

Schedule "A"

NORTH|STAR™

UTILITIES SOLUTIONS

Lake Havasu City

Statement of Work

Prepared: July 27, 2018

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1 INTRODUCTION

Lake Havasu City, hereafter referred to as “Lake Havasu” is seeking to implement the NorthStar Customer Information System (CIS) solution to replace its current CIS solution.

Lake Havasu and NorthStar, an unincorporated division of N. Harris Computer Corporation, have proposed a joint team to collaboratively design, develop, and implement the NorthStar CIS solution. The system will be implemented using a combination of resources from both organizations. This Statement of Work (“SOW”) shall be subject to the terms and conditions of the Master Agreement between Lake Havasu and NorthStar. These agreements are effective September 25, 2018, by and between NorthStar and Lake Havasu, and are hereby incorporated by reference. In the event of a conflict between this SOW and the Services Agreement, the Services Agreement shall control. To the extent a capitalized word is used in this SOW, should it not be properly defined herein, then it shall have the meaning attributed to it in the Services Agreement.

1.1 Objective

This SOW defines the work to be performed by NorthStar and Lake Havasu for Lake Havasu’s CIS Implementation. This SOW includes a scope definition, high level timeline, fees, and other Terms and Conditions specific to the services requested by Lake Havasu. “The Engagement” shall mean the performance by NorthStar of the services described in this SOW.

NorthStar CIS is an off-the-shelf software product that can be customized through configurations to follow many common business processes within a utility. Any customization to this software has been specifically identified in sections 2.2.3 of this SOW as the implementation services. Any customizations not included in 2.2.3 are not considered in scope. Lake Havasu expects that the Software will perform substantially in accordance with the functionality demonstrated.

Changes to this document shall be made through a Change Management Process as described later in this SOW.

2 SERVICE DESCRIPTION

2.1 Project Purpose

The purpose of this project is to provide Lake Havasu with Water, Sewer and Refuse utility billing services and a Lake Havasu Customer Information System (CIS). Lake Havasu desires to modernize its current capabilities and install a platform capable of supporting future customer service improvement initiatives. Lake Havasu also desires to benefit from improved operational efficiencies.

Lake Havasu will see value in these upgrades in the form of:

- Reduced manual processes and workarounds
- Enhanced Lake Havasu service offerings and improved customer relations
- Strong and seamless integrations to Lake Havasu's other systems
- Tools for easy and fast management reporting, as well as offering the ability to work with any existing report writing tools for ad hoc reporting

2.2 NorthStar Implementation Areas within Scope

The details below outline the specific core functionality, additional modules, and services to be delivered.

2.2.1 Services in Scope

The following service types will be configured within the NorthStar software.

- Water
- Sewer
- Refuse

2.2.2 Modules

The following NorthStar CIS modules will be installed and configured as part of the scope:

- Core NorthStar CIS (15 Concurrent Users)
- CustomerConnect (Customer Web Portal)
- mCARE Office
- mCARE Field (8 units)
- eDocs
- EIS (Executive Information System)
- ReportsAnywhere (Report Writing)
- NorthStar REST API

2.2.3 Custom Integrations

The following third party integrations requirements have been identified as part of the Lake Havasu implementation. During the Planning Phase NorthStar will conduct an onsite workshop with a NorthStar Technical Consultant whose output will produce a detailed *Custom Modification & Integration* design document.

Interfaces	Description
Bill Print Outsourcing	NorthStar will provide Lake Havasu with a generic pipe delimited flat file for import to their bill print outsourcer, DataProse.
Meter Reading (AMR)	Meter reading upload and download files to import and export from NorthStar CIS to Itron FCS
General Ledger	NorthStar will provide flat file export containing GL transactions to export from NorthStar for import into Smart Fusion General Ledger
Accounts Payable	NorthStar will provide flat file export containing AP transactions to export from NorthStar CIS for import into Smart Fusion Accounts Payable
Payment Processing	NorthStar will create a real-time integration with Paymentus utilizing the NorthStar Paymentus API. This includes all payment integrations, i.e. web, IVR, POS, agent dashboard, kiosk
GIS	NorthStar has the ability to plot accounts on a map within the Account Gateway, assuming Esri has an API that allows the retrieval of latitude and longitude given the NorthStar account number
Work Management System	NorthStar will provide the REST API to allow Lucity to make calls to the NorthStar CIS to retrieve service order information by account number
Backflow Devices	Lake Havasu will implement NorthStar's existing backflow functionality. This will include conversion and configuration activities.

2.3 NorthStar Implementation Areas Out of Scope

Anything in this section or not listed in the above "Areas within Scope" is considered out of scope for this SOW. Specific items that are currently out of scope of this engagement include:

1. Requirement Items within the Lake Havasu Proposal, see Statement of Work Requirements List, where the response was "Not Available" or references it as a responsibility of Lake Havasu.
2. Activities associated with Organizational Change Management. This is the people side of change management that includes managing the effect of new business processes, changes in organizational structure or cultural changes within an enterprise.
3. Any modifications to the NorthStar CIS or integrations to other Lake Havasu software other than previously identified in 2.2.3.
4. Additional User Training if deemed required above contracted Training hours.
5. Lake Havasu will receive Microsoft Word format version of the generic 6.4 user guide. Creation of user-specific documentation is out of scope.
6. Any new Bill Print functionality and/or enhancements to the Bill Print program that currently do not exist in NorthStar CIS.
7. Single Sign-on Authentication with another web portal other than Paymentus or Invoice Cloud
8. Data migration of usernames/passwords from legacy web portals.
9. Supporting third party integration of the CustomerConnect login screen
10. Display of 15 minute interval data in CustomerConnect
11. Database maintenance and backups

- a. As part of the CustomerConnect implementation, the CustomerConnect team will work with Lake Havasu staff to ensure they understand what the requirements are for backups and the recommended frequency.
12. Training of Lake Havasu customers on new web portal
13. Lake Havasu will not be able to make any of the following changes to CustomerConnect:
 - a. Update Dot Net Nuke (*DNN is a web content management system based on Microsoft .NET*)
 - b. Change site skin
 - c. Remove any existing modules from any existing pages
 - d. Edit any existing modules from any existing pages (excluding HTML modules)
 - e. Make any changes to web.config

3 PROJECT DELIVERY & IMPLEMENTATION APPROACH

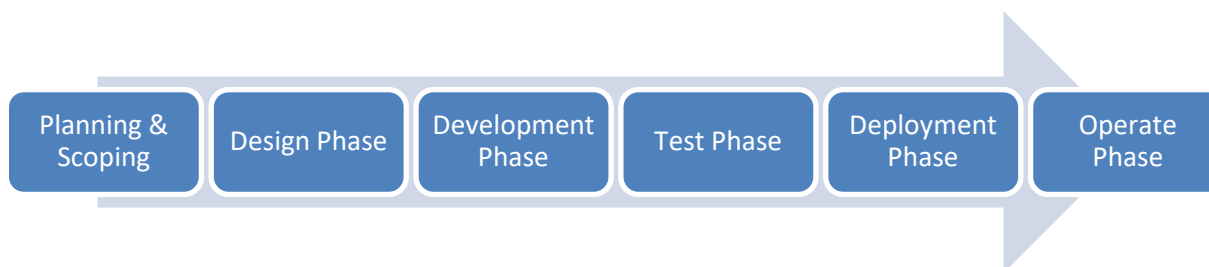
To ensure the successful implementation of the NorthStar CIS Module Solution at Lake Havasu, NorthStar will leverage industry best practices and NorthStars' 40 years experience successfully implementing projects, based on the following guiding principles:

- Promote and foster Lake Havasu ownership of solution;
- Establish and maintain consistent and regular communication with Lake Havasu;
- Ensure that project teams adopt a collaborative approach that follows project management principles and is measurable, tracked and proactively managed to ensure no surprises; and
- Seek opportunities to proactively manage Lake Havasu investment and time commitments while still achieving engagement objectives.

