LIVERMORE
CALIFORNIA

CITY COUNCIL STAFF REPORT ITEM 6.05

DATE: July 27, 2020

TO: Honorable Mayor and City Council

FROM: Scott Lanphier, Public Works Director

SUBJECT: Asset Management Program's Public Outreach Campaign Update and NEXGEN Software Agreement

RECOMMENDED ACTION

Staff recommends the City Council:

1. Receive an update about the Asset Management Program's Public Outreach Campaign; and

2. Adopt a resolution authorizing execution of an agreement with NEXGEN Utility Management, Inc. (NEXGEN) for an Asset Management and Materials Management System including software licensing, maintenance and support, and implementation services not-to-exceed $1,764,094.

SUMMARY

In February 2019, the Council approved Asset Management as one of five Fiscal Year 2019-21 City Goals and Priorities. The focus of the City's Asset Management Program is to ensure that the community continues to receive vital services through a sustainable infrastructure strategy. Over the past few years, Council and staff have successfully implemented numerous asset management projects, practices, and policies.

In November 2019, Council approved a contract with MIG, Inc. to develop an asset management public outreach campaign. Specifically, the campaign is focused on providing education about the variety, quantity, condition, and maintenance costs of community-owned infrastructure. This education, combined with community input, will provide feedback that will be used to craft new policies, prioritize rehabilitation projects, and develop updated practices related to asset management.

As the first step in the public outreach campaign, staff and the Community Asset Management Program (CAMP) Outreach Committee released a public input survey on June 18, 2020. The survey is scheduled to close on July 31, 2020. The purpose of this

survey is to gauge the community's current understanding, attitudes, and perceptions related to community-owned infrastructure and to solicit feedback on potential prioritization and policies. Additionally, staff and the CAMP Outreach Committee are currently developing online outreach tools that will be released to the public in fall and winter 2020-21.

Staff is also working to streamline information processing, increase internal efficiency, and implement effective maintenance recommendations for near- and long-term asset management. To assist with these efforts, staff is proposing to execute an agreement with NEXGEN as the City's Enterprise asset management and materials management software.

DISCUSSION

The City's Asset Management Program focuses on policies, projects, and practices to efficiently maintain and improve community-owned infrastructure. The City Council selected Asset Management as a City Goal and Priority in 2015, 2017, and 2019, and directed staff to ensure the community continues to receive vital services through a sustainable infrastructure strategy. Since the last asset management update to Council in November 2019, staff continues to work on several actions as outlined below.

- The Holmes Street Fence Pilot Project Phase 1 is nearing completion and Phase 2 is underway. Staff is developing fence design guidelines for arterial backing lots to preserve consistent aesthetics along major arterials and gateways.

- Staff is evaluating stormwater maintenance activities and is developing new business processes to meet compliance regulations and balance maintenance funding with system needs. Two CivicSpark Fellows completed an evaluation of the Stream Maintenance Program which staff is now reviewing. They identified data gathering applications and clarified ownership reaches along each stream. Staff will present recommendations on management options for the program to Council in the future.

- Staff continues to collect data on asset conditions, analyze the City's asset classes, and utilize the Council's approved risk-based criteria to prioritize the repair and replacement of various community-owned assets. This was highlighted during the recent revisions to the Fiscal Year 2019-21 Capital Improvement Program where nearly $21 million (over 50% of all expenditures) is programmed annually for infrastructure rehabilitation and replacement. Nearly $8 million is programmed annually for enterprise funded projects including airport, water, wastewater treatment, and wastewater programs. This represents 81% of the estimated average annual need. Major projects in this category include wastewater treatment upgrades to aeration basins, primary effluent treatments, office rehabilitation, the Dalton water tank rehabilitation and upgrade, airport geometric upgrades, and hangar roof repairs. Over $12 million is programmed annually for non-enterprise infrastructure rehabilitation and replacement which represents about 33% of the estimated average annual need. The major projects programmed in the non-enterprise category includes street resurfacing, slurry seals and arterial rehabilitation, Holmes Street wall rebuild, and HVAC for Civic

Center buildings.

- In May 2020, the City hired an Asset Management Specialist. As the technician behind the Asset Management Program, this staff member is assimilating existing asset data into the City's software systems, identifying and prioritizing data gaps, developing workflow and business practices, and producing the necessary tools to enable informed decision-making regarding the upkeep and replacement of community-owned assets.

- The CAMP Outreach Committee, sworn-in by Council in January 2020, immediately held two Committee meetings in February. At these meetings the Committee provided input on the outreach program's strategy and goals, barriers and motivators, core messages, metrics of success, potential stakeholders, outreach methods including a public survey, schedule, and upcoming tasks. Recently, due to COVID-19, the Committee has been unable to meet in-person but will likely resume with Zoom meetings in late-summer. In the meantime, committee members have continued to stay engaged and provide programmatic input and feedback via email and telephone.

- Staff is implementing an asset management public outreach campaign with the assistance of the CAMP Outreach Committee as described in further detail below.

- Staff has negotiated an agreement with NEXGEN to implement a consistent asset management and work-order management software platform as described in more detail below.

Public Outreach Campaign

In November 2019, the Council approved a contract with MIG, Inc. to develop an asset management public outreach campaign. This campaign will utilize a variety of in-person and online strategies to increase the community's awareness and gauge their perception of community-owned infrastructure.

Many of the outreach campaign deliverables were scheduled to be released in May 2020 to coincide with the multitude of community events in Livermore. During this time, staff and the CAMP Outreach Committee planned to present asset management information and interact with community members at events such as the Livermore Downtown Street Festival, farmer's markets, and neighborhood events. However, due to COVID-19, this in-person outreach is not currently possible.

Instead, staff and the CAMP Outreach Committee are developing a variety of digital tools including a project website (www.livermoreassets.net), informational videos, interactive online games or quizzes, surveys, newsletter articles, and social media posts. Until in-person outreach is possible, these tools will help build awareness, increase interest in the topic of asset management, and gather feedback.

Schedule

Staff and the CAMP Outreach Committee drafted a new outreach schedule to reflect the postponement of most public events and adjusted outreach efforts to move online in the immediate future. The revised outreach schedule (Attachment 1) focuses on three phases: awareness building, priority setting, and synthesis. Staff designed the outreach schedule so that each effort cascades from one tool to the next.

Because it is unknown when the COVID-19 shelter-in-place requirements will lift, staff designed the schedule to time each activity to a phase – the specific month assigned in the schedule is an estimate which may need to be adjusted to be sensitive to current conditions. Staff will continually monitor the situation and will only release materials when appropriately timed.

Survey

On June 18, 2020, the staff and the CAMP Outreach Committee released a public input survey as the first major deliverable and the first of a two-part survey process. The survey is available on the City's website, the project website, or directly through Survey Monkey at: https://www.surveymonkey.com/r/LivermoreAssets. The goal of the survey is to gauge current understanding, attitudes, and perceptions among the public related to asset management, and to solicit feedback on potential prioritization and policies. This survey will serve as a baseline for the educational campaign, and a tool to compare future opinion research in order to test the impact of outreach messaging. The survey is scheduled to close July 31, 2020. Staff will then analyze, tabulate, and summarize results in August and provide this information to the CAMP Outreach Committee, Council, and public. The CAMP Outreach Committee and staff will use the results to guide development of the public outreach tools.

In order to attract participation, the survey includes a brief 4-question "teaser quiz" on social media with a link to the survey itself. The voice and tone of the quiz is lighter than the survey. The quiz introduces the topic of asset management in a compelling way with a minor education element. Users who complete the quiz are prompted to complete the full survey.

The survey itself is not a "Question and Answer" format; rather, it is modeled after a standard opinion research poll. The first questions are intended to gauge the general level of satisfaction surrounding the quality and maintenance of community assets. The following questions provide a more detailed assessment of the quality of specific assets, solicit feedback on use and maintenance priorities, and gauge opinions on various policy and funding options. The final section asks for standard demographic information to help future audience segmentation.

The survey was distributed and repeatedly advertised on all the City's social media platforms (Facebook, Nextdoor, Twitter, Instagram), through a variety of email distribution lists, newsletter blasts, stakeholder distribution methods, the City's website, and the CAMP Outreach Committee's networks. The survey is available in English and Spanish

with an option to complete over the phone for those without a device or internet service. Special efforts are being made to reach a representative cross-section of the community.

Outreach Goals

Both the digital and eventual in-person outreach efforts will increase the community's awareness of infrastructure issues and provide focus areas and strategies to move the Asset Management Program forward. Staff and Council will use the feedback gathered from this outreach effort to craft new policies, create pilot projects for specific asset classes, prioritize rehabilitation projects, and to develop updated practices related to asset management.

Based on the feedback received, the staff and the CAMP Outreach Committee will also recommend a series of activities to continue beyond the life of the campaign to keep people informed and engaged over the long-term. These may include development of a cyclical check-in with the Council such as a maintenance awards program, an infrastructure dashboard or scorecard, or indicators such as the pavement index.

Public outreach will continue indefinitely as a critical element of the Asset Management Program. Future outreach will always include this foundational awareness but will evolve into more detailed information focused on the specific asset class(es) in question.

NEXGEN Asset Management Software

In addition to outreach efforts, staff is also working to streamline asset information processing and analysis. To assist with this effort, staff is proposing to execute an agreement with NEXGEN as the City's asset management and materials management software. NEXGEN software allows real-time data collection and analysis to help with asset lifecycle planning, risk analysis, and capital project prioritization. The software allows for GIS connectivity and spatial analysis, and combines asset management, inventory management, and capital and maintenance funding forecasting into a single application. NEXGEN is fully web-based and cloud-hosted, eliminating the need for local hardware servers and software.

The Water Resources Division transitioned to NEXGEN in 2016 through a competitive bid process and have been very successful with both maintenance work orders and asset management efforts. This technology will create a consistent platform within the Department, improve work order efficiency, and provide the ability to continuously update asset condition information by field staff.

The Maintenance and Water Resource Divisions collaborated on the proposed agreement, transitioning from independent agreements to one, integrated, City-wide agreement. The proposed NEXGEN Enterprise Software agreement provides unlimited user licenses, includes the option to add other Division's or Department's assets without

incurring additional future costs, improves cross-departmental data integration, minimizes confusion, and achieves immediate cost savings.

The proposed agreement will replace the Water Resources Division's existing NEXGEN Implementation Services Agreement and Hosting and Managed Services Agreement. By collaborating with the Maintenance Division and creating an Enterprise Software agreement rather than maintaining separate agreements the Water Resources Division will save approximately $100,000 over the next 10 years and retain all performance standards.

The proposed agreement will replace the Maintenance Division's existing Accela Civic Asset Management System agreement. Accela is unnecessarily complicated and lacks forecasting elements that are critical to proper asset management efforts. The Maintenance Division's existing agreement with Accela is scheduled to expire in September 2020 and will be extended to accommodate the 6-8 months anticipated to migrate to NEXGEN.

Municipal Code Sections 2.68.380A.3 and 2.68.370.B.5 allow a non-competitive negotiated agreement in this situation. These Municipal Code sections provide exceptions to the City's bidding procedure when there is "no competitive advantage to be gained by soliciting bids…" Cross-departmental integration of asset data is imperative and can only be accomplished by using the same software. Other systems would not allow this integration. Additionally, because this type of software is nuanced it will benefit the City to have additional staff trained on the same software.

The 10-year agreement between the City and NEXGEN includes the following not to exceed amounts:

a. Software licensing, maintenance and support for Water Resources Division ($573,194) and Maintenance Division ($852,472)
b. Implementation services for Maintenance Division ($338,428)

FISCAL AND ADMINISTRATIVE IMPACTS

Funding to migrate the Maintenance Department from Accela to NEXGEN is included in the Asset Management FY 2019-2020 budget. Ongoing annual software licensing, maintenance, and support services are included in the Water Resource Division budget and the Asset Management budget.

ATTACHMENTS

1. Asset Management Public Outreach Schedule

Prepared by:

Debbie Bell
Management Analyst II

Approved by:

Marc Roberts
City Manager

Fiscal Review by:

Douglas Alessio
Administrative Services Director

ATTACHMENT 1

MIG

Revised 7/6/2020

LIVERMORE
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Livermore Assest Management Program
Process Schedule

NOV 2019 | DEC 2019 | JAN 2020 | FEB 2020 | MARCH 2020 | APRIL 2020 | MAY 2020 | JUNE 2020 | JULY 2020 | AUG 2020 | SEPT 2020 | OCT 2020 | NOV 2020 | DEC 2020 | JAN 2021 | FEB 2021 | MARCH 2021 | APRIL 2021 | MAY 2021 | JUNE 2021 | JULY 2021 | AUG 2021 | SEPT 2021

PREPARING TO ENGAGE PHASE | MATERIALS DEVELOPMENT PHASE | AWARENESS BUILDING PHASE | PRIORITY SETTING PHASE | SYNTHESIS PHASE

STAKEHOLDER ENGAGEMENT

- Project Team Meetings (biweekly, Thursdays) and Coordination
- Revised Outreach Schedule
- City Council Meetings (tentative)
- CAMP Meetings
- virtual
- Toolkit Training
- Toolkit Development

COMMUNICATION TOOLS

- Brand Identity (complete)
- First Online Survey Development
- Public Availability Period
- Second Online Survey Development
- Public Availability Period
- Video Development
- Public Availability Period
- Web-based Outreach Tools Development
- Public Availability Period
- Newsletter Digital Template
- Article 1 Content Development
- Article 2 Content Development
- Article 3 Content Development
- Social Media Visual Template Development
- Post Series #1 Content Development
- Post Series #2 Content Development
- Post Series #3 Content Development
- Post Series #4 Content Development
- Key Findings Report Development
- Report Card Development

OUTREACH

- In-Person Events Coordination
- Events
- Youth and Kid Friendly Events Coordination
- Events

IN THE CITY COUNCIL OF THE CITY OF LIVERMORE, CALIFORNIA

A RESOLUTION AUTHORIZING EXECUTION OF AN AGREEMENT WITH NEXGEN UTILITY MANAGEMENT, INC., IN AN AMOUNT NOT TO EXCEED $1,764,094

The City of Livermore Public Works Department ("PWD") Maintenance Division currently uses Accela Civic Asset Management System software for maintenance work orders. This software is unnecessarily complicated and lacks the forecasting elements that are critical to proper asset management efforts.

The PWD Water Resources Division transitioned from Accela to NEXGEN Utility Management, Inc. ("NEXGEN") in 2016 through a competitive bid process and successfully uses NEXGEN software for both maintenance work orders and asset management efforts. NEXGEN software allows for GIS connectivity and spatial analysis, and combines asset management, inventory management, and capital and maintenance funding forecasting in a single application. NEXGEN is fully web-based and cloud-hosted, eliminating the need for local hardware servers and software.

Migrating both the PWD Maintenance and Water Resources Division into one NEXGEN Asset Management Enterprise Agreement creates a consistent platform between divisions, provides unlimited user licenses, includes the option to add other Division's or Department's assets without incurring additional future costs, improves cross-departmental data integration, achieves immediate cost savings, and provides the benefit of additional staff trained on the same software.

The proposed agreement replaces the PWD Water Resources Division's existing NEXGEN Implementation Services Agreement and NEXGEN Hosting and Managed Services Agreement and the Maintenance Division's existing Accela Civic Asset Management System agreement.

In accordance with LMC Sections 2.68.380A.3 and 2.68.370.B.5, a non-competitive process is allowed and has been approved by the City Manager.

NOW, THEREFORE, BE IT RESOLVED that the City Council of the City of Livermore authorizes the City Manager to execute the agreement attached hereto as Exhibit A, on behalf of the City of Livermore with NEXGEN Utility Management, Inc. in the following not-to-exceed amounts:

a. Ten-Year Software licensing, maintenance, and support for Water Resources Division ($573,194) and Maintenance Division ($852,472), and

b. Implementation services for Maintenance Division ($338,428) for the initial year.

RESOLUTION NO. _____

On motion of Council Member _____, seconded by Council Member _____, the foregoing Resolution was passed and adopted this July 27, 2020 by the following vote:

AYES: COUNCIL MEMBERS:
NOES: COUNCIL MEMBERS:
ABSENT: COUNCIL MEMBERS:
ABSTAIN: COUNCIL MEMBERS:

ATTEST:

_____
Marie Weber
City Clerk

APPROVED AS TO FORM:

_____
Jason Alcala
City Attorney

Exhibit A – NEXGEN Agreement

RESOLUTION NO. _____

SOFTWARE LICENSING, MAINTENANCE & SUPPORT, AND IMPLEMENTATION SERVICES AGREEMENT FOR AN ASSET MANAGEMENT AND MATERIALS MANAGEMENT SYSTEM (Project No. _____)

THIS AGREEMENT is made and entered into this day of , 2020 by and between the City of Livermore ("City"), a municipal corporation, and NEXGEN Utility Management, Inc. dba NEXGEN Asset Management ("NEXGEN"), a California corporation.

RECITALS

City requires professional services to implement an Asset Management and Materials Management System ("AMMMS") for the City.

NEXGEN warrants it possesses the distinct professional skills, qualifications, experience, and resources necessary to timely perform the services described in this Agreement. NEXGEN acknowledges City has relied upon these warranties to retain NEXGEN.

AGREEMENT

NOW, THEREFORE, City and NEXGEN hereby agree that the aforementioned recitals are true and correct and further agree as follows:

1. Retention as Consultant. City hereby retains NEXGEN, and NEXGEN hereby accepts such engagement, to perform the services described in Section 3 below subject to the terms and conditions in this Agreement.

2. Relationship of Parties – Independent Contractors. The relationship of the parties shall be that of independent contractors. NEXGEN and its employees are not City officers or employees. NEXGEN is responsible for the supervision and management of its employees, including any workers compensation insurance, withholding taxes, unemployment insurance, and any other employer obligations associated with the delivery of the services contemplated by this Agreement.

3. Description of Project. NEXGEN shall provide the City with an Unlimited Users access to Enterprise AMMMS that has strong functionality to meet the City's business needs in the areas of asset management, maintenance and work management, inventory/materials management, and analysis and reporting as desired by the City. NEXGEN shall implement a fully integrated Commercial-off-the-Shelf ("COTS") Asset Management and Materials Management System (using NEXGEN ASSET MANAGEMENT (NEXGEN AM) software products). NEXGEN shall provide off-site hosting from Amazon Web Services ("AWS") hosting facilities and shall provide Software Licensing, Maintenance and Support services through the term of this Agreement. The general, technical, and functional requirements for the AMMMS ("AMMMS Requirements") are set forth in Attachment "E".

4. Description of Services. NEXGEN will provide two types of services to the City. Those services include the NEXGEN AM software products along with maintenance and support services and services to implement that software. Those services are more specifically described below, and in the corresponding attachments for those services, which are collectively referred to in this Agreement as "Services":

(a) Annual Maintenance & Support Services. NEXGEN shall provide City with maintenance and support as set forth in Attachment "A" and "B" to achieve the AMMMS Requirements, which also identifies the software modules corresponding to the AMMMS Requirements in Attachment "F";

(b) Implementation Services. NEXGEN shall provide the software implementation services as set forth in Attachment "A" for the AMMMS, and achieve the corresponding deliverable content requirements ("Implementation Services"). NEXGEN shall commence work on the Implementation Services upon receipt of a notice to proceed from the Project Manager.

5. NEXGEN's Responsibilities. NEXGEN shall:

(a) Diligently perform the Services in a manner commensurate with industry, professional, and community standards;

(b) Provide the resources necessary to complete the Services in a timely manner;

(c) Obtain a business license from the City of Livermore, and keep it in effect for the term of this Agreement;

(d) Obtain and keep in effect all necessary licenses, permits, qualifications, insurance, and approvals legally and professionally required for NEXGEN to practice its profession and to provide the Services;

(e) Comply with all laws in effect that are related to NEXGEN and the Services;

(f) Coordinate the Services with Debbie Bell (referred to herein as the "Project Manager"), or such other person designated as the Project Manager by City;

(g) Be available to the Project Manager, and other parties referred to NEXGEN by the Project Manager, to answer questions or inquiries related to the Services;

(h) Only invoice City for the Services rendered. NEXGEN's invoice shall be in writing, and describe the Services performed for the payment requested, as required by Section 6(f) of this Agreement. NEXGEN shall not submit an invoice to City more frequently than once a calendar month;

(i) Keep and maintain invoices and records related to the Services in an organized manner. At a minimum, the records must be kept for at least 3 years from the date of final payment to NEXGEN and must include, work progress reports, and other documentation to adequately explain all the Services invoiced for payment. NEXGEN shall make the invoices and records immediately available to City upon delivery of a

written request to examine, audit, or copy them at City's place of business during normal business hours. NEXGEN shall give City 30 calendar-days' written notice prior to destroying the invoices and records and allow City an opportunity to take possession. If City wants them, NEXGEN and City shall coordinate their delivery to City in the most efficient manner possible;

(j) No more than one per month, the City may request NEXGEN prepare and submit a written report to the Project Manager, within 3 business-days of the Project Manager's written request, that identifies the Services completed and in progress, the charges incurred to date, and the anticipated cost to complete the remaining Services; and,

(k) NEXGEN shall correct, at its own expense, all errors in the Services. Should NEXGEN fail to make such correction in a timely manner, City may make the correction and charge the cost thereof to NEXGEN.

(l) If applicable, NEXGEN shall ensure that all work for compensation is provided in compliance with the requirements of the California Labor Code including but not limited to hours of labor, nondiscrimination, payroll records, apprentices, worker's compensation and prevailing wages. If applicable, NEXGEN shall comply with all prevailing wage laws, such as sections 1773, 1773.8, 1775, 1776, 1777.5, 1777.6, and 1813 of the California Labor Code and any other applicable wage and hour law. If any violation of prevailing wage law associated with this Agreement is deemed to have occurred by any court or administrative authority, NEXGEN shall forfeit to the City, as a penalty, the sum of fifty dollars ($50.00) for each calendar day, or portion thereof, for each laborer, worker, or mechanic employed, paid less than the applicable prevailing rates for any work done to accomplish the purposes of this Agreement.

6. Compensation and Payment.

(a) The following compensation is payable by City to NEXGEN for the corresponding component of the Services, which amounts are intended to be NEXGEN's only compensation for the Services and is inclusive of all costs of labor, licensing, permitting, travel expenses, overhead and administrative costs, and any-and-all other costs, expenses, and charges incurred by NEXGEN, its agents, and employees to provide the Services:

(1) **Compensation Software Licensing & Maintenance:** During the term of this Agreement, City shall pay NEXGEN compensation for Software Licensing and annual Maintenance & Support services as follows:

Year	Services	Payments
Year 1 (2021)	**Software Licensing, Maintenance & Support**	**$ 120,000.00**
Year 2 (2022)	**Software Licensing, Maintenance & Support**	**$ 123,600.00**
Year 3 (2023)	**Software Licensing, Maintenance & Support**	**$ 127,308.00**
Year 4 (2024)	**Software Licensing, Maintenance & Support**	**$ 131,127.24**
Year 5 (2025)	**Software Licensing, Maintenance & Support**	**$ 135,061.06**
Year 6 (2026)	**Software Licensing, Maintenance & Support**	**$ 139,112.89**
Year 7 (2027)	**Software Licensing, Maintenance & Support**	**$ 143,286.28**
Year 8 (2028)	**Software Licensing, Maintenance & Support**	**$ 147,584.86**

Year 9 (2029)	**Software Licensing, Maintenance & Support**	**$ 152,012.41**
Year 10 (2030)	**Software Licensing, Maintenance & Support**	**$ 156,572.78**
	Total Payments	**$ 1,375,665.52**
Optional:	**Unlimited Users access to NEXGEN 311 Service Request Portal**	**$ 5,000.00 Per Year**

NEXGEN shall invoice City for the year 1 payment immediately upon the City going live with NEXGEN AM software for Public Works Maintenance Division. Thereafter, NEXGEN shall invoice City for annual Maintenance & Support payments on or about July 1 of each subsequent year during the term of this Agreement.

(2) **Compensation for Implementation Services:** City shall pay NEXGEN for the Implementation Services by completed deliverable milestone payments below that correspond to the deliverable services set forth in Attachment "A", subject to the retention withholding requirements in Subsection 6(e) in this Agreement, as follows:

Deliverable Based Lump Sum Payments

Implementation Services Deliverables	Deliverable Milestone Payments	Phase Total
1. Project Management & Readiness Phase	*% Complete at the end of each month*	*$57,440.00*
2. User Requirements / Business Process Phase	*% Complete at 50 & 100%*	*$24,000.00*
3. Data Migration Phase	*% Complete at 25%, 50%, 75% & 100%*	*$53,240.00*
4. Configuration Phase	*% Complete at 25%, 50%, 75% & 100%*	*$111,760.00*
5. Integration Phase	*City acceptance of completion of task*	*$14,124.00*
6. Testing Phase	*City acceptance of completion of task*	*$21,384.00*
7. Training Phase	*City acceptance of completion of task*	*$56,480.00*
TOTAL IMPLEMENTATION SERVICES PAYMENTS		**$338,428.00**

NEXGEN shall invoice City for Implementation Services as set forth in Subsection 6(f) in an amount equal payment in the table above that corresponds to deliverable that has been completed and accepted by City.

