

## 1.0 Utilities

### 1.1 Introduction

This Technical Memorandum describes the existing utility systems in the Proposed Action's Region of Influence (ROI) and potential impacts to utilities from the Proposed Action (i.e., Preferred Alternative) and the No Action Alternative. Measures to reduce potential adverse utility effects from the Proposed Action are also identified.

Treasury received comments related to utilities from stakeholders during the public scoping period. These comments primarily concerned existing utility capacities and requested information on proposed wastewater treatment processes and plans for discharge. Stakeholders also requested renewable energy sources, primarily solar power, to be used in the Proposed Action. Please refer to Treasury's [Public Scoping Report](#) for further details on the comments received during the scoping period. Concerns expressed during public scoping regarding utilities are considered and addressed in this analysis.

Utilities considered in this analysis include electricity, natural gas, water, sanitary sewer, non-hazardous solid waste, telecommunications, and stormwater management infrastructure.

### 1.2 Affected Environment

#### 1.2.1 Region of Influence

The ROI for this analysis is the Project Site and off-site areas providing required utility connections. Most of these connection points are located on Beltsville Agricultural Research Center (BARC) to the south of the Project Site. Specific locations of utility connections are shown in **Figure 1**.

#### 1.2.2 Applicable Guidance

**Table 1** identifies federal guidance and regulations relevant to this analysis. Treasury would comply with all federal and state regulations and guidance while constructing and operating the Proposed Action.

**Table 1: Utilities Applicable Guidance and Regulations**

| Guidance/Regulation   | Description/Applicability to Proposed Action  |
|---|---|
| <a href="#">Energy Independence and Security Act of 2007 (EISA)</a>                   | Establishes standards for energy efficiency in federal buildings and energy consumption reduction goals. Section 438 requires federal agencies to maintain the pre-development hydrology of project sites to the extent practicable through the consideration of green infrastructure and low impact development (GI/LID) features. |
| <a href="#">Executive Order (EO) 13834, Efficient Federal Operations (2018)</a>       | Mandates federal agencies to achieve reductions in building energy use. Requires new federal construction projects to conform to applicable energy efficiency requirements and sustainable design.  |
| <a href="#">EO 13508, Chesapeake Bay Protection and Restoration (2009)</a>            | Directs federal agencies to make efforts to protect and restore the Chesapeake Bay, and to establish strategies to address water pollution coming from federal lands and facilities. Guidance created under this EO provides stormwater best management practices to manage and reduce runoff.                                      |
| <a href="#">Unified Facilities Criteria (UFC) Department of Defense Building Code</a> | Establishes criteria for planning, construction, and modernization of buildings under the Military Departments. Includes criteria for energy and water efficiency and sustainable design for new construction and existing buildings.   |