3.1 Project Delivery Model & Timeline Overview

The estimated duration of this engagement is approximately – 10 months.

The project will be implemented through the following phases and key activities:



3.2 Phase 1: Planning & Scoping

Key Activities : Project Plan Project Kickoff & Planning	<p>The project kick off meeting includes the NorthStar Project Team and Lake Havasu Core Team. It is an opportunity for both parties to review the statement of work, discuss the project timeline, assign roles and responsibilities and identify any project risks to finalize the project plan and governance.</p> <p>Deliverables Project Plan: Work Breakdown Structure, Issues & Risk Log, Communication and Project Governance Plan</p>
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3.3 Phase 2: Design

Key Activities: System Installation to Lake Havasu’s environment Configuration Requirements Review/Solution Design Workshops System Configuration	<p>System Installation into Lake Havasu’s environment</p> <ul style="list-style-type: none">• Prerequisite – Lake Havasu has procured and installed all required hardware and software.• Install NorthStar CIS application and database on new server(s).• Install NorthStar add ons, including; CustomerConnect, mCARE, eDOCs, EIS and Reports Anywhere, to new servers and direct to the NorthStar CIS instance.• Install NorthStar Navs and configure access to the NorthStar Add Ons servers where applicable. <p>Lake Havasu Configuration Requirements Review /Solution Design Workshops</p> <ul style="list-style-type: none">• NorthStar will conduct onsite workshops with Lake Havasu’s Core Team:<ul style="list-style-type: none">○ Configuration Requirements – 3 days onsite Led by the Business Consultant these sessions will determine the customer-specific configurations that the NorthStar CIS requires. Upon completion of this workshop a System Parameters Requirements document will be presented to Lake Havasu for sign off. This document will be the basis for Lake Havasu’s future use of NorthStar.○ Data Mapping – 3 days onsite Led by the Conversion Programmer these sessions will map the data between the Legacy and NorthStar systems. Upon completion of this workshop a Data
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	<p>Mapping document will be presented to Lake Havasu for sign off. This document will be the basis for the development of the conversion program.</p> <ul style="list-style-type: none">○ Integration – 5 days onsite <p>Led by the NorthStar Technical Consultant working with the Lake Havasu Team and third party Vendors, these sessions will allow NorthStar to develop Functional Requirements documents for all integrations to the NorthStar CIS. As with the previous two workshops, these Requirements documents will be submitted to Lake Havasu for review and sign off.</p> <p>System Configuration</p> <p>The NorthStar Application Consultant will configure NorthStar to support Lake Havasu’s business objectives, as per the System Parameters Requirements document</p> <p>Deliverables:</p> <p>Solution Design Workbook including the following documents: System Parameters Requirements Document Data Mapping Document Functional Specifications for Interfaces Document Design Workbook Sign Off</p>
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3.4 Phase 3: Development

<p>Key Activities:</p> <ul style="list-style-type: none">• Data Conversion• Development of Custom Modifications & Integration• NorthStar Internal System Testing• NorthStar REST API Training	<p>Deliverables:</p> <ul style="list-style-type: none">• Data Validation Tracking Document• Data Validation Guide• Data Validation Testing Readiness Acceptance• NorthStar REST API Training• Interface Testing Readiness Acceptance <p>NorthStar REST API Training</p> <ul style="list-style-type: none">○ 2 days remote <p>Led by the Technical Consultant, this will provide Lake Havasu or third party contractor with the skills to develop an integration to allow Lake Havasu to view NorthStar service orders from within Lucity, as well as retrieve basic information.</p>
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3.5 Phase 4: Testing & Validation

Key Activities:

- **Data Validation**
- **Core Team Training**
- **Functional Testing**
- **Reports Anywhere Training**
- **Solution Validation**
- **User Acceptance Testing**
- **End User Training**
- **mCARE Training**
- **Go-No Go Criteria Planning**

NorthStar Data Validation

- Prerequisite: Initial data cut delivered.
- Lake Havasu will be expected to validate the data conversion through comparison of NorthStar data to Legacy data. There will be a number of activities to support this:
 - **Navigation Training** – 2.5 days onsite
Led by the Business Consultant, this will provide the Core Team with the skills they need to complete the validation
 - **Data Validation Training** – 2.5 days
Led by the Business Consultant, this will familiarize Lake Havasu with the tools to identify and track the elements which must be validated as well as begin data validation activities
 - **Remote Support** – Lake Havasu will proceed with data validation for a second week with remote support from the NorthStar Business Consultant
This time will be dedicated to reviewing day-to-day progress, identifying any new issues, and ensuring Core Team is prepared for next steps

Functional Acceptance Testing (FAT)

- Prerequisites:
 - Data validation complete
 - New data extract and conversion
- 1 week duration
- NorthStar Application Consultant will test core functionality using a subset of Lake Havasu’s customer accounts using converted data.
- NorthStar will have one week to complete the necessary testing.
- Validated testing criteria will be used to determine if the testing phase is complete and the system is ready for Core Team training.
- At the start of this test cycle, a full data conversion using a fresh data extract will be performed to exercise the data conversion process and to update any required data fixes that are found through data validation. Data Conversion is an

iterative process and will require fixes throughout all testing phases based on the outcomes of each testing phase.

Core Team Training

- FAT complete
- 5 days onsite
- This training will prepare the Core Team for the testing documented. Beginning with basic functions such as Account Management, Service Order Management and Inventory Management, training will progress through functions such as Billing, Credit and Collections, and Payment Processing

Solution Validation

- Prerequisites:
 - FAT complete
 - Core Team Training complete
- 4 week duration
- A continuation of FAT using more complete data sets
- The NorthStar Project Manager will provide Lake Havasu with a generic test plan and test scripts
- Testing will include all defined processes, modifications, interfaces and NorthStar add ons
- Lake Havasu will have four weeks to complete the necessary testing with remote support from the NorthStar Team

Reports Anywhere Training (RAW)

- Report Consumer Training - Cognos connection orientation for users who will be running RAW reports
- Report Creator Training - Introduction to Cognos Report Writing

User Acceptance Testing (UAT)

- Prerequisites:
 - New data extract and conversion
 - Completion of Solution Validation
- 4 week duration
- Complete end to end testing for confirmation of system readiness. Completion of UAT will result in a code freeze. No further updates will be made to the NorthStar software or conversion program.
- Lake Havasu will have four weeks to complete the necessary testing with remote support from the NorthStar Team
- Lake Havasu will submit completed test scripts to NorthStar Project Manager on a weekly basis to assess testing progress

- If a project delay is encountered due to external factors outside of NorthStar’s control, and testing needs to extend beyond the ten (10) week window for testing outlined above, NorthStar and Lake Havasu will analyze the results of this external factor on the project timeline to determine if there is a need for a change request to reflect a substantial change to the project plan, budget, or timeline.

End User Training

- Prerequisite – UAT sign off
- 5 days onsite
- End User Training will be provided to all expected NorthStar users upon completion of UAT.
- A Training Plan will be developed collaboratively with Lake Havasu to ensure that each user is provided with the skills they need when they need them.
- Training is presented through multiple sessions grouped by functional area to allow Lake Havasu to target required skills to complete daily tasks.

mCARE Training

- Prerequisite – UAT sign off
- 4 days onsite

NorthStar will assist Lake Havasu to augment its training program; however, the assessment of whether an adequate level of knowledge has been achieved, creation of any testing tools or documentation and employee testing support is the responsibility of Lake Havasu. Should Lake Havasu deem that any additional training or training support is required a change order will be issued for additional services.

Go/No Go LIVE Planning:

- Lake Havasu will assist NorthStar in the construction of Go/No Go criteria. These criteria shall be used to determine whether or not to proceed to Operate Phase. Criteria shall be measured on a weekly basis starting no later than the commencement of User Acceptance Testing. When all criteria are met, Lake Havasu shall issue formal sign off to proceed with the Cut-Over Plan to production.