(a) Not to Exceed Amounts. Except for changes made in conformance with Subsection 6(c) to this Agreement and for extra-services agreed to in conformance with Subsection 6(d) to this Agreement, it is expressly understood and agreed that in no event shall NEXGEN be compensated in an amount greater than $1,764,093.52.

(b) Change Orders. City reserves the right to order changes to the Services in this Agreement. All such changes shall be incorporated into this Agreement by a written change order duly executed by City and NEXGEN, which shall specify the changes

ordered, any adjustments to NEXGEN's compensation due to the change, and the completion time for the changed Services. NEXGEN's invoices to be compensated for the change orders are subject to the retention withholding in Subsection 6(e) to this Agreement.

(c) Extra-Services. This agreement provides the City Unlimited access to NEXGEN's Cloud Site Application and the ability to add multiple application domains at no additional cost, City may request extra-services that are not reasonably included within the Services. If NEXGEN agrees to provide the extra-services, they must be provided consistent with the terms and conditions of this Agreement, including the hourly rates or task amounts set forth in Attachment "D". All such extra-services shall be incorporated in written amended to this Agreement duly executed by City and NEXGEN, which shall specify the extra-services along with NEXGEN's compensation for those services and the completion time therefor. NEXGEN's compensation for extra-services shall be negotiated as a fixed lump sum price based upon the direct labor hours negotiated for the extra-services multiplied by the fixed hourly fully burdened billing rates for the corresponding labor categories set forth in Attachment "D". NEXGEN's invoices to be compensated for the extra-services are subject to the retention withholding in Subsection 6(e) to this Agreement.

(d) Invoicing. Unless approved otherwise by the Project Manager, NEXGEN shall submit invoices monthly to City upon completion of each deliverable milestone as shown in subsection 6(a)(2) and such change orders and extra-services as may be agreed upon. NEXGEN is not entitled to final payment for a deliverable, and City is not obligated to pay for a deliverable to NEXGEN, until the deliverable is fully completed. In the event of a dispute whether NEXGEN has completed a deliverable for a lump sum payment, or whether a deliverable satisfies the AMMMS requirements, then the City will contract with a technical consultant, at NEXGEN's sole expense, who will evaluate the work and provide a written determination evaluating the deliverable and whether it is complete and complies with the AMMMS Requirements. If the technical consultant finds after a thorough review that the deliverable is not complete or does not satisfy the AMMMS Requirements, NEXGEN shall complete the deliverable and City shall not be obligated to compensate NEXGEN until such deliverable is completed. Deliverables that are billed on a percent complete milestone will be tracked and recorded weekly using the Project Management tool Asana.com.

City will make payments to NEXGEN within thirty (30) days of receipt of an invoice acceptable to the City, which acceptance shall not be unreasonably withheld, with satisfactory backup documentation, approved by the Project Manager. As used herein, the term "invoice" shall include the NEXGEN's bill or written request for payment under this Agreement for services performed. All invoices shall be made in writing and submitted with two duplicates.

In addition, if the NEXGEN procures any software, as necessary to meet City's needs/requirements, then NEXGEN is responsible for to pay the software supplier(s) for all licenses furnished to City under this Agreement. NEXGEN shall provide City with letters from those suppliers or software companies, stating that items on the order forms have been paid for by NEXGEN, and confirming required licensing data such as software

product name, serial number and authorized number of users for City. NEXGEN is prohibited from marking up any fees for software and third-party software services.

7. Term. The term of this Agreement is for 10 years commencing upon the effective date and terminating upon the completion of the Services, the date this Agreement is terminated, or December 1, 2030, whichever occurs first.

8. Termination by City. City may terminate any portion or all of the Services by giving NEXGEN at least 30 calendar-days written notice. Upon receipt of a written termination notice specifying the component of the Services that are terminated, NEXGEN shall immediately stop all work in progress on those Services except where necessary to preserve the benefit of the work, and assemble the work on those Services for delivery to City on the termination date. All compensation for the terminated Services performed prior to the termination date shall be payable to NEXGEN in accordance with Section 6 of this Agreement.

9. Ownership of Work Products. All flowcharts, business modeling diagrams, user requirement specifications, design documents, user manuals, technical reports and studies, and any other documents, materials, data and products ("Work Products"), but not including any Pre-Existing items (defined below), prepared or assembled by NEXGEN or obtained from others ("Subcontractors") by NEXGEN in connection with the Services under this Agreement shall be the property of City; and copies shall be delivered to City promptly upon the completion of the work or upon an earlier termination of this Agreement. NEXGEN shall be responsible for the preservation of any and all Work Products prior to transmittal to City; and NEXGEN shall replace any such Work Products as are lost, destroyed or damaged while in its possession without additional cost to City.

Notwithstanding anything to the contrary, (1) nothing shall waive or otherwise impair City's or NEXGEN's or third party ownership of or other rights in data, information or other intellectual capital or property, developed or acquired prior to or otherwise developed independent of this Agreement or derivatives thereof (collectively, the "Pre-Existing Items"); and (2) each party may use in its business activities the ideas, concepts and know-how contained in any information disclosed or developed under this Agreement and retained in the memories of its employees.

NEXGEN warrants or is in the public domain and represents that the Work Products are original to NEXGEN or its Subcontractors and shall not infringe the copyright, trademark, trade secret, privacy, publicity, patent or other intellectual property or proprietary rights of any third party.

10. Copyright and Right of Use. NEXGEN agrees that all aspects of the Services and items created thereby will be original works of creation and will not use, in whole or in part, any work created by any other party, except when expressly disclosed by NEXGEN to City and NEXGEN obtains a license to such items for the benefit of City. All licenses must be perpetual, world-wide, non-exclusive, and royalty free sufficient in scope to permit City's full use and enjoyment of its ownership rights in the items created by the Services.

11. Confidentiality. NEXGEN shall not disclose any confidential or proprietary information received from City to anyone except NEXGEN's employees who require access to the information to perform the Services. This obligation shall survive termination and remain in full force and effect until the information, and any copies thereof, are destroyed or returned to City.

12. Indemnity and Defense.

(a) NEXGEN shall defend, indemnify and hold City, its elected officials, officers, directors, employees, agents, and designated volunteers harmless from and against any and all loss, liability, damage, including but not limited to reasonable attorney, consultant and expert fees, and court costs arising out of or in connection with this Agreement, except for the negligence and willful misconduct of City, its elected officials, officers, directors, employees, agents, and designated volunteers. NEXGEN shall have no liability for any loss or damage resulting from incorrect data and from user manipulation of the system.

(b) In addition to the above indemnification obligations, NEXGEN shall correct, at its own expense, all errors in the services provided. Should NEXGEN fail to make such correction in a timely manner, City will make the correction and charge the cost thereof to NEXGEN.

(c) In addition, NEXGEN shall indemnify, including the cost to defend, City, its elected officials, officers agents, employees and designated volunteers for any and all claims, demands, costs, damages, or liability, including reasonable attorney's fees, that arise out of any infringement of any United States' letters patent, trademark, or copyright infringement in any design developed, prepared, and delivered in accordance with this Agreement.

(d) In addition to the provisions provide in this Section, NEXGEN shall defend, indemnify and hold harmless the City from any alleged violations, infringement or misappropriation of a United States patent, trade secret, copyright or other proprietary interest based on any software or services provided under this Agreement, including any materials utilized or supplied in connection with the provision of such software or services. The City shall promptly notify NEXGEN of any claim of infringement or misappropriation for which NEXGEN is allegedly responsible and shall cooperate with NEXGEN to facilitate the defense or settlement of such claim.

If use of the software or services as procured and provided by the NEXGEN are prevented or appears likely to be prevented by an injunction or court order or by settlement resulting from any such claim, NEXGEN shall, at its expense, either:

(1) buy license or release from claim of violation, infringement or misappropriation, procure for City the right to continue using said software or Services;

(2) modify the software or Services so they are functionally equivalent to the original software or Services but are no longer subject to a claim or violation, infringement or misappropriation;

(3) remove any infringing materials and replace same with equally suitable materials free from claim of infringement or misappropriation.

The foregoing undertaking of NEXGEN shall not apply if the alleged infringement results from modification or enhancement of the software or services by City or use by City of the software or Services in combination with other software or Services not provided under this Agreement where such infringement would not have occurred from use of the software or Services in other than the alleged infringing combination.

13. Warranty of Services.

(a) NEXGEN shall provide City with a telephone number to which problems can be reported twenty-four (24) hours per day, seven (7) days per week. If the problem as characterized by City is sufficiently severe that the AMMMS is wholly or substantially inoperable, NEXGEN shall respond to notice of the problem within two (2) hours of notifications during weekdays and within four (4) hours of notifications during weekends and holidays. Such response shall be made by a knowledgeable technician familiar with the AMMMS and, at a minimum, shall acknowledge receipt of City's notification and inform City of the steps NEXGEN intends to take to resolve problem. NEXGEN shall commence on-site remedial efforts to resolve the problem most expeditiously, as soon as possible and in no event later than four (4) hours during weekdays and within eight (8) hours during weekends and holidays after notification of the problem, and shall continue such efforts until the problem has been resolved. If the AMMMS problem, as characterized by City is less severe than that described in the preceding sentence, NEXGEN has eight (8) hours during weekdays and within sixteen (16) hours of notifications during weekends and holidays in which to make its initial response to the problem and thereupon must undertake remedial efforts that are appropriate in view of the severity of the problem and its effect on the City's operations and use of the product.

(b) In the event that any Services provided by NEXGEN are deficient because of NEXGEN's or its Subcontractor's failure to perform said Services in accordance with the warranty standards set forth herein, City shall report such deficiencies in writing to NEXGEN within a reasonable time. City thereafter shall have the right:

(1) To have NEXGEN re-perform such Services at NEXGEN's own expense in accordance with this Section, and

(2) To have such services done by others and the reasonable costs thereof charged to and collected from NEXGEN if, within thirty days after written notice to NEXGEN requiring such re-performance, NEXGEN fails to give evidence satisfactory to City that it has undertaken such re-performance.

14. Regeneration of Lost or Damaged Data. If any City data is lost or damaged as the result of any work performed by NEXGEN or its employees, agents, representatives or Subcontractors for which City or its employees, agents, representatives or Subcontractors had no responsibility, NEXGEN will, at its own expense and to the extent possible, use commercially reasonable efforts to restore any such data to its last backup level provided that such last backup was conducted not more than the number of the

hours or days prior to the loss or damage of the data as agreed upon for the recovery point objective in Attachment C.

15. Insurance. NEXGEN shall procure and maintain insurance during the term of this Agreement in the amounts and under the terms set forth in Attachment "F" against claims that may arise from or in connection with this Agreement and performance of the Services. Upon reasonable written notice, NEXGEN shall comply with any changes in the amounts and terms of insurance as may be required from time-to-time by City's Risk Manager.

16. Acceptance of Final Payment. NEXGEN's acceptance of final payment will release City from any and all claims and liabilities for compensation under this Agreement.

17. Acceptance of Work. City's acceptance of, or payment to NEXGEN for, the Services does not release NEXGEN from its responsibility for the accuracy, completeness, or competency of the Services, nor do the actions constitute an assumption of NEXGEN's responsibility or liability by City for any defect or error in the Services.

18. Conflict of Interest. NEXGEN represents that no City employee or official has a financial interest in NEXGEN. NEXGEN shall not offer, encourage, or accept any financial interest in any part of NEXGEN's business by or from a City employee or official during the term of this Agreement or as a result of being awarded this Agreement.

19. Economic Disclosure. NEXGEN shall comply with City's local conflict of interest code and the Political Reform Act, and prepare and file an economic disclosure statement if the Services involve making, or participation in making, decisions which may have a material effect on the NEXGEN's financial interest. While it is NEXGEN's sole responsibility to evaluate its conflicts of interest, NEXGEN nevertheless agrees to prepare and file an economic disclosure statement if requested by City.

20. Non-Exclusive Agreement. This is a non-exclusive agreement. City reserves the right to provide, and to retain other consultants to provide, services that are the same or similar to the Services described in this Agreement.

21. No Assignment. NEXGEN shall not assign or subcontract any of the Services without City's prior written consent. For the purposes of this section, a change of fifty percent or more in the ownership or control of NEXGEN constitutes an assignment.

22. Remedies. All remedies permitted or available under this Agreement, or at law or in equity, are cumulative and alternative, and the invocation of a right or remedy will not be construed to waive or elect a remedy with respect to any other available right or remedy. As a condition precedent to commencing legal action involving a claim or dispute against City arising from this Agreement, the NEXGEN must present a written claim to City in accordance with Chapter 3.42 of the Livermore Municipal Code.

23. Construction of Language. The terms and conditions in this Agreement have been arrived at through negotiation and each party had a full and fair opportunity to review and revise this Agreement with legal counsel. Any ambiguity in this Agreement will not be resolved against either party as the drafting party. In the event of an inconsistency or

conflict between the language in the body of the Agreement and an attachment hereto, the language in the body of the Agreement controls.

24. Entire Agreement; Modification. This Agreement supersedes all other agreements, whether oral or written, between the parties with respect to the Services. Any modification to this Agreement must be in writing and signed by both parties. In the event the original of this Agreement is lost or destroyed, an archival copy maintained by City can be used in place of the original for all purposes with the same effect as if it was the original.

25. Notice. Notices under this Agreement must be delivered to the addresses below by deposit in the United States mail or by overnight delivery service, with postage prepaid and delivery confirmation:

TO CITY: Attention: City Manager
City of Livermore
1052 S. Livermore Avenue
Livermore, California 94550

Copy to: Debbie Bell
City of Livermore Public Works Department
3500 Robertson Park Road
Livermore, California 94550

TO NEXGEN: Vincent Yee
NEXGEN Asset Management
4010 Lennane Drive
Sacramento, California 95834

26. Waiver. Failure to insist upon the strict performance of any term or conditions in this Agreement, no matter how long the failure continues, is not a waiver of the term or condition and does not bar the right to subsequently demand strict performance. To be effective, a waiver must be in writing and signed by the non-breaching party.

27. Severability. If a court of competent jurisdiction determines a provision in this Agreement is invalid, void, or unenforceable, the remaining provisions will nevertheless continue in full force and effect without being impaired in any way.

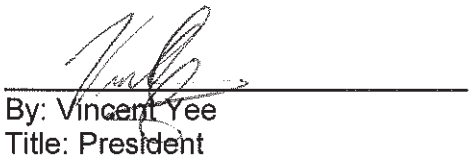
28. Counterparts. This Agreement may be executed in counterpart by delivering a facsimile or secure electronic copy of the signed agreement to the other party, followed by delivery of the original documents bearing the original signatures. However, failure to deliver the original documents does not affect the enforceability of this Agreement.

****

Signatures and Attachment List on the Next Page

In concurrence and witness whereof, and in recognition of the mutual consideration provided therefore, the parties have executed this Agreement, effective on the date first written above.

NEXGEN: **Dated:**



7/7/20

By: Vincent Yee
Title: President

CITY OF LIVERMORE: **Dated:**

Marc Roberts
City Manager

APPROVED AS TO FORM:

City Attorney

Attachments:

A Scope of Work
B Software License Agreement
C Service Level Agreement
D Labor Classification and Fully Burdened Rates
E AMMS Functional Requirement
F Insurance Requirement

Attachment A

City of Livermore Public Works Department NEXGEN Asset Management Proposal

Objective

The City of Livermore (City) is interested in implementing NEXGEN Asset Management as the City's Enterprise Asset Management Software to support its asset management, maintenance and operations. The purposes of this document are to present the City with the implementation approach, and cost for the software and implementation services.

Software Cost

We understand that the City's Public Works Department Maintenance Division (MD) would like to deploy the software under the same agreement with the City of Livermore Water Resources Division (WRD) HOSTING & MANAGED SERVICES AGREEMENT FOR AN ASSET MANAGEMENT AND MATERIALS MANAGEMENT SYSTEM (Project No. #CC0018-211). WRD currently has NEXGEN Asset Management as a hosted and managed services agreement on a dedicated server on Amazon Web Services. As part of this consolidation between WRD and MD, the WRD original hosted and managed service agreement will transition to a hosted solution. The hosted solution will be on a dedicated server on Amazon Web Services. The Public Works Department Maintenance Division would like to be added as a separate domain on the same NEXGEN database. As part of this process, the concurrent license agreement will be shared by both groups and concurrent users, storage limits and data transfer limits will be upgraded to accommodate both groups. WRD currently has 75 user licenses in the current agreement. This amendment would upgrade the City's NEXGEN Enterprise Asset Management Software to unlimited users. The City has the option to add other Divisions or Departments into NEXGEN as a separate domain with unlimited users and without additional costs.

The annual maintenance and support fees include all the upgrades and technical support. NEXGEN has 2 major releases a year in April and October and potentially 2-4 additional mini releases to resolve bugs and improvements.

Water Resources Division Transition to NEXGEN Cloud

WRD will transition from a hosted and managed services agreement to the NEXGEN Cloud solution. NEXGEN will be upgrading WRD from ***75 Users*** to NEXGEN Cloud Site with ***Unlimited Users***. WRD original Annual Software Maintenance support

contract ends November 30th, 2027. The current Annual maintenance support for Year 3 (2020) ends November 30th, 2020. The transition from WRD managed and hosted solution to the new NEXGEN Cloud environment will take place December 1st 2020. WRD under this new scope, will no longer receive the Monthly SLA compliance report provided by NEXGEN effective December 1st, 2020. The purpose of the SLA compliance report is for NEXGEN to provide monthly report to WRD on how the application is performing in the off-site and managed services environment in the original contract. NEXGEN's Service Level Agreement, Attachment C, provides a high-level overview of NEXGEN's approach to managing NEXGEN's Cloud application task related to System availability, Application Response Time, Back Up/Recovery, Technical Support & Incident Management.

NEXGEN Asset Management Software Cost

WRD's NEXGEN Cloud payment cycle will be from December 1st to November 30th annually. MD's NEXGEN Cloud and Service Request Portal payment cycle will be from March 1st to February 28th annually.

Year	WRD NEXGEN Cloud Cost	MD NEXGEN Cloud Cost	Service Request Portal Cost (optional)
Year 1 (2021)	$50,000.00	$70,000.00	$5,000.00
Year 2 (2022)	$51,500.00	$72,100.00	$5,000.00
Year 3 (2023)	$53,045.00	$74,263.00	$5,000.00
Year 4 (2024)	$54,636.35	$76,490.89	$5,000.00
Year 5 (2025)	$56,275.44	$78,785.62	$5,000.00
Year 6 (2026)	$57,963.70	$81,149.19	$5,000.00
Year 7 (2027)	$59,702.61	$83,583.66	$5,000.00
Year 8 (2028)	$61,493.69	$86,091.17	$5,000.00
Year 9 (2029)	$63,338.50	$88,673.91	$5,000.00
Year 10 (2030)	$65,238.66	$91,334.12	$5,000.00
Total =	$573,193.97	$802,471.55	$50,000.00

Maintenance Divisions Implementation Scope of Work

Task 1. Project Management	
Objectives	The purpose of this task is to manage the project within schedule, budget and delivery.
Assumptions	1) CITY will provide a project management/coordinator to work with CITY staff to coordinate meetings and tasks. 2) NEXGEN will provide and manage the project in asana.com, a project management web tool.
Activities	1) NEXGEN's project delivery approach will plan, schedule, and deliver a benchmark project on schedule and within budget. 2) Project work plan with scope, deliverables and schedule. 3) Weekly communication with project team to track project delivery tasks, deliverables and schedules.
Deliverables	▪ Project work plan with tasks and schedules. ▪ Project delivered within budget and schedule. ▪ Meeting agendas, minutes and action items.
Task 2. User Requirements & Map Business Processes	
Objectives	The purposes of this task are to assess City's AM user requirements and map business processes to be used for configurations.
Assumptions	1) CITY will allocate time with Asset Management Team and User Groups to meet to identify user requirements and develop business process maps.
Activities	1) We will meet with users (specific to AM functionalities) to identify functional requirements of AM, based on their user needs. Desired functionalities of AM will drive the configurations. Separate user requirements meetings and requirement documents within the Maintenance Division will be necessary. 2) Document the City's AM functional requirements & acquire validation. 3) Work with City staff to identify the business processes that are required to support the Maintenance Division's functional requirements. 4) Review existing data and develop a data upload plan.
Deliverables	▪ Technical memorandum summarizing the City's AM user requirements and mapped business processes.
Task 3. Data Migration	
Objectives	The purpose of this task is to migrate City's asset data into NEXGEN AM.
Assumptions	1) CITY will provide vertical asset inventory data from existing CMMS. Any other assets that are not in the CMMS will be provided in a spreadsheet format arranged by locations and classes.

Activities	1) Migrate all vertical asset inventory and horizontal assets into NEXGEN. Horizontal assets will come from the City's GIS setup. 2) We will migrate the City warehouse inventory with inventory, details, counts, locations and categories. 3) CITY to review and test data migrations. 4) NEXGEN to modify any necessary changes from testing results. 5) CITY to sign off approving the completion of the data migrations.
Deliverables	▣ Populated data into NEXGEN AM.
Task 4. Configure System	
Objectives	The purposes of this task are to configure the NEXGEN AM to support City's user needs, functional requirements and asset management best practices.
Assumptions	1) CITY will provide completed spreadsheets for configurations that will include the following: a) Users and security groups with rights. b) Employee names, user logins, billable rates, emails and mobile numbers c) Equipment numbers, names and billable rates d) Work flows e) Notification requirements. f) Departments and divisions. g) Service request types and priorities organized by department and divisions. h) Work order types, tasks, causes and resolutions by department and divisions.
Activities	1) Configure NEXGEN AM to support the user requirements and business processes. 2) Set up user logins and security rights. City will provide the list of employees, roles, emails, mobile phone numbers and security rights. 3) Configure resources such as employee, equipment, vendors, contractors, crews and training. 4) Configure all pull down menus such as Work Order Type, Tasks, Cause and Resolution. Configure cascade of service request types and work order tasks to departments and divisions. City will provide the necessary configurations in a spreadsheet template that may be provided to facilitate gathering and providing that data. 5) Configure the City's preventive maintenance programs with assets, schedules, frequencies, checklists (standard operating/maintenance procedures). It is assumed that the City will provide the preventive maintenance configurations in a spreadsheet with associated checklists. 6) Setup notifications for City's workflows and business processes. Set up notifications content for alerts, emails and text messages. 7) Develop up to 5 custom reports for the City. We have assumed the formats of these reports may be slightly different than the original hardcopies. Any additional custom reports beyond the 5, will be out of scope and on an hourly cost basis.
Deliverables	▣ Optimized configurations.
Task 5. Integration	
Objectives	The purpose of this task is to integrate NEXGEN AM with City's ESRI GIS.
Assumptions	1) CITY will provide the City's GIS in ESRI Arc GIS Web Server or Arc GIS Online.

Activities	1) NEXGEN will integrate the City's Geographic Information System (GIS) with NEXGEN AM. Updates with the GIS will automatically will reflect in the NEXGEN AM software. Assets from GIS will be migrated over with the proper location and class structures. 2) Work with the City in mapping the GIS layers to the associated locations and classes in NEXGEN. 3) Identify the attributes in GIS that will be presented in NEXGEN.
Deliverables	▪ NEXGEN AM integrated with City's GIS.
Task 6. Testing	
Objectives	The purposes of this task are to perform user acceptance testing and to sign off.
Assumptions	1) CITY will identify user acceptance testing team and allocate resources for the team to test during the 2 week period. 2) CITY will assign a main point of contact to document user acceptance testing improvement ideas. 3) NEXGEN will provide resources during user acceptance testing to resolve any bugs or software configuration issues.
Activities	1) NEXGEN's responsibility a) Provide recommendations on testing strategy and best practices. b) List of all open issues prior to initiating UAT testing with agency with status and estimated resolution dates will be available in the Support Portal. c) Partner with the City in completing user acceptance testing and validation of system configuration to assess and confirm readiness to move to production for active use. d) Satisfactory resolution of issues identified in UAT 2) City's responsibility a) Provide input and appropriate response to vendor's request for information b) Develop user acceptance tests/use cases with acceptance in partnership with vendor c) Make appropriate users and content available to conduct and complete user acceptance testing as defined and managed per the City's testing plan d) Provide City staff a testing plan of the desktop and mobile software. Remote web training on the testing plan and process. e) Concerted effort of the City staff field testing the system during a 2 week testing period. f) Provide support to resolve any issues or questions during the 2 week testing period. g) City to sign off on the system testing upon acceptance.
Deliverables	▪ User Acceptance Testing Plan ▪ Acceptance Sign Off
Task 7. Training & Post Support	
Objectives	The purposes of this task are to provide pre deployment training and provide post deployment support.
Assumptions	1) CITY will provide training facilities. 2) CITY will coordinate and schedule training groups.
Activities	1) NEXGEN will be training the trainer for core users, administrative users, management users and warehouse inventory users. 2) 5 days of pre deployment training (40 hours) on-site training.