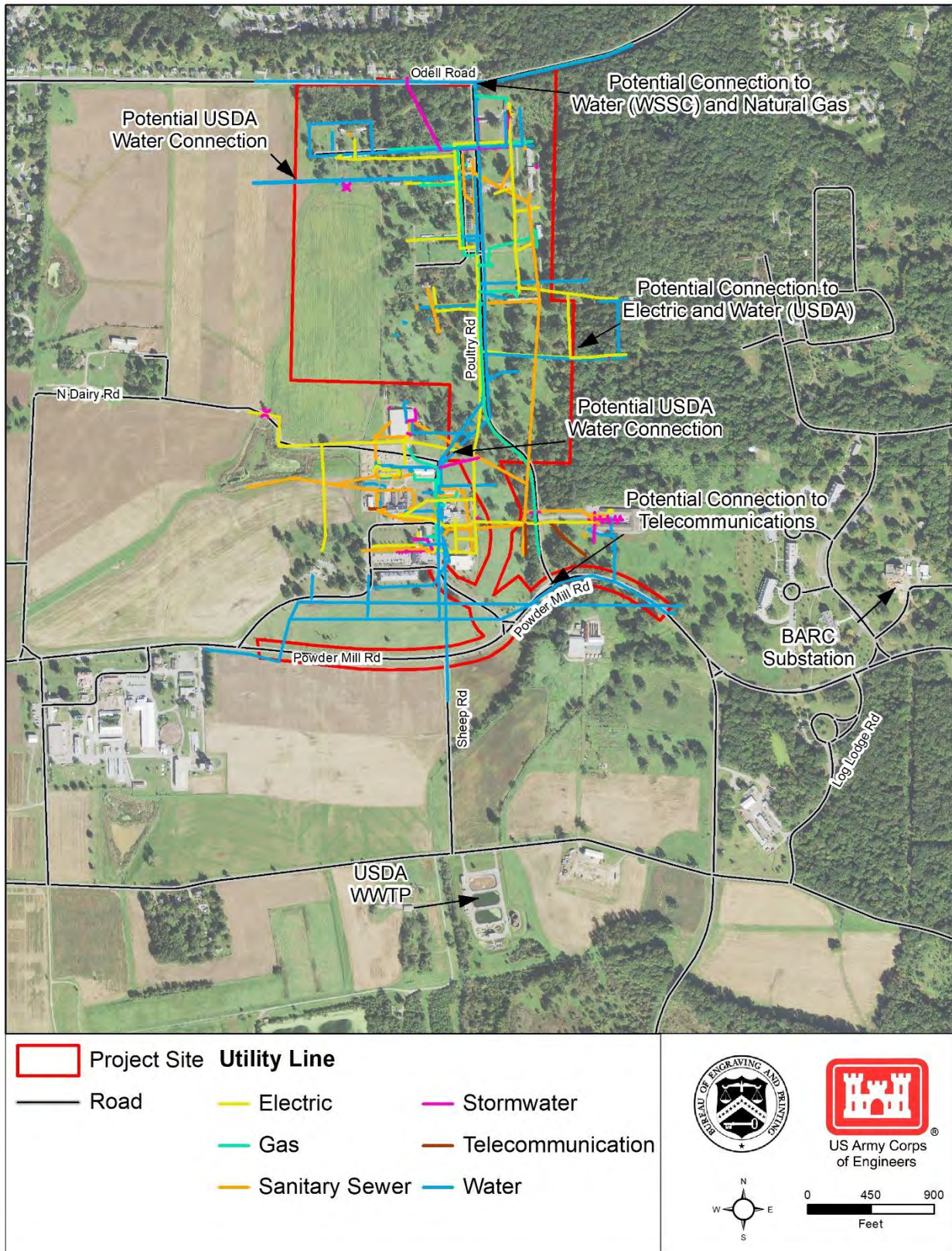


Figure 1: Existing Utility Infrastructure and Potential Connection Points in the ROI

### 1.2.3 Existing Conditions

Existing uses on the Project Site generate limited demand for utilities. Three small buildings remain operational within the Project Site and have a cumulatively minimal demand for electricity, natural gas, water, sanitary sewer, non-hazardous solid waste disposal, telecommunications, and stormwater management.

**Table 2** provides brief descriptions of the existing utility supply and the current conditions of the utility infrastructure within the ROI for electricity, natural gas, water, sanitary sewer, non-hazardous solid waste, telecommunications, and stormwater management. **Figure 1** identifies relevant utility infrastructure within the ROI.

