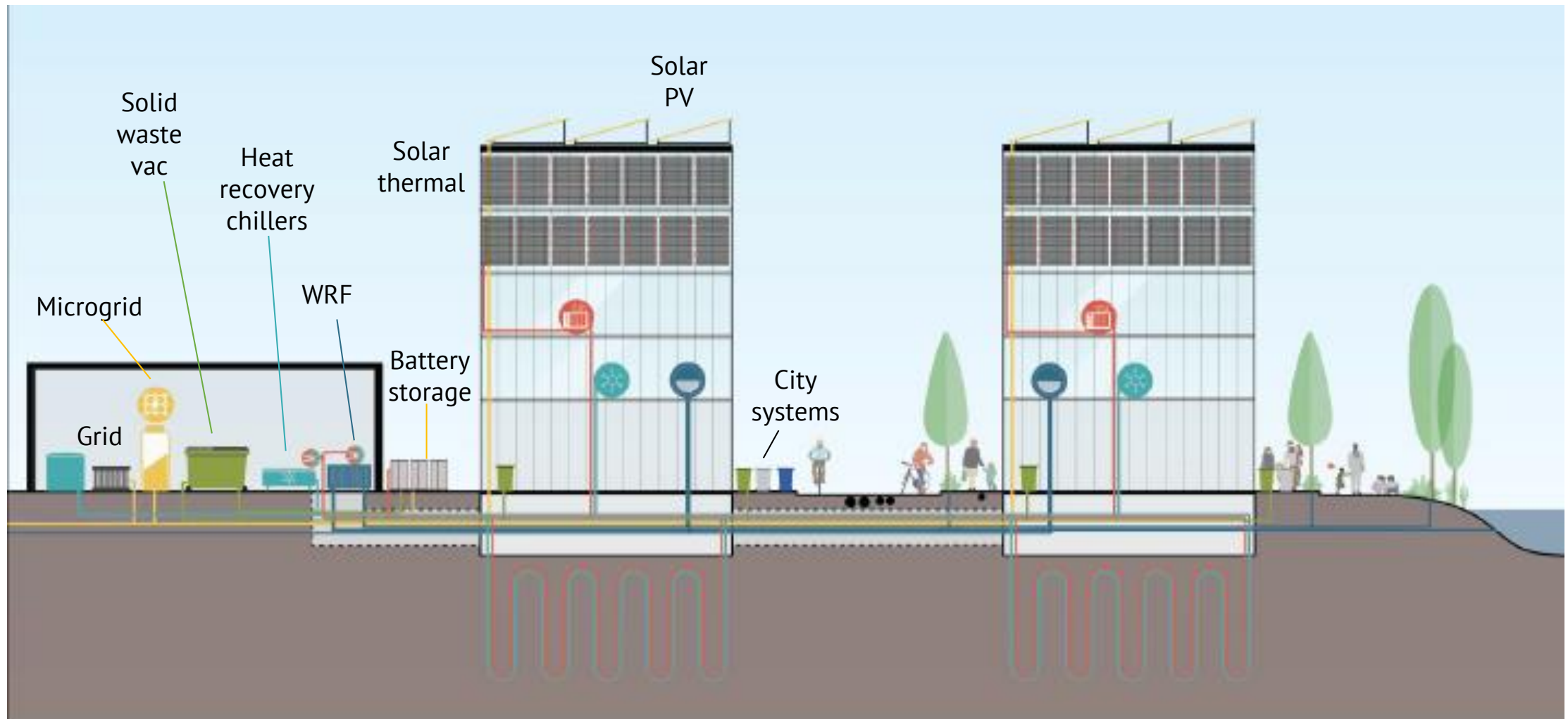


Central consolidation across district shares resources, is more efficient -- thus enabling higher environmental performance