Deliverables:

- Four (4) Data Extracts and Conversions
- Data Validation Signoff
- System Validation Sign off
- User Acceptance Testing Signoff

	<ul style="list-style-type: none">• End User Training Schedule Sign Off• End User Training Delivery Sign Off• Go-No Go LIVE Criteria Documentation & Sign off
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3.6 Phase 5: Deployment

Key Activities: <ul style="list-style-type: none">• Parallel Processing• Go LIVE Planning Activities	<p>During the Solution Deployment phase, work is done in parallel with the legacy solution to ensure Lake Havasu readiness on the live system. By this phase, users are able to walk through the business processes independently.</p> <p>Parallel Processing</p> <ul style="list-style-type: none">• Prerequisites:<ul style="list-style-type: none">○ UAT Signoff○ End User Training complete○ New data extract and conversion.• 2 week duration• 1 week onsite; 1 week remote support• Led by the Business Consultant, Lake Havasu will complete daily tasks in both the Legacy and NorthStar systems• NorthStar will develop tools to load readings, payments and billing data from the legacy solution into the NorthStar CIS to facilitate the comparison of legacy data to the NorthStar solution• At the end of parallel, Lake Havasu will prepare for Go LIVE activities <p>Go LIVE Readiness</p> <ul style="list-style-type: none">• Prerequisite: Go/No Go Criteria has been finalized.• The NorthStar Project Manager will develop a Cut Over plan throughout the lifecycle of the project in preparation for a final transition to live. This plan details the steps and responsibilities for NorthStar and Lake Havasu to Lake Havasu’s production environment. <p>Deliverables:</p> <ul style="list-style-type: none">• Parallel Testing/Legacy System Validation Tools• Final Data Extract and Conversion• Go LIVE Plan & Sign Off
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3.7 Phase 6: Operation/Project Close Out & Evaluation

Key Activities <ul style="list-style-type: none">• Final Data Cut• Go LIVE Cutover• Post Go LIVE Support, Project Evaluation & Post Go LIVE Survey,• Transition to Support, Legacy System Cutoff	Go LIVE Cutover <ul style="list-style-type: none">• Prerequisites:<ul style="list-style-type: none">○ Parallel complete○ Final data extract and conversion○ Go LIVE Plan complete• 6 days onsite support• 15 hours remote support per week for 4 weeks post go-live• Lake Havasu Core Team and NorthStar Application Consultant will provide hands-on support during the first week of Go LIVE.• NorthStar Project Manager will facilitate Lake Havasu’s transition to NorthStar Support Services• The NorthStar Team will assist Lake Havasu throughout the post live implementation phase to identify and respond to any needs and concerns• During the post Go LIVE period, NorthStar will provide a combination of onsite, remote, and WebEx online support to ensure a smooth transition to NorthStar Support Services• NorthStar and Lake Havasu Project Managers will review project deliverables and confirm project close out and services acceptance Deliverables: <ul style="list-style-type: none">• Final Data Cut• Support Transition Documentation• Project Evaluation Survey• Project Acceptance Sign Off
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3.8 Project Planning: Additional Timeline Considerations

There are a number of factors to be considered that may have an associated unplanned increase in effort and will therefore impact the project schedule. These factors are typically not determined until project kick-off and will be a key input into determining the final Go LIVE date.

These factors include:

- **Data:**
 - Data clean-up (if required) by Lake Havasu
 - Volume of data – consideration needs to be given to the amount of historical data required and how long it will take to obtain the data.
- **Peripherals:**
 - If Lake Havasu has special print handling – paper source, special commands, this will create additional effort.

- An increase or replacement of equipment coinciding with the implementation.
- Availability of and access to third party-vendors regarding interfaces
- Hosting environment installation and set-up

4 PROJECT MANAGEMENT METHODOLOGY

The NorthStar **Project Management** section defines how engagements will be successfully managed.

Following are the areas covered within NorthStar's Project Management Methodology as well as its key artifacts:

- **Communication/Status Management** aimed at establishing internal and external communications as well as monitoring and communicating engagement status and effort spent.
 - Project Status Report, Project Touch-Point, Project Portal, NorthStar Internal Engagement Reviews
- **Relationship Management** aimed at measuring the pulse of Lake Havasu and partners.
 - Executive Touch-Point, NPS Survey
- **Work Management** to capture and monitor effort, cost and work to be performed;
 - Work Breakdown Structure (WBS), TeamSupport – NorthStar On-Line Issue Management Solution
- **Scope Management** for defining and controlling project scope;
 - Change Control Process, Change Control Log
- **Risk Management** to support understand, mitigating, tracking and monitoring risks;
 - Joint Lake Havasu/NorthStar Risk Register
- **Deliverable/Acceptance Management** to ensure that expected deliverables are delivered and accepted as planned.
 - Acceptance Process, Acceptance Criteria
- **Financial/Contract Management** aimed at monitoring project financial health.

A NorthStar Project Manager acts as the lead for the project and has the overall accountability for project success and on time and on budget delivery. The project teams will report directly to the NorthStar Project Manager.

The NorthStar Project Manager is accountable to:

1. Conduct regular internal project meetings to ensure that all aspects of the project are understood by the NorthStar team and that progress and risks are properly reported and managed;
2. Conduct regular project meetings with Lake Havasu and ensure that the appropriate resources from the NorthStar team are included;

3. Review project status, schedule, risks, resources as well as any other issues that may affect the success of the project; and
4. Ensure that all areas of the NorthStar Project Management Methodology are executed.

5 DATA EXTRACT & CONVERSION CONSIDERATIONS

Data conversion is one of the most important aspects of a successful implementation. Understanding and verifying data through the iterations is required to ensure on time and on budget delivery and overall project success.

NorthStar will assign a Technical Consultant who will act as the primary resource involved with converting data from the existing systems to NorthStar who will work with the Project team to ensure success.

The extraction of the data from Lake Havasu's current system will be performed by Lake Havasu. Lake Havasu is responsible for validating the converted data. Best practices requires five (5) full data extracts and conversions to be scheduled and executed.

Throughout the implementation, if new data conversion requirements are found, a project change order will be created and the timeline may be adjusted.

If additional data conversions are required, they will be negotiated through the change order process.

- Conversion specifications - NorthStar and Lake Havasu will work cooperatively to identify the correct logic to apply in converting Lake Havasu's data to the NorthStar CIS. NorthStar will convert up to five (5) years of history plus the current year of information.

This information includes:

- Account and Customer Information, including identification, contact information and addresses
- Account, customer and premises notes or comments. Note that these can be associated with either the account or the premise but not with both.
- Credit event history and account credit scores, if provided.
- Service information, such as metered rates, classes, start and stop dates, and non-consumption related rates.
- Payment arrangements and preauthorized payment information and equal billing/payment plan data.
- Meter information including the type of meter, the associated units of measure, key dates, and status.
- Transaction history, including financial data broken down by service (i.e. electric, water, sewer) where possible.

Conversion Items Out Of Scope:

1. Any data conversion work that deals with record sets of 50 or fewer needs to be manually entered or adjusted by Lake Havasu. Examples might include life support flags, or tax exempt flags on accounts.
2. Any data conversion programming work where there is no possible clear applicable programming logic. These records may need to be manually edited after the conversion is complete. This would include any data not currently stored in the tables of the legacy software. Would also include any data not required in NorthStar and that have no logical place in NorthStar tables to put the data in.
3. A data mapping plan will be provided, but creating user-specific data mapping documents for Lake Havasu use is out of scope.
4. Converting transaction history for more than five years of data.
5. Miscellaneous receipts.
6. Existing service orders and contact history in the legacy system.
7. Letter history or PDF and Word documents related to customers will not be converted.
8. Deferred Accounts Receivable history, deferred Accounts Receivable by service type.
9. Statistics maintenance & history.
10. Cashiering batches, meter reading batches, billing journal batches and any other in progress journals. All transactions should be posted by Lake Havasu prior to any conversion activity taking place. Work in progress, such as a billing batch that has been calculated but not updated, will not be converted to NorthStar's journals. The billing journal would have to be recreated in NorthStar.