**Table 2: Existing Utility Services in the ROI**

| Utility               | Provider                                       | Service Area  | Capacity   | Existing Conditions in ROI  |
|-----------------------|--|---|--|---|
| <b>Electricity</b>    | Potomac Electric Power Company (Pepco)         | <ul style="list-style-type: none"> <li>883,000 customers</li> <li>640-square miles, including Washington, DC, and Montgomery and Prince George’s Counties in Maryland (MD)</li> </ul>                       | <ul style="list-style-type: none"> <li>141 miles of 500 kilovolt (kV) transmission lines</li> <li>747 miles of 230 kV transmission lines</li> <li>72 miles of 138 kV transmission lines</li> <li>38 miles of 115 kV transmission lines (NERC, 2015)</li> </ul>   | Overhead 13.2 kV feeders distribute electricity throughout the Project Site from an existing substation located approximately 0.2 mile east of the Project Site boundary on Powder Mill Road. No renewable energy sources are present.                                    |
| <b>Natural Gas</b>    | Washington Gas                                 | <ul style="list-style-type: none"> <li>1.1 million customers</li> <li>Washington, DC and surrounding metropolitan areas in MD and Virginia (Washington Gas, 2020)</li> </ul>                                | <ul style="list-style-type: none"> <li>200 billion cubic feet of gas in 2018, 100 billion of which were provided in MD</li> <li>576 miles of transmission mains</li> <li>13,188 miles of distribution mains</li> <li>12,449 miles of distribution lines (WGL, 2019)</li> </ul>   | Natural gas lines are present throughout the Project Site, from Odell Road to Powder Mill Road. Several lines branch off to service existing buildings (BEP, 2020).   |
| <b>Water</b>          | Washington Suburban Sanitary Commission (WSSC) | <ul style="list-style-type: none"> <li>1.8 million customers</li> <li>Approximately 1,000-square miles, including Washington, DC, and Montgomery and Prince George’s Counties in MD (WSSC, 2020)</li> </ul> | <ul style="list-style-type: none"> <li>5,768 miles of freshwater pipeline sourced from the Potomac and Patuxent Rivers</li> <li>Two water filtration plants producing 390 million gallons per day (gpd) (WSSC, 2019; 2020)</li> </ul>  | A water line located along Odell Road runs adjacent to the Project Site. No service is provided to the Project Site (BEP, 2020).  |
|                       | US Department of Agriculture (USDA)            | BARC  | <ul style="list-style-type: none"> <li>Eight wells, three of which are operational</li> <li>One water treatment plant treating 750,000 gpd</li> <li>Distribution lines throughout BARC</li> </ul>  | Underground lines are located throughout the Project Site.  |
| <b>Sanitary Sewer</b> | USDA   | BARC  | <ul style="list-style-type: none"> <li>Sewage is conveyed to a USDA-owned and -operated wastewater treatment plant (BARC East WWTP) through gravity piping, lift stations, and force mains throughout BARC</li> <li>The BARC East WWTP is permitted to treat and discharge up to 620,000 gpd</li> <li>USDA is substantially renovating this system, independent of Treasury’s Proposed Action, to</li> </ul> | The USDA BARC East WWTP is located approximately 0.3 mile south of the Project Site. Its current average peak discharge is between 150,000 and 200,000 gpd. Sanitary sewer lines on the Project Site are in disrepair and inadequate for the Proposed Action (BEP, 2020). |

| Utility                   | Provider               | Service Area  | Capacity  | Existing Conditions in ROI   |
|---------------------------|------------------------|---|---|--|
|                           |                        |   | increase pump capacity and remove combined sanitary and stormwater sewers from the system   |  |
| Non-hazardous Solid Waste | Prince George's County | Prince George's County citizens, residents, and local businesses (Prince George's County, MD, 2020) | County-managed Brown Station Road Sanitary Landfill: <ul style="list-style-type: none"> <li>• Accepts 2,000 tons of waste per day</li> <li>• Total capacity of 8.5 million tons (MDE, 2016)</li> <li>• Currently at least 73 percent filled, with plans to extend its lifespan by 30 to 65 years (MDE 2018; Ricks, 2019)</li> </ul> | RJ Disposal Service collects and disposes of BARC wastes at off-site landfills and disposal facilities, including County-managed facilities (USDA, 2018). BARC operates recycling programs for concrete, asphalt, paper, cardboard, and aluminum (USDA, 1996).   |
|                           | RJ Disposal Service    | BARC (USDA, 2018)   |   |  |
| Telecommunication         | Verizon                | National, including BARC  | Widely available  | An operational telecommunications facility is present east of the Project Site, connecting existing infrastructure to a manhole located within the Project Site by the intersection of Poultry Road and Powder Mill Road. Four conduits are accessible from this manhole, and only half of one is currently in use. Lines are also located within the Odell Road right-of-way (BEP, 2020).   |
| Stormwater Management     | USDA                   | BARC  | <ul style="list-style-type: none"> <li>• Capacity is unknown; however, existing drainage is obsolete with significant inflow and infiltration issues (BEP, 2020).</li> </ul>  | Limited stormwater infrastructure is located on the Project Site, primarily in the northern portion; it consists of terra cotta stormwater piping with portions connecting to the sanitary sewer system. BARC operations are currently permitted under a National Pollutant Discharge Elimination System (NPDES) Phase II Municipal Separate Storm Sewer System (MS4) General Stormwater Permit (see the <a href="#">Water Resources Technical Memorandum</a> ). |

### 1.3 Environmental Effects

This section assesses potential impacts to utilities within the ROI that would occur under the Proposed Action (i.e., Preferred Alternative) and the No Action Alternative. Measures to reduce potential adverse utilities impacts from the Proposed Action are identified.

#### 1.3.1 Approach to the Analysis

Treasury assessed potential impacts to utilities within the ROI by comparing the capacity and condition of existing utilities that service the Project Site against anticipated utility requirements of the Proposed Action. Treasury conducted utility analyses, in consultation with utility providers, to determine both the anticipated needs of the proposed Currency Production Facility (CPF) and providers' capabilities to support the Proposed Action's utility requirements.

