AGREEMENT

THIS AGREEMENT by and between the **CITY AND COUNTY OF DENVER**, a municipal corporation of the State of Colorado (the "City") and **HARRIS CORPORATION**, a Delaware corporation, registered to do business in Colorado, whose address is 221 Jefferson Ridge Parkway, Lynchburg, Virginia 24501 ("Contractor").

1. <u>SERVICES TO BE PERFORMED</u>: Contractor, under the general direction of, and in coordination with, the Mayor's Office of Emergency Management and Homeland Security or other designated supervisory personnel (the "Manager") agrees to perform the services and to deliver the products described on attached **Exhibit A** (the "Statement of Work" or "SOW"). **Exhibit C**, Software License Agreement, is incorporated herein. Contractor shall be responsible for obtaining any and all permits or other required permission to proceed with this project.

2. DELIVERY AND ACCEPTANCE:

- **A.** If the City is not satisfied with the Contractor's performance of the services described in the SOW, the City will so notify Contractor within thirty (30) days after Contractor's performance thereof. Contractor will, at its own expense, re-perform the service within fifteen (15) days after receipt of City's notice of deficiency. The foregoing procedure will be repeated until City accepts or finally rejects the service in its sole discretion. In the event that City finally rejects any service, Contractor will refund to City all fees paid by City with respect to such service.
 - **TERM:** The term of the Agreement is from May 7, 2015 through May 31, 2016.

4. COMPENSATION AND PAYMENT:

A. <u>Fee:</u> The fee for the products and services described in the SOW is \$583,975.35 (the "Fee"). The Fee shall be paid pursuant to the City's Prompt Payment Ordinance. Payment of this project will be:

100% of equipment cost upon delivery and acceptance 50% of services and install at start of services 50% of services and install upon completion and acceptance

- **B.** Reimbursement Expenses: The fees specified above include all expenses, and no other expenses shall be separately reimbursed hereunder.
- **C.** <u>Invoicing:</u> Payment of all uncontested amounts shall be made in accordance with the City's Prompt Payment Ordinance. Invoices must include the following information:
 - An invoice number
 - City and County of Denver Contract number
 - Date

- Job title
- Work performed as identified by the item numbers in the pricing summary
- All invoices must include a detailed description of equipment including part numbers and descriptions, quantity and costs as well as detailed description of services provided.
- Service rates including detail of work performed by item number
- Dates of service
- Total reimbursement requested
- Remit to address
- Contact name and number for questions.

Invoices must be submitted electronically or by mail to:

Xochilt.Diaz@denvergov.org

Denver UASI Attn: Xochilt Diaz 1437 Bannock St Basement Room 3 Denver, CO 80128

D. Maximum Contract Liability:

- (i) Any other provision of this Agreement notwithstanding, in no event shall the City be liable for payment for services rendered and expenses incurred by Contractor under the terms of this Agreement for any amount in excess of the sum of FIVE HUNDRED AND EIGHTY THREE THOUSAND NINE HUNDRED AND SEVENTY FIVE DOLLARS AND THIRTY FIVE CENTS (\$583,975.35). Contractor acknowledges that any work performed by Contractor beyond that specifically authorized by the City is performed at Contractor's risk and without authorization under this Agreement.
- (ii) It is understood and agreed that any payment obligation of the City hereunder, whether direct or contingent, shall extend only to funds appropriated by the Denver City Council for the purpose of this Agreement, encumbered for the purpose of the Agreement and paid into the Treasury of the City. Contractor acknowledges that (a) the City does not by this Agreement, irrevocably pledge present cash reserves for payments in future fiscal years, and (b) this Agreement is not intended to create a multiple-fiscal year direct or indirect debt or financial obligation of the City.
- 5. STATUS OF CONTRACTOR: It is understood and agreed that the status of Contractor shall be that of an independent contractor and a person retained on a contractual basis to perform professional or technical services for limited periods of time as described in Section 9.1.2(C) of the Charter of the City; and it is not intended, nor shall it be construed, that Contractor or its employees are employees or officers of the City under Chapter 18 of the Denver Revised Municipal Code or for any purpose whatsoever. Contractor agrees that during the term of this Agreement it shall fully coordinate all services that it has been directed to proceed upon and shall make every reasonable effort to fully coordinate all such services as directed by the

Manager with any City agency, or any person or firm under contract with the City doing work which affects Contractor's work.

6. **TERMINATION**:

- **A.** The City has the right to terminate this Agreement, with or without cause, on thirty (30) days written notice. However, nothing herein shall be construed as giving Contractor the right to perform services under this Agreement beyond the time when such services become unsatisfactory to the Manager.
- **B.** If this Agreement is terminated by the City, Contractor shall be compensated for, and such compensation shall be limited to, (1) the sum of the amounts contained in invoices which it has submitted and which have been approved by the City; (2) the reasonable value to the City of the work which Contractor performed prior to the date of the termination notice, but which had not yet been approved for payment; and (3) the cost of any work which the Manager approves in writing which he determines is needed to accomplish an orderly termination of the work. The City shall be entitled to an immediate prorated refund of any prepaid fees for services not provided as of the date of termination.
- **C.** Upon termination of this Agreement by the City, Contractor shall have no claim of any kind whatsoever against the City by reason of such termination or by reason of any act incidental thereto, except for compensation for work satisfactorily performed as described herein.
- 7. <u>EXAMINATION OF RECORDS</u>: Contractor agrees that any duly authorized representative of the City, including the City Auditor, shall, until the expiration of three (3) years after the final payment under this Agreement, have access to and the right to examine any books, documents, papers and records of Contractor, involving transactions related to this Agreement.
- 8. WHEN RIGHTS AND REMEDIES NOT WAIVED: In no event shall any action by either Party hereunder constitute or be construed to be a waiver by the other Party of any breach of covenant or default which may then exist on the part of the Party alleged to be in breach, and the non-breaching Party's action or inaction when any such breach or default shall exist shall not impair or prejudice any right or remedy available to that Party with respect to such breach or default; and no assent, expressed or implied, to any breach of any one or more covenants, provisions or conditions of the Agreement shall be deemed or taken to be a waiver of any other breach.

9. <u>INSURANCE</u>:

A. General Conditions: Contractor agrees to secure, at or before the time of execution of this Agreement, the following insurance covering all operations, goods or services provided pursuant to this Agreement. Contractor shall keep the required insurance coverage in force at all times during the term of the Agreement, or any extension thereof, during any warranty period, and for three (3) years after termination of the Agreement. The required insurance shall be underwritten by an insurer licensed or authorized to do business in Colorado

and rated by A.M. Best Company as "A-"VIII or better. Contractor shall provide notification to the City in the event any of the required policies be canceled or non-renewed before the expiration date thereof. Such written notice shall be sent to the parties identified in the Notices section of this Agreement. Such notice shall reference the City contract number listed on the signature page of this Agreement. Said notice shall be sent thirty (30) days prior to such cancellation or non-renewal unless due to non-payment of premiums for which notice shall be sent ten (10) days prior. If such written notice is unavailable from the insurer, contractor shall provide written notice of cancellation, non-renewal and any reduction in coverage to the parties identified in the Notices section by certified mail, return receipt requested within three (3) business days of such notice by its insurer(s) and referencing the City's contract number. If any policy is in excess of a deductible or self-insured retention, the City must be notified by the Contractor. Contractor shall be responsible for the payment of any deductible or self-insured retention. The insurance coverages specified in this Agreement are the minimum requirements, and these requirements do not lessen or limit the liability of the Contractor. The Contractor shall maintain, at its own expense, any additional kinds or amounts of insurance that it may deem necessary to cover its obligations and liabilities under this Agreement.

- **B.** Proof of Insurance: Contractor shall provide a copy of this Agreement to its insurance agent or broker. Contractor may not commence services or work relating to the Agreement prior to placement of coverages required under this Agreement. Contractor certifies that the certificate of insurance attached as Exhibit B, preferably an ACORD certificate, complies with all insurance requirements of this Agreement. The City requests that the City's contract number be referenced on the Certificate. The City's acceptance of a certificate of insurance or other proof of insurance that does not comply with all insurance requirements set forth in this Agreement shall not act as a waiver of Contractor's breach of this Agreement or of any of the City's rights or remedies under this Agreement. The City's Risk Management Office may require additional proof of insurance, including but not limited to policies and endorsements.
- **C.** <u>Additional Insureds:</u> For Commercial General Liability, Auto Liability and Excess Liability/Umbrella, Contractor and subcontractor's insurer(s) shall name the City and County of Denver, its elected and appointed officials, employees and volunteers as additional insured.
- **D.** <u>Waiver of Subrogation:</u> For all coverages required under this Agreement, Contractor's insurer shall waive subrogation rights against the City except Technology errors and omissions including Cyber liability.
- E. <u>Subcontractors</u> and <u>Subconsultants</u>: All subcontractors and subconsultants (including independent contractors, suppliers or other entities providing goods or services required by this Agreement) shall be subject to all of the requirements herein and shall procure and maintain the same coverages required of the Contractor. Contractor shall include all such subcontractors as additional insured under its policies (with the exception of Workers' Compensation) or shall ensure that all such subcontractors and subconsultants maintain the required coverages. Contractor agrees to provide proof of insurance for all such subcontractors and subconsultants upon request by the City.

- shall maintain the coverage as required by statute for each work location and shall maintain Employer's Liability insurance with limits of \$100,000 per occurrence for each bodily injury claim, \$100,000 per occurrence for each bodily injury caused by disease claim, and \$500,000 aggregate for all bodily injuries caused by disease claims. Contractor expressly represents to the City, as a material representation upon which the City is relying in entering into this Agreement, that none of the Contractor's officers or employees who may be eligible under any statute or law to reject Workers' Compensation Insurance shall effect such rejection during any part of the term of this Agreement, and that any such rejections previously effected, have been revoked as of the date Contractor executes this Agreement.
- **G.** Commercial General Liability: Contractor shall maintain a Commercial General Liability insurance policy with limits of \$1,000,000 for each occurrence, \$1,000,000 for each personal and advertising injury claim, \$2,000,000 products and completed operations aggregate, and \$2,000,000 policy aggregate.
- **H.** <u>Business Automobile Liability:</u> Contractor shall maintain Business Automobile Liability with limits of \$1,000,000 combined single limit applicable to all owned, hired and non-owned vehicles used in performing services under this Agreement
- I. <u>Technology Errors & Omissions including Cyber Liability:</u> Contractor shall maintain Technology Errors and Omissions insurance including cyber liability, network security, privacy liability and product failure coverage with limits of \$1,000,000 per occurrence and \$1,000,000 policy aggregate.

J. Additional Provisions:

- (a) For Commercial General Liability and Excess Liability, the policies must provide the following:
 - (i) That this Agreement is an Insured Contract under the policy;
 - (ii) Defense costs are outside the limits of liability;
 - (iii) A severability of interests or separation of insureds provision (no insured vs. insured exclusion); and
 - (iv) A provision that coverage is primary and non-contributory with other coverage or self-insurance maintained by the City.
 - (b) For claims-made coverage:
 - (i) The retroactive date must be on or before the contract date or the first date when any goods or services were provided to the City, whichever is earlier
 - (c) Contractor shall advise the City in the event any general aggregate or other aggregate limits are reduced below the required per occurrence limits. At their own expense, and where such general aggregate or other aggregate limits have been reduced below the required per occurrence limit, the

Contractor will procure such per occurrence limits and furnish a new certificate of insurance showing such coverage is in force.

- **10. REPRESENTATION AND WARRANTY:** Contractor represents and warrants that:
- **A.** All services will be performed by qualified personnel in a professional and workmanlike manner, consistent with industry standards;
- **B.** all services will conform to applicable specifications and the Exhibits attached hereto:

11. DEFENSE AND INDEMNIFICATION:

- **A.** Contractor hereby agrees to defend, indemnify, and hold harmless City, its appointed and elected officials, agents and employees against all liabilities, claims, judgments, suits or demands for damages to third-party persons or property arising out of, resulting from, or relating to the Contractor's negligence or willful misconduct ("Claims") or if it is specifically determined by the trier of fact to be due to the sole negligence or willful misconduct of the City. This indemnity shall be interpreted in the broadest possible manner to indemnify City for any negligent acts or omissions of Contractor or its sub-contractors either passive or active, , except for the sole negligence or willful misconduct of City.
- **B.** Contractor's duty to defend and indemnify City shall arise at the time written notice of the Claim is first provided to City regardless of whether Claimant has filed suit on the Claim. Contractor's duty to defend and indemnify City shall arise even if City is the only party sued by claimant.
- C. Contractor will defend any and all Claims which may be brought or threatened against City and will pay on behalf of City any expenses incurred by reason of such Claims including, but not limited to, court costs and attorney fees incurred in defending and investigating such Claims or seeking to enforce this indemnity obligation. Such payments on behalf of City shall be in addition to any other legal remedies available to City and shall not be considered City's exclusive remedy.
- **D**. Insurance coverage requirements specified in this Agreement shall in no way lessen or limit the liability of the Contractor under the terms of this indemnification obligation. The Contractor shall obtain, at its own expense, any additional insurance that it deems necessary for the City's protection.
- **E**. This defense and indemnification obligation shall survive the expiration or termination of this Agreement.
- **F**. To the extent the Contractor is providing software to the City, the Contractor will, at Contractor's expense, indemnify, defend and hold harmless the City, its officers, agents and employees from and against any loss, cost, expense or liability (including but not limited to attorney's fees and awarded damages) arising out of a claim that the software, services, or their use by the City, infringe, violate or misappropriate a patent, copyright, trademark, trade secret or other intellectual property or proprietary right of any third party. The

City will promptly notify Contractor in writing of any claim and cooperate with Contractor and its legal counsel in the defense thereof. In addition to its indemnification obligations, Contractor may in its discretion (i) contest, (ii) settle, (iii) procure for the City the right to continue using the Software, or (iv) modify or replace the infringing Software so that it no longer infringes, as long as the functionality and performance are not degraded as reasonably determined by the City. The City may participate in the defense of such action at its own expense. If Contractor concludes in its reasonable judgment that none of the foregoing options are commercially reasonable, then Contractor will refund a pro rata portion (based on a 5 year straight line depreciation running from City's final acceptance of the Software) of the Software license fee(s) paid by the City under this Agreement and reimburse the City for all reasonable expenses for removal and replacement of the Software.