6 NORTHSTAR TRAINING APPROACH

Starting with Product Orientation in the Planning and Scoping Phase and ending with working in parallel with the legacy system during the Deployment Phase. It is extremely important for Lake Havasu to be trained with its own data so all training will utilize Lake Havasu's new environment through a combination of teaching and hands-on activities.

Starting with exposure to the software during Discovery workshops in the Design Phase and ending with working in parallel with the legacy system during the Deployment Phase, each training activity is designed to assist the users in becoming increasingly knowledgeable and proficient on the NorthStar solution. NorthStar believes it is extremely important for Lake Havasu to be trained with its own data and in its own environment so all training will utilize Lake Havasu's new environment through a combination of teaching and hands-on activities. The goal is for users to become self-sufficient in working through their business processes by the Deployment Phase.

As noted above in section 3, multiple training sessions will take place throughout the course of the project:

- Navigation Training – provided at the initiation of the Testing & Validation phase, this enables the Core Team to validate the data conversion.

- Core Team Training – delivered once Functional Acceptance Testing is complete, this provides the Core Team with comprehensive training on NorthStar navigation and standard processes.
- Reports Anywhere Training – provided at the end of Solution Validation, this training is directed at both report Consumers and report Creators, including a hands-on workshop with report Creators to assist them with the development of their own reports.
- mCARE Training – provided at the end of the Testing & Validation phase, this training is directed at Customer Service and Field Service Representatives, Dispatchers and System Administrators.
- End User Training – provided at the end of the Testing & Validation phase, and based on a training scheduled developed in conjunction with Lake Havasu, this prepares all resources to begin using NorthStar to accomplish their day-to-day tasks.

7 SERVICE DELIVERABLES ACCEPTANCE PROCESS

If applicable, at specified milestones throughout the engagement, NorthStar will deliver completed service deliverables (“deliverables”) for review and approval. To ensure the project is not unduly delayed, and where applicable, service deliverables shall be reviewed within ten (10) business days from the time of submittal for acceptance or mutually agreed upon time frame. After the ten (10) day notice period or mutually agreed upon time frame, use or partial use of any service deliverable will constitute acceptance of that service deliverable. Feedback supplied after the review period will be evaluated as a potential change of scope and shall follow the Change Order Process.

The service deliverable acceptance process is described below.

- **Submission of Deliverables** - The NorthStar Project Manager, or his/her designee, will prepare a deliverable acceptance form for the various phases of the project and submit it to the designated Lake Havasu representative for consideration. Lake Havasu sign off will be required for the following phases of the implementation:
 - Data Validation
 - System Configuration
 - Custom Modifications & Integrations Delivery
 - Acceptance Testing
 - Production Readiness
 - Final Project Acceptance
- **Acceptance / Rejection** - After reviewing, Lake Havasu will either accept the service deliverable (by signing and dating the service deliverable acceptance form) or will provide a written reason for rejecting it and will return the service deliverable Acceptance Form to the NorthStar Project Manager.
- **Correction of Service Deliverables** - NorthStar will correct in-scope items identified with the service deliverable. NorthStar will submit a schedule for making changes to the service deliverable within two (2) business days of receiving a rejected service deliverable Acceptance Form. Once NorthStar corrects all previously identified in-scope issues, the service deliverable will be substantially reviewed by Lake Havasu within ten business days for approval.

- **Monitoring and Reporting** - The NorthStar Project Manager will track service deliverable acceptance. Updates on service deliverable acceptance will be included in the status report and discussed in the status meeting. Service deliverable acceptance issues that cannot be resolved will be escalated.

8 CHANGE ORDER PROCESS

NorthStar will maintain the formal documentation denoting agreed upon changes. Lake Havasu and NorthStar may propose changes for services falling outside the scope of services described herein. The change control form must be used for all change requests. A sample Change Order form can be found in Appendix 13.3,. NorthStar shall have no obligation to commence work in connection with any change until the fee and schedule impact of the change is agreed upon in a written change control form signed by the designated representatives from both parties which fees shall be at \$210/hr USD, NorthStar's current rate.

Upon a request for a change, NorthStar shall submit the change on our standard change control form describing the change, including the impact of the change on the schedule, fees and expenses. The change management process that will be employed is defined below:

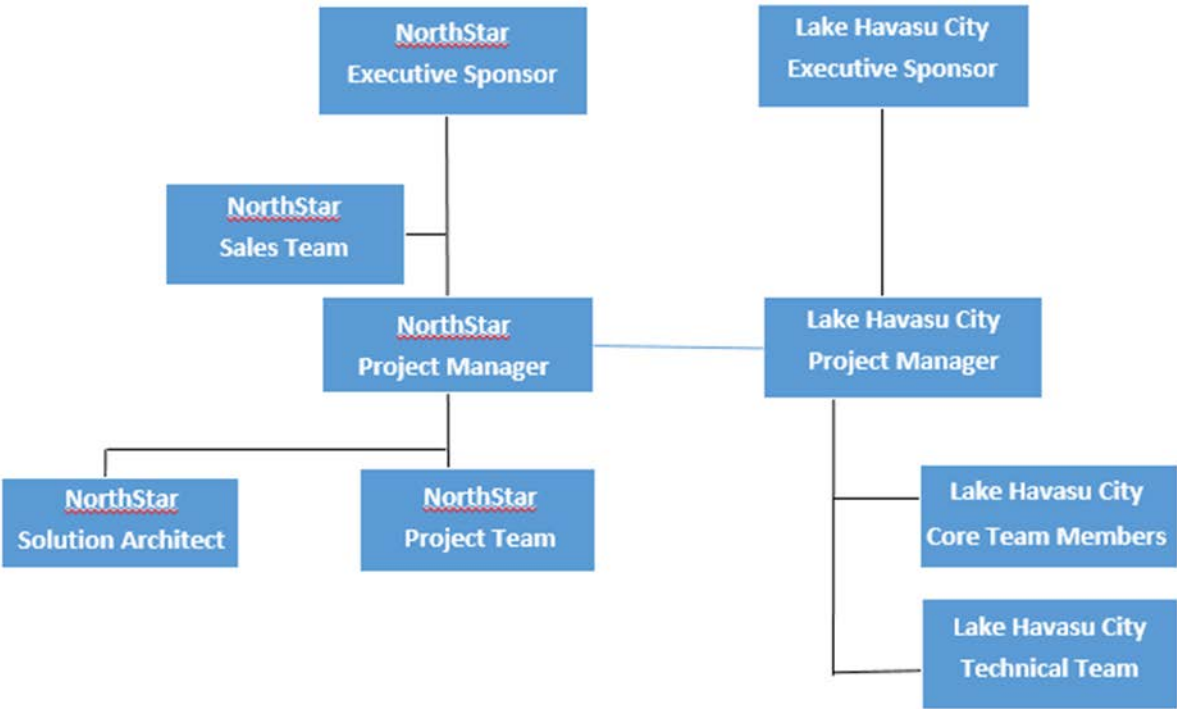
- Identify and document proposed change
- Assess impact of proposed change
- Estimate required effort / cost of proposed change
- Submit change control for approval / disapproval
- Communicate change control decision
- If change control is approved:
 - Assign responsibility
 - Monitor and report progress

Within ten (10) consecutive business days of receipt of the change control form (or any other period of time mutually agreed to by the parties), Lake Havasu shall either indicate acceptance or rejection of the proposed change by signing the change control form. If the change order is rejected, then NorthStar shall proceed only with the original services and a discussion for a revised change order can commence. In the absence of Lake Havasu acceptance or rejection of the change control form, NorthStar will not perform the proposed change.