For this analysis, Treasury assumed that a significant impact would occur if the Proposed Action would:

- Result in prolonged or repeated service disruptions to utility end users.
- Substantially increase utility demand relative to existing and planned regional uses.
- Reduce local utility supply to the detriment of local communities.

#### 1.3.2 No Action Alternative

Under the No Action Alternative, Treasury would not construct the proposed CPF at BARC. Treasury would continue to operate the existing Washington, DC Facility (DC Facility) as under current conditions. The existing DC Facility, located in an urban environment, currently does not adversely impact local utilities. No operational activities would occur at the Project Site that would require utilities. As there would be no change to existing utilities at the Project Site, the No Action Alternative would result in **no impact** on utilities in the ROI.

#### 1.3.3 Preferred Alternative

The Proposed Action would include the following utility upgrades:

- All existing utility infrastructure at the Project Site would be removed and replaced with new infrastructure designed to support the specific needs of the Proposed Action, tying into existing utility infrastructure proximal to the Project Site (e.g., along Odell or Powder Mill Roads; see **Figure 1**).
- Renewable energy sources and sustainable features would be considered during design of the Proposed Action; currently, Treasury intends to incorporate rooftop solar panels on the proposed CPF. Additionally, high efficiency equipment and systems for heating and cooling, humidification, and lighting would reduce the amount of energy required to operate the proposed CPF, and the building's electrical and mechanical systems would be optimized through automation. Water requirements may be reduced through rainwater harvesting, non-potable greywater reuse, wastewater recycling, and low-flow plumbing features, currently being considered as part of the design process. The proposed CPF would achieve a Silver Leadership in Energy and Environmental Design (LEED) rating.
- An existing USDA water line that passes through the Project Site would be relocated around the proposed CPF and reconnected to maintain the loop in the current water distribution system.
- A new sanitary sewer lift station would be installed onsite. Approximately 1 mile of new force main would be installed to tie into the USDA's existing sanitary sewer system south of the Project Site.

- New GI/LID features would be installed and other stormwater control practices implemented on-site as part of Treasury’s stormwater management strategy in compliance with Section 438 of the EISA and EO 13508.

**Table 3** summarizes the anticipated utility providers for, and the utility demand of, the Proposed Action, as well as the anticipated capability of utility providers to meet these utility requirements based on current and/or proposed utility systems. Treasury generated the data presented in **Table 3** through extensive coordination with utility providers to the ROI based on the Proposed Action’s anticipated utility requirements (BEP, 2020).

**Table 3: Anticipated Utility Conditions**

| Utility               | Demand                     | Provider                   | Sufficient Capacity? |
|-----------------------|----------------------------|----------------------------|----------------------|
| <b>Electricity</b>    | 6.5 megawatts              | Pepco                      | <b>Yes</b>           |
| <b>Natural Gas</b>    | 600,000 cubic feet per day | Washington Gas             | <b>Yes</b>           |
| <b>Water</b>          | 280,000 gpd                | WSSC <sup>1</sup> and USDA | <b>Yes</b>           |
| <b>Sanitary Sewer</b> | 120,000 gpd                | USDA                       | <b>Yes</b>           |

1. Before supplying water for the Proposed Action, the WSSC would need to apply for a waiver from Prince George’s County to service the Project Site. Further, while Treasury anticipates using the WSSC for the full demand of the proposed CPF, Treasury would also establish a connection to the USDA water system to provide supplemental external fire protection capability.

Solid waste requirements of the proposed CPF would be similar to those of Treasury’s Western Currency Facility (WCF). The WCF generates approximately 1,200 tons of non-hazardous solid waste per year (BEP, 2018).

A minimum of two telecommunications providers would be required to ensure redundancy to the proposed CPF (BEP, 2017). However, Treasury has not yet determined telecommunication and stormwater requirements; these will be determined through the proposed CPF design process. Treasury would continue to work with all utility providers through the design process to ensure sufficient capacity is available.

#### *Construction*

Construction of the Proposed Action would not require the use of any on-site utilities, as construction equipment would be diesel-powered. Therefore, the Proposed Action would have **no impact** on utility supply during construction.

