Question & Answer Document

PROPOSED MUNICIPAL WATER SYSTEM

1. **What is a "Public Water System"?**
   The Iowa Department of Natural Resources (IDNR) defines a Public Water System (PWS) as "A system for the provision to the public of water for human consumption…[which] has at least 15 service connections or regularly serves an average of at least 25 individuals daily at least 60 days out of the year". PWSs are further defined as:
   - Community Water Systems (CWS) which is a PWS that "…has at least 15 service connections used by year-round residents or regularly serves at least 25 year-round residents."
   - Non-Transient, Non-Community (NTNC) Water System which is a PWS that "…regularly serves at least 25 of the same persons four hours or more per day, for four or more days per week, for 26 or more weeks per year. Examples of NTNCs [can include] schools, day-care centers, factories, offices…hotels, resorts, hospitals and restaurants…".
   - Transient Non-Community (TNC) Water System which is a PWS that "… does not regularly serve at least 25 of the same persons over six months per calendar year."

2. **Who has regulatory authority over a PWS?**
   The IDNR oversees the PWS program in Iowa as a delegated authority of the Environmental Protection Agency (EPA). As the local authority, IDNR maintains regulations over PWSs which include the establishment of drinking water standards such as maximum contaminant levels, treatment techniques, maximum residual disinfection levels, and action levels; monitoring requirements; viability assessments; consumer confidence reporting; public notice requirements; public water supply system operator certification standards; environmental drinking water laboratory certification program; construction standards; and funding through a state revolving loan program consistent with the federal Safe Drinking Water Act. These regulatory requirements are primarily identified in Chapters 39-44, 50, 52, and 81-83 of Section 567 of the Iowa Administrative Code.

3. **What is a Private Water System? And who regulates it?**
   A private water system is a water supply system that does not serve the minimum number of persons for the minimum durations identified for a PWS above. Private water supplies are regulated by local boards of health.

4. **Does the City of Swisher have any PWSs?**
   Yes. The City of Swisher is served by a mixture of Public and Private Water Systems. There are a total of seven (7) PWSs within city limits that include two (2) CWSs that serve developments and five (5) TNC PWSs which include a child care center, a bank, and restaurants.

5. **What has the City of Swisher done to take steps towards a Municipal Water System?**
In 2019, Swisher City Council Member, Jerry Hightshoe proposed forming a Water Feasibility Committee. At the September 9, 2019 Council meeting, Councilor Mary Gudenkauf requested guidelines for structuring this committee that she and Councilor James Rowe would serve on. HR Green was retained to evaluate alternatives for water supply, treatment, storage, and distribution. After discussion, it was recommended to have a core committee of 7 members consisting of:
2 councilmembers, 2 business owners, 2 city residents and 1 fire department representative with the City Engineer and Public Works Superintendent as advisory members as needed. The City of Swisher asked for letters indicating interest and the following members agreed to serve:
Curt Cline, Resident
Mary Gudenkauf, Resident and Swisher City Council Member
Glein Heims, Resident and Jefferson Monroe Fire Department Chief
Kris Heims, Resident
Norm Neal, Resident
James Rowe, Resident and Swisher City Council Member

The first meeting was held January 29, 2020. The water system study completed by HR Green was presented to the committee on February 7, 2022.

6. **Does the City have any requirements or regulations associated with a future Municipal Water System?**
The City of Swisher has implemented design requirements for developers building within corporate limits. These supplemental standards require the developers to complete the following:
    - Provide a source of water to serve the development. Recent neighborhood developments within the City included drilling Silurian wells in 2000 and 2014 to serve these projects.
    - Design and install minimum 6-inch diameter water main. The water main is intended to be available for connection to a future Municipal Water System.

Utilizing this approach, the City is laying a foundation for minimum community development requirements to meet both immediate and potential long-term needs in the event that a Municipal Water System is adopted, while minimizing the costs for current members of the community.