9 ROLES & RESPONSIBILITIES

NorthStar will structure a team that will facilitate strong project communication and clear accountabilities as well as provide the necessary link with the Research and Development team. Both Sales and Support will be engaged as required – all NorthStar will collaborate and provide any specific skills or resources required to ensure the successful implementation of the proposed solution at Lake Havasu.

Below is an organization chart that outlines the proposed project team structure.



Below is a chart outlining the roles and responsibilities of Project Team members.

NorthStar Project Team	
Title	Role
Project Manager	Provide project oversight
Business Consultants	Provide solution design Provide acceptance testing support Perform static system configuration, and support all other configuration activities Provide application training
Technical Consultants/Conversion Programmer	Develop & refine data conversion program Develop parallel processing tools Develop custom modifications & integrations Provide acceptance testing support
Support Services Analyst	Provide acceptance testing support
Research & Development	Provide software defect resolution
Lake Havasu Project Team	
Title	Role

Executive Sponsor	Senior Level Executive who has accepted ownership of investing in the NorthStar solution and will promote funding and staffing of the project
Business Decision Makers	Represents the CEO or a group of managers at Lake Havasu that have the power to make strategic decisions in relation to the implementation.
Project Manager	Primary day-to-day contact for the project. Work with NorthStar Team to plan and coordinate project activities, signs-off project phases and technical services deliverables and acceptance (i.e milestone payments)
Database Administrator	Provide installation & setup services Provide network, server & workstation support associated with NorthStar installation activities
Core Team	Acknowledged Subject Matter Experts in their own areas Responsible for communicating the detailed business requirements and existing business processes to NorthStar Design business processes and make decisions about the configuration parameters for the CIS installation Present project requirements and coordinate tasks within each functional area during implementation Verify initial system setup Perform acceptance testing and provide sign off on deliverables
End Users	Responsible for using the finalized business system as designed. Participate in CIS training sessions upon completion of acceptance testing

9.1 Lake Havasu Involvement and Responsibilities

A successful CIS implementation project requires that both Lake Havasu and NorthStar resources work openly and collaboratively towards a successful implementation. As such, Lake Havasu's involvement will be required throughout the implementation of the project. Involvement of key Lake Havasu resources ensures the NorthStar solution is developed to meet your specific business requirements and is designed to ensure adoption and acceptance of the new solution.

The factors that will determine the size of Lake Havasu's team include the following:

- The level and expertise of each of Lake Havasu's project Core Team members
- The ability of Lake Havasu's Project Manager to make decisions regarding the project
- Whether current job responsibilities will interfere with Core Team responsibilities
- The amount of business reengineering Lake Havasu determines is necessary
- The number of personnel Lake Havasu will use to run its operations system, which in turn affects the amount of training needed

Based on NorthStar's experience, it is recommended that Lake Havasu be prepared to provide Core Team resources to the project with expertise in the following areas:

- Customer Service

- Meter Reading
- Asset Management
- Billing
- Payment Processing
- Credit and Collections
- Financials
- Reporting

Throughout the life of the project, Core Team members will participate in every phase, honing their skills, and developing into the NorthStar experts for their department. These individuals will require dedicated project time. The table below provides an estimated level of effort for each phase.

PHASE	TASK	RESOURCES	COMMITMENT
Planning and Scoping	Solution Design Workshops	Core Team Interface Owners Conversion Owners	All teams for 11 days
	Data Cleansing	All Legacy System Users	1 - 2 hrs per day for 4 - 6 weeks; dependent on accuracy of legacy data
Design	Configuration	Core Team	5 - 10 days
	Interface Development	Interface Owners	2-3 hrs per week; primarily as liason with third parties
Test	Data Validation	Conversion Owners	4 - 6 hrs for new data extract
		Core Team	3 - 5 weeks to work through first data cut;
	Core Team Training	Core Team	5 days onsite
	Functional Testing	Conversion Owners	4 - 6 hrs for new data extract
		Core Team	5 days - hours per day to be determined
	Solution Validation	Core Team, Interface Owners	20 days - hours per day to be determined
	UAT	Conversion Owners	4 - 6 hrs for new data extract
		Core Team, Interface Owners	20 days – hours per day to be determined
Deployment	End User Training	All Users	2 - 3 days per user depending on responsibilities
	Parallel	Core Team, Interface Owners	Full time for all users
		Conversion Owners	4 - 6 hrs for new data extract
	Go LIVE	Core Team	Cutover tasks; typically completed on the Sunday afternoon prior to Go LIVE
		Conversion Owners	Hours required for data extract and preparation for final cutover

(Note: The involvement required by Lake Havasu will be reviewed and validated during the Planning and Scoping Phase of the project to ensure there is a balance between project needs, continued organization needs and risks. In many cases a single resource may hold multiple project roles.)

10 PROJECT ASSUMPTIONS

The services, fees and delivery schedule for this engagement are based upon the following assumptions:

10.1 General Assumptions

1. Any items not explicitly identified within this document are considered out of scope. Any changes to those responsibilities and/or deliverables will be considered a change in scope for the engagement. Any proposed change to the engagement scope must be put into written format and be submitted to NorthStar during this engagement for review and consideration.
2. Adoption of new business processes will be required to optimize NorthStar utilization.
3. All documentation provided by Lake Havasu and NorthStar shall be up-to-date and accurate or if that is not the case, advise Lake Havasu and NorthStar as such.
4. The CIS engagement is deemed completed once all NorthStar CIS Solution Modules within the scope of this engagement have been deployed to the Production environment for ninety (90) calendar days and that any Punch List items raised during that period have been resolved and Lake Havasu issues the notice of acceptance.
5. In the event Lake Havasu requires additional client licensing beyond the 15 users, NorthStar will provide estimates for the additional licenses.
6. All estimates for training and consulting are based on the NorthStar Implementation plan and best practices and our knowledge of utilities of Lake Havasu's size.

10.2 Engagement Assumptions

1. This engagement currently has, and will continue to have, the support of senior Lake Havasu and NorthStar management and each party will be assigned sufficient priority with respect to their other projects to ensure its success.
2. Lake Havasu and NorthStar will each assign a Project Manager to lead and guide their respective teams throughout this engagement.
3. Lake Havasu and NorthStar will each secure the appropriate staff from their teams in a timely fashion in order to discuss or review the various materials produced when required.
4. Lake Havasu and NorthStar agree to facilitate any required corporate logistics for the fulfillment of this agreement.
5. It is expected that the individuals identified for the Lake Havasu Core Team are subject matter experts in their area with experience in the Utility's day-to-day operations. This team will work closely with the NorthStar Consultant to resolve issues as required.

6. The NorthStar Consultant will provide Lake Havasu with a generic test plan and test scripts for NorthStar CIS core functionality and will work with Lake Havasu to tailor them to Lake Havasu's processes. Lake Havasu will be responsible for incorporating all third party integration tests into the NorthStar test plan and test scripts.
7. Lake Havasu and NorthStar will provide access and support from their respective IT Groups and any other stakeholders, as deemed necessary by Lake Havasu and NorthStar throughout this engagement.
8. Lake Havasu will provide the appropriate remote access to its network, facilities and systems, as may be required to perform activities from one of NorthStar's locations. NorthStar shall abide by all rules and directions of Lake Havasu when accessing networks, facilities or systems.
9. The Lake Havasu implementation will include 9 site visits as follows:
 - a. Configuration Requirements Review – Project Manager & Business Consultant
 - b. Data Mapping Workshop – Conversion Programmer
 - c. Integration Workshop – Technical Consultant
 - d. Navigation & Validation Training – Business Consultant
 - e. Core Team Training – Business Consultant
 - f. mCARE Training – Business Consultant
 - g. End User Training – Business Consultant
 - h. Parallel Processing – Business Consultant
 - i. Go LIVE Support – Business Consultant

10.3 Conversion Assumptions

1. Lake Havasu will be responsible for performing the data extract from the current legacy system for migration into the NorthStar CIS. The extracted data files provided will conform to the file format detailed in Appendix 13.5.
2. The data provided by Lake Havasu for final conversion will be complete and clean. It is the responsibility of Lake Havasu to clean data if deemed required due to the identification of inaccurate entries. The final conversion, at Go LIVE, will be included on the Go LIVE checklist
3. NorthStar will work with Lake Havasu to ensure the conversion data will be able to be extracted in a format acceptable to NorthStar specifications.
4. Parallel activities within the Deployment Phase is two (2) weeks in duration. Week 1 is 40 hours dedicated onsite support and Week 2 will include remote support.
5. Final copying of the database at Go LIVE will be performed outside Lake Havasu's normal business hours.
6. Deposits on pending accounts (i.e. those not yet active) will not be converted and will need to be manually entered at Go LIVE.
7. It is recommended that all notices and service orders scheduled prior to Go LIVE are completed in the legacy system prior to the final data cut.

