



**ADVANCED METERING INFRASTRUCTURE (AMI) PROJECT – PHASE II**  
**City of West Fargo, North Dakota**

**Project Proposal for Bureau of Reclamation Funding Announcement**

**Funding Opportunity Title**

WaterSMART Grants: Small-Scale Water Efficiency Projects

**Funding Opportunity Number**

No. R21AS00300

**Applicant:**

**City of West Fargo**

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## 1.0 TECHNICAL PROPOSAL AND EVALUATION CRITERIA

The Technical Proposal is comprised of the following sections:

- 1.1 Executive Summary
- 1.2 Project Location
- 1.3 Project Description and Milestones
- 1.4 Evaluation Criteria

The mandatory federal forms (SF424 family) were included prior to the title page of this proposal.

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### 1.1 Executive Summary

**Date:** March 17, 2021

**Applicant Name:** City of West Fargo

**City:** West Fargo

**County:** Cass County

**State:** North Dakota

**Applicant Category:** Category A

The City of West Fargo, located in south-eastern North Dakota, will add SmartPoint heads to 2,042 existing water meters to replace many failing water meter endpoints as part of the West Fargo Advanced Metering Infrastructure (AMI) Project – Phase II. The SmartPoint heads will provide real-time data to the City through AMI technology rather than having to manually read meters, which will help control water loss and water theft, identify and respond to water leaks and water usage spikes more efficiently, as well as provide customers access to real-time water usage data through an online portal. Ultimately, this project will help the City of West Fargo conserve and better manage water supplies and more efficiently provide water service to the City's customers.

The anticipated start and completion dates for this project are February 1, 2022 and December 15, 2022, respectively.

This project is not located on a Federal facility.

### 1.2 Project Location

The project is in the City of West Fargo (City), which is located in Cass County, North Dakota. The City borders the City of Fargo to the west and is located along the I-94 corridor and near the I-29 corridor. The City is located approximately 5 miles west of the North Dakota – Minnesota border, approximately 65 miles north of the North Dakota - South Dakota border, and approximately 150 miles south of the North Dakota – Canada border. The coordinates of the project are 46°52'37" N (latitude) and 96°53'60" W (longitude). A location map of the City of West Fargo showing the City's water distribution system is provided in [Figure 1](#).