7. **What infrastructure would be required for a Municipal Water System?**
HR Green completed a study and prepared a Preliminary Engineering Report (PER) in 2022 that identified the available options and infrastructure needs for a Municipal Water System. The following infrastructure and improvements would be required to meet IDNR standards and regulations:
    - Source water: For systems that utilize groundwater, a minimum of two (2) wells are required to provide redundancy to meet peak system demands with the largest single well out of service for maintenance and/or repair. More information on the groundwater source is provided below.
    - Treatment facilities: Groundwater systems are required to meet the EPA's Groundwater Treatment Rule, Revised Total Coliform Rule, EPA's primary drinking water standards, and the Lead and Copper Rule. These are discussed in detail below.
    - Water storage: A minimum storage volume corresponding to the annual average day system demand is required. In systems the size of Swisher, storage is typically provided in a water tower (aka elevated storage tank, or EST). In addition to meeting system demands, EST facilities can be sized to provide fire flow service. More information on fire protection is provided below.
    - Water Main Distribution System: Water main piping is provided to convey water from the source/treatment systems to the customers. For systems providing fire flow service, a minimum water main size of 6-inch diameter is required with hydrants spaced throughout the system approximately 350-600 feet apart and near street intersections.

- Emergency Standby Power: Regulations require that water systems provide standby power to operate production facilities in order to meet average day demand conditions on the water system.

8. What is the target source for water?

HR Green's 2022 PER evaluated multiple sources of water with a focus on groundwater aquifers. The Silurian-Devonian was recommended in order to provide a reliable source of sufficient water quantity, water quality, and maintain classification as a groundwater system. There are multiple Silurian wells within City limits, including most of the current PWSs. Additional expansion of this aquifer source would be compatible with any existing wells and their water quality.

9. What is the Groundwater Rule and what treatment is required?

EPA promulgated the Groundwater Rule (GWR) in November 2006 to reduce the risk of illness caused by microbial contamination in public groundwater systems. The GWR includes the following:

- Treatment for 4-log virus deactivation is not required by the GWR. However, for those systems that do not provide treatment are required to conduct triggered source water monitoring in the event of a coliform-positive routine sample (see TCR below).
- Systems can provide treatment for virus deactivation through chemical disinfection, filtration, and other forms of treatment (e.g., ultraviolet radiation).
- For systems serving 3,300 or more people and which provide treatment for virus deactivation, daily monitoring of disinfection residuals is required.

10. What is Revised Total Coliform Rule and what sampling is required?

EPA promulgated the Total Coliform Rule (TCR) in June 1989 and established additional "find and fix" measures as part of Revised Total Coliform Rule (RTCR) in November 2006 to reduce the potential pathways for entry of fecal contamination into distribution systems. The TCR and RTCR require routine monthly (or more frequent) monitoring of total coliform and E. Coli in a distribution system. Positive results trigger action by the GWR and additional "find and fix" Assessments by the TCR.

11. What is the benefit of a Municipal Water System for fire protection service within the City?

The projected water demand of the community will drive the sizing of an elevated storage tank (EST) to be approximately 250,000 gallons. This size of water tower will support fire flow rates in the range of 1,000 to 1,500 gpm that would be delivered through hydrants spaced as identified above. Jefferson Monroe Fire Department (JMFD), located immediately outside Swisher City limits, serves the City of Swisher and the surrounding areas with Jefferson and Monroe Townships. JFMD utilizes its own private well which it can use to refill tanker trucks and haul water within its service area. JFMD currently utilizes four (4) trucks each with a storage tank ranging from 400 to 3,000 gallons and pumps ranging from 1,000 to 1,500 gallons per minute (gpm).

A Municipal Water System with storage facilities and hydrants capable of providing fire flow service would provide a significant benefit to the logistics of the JMFD. Under current operating procedures, JMFD staff would utilize 8-12 firefighters in responding to a service call. In locations with a hydrant that provides fire flow service, up to half of the JMFD staff responding would be needed to refill tanker trucks off-site. Providing a reliable source of water for fire protection that equals or exceeds JMFD's current pumper trucks' capacity and provide a continual source of water would allow JMFD staff to remain on-site throughout a service call.

Finally, IDNR design standards for a PWS distribution system requires that operational pressures be maintained in a suitable range, which is generally recommended in the range of 60 to 80 pounds per

square inch (psi). These design standards are intended to not either over-pressurize the system or result in insufficient pressures during high-flow events such as fire flows. Maintaining minimum service pressures of 20 pounds per square inch (psi) will ensure the integrity of the piping to prevent a collapsed main (or fire hose) while also maintaining positive pressure to prevent contamination of the piping system.