8. NorthStar Parallel tools: In order to use these tools, Lake Havasu will be responsible for creating and providing a legacy daily cash file and a legacy billing batch data extract.
9. NorthStar will provide documentation of database relationships between legacy CIS and NorthStar CIS in the form of the Data Mapping Plan.

10.4 Custom Modification & Integration Assumptions

1. NorthStar will work with Lake Havasu and all third party vendors referenced in section 2.2.3 to ensure a successful implementation. However, Lake Havasu will secure, as required and in a timely fashion, the assistance and cooperation of third party vendors to ensure a successful implementation. A change order may be created if the third party vendor is unavailable or non-cooperative and as such results in an impact to the schedule or effort.
2. Third party vendors solutions are able to provide information required by NorthStar as well as accept information provided by NorthStar.
3. NorthStar will provide Lake Havasu and/or third party contractor with training on the NorthStar REST API and technical support to allow them to develop the integration between the workforce management and CIS systems.
4. All third party software and hardware products are assumed to perform correctly in Lake Havasu's current production environment, in accordance with the appropriate third party vendor's specifications.

10.5 Technical Assumptions

1. After initial setup, the system/environment will not be modified (no hardware resource allocation changes, no network changes, no server changes) until at least 30 days after Go LIVE.
2. All hardware, software, and network components supplied by Lake Havasu are working properly and are free of defects and will meet minimum hardware standards provided during the engagement.
3. NorthStar will ensure systems interfacing to NorthStar provide data in a format acceptable to NorthStar specifications as documented and agreed upon in the Solution Design workbook.
4. NorthStar is responsible for providing the Testing and Production environments. Within one month of the Go LIVE cutover, NorthStar will create a TEST environment. For this, Lake Havasu will create and provide an identical Hardware system/environment.
5. Lake Havasu will provide appropriate remote access, such as a VPN, to its network, facilities, and systems as may be required to perform activities from one of NorthStar's locations. NorthStar shall abide by all rules and directions of Lake Havasu when accessing Lake Havasu's network, facilities or systems. NorthStar activities will be done with proper notification.

11 FEES AND PAYMENTS

Please refer to separate agreements, provided under separate covers, for costs related to software licensing, support, maintenance and hosting.

DESCRIPTION	QTY	UNITS	COST	TOTAL
SOFTWARE LICENSING				
Northstar CIS	15	User		
NorthStar CustomerConnect	1	Site		
NorthStar mCare (office)	1	Site		
NorthStar mCare (field)	8	User	\$182,400	\$182,400
NorthStar eDocs	1	Site		
NorthStar BI (RAW & EIS)	1	Site		
NorthStar Rest API	1	Site		
MAINTENANCE & SUPPORT				
NorthStar Standard Maintenance & Support	1	Scope	\$45,600	\$45,600
PROFESSIONAL SERVICES				
1. Planning & Scoping a. Configuration Requirements Review Workshop 2. Design a. Software Installation b. Solution Design Workshops 3. Development & Test a. Data Conversion b. Interface Development 4. Configuration a. Core Team Training 5. Deployment: a. End User Training b. Parallel Processing c. Go LIVE Readiness Plan 6. Go-Live, Operate, Project Close Out a. Application Consulting (Configuration and Training) b. Integrations c. Implementation Support				\$319,871
SUBTOTAL				\$547,871
Estimated Travel Expenses				\$28,200
PROJECT TOTAL – YEAR 1				\$576,071

11.1 Assumptions

- Estimates are based on typical effort to implement NorthStar CIS for clients similar to the Lake Havasu. Actual costs will vary dependent upon factors such as: Scope of integrations, Data quality and data migration scope, Testing requirements, Training needs and Resource availability from Lake Havasu.
- Price excludes any applicable taxes, duties and fees.
- Price does not include travel time, billed at \$75/hr, or travel and living expenses, which are billed as incurred. Travel expenses include, but may not be limited to; Airfare, transportation, meals and accommodations. While travel and living costs have not been estimated for budgetary purposes we have found they are usually in the range of 10% to 15% of total project costs.
- This estimate assumes NorthStar and the Lake Havasu will negotiate mutually agreeable contract terms and conditions
- Any additional professional services may be offered at a rate of \$210/hr.
- Proposal is valid for 120 days from date of delivery and will then be considered expired. Project may need to be reassessed and re-quoted to ensure accuracy.

11.2 Payment Milestones

11.2.1 Software Licensing

- Due on contract signature, payable within 60 days

11.2.2 Professional Services

- 50% on contract signature
- 20% on installation of software to non-production environment
- 20% on move to production environment
- 10% on completion of 30 days post go-live

11.2.3 Annual Maintenance & Support

- Due on delivery of software to a non-production environment.

12 DOCUMENT ACCEPTANCE AND SIGNOFF

Accepted on this day by:

Lake Havasu City, AZ

NorthStar Utilities Solutions

By: _____

By:  _____

Name: Jess Knudson

Name: Steve Morris

Title: City Manager

Title: VP, Sales & Marketing

Date: _____

Date: September 4, 2018

13 APPENDICES

13.1 NorthStar Hardware Requirements

Optimal Hardware	Optimal Software
<p>NorthStar CIS v6.4 Application & Database Server</p> <ul style="list-style-type: none"> • Quad Xeon Processor (required) • 2 x Quad Xeon Processor (recommended) • 64GB Memory • 1000GB 15K (minimum) • 1000GB 15K SSD or SSHD (recommended) 	<p>NorthStar CIS v6.4 Application & Database Server</p> <ul style="list-style-type: none"> • Windows 2016 • Wildfly • Java 8.X • SQL Server 2017
<p>NorthStar CIS Production Extension Server (Reports Anywhere, eDocs)</p> <ul style="list-style-type: none"> • Dual Xeon Processor • 16GB Memory • 2 X 72GB 15K SAS Drives 	<p>NorthStar CIS Production Extension Server</p> <ul style="list-style-type: none"> • Windows 2016
<p>NorthStar CIS Production Extension Server (CustomerConnect)</p> <ul style="list-style-type: none"> • Dual Xeon Processor • 32GB Memory • 500GB 15K SAS Drives 	<p>NorthStar CIS Production Extension Server (CustomerConnect)</p> <ul style="list-style-type: none"> • Windows 2016
<p>NorthStar CIS v6.4 Client Computer</p> <ul style="list-style-type: none"> • Quad Core CPU (Intel Core2, AMD Phenom...) • 40GB hard drive (or higher) • 4GB Memory (minimum) • 8GB Memory (recommended) • Minimal resolution: 1360 x 786 	<p>NorthStar CIS v6.4 Client Computer</p> <ul style="list-style-type: none"> • Windows 10 • JRE 8.X • Microsoft Office 2010

13.2 Risk Register Report

Risk Register

Project:	Lake	Project	Start
Havasu		Date:	
Client		Anticipated	End
Representative:		Date:	
Project Manager:			
Project Sponsor:			