- **12.** <u>COLORADO GOVERNMENTAL IMMUNITY ACT</u>: The parties hereto understand and agree that the City is relying upon, and has not waived, the monetary limitations and all other rights, immunities and protection provided by the Colorado Governmental Act, § 24-10-101, et seq., C.R.S. (2003).
- **13.** TAXES, CHARGES AND PENALTIES: The City shall not be liable for the payment of taxes, late charges or penalties of any nature other than the compensation stated herein, except for any additional amounts which the City may be required to pay under D.R.M.C. § 20-107 to § 20-115.
- **14.** <u>ASSIGNMENT</u>: Contractor covenants and agrees that it will not assign or transfer its rights hereunder without first obtaining the written consent of the Manager. Any attempts by Contractor to assign or transfer its rights hereunder without such prior written consent of the Manager shall, at the option of said Manager, automatically terminate this Agreement and all rights of Contractor hereunder. Such consent may be granted or denied at the sole and absolute discretion of said Manager. A change in control of Contractor shall not constitute and assignment hereunder.
- 15. NO THIRD PARTY BENEFICIARY: It is expressly understood and agreed that enforcement of the terms and conditions of this Agreement, and all rights of action relating to such enforcement, shall be strictly reserved to the City and Contractor, and nothing contained in this Agreement shall give or allow any such claim or right of action by any other or third person on such Agreements. It is the express intention of the City and Contractor that any person other than the City or Contractor receiving services or benefits under this Agreement shall be deemed to be an incidental beneficiary only.
- **16. NO AUTHORITY TO BIND CITY TO CONTRACTS:** Contractor has no authority to bind the City on any contractual maters. Final approval of all contractual matters which obligate the City must be by the City, as required by Charter and ordinance.
- 17. <u>AGREEMENT AS COMPLETE INTEGRATION-AMENDMENTS</u>: This Agreement, including any exhibit attached hereto (each of which is specifically incorporated herein) is intended as the complete integration of all understandings between the parties. No prior contemporaneous or subsequent addition, deletion, or other amendment hereto shall have

any force or effect, unless embodied herein in writing, and executed in the same manner as this Agreement.

18. SEVERABILITY: The parties agree that if any provision of this Agreement or any portion thereof is held to be invalid, illegal, or unenforceable by a court of competent jurisdiction, the validity of the remaining portions or provisions shall not be affected.

19. <u>CONFLICT OF INTEREST</u>:

- **A.** The parties agree that no employee of the City shall have any personal or beneficial interest whatsoever in the services or property described herein; and Contractor further agrees not to hire or contract for services any employee or officer of the City which would be in violation of the Denver Revised Municipal Code, Chapter 2, Article IV, Code of Ethics, or Denver City Charter §§ 1.2.8, 1.2.9, and 1.2.12.
- **B.** Contractor agrees that it will not engage in any transaction, activity or conduct which would result in a conflict of interest under this Agreement. Contractor represents that it has disclosed any and all current or potential conflicts of interest. A conflict of interest shall include transactions, activities or conduct that would affect the judgment, actions or work of Contractor by placing Contractor's own interests, or the interests of any party with whom Contractor has a contractual arrangement, in conflict with those of the City. The City, in its sole discretion, shall determine the existence of a conflict of interest and may terminate this Agreement in the event such a conflict exists after it has given Contractor written notice which describes the conflict. Contractor shall have thirty (30) days after the notice is received to eliminate or cure the conflict of interest in a manner which is acceptable to the City.
- **20. NOTICES**: All notices required by the terms of the Agreement must be hand delivered, sent by overnight courier service, mailed by certified mail, return receipt requested, or mailed via United States mail, postage prepaid, if to Consultant at the address first above written, and if to the City at:

Chief Information Officer or Designee 201 West Colfax Avenue, Dept. 301 Denver, Colorado 80202

With a copy of any such notice to:

Denver City Attorney's Office 1437 Bannock St., Room 353 Denver, Colorado 80202

Notices hand delivered or sent by overnight courier are effective upon delivery. Notices sent by certified mail are effective upon receipt. Notices sent by mail are effective upon deposit with the U.S. Postal Service. The parties may designate substitute addresses where or persons to whom notices are to be mailed or delivered. However, these substitutions will not become effective until actual receipt of written notification.

- **21. <u>DISPUTES</u>:** All disputes of whatever nature between the City and Contractor regarding this Agreement shall be resolved by administrative hearings pursuant to the procedure established by Denver Revised Municipal Code, § 56-106(b), et seq. For the purposes of that procedure, the City official rendering a final determination shall be the City representative identified in Paragraph 1 hereof.
- **22. GOVERNING LAW; VENUE:** This Agreement shall be construed and enforced in accordance with the laws of the State of Colorado, the Charter and Revised Municipal Code of the City and County of Denver, and the ordinances, regulations and Executive Orders enacted and/or promulgated pursuant thereto, including any amendments. The Charter and Revised Municipal Code of the City and County of Denver, as the same may be amended from time to time, are hereby expressly incorporated into this Agreement as if fully set out herein by this reference. Venue for any legal action relating to this Agreement shall lie in the District Court in and for the City and County of Denver.
- 23. <u>NO DISCRIMINATION IN EMPLOYMENT:</u> In connection with the performance of work under this Agreement, Contractor agrees not to refuse to hire, discharge, promote or demote, or to discriminate in matters of compensation against any person otherwise qualified, solely because of race, color, religion, national origin, gender, age, military status, sexual orientation, marital status, or physical or mental disability; and Contractor further agrees to insert the foregoing provision in all subcontracts hereunder.
- 24 <u>USE, POSSESSION OR SALE OF ALCOHOL OR DRUGS</u>: While present on City property for purposes of this Agreement Contractor shall cooperate and comply with the provisions of Executive Order 94 and its Attachment A thereto concerning the use, possession or sale of alcohol or drugs. Violation of these provisions or refusal to cooperate with implementation of the policy can result in the City barring Contractor from City facilities or participating in City operations.

25. CONFIDENTIAL INFORMATION; OPEN RECORDS:

A. <u>City Information</u>: Contractor acknowledges and accepts that, in performance of all work under the terms of this Agreement, Contractor may have access to Proprietary Data or confidential information that may be owned or controlled by the City, and that the disclosure of such Proprietary Data or information may be damaging to the City or third parties. Contractor agrees that all Proprietary Data, confidential information or any other data or information provided or otherwise disclosed by the City to Contractor shall be held in confidence and used only in the performance of its obligations under this Agreement. Contractor shall exercise the same standard of care to protect such Proprietary Data and information as a reasonably prudent contractor would to protect its own proprietary or confidential data. "Proprietary Data" shall mean any materials or information which may be designated or marked "Proprietary" or "Confidential", or which would not be documents subject to disclosure pursuant to the Colorado Open Records Act or City ordinance, and provided or made available to Contractor by the City. Such Proprietary Data may be in hardcopy, printed, digital or electronic format.

B. <u>Use and Protection of Proprietary Data or Confidential Information:</u>

- (i) Except as expressly provided by the terms of this Agreement, Contractor agrees that it shall not disseminate, transmit, license, sublicense, assign, lease, release, publish, post on the internet, transfer, sell, permit access to, distribute, allow interactive rights to, or otherwise make available any data, including Proprietary Data or confidential information or any part thereof to any other person, party or entity in any form of media for any purpose other than performing its obligations under this Agreement. Contractor further acknowledges that by providing data, Proprietary Data or confidential information, the City is not granting to Contractor any right or license to use such data except as provided in this Agreement. Contractor further agrees not to disclose or distribute to any other party, in whole or in part, the data, Proprietary Data or confidential information without written authorization from the Manager and will immediately notify the City if any information of the City is requested from the Contractor from a third party.
- (ii) Contractor agrees, with respect to the Proprietary Data and confidential information, that: (1) Contractor shall not copy, recreate, reverse engineer or decompile such data, in whole or in part, unless authorized in writing by the Manager; (2) Contractor shall retain no copies, recreations, compilations, or decompilations, in whole or in part, of such data; and (3) Contractor shall, upon the expiration or earlier termination of the Agreement, destroy (and, in writing, certify destruction) or return all such data or work products incorporating such data or information to the City.
- (iii) Contractor shall develop, implement, maintain and use appropriate administrative, technical and physical security measures to preserve the confidentiality, integrity and availability of all electronically maintained or transmitted data received from, or on behalf of City. It is the responsibility of the Contractor to ensure that all possible measures have been taken to secure the computers or any other storage devices used for City data. This includes industry accepted firewalls, up-to-date anti-virus software, controlled access to the physical location of the hardware itself.
- C. <u>Employees and Sub-Contractor</u>: Contractor will inform its employees and officers of the obligations under this Agreement, and all requirements and obligations of Contractor under this Agreement shall survive the expiration or earlier termination of this Agreement. Contractor shall not disclose Proprietary Data or confidential information to subcontractors unless such subcontractors are bound by non-disclosure and confidentiality provisions at least as strict as those contained in this Agreement.
- **D.** <u>Disclaimer</u>: Notwithstanding any other provision of this Agreement, the City is furnishing Proprietary Data and confidential information on an "as is" basis, without any support whatsoever, and without representation, warranty or guarantee, including but not in any manner limited to, fitness, merchantability or the accuracy and completeness of the Proprietary Data or confidential information. Contractor is hereby advised to verify its work. The City assumes no liability for any errors or omissions herein. Specifically, the City is not responsible for any costs including, but not limited to, those incurred as a result of lost revenues, loss of use of data, the costs of recovering such programs or data, the cost of any substitute program, claims

by third parties, or for similar costs. If discrepancies are found, Contractor agrees to contact the City immediately.

Ε. **Contractor's Information:** To the extent applicable in this Agreement, the City understands and agrees that the Contractor's software and documentation including, but not limited to, source code, object code, the interface requirements document(s), acceptance test procedures, the Statement of Work, the software design, structure and organization, software screens, the user interface and the engineering know-how implemented in the software (collectively "Contractor Confidential Information") constitute the valuable properties and trade secrets of Contractor, embodying substantial creative efforts which are secret, confidential, and not generally known by the public, and which secure to Contractor a competitive advantage. The City agrees during the term of this Agreement and any license granted hereunder, and thereafter, to hold the Contractor Confidential Information including any copies thereof and any documentation related thereto, in strict confidence and to not permit any person or entity to obtain access to it except as required for the City's exercise of the license rights granted hereunder, and except as required by the parties understand that all the material provided or produced under this Agreement may be subject to the Colorado Open Records Act., § 24-72-201, et seq., C.R.S. (2003). In the event of a request to the City for disclosure of such information, the City shall advise Contractor of such request in order to give Contractor the opportunity to object to the disclosure of any of its Contractor Confidential Information and take necessary legal recourse. In the event of the filing of a lawsuit to compel such disclosure, the City will tender all such material to the court for judicial determination of the issue of disclosure and Contractor agrees to intervene in such lawsuit to protect and assert its claims of privilege against disclosure of such material or waive the same. Contractor further agrees to defend, indemnify and save and hold harmless the City, its officers, agents and employees, from any claim, damages, expense, loss or costs arising out of Contractor's intervention to protect and assert its claim of privilege against disclosure under this Article including but not limited to, prompt reimbursement to the City of all reasonable attorney fees, costs and damages that the City may incur directly or may be ordered to pay by such court.

26. LEGAL AUTHORITY:

- **A.** Contractor assures and guarantees that it possesses the legal authority, pursuant to any proper, appropriate and official motion, resolution or action passed or taken to enter into this Agreement.
- **B.** The person signing and executing this Agreement on behalf of Contractor does hereby warrant and guarantee that he has been fully authorized by Contractor to execute this Agreement on behalf of Contractor and to validly and legally bind Contractor to all the terms, performances and provisions herein set forth.
- C. The City shall have the right, at its option, to either temporarily suspend or permanently terminate this Agreement, if there is a dispute as to the legal authority of either Contractor or the person signing the Agreement to enter into this Agreement.
- **27. NO CONSTRUCTION AGAINST DRAFTING PARTY:** Each of the Parties acknowledge that they and their respective counsel have had the opportunity to review this

Agreement, and that this Agreement shall not be construed against any party merely because this Agreement or any of its provisions have been prepared by a particular party.

- **28.** CONTRACT DOCUMENTS; ORDER OF PRECEDENCE: In the event of any conflicts between the language of this Agreement and the exhibits, the language of the Agreement shall control
- 29. SURVIVAL OF CERTAIN PROVISIONS: The parties understand and agree that all terms and conditions of this Agreement together with the exhibits and attachments hereto which, by reasonable implication, contemplate continued performance or compliance beyond the termination of this Agreement (by expiration of the term or otherwise) shall survive such termination and shall continue to be enforceable as provided herein. Without limiting the generality of the foregoing, the Contractor's obligations for the provision of insurance and to indemnify the City shall survive for a period equal to any and all relevant statutes of limitation, plus the time necessary to fully resolve any claims, matters, or actions begun within that period.
- **30. INUREMENT:** The rights and obligations of the parties herein set forth shall inure to the benefit of and be binding upon the parties hereto and their respective successors and assigns permitted under this Agreement.
- 31. <u>TIME IS OF THE ESSENCE</u>: The parties agree that in the performance of the terms, conditions, and requirements of this Agreement, time is of the essence.
- **32. FORCE MAJEURE**: Neither party shall be responsible for failure to fulfill its obligations hereunder or liable for damages resulting from delay in performance as a result of war, fire, strike, riot or insurrection, natural disaster, unreasonable delay of carriers, governmental order or regulation, complete or partial shutdown of plant, unreasonable unavailability of equipment or software from suppliers, default of a subcontractor or vendor (if such default arises out of causes beyond their reasonable control), the actions or omissions of the other party or its officers, directors, employees, agents, vendors or elected officials and/or other substantially similar occurrences beyond the party's reasonable control ("Excusable Delay") herein. In the event of any such Excusable Delay, time for performance shall be extended for a period of time as may be reasonably necessary to compensate for such delay.
- **33. PARAGRAPH HEADINGS:** The captions and headings set forth herein are for convenience of reference only, and shall not be construed so as to define or limit the terms and provisions hereof.
- **34.** <u>CITY EXECUTION OF AGREEMENT</u>: This Agreement is expressly subject to and shall not be or become effective or binding on the City until it has been fully executed by all signatories of the City and County of Denver.
- **35. COUNTERPARTS OF THIS AGREEMENT:** This Agreement may be executed in counterparts, each of which shall be deemed to be an original of this Agreement.