	3) 8 (1 hour/each) weekly web conference call “office hours” after deployment to provide users opportunities to ask questions, acquire additional training and support. 4) 40 hours of post deployment support that can be used for training or support.
Deliverables	▪ 5 days of pre deployment training (40 hours) on-site training sessions with City staff. ▪ 8 (1 hour) of post deployment weekly office hour support for 2 months after deployment. ▪ 40 hours of post deployment support.

Maintenance Division Implementation Services Costs

Task	Cost($)
1. Project Management	$57,440
2. User Requirements/Business Process	$24,000
3. Data Migration	$53,240
4. Configuration	$111,760
5. Integration	$14,124
6. Testing	$21,384
7. Training	$56,480
Implementation Services Total =	$338,428

Maintenance Division Implementation Schedule

Assuming the project begins in August 2020, we will be complete this project within 6 months by end of February 2021.

ATTACHMENT B
SOFTWARE LICENSE AGREEMENT

This Appendix is attached to and incorporated by reference in the Agreement made July 1, 2020 between the CITY OF LIVERMORE (“City”) and NEXGEN Asset Management, (“Provider”), providing for the licensing and services related to the NEXGEN Asset Management (NEXGEN AM) hosted software system (Software).

Software License Agreement

NEXGEN Asset Management Software License Agreement
City of Livermore

This Agreement, effective as of July 1st, 2020, ("Agreement") is between NEXGEN Utility Management, Inc. ("NEXGEN"), and City of Livermore ("LICENSEE"), an interlocal government entity with an office at 3500 Robertson Park Road, Livermore, California 94550.

RECITALS

Whereas, NEXGEN owns certain software programs, referred to collectively as the NEXGEN Asset Management® (NEXGEN AM) products; Whereas, Licensee desires to use those programs, while protecting the copyrights, trade secrets, confidential information, and other valuable intellectual property contained in the programs.

Now, therefore, NEXGEN and Licensee agree as follows:

1. DEFINITIONS

"Program(s)" means the object code version of the software programs and related documentation provided by NEXGEN to Licensee at any time under terms of this agreement.
"Users" means the number of users (i.e., the number of users using the Program at one time) permitted to use a Program.
“Domains” means the number of individual database setups that can be accessed by a Program.

2. LICENSE GRANT

- License of Program(s). Subject to the terms and conditions of this Agreement NEXGEN grants Licensee a nonexclusive, nontransferable license to use the object code version of the Program(s) during the term of this Agreement.
- Limited Grant. Except as expressly set forth in this Section 2, NEXGEN grants and Licensee receives no right, title or interest in or to the Program(s) or any other deliverables provided by NEXGEN in connection with this Agreement.

3. LICENSE RESTRICTIONS

- No Reverse Engineering. Licensee will not disassemble, decompile, reverse analyze, or reverse engineer the Program(s).

- No Modification. Licensee will not modify the Program(s).
- No Copying. Licensee will not copy the Program(s), in whole or in part.
- No Third Party Use. Licensee will not use the Program(s) in any manner to provide services to any third parties.

4. PROPRIETARY RIGHTS

- NEXGEN Property. The Program(s), in whole and in part and all copies thereof, are and will remain the sole and exclusive property of NEXGEN.
- Proprietary Notices. Licensee will not delete or alter any copyright, trademark, and other proprietary rights notices of NEXGEN and its licensors appearing on the Program(s). Licensee agrees to reproduce such notices on all copies it makes of the Program(s).

5. CONFIDENTIAL INFORMATION

- Definition. "Confidential Information" refers to: (i) the Program(s), including, but not limited to their software source code, and any related documentation or technical or design information related to the Program(s); (ii) the business or technical information of NEXGEN, including but not limited to any information relating to NEXGEN's product plans, designs, costs, product prices and names, finances, marketing plans, business opportunities, personnel, research, development or know-how; (iii) any information designated by NEXGEN as "confidential" or "proprietary" or which, under the circumstances taken as a whole, would reasonably be deemed to be confidential; and (iv) the terms and conditions and existence of this Agreement.
- Confidential Information will not include information that: (i) is in or enters the public domain without Licensee's breach of this Agreement; (ii) Licensee receives from a third party without restriction on disclosure and without breach of a nondisclosure obligation; or (iii) Licensee develops independently, which it can prove with clear and convincing written evidence; (iv) information that is subject to disclosure pursuant to the California Public Records Act or other legal process.
- Confidentiality Obligations. Licensee agrees to take all measures reasonably required in order to maintain the confidentiality of all Confidential Information in its possession or control, which will in no event be less than the measures Licensee uses to maintain the confidentiality of its own information of equal importance.
- Injunctive Relief. Licensee acknowledges that NEXGEN is a beneficiary of this Agreement and is specifically a beneficiary of this Section. Licensee further acknowledges that the Confidential Information of NEXGEN includes trade secrets of NEXGEN, the disclosure of which would cause substantial harm to NEXGEN that could not be remedied by the payment of damages alone. Accordingly, Licensee agrees that NEXGEN will be entitled to preliminary and permanent injunctive relief and other equitable relief for any breach of this Section.

6. MAINTENANCE AND SUPPORT

Maintenance or support is provided assuming the LICENSEE pays the annual maintenance and support fees in advance. Year 1 maintenance will commence after production go live. Any new versions or modules of software provided to Licensee are automatically licensed according to provisions of this Agreement.

7. LIMITATIONS OF LIABILITY

- The parties have agreed that the limitations specified in this Section 8 will survive and apply even if any limited remedy specified in this Agreement is found to have failed of its essential purpose.

8. TERM AND TERMINATION

- Term. This Agreement shall be for the period from the effective date through February 28th, 2031.

9. GENERAL PROVISIONS

- Severability. If any provision of this Agreement is found illegal or unenforceable, it will be enforced to the maximum extent permissible, and the legality and enforceability of the other provisions of this Agreement will not be affected.
- Waiver. No failure of either party to exercise or enforce any of its rights under this Agreement will act as a waiver of such rights.
- Entire Agreement. This Agreement is the complete and exclusive agreement between the parties with respect to the subject matter hereof, superseding and replacing any and all prior agreements, communications, and understandings (both written and oral) regarding such subject matter.
- Choice of Law. This Agreement will be governed by and construed in accordance with the laws of the State of California applicable to agreements entered into, and to be performed entirely, within California between California residents.

10. SOFTWARE COST

- The software will be hosted by Amazon Web Services. The following annual cost is for 2021. There are 3 tiers for the LICENSEE to select based on concurrent users, storage limit and data transfer limits. The costs include every module on the desktop and mobile application. The annual maintenance and support fees include all the upgrades and technical support. NEXGEN has 2 major releases a year in April and October and potentially 2-4 additional mini releases to resolve bugs and improvements. There will be two environments (development, live) after going live with the software. Assumed that the development environment is a manual duplication of the live database and will not be synchronized. The development environment is meant for testing prior to modifying the live environment. Any modifications in the development environment will not be automatically synchronized to the live environment. It is the responsibility of the LICENSEE to modify the live environments. NEXGEN will help LICENSEE restore the Production database into the Development environment upon request in order for the LICENSEE to conduct trainings and or testings.
- This fee includes three environments during implementation (development, test/training and live). The test/training environment is used for user acceptance testing during the testing task. The training environment is used for the pre deployment training until two months after deployment. If the LICENSEE would like to keep the training environment active beyond two months after deployment, it would cost $1,000 per month. The live environment will be active when the project begins and will be used for all data migrations and configurations.

- NEXGEN will provide the City with API access tokens to allow integration with other City applications.

NEXGEN Asset Management Software Cost

Water Resources Division's (WRD) NEXGEN Cloud payment cycle will be from December 1st to November 30th annually. Maintenance Division's (MD) NEXGEN Cloud and Service Request Portal payment cycle will be from March 1st to February 28th annually.

Year	WRD NEXGEN Cloud Cost	MD NEXGEN Cloud Cost	Service Request Portal Cost (optional)
Year 1 (2021)	$50,000.00	$70,000.00	$5,000.00
Year 2 (2022)	$51,500.00	$72,100.00	$5,000.00
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Year 9 (2029)	$63,338.50	$88,673.91	$5,000.00
Year 10 (2030)	$65,238.66	$91,334.12	$5,000.00
Total =	$573,193.97	$802,471.55	$50,000.00

In Witness Whereof, the parties have caused this Agreement to be executed by their duly authorized representatives.

NEXGEN Utility Management, Inc.
(NEXGEN Asset Management)

By: _____

Name: Vincent Yee, P.E.

Title: President

Date: ___6-26-2020_____

LICENSEE

By: _____

Name: _____

Title: _____

Date: _____

ATTACHMENT C
SERVICE LEVEL AGREEMENT

This Appendix is attached to and incorporated by reference in the Agreement made July 1, 2020 between the CITY OF LIVERMORE ("City") and NEXGEN Asset Management, ("Provider"), providing services related to the NEXGEN Asset Management (NEXGEN AM) software system (Software).

This Agreement, effective as of July 1st, 2020, ("Agreement") is between NEXGEN Utility Management, Inc. ("NEXGEN"), and City of Livermore ("LICENSEE"), an interlocal government entity with an office at 3500 Robertson Park Road, Livermore, California 94550.

NEXGEN agrees to the following four service level categories and related service levels. These service levels shall be maintained at all times, monitored and measured. The four service level categories are:

- System Availability
- Application Response Time
- Backup & Recovery
- Technical Support & Incident Management

System Availability

NEXGEN must provide access to its AWS based hosted services twenty-four hours, seven days a week, except scheduled maintenance. NEXGEN's service level objective is 99.5% system availability. This service level metric must be reported by NEXGEN on a monthly basis. The service level metric is based on "Scheduled Available Minutes".

- "Scheduled Available Minutes" are the total minutes in a month less the number of Scheduled Maintenance minutes in the applicable month.
- "Available Minutes" is the number of Scheduled Available Minutes in a month less the aggregate number of minutes the hosted services were unavailable outside of Scheduled Maintenance.
- "Availability" is a percentage calculated as the Available Minutes in a month divided by the Scheduled Available Minutes in the month.

For example, in a 30 day month with 4 weekly Scheduled Maintenance windows of 8 hours, there are 41,280 Scheduled Available Minutes ((60 min. x 24 hrs. x 30 days)-(60 min. x 8 hrs. x 4 weeks) = 41,280). If the hosted services experienced an outage of two hours outside of Schedule Maintenance, there were 41,160 Available Minutes in the month (41,280 Scheduled Available Minutes – 120 minutes of unavailability). The resulting Availability percentage is 41,160 / 41,280 = 99.7%.

The following shall not be considered periods of unavailability for purposes of the Availability calculation:

- Outages due to factors outside of NEXGEN's reasonable control (for example, a network or device failure at Licensee's site);

- Connectivity issues outside of NEXGEN's direct control (e.g. DNS issues);
- Force Majeure events;
- Outages attributable to the acts or omissions of Licensee or Licensee's employees, agents, contractors, or vendors, or anyone gaining access to the services means of UserIDs or equipment controlled by Licensee;
- Periods of Down Time at Licensee's request;
- Outages that result from Licensee's equipment, software, or other technology and/or third party equipment, software or other technology (other than those which are under Infor's direct control); and

- NEXGEN is not responsible for any of LICENSEE's internet connectivity and speed. NEXGEN is not responsible if users are not using the recommended internet browser(s) and versions.
- NEXGEN is not responsible if the LICENSEE's internet connection is down or congestions that result in slow or no access to NEXGEN.
- NEXGEN is not responsible for the LICENSEE's network connection to access internet connection.
- NEXGEN is not responsible for the LICENSEE's Virtual Private Network requirements that may restrict the internet connection speeds.

NEXGEN warrants that the hosted environment will be available at all times throughout the Subscription Term (MS1 or MS 2 or MS3), subject to the exceptions and allowances described in the System Availability section of the applicable Service Level Description. The level of unavailability shall not exceed one half of one percent (0.5%) per month, excluding Scheduled Maintenance as described in the applicable Service Level Description (the "Down Time Warranty"). In the event of a breach of the foregoing warranty NEXGEN shall apply, to the City of Livermore, service level credits based on the actual availability measure for the applicable period as follows:

Availability	**Service Level Credit**
99.500% or greater	No Service Level Credit
99.499% - 99.000%	5% off the monthly prorated subscription fee
98.999% - 98.500%	15% off the monthly prorated subscription fee
98.499% - 95.000%	25% off the monthly prorated subscription fee
Below 95.000%	35% off the monthly prorated subscription fee

Service level credits for Subscription (hosting) Fees paid on an annual basis shall be based on a monthly equivalent fee. For example, a 5% service level credit on an annual subscription fee shall be 5% of 1/12 of the annual fee. Service level credits shall be applied to City of Livermore's next invoice or, if City has paid the final invoice under this Agreement, service level credits shall be paid to City within thirty (30) calendar days following the determination that the

credit is due. The service level credit is the exclusive remedy and is in lieu of all other remedies for breach of the Down Time Warranty.

Application Response Time

Before Go-Live, City and NEXGEN shall mutually agree to a set of "representative selected transactions" for which the following response times will be used to calculate Application Response Time on a monthly basis.

Production Application Transaction Response Times

Type of Transaction	Response Time
Standard Transactions*	98% of the time, the average response time will be two (2) seconds or less and for the remaining 2% of the time, the average response time will be five (5) seconds or less.
Time Intensive Transactions*	98% of the time, the average response time will be five (5) seconds or less, and for the remaining 2% of the time, the average response time will be eight (8) seconds or less.

Working with NEXGEN, and at least 60 days prior to Go-Live, the City will identify the key business transactions and system-to-system transactions and associated throughput to measure Application Response Time. The throughput and response time transactions will be categorized into the following two categories: (a) transactions which are typical operations and transactions ("*Standard Transactions*"); and (b) transactions that involve time intensive operations and transactions such as system log-in, batch jobs, printing, report compilation or mobile device synchronization ("*Time Intensive Transactions*").

NEXGEN shall measure the performance of each transaction seven (7) days per week, outside of the Scheduled Maintenance Windows and outside of any window where user counts baseline is exceeded as described below. Response times for each transaction will be measured internally within the Line of Demarcation in five (5)-minute intervals.

Application Response Time will be calculated in accordance with the following formula:

Total number of all executed transactions that meet the applicable Application Response Time Performance Standard within any one (1) hour period of time

divided by

Total number of all executed transactions in such one (1) hour period of time.

Backup & Disaster Recovery

As part of the Hosted Services, NEXGEN shall perform the backup operations as follows:

- NEXGEN will back up databases 4 times a day (9:00 AM, 12:00 PM, 5:00 PM, 9:00 PM, PST)
- NEXGEN will back up database back up file to Amazon S3. Amazon S3 file system is located on a different network and server than the application and the database server. This ensures redundancy of the database backups.
- Documents uploaded as links to record in NEXGEN are stored in a specific folder. This folder is also backed up to the Amazon S3. This is backed up once a day at 9:00 PM PST.

For each backup, NEXGEN shall make two identical copies, and the maintenance and retention obligations set forth herein shall apply to both copies of the back-ups. NEXGEN shall perform automated verification of each backup to confirm that complete data, software and other files have been successfully backed up. The results of the automated verification shall be placed in backup logs which shall be made available and accessible to the City online 24 x 7 x 365. In addition, NEXGEN each quarter shall perform manual checks to verify that the backup procedures are working properly and the then-current set (at the time of manual verification) of backups have all the required data, software and other files properly backed up. Within three business days of NEXGEN's manual verification, NEXGEN shall provide the City with a written report verifying the successful completion of the data backups, or, if there are Issues with respect to the backups or backup procedures, NEXGEN shall identify the Issues and submit with the written notice a corrective action plan to be implemented no later than five business days. At the end of the five day period, NEXGEN shall report to the City whether it has corrected the Issue. The City shall have the right to require NEXGEN to conduct additional automated or manual verifications until any Issues have been corrected.

NEXGEN shall have and maintain a disaster recovery plan as applicable to the Hosted Services and Infrastructure (collectively "Disaster Recovery and Business Continuity Plan or Disaster Recovery Plan") to provide Full Recovery in accordance with the Disaster Recovery Plan. "Full Recovery" is the delivery of the System from an alternative environment to the full and complete terms and conditions of this Attachment.

As part of the Disaster Recovery Plan, NEXGEN shall establish and develop disaster recovery solution, restore procedures, and reporting functions. Such procedures shall be fully established, paired with complementary City-based business continuity procedures and successfully tested with acceptable, reportable and measurable outcomes.

A "Disaster" is an unplanned event that causes a material or complete loss of access to and use of the System, where such loss of access and use is likely to continue for a period greater than twelve (12) hours and for which the City has declared that a Disaster has occurred.

Within two hours after an event that may qualify as a Disaster, the Parties shall communicate to determine the nature and cause of the event and whether the event should be declared a Disaster, and for NEXGEN to put the Disaster Recovery Plan into effect in order to attain Full Recovery of the Services (the "Disaster Recovery Services").

Upon the reasonable determination by City that an Incident qualifies as a Disaster, NEXGEN shall follow the procedures set forth in the Disaster Recovery Plan to restore the System at the primary data center or a secondary data center.

Service Level Metrics (Backup & Disaster Recovery): NEXGEN maintains a commercially reasonable disaster recovery plan, performs regular back-ups of production data and periodically tests the disaster recovery procedures in order to maintain its ability to meet the following disaster recovery service levels.

- Recovery Point Objective: The Recovery Point Objective ("RPO") describes the acceptable amount of data loss measured in time and is the point in time to which data will be recovered. The service levels include an RPO 12 hours

- Recovery Time Objective: The Recovery Time Objective ("RTO ") is the duration of time within which hosted services will be restored after declaration of a disaster. The disaster recovery server should be operational within an RTO of 12 hours.

Technical Support & Incident Management

Telephone Technical Support: NEXGEN will provide telephone support Monday through Friday, 8:00 a.m. to 5:00 p.m., local time, in the Licensee's time zone, excluding holidays observed by NEXGEN, which fall within the applicable coverage window. NEXGEN will also provide 24x7x365 online access to NEXGEN Ticketing System Portal, which contains services such as online incident logging, tracking and management, knowledge base articles, latest Software release information, and other Software Documentation.

Initiation of an Incident

The Licensee's Designated Help Desk Contact Person may contact NEXGEN Support via email, telephone or may log an incident online via NEXGEN Ticketing System Portal to initiate a Support request referred to as an "incident". The general definition of a Support incident is a single, reproducible issue, problem, or symptom, a request for assistance, or a question fully and accurately logged with the NEXGEN Ticketing System Portal that is related to the hosted Software.

To help ensure a timely response to a Support incident, the Designated Help Desk Contact Person shall provide the following information: (a) the NEXGEN Customer Number and contact details, (b) applicable hosted Software name, (c) severity level of the Support incident, (d) details of the Support incident, including error messages and error reproduction steps if any, and applicable screen shots and output examples if logging online, (e) description of the incident impact and frequency.

Assignment of Severity Levels

The Licensee's Designated Help Desk Contact Person will use reasonable business judgment to identify the severity of the Support incident according to the following severity level descriptions:

Severity Level 1 Critical Business Impact

- LICENSEE's production use of software on a primary business service, major application or mission-critical system is stopped or so severely impacted that the LICENSEE cannot reasonably continue work.
- For Severity Level 1 problems, NEXGEN will begin work on the problem within one hour of notification and handle as the highest priority until the LICENSEE is given a fix or workaround. LICENSEE resources must be made available in Severity Level 1 situations and reasonably cooperate to help resolve the issue.
- Severity Level 1 problems could have the following characteristics:
    - System hangs or crash situations
    - Data loss or data corruption
    - Critical functionality not available

Severity Level 2 Significant Business Impact

- Important product features are unavailable with no acceptable workaround. LICENSEE's implementation or production use of software in a primary business service, major applications or mission critical systems are functioning with limited capabilities or are unstable with periodic interruptions. The software may be operating but is severely restricted.
- Severity Level 2 problems could have the following characteristics:
    - Software error or failure forcing a restart
    - Severely degraded performance
    - Data loading errors
    - Functionality unavailable but the system is able to operate in a restricted fashion.
    - Inaccuracies and errors in existing reports

Severity Level 3 Minimum Business Impact

- Product features are unavailable but a workaround exists and the majority of software functions are still useable. Minor function/feature failure that the LICENSEE can easily circumvent or avoid. LICENSEE's work has minor loss of operational functionality.
- Severity Level 3 problems could have the following characteristics:
        - Error message with workaround
        - Minimal performance degradation
        - Incorrect product behavior with minor impact
        - Questions on product functionality or configuration during implementation
        - Third party integration errors

Severity Level 4 Negligible Business Impact

- Product features are unavailable but does not impact core business functions. Cosmetic or insignificant failures that have very little impact on workflows. LICENSEE's work has very limited loss of operational functionality.
    - Severity Level 4 problems could have the following characteristics:
        - General software inquiries
        - Captions or labels that are incorrect
        - User interface is not optimal
        - No performance degradation

Severity Level 5 Feature Request

- New feature requests for additional functionalities that are currently not in the system. These feature requests are collected and evaluated for potential future builds/releases.
- Severity Level 5 feature requests could have the following characteristics:
        - Optimization of workflows
        - Improvements on user interface
        - Additional features

Severity Level 6 General Request/Task

- General requests/tasks are typically separate, out of scope, assignments. These items will be evaluated and timeframes will be set based on an agreed upon timeline with NEXGEN and client.
- Severity Level 6 requests could have the following characteristics:
    - Data migration
    - Mass data correction
    - Internal data integration
    - Third party integration
    - Additional Training
    - Change request in existing report
    - Additional reports

Incident Response/Acknowledgement

NEXGEN shall use commercially reasonable efforts to meet the Response Targets set forth below. NEXGEN must calculate Response Targets as the difference between the time an incident is appropriately logged into the NEXGEN Ticketing System Portal and the time of NEXGEN's first value-added communication. The service level metrics for NEXGEN's incident response times are as follows:

Incident Severity Level	NEXGEN Incident Response Time
1 – Critical Business Impact	Within 1 hour or less
2 – Significant Business Impact	Within 2 hours or less
3 – Minimum Business Impact	Within 3 hours or less
4 – Negligible Business Impact	Within 8 hours or less
5 – Feature Request	Within 8 hours or less
6 – General Request/Task	Within 16 hours or less

Incident Resolution

A resolution can be, without limitation, an answer that resolves a Support incident; a code fix; a software patch release; a change in an operational process; a commercially reasonable workaround; or the provision of steps that, upon completion, will lower the criticality of the Support incident. Support incident resolution is often an iterative process that is dependent upon many variables. At times determination of root cause and resolution of an incident requires collaboration and troubleshooting by various teams within NEXGEN and the Licensee. The nature of this process makes providing specific target resolution times difficult. As NEXGEN progresses through the troubleshooting process in an effort to resolve the issue, NEXGEN works to provide regular updates and strives to allow Licensee to continue doing business. The service level metrics for NEXGEN's incident resolution times are as follows:

Incident Severity Level	NEXGEN Incident Resolution Time [(1)] [(2)]
1 – Critical Business Impact	Within 24 Hours

2 – Significant Business Impact	Within 72 Hours
3 – Minimum Business Impact	Next Service Pack Release
4 – Negligible Business Impact	Next Software Release
5 – Feature Request	Evaluated for Future Release
6 – General Request/Task	Timeframe based on agreed upon timeline

(1) Mobile application resolution fixes may take approximately 7 days for the App Store or Google Play to process and release the updated app.

(2) Service Level Agreement (SLA) is applicable to Software as a Service (SaaS) clients.

(3) Resolution time will vary on locally hosted sites when server access is not provided in a timely manner.

Escalation

Most Support incidents are best resolved through NEXGEN's standard operating procedures. If Licensee believes that a particular Support incident requires a higher level of attention, Licensee should contact the Director of Technology and request that a Support Manager become involved. Escalation or routing of Support incidents outside of standard procedures is reserved for issues that warrant a higher degree of attention, and such escalation is not appropriate for all Support incidents. If escalation is requested, NEXGEN will notify the appropriate Support Manager. The Support Manager will act promptly to assess the situation, contact Licensee to discuss a resolution plan, identify required resources, and implement the agreed upon resolution plan.