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# Urban Concept



## Heating

Heat recovery chillers  
Wastewater recovery



## Power

Microgrid  
50% Rooftop Solar  
Battery Storage



## Cooling

Heat recovery chillers  
High efficient chillers  
Ground-source heat pump



## Water

Water reuse facility  
Reduction in potable water

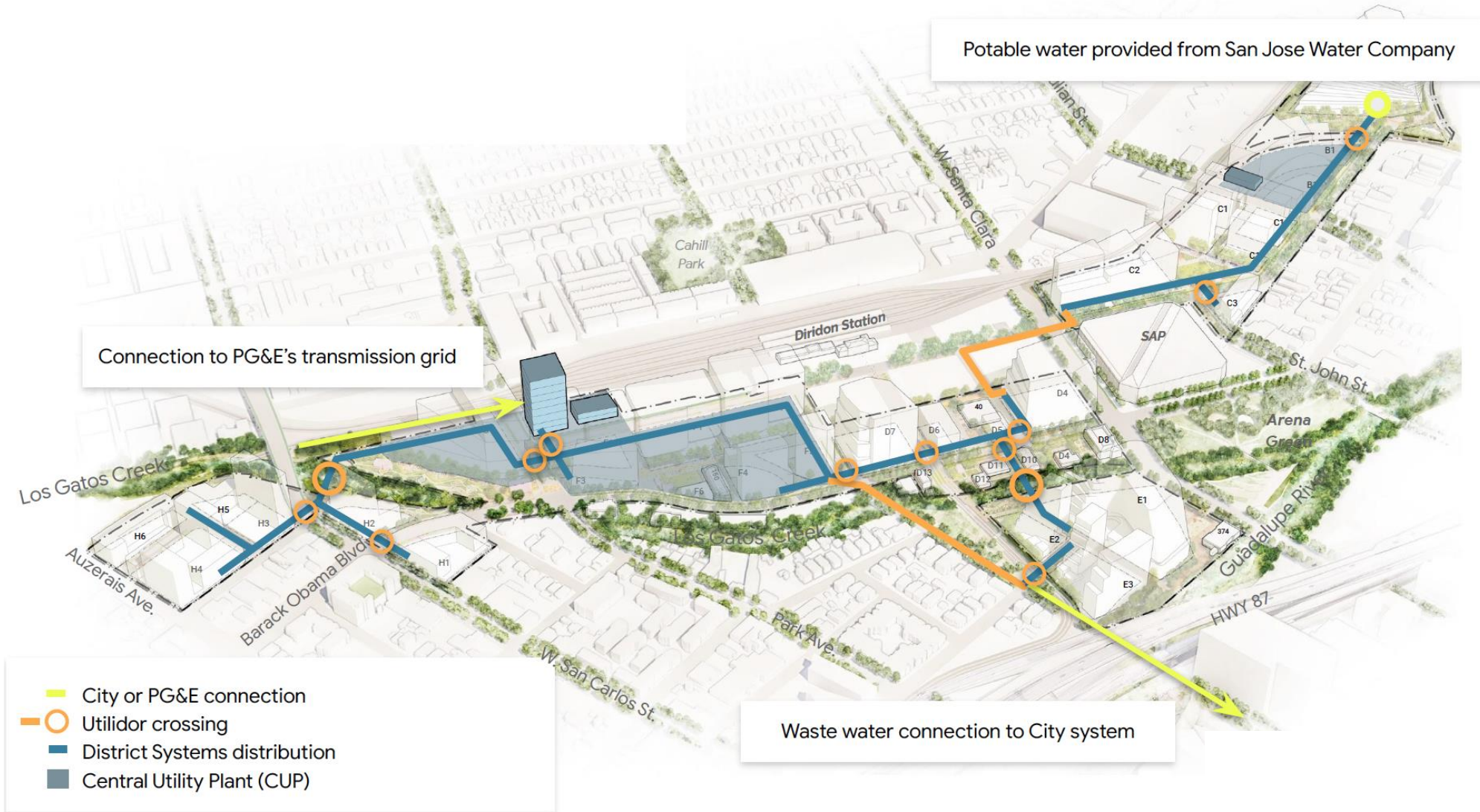


## Waste

AWCS  
Anaerobic digestion  
Solids management



# Orientation



# Thermal Systems

- ‘Mainstream’ infrastructure in major global cities.
- They are now in their 5th generation.
- Barangaroo is a good example, with cooling driven by Sydney Harbour, supporting a ‘carbon neutral’ district.