36. ELECTRONIC SIGNATURES AND ELECTRONIC RECORDS: Contractor consents to the use of electronic signatures by the City. The Agreement, and any other documents requiring a signature hereunder, may be signed electronically by the City in the manner specified by the City. The Parties agree not to deny the legal effect or enforceability of the Agreement solely because it is in electronic form or because an electronic record was used in its formation. The Parties agree not to object to the admissibility of the Agreement in the form of an electronic record, or a paper copy of an electronic document, or a paper copy of a document bearing an electronic signature, on the ground that it is an electronic record or electronic signature or that it is not in its original form or is not an original.

37. <u>LIMITATION OF LIABILITY:</u>

- A. Except for Seller's liability as described in the Indemnification Section of this Agreement, the total liability of Seller, including its subcontractors or suppliers, for all claims of any kind for any loss or damage, whether in contract, warranty, tort (including negligence or infringement), strict liability or otherwise, arising out of, connected with, or resulting from the performance or non-performance of this Agreement or from the manufacture, sale, delivery, installation, technical direction of installation, resale, repair, replacement, licensing or use of any Hardware, Software or the furnishing of any Service, shall not exceed the three times the total contract amount. Except as to title, any such liability shall terminate upon the expiration of the Warranty Period.
- **B.** IN NO EVENT, WHETHER AS A RESULT OF BREACH OF AGREEMENT, WARRANTY, TORT (INCLUDING NEGLIGENCE OR INFRINGEMENT), STRICT LIABILITY OR OTHERWISE, SHALL SELLER, OR ITS SUBCONTRACTORS OR SUPPLIERS, BE LIABLE FOR ANY SPECIAL, CONSEQUENTIAL, INCIDENTAL, INDIRECT OR EXEMPLARY DAMAGES INCLUDING, BUT NOT LIMITED TO, LOSS OF PROFITS OR REVENUES, LOSS OF USE OF THE HARDWARE OR ANY OTHER EQUIPMENT, COST OF CAPITAL, COST OF SUBSTITUTE GOODS, FACILITIES, SERVICES OR DOWNTIME COSTS.
- C. The provisions of this Section, LIMITATION OF LIABILITY, shall apply notwithstanding any other provisions of this Agreement or any other agreement.
- D. The provisions of this Section, LIMITATION OF LIABILITY, shall survive the expiration or termination of this Agreement.

EXHIBITS
A-SCOPE OF WORK
B-CERTIFICATE OF INSURANCE
C-SOFTWARE LICENSE AGREEMENT

A-SCOPE OF WORK

Table of Contents

- 1. Introduction
- 2. Statement of Work
 - 2.1 Implementation Plan
 - 2.2 Site Responsibility Matrix
 - 2.3 Schedule
- 3. Pricing
- 4. Acceptance Testing
- 5. Coverage Maps
- 6. Contractual Documentation



Introduction 1_

Harris appreciates the opportunity to provide this proposal to the City of Lakewood for a P25 Phase 1, 800 MHz site expansion at North Table Mountain. As a long-term partner we value your business and offer this proposal with the expectation that you continue to recognize our value proposition and technical expertise.

1.1 Overview

The following provides an overview of the current system, the site expansion and detailed approach to the work required to make North Table Mountain a fully operational site:

- **Network Infrastructure:**
 - Leverage the Existing SR10A Geographically-split, High Availability Network Switching Center (NSC) equipment located at the City of Denver's 911 facility at 950 Josephine, and the City of Lakewood's Emergency Operations Center on Allison.
 - P25 License/Software upgrades are added to the NSC
- P25 Site Infrastructure:
 - Continue operating the Existing P25 800 MHz radio sites at Green Mountain and Mt Morrison
 - Harris has included a new P25 800 MHz trunked radio site at North Table Mountain
 - Eight (8) trunked P25 RF channels using MASTR V base station technology
 - New antenna system
- Backhaul:
 - The City of Lakewood has an Alcatel Lucent microwave backhaul solution in operation today. Harris has included as an optional link to connect the new site at North Table Mountain to the Green Mountain site.

Harris Benefits

- Partnership: Our long-standing partnership allows us to have an intimate understanding of your network, thus allowing sound technical and fiscally responsible solutions to meet or exceed your Land Mobile Radio needs
- Coverage: Provided for your review is the improved coverage characteristics Lakewood will realize from the addition of the site at North **Table Mountain**
- **Expandable and Configurable** for a Long Life Cycle: The scalability of Lakewood's P25 network allows the addition of a site to meet your ever growing and continuously changing needs. We have leveraged the existing VIDA core equipment to economically accommodate the site addition at North Table Mountain.

- Site Developments:
 - Leverage Existing Tower, shelter, electrical and backup generator
 - Harris assumes that sufficient space is available within the shelter for the proposed new equipment
 - A new -48 VDC plant at the North Table Mountain site is being provided
- Services:
 - Project Management
 - System Engineering and Network Engineering
 - Functional Testing of the new P25 site
 - Coverage Characterization
 - Antenna, DC plant and equipment installations will be Lakewood's responsibility

1.2 System Summary

The City of Lakewood currently operates on:

- A two(2) site P25 Multisite system
 - 8 channel, 800 MHZ P25 Phase 1 site at Green Mountain
 - 8 channel, 800 MHZ P25 Phase 1 site at Mount Morrison
 - There is also an existing SR10A VIDA core, with existing geographically split high availability Network Switching Centers (NSC):



P25T 800 MHz MULTISITE NETWORK LEGEND EXISTING INFRASTRUCTURE **Primary Network Switching Center** P25T Multisite Tx/Rx Site Unitrends DPU North Table Mountain Migration Gateway P25T Multisite Tx/Rx Site Josephine St. Secondary Network Switching Center IP WAN/LAN P25T Multisite Tx/Rx Site Unitrends DPU EDACS Carrie NICE Logging 9 Symphony 4 InterOp 4 Symphony

Figure 1. High Level System Block Diagram



1.3 VIDA Network Switching Center Overview– Existing Denver Metro VIDA Core

By leveraging the existing Harris SR10A High-Availability Network Switching Centers (NSCs) in Denver and Lakewood, Harris is able to expand the existing Lakewood system without costly upgrades or forklifts.

1.4 P25 Coverage Overview

Harris coverage predictions rely on analysis using the following parameters:

- Geographical site locations (i.e. site coordinates)
- Antenna positions on the tower
- Antenna height on the tower
- Allowable transmit ERP levels (i.e. FCC licensed ERP)
- Antenna and Combiner subsystem components
- Coverage ATP test methods

Harris' coverage design for the new 8 channel trunked P25 site at North Table Mountain provides balanced talk-out and talk-back coverage with the use of a tower top amplifier. Harris is proposing a single transmit antenna feedline and a single 8-channel combiners on the transmit line. DIN connectors are proposed on the antennas and subsystems in order to lower any Passive Intermodulation concerns. Harris is proposing a single receive antenna feedline with use of Combilent multicoupler and TTAs on the receive line. The TTA includes a bypass option as well as ½ inch line for test port. We have modeled the existing two sites at Green Mountain and Mt Morrison based on customer documentation of the as-built system.

Harris has taken special care to design a P25 system with site balance. This means that the talk-out and talk-back horizon coverage footprints need to be similar and comparable without one exceeding the other. In order to balance Green Mountain, the ERPs from this existing transmit site were reduced to match coverage for talk out (base to portable) and talk back (portable to base). Therefore, the existing design sites operate on significantly lower Effective Radiated Power (ERP) than what the City is currently licensed for.



In order to balance the Mt Morrison site, the ERP from this existing transmit site needs to be increased past the licensed ERP. Figure 2 provides some details on the existing sites.

Figure 2. Site Details

Site Name	Latitude	Longitude	Combiner	TX Ant ht	Tx ant model	RX Ant ht	RX ant model	Multicoupler	TTA
* 2015 Green Mountain	39.6961	-105.166	WIJD862	78	101-90-08-3- 03N	58	101-90-08-3- 03N	RMC80-0184- 24	422-86A-07-25
North Table Mtn	39.78466	-105.216	DSCC85	80	101-90-08-0- 03N	100	101-90-08-0- 03N	CP00933	CP00732
* Mt Morrison 2015	39.67166	-105.219	WIJD862	214	SE419- SF1P4LDF	214	SE419- SF1P4LDF	RMC80-0184- 24	TMA85-0-SD

Notes: Sites with * have a downtilt



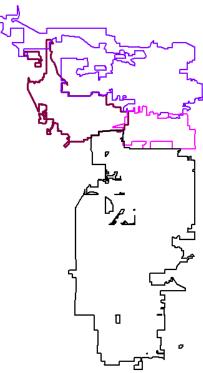
1.4.1 RAPTR Propagation Model

The City of Lakewood is already familiar with Harris' coverage propagation software known as RAPTR (Radio Analysis and Propagation Tool Repository). RAPTR propagation modeling is compatible with Telecommunications Industry Association (TIA) Telecommunications Systems Bulletin TSB88-D "Wireless Communications Systems - Performance in Noise and Interference Limited Situations – Recommended Methods for Technology-Independent Modeling, Simulation, and Verification."

Harris engineers evaluated the existing and the new proposed coverage in multiple service areas. This will show the City of Lakewood users the coverage footprint in City of Lakewood boundaries, Fairmont Fire district and the City of Arvada boundaries. We believe that with these additional boundaries, the users will clearly be able to see the value added by North Table Mountain site to the existing radio system.

The following color codes will help Lakewood identify the different boundaries on the map.

- City of Lakewood and West Metro Fire Black
- City of Arvada Purple
- Fairmont Fire District Burgundy
- Wheat Ridge boundary Pink







1.4.2 Coverage Comparison

Harris has evaluated the coverage from the existing 2-site multisite system and the addition of the new site at North Table Mountain. The table below highlights the existing predicted portable on street and the proposed portable on street coverage from the 3 site design within the multiple boundaries. Each scenario shows an improved P25 portable on street coverage with the addition of the new site.

½ mi grids	Existing 2 site System Portable Outdoor Coverage (Information only potential coverage)	Addition of new NTM site Portable Outdoor Coverage (Information only potential coverage)	Summary /Delta
City of Lakewood (400 accessible grids)	94%	96%	2 % increase Marginal increase
Arvada Boundary (180 accessible grids)	81%	88%	7 % increase Relevant Improvement
Fairmont Fire Distrct (100 accessible grids)	66%	93%	27% increase Significant increase
Wheat Ridge (45 accessible grids)	95%	95%	Similar coverage

Figure 3. Portable On-street Radio Coverage Comparisons

Harris' coverage design is based on service area reliability. Service area reliability is the probability of achieving DAQ 3.4 voice quality throughout the City of Lakewood's defined service area. This approach provides superior coverage compared to a design based on covered area reliability. Covered area reliability is the probability of achieving DAQ 3.4 voice quality for only those tiles in which coverage is predicted.

The coverage map below provides an overview of coverage with the new site at North Table Mountain.

- Blue Areas where the predicted reliability is equal to or greater than 95% reliability for DAQ 3.4 communications
- White Areas predicted to have less than DAQ 3.4 communications or DAQ 3.4 communications with less than 95% reliability
- Pink Design Sites
- Light blue Primary and Secondary roads



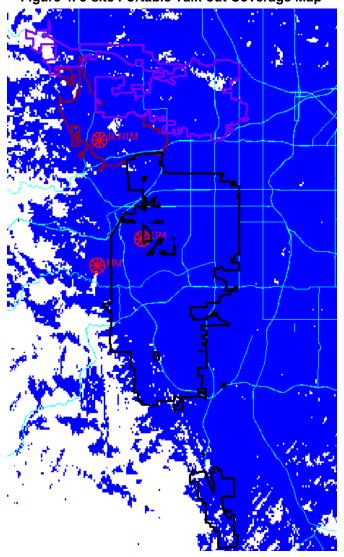


Figure 4. 3-site Portable Talk-out Coverage Map

Harris has produced maps showing both the existing 2-site coverage and the predicted 3-site coverage for the 800 MHz, P25 Trunked radio system at DAQ3.4. The figure below identifies the maps included in the coverage maps section of this proposal.



Figure 5. Coverage Maps Provided with the Proposal

#	Name
1	Existing Portable Talk-out Coverage FOR INFORMATION ONLY
2	Existing Portable Talk-back Coverage FOR INFORMATION ONLY
3	Three Site Portable Talk-out Coverage FOR INFORMATION ONLY
4	Three Site Portable Talk-back Coverage FOR INFORMATION ONLY

1.4.3 Frequency Planning

The City of Lakewood will be responsible for obtaining any licenses for new frequencies or modifying existing licenses for use at the new proposed P25 site at North Table Mountain, including all requisite and coordination fees.

Harris will continue to use the existing antenna systems at the existing sites. For the new site, Harris proposes a single 8 channel combiner on the transmit feed line with a minimum spacing of 150 kHz between the transmit frequencies.

With the single site addition and modification to the existing sites base station output power, Harris has provided a design that not only meets all coverage requirements, but will also be acceptable for licensing purposes.

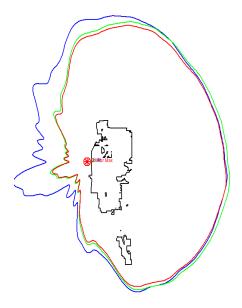
Figure 6. Site Transmit ERPs

Site Name	Licensed ERP	Max ERP	ERP required to balance the site	Design ERP within Licensed ERP	Site Contour within Licensed contour
Green Mountain	120 W	120 W	74.1 W	Yes	Yes
Mt Morrison	120 W	120 W	140 W	No	Yes
North Table Mountain	N/A	N/A	110 W	N/A	N/A



The ability to license a given site's transmit levels is restricted predominately by its 40 dBu frequency contours. Harris has simulated the 40 dBu frequency contours of your current license and restricted the 40dBu contours for the design sites of the project to remain within these boundaries. The current frequency boundaries as well as the proposed boundaries are shown in the figures below.