Service disruptions to local communities could occur while new utility infrastructure is being connected to the existing, non-USDA owned systems. Specifically, natural gas and water utilities would connect to infrastructure located along Odell Road. However, these disruptions would be minimized to the extent practicable through efficient construction sequencing (e.g., keeping existing utilities operational until the new utilities are ready to be connected), and affected end users would be given advance notice of anticipated disruptions. Therefore, the Proposed Action would result in **negligible adverse impacts** to the ROI from temporary service disruptions of natural gas and water utilities during construction.

All other utility modifications would be for utilities located on BARC and associated with BARC operations; **no impacts** to non-BARC end users would occur. Similarly, solid waste generated during construction of the Proposed Action would be recycled or disposed of by the construction contractor and transported to nearby landfills by an appropriate disposal service contractor. The amount of solid waste generated by demolition and construction would not place undue burden on existing landfills and designated disposal sites. In accordance with federal directives, Treasury would recycle materials to the maximum extent feasible.

Construction of the Proposed Action would remove existing utility systems that are outdated and in disrepair from the Project Site, replacing them with new, efficient utility infrastructure. This would result in the improved condition and operation of utility systems at the Project Site, such as by decoupling the stormwater management and sanitary sewer systems. Therefore, utility upgrades associated with the Proposed Action would constitute a **beneficial impact** to BARC, including the Project Site, due to improved utility efficiency.

Treasury would control stormwater discharges from the construction site through compliance with NPDES permitting requirements as described in the [Water Resources Technical Memorandum](#).

### Operation

As shown in **Table 3**, operation of the proposed CPF would generate demand on the utilities servicing the Project Site; operation of the proposed entrance road would not require use of utilities. Under current conditions, there is virtually no utility demand in the Project Site.

Through detailed analysis and close consultation between Treasury and ROI utility providers, the utility providers identified that they would be able to accommodate the increased demand from the proposed CPF while still meeting their existing and known future demands. The long-term increase in utility demand from the proposed CPF would be minor in comparison to the overall capacity of the utility service providers and would not reduce utility supply for other customers. Available supply for potential future developments in the area may be reduced, but this effect would be minor as utility providers are continually improving and expanding their service.

Overall, the Proposed Action would cause **negligible adverse impacts** on utility demand and availability, as increased utility usage would be relatively small compared to the available capacity of regional and local utility providers. Additionally, in compliance with federal directives, Treasury would pursue energy efficient and sustainable design strategies, including maintaining a Silver LEED rating, installing rooftop solar panels, and potentially implementing other renewable energy systems, to minimize the utility demand for the proposed CPF.

All discharges of stormwater and sanitary sewer would be properly controlled in accordance with federal and state requirements. Wastewater would be treated by the USDA-owned WWTP on BARC to required standards. The WWTP is permitted to discharge a daily maximum of 620,000 gpd, and currently discharges between 150,000 and 200,000 gpd; it has sufficient permitted capacity remaining to treat Treasury's estimated 120,000 gpd of discharge while still meeting its permit conditions and MDE-permitted capacity. No modifications to either the WWTP or its operating permit are currently anticipated under the Preferred Alternative. Operation of the Proposed Action would not discharge waste directly to surface waters.

Stormwater management in accordance with Section 438 of the EISA and EO 13508, including use of GI/LID and methods for controlling nonpoint source pollution, would manage water pollution and ensure post-project hydrology mirrors pre-project hydrology in terms of volume, quality, temperature, and other critical parameters (see the [Water Resources Technical Memorandum](#)). Treasury's stormwater management strategy would account for stormwater that currently drains to the sanitary sewer system from the Project Site (i.e., due to existing stormwater inflow/infiltration issues) that would be eliminated by the Proposed Action.

### 1.4 Impact-Reduction Measures

As part of the Proposed Action, Treasury would implement the following impact-reduction measures to minimize potential adverse impacts to utility systems and end users:

- Minimize utility disruption to end users by implementing efficient construction sequencing of utility modifications.



- Provide advance notice to potentially affected end users of any anticipated disruption to allow for adequate planning.
- Obtain all required permits before any proposed utility work commences and adhere to permit conditions.
- Consult with utility providers throughout the design process regarding utility supply and efficient infrastructure options to support the Proposed Action.
- Achieve a Silver LEED rating to maximize resource efficiency and minimize utility demands.
- Incorporate GI/LID design features in accordance with Section 438 of the EISA to maintain the pre-project hydrology of the Project Site to the extent practicable, and incorporate stormwater control best management practices in accordance with EO 13508 to minimize the strain on stormwater infrastructure.

### 1.5 Mitigation Measures

No project-specific mitigation measures are recommended.

### 1.6 References

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