	Category	Risk & Impact	Likelihood (L, M, H)	Impact (L, M, H)	Exposure (L, M, H)	Stoplight Condition (G, Y, R)	Plan to Manage Risk (Avoidance, Mitigation, Containment, Timeframes); Actions to Date	Owner	Risk Status
Business Risks (Requirements, Client Environment, Contract, Liability, External Factors)									
Requirements (Completeness, Clarity, Stability, Difficulty to implement, Requirements management)									
1.	Bus								
2.	Bus								
3.	Bus								
Client Environment (NorthStar relationship, Management capability & discipline, Criticality of application, Business rules, Decision process, Experience with similar environments)									
4.	Bus								
5.	Bus								
6.	Bus								
Contract (Contract Type, Dependency of deliverables, Cash flow holdbacks, Client fiscal stability, Contract language)									
7.	Bus								
8.	Bus								
9.	Bus								
Liability (Contract, Subcontracts, Performance guarantees, Partner reliability, Mandate, Offshore)									
10.	Bus								
11.	Bus								
12.	Bus								
External Factors (Regulatory, Imposed deadlines)									
13.	Bus								
14.	Bus								
15.	Bus								
Project Risks (Methodology, Project Management, Skills, Schedule, Staffing, Communications, User Community, Effort Estimates)									
Methodology (Methodology, Deliverables, User acceptance, Standards & procedures)									
16.	Pro								
17.	Pro								
18.	Pro								

	Category	Risk & Impact	Likelihood (L, M, H)	Impact (L, M, H)	Exposure (L, M, H)	Stoplight Condition (G, Y, R)	Plan to Manage Risk (Avoidance, Mitigation, Containment, Timeframes); Actions to Date	Owner	Risk Status
Project Management (Project Management, Risk Management, Quality Management)									
19.	Pro								
20.	Pro								
21.	Pro								
Skills (Knowledgeable staff, New languages or tools, Sub-Contractors)									
22.	Pro								
23.	Pro								
24.	Pro								
Schedule (Realistic, Aggressive, Changing, Fixed dates)									
25.	Pro								
26.	Pro								
27.	Pro								
Staffing (Experience, Availability, Subcontractors, Client staff)									
28.	Pro								
29.	Pro								
30.	Pro								
Communications (Internal, External, Project)									
31.	Pro								
32.	Pro								
33.	Pro								
User Community (Size, Location, Experience)									
34.	Pro								
35.	Pro								
36.	Pro								
Effort Estimates (Estimating technique, Assumptions, Contingency)									
37.	Pro								
38.	Pro								
39.	Pro								
Funding Risks (Business case, Estimating, Assumptions, Contingency)									
40.	Fnd								
41.	Fnd								
42.	Fnd								
Architecture Risks (Design, Technical)									
Architecture Design (Maturity, Architecture, Application, Data Model)									
43.	Arc								
44.	Arc								
45.	Arc								
Technical Architecture (Maturity, Performance, Security)									
46.	Arc								
47.	Arc								

	Category	Risk & Impact	Likelihood (L, M, H)	Impact (L, M, H)	Exposure (L, M, H)	Stoplight Condition (G, Y, R)	Plan to Manage Risk (Avoidance, Mitigation, Containment, Timeframes); Actions to Date	Owner	Risk Status
48.	Arc								
Logistical Risks (Build, Test, Conversions, Interfaces, Configuration Management)									
Build (Design specifications, Languages, Tools, Builds)									
49.	Log								
50.	Log								
51.	Log								
Test (Tools, Responsibility, Environments, UAT)									
52.	Log								
53.	Log								
54.	Log								
Conversions (Sources of data, 3 rd parties, Cleansing, Complexity, Volume, Currency of data)									
55.	Log								
56.	Log								
57.	Log								
Interfaces (Complexity, # of interfaces, Interfaces to who?, 3 rd Parties)									
58.	Log								
59.	Log								
60.	Log								
Configuration Management (# of iterations, # of modules, Tools used, # of development sites, Cultures involved)									
61.	Log								
62.	Log								
63.	Log								
Deployment Risks (Training, Communications, Change management, Support, Warranty)									
64.	Dep								
65.	Dep								
66.	Dep								
External Risks (Subcontractors & Suppliers, Regulatory, Licensing, Customer)									
Subcontractors & Suppliers (Availability, Cost, Schedule, Delivery)									
67.	Log								
68.	Log								
69.	Log								
Regulatory (Legal, Government Guidelines, Union)									
70.	Log								
71.	Log								
72.	Log								
Licensing (# Available, Purchasing Responsibility, Version Upgrades)									
73.	Log								
74.	Log								
75.	Log								
Customer (Access Systems and Resources, 3 rd Party Testing)									

	Category	Risk & Impact	Likelihood (L, M, H)	Impact (L, M, H)	Exposure (L, M, H)	Stoplight Condition (G, Y, R)	Plan to Manage Risk (Avoidance, Mitigation, Containment, Timeframes); Actions to Date	Owner	Risk Status
76.	Log								
77.	Log								
78.	Log								
Other Risks									
79.	Oth								
80.	Oth								
81.	Oth								

13.3 Sample Change Order Form

NORTHSTAR IMPLEMENTATION PROJECT - CHANGE ORDER REQUEST FORM

ORGANIZATION NAME: LAKE HAVASU

Vendor: NorthStar Utilities Solutions; a Division of Harris Computer Systems

Date:

Change Order Number:

Project Description: Lake Havasu, NorthStar CIS Implementation

Requested By:

Scope of Change Requested:

Assumptions and Other Requirements:

Payment Terms:

Start Date:

Cost Impact:

This is a fixed price quote based on the scope described above. An additional, standard amount equal to 5% of the total fees billed have been included in the fee charged to cover technology, communication and administrative costs.

A signature below will serve as authorization to proceed with this change order. Please sign and return to NSProjectManager@northstarutilities.com

Approval (signature and date):

Lake Havasu Approval _____

Lake Havasu Project Manager _____

NorthStar Utilities Solutions Project Manager _____

Change is ☒ **Approved** ☐ **Denied** **Date** _____

13.4 CustomerConnect Web Portal

13.4.1 CustomerConnect Core Functionality

Administrative Functionality:

- Administration of customer portal users
 - Lock Customer portal users
- Configure password policy
- Configure email subjects, messages and appearance
- Configure customizable text (i.e. disclaimers, welcome messages) presented to users
- Integration of Google Analytics
- Manage appearance of CustomerConnect pages
- Site customizations:
 - Customize the colour scheme via Cascading Style Sheet (CCS is used by web pages to help keep information in the proper display format)
 - Customize the auto-pay terms of service
 - Customize the Move-in terms of service
 - Customize the Move-out terms of service
 - Customize the Transfer terms of service
 - Enable/disable social media icons on header and footer
 - Change the cheque sample image for PAP
 - Change name
 - Change copyright
 - Change logo
 - Change favicon
 - Change phone number
 - Change site email address
 - Change SMTP settings
 - Customize contents of any HTML modules on any of our pages
 - Add HTML modules to any of our pages
 - Customize the 'news ticker' ribbon contents on the main page
 - Customize footer text
 - Customize what pages are enabled and disabled
 - Customize User registration email subject and body
 - Customize Forgot username email subject and body
 - Customize Forgot password email subject and body
 - Customize Start new Service email subject and body
 - Customize Transfer Service email subject and body
 - Customize Stop Service email subject and body
 - Customize display description for the 4 autopayment types in the AutoPay page dropdown
- User administration
 - Authorize account
 - Unauthorize account
 - Force password change

'My Account' Functionality

- View and manage account information
 - Registration of new residential accounts (per validation method setup in the administration portal).
 - Account/Occupant + Customer Number
 - Account/Occupant + Meter Number
 - Account/Occupant + Either of last 2 bill amounts
 - Update password
 - Update email address, mailing address, phone number
 - View account summary information

Pay & View Bills Functionality

A continuation of NorthStar's customer portal this application level module builds upon the relationship between the utility and its customer. Includes functionality related to billing.

