Farnsworth GROUP

Memorandum

Date: August 8, 2022

To: Village of Dwight Council

From: Bob Kohlhase/Zach Knight

Re: Dwight Correctional Center Assets Review

There have been ongoing considerations to evaluate the merits of taking possession of the former Correctional Center for the potential value and opportunities it may provide to the Village over time. The Facility was operated from 1930 to 2013. Following are key points to consider and identification of additional information needs prior to any commitments with State of Illinois through Central Management Services. This is not a detailed study but rather a first level cursory response. We can provide more detailed survey and analyses as found needed.

We toured the grounds with a drive through to understand current conditions on June 1, 2022. Following is an executive level evaluation based on prior knowledge of the property and professional experiences in evaluating facility assets.

The 160.47 acres of property generally includes:

- Water Treatment Plant
- Two (2) Deep Bedrock Wells
- Elevated Storage tank
- Wastewater Treatment Plant
- Home
- Storage Building
- Maintenance Building
- Approximately 30 Buildings of varying Purpose.
- Open Land comprised of agriculture and natural conditions.

The primary interest in the former correctional center property at this time is the potential value the Water Treatment Plant, two Wells, Elevated Water Tower and Wastewater Treatment Plant may provide to the Village in a short-term or long- term basis.

- **Water Treatment Plant (WTP)**

  Farnsworth Group designed a new drinking water treatment plant in 2000 and construction was completed in 2001. The WTP consists of two separate water treatment systems. First, is a softening system for when Village supplied water was used by the Center to lower the hardness levels in the water.

  The second system is a Reverse Osmosis (RO) Plant designed and constructed for treating water from the two onsite deep bedrock wells. The deep bedrock water is highly mineralized (salty) that requires the RO system to remove the minerals to meet expected water quality levels.

  To utilize this water supply and WTP would require the rehabilitation of the RO membranes and a thorough preventative maintenance check out of all the components of the WTP to ensure functionality after sitting idle for 10 years. The operation of this WTP RO plant will require a Class A Water Operator. To transfer water back

to the Village would require using the water main that currently was used to bring Village water to the Center. Some piping and valve modifications would be required to reverse the flow direction. In addition, the high service pumps that are the primary pumps to move water to the reach of the elevated tanks would need to be evaluated and likely upsized to handle the new pressure head requirements.

The treatment capacity of the WTP was designed to process 100 gallons per minute (gpm) as compared to up to 1200 gpm at the Village WTP. Before adding this water to the Village supply, current regulatory requirements would require a study of the impact of blending two different sources of water (bedrock aquifer and sand/gravel aquifer water) to the corrosivity to the plumbing to meet copper and lead monitoring requirements.

Generally, there would be a significant financial and operational commitment required to utilize the WTP for a 100-gpm water supply after proper evaluations were conducted.

- **Two (2) Deep Bedrock Water Supply Wells**

Well #1 was drilled to 1203 ft in 1930; Well #2 was drilled to 1201 ft in 1948. The water chemistry of this water is much different than the Village wells with high mineral content that requires the RO plant to remove the salts. The production capacity of these wells was noted as 100 gpm, although historical records indicated the original test were performed at 150 gpm. The yield characteristics for theses deep bedrock wells are typical of other similar wells in central Illinois. For reference, the Village wells that tap a sand and gravel aquifer, pump at 600 gpm.

These wells exist at the Center because the bedrock aquifer is the only water supply source available. The Center had been connected to the Village water supply for a reliable water supply that has better water quality. After the new WTP was constructed, the Center was able to supply acceptable water quality using these wells. It is not unusual for these types of bedrock wells to have this longevity. These wells, if not used, would be required to be properly abandoned in accordance with Illinois Water Well Code, that may be at least $100,000 cost.

- **200,000 Gallon Elevated Tank**

Erected in 1986, this 200,000-gallon tank storage was built to serve the Center. The village currently has 750,000 gallons of elevated storage and currently would not benefit from adding this tower to the same pressure zone of the Village. The Center's tower could be connected to the Village system if piping valve changes were made. However, the purpose of the tower is to serve the Center with consistent pressure and fire flow requirements. The tower connected to the Village requirement would operationally challenging. Without local water use at the Center, water in the Tower would become stagnant being at a "dead end" of the water supply with no local users. If the Center were to be repurposed, then the Tower would then again be useful for local pressure and fire flow needs.

If the tanks were to be owned by the Village, the first step would be an inspection and painting rehabilitation would be likely. Initial painting maintenance could be $500,000. As an evaluation step we could inspect the tower now to understand the current condition.

- **Wastewater Treatment Plant- (WWTP)**

  We do not have access to design plans for this plant. From viewing the aerial photos, it appears this WWTP consists of a classic mechanical WWTP that includes headworks buildings, clarifier, aerated sludge digestor, aeration pond and sand filter. The NPDES Permit to operate this plant has expired and any reuse would require a permit renewal, which would require an evaluation of the plant and new effluent discharge standards.

  If restarting the WWTP was considered, it would lead to a facilities evaluation comparing the cost of rehabilitating the plant compared to having a pump station that would transfer the wastewater to the Village system. The IEPA prefers to reduce NPDES permits and regionalize when feasible. If a force main sewer was built to connect to the Village, this may provide opportunities to open development on the west side of the interstate if water and sewer was made available.

  Another aspect that would require evaluation would be the sewer collection system for the Center buildings and site pump stations that may exist to move the sewage the WWTP. A detailed conditions and alternative study would be required to determine the scope of rehabilitation required. Part of the study would be to determine costs estimates. However, for this initial feasibility discussion and magnitude expectations, the budget level would likely reach $1 million, to start. This WWTP would only serve the Center buildings and not the Village wastewater needs.

Facilities Overview:

Other Center facilities consist of a Home, Storage Buildings, Maintenance Buildings, approximately 30 Buildings of varying purpose and open Land comprised of agriculture and natural conditions. During our visit the grounds were observed to have conditions that included overgrown vegetation and woody plants in all areas of the property making access difficult. Buildings were observed to have been compromised to the elements with roof openings/collapse and windows, side openings. All the facilities would need to be evaluated for condition, value, and need.

It would be recommended that if the Village wants to pursue ownership, that a Master Plan be developed to identify a business plan for that property and identify cash flow budgets to maintain and operate the facility. Detailed understanding of the State restrictions of that property use and rental or sale would need to be fully understood. Hundreds of thousands and millions of dollars would be needed to maintain, rehabilitate, or demolish. There are many unknowns and liabilities associated with this property. Formal condition assessments would eventually be needed.