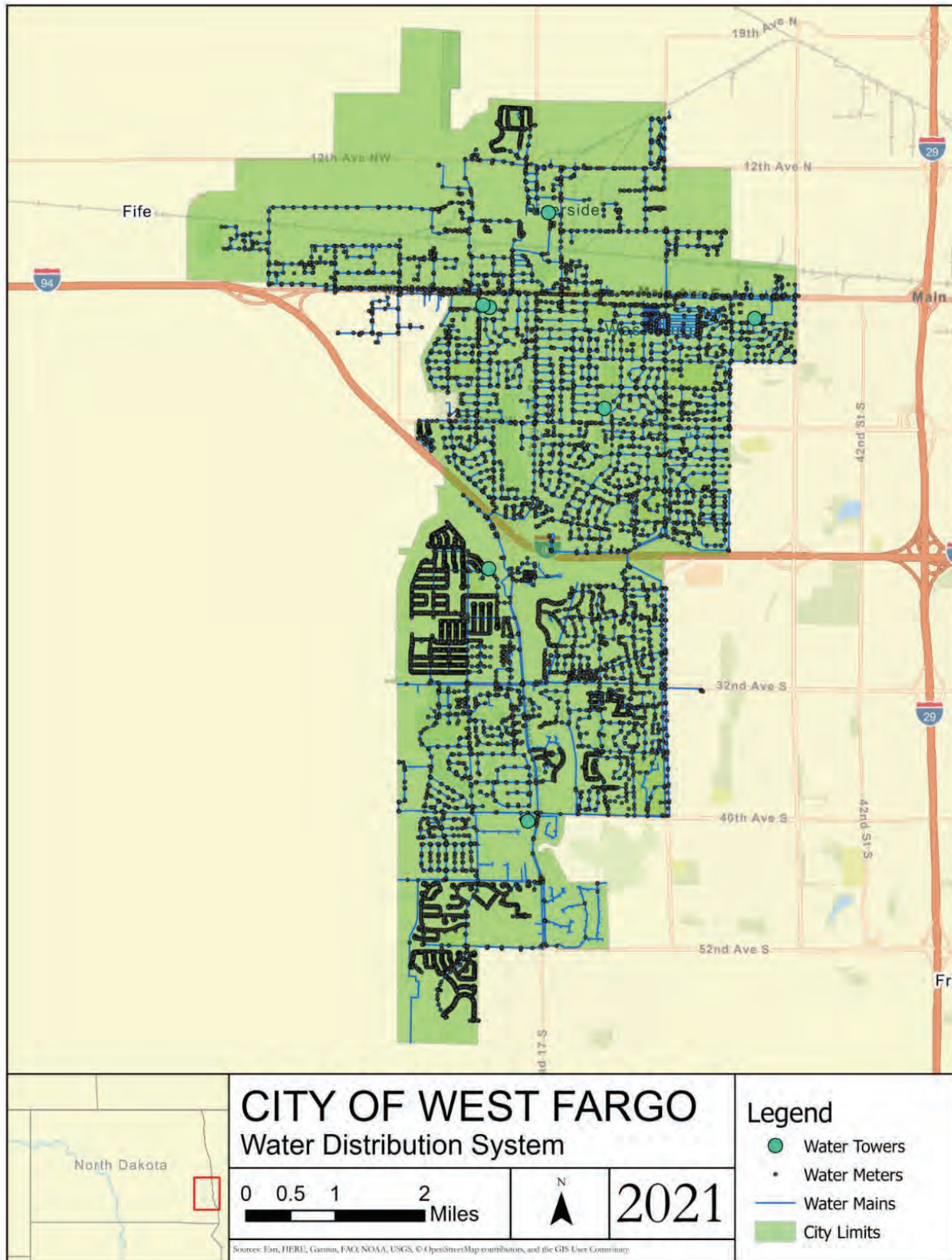


Figure 1. City of West Fargo Location Map

### 1.3 Project Description and Milestones

The City of West Fargo has been one of the fastest growing communities in the state over the last two decades. As of 2019, the City of West Fargo provides water service to approximately 35,397 residents across a service area that encompasses approximately 10,500 acres. Because of this rapid growth, the City has been focused on developing and growing areas of the City, which has left little time and investment in existing water infrastructure. The City has reached or is rapidly approaching the estimated useful life on the majority of the City’s water meter endpoints. The City currently has 30 – 50 water meter endpoints going dead each month and is expecting that number to climb to 50 – 100 over the next few years. As a result, the City embarked on a multi-phased Advanced Metering Infrastructure (AMI) Project to ensure the City can provide reliable and accurate water deliver services for years to come.

This project, the West Fargo Advanced Metering Infrastructure (AMI) Project – Phase II, includes purchasing and installing 2,042 SmartPoint heads onto existing water meters. The installation of the SmartPoint heads will bring the City’s water metering network to a full AMI system, and will replace many of the water meter endpoints that have failed or are close to reaching their estimated useful life. Upon completion of this project, the City will be able to see all the water meter readings in real-time, which will help control water loss and water theft, identify and respond to water leaks and water usage spikes more efficiently, as well as provide customers access to real-time water usage data. Because the water delivery and water monitoring process will be much more efficient, at the conclusion of this project, the City expects to experience environmental, economic, and social benefits through enhanced water monitoring efforts. The project will commence in February 2022 and be completed in December 2022.

#### 1.3.1 Background Data

Prior to 2016, the City utilized groundwater from the West Fargo aquifer system as the City’s water supply source. Due to uncertainties regarding the longevity and sustainability of the underground aquifers, in addition to taste and odor challenges the City was experiencing due to minimal treatment at the wellhead locations, the City explored additional water supply options. After extensive evaluations, where regionalization and construction of a water treatment facility were the alternatives explored, the City selected regionalization as the preferred water supply alternative.

In 2016, the City of West Fargo and the City of Fargo entered into a water service agreement where Fargo provides West Fargo with treated drinking water. The City of Fargo utilizes surface water from the Red River, Sheyenne River, and Lake Ashtabula as the region’s water supply sources. Water from the surface water sources is then treated at the Fargo Water Treatment Plant prior to be sent into the Fargo distribution system. West Fargo is connected to Fargo’s distribution system via two booster pump stations. As water enters the booster pump stations, the pressure is increased via the booster pump stations and metered using wholesale meters



prior to being delivered into West Fargo’s distribution system. Booster pump stations were required because West Fargo’s water towers operate at a higher overflow elevation than Fargo’s water towers. Both cities are responsible for operating and maintaining their respective water system infrastructure. The City of West Fargo is currently charged \$3.25 per 1,000 gallons of treated water by the City of Fargo.

Both West Fargo and Fargo are located in the Red River Valley, a region that has historically been stricken with catastrophic flooding and periods of drought. The City of West Fargo is a participant and stakeholder in two large infrastructure projects that are currently ongoing in the region: The Fargo-Moorhead Area Diversion Project is a project designed to protect the Fargo-Moorhead-West Fargo Metro Area during times of extreme flooding. The Red River Valley Water Supply Project (RRVWSP) is a project that will provide an emergency and supplemental water supply to central and eastern North Dakota during times of water scarcity.

These projects have helped raise awareness around the importance of water availability and water management in the region and beyond. With West Fargo becoming a wholesale customer to Fargo in 2016 coupled with being located in a cyclically arid region, the City of West Fargo recognized there were some inefficiencies in its water monitoring and water delivery processes, in addition to the aging water meter endpoints. The City identified enhancing their water meters as an initial step to improving their water system infrastructure, as well as their water monitoring and water delivery processes.

#### *1.3.1.1 Past and Future Project Phases*

In 2020, the City of West Fargo initiated the first phase of a meter replacement project (West Fargo AMI Project – Phase I) that included procurement of approximately 9,000 new water meters and SmartPoint heads. The City intends to replace 9,000 existing water meters and install the SmartPoint heads over the course of 2021. This phase will result in improvement of metering inaccuracies, provide customers access to real-time water usage data, and ultimately reduce the City’s non-revenue water (NRW) amount. This phase was not funded through the WaterSMART program and is only included to provide a background of efforts to date.

In 2022, the City intends to conduct the second phase of their meter replacement project (West Fargo AMI Project – Phase II), which includes purchasing 2,042 SmartPoint heads to complete the City’s AMI system and replace meter endpoints that have reached or have nearly reached their estimated useful life. **This is the project proposed within this application.** These SmartPoint heads will be added to 2,042 existing water meters that were not replaced under Phase I. The addition of the SmartPoint heads will provide the City and customers immediate benefits as they will be able to see water use in real-time.

In 2023 and beyond, the City intends to re-apply for grants under the WaterSMART Program and utilize the cost-share funding to replace the remaining 2,042 water meters that had SmartPoints added to them under Phase II. The specific project timing and number of meters that can be

replaced year-to-year will be dependent on available grant funding, as well as City staff availability.