12. How does fire protection service benefit homeowners?

The Insurance Service Office (ISO) provides classification ratings for communities that incorporates factors such as fire department staffing and response time, critical fire flow needs in the community, and the water system's capacity and reliability to deliver fire flows. A Public Protection Classification (PPC) Rating is provided which ranges from 1 (exemplary public protection) to 10 (doesn't meet minimum ISO criteria). These ISO community ratings are utilized for insurance companies to establish insurance premiums.

The JMFD has an ISO Rating of 9 for areas within 5 road-miles of its department, and 10 for areas outside the 5 road-mile limit. JMFD staff have indicated a Municipal Water System capable of providing fire flow service would reduce the community's ISO rating to be in the range 6-7. This rating change could result in a reduction in insurance premiums for homeowners and businesses.

13. What are the health benefits for a Municipal Water System?

A Municipal Water System would be required to undergo regular monitoring and water quality sampling in accordance with EPA and IDNR requirements. This would include initial and regularly-occurring source water quality sampling that includes: *alkalinity , pH, calcium, chloride, copper, hardness, iron, magnesium, manganese, potassium, silica, specific conductance, sodium, sulfate, filterable (TSS) and nonfilterable solids (TDS), zinc, gross alpha particles, combined radium, uranium, antimony, arsenic, asbestos, barium, beryllium, cadmium chromium, cyanide, fluoride, mercury, nitrate, nitrite, selenium, thallium* and over 55 additional volatile organic compounds (VOCs).

In addition, emerging contaminants identified by the EPA will trigger additional source water quality monitoring as regulations are expanded. The most recent example of an emerging contaminant in drinking water is the occurrence of per-and poly-fluoroalkyl substances (PFAS), or "forever" chemicals that were used in fire extinguishing foams at airports and firefighting training facilities, in manufacturing facilities, stain-resistant fabrics, non-stick cookware, food packaging, etc. PFAS have been detected in primarily rural, shallower private wells in the areas between Swisher and the Eastern Iowa Airport.

For comparison, Johnson County Public Health requires an initial water quality sampling for a private well include *coliform bacteria* and *nitrate*. This sampling is to be done for a new, reconstructed, or rehabilitated well and be completed 10-30 days after the well has been put in service. Johnson County Public Health provides residents served by private wells free well sampling for select water quality constituents. The Iowa DNR provides limited supplemental funding for free PFAS sampling for residents served by private wells based on priority locations. Residents in Swisher may be eligible for this PFAS sampling and may call Johnson County Public Health (319-359-6040) to confirm based on their address. Johnson County has been allocated a set allowance by DNR for this PFAS sampling, so tests are administered on a first come-first served basis for eligible residents.

14. What are the operational benefits for a Municipal Water System?

A Municipal Water System would be required by the Iowa DNR to have redundancy and stand-by emergency power for continued operation. By designing and constructing a Municipal Water System to meet these redundancy requirements, the loss of water service is greatly diminished and/or eliminated due to equipment failure, power outage, or other natural disasters (such as the 2020 Derecho). These

provisions would provide for continued water service for residents and to provide uninterrupted fire protection service.

15. Does the development of a Municipal Water System mean the City of Swisher will experience high growth?

No, a Municipal Water System does not mean that the community will experience aggressive growth and development. The City Council is responsible and charged for managing the overall growth, development, zoning, and other related long-term matters of the City. Implementation of a Municipal Water System offers the City greater control in terms of the types of growth and development opportunities available within the community. For example, it may not be cost-effective for a new assisted living facility to build within City limits if it would be required to drill its own private well and provide fire tanks or other similar fire protection services that are required by current Building Codes which would otherwise be provided by a Municipal Water System.

16. What are the benefits of a Municipal Water System for the City's potential growth and development?

There are a number of benefits a Municipal Water System provides to the potential growth and development opportunities within the community:

- With a Municipal Water System, the City of Swisher is better situated to attract businesses and developments. Water, fire protection, and sewer availability are crucial utilities and factors for development and the ability to expand the opportunities for different businesses within the community.
- Water and fire service availability provides the City of Swisher greater control for establishing area zoning and negates any limitations associated with types of developments due to non-availability of these services. A Municipal Water System could ultimately provide additional control both within the community and in the immediate fringe areas adjacent to the City of Cedar Rapids and Johnson County.
- As the community continues to grow and expand, there is a benefit to the current community due to spreading out the overall costs of the City's infrastructure to a larger number of customers and rate payers.

