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DATE: June 17, 2024

TO: Honorable Mayor and Members of the City Council through City Manager

FROM: Chelsea Thompson, Deputy Director of Environmental Services, Public Works & Utilities (PW&U)  
Gina Benedetti-Petnic, PE, Interim Director, PW&U

SUBJECT: Resolution Authorizing the City Manager to Sign the Memorandum of Agreement Establishing the Town of Windsor Biosolids Collaborative

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### **RECOMMENDATION**

It is recommended that the City Council adopt the attached Resolution authorizing the City Manager to sign the Memorandum of Agreement establishing the Town of Windsor Biosolids Collaborative.

### **BACKGROUND**

The Windsor Water District (Windsor) owns and operates a 2.2 million gallon per day Water Reclamation Facility that currently uses sludge ponds to store and stabilize the sludge generated by their wastewater treatment process. Windsor does not have a wastewater treatment process that creates biosolids through thickening, digestion, and dewatering, like the Ellis Creek Water Recycling Facility (ECWRF). For solids disposal, Windsor relies on third-party dredging, dewatering, and hauling of biosolids for disposal as land application. Windsor established several goals for biosolids management, including eliminating reliance on outside contractors for biosolids disposal, increasing the beneficial use of biosolids, and reducing the cost and carbon footprint associated with sludge disposal. Through a feasibility study and preliminary design process, Windsor selected thickening and dewatering, followed by biodryers and pyrolysis, as the recommended project for biosolids disposal. Surrounding Sonoma County communities, including the City of Petaluma, rely on outside contractors for the disposal of biosolids. Windsor contacted neighboring communities to inquire about potentially leveraging the new biosolids project as a regional facility.

The City of Petaluma's ECWRF has a wastewater treatment process that removes solids that are thickened with a belt thickener, digested, and dewatered with a screw press to create biosolids that are approximately 20 percent solid material by weight. The City relies on a contractor to haul and

manage the end use of biosolids through land application or further processing into a bio-fertilizer at a facility in Fairfield, Lystek OMRC-FSSD.

The regional portion of the Windsor biosolids project includes the biodrying and pyrolysis facility that would produce biochar for local use. Pyrolysis is a thermal treatment technology for biosolids that can produce a useful biochar product with reduced levels of per- and poly-fluoroalkyl substances (PFAS) and other contaminants found in biosolids.

The Windsor regional biosolids handling facility has the potential to reduce greenhouse gas emissions (GHGs) and have the following environmental benefits:

- Decrease the transportation distances for biosolids from various participating communities.
- Pyrolysis technology produces biochar, a charcoal-like product from the pyrolysis process. Biochar is an activated carbon material that can improve soil fertility and reduce the use of chemical fertilizers. As a soil amendment, biochar promotes carbon sequestration and improves soil quality.
- The concentration of PFAS present in wastewater treatment biosolids is a growing concern that may change the future of biosolids disposal options. Pyrolysis technology for biosolids can produce a useful biochar product with reduced or non-detectable levels of PFAS and other contaminants.

While the Windsor project aims partly to reduce regional reliance on outside contractors for biosolids disposal, the regional biosolids facility is not anticipated to be sized to accommodate all biosolids from Sonoma communities. Regional partners, including the City of Petaluma, may be able to send a portion of their biosolids to Windsor's regional facility. Still, Petaluma should not expect Windsor to be able to process all biosolids from ECWRF.

In February 2024, Windsor learned that their biosolids handling project qualified as a potential funding project under the Environmental Protection Agency (EPA) Climate Pollution Reduction Grants Program (CPRG) due to its significant impact on reducing greenhouse gas emissions. The CPRG program offered implementation grants for both individual agencies and collaborative groups. Collectively, the City of Cloverdale, City of Healdsburg, City of Santa Rosa, City of Petaluma, Sonoma Water, and Lytton Rancheria Tribe agreed to participate in applying with Windsor as a collaborative. Should the grant be awarded, funding would be put toward constructing a biosolids handling facility that all partner agencies would have access to.

The collaborative application was submitted by the deadline of April 1, 2024. For the collaborative to remain eligible for the CPRG, a Memorandum of Agreement (MOA) must be approved and signed by each participating agency and submitted to the EPA before July 1, 2024.

