WATER | ENERGY | LIFE

RIVERSIDE PUBLIC UTILITIES

Board Memorandum

BOARD OF PUBLIC UTILITIES **DATE: JULY 11, 2022**

SUBJECT: UTILITY BILLING SYSTEM DATABASE DISASTER RECOVERY IMPROVEMENTS WITH A PUBLIC UTILITIES EXPENDITURE OF $196,249.59

ISSUE:

Consider approving an expenditure in the amount of $196,249.59 for the Riverside Public Utilities share of the capital purchase, for the utility's billing system database disaster recovery improvements.

RECOMMENDATIONS:

That the Board of Public Utilities:

1. Approve an expenditure in the amount of $196,249.59 for the Riverside Public Utilities share of the capital purchase, for the utility's billing system database disaster recovery improvements; and

2. Recommend that the City Council approve the purchase of the equipment and software detailed herein, with a Riverside Public Utilities cost of $196,249.59 and a total project cost of $392,499.18.

BACKGROUND:

The City's datacenters are responsible for storage, processing, and the distribution of large amounts of Citywide data (e.g., via databases, enterprise applications, billing, and financial systems, etc.). The amount of data processed and stored within the City is continually expanding. The City currently operates a database environment from its primary datacenter that is in need of a hardware upgrade.

Public Utilities' (RPU) and Innovation and Technology (IT) Department staff developed a technology continuity of operations plan, by reviewing the impacts and requirements for technology availability for all RPU's major technology systems. The team found, in certain disaster scenarios, the utilities billing system has a recovery time that does not meet RPU's operational expectations and needs. In the current architecture, data is backed up daily, which meets the needs, but a weakness exists in restoration time from backup for a complete data center failure (e.g., fire, flood). The time required to restore the current environment from a complete data center failure would impose significant business impacts to RPU. Widespread, internal and public-facing, service disruption may occur if City Hall's datacenter experiences an emergency.

In addition, the City's central storage system and some servers in the overall City and RPU database environment are no longer supported by the manufacturer. Expanding capacity and resolving these deficiencies requires upgrades to the primary datacenter database server equipment, including the disaster recovery site, to improve the City' s continuity of operations and providing automated failover of core critical services. The Budget Engagement Commission and the City Council allocated funding through Measure Z in 2017 to address this critical infrastructure gap, to maintain the City's digital infrastructure and improve resiliency to support City operations during emergencies.

The major Citywide applications benefiting from this shared technology infrastructure include:

- EnQuesta Utilities Billing system
- Oracle UWAM Utilities and Citywide Asset Management and Work Order system
- 311 Siebel Customer Relationship Management system
- Posse Citywide and RPU Permitting system
- M5 Fleet Management system

DISCUSSION:

The new server architecture bundles servers, storage, and virtual machine technologies into one package. This creates the next generation of datacenter virtualization, called Hyperconverged Infrastructure, modernizing outdated servers, storage and providing the City with Multi-Datacenter Active / Active resiliency. This project is imperative to the success of the City's continuity of operations, providing additional redundancy, efficiency, cybersecurity, and increased processing speed of citywide applications for users.

The new Hyperconverged Infrastructure will provide the City with Cloud-like capabilities that will allow the City to consolidate isolated datacenters while enhancing security, governance, reduce server quantities and software license costs while accelerating service delivery to City operations.

This new Hyperconverged Infrastructure will support the existing Citywide IT database server infrastructure. Dozens of applications rely on this database server infrastructure, most importantly the utility billing system. Furthermore, this platform aligns with the City's datacenter modernization efforts. These servers will provide the following benefits:

- Replace central storage with faster and distributed solid state storage
- Enable full utilization of the City's failover datacenter to mitigate the impact of a City Hall Datacenter outage
- Replace and consolidate older servers
- Lower total cost of ownership
- Enable better organizational agility
- Enable faster resource provisioning
- Improve cybersecurity by accommodating isolated virtual tenants, consolidate isolated department's datacenters, improve efficiency, reduce duplicate hardware, software licenses and streamline infrastructure management across all departments.
- Provide a scalable datacenter infrastructure, software, and security to support future City and Public Utilities smart cities technology initiatives

Through research and due diligence, it was discovered that the City could expedite the purchase

by procuring the servers and necessary software required to operate this new infrastructure directly from Dell Marketing LP, through the NASPO ValuePoint Cooperative Purchasing Agreement. The NASPO multi-state cooperative purchasing program provides pre-negotiated discounts to participating agencies. This cooperative purchasing program has been competitively bid nationally and meets the City's procurement requirements under Purchasing Resolution No. 23812, Section 602 (f), which provides that competitive procurement through the formal and informal procurement process shall not be required when "Cooperative Purchasing is available and undertaken or when Goods can be obtained through Federal, State and/ or other public entity pricing contracts or price agreements".

The Purchasing Manager concurs that the recommendation to approve is in compliance with Purchasing Resolution No. 23812.

STRATEGIC PLAN ALIGNMENT:

The item contributes to **Strategic Priority 6 - Infrastructure, Mobility & Connectivity** and **Goal 6.2.** - Maintain, protect, and improve assets and infrastructure within the City's built environment to ensure and enhance reliability, resiliency, sustainability, and facilitate connectivity.

The item aligns with each of the five cross-cutting threads as follows:

1. **Community Trust** – Upgrading the datacenter improves the City's continuity of operations, system reliability, and processing speed which all serve the greater public good.

2. **Equity** – This project benefits multiple public-facing systems such as Utility billing, 311 Customer Relationship Management system and the Posse Citywide and RPU Permitting system.

3. **Fiscal Responsibility** – This upgrade improves the City's fiscal resiliency given a datacenter outage. In addition, the purchase is being made utilizing the NASPO multi-state cooperative purchasing program which provides pre-negotiated discounts to participating agencies. This cooperative purchasing program has been competitively bid nationally.

4. **Innovation** – This upgrade to a Hyperconverged Infrastructure creates the next generation of data center virtualization modernizing outdated servers.

5. **Sustainability & Resiliency** – This upgrade is in direct response to the technology continuity of operations plan. It is imperative to the success of the City's continuity of operations, providing additional redundancy, efficiency, cybersecurity, and increased processing speed of citywide applications for users.

FISCAL IMPACT:

The total project cost is $392,499.18, of which RPU is responsible for $196,249.59, or 50%. Sufficient funds are available in the Business Systems Professional Services Account No. 6004000-421000.

Future licensing costs are estimated to be minimal and will be absorbed within the existing IT Operating budget.

Prepared by:	George Khalil, Chief Innovation Officer
Approved by:	Todd M. Corbin, Utilities General Manager
Approved by:	Kris Martinez, Assistant City Manager
Approved as to form:	Phaedra A. Norton, City Attorney
Certifies availability of funds:	Edward Enriquez, Interim Assistant City Manager/Chief Financial Officer/City Treasurer

Attachments:

1. Dell Technologies Quote No. 3000121985807.1
2. Presentation