- Contour in blue shows licensed site contours with 120 W ERP
- Contour in red shows maximum power licensed at the site at 120 W ERP
- Contour in green shows the balanced designed site contour at 140 W ERP



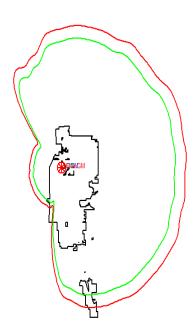


Figure 8. Green Mountain Contour Analysis

- Contour in blue shows licensed site contours with 120 W ERP (not visible because it is behind the red maximum power contour).
- Contour in red shows maximum power licensed at the site at 120 W ERP
 - Blue contour = Red contour
- Contour in green shows the balanced designed site contour at 74.1W ERP



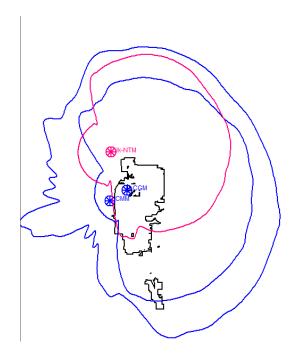


Figure 9. Proposed contour for new site at North Table Mountain

- Contour in blue shows the existing licenses under the call sign -WPKI253 at Green Mountain and Mt. Morrison
- Contour in pink is the proposed contour of the new site at North Table Mountain.

1.5 Overview of Site Equipment

The City of Lakewood is already familiar with the MASTR V base station design. This base station powers secure digital trunked voice and data communications via P25. The MASTR V sends IP voice and data packets over the P25 network enabling all of the advantages of Harris' IP-based technology platform including:

- Seamless integration of off-the-shelf IP data applications
- Economical routing and backhaul of network data
- Distributed IP architecture, a key requirement for public safety users
- The MASTR V station supports the following industry-leading functionality:
- P25 Conventional, Phase 1 (FDMA), and P25 Phase 2 (TDMA) capability
- Linear simulcast for superior coverage



- Compact and integrated hardware allowing up to eight channels per cabinet or rack
- MASTR V base stations are IP-based and connect to the core network through an Ethernet switch and router.

This distributed architecture provides advantages for voice (working) and control channel operation; allowing all channels to support both functions, and achieves a greater level of reliability. Harris' P25 architecture allows any channel in the trunking stack to operate as the control channel instead of a subset of channels. This distributed control channel architecture means all channels must fail for the site to fail completely. If a channel fails or is impacted by interference, it is simply removed from service, and full trunking operation continues.

Any MASTR V channel at a site can operate as a control channel, providing greater system resiliency. Other manufacturer systems limit the number stations that can act as control channels. Thus, certain failures force the trunked site to failsoft to conventional, a limitation not relevant to Harris' trunked systems.

The latest hardware and software deployed on the MASTR V base stations and its related modules is R14.

1.5.1 Network Sentry

The Network Sentry allows users to create a flexible work environment tailored to help improve efficiency and productivity. The Network Sentry remote alarm and control unit fault-monitoring services take input from sitealarm sensors, RF power sensors, digital input/output (I/O), and channel test services at



RF sites. The Network Sentry presents alarms to the RNM or other external management systems via SNMP. It identifies in detail the location, severity, and status of faults, alarms, and component failures.

The Network Sentry has an array of digital inputs and outputs. These can be configured to indicate faults in devices, such as tower beacons, doors, temperature alarms, etc., that require remote controlling and monitoring. Sent through the network to the RNM, this information allows users to make quick, informed decisions to meet their needs and to adapt as those needs change. Harris will also provide analog interfaces capable of monitoring items varying items such as fuel levels and battery voltages.

The Network Sentry includes an array of digital Input/Outputs (I/Os) configurable to indicate faults in devices such as tower beacons, doors, temperature alarms, etc. that require remote controlling and monitoring. This information is sent to the NMS, allowing administrators to make quick, informed decisions to meet their needs and to adapt as those needs change.



1.5.2 Transmit Site Requirements

The City of Lakewood will be responsible for providing shelter, space and electrical at the new site. Harris has highlighted the space requirements below. Harris also recommends three feet of space in front and in back of the equipment to allow for equipment testing and maintenance.

- One rack of base station equipment
- One rack of combining equipment
- One new rack of new -48V DC plants for MASTR V and two new battery strings

Figure 10. New P25 Repeater Equipment and combining equipment Rackup







1.6 Overview of Backhaul

Harris has examined the existing microwave topology that is currently operating from Alcatel Lucent. The figure below the Core Ring that connects the Primary and Secondary NSC locations together and the existing and new hops.

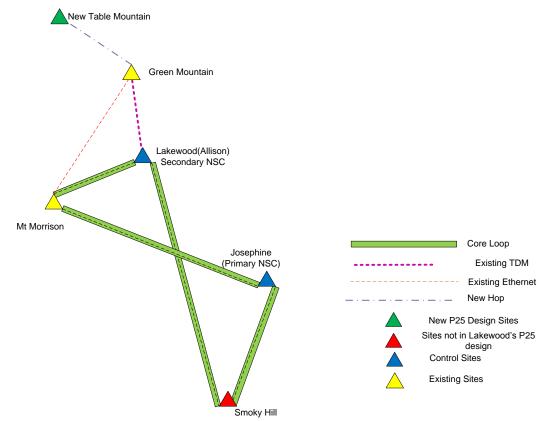


Figure 11. Existing Microwave Backhaul Topology

Harris is proposing a new hop between the North Table Mounatin and Green Mountain site. Harris will continue to use the existing Alcatel Lucent 7705 MPLS Service Access Router (SAR) at the core sites. Harris is responsible for interfacing NTM to Green Mountain to the Mt Morrison 7705 MPLS router.



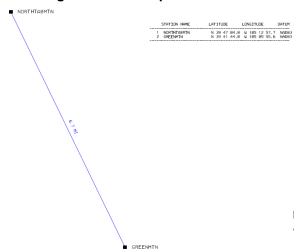


Figure 12. New hop Microwave

Features of the Microwave hop:

- Harris has included a microwave hop for 11 GHz hop between Green Mountain and North Table Mountain.
 - The 11 GHz hop provides 99.999% reliability (5 nines) and 50 Mbps bandwidth
- 9500 MPR radios
- Antennas included
- Spares included
- Installation and Engineering Services included

The following is an outline of the scope of work that will be performed by Alcatel

- Detailed inside plant (ISP) survey will be performed for the purpose of ALU's pre-installation review, in order to prepare a list of materials required to properly install all equipment sold to City of Lakewood and to write a comprehensive scope of work for ALU's contractors.
 - Observe and document for ALU's internal use all of the following and possibly more:
 - Location of existing equipment, power, cabling, capacity of cable ladders & trays.
 - Location of proposed radio rack(s), DSX panels, mux, channel banks, additional power equipment.
 - Waveguide/Cable entry point(s) and entry capacity and vacancies.
 - Identification of existing power bay's model and voltages, current capacity, and breaker usage.



- Identification of issues that will affect the installation such as the power bays and dehydrator locations.
- Create dimensioned drawings of the building general layout,
- Create dimensioned drawings of the tower's distances from the shelter and ice bridge (length & width, etc.)
- Pictures will be taken of equipment, power, entry points, cable ladders & trays, general condition of shelter, tower, the compound, etc.
- An informal report of the findings will be provided to the customer by ALU
- Install Radio and Rack
- Radio Turn up (Circuit cutover is Customer's responsibility)
- Installation Materials
- NMS (TSM8000) Installation and Database Work.
- Software upgrade
- Antenna/Ice Shield/Tieback Steel/Waveguide
- Antenna/Ice Shield/Tieback Steel/Waveguide Installation
- RFC2544 Testing
- ATP
- Cleanup and disposal
- Job Management (Does not include Field Supervisor)
- Proposed pricing does not include training or on-site storage

2. Statement of Work

2.1 Implementation Plan

Harris' proposal to the City of Lakewood describes the system design and implementation services to deliver a fully functional P25 communications RF site add-on. Harris has highly skilled professionals experienced in designing and installing complex communications systems.

2.1.1 Project Team

A team of experienced and dedicated personnel will implement the radio system. The following sections define their responsibilities.

2.1.1.1 Project Manager

The project manager's primary responsibility is to manage all phases of the project from the beginning through acceptance, ensuring successful implementation, integration, optimization, and



acceptance of the project. Specifically, this manager administers: 1) ordering and shipping of material and equipment; 2) coordinating performance of services in support of the project schedule; 3) executing performance reviews of the progress and quality of work; 4) managing overall project cost; and 5) processing any contract changes. The project manager and the customer's project manager will hold all official communications concerning the project.

2.1.1.2 System Engineer

The system engineer has full technical responsibility for the design and technical implementation of the proposed site design. This engineer maintains responsibility for integrating standard Harris products as well as vendor products (agreed to in the system purchase contract) into a complete operational system. The system engineer participates in all detailed design review meetings; provides technical support to the Harris project manager; oversees the system Acceptance Test Plan (ATP) as defined by the contract; and directs the optimization process and other tests to ensure that all site parameters are correct and fully meet the technical and contractual requirements. In addition, this professional provides technical support to Harris' Technical Publications department for provision of as-built drawings and other technical documentation deliverables.

2.1.1.3 Regional Service Center Manager

The Regional Service Center Manager (RSCM) is responsible for warranty and maintenance activities as well as subsequent system maintenance if procured by the customer. The RSCM is the customer's primary point of contact and handles all official communications regarding system support.

2.1.2 Contract Signing

The project will begin on signing of the contract or when a notice to proceed has been issued, which is the start date from which all schedule activities are measured.

2.1.3 Design Reviews

2.1.3.1 Kickoff Meeting and Preliminary Design Review

The project manager will initiate the project with a Project Kick-off Meeting followed by a Preliminary Design Review. Harris and the City will mutually agree upon the timing of these meetings. The objectives of the meeting will include:

- Introduction of all project participants
- Review the roles of the project participants
- Review the overall project scope and objectives
- Review the current site status
- Review the current frequency plan
- Review the preliminary schedule
- Schedule site survey with the City and the site's knowledgeable person(s)



2.1.3.2 Prepare for the Customer Design Review (CDR)

The project team will assemble the information obtained during the Kick-off Meeting and Preliminary Design Review along with the information derived during the site survey with the City. This information along with the design effort for the proposal will be crucial in developing the documentation for the Customer Design Review (CDR).

2.1.3.3 Customer Design Review (CDR)

The Harris team will present design drawings and documents and review the system design with the City at a mutually agreed upon time and location.

Figure 13. Design Reviews Responsibility Matrix

Tasks	Harris	City	Comments		
Kickoff Meeting and Preliminary Design Review					
Assemble project team and travel to the City's location	Х				
Present preliminary information on site and design	Χ				
Provide a team and propose a schedule for site survey	Χ				
Arrange access to the site and confirm site survey schedule		Х			
Assemble customer team for Kick-off Meeting		Х			
Provide location in appropriate conference room or training facility		Х			
Provide information and status on site, frequencies, etc.		Х			
Provide site-knowledgeable person to accompany the project team on site survey		Х			
Conduct site survey	Х	Х			
Prepare for Customer Des	ign Review	,			
Provide site plans and applicable electrical and layout plans		Х			
Provide and/or acquire licensable frequencies meeting Harris' design criteria		Х			
Removed per customer request					
Removed per customer request					
Develop required drawings	Х				
Develop network plans	Х				
Develop tower antenna placement plans	Х				
Develop frequency plans	Х				
Develop coverage maps	Χ				
Develop site electrical loads	Χ				
Develop preliminary cutover plan		Х			



Tasks	Harris	City	Comments
Develop formal project schedule	Х		
Prepare ATP documents	Х		
Prepare and submit FCC License applications		Х	
Provide answers to Harris questions		Х	
Customer Design Ro	eview		
System block diagrams	Х		
List of deliverable equipment for site	Х		
Network connection plan	Х		
Tower antenna placement drawings	X		
Antenna system drawings	X		
Coverage prediction maps	X		
Frequency plans	X		
Combiner plans	X		
Shelter floor plan drawings	Х		
Rack elevation drawings	X		
AC power and BTU loads	Х		
Review preliminary cutover plan	Х		
Review ATP	Х		
Project schedule	Х		
Provide appropriate personnel to review documents		Х	
Provide location for CDR meeting		Х	
Approve the design following CDR meeting		Х	(within 5 business days)

2.1.4 Manufacturing and Staging

After final design approval, the project team will procure material and schedule manufacturing using its Enterprise Resource Planning system. The factory will receive orders to manufacture the RF equipment. In addition, vendor/subcontractor items will be ordered. Factory specifications will define the test for each individual rack of equipment.

After manufacturing and test, system engineers will assemble the equipment in the factory staging facility. The system engineers will work with staging technicians to make all intra-rack connections. Ethernet cable connections will simulate transmission networks and ensure the equipment connects to the network switches. Technicians will set the IP addresses, verify operation of the network, load site personalities, as well as the current code versions. Radios will be configured to operate on a test user



database programmed into the system. System levels will be verified, and all features will be tested to signify the system is ready for Factory Acceptance Test (FAT).

Running the FAT will demonstrate system functionality. The FAT will utilize functional ATP tests appropriate to run in the factory staging environment. The ATP defines each test, with instructions on how to set up and run the test and compares them to the expected results. The test team will score and initial each test.

At the end of manufacturing, the equipment is prepared for delivery to the customer. Wrapping each rack in clear plastic wrap and properly securing it ensures safe transportation. Harris will arrange to ship the equipment and materials to a customer-provided storage area near the point of installation; the customer will confirm receipt of equipment. At the storage area, the equipment will be inventoried and the material collected for delivery to the installation site.

Tasks	Harris	City	Comments
Insert equipment delivery dates into the enterprise resource planning system	Х		
Place orders with the factory	Х		
Place orders with key suppliers	Х		
Place orders for vendor items	Х		
Manufacture all infrastructure equipment	Х		
Assemble equipment in staging area on a per site basis	Х		
Run FAT	Х		
Break down equipment and ship to storage area	X		
Provide temporary storage for receipt of equipment delivery near the City's location		Х	
Inventory equipment	Х		
Validate Harris equipment inventory		Х	

Figure 14. Manufacturing Responsibility Matrix

2.1.5 Site Development

With CDR approval, the City shall prepare the site for the delivery and installation of the RF infrastructure. The site development work should be completed before the time the radio system equipment is manufactured and delivered. Site development shall be performed in accordance with the following standards:

- Concrete Communications Shelter Construction Guidelines and Practices LBI-39184
- Standards for Site Construction LBI-39148
- Tower Requirements & General Specifications LBI-39185
- Antenna Specifications LBI-38983



Site Grounding and Lightning Protection AE/LZT 123 4618/1

The SOW section at the end of this document details site development requirements and responsibilities.