ATTACHMENT D
LABOR CLASSIFICATION & FULLY BURDENED RATES

Staff Classification	Function Provided	Rate Per Hour
Implementation Services		
Project Manager	Project Management, User Requirements	$260
Senior Management Technologist	Technology, Data, Integration, Mobile	$240
Management Technologist 2	Project Delivery Manager	$220
Management Technologist 1	Project Delivery	$200
Managed Services		
Project Manager	Project Management	$260
Senior Management Technologist	Technology, Hosting	$240
Management Technologist 2	Project Delivery	$220
Management Technologist 1	Training	$200
Optional Services		
Project Manager	Asset Management Consulting	$260
Senior Management Technologist	Integration, Mobile	$240
Management Technologist 2	Report	$220
Management Technologist 1	Training , Report	$200

Technical and General Requirements							
	ID	Requirement	Off-the-shelf (O)	Off-the-shelf with Configuration (OC)	Customization (CM)	Comments	Module
1.0		**Application Requirements**					
	1.01	Provide bar coding input at the application and output at the printing level.	✓				Asset inventory, Warehouse
	1.02	Provide programable function keys from the application.			✓		Not Available
	1.03	Ability for system administration to define record retention period definitions.	✓				Setup/Company Options
	1.04	Ability to modify and reorganize menu structures while maintaining application integrity for future upgrades.	✓				General Software
	1.05	Ability to support industry standard encryption technologies from outside firewall.	✓				General Software
	1.06	Ability to operate in a wireless environment.	✓				General Software
	1.07	Support mobile devices (smart phones, tablets, iPads).	✓				iPad App
	1.08	Software must be Web (Browser) based that should allow users to access the system remotely. WRD is not looking for a Client-Server solution.	✓				General Software
	1.09	Software must support Internet Explorer (version 9 and up) browser.	✓				General Software
	1.10	Software should work on Microsoft Windows Server 2008 and up.	✓				General Software
	1.11	Software should support Microsoft's IIS 4.0 and up (Internet Information Services, formerly Internet Information Server) web server software.	✓				General Software
	1.12	Software should support at least 50 number of concurrent users on a single Application Server.	✓				General Software
	1.13	Ability to support Windows desktops and laptops running Windows 7 and up operating system.	✓				General Software
	1.14	Ability to support MS Office 2010 and up.	✓				General Software
	1.15	Ability to integrate with Adobe Acrobat version 11.	✓				General Software
	1.16	Ability to integrate with Outlook Exchange Server 2010.	✓				General Software
	1.17	Maximize on-line transaction processing and minimize batch processing.	✓				General Software
	1.18	Should provide virus protection. IT uses McAfee for virus protection.	✓				General Software
2.0		**Database Management**					
	2.01	Ability to perform on-line backups at the database level without performance degregation while maintaining referential integrity.	✓				General Software
	2.02	Ability to report against the operational database without performance degradation.	✓				General Software
	2.03	Ability to perform database logging (audit) capabilities. Minimum audit trail requirement is that it should store information on who Added or Modified a record.	✓				General Software
	2.04	Ability to retrieve and restore archived data using DBA defined selection criteria.	✓				General Software
	2.05	Ability to periodically purge and archive on-line data using administrator defined criteria.	✓				General Software
	2.06	Software should support SQL Server 2008 and up database.	✓				General Software
	2.07	Software should be able to work with SQL Server Express database.	✓				General Software
	2.08	Software database should support the latest ISO/ANSI SQL standard.	✓				General Software
	2.09	Admin or DBA should be able to access database data without the use of proprietary I/O routines.	✓				General Software

Technical and General Requirements							
	ID	Requirement	Off-the-shelf (O)	Off-the-shelf with Configuration (OC)	Customization (CM)	Comments	Module
	2.10	System should provide facilities to back up, restore, synchronize, and edit any non-database information (i.e. ,Transaction files).	✓				General Software
3.0		**General Report Writing and Query Features**					
	3.01	Access to database tables and fields to run your own queries.	✓				General Software
	3.02	Capability of viewing or printing contents of a database table on-demand.	✓				General Software
	3.03	Provide SQL compatible query development capability.	✓				General Software
	3.04	Generate user defined reports without requiring programming experience.	✓				Performance Report
	3.05	Utilize user defined sort order, groupings, and subtotals in grids.	✓				General Software
	3.06	Capability for authorized users to save query and report definitions and run on demand.	✓				Performance Report
	3.07	Capability to edit/delete saved query and report definitions.	✓				Performance Report
	3.08	Capability to include saved queries and reports as menu choices on user defined reporting menus that can be accessed by authorized personnel.	✓				Performance Report
	3.09	Provide user/ system admin controlled performance limitations (e.g. number of records, processing time, etc.) to prevent performance degradation due to running reports.	✓				Performance Report
	3.10	Review reports on-line, print hard copy, or save as a PDF file.	✓				Performance Report
	3.11	Capability to download report or grid data into comma separated values (CSV) or Excel format files.	✓				Performance Report
	3.12	Graphically represent report information in a variety of formats, such as pie charts, line graphs, bar graphs, etc.	✓				Performance Report
	3.13	Provide full security and access control features within the query/report writer to enforce access privileges based on user profiles.	✓				Performance Report
	3.14	Allow for user-defined distribution of selected reports to defined IP locations and/or user id's.	✓				Performance Report
4.0		**User Interface/Processing Requirements**					
	4.01	Graphical User Interface (GUI) front end with point and click capabilities.	✓				General Software
	4.02	Provide on-line validation and editing for data entry completeness and accuracy.	✓				General Software
	4.03	Identify required fields on all screens.	✓				General Software
	4.04	Provide user friendly user interface for easy data entry. For example, use highlighted fields, reverse video, and color for ease of input.	✓				General Software
	4.05	Consistent commands, use of function keys, use of color, etc. across all screens.	✓				General Software
	4.06	Comprehensive on-line, context sensitive help.	✓				General Software
	4.07	On-line look-up or drop-down selections for reference tables, master files, and valid “list of values”.	✓				General Software
	4.08	Clear error messages with cause of error and possible corrective action.	✓				General Software
	4.09	Menu driven options and selections.	✓				General Software
	4.10	Full page/scroll forward and backward capabilities for multiple screen documents.	✓				General Software
	4.11	Word processing edit capabilities for all description and text fields.	✓				General Software
	4.12	Allow user to cancel all changes for a screen prior to saving.	✓				General Software

Technical and General Requirements							
	ID	Requirement	Off-the-shelf (O)	Off-the-shelf with Configuration (OC)	Customization (CM)	Comments	Module
	4.13	Application should provide user maintainable help facility (FAQ's, workarounds, etc.).	✓				General Software
	4.14	Ability to customize error message text.			✓		Not Available
	4.15	Ability to allow system administrator or power users to define hot keys.			✓		Not Available
5.0		**Network Requirements**					
	5.01	Ability to support Microsoft Active Directory service and Firewall services including Check Point.	✓				General Software
	5.02	Ability to use SMTP email access protocol.	✓				General Software
	5.03	Ability to use Microsoft Outlook (version 2010 and up) calendaring.	✓				General Software
	5.04	Ability to support Windows file server	✓				General Software
	5.05	Ability to support 50 users with an average of 2-4 seconds response time.	✓				General Software
	5.06	Should support CISCO networking.	✓				General Software
	5.07	Should support following networking protocol and version: TCP/IP Version 4.	✓				General Software
6.0		**Security, System Controls and Performance**					
	6.01	Provide logon and password protection for user access to all system functions.	✓				Security
	6.02	Control the assignment of privileges including creating new data, viewing data, editing data, and deleting data.	✓				Security
	6.03	Provide appropriate "super user" capabilities for security administration and control, and for emergency access.	✓				Security
	6.04	Provide the capability to establish "security profiles" or templates by user-defined job category.	✓				Security
	6.05	Ability to assign user IDs associated with groups or roles for menus, screens, transaction, workflows.	✓				Security
	6.06	Allow a user defined interval in which passwords must be changed.	✓				Security
	6.07	Provide security and control information in audit trails. All transactions should have "Created On" and "Modified On" timestamps. Record User ID (who created and/or modified a record)on all transactions, including file maintenance, updates and job submission.	✓				Security
	6.08	Back-up/restore capability for database.	✓				General Software
	6.09	Table driven system configuration options.	✓				General Software
	6.10	Allow concurrent on-line and batch processing.	✓				General Software
	6.11	Minimal response time degradation at peak user periods.	✓				General Software
	6.12	Restart options for batch processes.	✓				General Software
	6.13	Allow authorized users or systems administrator to identify which users are currently logged on at which work stations.	✓				General Software
	6.14	Should handle encryption through SSL.	✓				General Software
	6.15	Ability to provide authentication via digital certificates - SSL Certificate for external connection.	✓				General Software
	6.16	Ability to provide Microsoft Active Directory Authentication log-ons.	✓				General Software
	6.17	Ability to support for SSL encryption for outside connections.	✓				General Software

Technical and General Requirements							
	ID	Requirement	Off-the-shelf (O)	Off-the-shelf with Configuration (OC)	Customization (CM)	Comments	Module
	6.18	Ability to support for role based authentication via LDAP or external identity management system	✓				General Software
	6.19	Ability to encrypt passwords to minimum 128-bit encryption.	✓				General Software
	6.20	Ability to control the maximum number of sign-on attempts.	✓				General Software
	6.21	Ability to allow for single sign-on with security and access rules applied.	✓				General Software
	6.22	Ability to mask or hide fields from view depending on user security profile.	✓				General Software
	6.23	Ability for the security administrator to easily define ad-hoc reports and auditing reports to monitor security access authorization.	✓				General Software
	6.24	Application/business logic should run on the application server.	✓				General Software
7.0		**Support and Maintenance Requirments**					
	7.01	Ability to provide 24x7 person to person support via phone and internet for both technical and application support questions	✓			8am-8pm EST M-F	General Software
	7.02	Ability to deliver support resources on-site within 4 hours for mission-critical problem resolution	✓				General Software
	7.03	Ability to access the WRD environment (through modem or web) via VPN or net meeting to help troubleshoot a problem	✓				General Software
	7.04	Ability to download patches via web	✓				General Software
	7.05	Ability to perform remote system diagnostic support on the application and database	✓				General Software
	7.06	Software patches should be easy to apply - automated or "as a batch file".	✓				General Software
8.0		**IT/End-User Training Requirements**					
	8.01	Ability to provide on-line application tutorials for each module	✓				Help
	8.02	Ability to provide classroom IT technical, application, database, systems administration and operations training	✓				Implementation Services
	8.03	Ability to perform on-site training	✓				Implementation Services
	8.04	Ability to provide CBT class or workbook via the web and/or CD-Rom for User and IT technical staff for application, database, systems administration and operations training	✓				Implementation Services
	8.05	Ability to customize training material for customer environment	✓				Implementation Services
	8.06	Ability to provide "train the trainer" sessions	✓				Implementation Services
9.0		**Backup Storage & Disaster Recovery Requirements**					
	9.01	Ability to have an archiving module that supports multiple, user-definable retention periods.	✓				General Software

Asset Maintenance and Management Functional Requirements						
ID	Requirement	Off-the-shelf (O)	Off-the-shelf with Configuration (OC)	Customization (CM)	Comments	Module
1. **Asset Definition, Reference, and Status**						
1.1	**Maintain General Asset Information – The system should have the following capabilities for all assets:**					
1.1.1.	Allow WRD to record Asset identification and basic nameplate information	✓				Asset Inventory
1.1.1.1	Allow WRD to assign a unique WRD asset identifier to an asset.	✓				Asset Inventory
1.1.1.2	Provide the option to automatically assign an asset ID (auto-numbering) to a new asset	✓				Asset Inventory
1.1.1.3	Allow WRD to assign an asset description based on a designated standard description structure, for example: noun-modifier-attributes	✓				Asset Inventory
1.1.1.4	Allow WRD to store a long free form text description of each asset	✓				Asset Inventory
1.1.1.5	Provide the capability to cross-reference assets with financial fixed-asset records in the financial system for maintenance assets that are also tracked as financial fixed assets	✓				Asset Inventory
1.1.1.6	Provide the capability to store asset manufacturer, make, model, year, and similar identifying information	✓				Asset Inventory
1.1.1.7	Allow for separate identifiers, such as WRD serial number, manufacturer's serial number, and/or vendor serial number	✓				Asset Inventory
1.1.1.8	Provide free form searchable text fields for comments and notes for each asset (multiple notes per asset)	✓				Asset Inventory
1.1.1.9	Provide the ability to designate the criticality or priority of an asset using WRD defined categories (for example: critical, high, medium, low)	✓				Asset Inventory
1.1.2.	Allow WRD to classify and specify the asset using the following capabilities:	✓				Asset Inventory
1.1.2.1	Provide the capability to designate an asset class, sub-class, and type for each asset (e.g. buildings, equipment, pipelines, pumps, etc.) based on multi-level categories defined by WRD	✓				Asset Inventory
1.1.2.2	Designate an asset status based on WRD defined categories, such as active, inactive, awaiting disposal, etc.	✓				Asset Inventory
1.1.2.3	Allow WRD to categorize assets based on multiple user defined categories, for example operating or capital, purchased or built, stationary or movable, linear or vertical, etc.	✓				Asset Inventory
1.1.2.4	Allow WRD to define specific asset attributes for an asset class, sub-class, or asset type and to designate values for each asset (for example square-feet for a storage facility, ADA accessibility for a building or station, horse-power for a motor, gross vehicle weight and fuel type for a vehicle, etc.)	✓				Asset Inventory
1.1.2.5	Allow WRD to cross-reference assets and link to hard copy specifications, drawings, maintenance manuals, photographs, and other external document references.	✓				Asset Inventory

Asset Maintenance and Management Functional Requirements						
ID	Requirement	Off-the-shelf (O)	Off-the-shelf with Configuration (OC)	Customization (CM)	Comments	Module
1.1.3.	Provide the capability to store asset acquisition/disposal information:	✓				Asset Inventory
1.1.3.1	Allow a designation as to how the asset was acquired (e.g. purchased new, purchased used, constructed, refurbished, donated, leased/rented, etc.), and store the PO number or contract number associated with the acquisition, acquisition date, grant number, project number, vendor, and acquisition cost	✓				Asset Inventory
1.1.3.2	Store other key asset life-cycle dates, including the asset acceptance date, date placed in service, retirement date	✓				Asset Inventory
1.1.3.3	Store the estimated asset useful life and projected replacement date and replacement cost	✓				Asset Inventory
1.1.3.4	Store asset disposal information, including the projected and/or actual disposal date, disposal method, projected and/or actual salvage value	✓				Asset Inventory
1.1.3.5	Maintain information on the funding for the purchase and maintenance of the asset. Allow changes in funding designations and maintain funding history.	✓				Asset Inventory
1.1.4.	Allow WRD to track the condition of assets	✓				Asset Inventory
1.1.4.1	Indicate the current condition using a WRD defined numerical scale or text description for the state of good repair or “fitness for purpose” of the asset	✓				Asset Inventory
1.1.4.2	Track the history of condition recordings, including the condition indicator and the date	✓				Asset Inventory
1.1.5.	Allow WRD to track the location of assets	✓				Asset Inventory
1.1.5.1	Provide the option to require that a current location be indicated for all assets, with child assets inheriting the location of the parent asset.	✓				Asset Inventory
1.1.5.2	Provide the ability to change asset location through a “move” transaction (rather than just editing the location field)	✓				Asset Inventory
1.1.5.3	Track the location history for assets, including the move dates to and from the location	✓				Asset Inventory
1.1.6.	Provide the capability to designate asset responsibility and assignment	✓				Asset Inventory
1.1.6.1	Provide the capability to designate asset organizational assignment and/or responsibility within WRD using multiple level hierarchies defined by WRD for assigning assets, (for example Division-Department-Section). (See section xx for requirements to assign assets to specific WRD locations)	✓				Asset Inventory
1.1.6.2	Provide the capability to specify a default cost center or account code for an asset	✓				Asset Inventory
1.1.6.3	Provide a method of assigning assets shared by multiple departments or divisions.	✓				Asset Inventory
1.1.6.4	Provide the capability to designate an individual contact person for an asset	✓				Asset Inventory

Asset Maintenance and Management Functional Requirements						
ID	Requirement	Off-the-shelf (O)	Off-the-shelf with Configuration (OC)	Customization (CM)	Comments	Module
1.1.7.	Provide authorized users the capability to manage and maintain asset information	✓				Asset Inventory
1.1.7.1	Allow authorized users to add, edit and delete information on an asset record	✓				Asset Inventory
1.1.7.2	Provide the option of copying an existing asset to create a new asset	✓				Asset Inventory
1.1.7.3	Allow authorized users to override and update calculated fields on an asset record (such as accumulated meter readings)	✓				Asset Inventory
1.1.7.4	Provide an audit trail showing all manual overrides and updates to calculated fields	✓				Asset Inventory
1.1.7.5	Provide the capability to create user defined fields for an asset	✓				Asset Inventory
1.1.7.6	Allow WRD to restrict access to specific assets and/or asset locations to authorized personnel regarding making changes, creating work orders, etc.	✓				Asset Inventory
1.1.7.7	Provide the option to route asset changes and additions for approval based on an approval hierarchy prior to recording changes, including asset disposition	✓				Asset Inventory
1.1.7.8	Provide the capability for mass changes to assets (moves, disposal, additions) based on user defined criteria and authorization	✓				Asset Inventory
1.1.8.	Provide the capability to define and track asset calibration history	✓				Asset Inventory
1.1.8.1	Allow WRD to define multiple calibration attributes for an asset or asset type	✓				Asset Inventory
1.1.8.2	Provide the capability to enter calibration records (e.g. measurements before and after calibration, calibration description, employee, date, etc.) using multiple methods, such as key entry, import for external file (for interfacing with external calibration systems and equipment), or using a handheld device.	✓				Asset Inventory
1.1.8.3	Maintain a history of calibration transactions for an asset	✓				Asset Inventory
1.1.9.	Provide the capability to support asset based training/certification for maintenance and servicing	✓				Asset Inventory
1.1.9.1	Provide the ability to define training requirements for maintaining and servicing an asset or asset type	✓				Asset Inventory
1.1.9.2	Provide the ability to import training and maintenance skill information from other systems to identify personnel trained to work on an asset or asset type	✓				Asset Inventory
1.1.10.	Support conducting periodic asset inventory to confirm the location/condition and status of assets	✓				Asset Inventory
1.1.10.1	Allow WRD to develop specific asset inventory lists based on asset class/type, location, and organizational responsibility	✓				Asset Inventory
1.1.10.2	Provide the ability to record validation of the asset and update asset information as needed.	✓				Asset Inventory
1.1.10.	Allow users to highlight discrepancies and route for resolution	✓				Asset Inventory

Asset Maintenance and Management Functional Requirements						
ID	Requirement	Off-the-shelf (O)	Off-the-shelf with Configuration (OC)	Customization (CM)	Comments	Module
1.1.10.4	Record the results of the asset inventory and maintain a history	✓				Asset Inventory
1.1.10.5	Allow bar tagging of assets and the use of mobile devices to conduct asset inventory.	✓				Asset Inventory
1.1.10.6	Record the last inventory date and recommended interval to be used to schedule the asset inventory	✓				Asset Inventory
1.2	**Maintain Linear Asset Information – The system must provide the capability to define and manage linear assets (such as pipelines)**					
1.2.1.	Provide a method of linear referencing to identify specific points and segments of linear assets, such as fixed point and distance (e.g., feet) offset, road centerline referencing, etc.	✓				GIS
1.2.2.	Provide a method of defining and categorizing linear assets (e.g., man-hole to man-hole, node-to-node, etc.)	✓				GIS
1.2.3.	Provide a method of identifying specific segments, points, or other subsets of linear assets (e.g. linear feet, mileposts, geocode ranges, etc.) for the purpose of managing the servicing, inspections, and maintenance, and recording maintenance history	✓				GIS
1.2.4.	Provide the capability to chain asset segments or subsets into higher-level asset groups (nest linear assets) while maintaining the position of the subset within the group.	✓				GIS
1.2.5.	Allow WRD to define attributes to measure and linear asset usage and elapsed time for linear asset segments, subsets, and groups (such as age, time since last inspection, water flow volume, etc.), and to accumulate period-to-date, year-to-date, and life-to-date information for each measure.	✓				GIS
1.2.6.	Allow WRD to assign costs and define performance measures for linear asset maintenance, including allocating costs appropriately for linear maintenance segments or points	✓				GIS
1.2.7.	Provide a method of measuring characteristics of wear and deterioration, and applying failure and problem analysis to specific subsets (segments and points) and/or groups of linear assets.	✓				GIS
1.2.8.	Provide a method of managing and tracking the replacement or upgrade of specific linear asset segments, and maintaining an appropriate asset/sub-asset structure.	✓				GIS
1.3	**Maintain Asset Hierarchies and Relationships – The system should have the following capabilities regarding the relationship between assets:**					

Asset Maintenance and Management Functional Requirements						
ID	Requirement	Off-the-shelf (O)	Off-the-shelf with Configuration (OC)	Customization (CM)	Comments	Module
1.3.1.	Provide the capability to link assets in a multi-level "parent-child" configuration so that a child asset can be included as part of the parent asset. For example, a boiler can be defined as a separate asset and linked to the building in which it is installed. The building may also be part of a larger asset complex.	✓				Asset Inventory
1.3.1.1	Provide the capability to group assets into WRD defined systems and sub-systems (for example HVAC systems, electrical systems, etc.) and to designate parent and child assets for a system.	✓				Asset Inventory
1.3.1.2	Provide the capability to define "sub-asset" structure with positions for a parent asset based on the asset class or type, and to designate the sub-asset currently associated or installed with the parent asset. For example, a pumping station may be the parent of several pumps in pre-defined positions, and the pumps are the parent of a motor.	✓				Asset Inventory
1.3.1.3	Provide the capability to designate which child assets are mandatory versus optional in the asset hierarchy.	✓				Asset Inventory
1.3.1.4	Accumulate component meter, operating, and calibration (where appropriate) information such as miles, transactions, elapsed time, operating hours, and other usage measures based on the measures for the "parent" asset in which the component is installed and accumulate life-to-date, period-to-date, calendar year-to-date, fiscal year-to-date totals. (For example, accumulate miles for an engine based on the mileage for the vehicle in which the engine is installed.)	✓				Asset Inventory
1.3.1.5	Accumulate component maintenance information (accumulated cost life-to-date and period-to-date, number of rebuilds/repairs, date of last rebuild or repair, cost of last rebuild or repair, life mileage/hours at last rebuild/repair, last work order number) based on "parent" asset	✓				Asset Inventory
1.3.1.6	Provide the ability to install/uninstall an asset from a parent, and retain the full history of asset parent-child relationships (which parent assets has a child been installed, and which children has a parent had, including dates and meter accumulation in each relationship.)	✓				Asset Inventory
1.3.2.	Provide the capability to link an asset to a bill-of-material type hierarchy that defines the components or parts from which the asset is constructed or created, and also defines the parts and components that are acceptable to be installed or used for an asset.	✓				Asset Inventory
1.3.2.1	Link the components or parts to WRD's inventory part numbers	✓				Asset Inventory
1.3.2.2	Link the components or parts to manufacturer's part numbers	✓				Asset Inventory

Asset Maintenance and Management Functional Requirements						
ID	Requirement	Off-the-shelf (O)	Off-the-shelf with Configuration (OC)	Customization (CM)	Comments	Module
1.3.2.3	Automatically update BOM when part numbers change (e.g. superceded parts, manufacturer part number changes, configuration changes, etc.)	✓				Asset Inventory
1.3.2.4	Automatically update BOM when new part numbers are installed on an asset	✓				Asset Inventory
1.3.2.5	Provide the capability to link assets to an electronic parts catalog with graphic diagrams and parts lists	✓				Asset Inventory
1.4	**Maintain Asset Locations Hierarchy and Relationships – The system should have the following capabilities regarding asset locations and the relationship with assets:**					
1.4.1.	Allow WRD to define physical locations to which an asset may be assigned.	✓				Asset Inventory
1.4.1.1	Provide a unique identifier for a location	✓				Asset Inventory
1.4.1.2	Allow WRD to define text descriptions for locations	✓				Asset Inventory
1.4.1.3	Provide multiple options to specify asset locations, such as address, geocode (longitude/latitude), WRD defined location code, etc.	✓				Asset Inventory
1.4.1.4	Allow WRD to organize locations into multiple categories based on WRD defined attributes, for example location type, location class, etc.	✓				Asset Inventory
1.4.1.5	Allow WRD to define multiple geographical categories in which to organize locations, such as areas, zones, grids, quadrants, or similar designations.	✓				Asset Inventory
1.4.1.6	Provide the capability to define linear locations using linear referencing with beginning and ending points	✓				Asset Inventory
1.4.1.7	Provide the capability to define vertical locations (such as floors in a building, or vertical levels for equipment in a plant, or elevator shafts).	✓				Asset Inventory
1.4.1.8	Provide the capability to define multiple attributes and store attribute values based on location type, for example square feet for a warehouse, number of spaces for a parking lot, capacity and energy type (gas, electric, etc.) for an office facility.	✓				Asset Inventory
1.4.1.9	Allow WRD to designate a responsible person and/or organizational unit for the location.	✓				Asset Inventory
1.4.2.	Provide the ability to link locations into a multi-level location hierarchy in which one location is contained within or a part of another location (parent – child relationship).	✓				Asset Inventory
1.4.2.1	Provide the capability to define standard location hierarchy structure templates (for example, complex - buildings – floors – rooms), and to apply the template to specific location types.	✓				Asset Inventory
1.4.2.2	Provide the capability to move locations from one parent to another	✓				Asset Inventory
1.4.2.3	Provide the capability for a location to be contained in multiple hierarchies (network or matrix configuration)	✓				Asset Inventory