List of features:

- View billing information
 - View billing summary
 - Bill presentment options:
 - View PDF bill through NorthStar PDF bill print.
 - Manage payment related information
 - Make payment from CustomerConnect
 - Make payment from CustomerConnect home page without logging in
 - Pre-Authorized Payment
 - Subscribe to PAP
 - eBilling
 - Subscribe to eBilling

Service Orders

List of Features:

- Moving In? Register Your New Service
 - New customer of the utility can submit a move-in service request.
- Request your service start, stop, or transfer on-line
 - Request to Move-in: request to activate new account and services.
 - Request to Move-out: request to finalize my account and services.
 - Request to Transfer: request to move me and my services from one account to another.
- Admin will maintain access and control to manage verbiage
 - Title of Manage Services page.
 - Ability to add content in text form.

Interval Data Functionality

The Interval Data application level module consists of functionality that relates to the evolving requirements of the smart grid. Including display of usage history for all (residential and commercial) electric and water commodity types and available units of measure in the provincial MDM/R in graphical and tabular formats, content targeted for the education of users towards reducing their bills, targeted alerts and notifications based on defined thresholds as well as usage comparisons to customers within the utility area.

List of Features:

- Usage Graph Widget
 - Displays the user's utility usage for the past 30 days.
 - Drill down to the usage broken down by the 24 hours within the selected day.
 - Hide/unhide the usage graph widget.
- Notifications
 - Set up notification by threshold
 - Send notification
 - By email
 - By alert
- Consumption Widgets
 - Display and compare the user's current/previous months' usage.
 - Display the usage peak period information for the current TOU period.
 - Enable usage data export.

13.4.2 Supported Integrations

Integration with Bill Print Viewer

For this implementation it has been identified that Lake Havasu does outsource its Bill Print. NorthStar will use its standard PDF bill print generation functionality perform the process to split the file that will result in one PDF per customer bill.

Integration with Online Payment Provider Partner

With one of NorthStar's preferred payment providers, the CustomerConnect online integration will assist Lake Havasu with being in a position to accept credit cards and electronic checks quickly and securely.

Customer Authentication

Lake Havasu will be responsible for notifying its customers for the need to create an account, login and password.

13.5 Data Mapping Template

Below is a sample of the data mapping template that Lake Havasu will be required to populate as part of the data extraction and transformation process to convert legacy data to the NorthStar CIS.

ACCOUNT				
DESTINATION SYSTEM			SOURCE SYSTEM	
NorthStar Table Name: pu_account				
Field Name	Data Type	Description	Table/File	Column/Field
account_no	integer	Maximum 8-digit number that stays with the premise. Must be unique, no alpha characters.		
occupant_code	smallint	tenant code, increments for every new tenant.		
name	char(100)	Also put business name here if the account is a business account.		
serv_street_no	decimal(10,0)	House number of service address.		
serv_street_mod	char(5)	House number modifier (e.g. A,B,C..) of service address.		
serv_street	char(70)	Street name of service address.		
serv_unit	char(12)	Unit or apartment number of service address.		
serv_region	char(15)	Region of Service Address... (e.g. if utility bills in two counties or districts)		
serv_city	char(40)	City of service address.		
serv_province	char(5)	State or province of service address.		
serv_postal_zip	char(12)	Zip code or postal code of service address.		
lot_no	char(4)	Information only.		
plan_no	char(8)	Information only.		
mail_addr1	char(100)	Line 1 of mailing address.		
mail_addr2	char(100)	Line 2 of mailing address.		
mail_city	char(40)	City of mailing address.		
mail_province	char(5)	State or province of mailing address.		
mail_postal_zip	char(12)	Zip code or postal code of mailing address.		
mail_postal_mode	char(5)	Postal mode of mailing address. May be important for bill print sort order.		
prev_addr1	char(100)	populated by billing posting (if customer moves in billing		
prev_addr2	char(100)	populated by billing posting (if customer moves in billing		
prev_city	char(40)	populated by billing posting (if customer moves in billing		
prev_province	char(5)	populated by billing posting (if customer moves in billing		
prev_postal_zip	char(12)	populated by billing posting (if customer moves in billing		
account_type	char(20)	Not used.		
cycle	smallint	Billing cycle. All accounts belong to a particular numeric billing cycle.		
route	smallint	Meter reading book or route number.		

CUSTOMER

DESTINATION SYSTEM			SOURCE SYSTEM	
NorthStar Table Name: pu_debtor				
Field Name	Data Type	Description	Table/File	Column/Field
		Used to link multiple accounts. References pu_account.debtor_no.		
debtor_no	integer			
debtor_name	char(100)	Name		
address1	char(100)	Address 1		
address2	char(100)	Address 2		
city	char(40)	City		
province	char(5)	State or province.		
postal_zip	char(12)	Postal code or zip code.		
home_tel	char(15)	Home telephone number		
bus_tel	char(15)	Business telephone number		
key_acct	char(1)	Not used		
valid_from	date	Not used		
valid_until	date	Not used		
empl_flag	char(1)	default to "N"		
		Possible values: 0 or an account_no for delayed billing . If acct no acct number to trigger all delayed bills to be processed. Not		
billprn_style	integer			
day_duedate	smallint	change due date to a specific day. Default to 0.		
delayed_billday	smallint	Not used,default to 0		
urgent_msg	char(50)	Not used		
other_name	char(100)	Not used		
bill_sort_key	char(30)	Not used		
birth_date	date	Not used		
customer_type	char(2)	Not used		
deb_company_name	char(60)	Not used		
deb_name_given	char(40)	Not used		
deb_name_middle	char(20)	Not used		
deb_name_prefix	char(5)	Not used		
deb_name_surname	char(40)	Not used		
debt_bankacct	char(20)	Not used		
debt_banktrans	char(20)	Not used		
debt_creditcard	char(25)	Not used		
employee_id	char(15)	Not used		

ACCOUNT SERVICES				
DESTINATION SYSTEM			SOURCE SYSTEM	
NorthStar Table Name: pu_account_pay				
Field Name	Data Type	Description	Table/File	Column/Field
account_no	integer	Maximum 8-digit number that stays with the premise. Must be unique, no alpha characters.		
occupant_code	smallint	tenant code, increments for every new tenant.		
utility_type	char(1)	ie "E"lectric, "W"ater, "S"ewer... setup in pu_control_type. Each receivable has a utility type.		
bill_code	char(6)			
last_month_billed	smallint	1=Jan, 2=Feb, etc...		
start_date	date	The date the account was created/opened.		
end_date	date	The date the account was closed.		
final_pending	smallint	future use		
final_pending_date	date	date account will be finalled		
inactive_from	date	Inactive from date - If the account is not to be billed temporarily (e.g. customer leaves for Florida for the winter) these fields will tell the system when not to		
inactive_to	date	Inactive to date		
current_balance	decimal(9,2)	ie amount billed since last billing journal. Total balance = current_balance + overdue_balance + interest_balance + latecharge_balance		
overdue_balance	decimal(9,2)	ie amount overdue at last billing journal		
interest_balance	decimal(9,2)	ie overdue interest charged		
latecharge_balance	decimal(9,2)	ie penalty charged		
last_bill_amount	decimal(9,2)	last bill amount		
last_bill_date	date	last bill date		
due_date date,	date	Date the billing amount is due for the current billing.		
previous_due_date	date			
lst_chrgc_calc_amt	decimal(9,2)	amount to calc penalty / recharge discount		
last_late_charge	decimal(9,2)	last late charge posted		
last_payment_amt	decimal(9,2)	last payment amount		
last_payment_date	date	last payment date		
lst_ovrdue_intdate	date	date overdue interest calculated to		
disconnected_flag	char(1)	If account is disconnected set to "Y" else "N".		
date_disconnected	date	date account disconnected		