*1.3.1.2 Water System Composition*

The City of West Fargo’s water distribution system is comprised of approximately 265 miles of water system piping (including service lines) ranging in pipe diameter and material. The system also has seven water towers (five active; two inactive) used to maintain storage levels and distribution system pressures. The City has approximately 11,042 customer water meters located throughout the City.

*1.3.1.3 Water Use*

Over the last four years, West Fargo’s average daily purchase water demand has fluctuated between 3,289 AC-FT/YR (2.94 million gallons per day) and 2,866 AC-FT/YR (2.56 million gallons per day). West Fargo’s purchased water annual totals, billed water annual totals, and non-revenue water annual totals for the previous four years are provided in **Table 1**. Also included in the table is West Fargo’s annual non-revenue water percentages over the four-year period, as well as the four-year averages for each respective column.

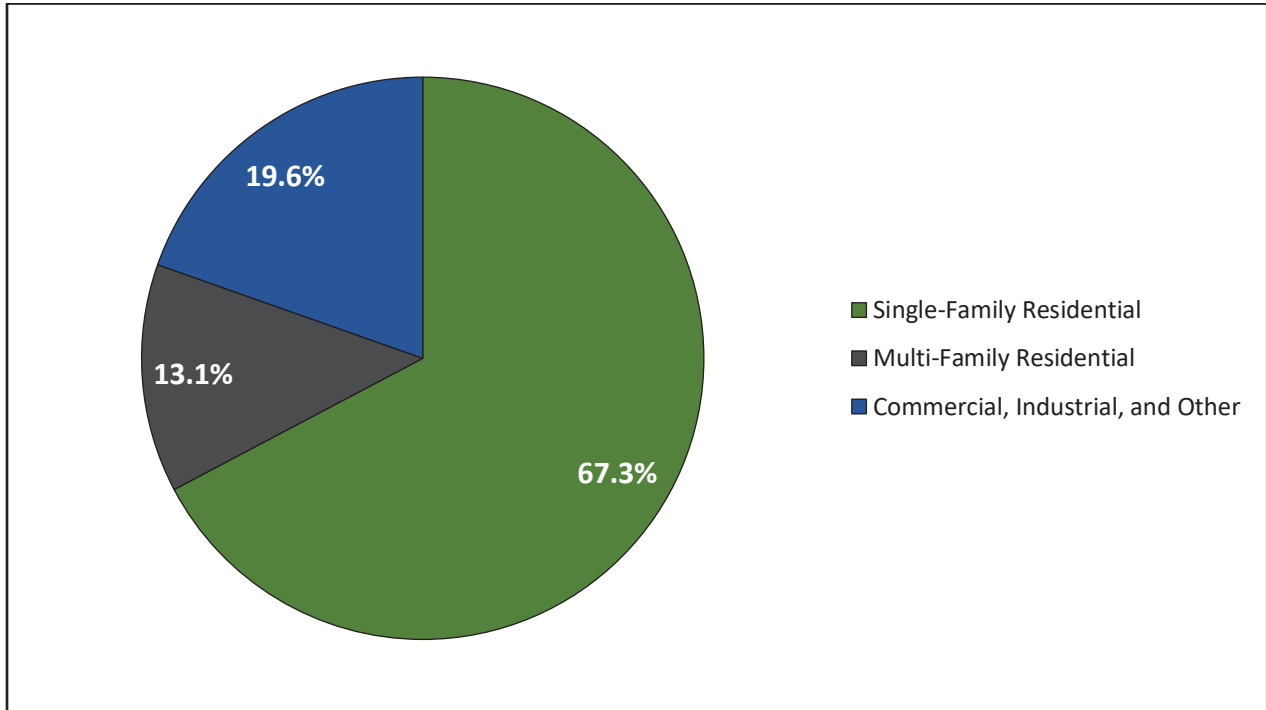
**Table 1. Water Purchased, Water Billed, and Non-Revenue Water**

Year	Total Water Purchased (AC-FT)	Total Water Billed (AC-FT)	Non-Revenue Water (AC-FT)	Non-Revenue Water Percentage
<b>2017</b>	3,289	2,475	814	25%
<b>2018</b>	2,866	2,808	58	2%
<b>2019</b>	3,087	2,561	526	17%
<b>2020</b>	3,156	2,896	260	8%
<b>Average</b>	<b>3,100</b>	<b>2,685</b>	<b>415</b>	<b>13%</b>

As shown, the City’s non-revenue water amounts are extremely high in some years and significantly fluctuate year-over-year. The City’s average non-revenue water amount over the last four years is 415 AC-FT/YR (used in calculations going forward). The City does not fully understand what is contributing to the significant variations in non-revenue water; however, they believe it is primarily attributed to customer meter inaccuracies as well as real losses through their water distribution system infrastructure.



According to the City’s customer billing records, approximately 67.3% of water is billed to single-family residential customer accounts, approximately 13.1% of water is billed to multi-family residential customer accounts, and the remaining 19.6% of water is billed to commercial, industrial, and other customer accounts. These estimated water usage by customer class is provided in **Figure 2**.