Bayview, Mountain View



Barangaroo, Sydney



1390 Borregas, Sunnyvale



Elephant Park, London



Stanford University



# District Water

- Established technology and infrastructure approach in large-scale mixed-use projects.
- Safe and reliable operations, providing new sources of water as part of City plan.
- Hudson Yards is a good example of how stormwater harvesting can be embedded in an urban context.



1390 Borregas, Sunnyvale



Bayview, Mountain View



Hudson Yards, New York



Barangaroo, Sydney



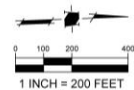
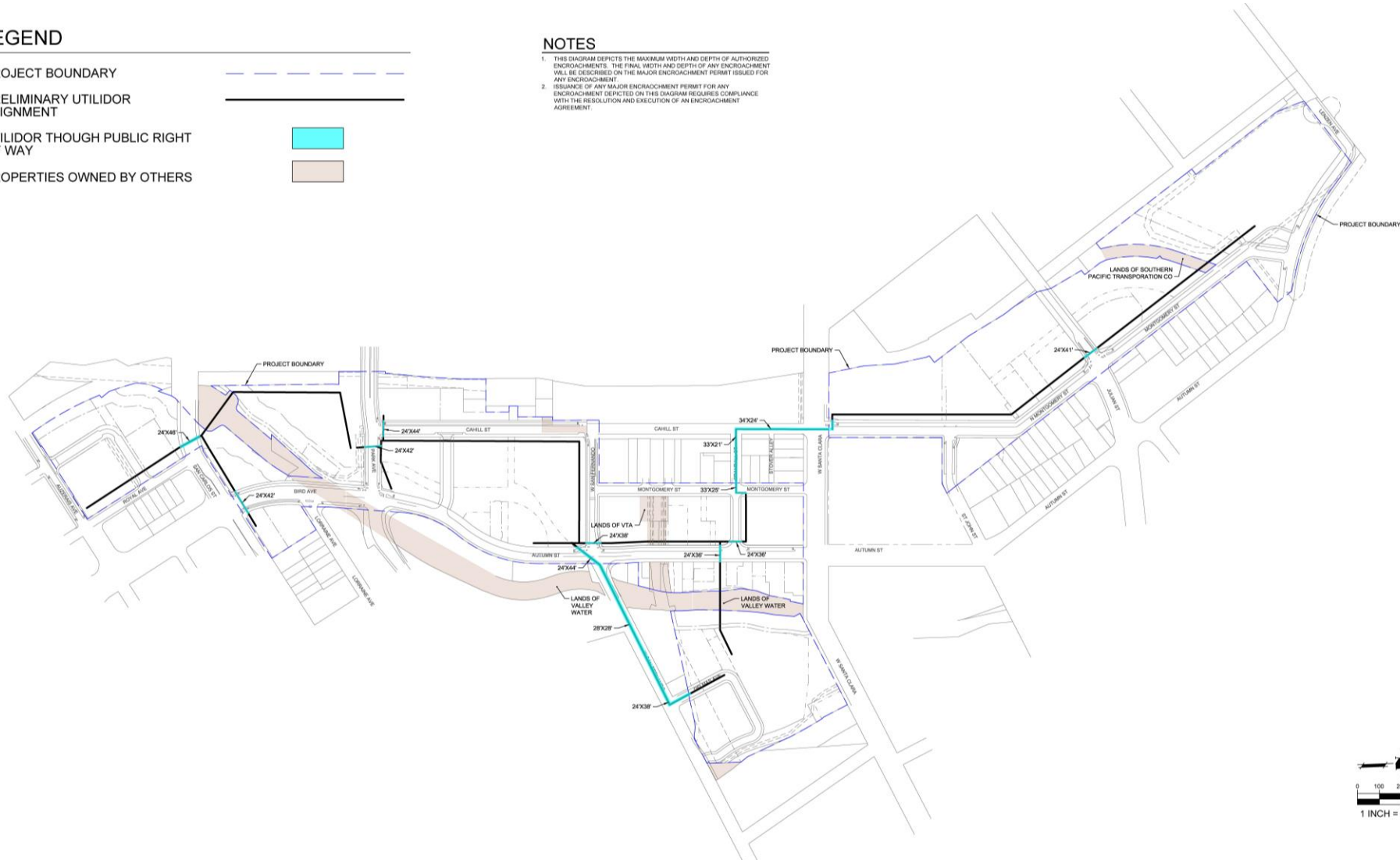
# Utilidor Concept