2.1.6 System Installation

The City shall install the new P25 RF site equipment at the North Table Mountain site and integrate the proposed subsystems as described in the System Description to provide an end-to-end network solution.

Harris will provide floor plan drawings, equipment rack-up drawings, antenna location details, grounding standards, as well as installation and commissioning procedures.

The project manager will provide the City with a detailed listing of all equipment delivered to the City including model numbers, serial numbers, equipment locations, firmware and software versions, and installation date.

The City will provide the installation and commissioning activities, and Harris the optimization and testing activities to ensure the P25 site was professionally implemented to meet the needs of the City's stakeholders.

Installation and commissioning activities are divided amongst: tower work, infrastructure equipment, and user equipment.

2.1.6.1 Tower Work

The City is responsible for installing the side arms, antennas, coaxial cables, and associated hardware in accordance with Harris' Antenna Systems LBI-38983 at the RF site. Properly sized transmission line hangers shall support the RF cables onto the side arms, tower, and ice bridges. Installation and proper spacing of the transmission line hangers shall follow the manufacturer's specifications. Tower crews shall carefully avoid damage to all transmission lines during the installation process. They shall install adequate service and/or drip loops. In addition, the crews shall take proper strain-relief measures at all cable interfaces and shelter entrances.

The coax cables shall be professionally installed, properly terminated, and connection to lightning protectors inside the shelters. Antenna installation crews shall properly tighten all RF connectors to the manufacturer's specifications. In addition, they shall professionally wrap and seal all outdoor connectors from moisture.

After installation, the RF transmission lines and antennas shall be swept with an Anritsu Site Master or equivalent cable-testing device on the appropriate frequency band to ensure proper performance. The baseline test data shall be recorded and provided to Harris prior to RF infrastructure being connected to the antenna system. A copy should remain on site for future reference.

2.1.6.2 DC Power Systems

The City shall install and test the Harris provided Eltek Flatpack II DC Rectifier with 8-hour battery backup system in accordance with Harris' Site Grounding and Lightning Protection standard.



Harris is quoting an Eltek Flatpack II DC Rectifier system sized for the eight-channel P25 radio system which draws 124 amps of -48 VDC assuming all MASTR V transmitters are transmitting at once. To that, Harris added a 15 percent growth factor to provide power for additional equipment such microwave radios making the total calculated load at 142 amps of -48 VDC. The system was designed using six Flatpack2 2000 watt rectifier modules in an N+1 configuration and two strings of DEKA 6AVR95-13 UNIGY II batteries providing 71.2 amps for eight hours per string. Harris prefers using two battery strings where the combined runtime equals the total runtime required. Should one string fail, the other can provide at least half the runtime.

2.1.6.3 Infrastructure Equipment

Upon completion of the tower work and DC Plant installation, the RF infrastructure equipment can be installed. The City shall ensure all existing conduits, cable trays, power feeds, and other equipment are properly grounded. The RF infrastructure equipment provided by Harris includes all the necessary grounding and lightning protection equipment needed to protect the radio system supplied to the City.

The MASTR V P25 stations and associated equipment will be mounted in 86-inch standard aluminum EIA 19-inch open-frame racks. Harris assumes that the City-provided shelters will accommodate the height of these open racks and allow them to be positioned so that the desired 36 inches of free aisle space (in front and in the rear), can be maintained. Using at least four anchor points, the racks shall be anchored to the floor.

After the City has physically installed and properly aligned, configured, and programmed the RF equipment at the site, Harris and the City will conduct acceptance and coverage characterization testing according to the ATP. The City will record the alignment and test data. It is recommended site alignment and test data be maintained and available at the site.

The SOW section at the end of this document details the system installation requirements and responsibilities for the site.

2.1.7 System Optimization

Upon installation of infrastructure equipment, the system engineer will work with the on-site technicians to optimize the equipment in preparation for acceptance testing.

Tasks Harris Comments City Prepare all installed sites for site inspections Χ Verify microwave backhaul system is functional and meets Χ reliability specifications Verify P25 system levels and parameters are set Χ Verify P25 system alarm and system monitoring system Χ are operational Verify system database is installed and operating correctly Χ Χ Verify proper dispatch operation

Figure 15. System Optimization Matrix



Tasks	Harris	City	Comments
Verify proper P25 system functional operation	Х		
Verify proper network switching operation	Х		

2.1.8 Acceptance Testing

Systems acceptance testing will be performed according to the agreed upon ATP and system contract. The City will notify the project team when installation and optimization are complete and the site is ready for acceptance testing.

The tests fall into the following categories:

- Site inspection
- Functional test procedures designed to test all major features of the site after installation and optimization
- Coverage Characterization defines how the RF characterization coverage test will be conducted and the type of tests to be performed

The Harris system engineer will provide documentation defining each of the test areas. The ATP procedures contain a short description, test methodology, and a record form for logging results and acceptance signatures for each test. A punch list will document any issues found. The goal of the team will be their quick resolution. Follow-up documents will show the correction of open items. Upon satisfactory completion of each testing phase, the project manager will present the site acceptance documentation to the City's project manager.

Figure 16. Acceptance Testing Responsibility Matrix

Tasks	Harris	City	Comments
Provide appropriate team members to participate in acceptance tests		X	
Inspect the RF site, noting discrepancies on the punch list	Х		Customer witness
Submit site inspection results	Х		
Approve site inspection results		Х	(within 1 business day)
Perform functional ATP on radio site	Х		Customer witness
Submit functional ATP results	Х		
Approve functional ATP results		X	(within 1 business day)
Provide team members to participate in coverage characterization test		X	
Provide test vehicles and drivers for acceptance testing		X	



Tasks	Harris	City	Comments
Provide test radios for automatic coverage characterization test	X		
Perform automated coverage characterization test of P25 site according to system contract	X		Customer witness
Submit coverage characterization results	Х		(within 2 business days)

2.1.9 Final Acceptance

With the completion of ATP tests and submission of the final drawing package, the project manager will submit the final site acceptance letter for the City to sign. With the final acceptance, the project manager will arrange a meeting with the field service team to review maintenance support during the warranty period. The team will provide the contact information and procedures used to obtain service during the warranty period. Contact numbers and procedures will be provided for standard business hours and after hours.

Tasks Harris City Comments Removal of any decommissioned legacy network, Χ console, or site infrastructure equipment Χ Produce final drawing package Submit letter of final system acceptance Χ Χ Provide warranty and contact information Meet with Harris to review warranty contact procedures Χ Meet with Harris to outline system support and services Χ requirements Χ Sign letter of final system acceptance (Within 5 business days)

Figure 17. Final Acceptance Responsibility Matrix

2.1.10 Warranty Support

Harris understands that it is extremely important to deliver a reliable and redundant communications network as well as proper system hardware and software maintenance throughout the City's implementation, migration, and warranty period. We recognize that the City will choose to be self-maintained with minimal manufacturer support. Harris has a full spectrum of service offerings that can help keep the City's critical communication system operating at an optimum level. Harris is the low-risk provider because it offers a highly reliable and redundant network which results in the lowest total cost of ownership. For example, Harris' network hardware incorporates commercially available components and subsystems therefore, allowing for ease of on-site maintenance through rapid component swap out and high availability of replacement products.

Harris offers a one-year warranty on infrastructure equipment. The warranty period will begin after the final system acceptance date and run concurrent for 12 consecutive months. Warranty includes all necessary parts, labor, transportation, shipping to the customer, and other items normally required



and/or consumed in maintaining the proposed network in order to meet original factory specifications, at no additional cost to the City. The warranty period will begin after final system acceptance. Standard warranty response times are 8:00 a.m. to 5:00 p.m. Mountain on business days. Optional premium warranty is available that provides services such as emergency on-site response as well as preventive maintenance and software maintenance service.

2.2 Site Responsibility Matrix

The Site Responsibility Matrix:

- Describes the general project responsibilities of both parties to perform
- Summarizes the site facilities
- Defines the specific site equipment requirements which the City shall provide
- Defines the responsibilities of all parties for the implementation of the P25 site

2.2.1 General Requirements

Figure 24 describes the general project responsibilities of both parties to perform which are not specifically associated with any specific site.

Tasks Harris City Comments Designate a Harris project manager Χ Χ Designate a City project manager Manage the Harris project team Χ Establish project communications protocol and maintain Χ communications log as required Conduct internal weekly project review meetings and Χ submit weekly status reports Χ Conduct weekly project update calls Participate in weekly project update calls Χ Χ Conduct monthly project reviews Χ Participate in monthly project reviews Χ Report project progress as compared to project schedule Χ Update project schedule monthly Manage and control the flow of products and equipment Χ from the factory to meet the project schedule Review change orders with Harris project manager and Χ provide approval

Figure 18. General Requirements Responsibility Matrix



Tasks	Harris	City	Comments
Monitor and manage risks using the Harris Risk Management Plan	Х		
Review and approve submitted design documents within two weeks or respond with revisions		Х	
Provide written approval for major milestones such as CDR, ATP, and final acceptance		Х	
Provide timely responses to issues and questions		Х	
Coordinate with federal, state, and local government agencies, as required		Х	
Designate system administrators		Х	
Provide access to all buildings and sites, including temporary ID badges for Harris project team		Х	
Provide parking permits for Harris project team for any restricted parking areas		Х	
Provide adequate road access for delivery vehicles		Х	
Arrange for temporary parking to off-load equipment at all buildings and sites		Х	
Clean up site and remove all debris and unwanted material stemming from site equipment installation		Х	
Remove any hazardous material found on site		Х	
Site Acquisition and zoning		Х	
Develop sites and install materials in accordance with the following Harris standards:			
 Concrete Communications Shelter Construction Guidelines and Practices LBI-39184 		V	
- Standards for Site Construction LBI-39148		Х	
- Tower Requirements & General Specifications LBI- 39185			
- Antenna Specifications LBI-38983			
Provide microwave backhaul meeting the following specifications:			
 Physical interfaces will be copper Ethernet at either 100Mbps/full duplex no-negotiation or 1Gbps/full duplex 		X	
 Multi-Site Latency - Latency within the system will need to stay constant to avoid jitter. For standard implementations, latency should be less than 150 msec. 			
 Multi-Site Jitter - Overall jitter will average 0 and 			



Tasks	Harris	City	Comments
never build up to more than 60 msec. Streams with excessive jitter will result in packet loss and Harris will not be responsible for voice quality issues.			

2.2.1.1 Fixed Equipment Installation

The City shall be responsible for the installation of all fixed equipment contained in the following detailed description of work as approved in the CDR. Installation shall be scheduled in conjunction with the delivery of equipment after manufacturing and completion of site development work required at each site. Installation of all equipment shall be done in a neat and professional manner, employing a standard of workmanship consistent with Harris' installation standards and in compliance with applicable NEC, EIA, FAA, and FCC standards and regulations.

Figure 25 lists the equipment to be installed as part of the SOW:

Figure 19. Major System Components

Site Name	Site Purpose
North Table Mountain	8-channel P25 RF Site

Harris will furnish all required cables including power, RF, and control. Manufactured control and audio cables with molded connectors that plug into distribution panels will avoid the need for punch block connections. Cable ties will secure each cable run, with excess material folded back and neatly coiled.

Harris will provide and the City shall install a new Eltek Flatpak II DC power plant with eight hour battery backup at the site.

The City shall properly ground all cabinets, racks, enclosures, and transmission-line surge protectors to the site's single-point grounding system. Ground connections shall be connected using approved irreversible compression connectors or irreversible lugs and splices. All painted surfaces where ground connections are made shall be scraped clean of paint. Dissimilar metal connections shall require treatment with an anti-oxidant compound.

The City shall provide the antenna mounting side arm kits to mount the antennas to the tower, along with the required jumpers and grounding kits for each run. Harris will provide the antennas, coaxial cable and connectors for the installation. The City shall have tower climbers assemble and install antenna systems in accordance with Antenna Specifications LBI-38983.

Tower climbers shall run transmission lines and properly fasten them to the ice bridge and cable ladder, using the manufacturer's recommended devices and radius bends. The City shall sweep all antenna lines to verify proper installation and will provide sweep printouts to be kept in the site logbook for future reference.



2.2.2 Site Details

This section summarizes the site facilities and defines the specific site development and equipment installations that Harris has proposed and will perform.

Figure 20. Site Summary

	Description
Site Name	North Table Mountain
Site Latitude and Longitude	39.7846 N, -105.216 W
Site Equipment	8-channel 800 MHz P25 Multisite
Tower / Antennas	Existing 100 ft. tower Two Tx Antennas Model #101-90-08-0-03N @ 80 ft. using 1-5/8" coax One Rx Antenna Model #101-90-08-0-03N @ 100 ft. using 7/8" coax One TTA Model # 430-83H-01-T @ ~95 ft.
Shelter	Existing shelter shall have sufficient floor space to accommodate: One P25 rack measuring ~ 24"W x 24"D x 86"H One RF Combiner rack measuring ~ 24"W x 24"D x 86"H One DC Power Rectifier rack measuring ~ 23"W x 16"D x 84"H Two Battery strings each measuring ~ 33"W x 27"D x 38"H
P25 Power Requirement	P25 Site Equipment draws 5,930 watts (maximum)
P25 Cooling Requirement	P25 Site Equipment outputs 19,430 BTUs (maximum)

Figure 21. System Installation Responsibility Matrix

Tasks	Harris	City	Comments
Install 8-channel P25 system		Х	

Figure 22. Site Development Responsibility Matrix

Tasks	Harris	City	Comments
Removed per customer request			
Removed per customer request			
Removed per customer request			
Identify specific tower attachment points to mount new antennas per the system design		Х	
Confirm availability of tower attachment points for Harris antennas		Х	
Removed per customer request			



Tasks	Harris	City	Comments
Removed per customer request			
Provide space on existing tower to mount new system antennas		Х	
Provide adequate space on cable ice bridge and tower cable ladders to support new cable runs		Х	
Provide floor space in existing RF shelter used in the new design		Х	
Provide adequate shelter/equipment room utility AC electrical power, single-point ground system HVAC, and backup generator power		Х	
Provide cable entry ports		Х	
Provide any required upgrades to existing ground system		Х	
Provide able ladder for new equipment row		X	
Install new antenna(s) using appropriate 6 ft. side arms and mounting hardware		Х	
Install antenna coax, connectors and jumpers, using cable clamps to properly secure cable to tower, and add grounding kits at the top, bottom, and on ice bridge		Х	
Install new tower top amplifier		Х	
Install antenna lightning protection devices on each LMR run after it enters shelter via cable entry port; ground device to main ground bus bar		Х	
Tag and identify each new antenna line		Х	
Sweep test each new antenna line and maintain copies in site logbook		X	In accordance with Harris' "Transmission Line Analysis (Antenna Sweep) Procedure
Install new DC power plant and wire to racks		Χ	
Install P25 RF and Combiner rack and properly ground		X	
Wire P25 RF and Combiner rack to DC Power Distribution		Χ	

2.3 Schedule

Harris has provided a preliminary project schedule as part of this scope of work in the form of a Microsoft Project Gantt chart. The preliminary high-level schedule shows the time frame of each project step. A more detailed schedule will be presented during the CDR. This schedule will take into account the results of site survey, list each major milestone, and define each party's responsibility, allowing the reader to quickly understand the timing and required inter-relationships. The detailed schedule will also incorporate the feedback given by the customer during the initial project meetings.