**Figure 2. Estimated Water Usage (by Customer Type)**

Using the four-year average total water billed amount of 2,685 AC-FT/YR, the following were calculated:

- Single-Family Residential Use
  - o 1,806 AC-FT/YR (67.3% of billed usage)
- Multi-Family Residential Use
  - o 353 AC-FT/YR (13.1% of billed usage)
- Commercial, Industrial, and Other
  - o 526 AC-FT/YR (19.6% of billed usage)

Of the City’s total 11,042 meters, 9,944 are single-family residential customer accounts. As a result, it is estimated that each single-family residential customer account utilizes 0.18 AC-FT (1806 AC-FT/YR divided by 9,944 single-family accounts) of water per year.

### 1.3.2 Problems and Project Need

As previously shown, the City’s non-revenue water amounts significantly vary year-over-year. The City believes the variations are primarily attributed to customer meter inaccuracies as well as real losses through their water distribution system infrastructure. This section outlines the estimated water amounts that are being lost in the distribution system, as well as residential losses.

#### 1.3.2.1 Distribution System Losses

Over the past four years, 13% or **415 AC-FT/YR** (as shown in **Table 1**) of water that is purchased from the City of Fargo is being lost. This water is being lost in West Fargo’s distribution system (somewhere between the wholesale meters in the booster stations to the customer meters) through either: (1) apparent losses, such as unauthorized consumption and customer meter inaccuracies, or (2) real losses through infrastructure systems including water main, storage, and service connection leaks. One of the goals the City identified when planning this project was to lower and stabilize their non-revenue water percentage to 10% or lower.

#### 1.3.2.2 Residential Losses

A study conducted by the Environmental Protection Agency (EPA) states that average water loss through a residential home (i.e. leaky appliances, plumbing issues, etc.) is 13.7% of total water use. Based on this value, it is estimated that each City of West Fargo single-family residences lose 0.02466 AC-FT/YR (13.7% x 0.18 AC-FT/YR) through residential plumbing leaks, recognizing that some of the older homes may lose more water and some of the newer homes may lose less water. The total estimated average residential losses experienced in West Fargo is **245 AC-FT/YR** (0.02466 AC-FT/YR x 9,944 single-family residential meters).

The total estimated water loss through distribution system losses and residential losses is **660 AC-FT/YR** (415 AC-FT/YR + 245 AC-FT/YR), or 589,000 gallons per day.

## 1.4 Evaluation Criteria

The answers to the evaluation criteria are provided in **red**.

### E.1.1 Evaluation Criterion A---Project Benefits

- Describe the expected benefits and outcomes of implementing the proposed project
  - o What are the benefits to the applicant’s water supply delivery system?

This project will replace failing water meter endpoints throughout the City and bring the City’s water system to a City-wide AMI system. It is anticipated that this project will lower and stabilize the amount of water the City loses in both distribution system losses and residential losses through utilization of AMI. The new AMI system will help West Fargo Public Works staff identify and respond to water usage spikes caused by leaks and watermain breaks out in the distribution system, improve the efficiency and accuracy of the City’s water meter reading

process, and help customers conserve water through access to real-time usage data.

On average over the last four years, the City had a non-revenue water percentage of 13%, which equates to 415 AC-FT/YR or 370,500 gallons per day in distribution system losses. The City buys water from the City of Fargo at \$3.25 per 1,000 gallons; therefore, the City loses approximately \$1,200 per day in non-revenue water (\$438,000 per year). If the City were to achieve their goal of lowering and stabilizing their non-revenue water percentage to 10%, the City would lose 285,000 gallons per day (based on current water usages), which would result in losses of \$926 per day (\$338,200 per year), a difference of \$99,800.

It is anticipated that West Fargo will achieve and surpass their goal of reducing their amount of water loss through implementation of this project. The money saved from operating an AMI distribution system could be used towards other critical water infrastructure improvements as well as alleviating the burden of significant water rate increases to ensure the City continues to provide affordable and equitable water service.

- If other benefits are expected explain those as well. Consider the following:
  - Extent to which the proposed project improves overall water supply reliability

This project will improve overall water supply reliability through enhanced and active monitoring of water usage. As breaks and leaks occur, the City will be able to respond and fix them in a more efficient manner. If breaks and leaks continue to occur in an area of town or on a particular branch of the distribution system, the City could program that area as a water system improvement project in the City's capital improvement plan, thus improving the water system's overall reliability and resiliency.
  - The expected geographic scope benefits from the proposed project (e.g., local, sub-basin, basin)

It is expected that improved distribution system efficiencies will lower overall water demands because less water will be lost, thus making the City more resilient when droughts occur in the Red River Valley region. This will also help the City of Fargo (as the City of West Fargo's wholesale water provider) as West Fargo's water demand will be lower.
  - Extent to which the proposed project will increase collaboration and information sharing among water managers in the region

This project will provide the City and the City’s customers access to real-time water usage data. Additionally, because the City of West Fargo is a wholesale customer to Fargo, the cities often collaborate, and West Fargo could share the data with the Fargo Water Utility and Fargo Public Works Department to help improve the regions overall water supply and delivery process. The data could also be shared across the state and region to conduct various studies and benchmarking efforts.

- Any anticipated positive impacts/benefits to local sectors and economies (e.g., agriculture, environment, recreation, tourism)

Utilizing AMI will reduce the amount of water that is lost throughout the City’s water distribution system. As water loss is reduced, there are environmental benefits anticipated such as fewer chemicals used in the treatment and production of water, as well as lower energy consumption attributed to treatment and pumping of lost water. Utilization of a full-scale AMI system will also support lower water rates since West Fargo will be able to plan for less non-revenue water in future rate modeling and water fund budgeting efforts.

- Extent to which the project will complement work done in coordination with NRCS in the area (e.g., with a direct connection to the district’s water supply). Describe any on-farm efficiency work that is currently being completed or is anticipated to be completed future using NRCS assistance through EQIP or other programs.