## LEGEND

PROJECT BOUNDARY	
PRELIMINARY UTILIDOR ALIGNMENT	
UTILIDOR THROUGH PUBLIC RIGHT OF WAY	
PROPERTIES OWNED BY OTHERS	

## NOTES

1. THIS DIAGRAM DEPICTS THE MAXIMUM WIDTH AND DEPTH OF AUTHORIZED ENCROACHMENTS. THE FINAL WIDTH AND DEPTH OF ANY ENCROACHMENT WILL BE DESCRIBED ON THE MAJOR ENCROACHMENT PERMIT ISSUED FOR ANY ENCROACHMENT.
2. ISSUANCE OF ANY MAJOR ENCROACHMENT PERMIT FOR ANY ENCROACHMENT DEPICTED ON THIS DIAGRAM REQUIRES COMPLIANCE WITH THE RESOLUTION AND EXECUTION OF AN ENCROACHMENT AGREEMENT.



## ENCROACHMENT DIAGRAM (CONCEPTUAL UTILIDOR PLAN)

Scale: 1" = 200'  
 Drawn: DKJ Reviewed: VHM  
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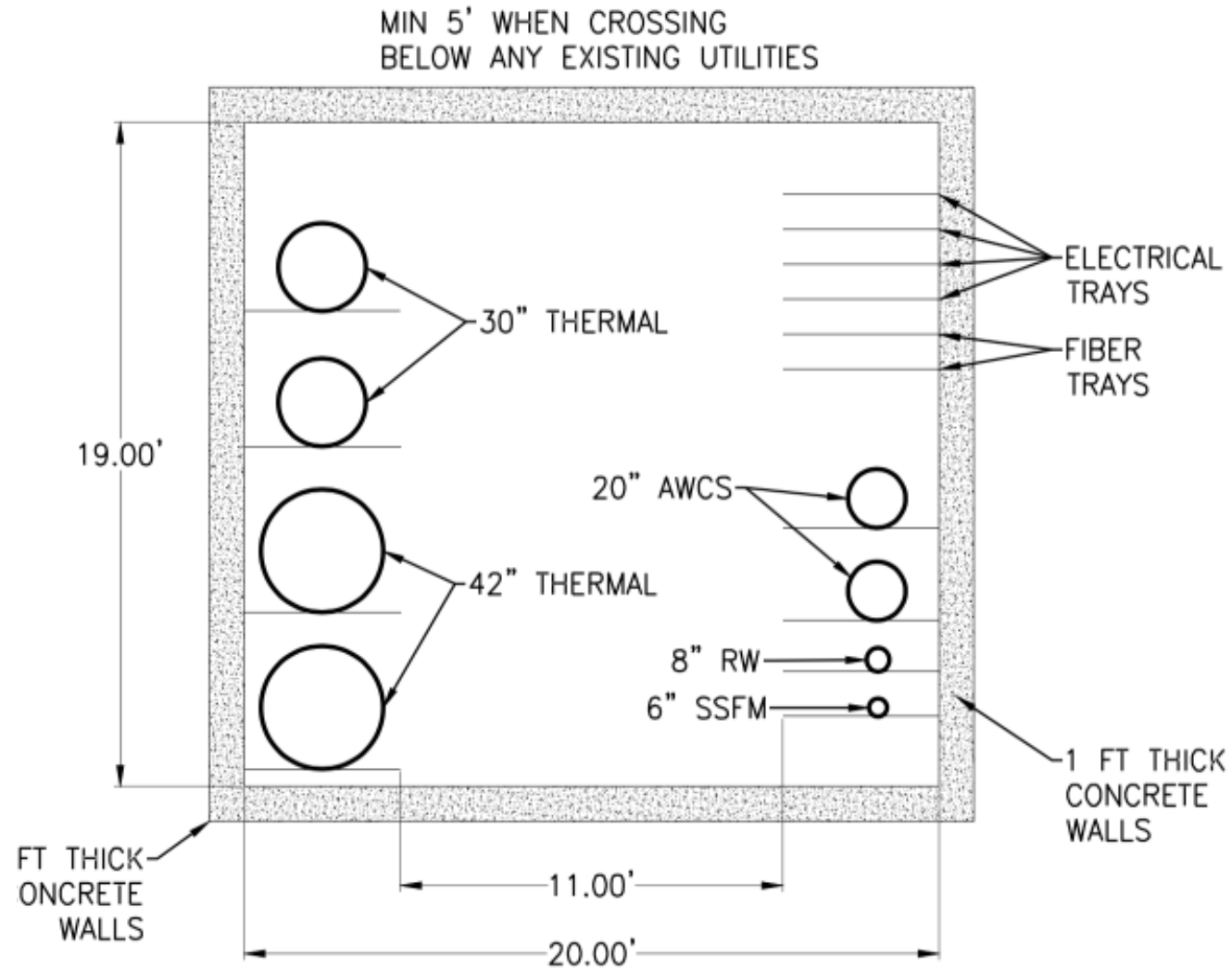