Throughout the project, the project manager will review project progress as compared to the schedule. In order to maintain the project schedule, he or she will take necessary actions to focus on and resolve problems (actual and potential). The customer will receive monthly project updates.



Names North Table Mountain Site Expansion, Lakewood, CO 120 days Contract Signed	6 M7
1 Contract Signed 0 days 2 Prepare for Customer Design Review (CDR) 84 days 4 Harris Internal Project Review Meetings 10 days 5 City, Harris Kick-off Meeting & Proliminary Design Review W 2 days Customer, Site Surveys 6 Harris Prepare for Customer Design Review 30 days 7 City LMR FCC-Frequency Coordination-License Preparation 10 days 8 City LMR FCC-Frequency Coordination-License Submission 0 days 9 City LMR FCC-Frequency Coordination-License Approval 0 days 10 City Conduct Tower Analysis 4 days 11 City Conduct Grounding Analysis 2 days 12 Harris Prepare propagation maps for CDR 2 days 13 Harris Prepare site drawings, floor plan & rack drawings 10 days 14 City, Harris Customer Design Review 2 days 15 City Customer Design Review Approval 0 days 16 LMR Manufacturing and Staging Process 54 days 18 Harris Place orders on factory 2 days	
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17 LMR Manufacturing and Staging Process 54 days 18 Harris Place orders on factory 2 days	
18 Harris Place orders on factory 2 days	
19 Harris Place orders on vendors 2 days	
TO TIGHTO TIGOCOTACIO UN VOLIDO	
20 Harris Manufacture P25 Radio Site 8 wks	
21 Harris Assemble, Stage and Run Factory Acceptance Test (FAT) 5 days	
22 Harris Break down and pack for shipping 2 days	
23 Harris Deliver equipment to customer 5 days	
24	
25 City Infrastructure Installation 10 days	
26	
27 Acceptance Tests 6 days	•
28 Harris,City Functional Test 1 day	
29 Harris Submit Functional test documentation 0 days	
30 City Functional test documentation approved 1 day	
31 Harris,City Run coverage characterization (automated signal strength) 3 days (CATP)	
32 Harris Submit CATP test documentation 1 day	ı
33	
34 System Acceptance 1 day	₽
35 Harris Submit Letter of Acceptance 1 day	
36 City Sign Letter of System Acceptance 0 days	♦
37	
38 Warranty Begins 0 days	



3. Firm Fixed Price Disclaimer

Harris is pleased to provide the City of Lakewood with the following firm fixed price proposal. Pricing is valid for 120 days from submittal date of April 7, 2015. This offer is based upon the enclosed Terms and Conditions.

Part Description	Qty	Extended Price
Licenses	Lot	\$13,686.56
8 Channel P25 MASTR V site at North Tab Mountain	Lot	\$238,998.00
Antenna System at North Tab Mountain Site	Lot	\$31,411.90
Back up Power Plant 48 V DC, Eltek FlatPak II rectifiers and Deca Unigy II batteries	Lot	\$34,410.00
Equipment Total		\$318,506.46
Services	Qty	Extended Price
PM Services	Lot	\$6,000.00
System Engineer	Lot	\$37,005.00
Network Engineer	Lot	\$9,600.00
Testing	Lot	\$5,929.86
Shippng and Staging	Lot	\$3,482.50
Services Subtotal		\$62,017.36
Microwave at 11 GHZ, with 50 Mbps bandwidth	Qty	Extended Price
Microwave hop from NTM to GM, including HW/SW, spares and services	Lot	\$119,466.30
Network Manager set up, install and test	Lot	\$3,691.88
TSM R5.7 Software upgrade	Lot	\$7,500.00
Microwave total		\$130,658.18
Spares	Qty	Extended Price
Spare MASTR V Transmit Module	3	\$12,375.00
Spare MASTR V Receiver Module	3	\$9,225.00
Spare MASTR V Baseband Module	3	\$13,050.00
Spare MASTR V Traffic Control Module	3	\$7,875.00



Spare MASTR V HPA Module	3	\$26,218.35
Spare MASTR V DC Power Supply Module	3	\$4,050.00
Spares total		\$72,793.35
System Offering Total		\$583,975.35



4. Acceptance Testing

In this section Harris has provided both a Coverage Characterization Test Plan and a Functional Acceptance Test Plan.





Coverage Characterization Tests for City of Lakewood, CO

TABLE OF CONTENTS

1. Coverage Characterization - Signal Strength Measurements	
1.1 Setup	
1.2 Drive Route Planning	
1.3 Data Measurements	
1.4 Data Analysis and Presentation	

ABOUT THIS DOCUMENT

This document was specifically prepared for the customer shown below. Each section of this document is individually maintained in the Harris document control system. The revisions of each section are individually listed.

Customer: City of Lakewood, CO

Prepared By: Angie Romero, Harris Cc rporation

Total Test Pages: 4

1. COVERAGE CHARACTERIZATION - SIGNAL STRENGTH **MEASUREMENTS**

This procedure is used by Harris to characterize coverage based on measuring talk-out (base to mobile) signal strength throughout the defined service area, and provides an accurate, statistically valid, repeatable, objective, and cost-effective method for RF coverage characterization of Lakewood's wireless radio system.

This CCTP is in conformance with the Telecommunications Industry Association (TIA) Telecommunications Systems Bulletin TSB-88.3-D titled "Wireless Communications Systems - Performance in Noise and Interference-Limited Situations - Recommended Methods for Technology-Independent Modeling, Simulation, and Verification".

1.1 Setup

Harris uses its TYPHON wireless testing system to measure coverage performance. TYPHON utilizes Gazelle test receivers manufactured by Berkley Variatronics, known throughout the industry as reliable, accurate test devices that produce repeatable measurement results and is in conformance with industry standards. Harris maximizes the accuracy of test measurements through periodic calibration of the TYPHON system and by virtue of its integral automated hardware and software that minimizes the likelihood of procedural errors. TYPHON consists of up to four Gazelle units with industrial grade measurement receivers to provide RSSI data for a single or multiple sites, a GPS receiver to provide accurate position information for each measured data point, a computer with an internal clock that coordinates and records the test data, and a roof mounted antenna. TYPHON may contain multiple receivers to facilitate gathering data simultaneously from several multi-sites or simulcast sites at common measurement locations.

Prior to taking signal strength measurements, each site will be audited to verify that the radio system is operating properly. The audits verify the antenna configuration, the power into the antenna, the antenna installation, and the frequency of the test transmitter. Harris shall provide all test equipment necessary to perform the audits.

1.2 Drive Route Planning

TSB-88.3-D recommends coverage verification measurements at a statistically significant number of random test locations, uniformly distributed throughout the service area. To accomplish this, the service area is divided by a grid pattern as an aid to the development of a drive test route with an approximately equal distance traveled in each grid.

Harris recommends the grid sizes shown in Table 1 to obtain a uniform distribution of grids throughout the following service areas.

Table 1- Recommended Grid Parameters

Boundary No.	Boundary	Grid Size (miles)	Number of Accessible Grids
1	Jurisdictional boundary of City of Lakewood	0.5 x 0.5	400
2	Jurisdictional boundary of City of Arvada	0.5 x 0.5	180
3	Fairmont Fire District	0.5 x 0.5	100

The grid pattern is overlaid onto street maps and a drive test route determined that will pass through all accessible grids (i.e. have roads) The drive route should pass through each grid at least once but not more than twice, as far as is practically possible.

Harris recommends a 0.5-mile by 0.5-mile grid pattern to obtain an even or uniform distribution of approximately 500 grids to be tested between the three boundaries. The grid pattern is overlaid onto street maps and a drive test route determined that will pass through all accessible grids (i.e. have roads) within the defined service area. The drive route should pass through each grid at least once but not more than twice, as far as is practically possible. Harris recommends taking signal strength measurements along the drive route in the northern part of Lakewood, as well as Fairmont and Arvada boundaries up to 500 grids. Harris and Lakewood will decide on a mutually agreeable drive plan. Signal strength measurements will be made along the entire drive route.

1.3 Data Measurements

All data is collected with the TYPHON equipment mounted inside the test vehicle (standard passenger vehicle) with an external antenna mounted on the outside and centrally located on the vehicle's roof, with no other equipment installed on the roof.

Each radio system base station site transmits either on the control channel or an unmodulated carrier on one selected working channel, and measurements of this signal are made at equal distance intervals throughout the entire drive route. With the test vehicle in motion¹ along the drive route, a local mean signal measurement is made every 40 wavelength distance² traveled. By averaging a minimum of 200 data points within each 40 wavelength measurement window, the estimated mean value is within ±1 dB of the actual value with 95% confidence.

1.4 Data Analysis and Presentation

All mean measurement data records collected along the drive route are post-processed, with data records recorded every 0.1-mile (typically) used in the final analysis.

² 40 wavelengths for UHF, 800 MHz and 900 MHz. 20 wavelengths for VHF 150 MHz.



¹ Vehicle velocity must not exceed 60 miles per hour to ensure adequate number of points over the measurement window

The data records are plotted on a map showing both the areas measured and the measured results. The results can be adjusted with reference to the mobile measurement reference point using loss factors (portable body loss, random building loss category) to represent other operational or equipment configurations. Different pen colors are used to show ranges of measured mean signal levels corresponding to operational and equipment configurations.

A report is generated along with the maps to numerically show the results.



Sample Functional Acceptance Test Procedures

Sa	ample F	unctional Acceptance Test Procedures1
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ABOUT THIS DOCUMENT

This document was specifically prepared for the customer shown below. Each section of this document is individually maintained in the Harris document control system. The revisions of each section are individually listed.

Customer: City of Lakewood Prepared By: Anjali Romero

DOCUMENT USAGE

This document is intended to be a starting point for Harris System Engineers to write their final Factory Acceptance Procedue. Many of the tests laid out in this document will not pertain to all systems, so they will need to be deleted. There may also be statements in this document that should not be in the finial FATP that will need to be deleted, for instance this paragraph should not be included in any finial FATP.

Many of the tests in this document will need to be run on multiple pieces of equipment. For tests that need to be run multiple times, log in the comment section of the result box the identifier of the equipment tested. Although specific tests are not included relating to electrical measurements or timing parameters of equipment, these tests and levels are conducted and recorded as part of Harris' standard installation practices. These parameters include but are not limited to:

- Transmit Frequency and Deviation
- Output and Reflected Power
- Receiver Sensitivity
- Receiver Multicoupler Gain (if applicable)
- Receiver Preamplifier Gain (if applicable)
- Combiner Loss (if applicable)
- Audio line out
- Audio line in

SUBSCRIBER UNIT USAGE

All tests for subscriber (terminal) units in this document will be performed with Harris subscriber units unless the test setup identifies another Vendor's subscriber unit to be used.

FUNCTIONAL TESTING CLARIFICATION

Equipment inspection and testing in addition to staging acceptance testing is performed at the Harris staging facility. Staging tests as detailed in this matrix verifies basic equipment functionality in addition to its functionality as part of an overall system. Equipment as received from Harris and third party manufacturing suppliers is supplied with manufacturer test results, as applicable. Test results documentation will be that from the staging functional acceptance tests. Equipment tests will be performed in the field after installation both as part of equipment commissioning and overall final functional acceptance testing. Test results documentation will be from the final functional acceptance tests.

1. P25 TRUNKED CALLS AND SITE FEATURES

Purpose:	These tests will verify that the site can provide radio communications at the site level.				
Expected Results:	These tests will demonstrate that the site can provide communications for radios.				
Setup:	All tests in this section assume that the UAS setup matches the configuration in this test. All testing in this section is to be done with phase 1 radios.				
1.1 Transmit Grant	Tone				
Purpose:	Demonstrate the system channel grant tone is heard on the radio.				
Expected Results:	This test will show that the radio will play a grant tone when the radio is assigned a working channel.				
Setup:	One radio with valid ID and a valid group on selected system. Grant tone (Ready to Talk tone) enabled in radio personality as applicable for specific radio type being tested.				
Execution:					
1. Press PTT butt	on on radio with valid group selected.				
2. Verify grant ton	ne is heard at radio when working channel access is granted.				
Note: If the cal channel.	Note: If the call is queued, the grant tone will be delayed until the call is assigned a working channel.				
Results	(Pass/Fail)				
Tester:					
Comments:					

1.2 Transmission Trunking

Purpose: This test will demonstrate that the system is working as a transmission

trunking system.

Expected Results: The tests verify that the Control Channel will assign a working channel to

the radio and that the radio and site will work as a trunking set.

Setup: Radio 1, 2, and 3 should be the only radios on the system.

Radio	Radio	Talk Group	Talk Group
Description	Lid	Description	ID
Radio 1	998001	TG64001 P25	64001
Radio 2	998002	TG64001 P25	64001
Radio 3	998003	TG64001 P25	64001

Execution:

1.	ы	I Radio 1 and talk.
		The transmit (TX) indicators should turn on at Radio 1.
		Verify the number of the channel assigned.
2.	PT	T Radio 2 and talk.
		The transmit (TX) indicators should turn on at Radio 2.
		Verify the next channel is assigned.
3.	PT	T Radio 3 and talk.
		The transmit (TX) indicators should turn on at Radio 3.
		Verify the next channel is assigned.