Asset Maintenance and Management Functional Requirements						
ID	Requirement	Off-the-shelf (O)	Off-the-shelf with Configuration (OC)	Customization (CM)	Comments	Module
1.4.3.	Provide the capability to interface asset locations with Geographic Information Systems (GIS)	✓				Asset Inventory
1.4.3.1	Allow WRD to link a location to a specific GIS spatial coordinate	✓				Asset Inventory
1.4.3.2	Provide the ability to display locations geographically using GIS maps	✓				Asset Inventory
1.4.3.3	Provide the ability to link locations to GIS data layers to access data on specific locations	✓				Asset Inventory
1.5	**Maintain asset availability and status information. The system should automatically update and track the current status and availability for service for all assets.**					
1.5.1.	Allow WRD to define categories by asset type for the purpose of classifying the status of an asset or asset grouping, e.g., available for service, awaiting repair, under repair, out for vendor repair, etc.	✓				Asset Inventory
1.5.2.	Allow multiple levels of user defined status categories by asset type. For example, "awaiting repair" could be broken down further into held for parts, scheduled for PM, etc.	✓				Asset Inventory
1.5.3.	Allow WRD to define asset availability ("up-time") requirements by asset categories, including asset type and asset class	✓				Asset Inventory
1.5.4.	Automatically track and maintain on-line the status of an asset based on predefined criteria specified by WRD including the severity of current problems posted for an asset; whether the asset is within a user defined range for scheduled maintenance; the status of scheduled, in process or unassigned work orders for an asset; and other asset classifications	✓				Asset Inventory
1.5.5.	Provide a real-time summary of the availability and status of assets compared to availability requirements	✓				Asset Inventory
1.5.6.	Provide the capability to produce detail asset availability and downtime history reporting by specific user defined categories	✓				Asset Inventory
1.5.7.	Automatically project asset availability and downtime for a specified time period based on projected completion of work orders in process, scheduled work orders, excessive measurements (such as fuel/power consumption), posted problems, PMs due or past due, etc.	✓				Asset Inventory
1.5.8.	Allow the user to view detailed information on the assets requiring maintenance, including reason for repair, priority, estimated repair time based on maintenance job standards, projected availability of the asset for maintenance based on service and current asset location	✓				Asset Inventory
2. **Asset Operating and Servicing Data and Cost**						
2.1	Allow WRD to define multiple measures for asset usage by asset type. For example, operating hours for equipment, gallons processed for pumps, etc.	✓				

Asset Maintenance and Management Functional Requirements						
ID	Requirement	Off-the-shelf (O)	Off-the-shelf with Configuration (OC)	Customization (CM)	Comments	Module
2.2	Provide multiple options for capturing usage data for assets, including:	✓				
2.2.1.	Key entry and edit of usage data for assets with audit trails for tracking all usage data updates	✓				Asset Inventory
2.2.2.	Interface to asset electronic meters and SCADA systems	✓				Asset Inventory
2.2.3.	Use of estimated readings based on either historical or scheduled usage	✓				Asset Inventory
2.3	Accumulate asset operating information (metered) such as elapsed time, operating hours, transaction counts (e.g. trips through an entry gate) and accumulate totals for life-to-date, period-to-date, calendar year-to-date, fiscal year-to-date					
2.3.1.	Provide "flags" to notify users of usage measurements outside an "expected" user defined norm to identify potential errors	✓				Asset Inventory
2.3.2.	Provide the capability to ensure correct readings and accumulation in event of replacement of meters (such as a flow meter for a pipeline)	✓				Asset Inventory
2.3.3.	Automatically update related usage data and statistics for both the asset and for children assets, such as components or sub-assets currently installed	✓				Asset Inventory
2.3.4.	Accumulate multiple fuel/power usage types and multiple fluid or consumable consumption readings for an asset, and accumulate designated cost statistics (such as cost per month, cost per operating hour) and other WRD defined performance measures	✓				Asset Inventory
2.4	Provide the capability to define standard servicing tasks or work for an asset without requiring separate work orders (for example, daily cleaning and servicing)					
2.4.1.	Identify standard labor and skill requirements for the servicing task and record actual labor time by asset	✓				Preventive Maintenance
2.4.2.	Designate a frequency for the task for each asset based on time or usage (daily, weekly, every x miles)	✓				Preventive Maintenance
2.4.3.	Provide a method of recording material and consumables used during servicing tasks	✓				Work Order
2.4.4.	Track the assets that have been serviced and identify those that have not been serviced	✓				Preventive Maintenance
2.4.5.	Provide the capability to suspend tasks for an asset based on the asset condition (for example, suspend cleaning if an asset is not in service)	✓				Asset Inventory
2.4.6.	Accumulate service cost and performance by asset, by asset class/type, and location.	✓				Asset Inventory
2.4.7.	Allow multiple user defined cost categories, such as utilities, fuel and other operating costs, and accumulate totals for life-to-date, period-to-date, calendar year-to-date, fiscal year-to-date	✓				Preventive Maintenance
2.4.8.	Automatically roll-up costs based on the asset hierarchy	✓				Asset Inventory

Asset Maintenance and Management Functional Requirements						
ID	Requirement	Off-the-shelf (O)	Off-the-shelf with Configuration (OC)	Customization (CM)	Comments	Module
3. **Maintenance Standard Job Definition**						
3.1	Provide the capability to define standard maintenance job templates for specific assets and sub-assets, asset types, asset model, class or series. Allow WRD to define other groups of assets for which standard maintenance jobs may be defined.					
3.1.1.	Identify specific tasks or work steps (both internal and external), including checklists and text descriptions, for completing the job	✓				Work Order, Preventive Maintenance
3.1.2.	Identify standard labor hours by craft/skill required by the job	✓				Work Order, Preventive Maintenance
3.1.3.	Define a standard bill of materials for the job including WRD part number, manufacturer's part number, quantity required (with unit of measure).	✓				Work Order, Preventive Maintenance
3.1.3.1	Provide the option to specify a percentage relating to the frequency with which the defined quantity will be required (e.g. a specific part will be required on 75% of the jobs)			✓		Preventive Maintenance
3.1.3.2	Provide for a multi-layer structure for referencing components or subassemblies that have their own Bill of Materials (BOM)	✓				Warehouse
3.1.3.3	Link material requirements to a specific work step		✓			Preventive Maintenance
3.1.4.	Identify standard maintenance workstation, tooling, equipment or machinery to be used by job step, with associated standard hours of usage and standard routing.	✓				Preventive Maintenance
3.1.5.	Link drawings, specifications, bulletins, work instructions, pictures and other documents to a job template	✓				Preventive Maintenance, Work Order
3.1.6.	Provide the ability to identify safety information for the job	✓				Work Order, Preventive Maintenance
3.1.6.1	Identify hazards associated with the asset type, job or job tasks	✓				Preventive Maintenance, Work Order
3.1.6.2	Identify precautions to mitigate hazards, including lock-out, tag-out procedures	✓				Preventive Maintenance, Work Order
3.2	Provide several WRD defined multi-level code classifications for maintenance jobs and work steps, including the following:					
3.2.1.	Code for job type (e.g., preventive maintenance, campaign, etc.)	✓				Work Order
3.2.2.	Asset, component or asset system involved (e.g. HVAC, electrical, etc.).	✓				Asset Inventory
3.2.3.	Action codes for work steps (e.g., adjust, replace, diagnose, etc.)	✓				Work Order
3.2.4.	Failure codes/problems associated with the job	✓				Work Order

Asset Maintenance and Management Functional Requirements						
ID	Requirement	Off-the-shelf (O)	Off-the-shelf with Configuration (OC)	Customization (CM)	Comments	Module
3.3	Edit, copy, and delete maintenance job templates and job definitions	✓				Work Order
3.4	Provide the capability to create a job template from an existing work order	✓				Work Order, Preventive Maintenance
3.5	Provide the capability to utilize actual maintenance labor hours to determine new standards and update associated job standards and templates		✓			Preventive Maintenance, Work Orders
3.6	Provide the capability to designate documents (such as bulletins, checklists, instructions, safety precautions, etc.) to automatically print (or display if work order is on-line) when the work order is created and approved	✓				Work Order
4. **Planned/Preventive Maintenance Program Management**						
4.1	Capability to define and maintain a Planned/Preventive Maintenance (PM) program for specific assets and sub-assets, asset types, asset model, class or series. Allow WRD to define other groups of assets for which PM programs may be defined.	✓				Preventive Maintenance
4.1.1.	Maintain a library of standard PM job templates (described in the previous section) for jobs included in the PM program	✓				Preventive Maintenance
4.1.2.	Provide the capability to define PM job intervals based on one or a combination of multiple asset usage characteristics (operating hours, elapsed time, processing volumes, work cycles, etc.), meter readings or SCADA monitoring, and/or diagnostic readings exceeding limits (e.g. for oil analysis, wear, fuel consumption, power consumption, etc.)	✓				Preventive Maintenance
4.1.3.	Allow WRD to define seasonal triggers for PM jobs, such as fall, spring, specific dates, etc.	✓				Preventive Maintenance
4.1.4.	Provide the capability to define condition based triggers and link specific conditions to specific PM jobs and inspections			✓		Preventive Maintenance
4.1.5.	Provide the option to define different PM intervals based on the criticality of assets			✓		Preventive Maintenance
4.1.6.	Provide the capability to link maintenance bulletins, instructions, and other documents to specific PM jobs	✓				Preventive Maintenance
4.2	Capability to define acceptable limits above or below PM intervals for each job during which the job should be performed (window for performing PM job)	✓				Preventive Maintenance
4.3	Capability to define each PM job as “mandatory” or “deferrable”, with specific limits on deference such as elapsed days, operating hours, transactions, etc.			✓		Preventive Maintenance
4.4	Capability to indicate a priority for specific PM jobs	✓				Preventive Maintenance
4.5	Capability to identify the source of PM jobs, such as regulatory, manufacturer recommended, WRD policy, etc.	✓				Preventive Maintenance
4.6	Create and manage PM work orders including, but not limited to the following:					

Asset Maintenance and Management Functional Requirements						
ID	Requirement	Off-the-shelf (O)	Off-the-shelf with Configuration (OC)	Customization (CM)	Comments	Module
4.6.1.	Create PM work orders on demand for a specific location; asset class, type of asset, model or series; due within a WRD specified time period; and/or for a specific type or category of maintenance job	✓				Preventive Maintenance
4.6.2.	Automatically create PM work orders for assets due for PM based on pre-defined intervals and triggers for the PM job.	✓				Preventive Maintenance
4.6.3.	Provide an option to calculate the next PM due based on the actual completion of the last PM of the same type or from the scheduled completion. For example, if a job is due every 5,000 operating hours and is actually performed at 5,034 hours, the next job is due at 10,034 hours if based on actual completion or 10,000 hours if based on scheduled completion.			✓	In upcoming build	Preventive Maintenance
4.6.4.	Provide an option to automatically "roll-up" PM jobs due at the same time into one PM work order. For example, 5,000, 10,000 and 20,000 hour PM jobs may become due simultaneously for an asset that accumulates 20,000 hours. The system would create one work order containing all work required for each job.			✓	In upcoming build	Preventive Maintenance
4.6.5.	Provide the capability to combine PM jobs for components with PM jobs for the parent asset on which the component is currently installed. For example if an asset is scheduled for a PM, include component PM's within a pre-determined interval, and vice versa.			✓		Preventive Maintenance
4.6.6.	Provide the ability to generate PMs for all assets within a specific geographic area or through the use of a GIS map	✓				Preventive Maintenance
4.6.7.	Provide the option of overriding PM schedules to schedule any PM work order regardless of the next due date, and automatically adjusting the master PM schedule for any changes	✓				Work Order
4.6.8.	Provide the ability to exclude or suspend the generation of PMs for assets in a specific assets, asset types, or assets in a specific status (such as inactive or undergoing rehabilitation).	✓				Preventive Maintenance
4.6.9.	Provide the option to automatically notify specified personnel of PM work overdue (for example, by e-mail)	✓				Notification
4.6.10.	Provide the option to automatically adjust the priority of a PM based on how close the PM is to the end of the PM window.			✓		Work Order
4.6.11.	Provide the ability to adjust the characteristics of the PM work order (e.g., change steps, material or labor requirements, etc.) and flag those PM work orders that have been altered from the standard PM template.	✓				Preventive Maintenance
4.7	Provide support for forecasting and analyzing PM program activity including alerts for pending inspections; ability to generate a forecast of all PM jobs due for any selected time period by type of asset, model or series, location, or by type of maintenance job, etc.					

Asset Maintenance and Management Functional Requirements						
ID	Requirement	Off-the-shelf (O)	Off-the-shelf with Configuration (OC)	Customization (CM)	Comments	Module
4.7.1.	Identify PM jobs projected to be performed during a user defined time period along with a list of assets due for PM.	✓				Preventive Maintenance
4.7.2.	Project PM job requirements for a designated time period, including estimated labor hours, estimated number of occurrences of specific PM jobs, estimated costs (labor, materials, and external vendor cost), track allocation needs, and estimated asset down-time	✓				Preventive Maintenance
4.7.3.	Project material requirements (parts and quantities) needed to complete the maintenance jobs	✓				Work Order
4.7.4.	Project machinery/workstation, tool, and equipment requirements for PM jobs	✓				Preventive Maintenance
4.7.5.	Provide PM projections for user defined time intervals by asset and sub-asset type, by asset model/series, location/organizational unit, and other assets grouping as defined by WRD	✓				Preventive Maintenance
4.7.6.	Highlight PM jobs that are past due or approaching past due (near the end of the maintenance window).	✓				Preventive Maintenance
4.7.7.	Provide the ability to vary PM job intervals for "what-if" analysis and compare projected requirements, job costs, and asset downtime			✓		Preventive Maintenance
5. **Major Overhauls, Asset Rehabilitation and Project Work Orders.**						
5.1	Provide the capability to define and track major maintenance programs and projects consisting of a series of maintenance jobs to be completed for a single asset, or specific asset groupings, models or series	✓				Performance Report
5.2	Provide the capability to define and track projects and equipment modifications consisting of a single maintenance job to be completed multiple times for a group of vehicles or assets	✓				Preventive Maintenance
5.3	Provide the capability to define specific labor craft/skill and training requirements for the major program/campaign and link the requirements to actual craft/skill levels for available labor (by shift)			✓		Work Order
5.4	Create major program/campaign work orders on demand or automatically based on pre-determined release dates and link the work orders to the major program/campaign	✓				Projects
5.4.1.	Define a major program/project for a specific series of vehicles or type of asset and define target beginning and completion dates for the project	✓				Work Order, Projects
5.4.2.	Provide the capability to create and link standard maintenance jobs to the major program/project and use the standard jobs as a template to create work orders, including parts, labor, and resource requirements	✓				Projects, Work Order

Asset Maintenance and Management Functional Requirements						
ID	Requirement	Off-the-shelf (O)	Off-the-shelf with Configuration (OC)	Customization (CM)	Comments	Module
5.4.3.	Provide the ability to link instructions, bulletins, schematics, and other documents to the major program/campaign or to individual program work orders	✓				Work Order
5.4.4.	Provide the option to generate separate work orders for each asset or a single work order for the entire campaign and keep history separate for each asset	✓				Work Order
5.4.5.	Provide the option to complete a major program/project work order as part of the next regularly scheduled PM work order for an asset	✓				Work Order
5.4.6.	Provide the capability to designate work steps, work orders, or an entire program/project to be completed by external vendors as opposed in WRD personnel, with associated cost estimates	✓				Work Order
5.4.7.	Provide the capability to project material requirements and "required by" dates, labor requirements by craft/skill, equipment/tool requirements and detail program costs (labor, material, external vendor, and other costs).	✓				Work Order
5.4.8.	Provide the capability to schedule material purchases and/or inventory reservations based on projected work order activity	✓				Work Order
5.4.9.	Track and report on the status of complete, incomplete, and past due project work orders	✓				Work Order
5.5	Provide the capability to project and analyze major program/project activity using the same capabilities identified for PM programs as specified in the PM section above.	✓				Work Order
5.6	Ability to open and/or close all work orders associated with a specific program/project or phase of work at the same time	✓				Work Order
5.7	Ability to support the management of work performed by external vendors with the same degree of detail as that performed in-house	✓				Work Order
5.8	Provide Program/project monitoring reports showing assets completed, rate of work (e.g. assets completed per week), assets remaining, actual costs versus standard costs, percent complete, projected completion dates, projected completion cost based on actual to-date cost, assets past due, etc.	✓				Work Order
5.9	Provide the capability to view a time-line for the major program/project, including start and stop times (hour and minute) for all associated work orders.	✓				Work Order
6. **Reporting and Managing Problems, Defects, and Work Requests**						
6.1	Allow WRD employees and/or customers to enter specific work requests, problems, or defects for an asset, including but not limited to the following information.					
6.1.1.	Asset ID affected by the request/problem/defect	✓				Asset Inventory
6.1.2.	Asset system, component, or sub-asset relating to the request/problem/defect	✓				
6.1.3.	Location of the asset relating to the request/problem/defect	✓				

Asset Maintenance and Management Functional Requirements						
ID	Requirement	Off-the-shelf (O)	Off-the-shelf with Configuration (OC)	Customization (CM)	Comments	Module
6.1.4.	Person reporting the defect or request; date and time the defect or request is reported	✓				
6.1.4.1	Record customer information, address, phone if reported by a customer	✓				
6.1.4.2	Record employee identification and organizational unit if reported by an employee	✓				Service Request, Work Order
6.1.5.	Organizational unit or person to route the request/problem/defect	✓				Service Request, Work Order
6.1.6.	WRD defined priority code for request/problem/defect, including an indication as to whether the asset is available for service	✓				Work Order
6.1.7.	Problem code based on WRD defined multi-level classification codes for problems for the asset type or class designated in the request/problem/defect	✓				Work Order
6.1.8.	Text description of request/problem/defect and symptoms	✓				Work Order
6.1.9.	Extended text to allow further description and information, such as alternatives to the request, risks involved, etc.	✓				Work Order
6.1.10.	Type of request based on WRD defined categories, such as repair, installation, safety, etc.	✓				Work Order
6.1.11.	Usage meter reading (such as operating hours) and at the time of the defect, if appropriate, and meter number/location	✓				Work Order
6.1.12.	Identify compliance/regulatory related requests	✓				Work Order
6.2	Provide the option to automatically create work requests based on the following methods.					
6.2.1.	Provide the capability to define meter readings, measurements, and other measures (such as fuel/power consumption, condition assessment scores) to monitor the condition of the asset and automatically generate problem reports/defects and/or work orders if measurements exceed pre-defined tolerances.	✓				Work Order
6.2.2.	Provide the capability to interface with SCADA or similar monitoring systems and create work requests when reported information exceeds WRD defined tolerances.	✓				Preventive Maintenance
6.3	Automatically notify designated individuals when certain defects are entered, based on the type of defect and the asset location.		✓			Notifications
6.4	Allow a request, problem, or defect to be reported at any level of the asset hierarchy, such as for a parent asset or child assets (sub-asset or component).	✓				Work Order
6.5	Allow authorized users to edit, close, reclassify and prioritize problems, while maintaining the initial classification of the problem (as posted) and the final classification (maintenance decision)	✓				Work Order

Asset Maintenance and Management Functional Requirements						
ID	Requirement	Off-the-shelf (O)	Off-the-shelf with Configuration (OC)	Customization (CM)	Comments	Module
6.6	Provide the ability to categorize the probable cause of problems into user-defined categories such as equipment related, passenger related, operator related, etc.	✓				Work Order
6.7	Provide the capability to identify duplicate requests, problems or defect reports and to combine the reports into a single problem (while maintaining a record of each reporting incidence)	✓				Work Order
6.8	Allow for quick entry of requests/defects found during the performance of a PM inspection or other maintenance job and to retain the reference to the originating job order under which the defect was found.	✓				Work Order
6.9	Allow for designating whether a request/defect can be deferred to the next inspection or PM for re-evaluation.		✓			Work Order
6.10	Allow WRD to define specific request/defect types as "safety-sensitive" that must be addressed before allowing the asset to return to service.	✓				Work Order, Asset Inventory
6.11	Support viewing and listing open requests and problems on-demand for all assets assigned to a specific location or organizational unit, including by asset, asset type or class, defect classification codes, severity or priority, or age of defect (time since reported), by source.	✓				Work Order
6.12	Allow a user to view the status of requests/defects posted by the user, and provide the option to automatically notify the user reporting the request/defect when a work order is created or the problem is closed based on pre-determined criteria such as the type, age and severity of a defect	✓				Work Order
6.13	Allow a user to view requests/problems/defects within a specific geographic area using a map interface with a GIS	✓				Work Order, GIS
6.14	Provide the capability to link one or more requests/defects/problems to one or more work orders	✓				Work Order
6.14.1.	Automatically update the status of the request/defect/problem based on the work order status	✓				Notifications
6.14.2.	Close the request/defect on approval when the work order is closed	✓				Work Order
6.14.3.	Maintain the link between the request/defect and the work order for reporting and analysis purposes	✓				Work Order
6.15	Provide the capability to route internal requests (from employees) back to the requestor if additional information is needed.	✓				Work Order
6.16	Provide the capability to designate a request/problem/defect as an emergency and automatically notify designated personnel	✓				Work Order
6.17	Automatically flag requests/problems/defects related to critical assets	✓				Work Order, Asset Inventory
7. **Work Order Creation.**						

Asset Maintenance and Management Functional Requirements						
ID	Requirement	Off-the-shelf (O)	Off-the-shelf with Configuration (OC)	Customization (CM)	Comments	Module
7.1	Create work orders on demand through the following methods					
7.1.1.	Entering work order information manually and by defining the maintenance task(s) to be performed by the work order	✓				Work Order
7.1.2.	Identifying one or more open problems and defects to be addressed by the work order;	✓				Work Order
7.1.3.	Using one or more standard maintenance job template(s). Work orders based on templates would include default labor, material, and equipment/tool requirements which can be edited.	✓				Work Order
7.1.4.	By copying or cloning a previous work order, including default labor, material and equipment/tool requirements	✓				Work Order
7.2	Automatically create work orders based on planned maintenance programs, projects, and major programs based on pre-determined maintenance intervals and/or scheduled release dates	✓				Work Order
7.2.1.	Allow WRD to specify the time period for automatic work order creation (such as all PMs due in the next week)	✓				Preventive Maintenance
7.2.2.	Allow WRD to designate asset status categories that result in the suspension of PM work order creation, such as “inactive” or “off-site for rehab”, etc.	✓				Preventive Maintenance
7.3	Designate all newly created work orders as “planned” status and prohibit recording actual work and costs prior to assigning, approving and releasing the work order	✓				Work Order
7.4	Allow the user to add multiple open problems to an existing work order, including work orders created for PM jobs	✓				Work Order
7.5	For initial work order creation, the system must capture at a minimum: asset number or component serial number; problems to be addressed or maintenance tasks covered by the work order (including all information provided on the defect such as text descriptions and classification codes); date and time the work order is created; work order type (PM, project, corrective, etc.); current usage meter reading (e.g. operating hours), priority, and user ID that created the work order; safety information if applicable (hazards, lockout-tagout).	✓				Work Order
7.6	Allow the option of defining work steps when the work order is created or recording work steps as the work is performed	✓				Work Order
7.7	Allow the option to include electronically readable information (e.g., bar code) on work orders and each work step for the purpose of recording work order labor, material and other transaction information.	✓				Work Order
7.8	Allow the user to define specific labor requirements for a work order, i.e., the labor hours to complete each work step, each task, or the entire work order and the specific labor craft/skill levels required	✓				Work Order