## **DISCUSSION**

The City of Petaluma currently has a contract with Synagro-WWT, Inc. to haul and manage the disposal of biosolids from the ECWRF. The ECWRF biosolids are currently land applied in Solano and Sacramento Counties, and 10% of the annual biosolids produced are hauled to the Lystek OMRC-FSSD processing facility in Fairfield.

Biosolids disposal options and regulations are constantly changing, and having a range of biosolids disposal options at hand is beneficial for the City. Upon learning about the Windsor regional biosolids handling facility, the City was interested in participating in the Windsor Biosolids Collaborative to both support this new technology that Windsor is embarking on and to express early interest in the potential future for a local biosolids handling facility that may also reduce GHGs. Biodryer/pyrolysis technology is new in the biosolids management industry. Should Windsor’s facility serve as a success in achieving its goal of local biosolids disposal and the associated environmental benefits, the City of Petaluma may consider using the Windsor facility for disposal of a percentage of biosolids from ECWRF or constructing this type of facility at ECWRF to process all biosolids locally. Windsor is in design for the project and anticipates project completion in 2028.

Windsor drafted an MOA to meet the requirements outlined by the EPA in the CPRG. Each participating agency was given the draft MOA for review. The City reviewed the MOA and provided comments that were incorporated into the final draft, which all entities have accepted. Upon adoption by all municipal agencies and the Lytton Rancheria Tribe, Windsor will submit the MOA to the EPA. The MOA is included as Attachment 2 to the Staff Report.

Grant award notifications are expected to be received in July 2024. The Town of Windsor is accountable to the EPA and accepts responsibility for carrying out the full scope of work of the regional biosolids handling facility project, all financial obligations of the grant, and all regulatory and any liability of the project. Participation in the MOA is entirely voluntary, and any party may withdraw from participation at any time.

### **PUBLIC OUTREACH**

This agenda item appeared on the City’s tentative agenda document on June 3, 2024 which was a publicly-noticed meeting.

### **COUNCIL GOAL ALIGNMENT**

The City Council has identified “Our Environmental Legacy” as one of its key strategic initiatives for 2021-2023.

- #46 – “Establish and promote a citywide sustainability program leading with exemplary environmental practices.”
- #42 – “Find ways for City operations to reduce greenhouse gas emissions, conserve water, decrease waste, and minimize the use of fossil fuels and investigate and pursue options for carbon sequestration.”

### **CLIMATE ACTION/SUSTAINABILITY EFFORTS**

The Petaluma Climate Emergency Framework Section 2: Mitigation and Sequestration identifies the following climate action goals: 1) Eliminate transportation emissions, 2) Enhance the urban

forest and adopt regenerative land-management practices across the Petaluma watershed and regionally in partnership with appropriate parties to maximize exemplary carbon capture and soil restoration, and 3) Reduce consumption emissions to the level necessary to meet our overall climate goals. The Windsor biosolids handling project may serve to promote the City’s climate action goals by potentially reducing vehicle miles traveled by the City’s contractors for biosolids hauling and disposal. The pyrolysis product, biochar, may also serve as a soil amendment and sequester carbon when land is applied locally. Windsor’s regional biosolids handling facility has the potential to be the first local biosolids handling facility for Sonoma County, with the additional benefit and intent to beneficially reuse the biochar product of pyrolysis to serve our local community and climate.

**ENVIRONMENTAL REVIEW**

This action does not require an environmental review. The current recommended action is not a “project” in and of itself (pursuant to CEQA Guideline section 15378) since it does not result in a physical environmental change.

**FINANCIAL IMPACTS**

There is no financial impact associated with the approval of this MOA.

**ALTERNATIVES**

The City Council may choose not to authorize the City Manager to sign this MOA. If the City of Petaluma does not enter into the MOA, the City’s biosolids disposal needs may not be considered in the planning process for the Windsor regional biosolids disposal facility, and the City may not be prioritized for future biosolids disposal at the facility once established.

**ATTACHMENTS**

1. Resolution
2. Memorandum of Agreement Establishing the Town of Windsor Biosolids Collaborative