17. What is the impetus for the City to implement a Municipal Water System at this time?

There are two primary reasons which provide for a unique opportunity to lessen the costs for the improvements needed to develop a Municipal Water System:

1. Developments are planned within areas annexed by the City. As identified above, the developers would provide wells and distribution system piping to serve these new developments. The size and timing of the developments provides the City an opportunity to provide an up-front additional capital investment to maximize the planned infrastructure as part of these developments. In addition, the planned development infrastructure can be utilized to provide long-term water service outside these immediate developments as part of a phased implementation approach. This approach would take advantage of facilities provided by the developer and allow expansion to meet the City's long-term needs as part of a Municipal Water System. The Preliminary Engineering Report Amendment prepared by HR Green evaluated a phased implementation to utilize and expand the developer-planned water infrastructure improvements to expand towards an overall Municipal Water System. The timing and implementation of this phased approach could offer overall cost savings between the City and the planned developments. The Preliminary Engineering Report and Amendment can be found on the City's website.
2. Infrastructure funding is available through the Federal and State governments, see discussion item below with regard to the IIJA/BIL programs.

18. **What would the proposed phased implementation of a Municipal Water System look like for the City?**
The study completed in 2022 by HR Green laid out a possible implementation of a Municipal Water System with two phases:
    1. **Initial Improvements:** This phased approach would utilize the facilities planned as part of the developments, including maximizing the capacity of the developer's wells. In addition, a water tower would be constructed that meets both the developer's and overall community's long-term needs. A dedicated pipeline would connect the two developments to form an initial service district that initially includes the developments but can be expanded over time to the entire community.
    2. **Long-Term Improvements:** The second phase consists of the build-out of the water distribution system to serve the existing residences, businesses, and other customers. In addition, it is anticipated that one additional well would be needed over this time period. These improvements could be implemented over an extended period (e.g., 10 years or more) and look for opportunities to install water main concurrently with other roadway, sewer, or similar capital improvement projects (CIP) which could reduce the total project costs.

19. **What are current estimates for these phased improvements?**
As part of HR Green's 2022 PER Amendment No. 1, the following preliminary planning-level costs were identified as part of the study:
    - Phase 1 Initial Improvements: $5,220,000. These improvements would be implemented immediately and completed within the next two or three years.
    - Phase 2 Long-Term Improvements: $13,950,000. These improvements could be implemented as part of joint projects with other Capital Improvement Plan (CIP) Projects, which could reduce these costs. It would be advantageous to implement these Phase 2 water system improvements as part of an overall joint CIP in order to implement this system cost-effectively while also minimizing the direct impacts of construction on the community. The implementation period could be considered over the next ten to twenty years.

    For planning purposes, these costs were estimated over the course of a 30-year loan through a low-interest State Revolving Fund loan. The corresponding Phase 1 monthly cost per customer could range from approximately $50-$80 per month, depending on the rate structure, and number of customers. These monthly water costs would be in addition to the existing sewer rate. The Phase 2 improvements would result in additional costs and could similarly range from approximately $80-$100 per month depending on the final means of implementation.

20. **Is there an opportunity for the City of Swisher to receive funding through the Infrastructure Investment and Jobs Act?**
The Infrastructure Investment and Jobs Act (IIJA), also known as the Bipartisan Infrastructure Law (BIL) allocates funding to each state and is administered by the Iowa DNR and Iowa Finance Authority (IFA) through the State Revolving Fund (SRF) loan program. Funding is provided in the form of principal loan forgiveness as part of the SRF program. Overall, the IIJA/BIL is prioritizing the following types of projects for the water industry:
    - Supplemental funding through the SRF program to small systems and disadvantaged communities.
    - Lead service line identification and replacement
    - Emerging contaminants, such as PFAS, manganese, and other constituents

    The Iowa DNR and IFA staff have approved an implementation approach to distribute IIJA/BIL funding. This disbursement approach identifies a project cap of $2.0 Million per year per applicant, with loan forgiveness based on the following factors:

- **Priority projects:** One of the project priorities is the formation of Public Water Systems (PWSs) for communities currently served by private wells, which has been identified with funding/loan forgiveness up to 20% of the total project cost.
- **Socioeconomic Score:** To target disadvantaged communities, an overall Socioeconomic Score is established using multiple metrics. The community of Swisher scores a low number of points due to its high median household income, low percentage of the population below the poverty level and/or on Public Assistance/SNAP, and other metrics which may limit funding for this metric.
- **Household Burden Indicator:** To assist communities which pay a large percentage of household income on projects, this indicator compares the combined water and sewer service costs to the 20th percentile household income. Due to Swisher's relatively low number of households falling below the Federal Poverty Level and relatively high household income, funding may be limited for this metric.