Asset Maintenance and Management Functional Requirements						
ID	Requirement	Off-the-shelf (O)	Off-the-shelf with Configuration (OC)	Customization (CM)	Comments	Module
7.9	Allow the user to designate work steps or tasks to be conducted by internal resources (including the secondary repair shop) or external vendor resources	✓				Work Order
7.10	Allow the user to define a specific bill of material for a work order including parts numbers (manufacturer's and WRD) and quantities	✓				Work Order
7.11	Allow the user to define equipment/tool requirements and workstation routing for each work step or for the entire work order	✓				Work Order
7.12	Allow the user to combine multiple work orders into a single work order, or split a work order into multiple work orders	✓				Work Order
7.13	Provide the capability for the user to define categories and multi-level hierarchies of codes relating to work orders, work order steps, and other maintenance activity including defect types, failure and condition codes; asset systems and subsystems; component codes; maintenance job types; work order priority; etc.	✓				Work Order
7.14	Provide the option to work on multiple assets on a single work order and link specific work steps to an asset	✓				Work Order
7.15	Provide the capability to designate a work order for a service call, and to record travel time and service information	✓				Work Order
7.16	Provide the capability to attach graphics, scanned images, bulletins, instructions and other documents to a work order	✓				Work Order
7.17	Automatically calculate and retain total estimated labor, material, external vendor and other cost for the work order	✓				Work Order
7.18	Provide the capability for authorized personnel to edit, combine, or cancel work orders	✓				Work Order
7.19	Provide the capability to identify and combine all outstanding work orders for a specific asset and/or location, including preventive maintenance work orders and/or project work orders coming due within a use specified period of time.	✓				Work Order
7.20	Allow the user quick access to maintenance history and related PM/failure information for the asset indicated on the work order.	✓				Work Order
7.21	Provide full maintenance history, on-line for the vehicle or asset covered by the work order	✓				Work Order
7.21.1.	Automatically identify repeat failures or problems and like failures for similar assets based on WRD defined criteria for each type of asset, and provide the capability to notify designated personnel (such as supervisors or foremen)	✓				Work Order
7.21.2.	Automatically identify work or failures under warranty, including warranties based on a parent asset	✓				Work Order
8. **Work Order Planning, Scheduling, and Release.**						
8.1	Provide the ability to indicate multiple start and stop dates/times on work orders for planning purposes	✓				Work Order

Asset Maintenance and Management Functional Requirements						
ID	Requirement	Off-the-shelf (O)	Off-the-shelf with Configuration (OC)	Customization (CM)	Comments	Module
8.1.1.	Scheduled start/stop and actual start/stop dates and times	✓				Work Order
8.1.2.	Earliest/latest start/stop, target start/stop dates and times	✓				Work Order
8.2	Allow WRD to project requirements and make assignments based on the maintenance backlog	✓				Work Order
8.2.1.	Allow authorized users the flexibility to view and report planned and unassigned work orders on-demand for all assets assigned to a specific location/organizational unit or all assets in the system by combination of location, asset type/class, asset model/series, work order type, defect classification, asset condition codes, severity or priority, age of defect (time since reported) or age of work order (time since created), or scheduled start/stop dates/times	✓				Work Order
8.2.2.	Project the availability of material required to complete planned and unassigned work orders by identifying availability of sufficient inventory material on hand by maintenance location and/or system-wide, taking into account scheduled receipts and material reserved for work orders in process	✓				Work Order
8.2.3.	Project the availability of labor required by craft/skill, location, and shift to complete planned and unassigned work orders	✓				Work Order
8.2.4.	Project the availability of maintenance facilities, equipment tooling, and other resources required for the planned and unassigned work orders based on the maintenance location to which the assets are currently assigned	✓				Work Order
8.2.5.	Project asset shutdown and total downtime requirements for planned and unassigned work orders.	✓				Work Order
8.2.6.	Automatically prioritize work orders based on pre-determined criteria defined by WRD such as work type, material and labor availability, work priority/severity of problems, asset criticality, etc.	✓				Work Order
8.2.7.	Provide the user the capability to override automatic prioritization or deferrals	✓				Work Order
8.2.8.	Allow users to assign work orders to specific maintenance locations/organizational units and to specific WRD personnel including multiple employees on the same work order and employees at multiple locations and shifts	✓				Work Order
8.3	Provide the capability to create a master schedule and calendar by a combination of location, department, and shift, and type of maintenance (PM, projects, corrective, etc.) and to combine detail schedules to produce consolidated schedules by groups of departments or for the entire system based on a user specified time period showing dates/times (hours and minutes) work orders are to begin and end.					
8.3.1.	Provide the capability to schedule asset shutdowns and downtime as required by the master schedule and to view modifications to downtime as the master schedule is altered.	✓				Work Order

Asset Maintenance and Management Functional Requirements						
ID	Requirement	Off-the-shelf (O)	Off-the-shelf with Configuration (OC)	Customization (CM)	Comments	Module
8.3.2.	Provide the capability to route the master schedule for collaboration review, revision, and/or comment by specified employees (e.g. engineering, maintenance, logistics, etc.)	✓				Work Order
8.3.3.	Provide the capability to schedule material purchases and/or inventory reservations based on the master schedule	✓				Work Order
8.3.4.	Project labor utilization and highlight labor excess/shortage by location, craft/skill, and shift, including adjusting for vacations, planned absences, and other information from the labor work schedule and calendar.	✓				Work Order
8.3.5.	Project material requirements and highlight material shortages; specify schedules for purchasing unavailable material, and staging material to be issued from inventory	✓				Work Order
8.3.6.	Provide the capability to modify work order release dates, priorities, work steps, etc. and show the effect on the master schedule	✓				Work Order
8.3.7.	Provide the ability to defer work, included scheduled PM jobs, based on prior work performed on an asset (such as a recent overhaul or rehab job), and automatically adjust the master schedule	✓				Work Order
8.3.8.	Provide the ability to graphically display the scheduled work on a timeline or calendar based on user defined time period and filters (by asset type/class, by location/organizational unit, by type of work, etc.)	✓				Work Order
8.4	Allow WRD to approve/release work orders for execution	✓				
8.4.1.	Provide the capability to route a work order for approval prior to releasing the work order to begin work, for example when operations needs to approve an asset shutdown.	✓				
8.4.2.	Provide the capability to immediately approve/release a work order to begin work	✓				
8.4.3.	Allow users to define a specific approval/release date and time (hours and minutes) for a work order and automatically approve/release the work order on the scheduled date/time.	✓				
8.4.4.	Provide the option to only approve/release work orders for which sufficient labor, materials, and equipment are available, and require authorization to override the restriction and approve work orders with insufficient labor, parts or maintenance resources available.	✓				
8.4.5.	Allow users to define a specific sequence of work orders and automatically approve/release the next work order when the prior sequenced work order is completed.	✓				
8.4.6.	Provide the capability to electronically transmit work orders to personnel in the field for completion.	✓				
9. **Work Activity Recording and Material Consumption**						

Asset Maintenance and Management Functional Requirements						
ID	Requirement	Off-the-shelf (O)	Off-the-shelf with Configuration (OC)	Customization (CM)	Comments	Module
9.1	Allow entry or revision of basic work order information such as asset number and description, current meter reading, date opened or work began, maintenance location or facility, personnel assigned and work to be performed (job, steps, etc.)	✓				Work Order
9.2	Provide multiple options for entering labor hours for a work order including direct keyboard entry, interfacing with a time clock system, using electronic mobile handheld devices, kiosks, using WRD's existing timekeeping system, etc.	✓				Work Order
9.2.1.	Record detailed information on labor hours and work performed against a work order individually for each person performing work on a work order	✓				Work Order
9.2.2.	Allow the option to record labor time associated with the entire work order or to enter time for a specific work order task	✓				Work Order
9.2.3.	Provide the option to enter the actual number of hours worked or to enter actual start and stop times and allow the system to calculate the actual hours worked.	✓				Work Order
9.2.4.	Allow labor time entry of multiple personnel for a work order task (e.g. more than one mechanic performs a task)	✓				Work Order
9.2.5.	Allow labor time entry spanning multiple shifts and any time period (e.g. days, weeks, months)	✓				Work Order
9.2.6.	Allow entry of partial hours and the ability to include multiple entries for the same person for the same task.	✓				Work Order
9.2.7.	Provide the option to enter travel time and set-up time associated with the work order	✓				Work Order
9.2.8.	Provide user defined tolerances to serve as edit checks for validating labor time entry (for example, less than 16 hours per day or less than 50 hours per task)			✓		Work Order
9.2.9.	Provide the option to record the actual date and time the labor was expended for each time entry	✓				Work Order
9.2.10.	Provide a method of identifying labor time separately for regular hours and overtime hours	✓				Work Order
9.2.11.	Allow the user to designate the work order or a work order task as "completed" and automatically record the date and time of completion	✓				Work Order
9.3	Record detailed information regarding the material consumed in performing a work order by providing full integration between work order processing functions and material inventory functions, including on-line access to inventory information					

Asset Maintenance and Management Functional Requirements						
ID	Requirement	Off-the-shelf (O)	Off-the-shelf with Configuration (OC)	Customization (CM)	Comments	Module
9.3.1.	Provide multiple options for specifying the material to be issued to the work order, including retrieving and editing a bill of material; looking up material using the WRD part number, noun identifier, manufacturer's part number; entering the WRD or manufacturer's part number directly into the system; or using hand-held devices such as bar-code readers to scan part numbers; or specifying non-inventory parts to be purchased directly.	✓				Work Order
9.3.2.	Provide the option to utilize an integrated electronic parts catalog to view exploded view parts diagrams for the asset being maintained and select parts for a work order	✓				Work Order
9.3.3.	Allow the requestor to view the availability and stock status of material at all inventory locations	✓				Work Order
9.3.4.	Allow the user to release requests for material from the work order directly to the default parts storage location or from a specified inventory storage location	✓				Work Order
9.3.5.	Allow the capability to automatically reserve material in inventory for the work order if the available quantity is greater than or equal to the requested quantity	✓				Work Order
9.3.6.	Allow the capability to automatically reserve the remaining quantity in inventory if the requested quantity exceeds the available quantity and create a “backorder” for the shortage	✓				Work Order
9.3.7.	Ability to interface with purchasing to automatically determine if a PO exists for a back order and to indicate that the PO should be expedited	✓				Work Order
9.3.8.	Provide automatic notification to the requestor and other designated individuals when the available material quantity is less than the quantity requested, and automatically indicate that the work order is “waiting for parts”	✓				Work Order
9.3.9.	Allow the capability to automatically reserve inventory for a work order when backordered material is received and automatically notify the requestor	✓				Work Order
9.3.10.	Allow the capability to automatically charge inventory material to the work order when issued from inventory (e.g., when an issue transaction is created in the inventory module against the work order request)	✓				Work Order
9.3.11.	Automatically charge non-inventory material to a work order when received (e.g., when a receipt is entered in the against a PO for the work order)	✓				Work Order
9.3.12.	Provide a method of identifying and tracking approved purchase commitments for a work order for the purpose of projecting work order cost	✓				Work Order

Asset Maintenance and Management Functional Requirements						
ID	Requirement	Off-the-shelf (O)	Off-the-shelf with Configuration (OC)	Customization (CM)	Comments	Module
9.3.13.	Record detailed data regarding the material and quantity requested and consumed by a work order, including WRD part number (if inventory material), manufacturer's part number, quantity requested/ received, date requested, date and time received, unit cost, P.O. number (if non-inventory material), work order task, and accounts to charge for the material	✓				Work Order
9.3.14.	Allow the user to request additional material at any time during the completion of the work order	✓				Work Order
9.3.15.	Allow material to be associated with any work task on the work order	✓				Work Order
9.3.16.	Automatically credit the work order for material returned to inventory or to a vendor	✓				Work Order
9.3.17.	Provide the ability to record information on components, serialized or otherwise serviceable parts removed from an asset under the work order, provide options for recording the destination of the removed component or part (inventory, scrap, etc.), and automatically perform the transactions required to adjust the location and status of the item.	✓				Work Order
9.3.18.	Provide the capability to produce control tracking tags (e.g. bar code or RFID)\ to attach to components removed from assets, identifying the asset, part number, serial number, etc.	✓				Work Order
9.3.19.	Provide the option for users to perform all materials requests and transactions electronically transmitted from remote devices.	✓				Work Order
9.4	Allow the user to record detailed information and coding for failure analysis, work performed, and other diagnostic purposes					
9.4.1.	Provide for detailed multi-level problem coding based on the asset class or type for the work order	✓				Work Order
9.4.2.	Allow the user to indicate specific fault codes for the asset	✓				Work Order
9.4.3.	Allow users to designate "cause" codes for problems based on pre-determined causes for a problem code	✓				Work Order
9.4.4.	Allow users to record the remedy or actions taken to resolve the problem or complete the work order	✓				Work Order
9.4.5.	Allow the user to designate the specific component, sub-component, sub-assembly, or system for which the work order was associated.	✓				Work Order
9.5	Provide the capability to enter measurements, meter readings, and condition assessment information					
9.5.1.	Define specific measurements to be taken based on the asset and type of maintenance job, and enter the measurements for the work order	✓				Work Order
9.5.2.	Enter meter readings and updates for the asset	✓				Work Order
9.5.3.	Allow the user to enter condition assessment scores or ratings for the asset based on the work being performed	✓				Condition Assessment

Asset Maintenance and Management Functional Requirements						
ID	Requirement	Off-the-shelf (O)	Off-the-shelf with Configuration (OC)	Customization (CM)	Comments	Module
9.6	Allow authorized users to add or modify work order tasks and other data during the performance of a work order, including work steps, failure codes, work order codes, etc.	✓				Work Order
9.7	Add unlimited text comments for each major work order task (multiple comments or notes per work order)	✓				Work Order
9.8	Provide a method of reserving workstations, equipment, and tools for a work order, recording usage or work time against specific tools/equipment (for tool/equipment usage history), and releasing the resources for use on another work order	✓				Work Order
9.9	Support the inclusion of overhead and indirect labor and material usage on a work order	✓				Work Order
9.10	Provide the capability to establish separate standing work orders for non-asset related work and indirect labor for assets and components	✓				Work Order
9.11	Allow the user to create and link purchase requisitions to the work order to purchase external vendor services, and charge the expense to the work order	✓				Work Order
9.12	Provide the option to include labor and material detail for work performed by an external contractor or vendor at the work step level on a work order	✓				Work Order
9.13	Allow the user to record other miscellaneous or non-PO expenses on the work order with full text descriptions and designated general ledger coding	✓				Work Order
9.14	Allow the user to attach and/or link external documents, photographs and other files to a work order	✓				Work Order
9.15	Allow the use to create follow-up work orders for additional work that is not included in the current work order	✓				Work Order
9.15.1.	Retain the link between the follow-up work order and the original work order	✓				Work Order
9.15.2.	Provide the option of designating the asset in the original work order or a child asset or component for the follow-up work order	✓				Work Order
9.15.3.	Allow the option of rolling up costs to the original work order/asset or assigning costs to the follow-up work order	✓				Work Order
10. **Work Order Tracking and Monitoring.**						
10.1	The system should support the real-time monitoring of work order status and provide information required to manage and adjust work as required.					
10.1.1.	Allow user defined status codes (such as planned, scheduled, in process, completed, cancelled, on-hold, waiting parts, etc.) and flexible user configured rules to allow the system to automatically determine work order status	✓				Work Order
10.1.2.	Allow authorized users to override automatic status and codes and change a status for a work order	✓				Work Order

Asset Maintenance and Management Functional Requirements						
ID	Requirement	Off-the-shelf (O)	Off-the-shelf with Configuration (OC)	Customization (CM)	Comments	Module
10.1.3.	Provide on-line summary information (e.g., work order listings and counts) by status of work orders and maintenance location	✓				Work Order
10.1.4.	View real-time status information on individual work orders on demand including full detail for all work order information, percent complete based on the projected time to complete remaining tasks, current task or step being performed and the employee(s) currently assigned, number of tasks completed and percentage, hours accumulated against each task, projected completion date/time, percent ahead or behind schedule based on actual labor versus standard for the job tasks or steps completed, accumulated cost detail, and current work order status	✓				Work Order
10.1.5.	Allow user defined exception conditions that automatically alert designated persons, including work orders behind or ahead of schedule by a specified percent or number of hours, work orders delayed due to lack of material or labor, addition of tasks resulting in increases of work exceeding a defined percentage, work orders designated as completed, unscheduled/unassigned work orders involving vehicles out-of-service, and Capital program or campaign work orders that are within a pre-defined percentage of the projected cost.	✓				Work Order
10.1.6.	Project the availability of assets based on remaining work and estimated work order completion dates and times.	✓				Work Order
10.1.7.	Provide status and projections regarding labor, equipment/tools, and other resource utilization, and identify excess capacity, bottlenecks, and other issues.	✓				Work Order
10.1.8.	Automatically notify specified personnel when an asset being worked on is within or near the window for a scheduled PM job, has open requests/problems posted, or has deferred maintenance	✓				Work Order
10.1.9.	Allow authorized users to adjust work orders, including canceling some or all of the remaining work on a work order and automatically releasing all unfilled parts reservations and requisitions; revising time estimates for completion; reassigning work orders between personnel; deferring, rescheduling or placing a work order on-hold, etc.	✓				Work Order
10.2	Provide the option to automatically adjust the master schedule based on the adjustments made to work orders in process.	✓				Work Order
10.3	Provide the capability to view work and assets using a graphical representation and maps through integration with a GIS					
10.3.1.	Define a separate graphical map for each location displaying the layout of the location (including in the shops and plants) and to filter views of the graphical map by location.	✓				GIS

Asset Maintenance and Management Functional Requirements						
ID	**Requirement**	**Off-the-shelf (O)**	**Off-the-shelf with Configuration (OC)**	**Customization (CM)**	**Comments**	**Module**
10.3.2.	Define and graphically display maintenance positions using a WRD defined locator scheme that is visually displayed on the map.	✓				GIS
10.3.3.	Display selected maintenance facilities, assets, and work orders on the graphical map	✓				GIS, Work Order
10.3.4.	Display the status of assets on the map, preferably using color coding, based on WRD defined categories for asset and work order status (for example, due for PM, ready for service, being worked on, etc.). The system should provide the option to automatically determine status based on the status of work orders and defects for the asset.	✓				GIS
10.3.5.	Drill down from the graphical map to the current open work order and related asset record.	✓				GIS, Work Order
10.3.6.	Provide the option to display related tabular data based on queries of map related information, for example lists of assets awaiting PM in a selected geographic area.	✓				GIS, Work Order
11. **Work Order Closeout and Costing**						
11.1	Provide for a user defined approval process to close a work order including recording work order approvals and close-out, and editing work order data by authorized users					
11.1.1.	Provide the option for multiple levels to complete/close a work order, such as complete (work is done but can still record information on the asset), under review (authorized users can confirm and edit specific information), closed (no additional changes to the work order).	✓				Work Order
11.1.2.	Allow the user to specify mandatory information on a work order before it can be closed, such as failure coding, labor time, etc.	✓				Work Order
11.1.3.	Automatically update asset status real-time when work orders are closed	✓				Work Order
11.1.4.	Automatically calculate work order costs	✓				Work Order
11.1.5.	Provide the option to notify selected personnel of maintenance actions taken upon completion/closure of work orders	✓				Work Order
11.1.6.	Automatically update asset maintenance history real-time	✓				Work Order
11.1.7.	Automatically release personnel assigned to the work order for reassignment, release any equipment/tools or workstations, and cancel any unfilled material reservations	✓				Work Order
11.1.8.	Provide the option to automatically create a new work order for work orders that are closed and all work was not completed or new problems were identified; maintain a link between the new and the original work order	✓				Work Order
11.1.9.	Provide a method of manually closing all work orders of a specific type or location	✓				Work Order

Asset Maintenance and Management Functional Requirements						
ID	Requirement	Off-the-shelf (O)	Off-the-shelf with Configuration (OC)	Customization (CM)	Comments	Module
11.2	Calculate and make available for viewing, all detailed cost information for a work order including labor hours (hours and minutes) and cost, material cost, miscellaneous cost, external vendor cost, equipment/machine cost and total work order cost, actual start/stop and scheduled start/stop dates and times.					
11.2.1.	Allow the user to view work order hours and costs by account, project, department, facility or cost center; work task or work step; internal WRD versus external vendor; actual versus standard labor costs; material costs; and total work order costs versus projected or standard cost, etc.	✓				Work Order
11.2.2.	Provide the capability to edit certain non-financial fields for closed work orders	✓				Work Order
11.2.3.	Provide a method of correcting closed work orders (such as the option to re-open a work order or to void and reverse work order transactions, copy to a new work order, etc.)	✓				Work Order
11.2.4.	Provide the option to create an invoice based on the work order costs	✓				Work Order
12. **Operating and Maintenance History, Performance Analysis, and Costs.**						
12.1	Maintain operating and maintenance history detail for all assets including problems posted, fuel/power and fluids consumption and operating costs, maintenance/rebuild work order detail, warranty claims, etc.	✓				Asset Inventory
12.2	Maintain detail component and "child" asset history regarding the assets on which the component was installed, the usage (e.g., hours) accumulated on each parent asset, the time span that the component was installed, etc.	✓				Asset Inventory
12.3	Allow the user to define performance indicators and how the indicators are calculated or accumulated based on system data including shortages in asset uptime/downtime, work order costs versus standard costs, failure rates, mean time between failure, maintenance costs per operating hour, average repair time and cost,etc.	✓				Asset Inventory
12.3.1.	Allow user defined ranges of acceptable performance for each indicator and automatically calculate and monitor performance indicators	✓				Performance Report
12.3.2.	Provide the capability to compare costs or performance for a specific time period to another time period, i.e., monthly, quarterly, annually, etc.	✓				Performance Report
12.3.3.	Provide the capability for comparisons of all performance and cost indicators between individual persons, groups of personnel, work shifts, specific vehicles/assets, vehicle series/asset models, vehicle/asset subsystems, maintenance jobs, projects/programs, departments, etc.	✓				Performance Report

Asset Maintenance and Management Functional Requirements						
ID	Requirement	Off-the-shelf (O)	Off-the-shelf with Configuration (OC)	Customization (CM)	Comments	Module
12.4	Provide tools to automatically identify and report trends in performance and history data	✓				Performance Report
12.5	Support failure analysis for assets/components including identifying the subsystem, component or part that caused the failure; calculating the percentage of failures of each type over a user defined time/mileage period; identifying repeat failures for a user defined time period and providing detailed failure analysis information for any specific asset failure by date, mileage, time, root cause, etc.	✓				Performance Report
12.6	Provide total maintenance costs by asset, asset type/class, model, type of component, maintenance location, project/program, department, etc.	✓				Asset Inventory, Performanance Report
12.7	Provide actual labor hours, labor cost and material cost breakdowns by type of work performed, task, employee, vehicle series/asset model, project/program, department, etc, to enable analysis of repair and production costs.	✓				Work Order, Performance Report
12.8	Provide for the capability to compare planned costs to actual costs and provide reporting for identification of cost anomalies and analysis of cost trends.	✓				Work Order, Performance Report
12.9	Capture costs for work contracted out to vendors and provide comparisons to standards or previous in-house costs for the same work.	✓				Performance Report
12.10	Provide the capability to compare asset/component repair and rebuild costs, both internal and external versus purchase new assets/components for buy versus build/repair analysis	✓				Performance Report
13. **Warranty Management.**						
13.1	Track and maintain all asset and serialized component warranty information and status (both new and repairs)	✓				Asset Inventory
13.2	Provide a method to track all warranties based on elapsed time, usage and performance, as defined by specific performance indicators	✓				Asset Inventory, Performanance Report
13.3	Maintain warranty information for specific assets/components including asset/component number, PO number and date, vendor, warranty provisions and coverage, date received, date placed in service, warranty effective date, usage and/or operating hours and elapsed time that warranty begins and ends, etc.	✓				Asset Inventory
13.4	Capability to automatically generate and track warranty claims from the work order system including claim number and date, asset/component, original cost (if applicable), RMA, repair cost, claim amount, text descriptions or notes, claim status (user defined categories), claim disposition and date, actual recovery amount or value received by WRD, type of disposition (e.g. reimbursement, replacement part, credit toward future purchases, etc.), comments, etc.	✓				Work Order