Results	(Pass/Fail)
Tester:	Date:
Comments:	
•	
•	

1.3 Message Trunking

Purpose: This test will demonstrate that the system can work as a message trunking

system.

Expected Results: This test will verify that the Control Channel will assign a working channel

to the radio and that the radio and site will work as a trunking set.

Setup: No other radios should be on the system. Each call needs to happen within

3 seconds of each other for this test to work. If there are no talk groups setup in the UAS that are Message Trunked this will need to be fixed before

this test can be run.

Radio Description	Radio Lid	Talk Group Description	Talk Group ID
Radio 1	998001	TG64001 P25	64003
Radio 2	998002	TG64001 P25	64003
Radio 3	998003	TG64001 P25	64003

Execution:

1.	PT	Т	Radio	1	and	tall	۲.
----	----	---	-------	---	-----	------	----

☐ The transmit (TX) indicators should turn on at Radio 1.

2.	PT	Γ Radio 2 and talk.				
		The transmit (TX) indicators	s should tur	n on at Radio 2.		
		Verify the same channel is	assigned in	step 1.		
3.	PT	Γ Radio 3 and talk.				
		The transmit (TX) indicators	s should tur	n on at Radio 3.		
		Verify the same channel is	assigned in	step 1 and 2.		
<u> </u>					(F 11)	
Results				(Pa	ass/Fail)	
Tester:					Date:	
Comments	: :					
1.4 Gro	up T	est Call				
Purpose:		The Group Test C communicate usi		w that the site will al	low a radio to	
Expected	Resu			at all radios assigned igned to an uncomm	_	-
Setup:			•	oup A) per test group os should not be in e		
		Dadi	D = -11 :	Talle Const	T-II O	1
		Radio Description	Radio Lid	Talk Group Description	Talk Group ID	
		Radio 1	998001	TG64001 P25	64001	
		TAGGIO I	1 330001	1 3070011 20	U-TUU I	1

Radio 2	998002	TG64001 P25	64001
Radio 3	998003	TG64001 P25	64001

Execution:

1.	ГІ	i Raulo i aliu taik.
		The transmit (TX) indicators should turn on at Radio 1.
		Audio should be heard in Radios 2 and 3.
		The ID of Radio 1 should be seen on Radios 2 and 3.
2.	Set	Radio 3 to (TG64002 P25). PTT on Radio 1 and talk.
]	The transmit (TX) indicators should turn on at Radio 1.
]	Audio should be heard in Radio 2 only.
		The ID of Radio 1 should be seen at Radio 2 only.
3.	Rep	peat sets 1-4 for encrypted mode
Results		(Pass/Fail)
Tester:		Date:
Comments:		

1.5 Individual (Private) Call

Purpose: The Individual Call test will verify that the site will allow two radios to communicate on a private call

Expected Results: This test will demonstrate that two radios can communicate on an

individual call and other radios will not hear the private conversation.

Setup: Set Radios 1, 2, and 3 to (TG64001) per test group structure. All radios

should not be in encrypted mode but have encryption keys.

Radio	Radio	Talk Group	Talk Group
Description	Lid	Description	ID
Radio 1	998001	TG64001 P25	64001
Radio 2	998002	TG64001 P25	64001
Radio 3	998003	TG64001 P25	64001

Execution:

1.	Using the Radio 1, select the pre-stored ID of Radio 2 or enter the Radio 2 ID directly from the keypad, and PTT Radio 1.
	Verify that Radio 2 receives the call and displays the ID of Radio 1.
	Verify that Radio 3 remains idle.
2.	Release the PTT on Radio 1 and immediately PTT on Radio 2.
	Verify that Radio 1 receives the call and displays the ID of Radio 2.
3.	Using the Radio 1, select the pre-stored ID of Radio 3 or enter the Radio 3 ID directly from the keypad, and PTT Radio 1.
	Verify that Radio 3 receives the call and displays the ID of Radio 1.
	Verify that Radio 6 remains idle.
1	Release the PTT on Radio 1 but do not immediately PTT Radio 3

		Verify that R	Radio 3 gives a Ca	II Back Alert	(WHC-"Who Has Cal	lled") Indication.
5.	Ма	ke the return	call from Radio 3	back to Radi	o 1.	
		Verify that R	Radio 1 receives th	ne call and dis	splays the ID of Radi	o 3.
		Verify Radio	2 remains idle.			
6.	Re	peat steps 1-	8 for encrypted m	ode.		
Results					(Pass	/Fail)
Tester:						Date:
Comments	:					
1.6 Mult	i-sit	e Announce	ment Group Call			
Purpose:			This test will function in a		_	vill allow a group call to
Expected Results:		The test will demonstrate that all radios assigned to a common group will hear a call even though some of the radios are at distant sites and all radios assigned to an uncommon group will not hear the call				
Setup:					are in Announcem sure Scan is turned	ent Group 64107 per I OFF.
			Radio Description	Radio Lid	Talk Group Description	Talk Group ID
			Radio 1	998001	TG64001 P25	64001
			Radio 2	998002	TG64002 P25	64002
			Radio 3	998002	TG64003 P25	64003

Execution:

1. 2.		Radio 1 and talk. ransmit (TX) indicators should turn on at Radio 1.	
		Audio should be heard on Radios 2 and 3.	
]	NNOUNCE should be displayed on Radios 2 and 3.	
Results		(Pass/Fail)	
Tester:		Date:	
Comments	:		
			_
			_
1.7 Mult	tisite	Emergency Group Call Demonstrate the capability of the system to process an emergency group call	
Expected Results:		This test will verify that when a radio indicates an emergency group call. All other radios in the group indicate an emergency and the emergency can be cleared by an administrator radio.	า
Setup:		Program three Radios with the same emergency home group. Set the supervisor radio (Radio 1) and Radio 2 to the home group. Set Radio 3 to a different group (not home group). The radios must remain logged onto different sites.	3
Execution	:		
1.		s the Emergency call button on Radio 1 and talk within the pre-defined Emergency Autome, and/or PTT Radio 1 during or just after that time.	-
]	Verify that Radio 1 indicates the "TX EMER" declaration and that it reverts to the home proup.	
]	/erify that Radio 1 (on Site 1) and Radio 2 (on Site 2) indicate a "RX EMER" and hear	

		the emergency clears in the radios.	
3.	Repeat the	previous steps for encrypted voice.	
Results		(Pass/Fail)	
Tester:		Date:	
Comments	s:		
1.8 Tra	nsmit Denie	d (for Invalid radio ID)	
110			
Purpose:		This test is set up to demonstrate that a radio can be denied transmission on a site	
Expected Results:		This test will verify the systems ability to deny a radio to transmit on one site and allow the radio to work on a different site.	
Setup:		Program system so that radio ID is not valid on the site under test. Download database to site.	
Execution	n:		
1.	Program Radio 1 with an invalid ID		
2.	PTT Radio	1	
		the radio is prohibited access to system.	
3.	Reprogram	n the radio to the original personality.	

Clear the emergency with the Supervisor Radio (Radio 1).

2.

Results		(Pass/Fail)	
Tester:		Date:	
Comments	: <u></u>		
1.9 Sing	le Site Call	Queue Declaration Alert	
Purpose:		This test will demonstrate the system queuing.	
Expected Results:		This test will verify that the system will assign users in a queue when the system has no available channels and assign users a working channel when the system has an available channel.	
Setup:		This test requires four radios and two working channels. Disable channels (if necessary) until there are two working channels at the site. This test is to be run with no other users on the system.	
Execution	:		
1.	Busy up al button.	I talk paths on the system with radio 1, and 2 by pressing and holding the PTT	
2.	With all tal	k paths busied, momentarily press and release the PTT button on test Radio 3	
		that a Call Queued tone is heard at the radio.	
3.	Unkey (rel	ease PTT button) radio 2.	
		that Radio 3 is assigned to the free talk path.	
4.	The grant tone is heard at the radio, without having to rekey the radio (repressing the PTT button).		
5.		PTT button on Radio 3 within the auto key time applicable to the radio type seconds) to keep the assigned channel.	
		that audio from Radio 3 is heard at Radio 4.	
6	Unkevallr	radios	

Results	(Pass/Fail)
Tester:	Date:
Comments:	

1.10 Call Priority for Group IDs

Purpose: This test is set up to demonstrate the systems ability to allow a user with a

higher priority to get assigned a channel before a user with a lower priority

despite who enter the queue first.

Expected Results: This test will verify that a user that has a higher priority will get assigned a

channel before users with a lower priority regardless of who entered the queue first. In this test radio 4 should get the first available channel, because it has a higher priority, and radio 3 will get assigned a channel

next because it has a lower priority.

Setup: This test requires two working channels on the site. Disable channels (if

necessary) until there are two working channels on the site. Setup the radio according to the table below. This test is to be run with no other users on

the system.

Radio	Radio	Talk Group	Talk Group
Description	Lid	Description	ID
Radio 1	9980001	TG64001 P25	64001
Radio 2	9980002	TG64002 P25	64002
Radio 3	9980003	TG64004 P25	64003
Radio 4	9980004	TG64003 P25	64004

Execution:

1. PTT Radios 2 and 4 and hold on transmit to busy both working channels.

2.	PTT	and release Radio 1 (medium priority entry into the queue).		
3.	PTT	PTT and release Radio 3 (high priority entry into the queue).		
4.	Un-l	key Radio 4		
		Verify that Radio 3 un-queues and keys.		
5.	Un-l	key Radio 2		
		Verify that Radio 1 un-queues and keys.		
6.	Un-l	key all radios.		
Results		(Pass/Fail)		
Tester:		Date:		
Comments:	:			
1.11 Eme	rgen	cy Call Priority for Group IDs		
Purpose:		This test is set up to demonstrate the systems ability to allow a user that declare an emergency to be assigned a channel before other users despite queue entry sequence or priority level.		
Expected F	Resu	Its: This test will verify that radio 1 gets assigned a channel before radio 2 despite the fact that radio 2 has a higher priority and entered the queue first.		
Setup:		This test requires four radios and two working channels on the site. Disable channels (if necessary) until there is only two working channels on the site.		
Execution:				

- 1. PTT Radios 4 and 3 and hold on transmit to busy both working channels.
- 2. PTT and release Radio 2 (high priority entry into the queue).
- 3. Declare an emergency on Radio 1 (medium priority entry into the queue but now at Emergency Priority).
- 4. Un-key Radio 4
 - Verify that Radio 1 un-queues and is assigned a channel without having to PTT. (Key the radio within the specified auto key time in order to keep the channel.)
- 5. Un-key all radios and clear the emergency with the Radio 1.

Results	(Pass/Fail)	_
Tester:	Date:	_
Comments:		
		_
		_

1.12 Convert Too Callee

Purpose: This test will demonstrate that the site will only allow one radio to transmit

on a talk group.

Expected Results: The test will verify that a site will only allow one radio to transmit on a talk

group

Setup: Radio 1 and Radio 2 should be on the same site.

Radio Description	Radio Lid	Talk Group Description	Talk Group ID
Radio 1	998001	TG64001 P25	64001
Radio 2	998002	TG64001 P25	64001

Execution:

- 1. Set two radios to the same site and group.
- 2. Key both radios at the same time.

J	Verify that one radio ends up transmitting and the other ends up receiving.
J	Verify that the call audio is routed.
Results	(Pass/Fail)
Tester:	Date:
Comments:	
1.13 Multi-sit	e Routing (for Multi-site Logout)
Durnagai	This test will demonstrate the system will not route a call to a site if all the
Purpose:	radios logged into the site have moved to a different site.
Expected Resi	ults: This test will verify that when the radio moves away from the site the
	system will not route calls to the site that it has roamed away from.
Setup:	Site 1 and 2 should be selected such that Radio 2 can log into Site 1 and
	then Site 2. If coverage prevents this, then program a third radio with the ID of Radio 2. Use the third radio to key on Site 1 with the ID of Radio 2
	whenever the test procedure calls for this. The primary objective of this
	test is to demonstrate that the system routes calls to Site 2 whenever a unit
	(i.e. radio 2) is logged onto Site 2 and does not route calls to Site 2 when no
	units are logged into Site 2. Radio 1 logged in to Site 1 and Radio 2 logged
	into Site 2.
	Radio Talk Group
	Radio Description Lid Talk Group Description ID

Radio Description	Radio Lid	Talk Group Description	Talk Group ID
Radio 1	998001	TG641001 P25	64001
Radio 2	998002	TG641001 P25	64001

Execution:

1. Key Radio 1 on Site 1.

3.	Ke	Key Radio 1 on site 1.					
		Verify no channel assignment on site 2					
Results			(Pass/Fail)				
Results			(Fa55/Fall)				
Tester:			Date:				
Comments	:						

☐ Verify channel assignments occur on Site 2. Un-key radio.

2.

Switch Radio 2 to site 1.

1.14 Site Trunking (Failsoft) Indication

Purpose: This test will demonstrate that radio will display a symbol when the site it is

logged into is not connected to the system.

Expected Results: This test will verify that the radio will display an 'F' when the site it is

logged into is not connected to the system.

Setup:

Radio Description	Radio Lid	Talk Group Description	Talk Group ID	Site #
Radio 1	998001	TG641001 P25	64001	1
Radio 2	998002	TG641001 P25	64001	1
Radio 3	998003	TG641001 P25	64001	2

Execution:

4.

Radio 3.

is restablished.

1.	PTT Radio 1
	Verify that the Radio 1, Radio 2, and Radio 3 can communicate on the system.
2.	Disconnect the network connection from the Network Switching Center to the Site Router, causing loss of communication from the site back to the Network Switching Center.
	Verify that Radio 1 and Radio 2 indicate a Failsoft alarm ("F") on their displays this may take several minutes.
3.	PTT Radio 1 on Talkgroup A. Verify audio is heard at Radio 2. Verify audio is not heard on

Re-connect the network from the Network Switching Center to the Site Router.

Verify the Failsoft alarm disappears on the radios and that communications with Radio 3

Results	(Pass/Fail)
Tester:	 Da	ate:
Comments:		

1.15 Unconfirmed Call (Multisite Late-Enter)

Purpose: This test will demonstrate that if two user demand talk group access the

user that has an available channel will get the channel access first.

Expected Results: The test will verify the systems ability to grant talk group access to the

user that has an available channel.

Setup: Site 1 should only have one working channel, disable all other working

channels at site 1.