Not applicable.

### E.1.2. Evaluation Criterion B--Planning Efforts Supporting the Project

- Describe how your project is supported by an existing planning effort.
  - o Does the proposed project implement a goal or address a need or problem identified in the existing planning effort?

This project is the second phase of a multi-phased project. Phase I of the project (currently ongoing) involves replacing 9,000 water meters and installing SmartPoint heads on each meter. The second phase (the project included in the application) will include purchasing and installing 2,042 SmartPoint heads to the existing meters remaining in the City. Future phases of the project will include physically replacing the remaining 2,042 water meters that the SmartPoints were added to during Phase II.

The project will also support conservation efforts as well as help with water use restriction enforcement in the event of water shortages or droughts. The City of West Fargo adopted the Fargo Drought Management Plan when they executed the wholesale water agreement with Fargo in 2016.

Explain how the proposed project has been determined as a priority in the existing planning effort as opposed to other potential projects/measures. **The City evaluated water use and AMI planning efforts in 2019. Through those planning efforts, it was deemed a priority to improve the City’s water meter network and reading processes, as well as reduce the amount of water loss in the distribution system. This project will build on the work the City has previously planned for, prioritized, and began to implement (starting with Phase I in 2020).**

**E.1.3. Evaluation Criterion C---Project Implementation**

- Describe the implementation plan for the proposed project. Please include an estimated project schedule that shows the stages and duration of the proposed work, including major tasks, milestones, and dates.

**The West Fargo AMI Project – Phase II will be started in February of 2022 and be completed in December 2022. The proposed project schedule is outlined below in Table 2.**

**Table 2. Project Implementation Schedule**

<b>Month</b>	<b>Description</b>
February – March	Purchase 2,042 SmartPoint heads
April	Install 200 – 240 SmartPoint heads
May	Install 200 – 240 SmartPoint heads
June	Install 200 – 240 SmartPoint heads
July	Install 200 – 240 SmartPoint heads
August	Install 200 – 240 SmartPoint heads
September	Install 200 – 240 SmartPoint heads
October	Install 200 – 240 SmartPoint heads
November	Install 200 – 240 SmartPoint heads
December	Install 200 – 240 SmartPoint heads

**If the City of West Fargo is successful in receiving grant funding, the City will work cooperatively with the Bureau of Reclamation to meet specific milestones and adhere to schedule requirements set forth by the Bureau of Reclamation.**

- Describe any permits that will be required, along with the process for obtaining such permits  
**No permits will be required for this project. Customers will be notified ahead-of-time prior to installation of the SmartPoint heads.**

#### E.1.4. Evaluation Criterion D---Nexus to Reclamation

- Is the proposed project connected to a reclamation project or activity? **No, this would be the first project conducted for City in conjunction with the Bureau of Reclamation.**

However, there is an ongoing project connected to the Bureau of Reclamation going on in the State of North Dakota that would potentially provide water supply to serve central and eastern North Dakota (including West Fargo). According to the Bureau of Reclamation website, the Bureau of Reclamation signed a record decision on January 15, 2021, selecting the preferred alternative proposed for the Eastern North Dakota Alternate Water Supply (ENDAWS) Project. The selected alternative includes construction of infrastructure to provide up to 165 cubic-feet-per-second of water from the McClusky Canal. Water will be delivered through a buried pipeline along a northern route and connect with the main transmission pipeline of the state-led Red River Valley Water Supply Project (RRVWSP). Phase 1 features will include an intake on the McClusky Canal, pump station, biota water treatment plant and buried pipelines. Phase 2 will include infrastructure required to provide up to 165 cfs of water from the Missouri River for a maximum total combination of 165 cfs of water. <sup>1</sup>

- If so, how? Please consider the following:
  - o Does the applicant receive Reclamation project water?  
**No.**
  - o Is the project on Reclamation project lands or involving Reclamation facilities?  
**No.**
  - o Is the project in the same basin as a Reclamation project or activity?  
**See above regarding the ENDAWS Project. The ENDAWS project is in the Missouri River Basin and the project included in this application is in the Red River Basin. However, both are located in North Dakota (Bureau of Reclamation Region 5).**
  - o Will the proposed work contribute water to a basin where a Reclamation project is located?  
**No.**
- Will the project benefit any tribes?  
**No.**

#### E.1.5. Evaluation Criterion E---Department of the Interior and Bureau of Reclamation Priorities

According to the webinar provided on February 3, 2021, this evaluation criteria was not included in the Small-Scale Water Efficiency Projects (SWEP) Program for FY 2022.

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<sup>1</sup> Bureau of Reclamation. Eastern North Dakota Alternative Water Supply Project. <https://www.usbr.gov/gp/dkao/nepa/endaws/index.html>



## 2.0 PROJECT BUDGET

The proposed project budget is described in the forthcoming sections.

### 2.1 Funding Plan and Letters of Commitment

The funding plan for this project is to utilize money from the City of West Fargo Public Works budget to fund the City's cost-share portion of the project. The total estimated project costs (including federal and local cost shares) for this project are \$199,809.70. The City is requesting \$75,000 (37.5% of total project costs) in federal cost-share from the Bureau of Reclamation under this grant, with the remaining amount to be funded by the City of West Fargo.