Asset Maintenance and Management Functional Requirements						
ID	Requirement	Off-the-shelf (O)	Off-the-shelf with Configuration (OC)	Customization (CM)	Comments	Module
13.5	Provide a method to automatically alert designated WRD personnel to the existence of all warranties when defects/problems or work orders are created prior to any repairs or replacements	✓				Work Order
13.6	Track warranty work performed by WRD personnel and automatically create claims for reimbursement	✓				Work Order
13.7	Track warranty work performed by external contractors and vendors and automatically create claims for reimbursement	✓				Work Order
13.8	Provide the capability to re-enter or override warranty information when warranty adjustments occur	✓				Asset Inventory
13.9	Provide the capability to generate a detailed user defined report indicating the dollar amount of warranties recovered for a user defined time period by maintenance location or system-wide, vendor, vehicle/asset/component series or type or type of failure	✓				Performance Report
13.10	Provide a method to track warranty replacement parts and associated dollar amount returned to inventory	✓				Asset Inventory, Warehouse
13.11	Provide a method of printing electronically readable (e.g. bar code) warranty tags to physically identify parts and components removed under warranty, and include RMA information for parts and components to be returned to the vendor	✓				Asset Inventory
14. **Maintenance Personnel Information.**						
14.1	Maintain information on all personnel referenced in the maintenance system					
14.1.1.	Provide the capability to interface with human resources employee information to serve as reference for maintenance employee information, including employee status changes (active, terminated, etc.) location/organizational assignment and other reference information	✓				Employee
14.1.2.	Maintain organizational information on position, organizational unit, supervisor, etc. for assignment and routing purposes	✓				Employee
14.1.3.	Maintain craft/skill, certification, training, and other information on each employee to be used to qualify the employee to perform specific maintenance work on specific asset types.	✓				Employee
14.1.4.	Maintain personnel cost information (standard and overtime) to calculate labor costs for work activity.	✓				Employee
14.2	Provide the capability to establish and maintain a work calendar showing the work schedule for all personnel to serve as the basis for determining labor availability for maintenance work, including work hours, work day per week, shift, planned absences, etc.	✓				Employee

Asset Maintenance and Management Functional Requirements						
ID	Requirement	Off-the-shelf (O)	Off-the-shelf with Configuration (OC)	Customization (CM)	Comments	Module
14.3	Provide work history for maintenance personnel, including work assignments, assets, and locations.	✓				Employee
15. **Tool Tracking**						
15.1	Provide the capability to define and maintain an inventory of shop tools and other maintenance equipment for each maintenance location, including but not limited to:					
15.1.1.	Identification number to uniquely identify the tool or piece of equipment	✓				Equipment
15.1.2.	Description of tool or equipment	✓				Equipment
15.1.3.	Tool or equipment type based on WRD defined categories	✓				Equipment
15.1.4.	Use category based on WRD defined categories	✓				Equipment
15.1.5.	Serial number, if appropriate	✓				Equipment
15.1.6.	Fixed asset number if the tool or equipment is a fixed asset	✓				Equipment
15.1.7.	Storage location or bin	✓				Equipment
15.1.8.	Cost or value	✓				Equipment
15.1.9.	Date first available for use	✓				Equipment
15.1.10.	PO number when tool or equipment was purchased	✓				Equipment
15.1.11.	Useful life and/or replacement date	✓				Equipment
15.1.12.	Provide multiple user defined fields for additional classification of tools or equipment	✓				Equipment
15.1.13.	Provide multiple user defined fields to designate tool or equipment characteristics, such as gauge, capacity, weight ratings, etc.	✓				Equipment
15.2	Provide the capability to issue tools and equipment from inventory, including the capability to:					
15.2.1.	Issue tools and equipment to a specific employee with responsibility for safekeeping and returning the tool	✓				Equipment
15.2.2.	Provide issue dates and anticipated return dates or due dates for returning tools and equipment	✓				Equipment
15.2.3.	Allow an employee or work order to reserve tools or equipment for use for a specified future time period	✓				Equipment
15.2.4.	Provide the option to assess a usage charge to specific accounts or to a work order for the use of a tool or piece of equipment	✓				Equipment
15.2.5.	Receive tools and equipment returned to inventory	✓				Equipment
15.2.6.	Maintain usage history for specific tools	✓				Equipment
15.3	Provide the capability to permanently assign tools and equipment to mobile locations, such as road crews and maintenance trucks	✓				Equipment
15.4	Provide the capability to loan or transfer tools and equipment from one maintenance work group to another	✓				Equipment
15.5	Allow WRD to track tools and equipment leased from external vendors and apply the cost to the work orders that use the tools	✓				Equipment
15.6	Display and/or report on the status of tools and equipment	✓				Equipment

Asset Maintenance and Management Functional Requirements						
ID	Requirement	Off-the-shelf (O)	Off-the-shelf with Configuration (OC)	Customization (CM)	Comments	Module
15.7	Allow WRD to query the status of any individual tool or piece of equipment, including whether it is available, reserved, charged out (employee, work order, dates, etc.)	✓				Equipment
15.7.1.	Report all tools and equipment currently charged out with anticipated return dates	✓				Equipment
15.7.2.	Report tools and equipment over due for return to inventory	✓				Equipment
15.7.3.	Report usage history for any tool or piece of equipment	✓				Equipment
15.8	Allow WRD to scrap, sell or replace tools and equipment	✓				Equipment
15.9	Provide the capability to group selected tools and equipment into a "tool box" (similar to a kit for parts) and track the tool box separately	✓				Equipment
15.10	Provide support for physical inventory of tools using the same capabilities as for inventorying parts, including the use of bar code	✓				Equipment
15.11	Provide the capability to track tool and equipment warranties	✓				Equipment

Materials Management Requirements						
ID	Requirement	Off-the-shelf (O)	Off-the-shelf with Configuration (OC)	Customization (CM)	Comments	Module
1. **Inventory Item/Catalog Management and Supporting Files**						
1.1	Maintain inventory master file (catalog) data for each unique inventory item	✓				
1.1.1.	Unique WRD stock number (12 digit minimum)	✓				Warehouse Inventory
1.1.2.	Part description, noun name, modifiers and key words	✓				Warehouse Inventory
1.1.3.	Multiple user defined item attributes and standard qualifiers (such as size, color, weight, material type, etc.) for each item	✓				Warehouse Inventory
1.1.4.	Extended description, up to 99 lines	✓				Warehouse Inventory
1.1.5.	Commodity code/material class reference	✓				Warehouse Inventory
1.1.6.	Multiple use codes per item describing the asset type/model, etc. for which the item is used	✓				Warehouse Inventory
1.1.7.	Separate units of measure for inventory, purchase, and/or transfer/issue from a WRD defined list	✓				Warehouse Inventory
1.1.8.	Hazardous material designation based on WRD defined categories and option to attach a material safety data sheet (MSDS) to an item	✓				Warehouse Inventory
1.1.9.	Flag to indicate inspection required upon receipt	✓				Warehouse Inventory
1.1.10.	Item status (active, inactive, superseded, etc.) from WRD defined categories	✓				Warehouse Inventory
1.1.11.	Item value/cost (see detailed Inventory Valuation requirements below)	✓				Warehouse Inventory
1.1.12.	Multiple user defined fields for item information and classification	✓				Warehouse Inventory
1.1.13.	Item type (e.g., standard part, component, sub-assembly, consumable, fluid, etc.) from user defined categories	✓				Warehouse Inventory
1.1.14.	Comments/extended text	✓				Warehouse Inventory
1.1.15.	Packaging requirement (text instructions for inclusion in purchase orders)	✓				Warehouse Inventory
1.1.16.	Specification or drawing reference number	✓				Warehouse Inventory
1.1.17.	Shelf life designation (amount of time the item can remain on the shelf before it is unusable)	✓				Warehouse Inventory
1.1.18.	Special control designation (secured storage, special containers, refrigeration, etc.)	✓				Warehouse Inventory
1.1.19.	Safety designation based on user defined values	✓				Warehouse Inventory
1.1.20.	Cross reference to multiple manufacturers' or vendors' names and part numbers with one designated as the primary	✓				Warehouse Inventory
1.1.21.	Approved substitution part numbers, along with authorizing documents attached	✓				Warehouse Inventory
1.1.22.	Ability to attach documents, drawings, illustrations, photos, etc. to an item	✓				Warehouse Inventory
1.2	Maintain inventory item location information for each item stocked at the location, including the following data					
1.2.1.	Quantity on-hand	✓				Warehouse Inventory
1.2.2.	Quantity reserved for open or scheduled work orders (or an open request exists for the item)	✓				Warehouse Inventory

Materials Management Requirements						
ID	Requirement	Off-the-shelf (O)	Off-the-shelf with Configuration (OC)	Customization (CM)	Comments	Module
1.2.3.	Quantity on order	✓				Warehouse Inventory
1.2.4.	Quantity available (On-hand less reserved) Note: If reservations are not used, this would be the on-hand quantity only.	✓				Warehouse Inventory
1.2.5.	Next order due date	✓				Warehouse Inventory
1.2.6.	Bin identifier(s) specifying where the item is located within the inventory storage facility (allow multiple bins per item in a facility, with one bin specified as the primary bin location).	✓				Warehouse Inventory
1.2.7.	Lead time for replenishment	✓				Warehouse Inventory
1.2.8.	Date last issued	✓				Warehouse Inventory
1.2.9.	Date last ordered	✓				Warehouse Inventory
1.2.10.	Date last received	✓				Warehouse Inventory
1.2.11.	Last vendor	✓				Warehouse Inventory
1.2.12.	Last purchase price	✓				Warehouse Inventory
1.2.13.	ABC classification	✓				Warehouse Inventory
1.2.14.	Multiple user defined fields	✓				Warehouse Inventory
1.2.15.	Safety stock level	✓				Warehouse Inventory
1.2.16.	Default G/L account to charge (if not issued to work order)	✓				Warehouse Inventory
1.2.17.	Comments/extended text	✓				Warehouse Inventory
1.2.18.	Serial number (if a serialized component)	✓				Warehouse Inventory
1.2.19.	Lot tracking capability	✓				Warehouse Inventory
1.2.20.	Backorder indication to designate items backordered from vendor	✓				Warehouse Inventory
1.3	Maintain part warranty information by part number, vendor number and date last purchased	✓				Warehouse Inventory, Vendor
1.4	Allow hierarchy of inventory items for sub-assemblies and relate to parent item	✓				Warehouse Inventory
1.5	Allow kitting of inventory material into a separate inventory item and maintain link to individual items					
1.5.1.	Automatically decrease applicable on-hand quantities and values for individual parts when kitted and increase the on-hand quantities and values for the kit.	✓				Warehouse Inventory
1.5.2.	Automatically decrease applicable on-hand quantities and values for kits when kits are disassembled and increase the on-hand quantities and values for the individual parts.	✓				Warehouse Inventory
1.6	Perform maintenance transactions for inventory master/item location files					
1.6.1.	Add, edit/retire a new WRD stock number record	✓				Warehouse Inventory
1.6.2.	Supersede an old part number with a new part number	✓				Warehouse Inventory
1.6.3.	Print or view a list of slow-moving items by location on demand	✓				Warehouse Inventory
1.6.4.	Support the identification of obsolete items either based on lack of use, expired shelf life, or link to assets that have been retired (“where-used” links)	✓				Warehouse Inventory

Materials Management Requirements						
ID	**Requirement**	**Off-the-shelf (O)**	**Off-the-shelf with Configuration (OC)**	**Customization (CM)**	**Comments**	**Module**
1.6.5.	Combine two WRD stock numbers into a single WRD stock number. Bring over all transaction history and re-average the item cost.	✓				Warehouse Inventory
1.6.6.	Allow changes in unit of measure; automatically adjust value & quantities (on-hand, on-order, etc.)	✓				Warehouse Inventory
1.6.7.	Change a bin location for a WRD stock number on demand	✓				Warehouse Inventory
2. **Warehouse/Storeroom Configuration and Management**						
2.1	Provide the capability to define a flexible configuration of multiple inventory storage facilities/locations					
2.1.1.	Allow WRD to define multiple physical inventory storage facilities (e.g. warehouses, storerooms, stockrooms, yards, lots, rooms, etc.)	✓				Warehouse Inventory
2.1.2.	Provide the capability to define multiple logical storage locations within a physical facility (such as multiple storerooms in a warehouse)	✓				Warehouse Inventory
2.1.3.	Allow WRD to configure storage locations into a hierarchical distribution network, including defining central storage locations that supply secondary or remote locations	✓				Warehouse Inventory
2.1.4.	Provide the capability to define "virtual" storage locations to track designated groups of items without being tied to an actual physical storage location	✓				Warehouse Inventory
2.2	Provide support for efficient warehouse management, operations, and space utilization					
2.2.1.	Allow WRD to custom define bin and item storage locations within a storage facility using alpha-numeric and special characters	✓				Warehouse Inventory
2.2.2.	Provide the capability to designate multiple bin locations for an item within a storage facility, and to designate one bin location as primary	✓				Warehouse Inventory
2.2.3.	Provide the capability to organize bins into storeroom zones and user defined areas	✓				Warehouse Inventory
2.2.4.	Provide the capability to designate special attributes of bins, such as secured, climate controlled, etc.	✓				Warehouse Inventory
3. **Material Request/Issue from Inventory**						
3.1	Interface with the maintenance work order module to provide material for maintenance work orders					Warehouse Inventory, Work Order
3.1.1.	Automatically reserve inventory material when a work order is approved or released for work	✓				Warehouse Inventory, Work Order
3.1.2.	Provide the option to specify material reservations as "hard" (prohibit use of reserved material by other work orders) or "soft" (record demand but don't prohibit use of material)			✓		Warehouse Inventory, Work Order

Materials Management Requirements						
ID	Requirement	Off-the-shelf (O)	Off-the-shelf with Configuration (OC)	Customization (CM)	Comments	Module
3.1.3.	Create a material request for each line item specified in a work order bill of material based on the “need by” date from the work order	✓				Warehouse Inventory, Work Order
3.1.4.	Automatically release all reserved material for a work order when the work order is closed	✓				Warehouse Inventory, Work Order
3.1.5.	Provide on-line query as to the status of reserved material (e.g. the work order for which it is reserved, whether the material is available or backordered)	✓				Warehouse Inventory, Work Order
3.1.6.	Create a backorder when the quantity requested exceeds the quantity available and track backorders to specific work orders	✓				Purchase Requisition
3.1.7.	Provide the ability to create a schedule for material issues based on planned maintenance activity showing the date/time that specific items are to be replenished/ordered, picked, staged, and/or delivered to maintenance.	✓				Warehouse Inventory, Work Order
3.2	Allow authorized users to manually enter/edit/delete a material request for inventory material on-line and adjust material allocations appropriately					
3.2.1.	Identify and request a part on-line using WRD stock number or description	✓				Stores
3.2.2.	Look-up WRD stock number using "noun name" or "key word" and attribute search	✓				Warehouse Inventory, Stores
3.2.3.	Identify and request a part on-line using a manufacturer or vendor part number cross-reference	✓				Warehouse Inventory, Stores
3.2.4.	Look-up and request parts on-line by commodity code	✓				Warehouse Inventory, Stores
3.2.5.	Look-up and request parts on-line by "where-used" (e.g. Asset type or asset model)	✓				Warehouse Inventory, Stores
3.2.6.	Look-up and request a part using an electronic parts catalog	✓				Warehouse Inventory, Stores
3.2.7.	View stock status information for a part at each inventory location and in total (quantity on-hand by location, quantity on order, quantity allocated, etc.)	✓				Warehouse Inventory, Stores
3.2.8.	Provide the capability to request a specific serialized item	✓				Warehouse Inventory, Stores
3.2.9.	Capture request information (requestor, date, time, G/L account to charge, work order or asset number to charge, inventory location with default based on the location, requesting location with the default based on the requestor, status indicator such as created, approved, etc.)	✓				Warehouse Inventory, Stores
3.2.10.	Include unlimited line items per request with stock number, quantity, unit of measure, “need by” date/time, and G/L account	✓				Warehouse Inventory, Stores
3.2.11.	Print a hard copy of the material request upon demand	✓				Warehouse Inventory, Stores

Materials Management Requirements						
ID	Requirement	Off-the-shelf (O)	Off-the-shelf with Configuration (OC)	Customization (CM)	Comments	Module
3.2.12.	Allow on-line look-up and viewing for a material request	✓				Warehouse Inventory, Stores
3.2.13.	Allow on-line deletion (cancellation) for material request	✓				Warehouse Inventory, Stores
3.2.14.	Option for text comments or "notes" for header/line items	✓				Warehouse Inventory, Stores
3.2.15.	Option to save a material request as a template for future requests	✓				Warehouse Inventory, Stores
3.2.16.	Provide an option to designate an entire request or a line item to issue only if the complete quantity is available	✓				Warehouse Inventory, Stores
3.2.17.	Route to stock room (or print a pick ticket) upon final approval	✓				Warehouse Inventory, Stores
3.2.18.	Record item request history for all approved requests	✓				Warehouse Inventory, Stores
3.2.19.	Allow WRD to reserve items for a project	✓				Warehouse Inventory, Stores
3.2.20.	Reserve the requested quantity for each line item, if available	✓				Warehouse Inventory, Stores
3.2.21.	Flag "backordered" items (requested items not available)	✓				Warehouse Inventory, Stores
3.3	Issue material from inventory					
3.3.1.	Print one or more pick tickets, in user designated order (bin order, destination, priority or due date) on demand for a material request	✓				Stores, Purchase Requisition
3.3.2.	Option to automatically print pick tickets when backordered items are received (user determined pick sequence)	✓				Stores, Purchase Requisition
3.3.3.	Option to include Material Safety Data Sheet (MSDS) information on all pick/move tickets for hazardous material	✓				Stores, Purchase Requisition
3.3.4.	Option to notify user of any special handling or other requirements for items on the move/pick tickets, such as ESD, safety, excessive weight, fragile, shelf-life, etc.	✓				Stores, Purchase Requisition
3.3.5.	Allow direct entry of issues against the material request (quantity issued for each item and date and time)	✓				Stores, Purchase Requisition
3.3.6.	Automatically record material issues against the work order from which the request originated	✓				Stores, Purchase Requisition
3.3.7.	Allow entry of issues without material request (requestor; default date and time; work order or asset number to charge; default inventory location; default requesting location; WRD stock number; quantity).	✓				Stores, Purchase Requisition
3.3.8.	Option for text comments for header/line items	✓				Stores, Purchase Requisition
3.3.9.	Allow partial issues of requested material quantities	✓				Stores, Purchase Requisition
3.3.10.	Allow the user to edit/reverse a previously entered issue	✓				Stores, Purchase Requisition

Materials Management Requirements						
ID	Requirement	Off-the-shelf (O)	Off-the-shelf with Configuration (OC)	Customization (CM)	Comments	Module
3.3.11.	Maintain line item status (e.g., open, backordered, picked, issued, staged, in-transit)	✓				Stores, Purchase Requisition
3.3.12.	Automatically update quantities on-hand and reserved	✓				Stores, Purchase Requisition
3.3.13.	Display highlighted warning for negative on-hand balances	✓				Stores, Purchase Requisition
3.3.14.	Automatically adjust item usage history	✓				Stores, Purchase Requisition
3.3.15.	Print an issue ticket/move ticket on demand for an issue	✓				Stores, Purchase Requisition
3.3.16.	Hold material request lines open until filled or canceled	✓				Stores, Purchase Requisition
3.3.17.	Automatically close request when all lines have been issued	✓				Stores, Purchase Requisition
3.3.18.	Automatically notify the user if requested items with a shelf life are within a designated period of expiration	✓				Stores, Purchase Requisition
3.3.19.	Automatically notify the user of potential part warranty situation, such as when the same part is issued to the same asset within the part's warranty period	✓				Stores, Purchase Requisition
3.3.20.	Print or view a list of open material requests/picks pending by various criteria (e.g., work order, need date, WRD stock number, by requester, by priority, etc.)	✓				Stores, Purchase Requisition
3.4	Track and report material availability performance by percent of demand filled, aged backorders, average time to fill request and backorder, backorder trends, etc.	✓				Performance Report
3.5	Maintain usage information on-line for each item for the last 13 months	✓				Warehouse Inventory
3.6	Provide stored usage history by month and year for a minimum of 10 years that can be retrieved on user demand	✓				Warehouse Inventory
4. **Return/Reclaim into Inventory**						
4.1	Return previously issued items to stock					
4.1.1.	Allow on-line entry for returning material to stock (G/L account number to credit, work order or asset number to credit, WRD stock number, quantity, unit of measure, returned by user or department, reason for return, comments or notes)	✓				Receiving
4.1.2.	Automatically update quantity on-hand at current inventory value	✓				Receiving
4.1.3.	Automatically adjust item usage history	✓				Receiving
4.1.4.	Generate move ticket on demand with bin number for restocking	✓				Receiving
4.2	Reclaim used or repaired items to stock (with price)					
4.2.1.	Allow on-line entry for reclaiming material to stock (G/L account number to credit, returned by user or department, reason for reclaim, comments or notes)	✓				Receiving

Materials Management Requirements						
ID	Requirement	Off-the-shelf (O)	Off-the-shelf with Configuration (OC)	Customization (CM)	Comments	Module
4.2.2.	Allow unlimited line items for a reclaim (G/L account number with default to header, WRD stock number, quantity, unit of measure, unit or standard cost with default to average inventory cost)	✓				Receiving
4.2.3.	Automatically update quantity on-hand and inventory value	✓				Receiving
4.3	Allow WRD to define bin/storage location designation for reclaimed/returned items upon stocking (See section 5 for stocking/put-away requirements)	✓				Receiving
5. **Material Receipt and Stocking**						
5.1	Receive serialized and non-serialized material from an external vendor or internal department (i.e., rebuild shop)	✓				Receiving
5.1.1.	Ability to view anticipated inbound materials/repairable materials from internal/external sources with expected arrival times. (POs, rebuild work orders, material transfers, etc.)	✓				Purchase Order
5.1.2.	Provide the option to designate an individual authorized to receive shipments at specific locations (both inventory locations and non-inventory locations/drop shipments)			✓		Receiving
5.1.3.	Enter a receipt transaction for an open PO, BPO release, annual contract, or internal rebuild order (quantity received for each line and default date and time)	✓				Purchase Order
5.1.4.	Provide the ability to support discretionary fields to enter user defined data and notes/comments for receipts	✓				Purchase Order
5.1.5.	Provide the capability to process the receipt of serialized and lot tracked items	✓				Receiving
5.1.5.	Ability to enter new serial numbered items upon receipt	✓				Receiving
5.1.5.2	Method of processing the receipt of serialized items where the serial numbers are different from those items sent to the vendor for repair (e.g. exchange items)	✓				Receiving
5.1.6.	Allow receiver to record the bill of lading number, packing slip number and/or other tracking number for the delivery	✓				Receiving
5.1.7.	Allow receiver the option to scan or otherwise capture and attach document images to the receipt, such as the bill of lading, the packing slip, or photograph	✓				Receiving
5.1.8.	Allow a "received complete" option for a complete receipt	✓				Receiving
5.1.9.	Allow partial receipts for a line item	✓				Receiving
5.1.10.	Automatically update inventory quantity on-hand and on-order for stock items	✓				Receiving
5.1.11.	Automatically recalculate item inventory value upon receipt based on the PO price	✓				Receiving
5.1.12.	Provide the ability to print put-away documents (including stock ticket, bin label) and generate bar coding (with various ways to sort the document) on demand for received items	✓				Receiving

Materials Management Requirements						
ID	Requirement	Off-the-shelf (O)	Off-the-shelf with Configuration (OC)	Customization (CM)	Comments	Module
5.1.13.	Automatically update the PO, BPO release, internal repair order line status based on the status of the receipt and close the order when all lines have been received	✓				Receiving
5.1.14.	Automatically recalculate average item lead time for stock items	✓				Receiving
5.1.15.	Provide an option to include a designation on all move/stock tickets for hazardous material	✓				Receiving
5.1.16.	Option to notify user of any special handling or other requirements for items on the put-away tickets, such as ESD, safety, excessive weight, fragile, shelf-life, etc.	✓				Receiving
5.1.17.	Allow the capability to create and add one or more storage/bin locations for an item at the time of receipt, including overriding a system recommended storage location (with audit trail)	✓				Receiving
5.1.18.	Provide the capability to automatically highlight the receipt of items that are in immediate demand (“hot” items)	✓				Receiving
5.1.18.1	Automatically notify the person processing a receipt and the original requestor when backordered items are received	✓				Receiving
5.1.18.2	Print move ticket on demand for backordered items and update material request or work order line item status	✓				Receiving
5.1.18.3	Provide an option to generate an issue upon receipt of a backordered item for an open work order without putting the item away	✓				Receiving
5.1.19.	Support cross-docking and provide an option to generate a transfer to another storeroom location without putting the item away	✓				Receiving
5.1.20.	Support the receipt of items into inventory at “no cost” for warranty and other replacement parts	✓				Receiving
5.1.21.	Provide the capability to reverse or back-out a receipt if entered incorrectly and adjust PO and/or payment voucher status accordingly	✓				Receiving
5.2	Support inspection processing for received items "pending inspection" and hold receipts open until the item has passed inspection, the item has failed inspection and is returned to the vendor, or the inspection is cancelled					
5.2.1.	Print or display inspection list on demand		✓			Receiving
5.2.2.	Record accept/reject code to describe reasons and action		✓			Receiving
5.2.3.	Enter/edit inspection data (priority, due date, performed and status)		✓			Receiving
5.2.4.	Print inspection labels		✓			Receiving
5.2.5.	Maintain inspection history by part and vendor		✓			Receiving
5.3	Support the resolution of receiving exceptions					
5.3.1.	Record and highlight receipt exceptions by line item and quantity for user defined categories such as failed inspection, over shipment, shortages, damage, etc.	✓				Receiving