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 PLOTTED: 3/4/2021 4:12 PM S:\PROJECTS\1800\PLANS\HMM\1800\1030 571900 ENCROACHMENT DIAGRAM.DWG

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# Utilidor Conceptual Cross Section



# Microgrid Options

## San José Owned

### Municipal Supply

The City of San José is investigating the potential to provide a service to Downtown West

### Gonzalez Industrial Business Park Microgrid

(Completion 2022). Private power company owns and operates generation assets to sell to municipal-created utility for distribution.

### Philadelphia Navy Yard

(Operational 2016). Abandoned unregulated shipyard grid acquired by a public company (PIDC), which sought approval from PUC as an unregulated utility.

## PG&E Owned

### Incumbent Provider

PG&E has potential to service Downtown West via Community Microgrid Enablement Program (CMEP)

### Redwood Coast Airport Renewable Energy Microgrid

(Complete Nov 2021). CCA own and operates generation assets and sells wholesale to PG&E, which governs microgrid.

## Google Owned

### Privately Operated

Conditional on primary regulator approval. Unique circumstances and characteristics influence design

### Hudson Yard Microgrid

(Operational 2019). Unique utility Offset Tariff allowed distribution to neighboring loads on the same property.

### Apple Cupertino

(Operational 2017). 16 MW Solar, 4MW biomass, Fuel cell.

# Hudson Yards (Private System)

**Location:** New York, New York

**Utilities:** Heating, Cooling, Electricity, Rainwater Harvesting

**Owner:** Hudson Yards Microgrid Company (HYMco) –  
Privately owned Operator: HYMco

**Area Served:** 18 million square feet

**Customer Types:** Retail, hotel, schools, offices and residences



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# Hudson Yards (Private System)

## Key Details

- Grid tied Microgrid (similar to Downtown West), including two CHP/tri-gen plants (14.5MW capacity - serving circa 38MW peak demand) producing elect, cooling, & heating. ConEd provides primary grid connections.
- Electrical and thermal metering at each building managed by HYMco to bill tenants for heat, cooling, and electricity use based on published tariffs and submetering agreement.





# Hudson Yards (Private System)

## Key Details (cont.)

- Cooling in pavement also used to cool trees and help offset heat of subterranean trains.
- There is a private operating model which controls the relationship between the commercial owners, condos and HYMco.
- There are provisions to address the failure of the business or service (microgrid and thermal), with a range of remedies, including temp solutions & self help.



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CITY OF  
SAN JOSE  
CAPITAL OF SILICON VALLEY

# Entitlement

- Development Agreement
- General Plan/DSAP
- Municode/Zoning
- Infrastructure Plan
- Downtown West Design Standards and Guidelines
- Downtown West Improvement Standards
- Encroachments
- Vested Tentative Map
- Environmental Impact Report

Covers three options for microgrid ownership, sets development standards for central utility plant, analyzes environmental effects of project including district systems, enables utilidor crossings, covers conditions of approval related to district systems.