In summary, the City of Swisher could qualify for priority project funding as part of the IIJA/BIL. A formal application and approval process could be initiated upon an approving vote to develop a Municipal Water System

21. For comparison, does the City have any other City utilities or similar services?
Yes, the City provides sewer/refuse service for a monthly flat rate of $74.00 per residential customer and $91.00 per commercial customer. The operation of a Municipal Water System would fall under the purview of the Public Works Department. Trash, Recycling, and Yard Waste is also provided with $3.00 per-bag trash and $1.65 per-bag costs for trash and yard waste, respectively.

22. Would the Municipal Water System impact sewer rates?
The City does not currently meter water usage and residents are charged a flat rate. The Municipal Water System would allow the City to meter water usage and create a sewer rate based on actual water usage. The City could also allow for private wells for exterior irrigation and/or separate metering of irrigation water separately from its sewer billing.

23. What would be the next steps for forming a Municipal Water System?
A simple majority vote of 50% plus one vote on a public referendum would result in a passing referendum and result in the formation of a water utility and allow for the next steps in developing a Municipal Water System. The next steps would include:

- Upon a passing vote, the City would adopt ordinances establishing the requirements, rates, and rules for the proposed water utility. This could include provisions for continued use and/or abandonment of private wells, establishing a water district within corporate limits that sets the service area, identifies connection requirements and associated rates/fees, etc.
- Upon a passing vote, the City would engage the two developments for planning around the proposed infrastructure improvements.
- Upon a passing vote, the City would investigate additional grants and other funding sources, such as funding availability through the SRF loan and IIJA/BIL programs.

24. Has there been a public referendum to form a community water system before?
Yes. The City had a previous referendum over twenty years ago in 1999 to institute a Municipal Water System that failed to pass.

25. What would happen to an existing private well?
A private well would be allowed to remain in service and provide both domestic and irrigation service for a Water System Implementation Period in order to complete all Phase 1 and Phase 2 improvements. This

Implementation Period could be approximately 10-20 years, but actual scheduling would be determined as part of the City's long-term planning process. After the proposed Implementation Period, each private well could potentially be maintained for exterior irrigation use or plugged and abandoned.

26. Could a private well be connected to the Municipal Water System?

Existing private and/or PWS wells could be connected to the Municipal Water System. The final guidance would be determined as part of a future City Ordinance, but could include the following criteria:

- Construction materials and methods are in accordance with Section 567, Chapters 39-44 of the Iowa Administrative Code.
- The well is provided with a 200-foot radius of legal control, which meets IDNR requirements for source water protection. Legal control can be through land ownership or permanent easement.
- The well is of sufficient capacity to be a benefit to the community. A minimum capacity of 70 gpm is preferred.
- The well is of compatible water quality to the City's planned groundwater source and Municipal Water System with the goal of eliminating additional treatment or use of point-of-use (POU) treatment systems (e.g., home filter).

If an existing well meets the above criteria, the customer could submit a Well Buy-Back Application or other similar application.

27. When and where will there be a public forum to address questions or concerns about the proposed Municipal Water System?

There will be three Public Information Meetings held at the American Legion (68 3rd Street SW in Swisher) as a public forum to participate in a presentation and answer questions from the community. Please submit any questions you have ahead of time to swisher-comm@southslope.net. The presentation materials and minutes from the public forum will be made available on the City's website.

Meeting 1: January 25, 2023, 6:30 p.m.
Meeting 2: February 8, 2023, 6:30 pm.
Meeting 3: February 22, 2023, 6:30 pm.

28. When is the public referendum vote?

The public referendum vote will occur on March 7, 2023, Shueyville United Methodist Church, 1195 Steeple Ln NE, Swisher, IA 52338.

29. How will the question appear on the ballot?

"Shall the City of Swisher, in Johnson County, Iowa establish a municipal waterworks utility managed by the City Council to operate a Municipal Water System?"

A "Yes" vote will approve the referendum and allow the City to form a municipal water utility and begin the next steps as outlined above.

30. Where will answers to any questions submitted prior to the meeting or asked during the meeting be located.

The City will maintain the Q&A document on the City's website and update with any questions from the Public Information Meetings.