Materials Management Requirements						
ID	Requirement	Off-the-shelf (O)	Off-the-shelf with Configuration (OC)	Customization (CM)	Comments	Module
5.3.2.	Provide the option to automatically notify designated personnel of receipt exceptions and route the exception for resolution	✓				Receiving
5.3.3.	Provide the ability to hold exception items in suspense pending resolution.	✓				Receiving
5.3.4.	Allow users to split line item quantities for exceptions (e.g. quantity damaged, over shipped quantity)	✓				Receiving
5.3.5.	Record a resolution code to designate how exception was resolved	✓				Receiving
5.3.6.	Include option for text comments or "notes" for header/line items	✓				Receiving
5.4	Allow for returning items to the vendor (or internal department)					
5.4.1.	Designate an item as return for credit, replacement, or repair	✓				Receiving
5.4.2.	Provide the ability to route rejected parts for review and to determine disposition, and to track parts by serial number, item number, and PO/receipt or inspection information	✓				Receiving
5.4.3.	Provide functionality to capture quality data, inspection results, and/or a reason designation on all returned products	✓				Receiving
5.4.4.	Accept a vendor return authorization code or number	✓				Receiving
5.4.5.	Update PO or BPO release line item status	✓				Receiving
5.4.6.	Update payment voucher line item status (if already entered)	✓				Receiving
5.4.7.	Allow the user to group line items by vendor for multiple returns	✓				Receiving
5.4.8.	Print a return ticket/bill of lading for the return shipment on demand and automatically retrieve vendor return address and other shipping information for the return.	✓				Receiving
6. **Material Transfer Between Storage Facilities**						
6.1	Create a transfer request to replenish an item from another storage facility					
6.1.1.	Allow any location to transfer material to any other location	✓				Warehouse Inventory
6.1.2.	Designate default inventory location from which to transfer material	✓				Warehouse Inventory
6.1.3.	Automatically create a request when replenishment is triggered (requesting location; date and time; default G/L account number to charge; default location to transfer from; status indicator such as approved, pending, etc.; priority code; and date required, etc.)	✓				Warehouse Inventory
6.1.4.	Include unlimited line items per request (stock number, quantity, unit of measure, G/L account with default to header)	✓				Warehouse Inventory
6.1.5.	Allow manual creation of a transfer request	✓				Warehouse Inventory
6.1.6.	Allow edit/cancellation of transfer requests	✓				Warehouse Inventory
6.1.7.	Route transfer request to "transfer from" location upon approval	✓				Warehouse Inventory
6.1.8.	Reserve the requested quantity for each line item, if available	✓				Warehouse Inventory

Materials Management Requirements						
ID	Requirement	Off-the-shelf (O)	Off-the-shelf with Configuration (OC)	Customization (CM)	Comments	Module
6.1.9.	Flag "backordered" items (requested items not available)	✓				Warehouse Inventory
6.1.10.	Update quantity on order for requesting location	✓				Warehouse Inventory
6.1.11.	Include option for text comments or "notes" for header/line items	✓				Warehouse Inventory
6.2	Transfer material from an inventory location (transfer-out)					
6.2.1.	Print pick lists on demand, provide the flexibility to print one or multiple picks, and to determine the pick sequence (by bin, by destination, etc.)	✓				Warehouse Inventory
6.2.2.	Allow entry of transfer-out for the transfer request (quantity transferred for each line and date and time)	✓				Warehouse Inventory
6.2.3.	Allow entry of transfer-out without transfer request (date and time, default G/L account to charge, default transfer from inventory location, default requesting location, option for text comments for header/line items)	✓				Warehouse Inventory
6.2.4.	Allow partial transfers of requested material quantities	✓				Warehouse Inventory
6.2.5.	Allow for editing/adjusting transfer-out information	✓				Warehouse Inventory
6.2.6.	Print a shipping ticket/move ticket on demand for a transfer-out	✓				Warehouse Inventory
6.2.7.	Maintain transfer request line item status (e.g., open, backordered, picked, in-transit, closed)	✓				Warehouse Inventory
6.2.8.	Automatically update quantities on-hand and reserved	✓				Warehouse Inventory
6.2.9.	Hold transfer request lines open until filled or canceled	✓				Warehouse Inventory
6.2.10.	Permit user to consolidate multiple transfer requests into one or more pick lists, and determine the sequence (e.g., bin order, destination, priority or due date)	✓				Warehouse Inventory
6.3	Receive material transferred from an inventory location (transfer-in)					
6.3.1.	Enter a transfer-in receipt on-line against a transfer-out with quantity received for each line and date and time	✓				Warehouse Inventory
6.3.2.	Allow for editing/adjusting transfer-in information	✓				Warehouse Inventory
6.3.3.	Allow for editing original transfer request information	✓				Warehouse Inventory
6.3.4.	Automatically update quantity on-hand and on-order	✓				Warehouse Inventory
6.3.5.	Automatically update transfer request line status	✓				Warehouse Inventory
6.3.6.	Automatically close request when all lines transferred-in	✓				Warehouse Inventory
6.3.7.	Print or view material transfers in-transit by sending or receiving location or by WRD stock number	✓				Warehouse Inventory
6.3.8.	Record and highlight transfer-in receipt exceptions	✓				Warehouse Inventory
6.3.9.	Allow for returning items to originating location	✓				Warehouse Inventory
6.3.10.	Record transfer exception and resolution history	✓				Warehouse Inventory
6.3.11.	Include option for text comments or "notes" for header/line items	✓				Warehouse Inventory
6.3.12.	Display bin location for receiving storeroom put-away	✓				Warehouse Inventory
6.4	Perform an immediate transfer between locations					
6.4.1.	Perform simultaneous transfer-out and transfer-in transactions	✓				Warehouse Inventory
6.4.2.	Information requirements and processing same as for above transactions	✓				Warehouse Inventory

Materials Management Requirements						
ID	Requirement	Off-the-shelf (O)	Off-the-shelf with Configuration (OC)	Customization (CM)	Comments	Module
7. **Material Replenishment**						
7.1	Designate a replenishment method (and parameters) for each item at each location using min/max, on request only, or EOQ/ROP replenishment method	✓				Inventory Reorder
7.2	Designate default replenishment source for each item at each location (i.e., current purchase contract or blanket order, transfer from another storehouse, purchase requisition, internal repair)	✓				Inventory Reorder
7.3	Automatically generate inventory replenishment based on replenishment triggers (e.g. quantity on hand goes below a specified value)	✓				Inventory Reorder
7.3.1.	Designate replenishment responsibility by commodity code	✓				Inventory Reorder
7.3.2.	Automatically display/print a list of items in need of replenishment including WRD stock number, description, inventory location, quantity-on-hand, order quantity, quantity already on order, last vendor, last contract/PO number, last date ordered	✓				Inventory Reorder
7.3.3.	Automatically combine items with the same source or vendor (e.g. items on the same BPO release or covered by the same price agreement) by requesting location	✓				Inventory Reorder
7.3.4.	Allow user to edit replenishment data (quantity, due date, etc.)	✓				Inventory Reorder
7.3.5.	Provide capability to view current stock status and monthly usage history (at least 13 months) of parts identified for replenishment to analyze the need to adjust order quantities or parameters	✓				Inventory Reorder
7.3.6.	Provide the option to automatically modify order quantities based on projected demand for projects and campaigns	✓				Inventory Reorder
7.3.7.	Allow the user to manually combine/split items by source	✓				Inventory Reorder
7.3.8.	Allow the user to cancel replenishment for an item or add another item to the list	✓				Inventory Reorder
7.3.9.	Provide the option to redirect a replenishment quantity from the requesting location to another location, either another inventory locations or a non-inventory locations (drop shipment)	✓				Inventory Reorder
7.3.10.	Provide a method of identifying items and quantities whose shelf life is within a user designated time period of expiration and should be considered for replenishment	✓				Inventory Reorder
7.3.11.	Support on-line approval routing for inventory replenishment based on dollar levels	✓				Inventory Reorder
7.3.12.	Automatically create the appropriate documents (i.e., purchase requisition, purchase order, BPO release, transfer request from another location, and internal PO or work order) for approved replenishment	✓				Inventory Reorder

Materials Management Requirements						
ID	Requirement	Off-the-shelf (O)	Off-the-shelf with Configuration (OC)	Customization (CM)	Comments	Module
7.3.13.	Provide the option to automatically e-mail, fax, or otherwise electronically transmit orders directly to vendors for parts under a price agreement and receive an electronic confirmation from the vendor	✓				Inventory Reorder
7.3.14.	Automatically update the on-order quantity, order date, due date	✓				Inventory Reorder
7.4	Maintain and/or calculate replenishment information					
7.4.1.	Option to automatically or manually update average lead time by item based on receipts			✓		Receiving
7.4.2.	Option to automatically or manually calculate safety stock levels based on usage patterns, safety factors (probability of stock-out), etc.	✓				Warehouse Inventory
7.4.3.	Option to automatically or manually calculate ROP/EOQ parameters based on standard formula	✓				Warehouse Inventory
7.4.4.	Option to automatically calculate replenishment parameters (e.g. min/max values, etc.) based on pre-determined user defined formulas, or to enter manually.	✓				Warehouse Inventory
7.4.5.	Provide a method of distinguishing special or non-ordinary usage for a part (such as for a project or one-time use), and excluding this usage from on-going maintenance usage history used for replenishment calculations	✓				Warehouse Inventory
7.4.6.	Provide a method of executing replenishment processing for specific items based on material reservations and/or forecasted demand from maintenance, and projected lead time	✓				Warehouse Inventory
7.4.7.	Provide a historical comparison of actual versus forecast lead times for a user specified period of time for any combination of part, vendor, or both.	✓				Warehouse Inventory
7.4.8.	Automatically notify designated users of unusual or accelerated usage for a part	✓				Warehouse Inventory
8. **Cycle Counting/Physical Inventory**						
8.1	Maintain cycle count schedule					
8.1.1.	Maintain default cycle count frequency for each item	✓				Cycle Counting
8.1.2.	Allow user to set count frequencies by ABC class	✓				Cycle Counting
8.1.3.	Automatically create a cycle count schedule based on user options (rotate items for counts based on last cycle count date and count frequency, generate a random sample count schedule, schedule items for counts based on user specified range of bin locations, and schedule items for counts based on user specified stock number range)	✓				Cycle Counting
8.1.4.	Allow user to add/edit/delete items from count schedule	✓				Cycle Counting
8.1.5.	Print/display schedule on demand by count date	✓				Cycle Counting
8.2	Support regular cycle counts and physical inventory counts					
8.2.1.	Print count sheets on demand based on cycle count schedule/date	✓				Cycle Counting
8.2.2.	Print count sheets on demand for a user specified bin range	✓				Cycle Counting

Materials Management Requirements						
ID	Requirement	Off-the-shelf (O)	Off-the-shelf with Configuration (OC)	Customization (CM)	Comments	Module
8.2.3.	Support "blind" counts (current on-hand quantity not on count sheet) by inventory location, WRD stock number, part description, bin number (listed in bin order), date/time the count sheet is generated	✓				Cycle Counting
8.2.4.	Option to "freeze" transactions for the selected items until count is complete	✓				Cycle Counting
8.2.5.	Print count sheets on demand for a random sample	✓				Cycle Counting
8.2.6.	Support real-time counts using bar code readers (see bar code section)	✓				Cycle Counting
8.3	Support cycle/physical count reconciliation on-line					
8.3.1.	Allow on-line entry of counted quantities and count date for scheduled items	✓				Cycle Counting
8.3.2.	Allow the user to designate count tolerances by ABC classification	✓				Cycle Counting
8.3.3.	Highlight items with cycle count discrepancies (hold in suspense)	✓				Cycle Counting
8.3.4.	Generate "re-count" sheets on demand for item count discrepancies	✓				Cycle Counting
8.3.5.	Allow entry of re-counted quantities and count date	✓				Cycle Counting
8.3.6.	Allow the user to designate a resolution code for discrepancies	✓				Cycle Counting
8.3.7.	Allow the user to enter comments/notes	✓				Cycle Counting
8.3.8.	Automatically unfreeze items when counts match or errors resolved	✓				Cycle Counting
8.4	Generate cycle/physical count adjustments					
8.4.1.	Maintain default G/L accounts for count adjustments	✓				Cycle Counting
8.4.2.	Print/display detailed adjustment information	✓				Cycle Counting
8.4.3.	Generate adjustments to quantities on-hand and appropriate G/L accounts upon approval	✓				Cycle Counting
8.5	Track and report cycle counting/physical inventory performance					
8.5.1.	Count audit report -- all counts, entries and reconciliation actions	✓				Cycle Counting
8.5.2.	Inventory variance (dollars/items), before and after reconciliation	✓				Cycle Counting
8.5.3.	Inventory accuracy percentage, count variance trends, and averages by location	✓				Cycle Counting
8.5.4.	Count status (status of counts in progress)	✓				Cycle Counting
8.5.5.	Counting activity summary (i.e., items counted, reconciled, etc.)	✓				Cycle Counting
9. **Component Inventory and Serialization**						
9.1	Identify specified items as repairable components					
9.1.1.	Identify specific units in inventory by serial number for serialized components	✓				Warehouse Inventory

Materials Management Requirements						
ID	Requirement	Off-the-shelf (O)	Off-the-shelf with Configuration (OC)	Customization (CM)	Comments	Module
9.1.2.	Provide the capability to separately track components in inventory based on the component status (i.e. separate quantities, costs, bin numbers, etc.) for newly purchased, rebuilt or repaired items in good working order and items in bad working order and in need of repair	✓				Warehouse Inventory
9.1.3.	Provide the ability to value components differently based on the component's status (new, repaired, awaiting repair)	✓				Warehouse Inventory
9.1.4.	Allow for valuing bad components at standard cost (core value)	✓				Warehouse Inventory
9.1.5.	Allow for valuing good components at average or actual repair cost from component repair or rebuild work orders	✓				Warehouse Inventory
9.1.6.	Provide the ability to identify the quantity of units in each status for a specific component (i.e., quantity new, rebuilt, bad order)	✓				Warehouse Inventory
9.1.7.	Receive repaired components at the designated work cost for the rebuild work order	✓				Warehouse Inventory
9.2	Support exchange of bad components (requiring repair) or cores for good components from inventory					
9.2.1.	Designate items requiring an exchange of the bad part upon issue from inventory	✓				Warehouse Inventory
9.2.2.	Track and report exchanges pending by user and by location, based on components issued with no bad part exchange	✓				Warehouse Inventory
9.2.3.	Allow reclaim of bad component into inventory at WRD's designated costing method for bad order components	✓				Warehouse Inventory
9.2.4.	Track the receipt/reclaim of bad order parts to the work order that removed the part or to the asset ID if no work order exists, and credit the appropriate account based on WRD's designated costing method for bad components	✓				Warehouse Inventory
9.3	Support inventory transactions for component repair/rebuild					
9.3.1.	Issue bad components from inventory to a purchase order or internal rebuild order for repair	✓				Warehouse Inventory
9.3.2.	Track the number of bad components issued for repair by repair location (internal department number, vendor number, etc.)	✓				Warehouse Inventory
9.3.3.	Receive internally repaired components at the value specified by the work order cost	✓				Warehouse Inventory
9.3.4.	Receive externally repaired components at actual vendor repair cost plus standard core cost	✓				Warehouse Inventory
9.3.5.	Scrap unrepairable bad components from inventory; automatically generate inventory adjustments	✓				Warehouse Inventory
9.3.6.	Provide the capability to record changes in serial number when a vendor provides a replacement core or component	✓				Warehouse Inventory
9.4	Track specified items by serial number					
9.4.1.	Store serial number for individual components (units)	✓				Warehouse Inventory
9.4.2.	Record serial number on all inventory transactions	✓				Warehouse Inventory
9.4.3.	Maintain current status (condition, location) of serialized components	✓				Warehouse Inventory

Materials Management Requirements						
ID	**Requirement**	**Off-the-shelf (O)**	**Off-the-shelf with Configuration (OC)**	**Customization (CM)**	**Comments**	**Module**
9.4.4.	Allow on-line query of status and transaction history by serial number	✓				Warehouse Inventory
9.5	Support warranty related inventory transactions					
9.5.1.	Provide the option to issue good components from inventory for warranty failures at no charge to users (reduce good quantity on-hand)	✓				Warehouse Inventory
9.5.2.	Track components reclaimed as warranty failures (at good component cost) pending warranty repair	✓				Warehouse Inventory
9.5.3.	Issue components for warranty repair	✓				Warehouse Inventory
9.5.4.	Receive warranty repairs at zero repair cost (no inventory value adjustment, e.g., move quantity pending warranty to good quantity on-hand)	✓				Warehouse Inventory
10. **Capital Material Tracking**						
10.1	Allow for specifying material as purchased with public funds (capital material)	✓				Warehouse Inventory
10.2	Allow allocation of capital material by funding source and capital project number	✓				Warehouse Inventory
10.3	Allow for separate inventory value and quantity for capital material	✓				Warehouse Inventory
10.4	Track material on-hand, reserved, and issued by capital project/funding source	✓				Warehouse Inventory
10.5	Provide the capability to track “capital spares” (spare material purchased with an asset and included in the overall cost of the asset) without double charging when the material is used.	✓				Warehouse Inventory
11. **Lot Tracking**						
11.1	Provide the capability to track material by lot	✓				Warehouse Inventory
11.2	Define a lot designation for a group of inventory items, for example, those received in a specific vendor shipment or from a specific purchase order	✓				Warehouse Inventory
11.3	Provide a method of designating individual inventory items as belonging to a specific lot (such as separate bins for a lot, serial numbers in a lot, etc.)	✓				Warehouse Inventory
11.4	Include lot number on all transactions for lot tracked items	✓				Warehouse Inventory
11.5	Provide traceability for lot tracked items throughout their life cycle (purchase, receipt, issue, installation on an asset, failure, etc.)	✓				Warehouse Inventory
12. **Inventory Accounting/Valuation/Adjustments**						
12.1	Record G/L account numbers for all inventory transactions	✓				Warehouse Inventory
12.2	Allow inventory to be valued at a system average cost across all locations	✓				Warehouse Inventory
12.3	Automatically update inventory item value based on price related inventory transactions (e.g. receipts, returns to vendor, etc.)	✓				Warehouse Inventory

Materials Management Requirements						
ID	**Requirement**	**Off-the-shelf (O)**	**Off-the-shelf with Configuration (OC)**	**Customization (CM)**	**Comments**	**Module**
12.4	Automatically adjust inventory item value based on invoice price changes and cascade changes for transactions occurring since receipt	✓				Warehouse Inventory
12.5	Allow zero cost items without readjusting average cost (e.g. for capital spares, warranty replacements, etc.)	✓				Warehouse Inventory
12.6	Allow manual adjustment transactions for authorized users					
12.6.1.	Allow adjustments to physical quantity on-hand	✓				Warehouse Inventory
12.6.2.	Allow adjustments to inventory value	✓				Warehouse Inventory
12.6.3.	Allow changes in inventory valuation method	✓				Warehouse Inventory
12.6.4.	Allow inventory scrap/write-off transactions	✓				Warehouse Inventory
12.6.5.	Allow text comments/notes for each adjustment transaction	✓				Warehouse Inventory
12.6.6.	Allow default G/L account numbers for inventory adjustments	✓				Warehouse Inventory
12.6.7.	Generate G/L adjustment transactions for all value related inventory adjustments	✓				Warehouse Inventory
12.6.8.	Maintain audit trails for all inventory transactions	✓				Warehouse Inventory
12.7	Generate inventory adjustment reports					
12.7.1.	Adjustment audit trail with detail (user, date, time, authorization, etc)	✓				Performance Report
12.7.2.	Adjustment transactions by location and type	✓				Performance Report
12.7.3.	Adjustment transactions by G/L account	✓				Performance Report
13. **Inventory RF Bar Code Processing**						
13.1	Allow use of RF bar code readers on-line for all inventory transactions (issues, receipts, returns to stock, picks, reclaims, transfers, cycle counts, etc.), including transactions involving serialized inventory items	✓				Warehouse Inventory
13.2	Print bar code labels on demand by location, by item or bin sequence on system documents such as requests, receiving reports, etc.)	✓				Warehouse Inventory
13.3	Provide cycle count lists in bin order on hand held units	✓				Warehouse Inventory
13.4	Allow user to record counts on-line through hand-held units	✓				Warehouse Inventory

ATTACHMENT F

INSURANCE REQUIREMENTS

Minimum Scope and Limits of Insurance

Consultant/Contractor shall maintain limits no less than:

1. Commercial General Liability, including operations, products, and completed operations, as applicable:
   $1,000,000 per occurrence/**$2,000,000** aggregate for bodily injury, personal injury, and property damage. If Commercial General Liability or other form of insurance with a general aggregate limit is used, either the general aggregate limit shall apply separately to this project/location or the general aggregate limit shall be twice the required occurrence limit.
2. Automobile Liability:
   $1,000,000 per accident for bodily injury and property damage.
3. Workers' Compensation and Employer's Liability:
   Statutory limits as required by the State of California including **$1,000,000** Employers' Liability per accident, per employee for bodily injury or disease. A waiver of subrogation is required for Workers' Compensation insurance. If Consultant/Contractor is a sole proprietor, then they must sign "Contractor Release of Liability".
4. Cyber and Professional Liability/Errors and Omissions:
   $1,000,000 per occurrence.

Deductibles and Self-Insured Retention

All self-insured retentions (SIR) must be disclosed to Risk Management for approval and shall not reduce the limits of liability. Policies containing any self-insured retention (SIR) provision shall provide, or be endorsed to provide, that the SIR may be satisfied by either the named insured or the City of Livermore. The City of Livermore reserves the right to obtain a full certified copy of any insurance policy and endorsements. Failure to exercise this right shall not constitute a waiver of right to exercise later.

Acceptability of Insurers

Insurance is to be placed with insurers with a current A.M. Best rating of no less than A: VII and accepted to do business in the State of California, unless otherwise acceptable to the City of Livermore.

Other Insurance Provisions

The general liability and automobile liability policies are to contain, or be endorsed to contain, the following provisions:

1. The City of Livermore, its officers, officials, employees, and designated volunteers are to be covered as additional insureds as respects: liability arising out of activities performed by or on behalf of the Consultant/Contractor; or automobiles owned, leased, hired or borrowed by the Consultant/Contractor. The coverage shall contain no special

limitations on the scope of protection afforded to the City of Livermore, its officers, officials, employees, or volunteers.

2. The limits of insurance required in this agreement may be satisfied by a combination of primary and umbrella or excess insurance. The additional insured coverage under the Consultant's/Contractor's policy shall be primary and non-contributory and will not seek contribution from the City's insurance or self-insurance and shall be at least as broad as ISO Form CG 20 10 04 13. Any umbrella or excess insurance shall contain or be endorsed to contain a provision that such coverage shall also apply on a primary and non-contributory basis for the benefit of the City of Livermore before the City's own insurance or self-insurance shall be called upon to protect it as a named insured.
3. Any failure to comply with reporting or other provisions of the policy, including breaches of warranties, shall not affect coverage provided to the City of Livermore, its officers, officials, employees, or volunteers.
4. The Consultant's/Contractor's insurance shall apply separately to each insured against whom claim is made or suit is brought, except with respect to the limits of the insurer's liability.
5. Each insurance policy required by this clause shall be endorsed to state that coverage shall not be canceled by either party before expiration of the policy unless notice is delivered in accordance with policy provisions.
6. It shall be a requirement under this agreement that any available insurance proceeds broader than, or in excess of, the specified minimum insurance coverage requirements and/or limits shall be available to the additional insured. Furthermore, the requirements for coverage and limits shall be (1) the minimum coverage and limits specified in this agreement; or (2) the broader coverage and maximum limits of coverage of any insurance policy or proceeds available to the named Insured; whichever is greater.
7. Certificate Holder section of the insurance certificate should read: City of Livermore, 1052 S. Livermore Avenue, Livermore, CA 94550

Verification of Coverage

Consultant/Contractor shall furnish certificates of insurance and endorsement(s) effecting coverage to the City of Livermore for approval. The endorsements shall be on forms acceptable to the City of Livermore. All certificates and endorsements are to be received and approved by the City of Livermore before work commences. The City of Livermore reserves the right to require complete and certified copies of all insurance policies required by this Agreement.