City Council Public Hearing on Downtown West



Conformance Review





# Checks and Balances

Criteria	Check Point	Description
<b>Service Levels</b> Performance/Procedures	Customer & Service Standards	Criteria are included within <b>Conditions of Approval</b> within the Vested Tentative Map.
<b>Rate Equity</b>	Rates Guarantee	They address <b>development and operation</b> of the systems across the life cycle.
<b>Safety</b> Standards & Operations	Statement Plan	Ensuring <b>reliable, safe and equitable</b> outcomes for the Community.
<b>Capital</b> Replacement & Improvements	Obligation & Right*	<b>Checks &amp; balances</b> will be included within covenants, including obligations with respect to capital replacement and improvements.
<hr/>		
<b>Tenure &amp; Exclusivity</b>	Enforcement Covenant All connected assets	To <b>underpin the private operation and ownership</b> of the system there will be specific development commitments.
<b>Continuity of Supply</b>	Office Obligation Assume role in failure	Including an <b>obligation for office owners</b> to step in to operate the system should the operator fail. Ensuring capital is available to preserve the systems and provide continuity of service.
<b>Qualified Operator</b>	Minimum Experience Clause in documents	Provisions to address when and who the systems can be assigned to - with thresholds on experience in sector and credit worthiness.
<b>Assignment Limits</b>	Infrastructure & Asset Experience	



# Considerations & Proposed Conditions of Approval

# Onsite Wastewater Treatment and Recycled Water Reuse

## Context:

- Existing wastewater treatment capacity at the San José-Santa Clara Regional Wastewater Facility
- Existing recycled water infrastructure could be extended to serve the development



# Onsite Wastewater Treatment and Recycled Water Reuse

## Future Considerations:

- Permitting
  - State wastewater permitting and recycled water standards will apply
  - City Industrial Discharge Permit will ensure compliance with the City's Pretreatment Program requirements
- Sanitary sewer service and use charges
  - City applies sanitary sewer service and use charges to customers based on use type
  - Must be applied equitably across customers in compliance with Prop 218 and Municipal Code requirements
- Odor
  - Odor control mitigation measures included under the Project's Mitigation Monitoring and Reporting Program requirements
  - Municipal Code odor mitigation requirements will apply
  - Overall odor controls overseen by BAAQMD

# Onsite Wastewater Treatment and Recycled Water Reuse

## City Oversight:

- Review permitting details, the application of appropriate use charges, and odor controls prior to the issuance of a building permit per Conditions of Approval
- Review Odor Mitigation Plan as required by Project's monitored mitigation measure

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# Electric Distribution System (Microgrid)

## **Future Considerations** (Depends on selected Service Option):

- City provided Service
  - Utility formation actions and approvals
  - Interconnection to PG&E system
  - Business relationship with Google for microgrid implementation and operations
- Google provided service
  - Google exploring alternatives to CPUC regulation
  - Franchise or appropriate mechanism
  - Required permitting details and compliance with Conditions of Approval





# Encroachment Permit

## What is an encroachment for private improvements?

- Public streets are held in public trust for the State
- Private improvements are allowed to encroach per San José Municipal Code Chapter 13.37

# Encroachment Permit

## Why a revocable encroachment permit?

- Assures the work is completed to standards and public streets are protected as an asset
- Public need and use of the streets may arise in the future
- Protects the public from responsibility and liability for the private improvements



# Encroachment Permit

## How are encroachment permits reviewed and enforced?

- Public Works reviews, inspects, and administers private encroachments
- Considers all users of the public streets during construction and ongoing operations and maintenance
- May require traffic control plan and lane closures

# Next Steps

- Council action on City Electric Service option
- Council action on Downtown West