Included in the notice of funding opportunity were the following parameters, which are answered in red. Please identify the sources of the non-Federal cost-share contribution for the project, including:

- Any monetary contributions by the applicant towards the cost-share requirement and source of funds (e.g., reserve account, tax revenue, and/or assessments)  
The City of West Fargo will use monetary contributions to pay for the City's cost-share of the project. The monetary contributions will be funded through the Public Works budget to pay for the SmartPoint heads.
- Any costs that will be contributed by the applicant  
The City of West Fargo will install the SmartPoint heads utilizing a City-staffed two-person crew, with supervision provided by the Public Works Operations Manager (Brian Matzke) and Public Works Director (Matthew Andvik). The applicant is not requesting reimbursement or cost-share for the City's expenses (including salaries, wages, fringe benefits, expenses, etc.) for this project.
- Any third-party in-kind costs (i.e., goods and services provided by a third party)  
No.
- Any cash requested or received from other non-Federal entities  
No.
- Any pending funding requests (i.e. grants or loans) that have not yet been approved and explain how the project will be affected if such funding is denied  
No.

No project costs will be incurred prior to award. A summary of the total project costs is provided in **Table 3**. It should be noted that the City of West Fargo is registered (and maintains an active registration) in the System for Award Management (SAM). The City inquired about registration through the Department of Treasury Automate Standard Application for Payments (ASAP) system with the Bureau of Reclamation and the City was informed by the Bureau of Reclamation that enrollment in the ASAP system can take place prior to award if the City is successful in receiving grant funding.

**Table 3. Total Project Costs**

Source	Amount	Percentage
Costs to be reimbursed with the requested Federal funding	\$ 75,000.00	37.5%
Costs to be paid by applicant	\$ 124,809.70	62.5%
Value of third-party contributions	\$ 0.00	
<b>TOTAL PROJECT COST</b>	<b>\$ 199,809.70</b>	<b>100%</b>

## 2.2 Budget Proposal

The budget proposal for this project is provided below in **Table 4**.

**Table 4. Budget Proposal**

Budget Item Description	Computation		Quantity Type	Total Cost
	\$/ Unit	Quantity		
<b>Salaries and Wages</b>				
<b>Fringe Benefits</b>				
<b>Travel</b>				
<b>Equipment</b>				
<b>Supplies and Materials</b>				
SmartPoint 510M Non-Pit Set Module	\$ 97.85	2042	EA	\$ 199,809.70
<b>Contractual/Construction</b>				
<b>Other</b>				
<b>TOTAL DIRECT COSTS</b>				<b>\$ 199,809.70</b>
<b>Indirect Costs</b>				
<b>TOTAL INDIRECT COSTS</b>				<b>\$ 0.00</b>

## 2.3 Budget Narrative

The following categories were included in the notice of funding opportunity and provide the budget narrative for this project.

### 2.3.1 Salaries and Wages

Although City of West Fargo staff will be conducting the work, no reimbursement is being requested for salaries and wages.

### 2.3.2 Fringe Benefits

Although City of West Fargo staff will be conducting the work, no reimbursement is being requested for fringe benefits.

### 2.3.3 Travel

Travel is not eligible and will not be requested for reimbursement.

### 2.3.4 Equipment

No equipment (other than small miscellaneous tools the City of West Fargo already possesses) is anticipated; therefore, no reimbursement is requested.

### 2.3.5 Materials and Supplies

Reimbursement is being requested for the procurement of 2,042 Sensus SmartPoint 510M Non-Pit Set Modules. The unit cost of \$97.85 (each) for the Sensus SmartPoint 510M Non-Pit Set Modules is provided in a quote from a nation-wide and local supplier, Core & Main, and is included as **Appendix B**. Also included in Appendix B is the Sensus SmartPoint data 510M sheet.

### 2.3.6 Contractual

No contractual services are anticipated; therefore, no reimbursement is requested.

### 2.3.7 Third-Party In-Kind Contributions

No third-party in-kind contributions are anticipated; therefore, no reimbursement is requested.

### 2.3.8 Environmental and Compliance Costs

No environmental and compliance costs are anticipated; therefore, no reimbursement for this is requested.

### 2.3.9 Indirect Costs

No indirect costs are anticipated; therefore, no reimbursement is requested.

### 3.0 ENVIRONMENTAL AND CULTURAL RESOURCES COMPLIANCE

The following questions were provided in the notice of funding opportunity (NOFO), and answers to the questions are provided in red.

- Will the proposed project impact the surrounding environment (e.g., soil [dust], air, water [quality and quantity], animal habitat)? Please briefly describe all earth-disturbing work and any work that will affect the air, water, or animal habitat in the project area. Please also explain the impacts of such work on the surrounding environment and any steps that could be taken to minimize the impacts.

The impact to the surrounding environment will be negligible during the installation of the SmartPoint heads given they will be installed on existing water meters. The City of West Fargo operational staff will take all necessary precautions and steps to minimize negative effects towards air, water, or animal habitat during installation of the SmartPoint heads.

- Are you aware of any species listed or proposed to be listed as a Federal threatened or endangered species, or designated critical habitat in the project area? If so, would they be affected by any activities associated with the proposed project?

Within Cass County (county where West Fargo is located), there are three federally listed threatened or endangered species: Dakota Skipper (insects), Whooping Crane (birds), and Northern Long-Eared Bat (mammals). Although there are threatened or endangered species listed in the project area, none will be affected with the installation of the SmartPoint heads because the SmartPoint heads will be installed within City residences on existing water meters.

- Are there wetlands or other surface waters inside the project boundaries that potentially fall under CWA jurisdiction as “Waters of the United States?” If so, please describe and estimate any impacts the proposed project may have.

Yes, but the project will not impact any ‘Waters of the United States’ because the installation of the SmartPoint heads will be installed inside City residences on existing water meters.