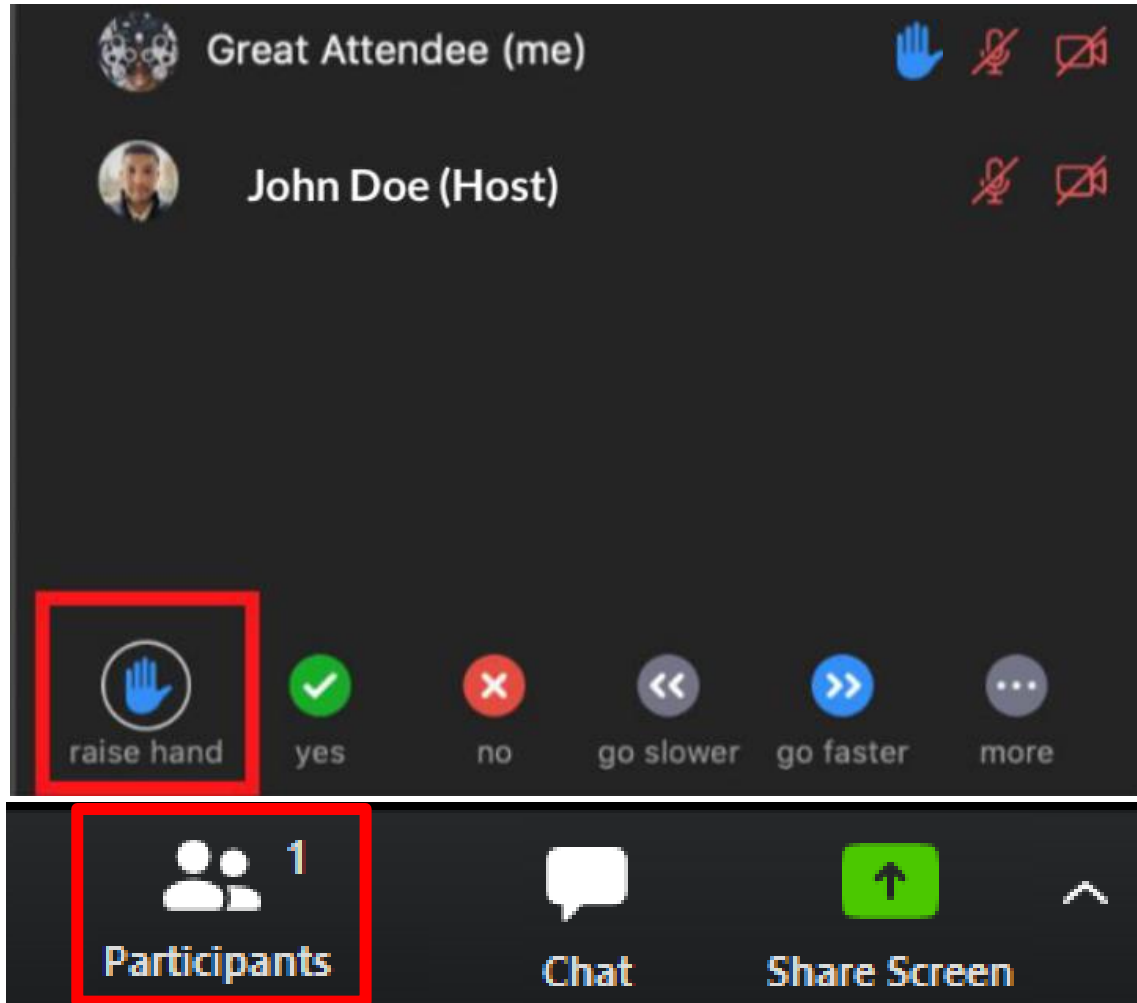
# Public Comment

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- Meeting recording and summaries posted at [www.diridonsj.org/saag](http://www.diridonsj.org/saag).



# Public Comment

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## PUBLIC COMMENT

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**By Phone** – if you're calling in please ***dial \*9*** to activate the ***Raise Hand*** feature.

The meeting facilitator will recognize you and unmute your mic.

*Comments received via email before the meeting will be part of the public record and included in the meeting summary.*

# Public Comment



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**Call In Number:** (888) 475-4499 (toll free)

**Meeting ID:** 951 890 84728

The meeting facilitator (the Mayor) will call out names of the public. You may identify yourself by using the “Raised Hand” feature on Zoom (on your computer), or by dialing \*9 on your phone.

As your name is called, the Mayor will unmute you to speak. After we confirm your audio is working your allotted time will begin.



# Thank You!

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