- When was the water delivery system constructed?

The water system was initially constructed between 1900 - 1950 when the City originated. Since then, the City has grown significantly. It is estimated that approximately 50% of the water delivery system is pre-1980 and 50% is post-1980.

- Will the proposed project result in any modification of or effects to, individual features of an irrigation system (e.g., headgates, canals, or flumes)? If so, state when those features were constructed and describe the nature and timing of any extensive alterations or modifications to those features completed previously.

No.

- Are any buildings, structures, or features in the irrigation district listed or eligible for listing on the National Register of Historic Places? A cultural resources specialist at your local Reclamation office or the State Historic Preservation Office can assist in answering this question.  
**No.**
- Are there any known archeological sites in the proposed project area?  
**There are no known archaeological sites in the proposed project area.**
- Will the proposed project have a disproportionately high and adverse effect on low income or minority populations?  
**The project will have positive impacts on low income and minority populations because every property owner with a water meter will have access to an online portal that allows them to view their water usage in real-time. Having this information will allow customers to be more cognizant of their water use and allow them to catch water spikes caused by leaks or plumbing fixtures left on inadvertently.**
- Will the proposed project limit access to and ceremonial use of Indian sacred sites or result in other impacts on tribal lands?  
**No.**
- Will the proposed project contribute to the introduction, continued existence, or spread of noxious weeds or non-native invasive species known to occur in the area?  
**No.**

## 4.0 REQUIRED PERMITS OR APPROVALS

No permits are required for this project. Property owners will be notified in advance prior to installation of the SmartPoint head on their water meter.

## 5.0 LETTERS OF FUNDING COMMITMENT

The non-federal share for this project will be funded through the City of West Fargo Public Works 2022 budget. Therefore, no letters of funding commitment were included.

## 6.0 LETTERS OF PROJECT SUPPORT

The project has been presented to the City of West Fargo City Commission on multiple occasions and has the Commission's support for the project (as shown in the Official Resolution included as **Appendix A.**)

## 7.0 OFFICIAL RESOLUTION

The official resolution is included in **Appendix A.**



## APPENDIX A – OFFICIAL RESOLUTION



OFFICIAL RESOLUTION REGARDING PARTICIPATION IN FUNDING FOR A BUREAU OF RECLAMATION WATERSMART GRANT PROJECT.

WHEREAS, the United States Department of the Interior, Bureau of Reclamation, under its WaterSMART Grant Program, is accepting applications for Small-Scale Water Efficiency Projects (Funding Opportunity No. R21AS00257); and

WHEREAS, the City of West Fargo, has identified a project that exemplifies the objectives of the WaterSMART grant program;


THEREFORE, be it resolved as follows:

1. The West Fargo City Commission verifies that (Matthew Andvik, Public Works Director) has legal authority to enter into an agreement with Reclamation.
2. The West Fargo City Commission has reviewed and supports the application submitted.
3. The West Fargo City Commission ensures that the City of West Fargo is capable of providing the amount of funding and/or in-kind contributions specified in the funding plan.
4. That if selected for a WaterSMART Grant under the Fiscal Year 2022, the City of West Fargo will negotiate and execute a Cooperative Agreement with Reclamation on/or prior to the established deadline, to fund at least 50% of the project costs and provide documentation showing the sources of non-Reclamation funding that totals 50% of project costs for the Project.

ADOPTED AND APPROVED this 15th day of March 2021.

  
Bernie Dardis, President of Board of City Commissioners

ATTEST:

  
~~City Auditor~~ Deputy City Auditor



## **APPENDIX B – SENSUS SMARTPOINT DATA SHEET AND COST PROPOSAL**



# Bid Proposal for 510m radios

CUSTOMER

## All Bidders

## Job

510m radios

Bid Date: 03/19/2021 12:30 p.m.

Bid #: 1726053

CONTACT

## Sales Representative

Kevin Larson

(M) 701-541-4182

(T) 701-219-7480

(F) 701-282-2565

Kevin.Larson@coreandmain.com

## Core & Main

4900 19th Avenue, North

Fargo, ND 58102

(T) 701-219-7480

NOTES



Bid Proposal for 510m radios

All Bidders

Bid Date: 03/19/2021 12:30 p.m.

Core & Main 1726053

Core & Main

4900 19th Avenue, North

Fargo, ND 58102

Phone: 701-219-7480

Fax: 701-282-2565

Seq#	Qty	Description	Units	Price	Ext Price
10	2042	510M S/POINT M2 WIRED SP HR	EA	97.85	199,809.70
				<b>SUBTOTAL</b>	<b>199,809.70</b>
20		<b>CURRENT LEAD TIME 5 WEEKS</b>			
				<b>Sub Total</b>	<b>199,809.70</b>
				<b>Tax</b>	0.00
				<b>Total</b>	<b>199,809.70</b>

Branch Terms:

UNLESS OTHERWISE SPECIFIED HEREIN, PRICES QUOTED ARE VALID IF ACCEPTED BY CUSTOMER AND PRODUCTS ARE RELEASED BY CUSTOMER FOR MANUFACTURE WITHIN THIRTY (30) CALENDAR DAYS FROM THE DATE OF THIS QUOTATION. CORE & MAIN LP RESERVES THE RIGHT TO INCREASE PRICES UPON THIRTY (30) CALENDAR DAYS' NOTICE TO ADDRESS FACTORS, INCLUDING BUT NOT LIMITED TO, GOVERNMENT REGULATIONS, TARIFFS, TRANSPORTATION, FUEL AND RAW MATERIAL COSTS. DELIVERY WILL COMMENCE BASED UPON MANUFACTURER LEAD TIMES. ANY MATERIAL DELIVERIES DELAYED BEYOND MANUFACTURER LEAD TIMES MAY BE SUBJECT TO PRICE INCREASES AND/OR APPLICABLE STORAGE FEES. THIS BID PROPOSAL IS CONTINGENT UPON BUYER'S ACCEPTANCE OF SELLER'S TERMS AND CONDITIONS OF SALE, AS MODIFIED FROM TIME TO TIME, WHICH CAN BE FOUND AT: <https://coreandmain.com/TandC/>

# SmartPoint 510M

## Non-Pit Set Module



The SmartPoint® 510M Non-Pit Set Module is a radio transceiver that provides water utilities inbound and outbound access to water measurement and ancillary device diagnostics via radio signal. The SmartPoint 510M Module is designed for non-submersible/non-pit installations.

### TouchCoupler Design

The SmartPoint 510M Module utilizes TouchCoupler, the patented Sensus inductive coupling communication platform, to interface with the encoded meter. With TouchCoupler, the SmartPoint 510M Module can connect to the meter using existing two-wire AMR installations instead of requiring utilities to access the home to install a new three-wire system. This results in a fast, efficient and reliable connection at minimal cost.

### BENEFITS

- Easily receives input from either walk-by/drive-by or fixed-base collection device
- Controls both deployment and lifetime operation costs
- Compact installation that saves time, space and money - without reducing system performance
- Delivers a fast, efficient, reliable connection at minimal cost
- Minimizes new infrastructure investment
- Enables effective leak detection

### Operation

With its migratable, two-way communication ability, the M-Series SmartPoint functions as a walk-by/drive-by endpoint, fixed-base endpoint, or combination of the two. This flexibility increases utility data collection capabilities and streamlines operations. The SmartPoint 510M Module receives input from the meter register and remotely sends data to a walk-by/drive-by or fixed-base collection device. The SmartPoint 510M Module easily migrates from walk-by/drive-by to fixed base by simply installing a Base Station.

In walk-by/drive-by mode, the SmartPoint 510M Module collects data and awaits an activation signal from the Vehicle Gateway Basestation (VGB) or Hand-Held Device (HHD). Upon signal receipt, it transmits readings, the meter identification number and any alarms.

As a fixed-base endpoint, the SmartPoint 510M Module interacts with one or more strategically placed Base Stations located in the utility service area. Top of the hour readings and other diagnostics are instantly forwarded to the Regional Network Interface (RNI)<sup>™</sup> at time of transmission. The FlexNet<sup>®</sup> communication network provides unmatched reliability by using expansive tower receiver coverage of metering end points, data/message redundancy, failover backup provisions and operation on FCC primary use (unshared) RF spectrum.

### Powerful Transmission, Flexible Platform

The SmartPoint® 510M Non-Pit Set Module offers several advantages that control both deployment and lifetime operation costs. Its powerful, industry leading two watt transmitter broadcasts over large distances and minimizes collection infrastructure. And after the SmartPoint 510M Module is installed, its migratable, two-way system platform can be updated without requiring personnel to visit each meter and/or inconveniencing customers.

# SmartPoint 510M

## Non-Pit Set Module

### Additional SmartPoint 510M Module Features

The SmartPoint 510M Module obtains hourly readings and can monitor continuous flow over a programmable period of time, alerting the utility to leak conditions. In addition, the SmartPoint 510M Module stores up to 840 consumption intervals (35 days of hourly consumption), providing the utility with the ability to

extract detailed usage profiles for consumer information and dispute resolution. The SmartPoint 510M Module also incorporates a two-port design, allowing the utility to connect multiple registers and ancillary devices (such as acoustic monitoring) to a single SmartPoint. This results in a compact installation that saves time, space and money - without reducing system performance.

### SPECIFICATIONS

Service	Wall mounted (non-pit/non-submersible) installation interfacing the utility meter to the Sensus FlexNet system.
Physical characteristics	Width: 5 9/16" x Height: 5 1/2" x Depth: 3"
Weight	1.13 lbs/18.08 oz
Color	Tan
Frequency range	900 - 950 MHz, 8000 channels X 6.25 kHz steps
Modulation	Proprietary Narrow Band
Memory	Non-Volatile
Power	Lithium Thionyl Chloride batteries
Approvals	US: FCC CFR 47: Part 24D, Part 101C, Part 15 Licensed operation Canada: Industry Canada (IC) RSS-134, RSS-119
Operating temperature	- 22° F to +185° F - 30° C to + 85° C
Options	Dual or single port availability; TouchCoupler only, wired only
Installation environment	The 510M is designed for side-of-home applications where it is not subject to submergence.
Compatibility	TouchCoupler and Wired Version: Sensus Encoder Registers, Badger ADE water registers, Master Meter AccuLinx, and Hersey Translator (approved TR/PL Lead)  Wired Version Only: Elster Encoder (Sensus protocol), Neptune ARB VI (ProRead), Hersey Translator, Zenner PMN Nitro 01, McCrometer flowcom FC100-00M, and Kamstrup flowIQ 2100  Refer to the 510M/520M SmartPoint® Module Water Meter and Ancillaries Compatibility Quick Guide for the latest compatibility information.
Warranty	20 years - Based on six transmissions per day. Refer to Sensus G-500 for warranty.



**SENSUS** | 637 Davis Drive | Morrisville, NC 27560 | 800.638.3748

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