Radio Description	Radio Lid	Talk Group Description	Talk Group ID	Site#
Radio 1	998001	TG64001 P25	64001	1
Radio 2	998002	TG64002 P25	64002	1
Radio 3	998003	TG64001 P25	64001	2
Radio 4	998004	TG64001 P25	64001	2

Execution:

- 1. Key up radio 2 on site 1, and hold the call up.
- 2. Key up Radio 3 on TG64001 on Site 2, and hold the call up.
 - Verify that Radio 3 should get the grant tone and the call should go through to Radio 4 on Site 2.

		1.
3.	Wł	nile Radio 2 is still keyed up, free up a channel on Site 1 by unkeying radio 2.
		Verify that the call gets routed to Site 1 and that Radio 1 late-enters into the call on that site.
Results		(Pass/Fail)
Tester:		Date:
Comments:		

Since Site 1 has no channels available, the call should not go through to Radio 1 on Site

1.16 Confirmed Call

Purpose: This test will demonstrate that the system will allow confirmed calls.

Expected Results: When a radio attempts PTT it will get a wait tone until there are available

channels at all site that have demand for the call, or the confirmed call

timer expires.

Setup: Additional radios maybe required for this test, this test requires two more

radios than the number of channels available at the site to be tested.

Site 1 should only have one working channel, disable all other working

channels at site 1.

Radio Description	Radio Lid	Talk Group Description	Talk Group ID	Site #
Radio 1	998001	TG64001 P25	64101	1
Radio 2	998002	TG64002 P25	64002	1
Radio 3	998003	TG64001 P25	64101	2
Radio 4	998004	TG64001 P25	64101	2

Execution	:
1.	Key up Radio 2 on site 1, and hold the call up.
2.	Key up Radio 3 on TG64001 on Site 2, and hold the call up.
	The call will not be granted because there are no available channels on site 1.
3.	Hold the call up until the confirmed call timer expires.
	Once the timer expires the call will go through but only to site 2 only
4.	While Radio 2 is still keyed up, free up a channel on Site 1 by unkeying radio 2.
	Verify that the call gets routed to Site 1 and that Radio 1 late-enters into the call.
Results	(Pass/Fail)
Tester:	Date:
Comments	:

5.Coverage Maps

In this section Harris has provided Lakewood with coverage maps for information displaying coverage for the site expansion proposed.



RAPTR Version 25.1.299

Monday, February 02, 2015 13:30:54

Project: Lakewood MBP 14233 RAPTR

MBP: 14233

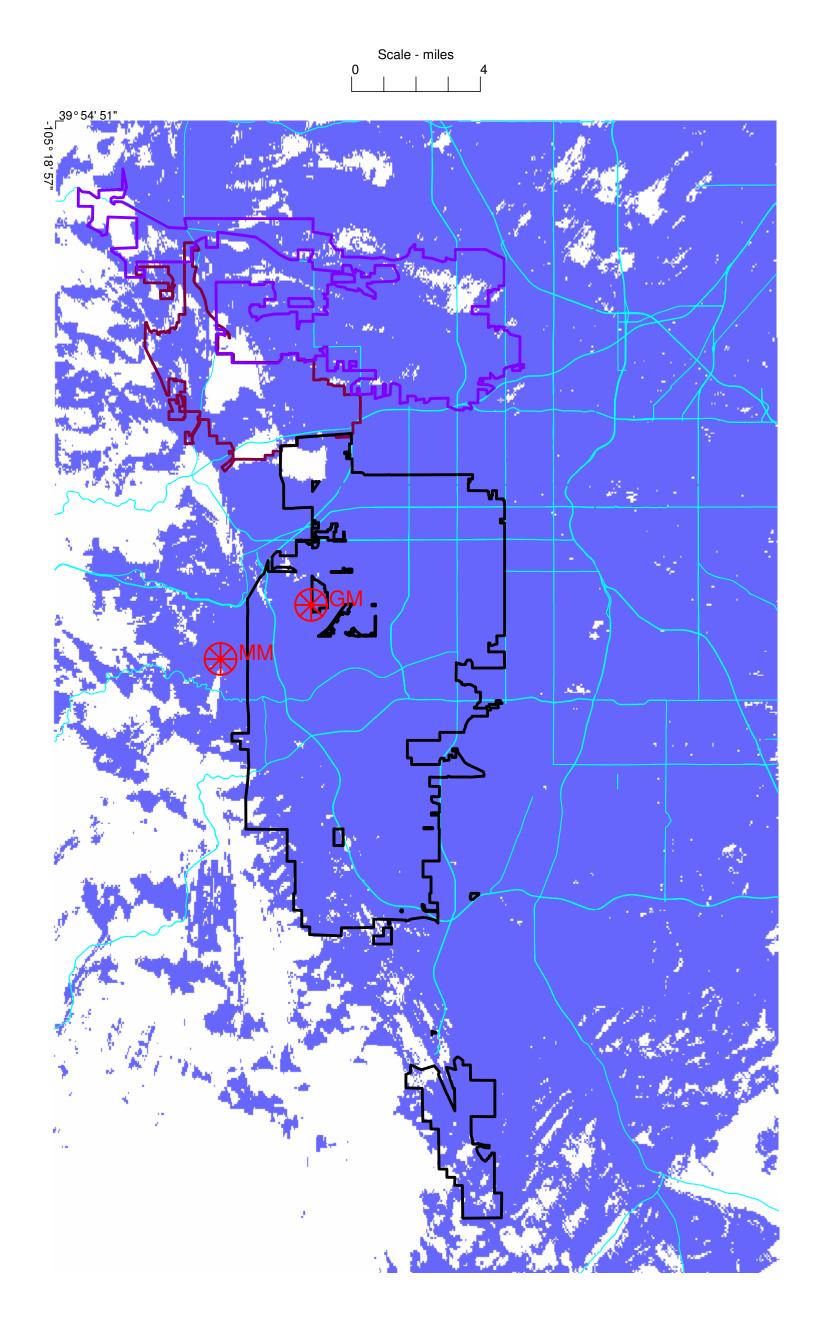
Figure: 1 - Existing Portable Talk-out Coverage - FOR INFORMATION ONLY

Engineer:

Map type - 1:189,106

Note: Map depicts coverage across the defined service area. Statistical variability does not allow for guarantee of coverage in specific locations, but does represent graphically area % coverage.





RAPTR Version 25.1.299

Monday, February 02, 2015 13:31:03

Project: Lakewood MBP 14233 RAPTR

MBP: 14233

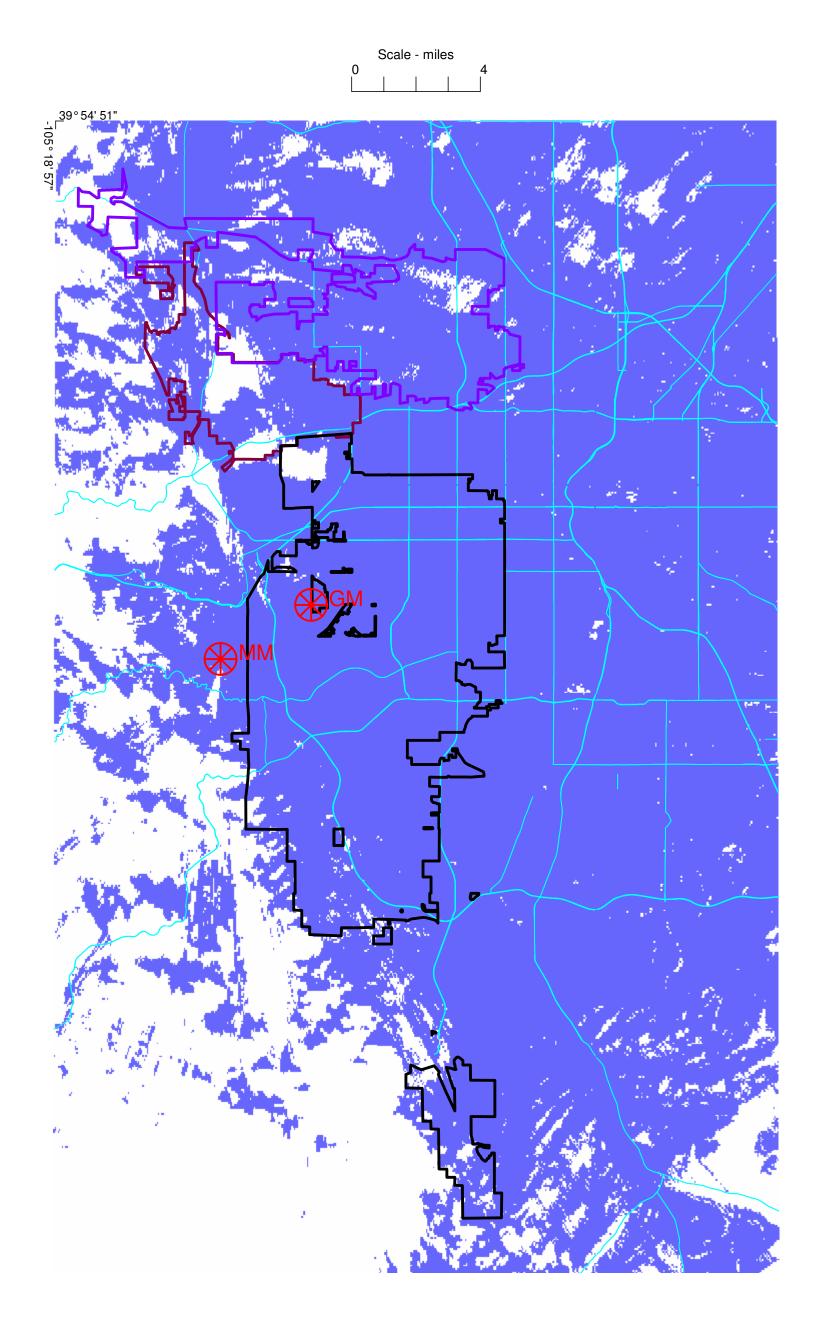
Figure: 2 - Existing Portable Talk-back Coverage - FOR INFORMATION ONLY

Engineer:

Map type - 1:189,106

Note: Map depicts coverage across the defined service area. Statistical variability does not allow for guarantee of coverage in specific locations, but does represent graphically area % coverage.





RAPTR Version 25.1.299

Monday, February 02, 2015 13:31:13

Project: Lakewood MBP 14233 RAPTR

MBP: 14233

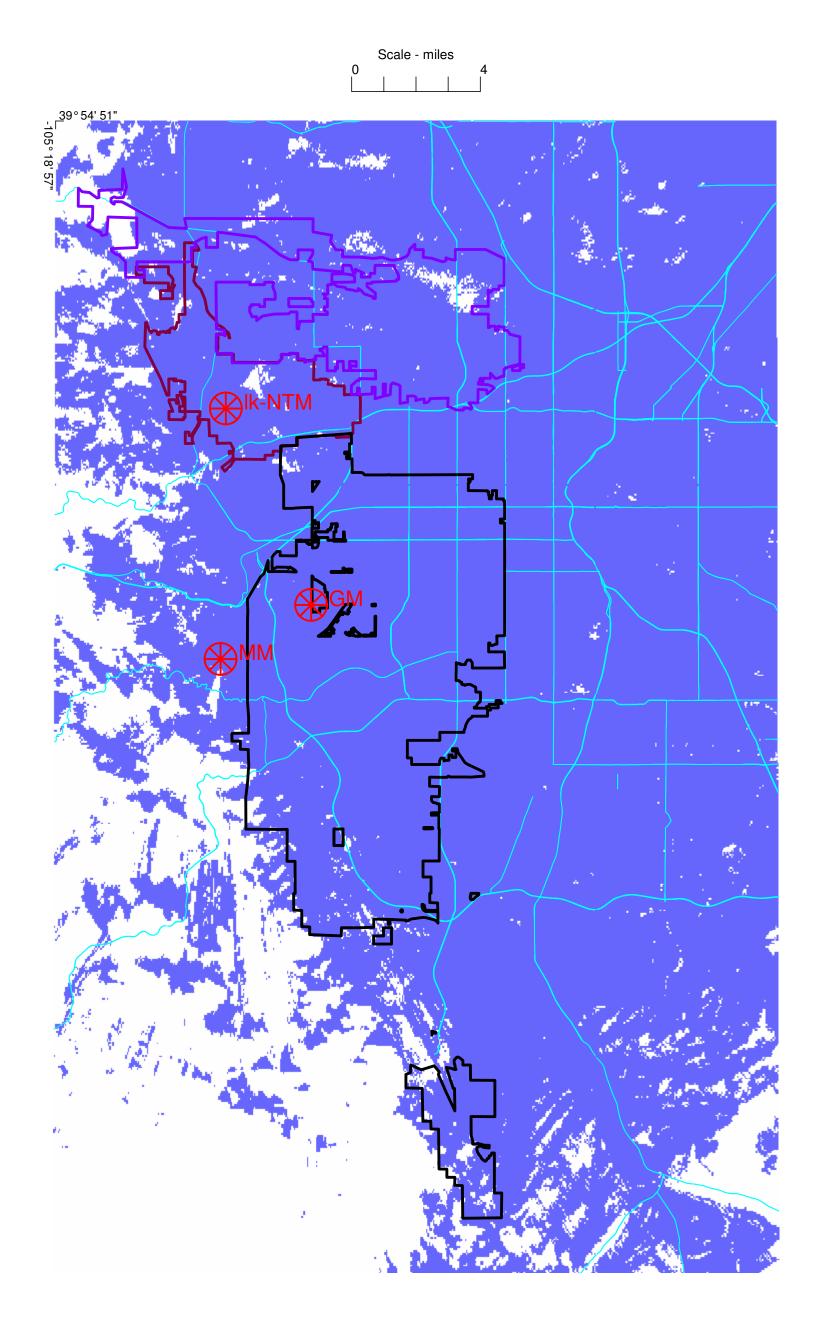
Figure: 3 - Three Site Portable Talk-out Coverage - FOR INFORMATION ONLY

Engineer:

Map type - 1:189,106

Note: Map depicts coverage across the defined service area. Statistical variability does not allow for guarantee of coverage in specific locations, but does represent graphically area % coverage.





RAPTR Version 25.1.299

Monday, February 02, 2015 13:30:41

Project: Lakewood MBP 14233 RAPTR

MBP: 14233

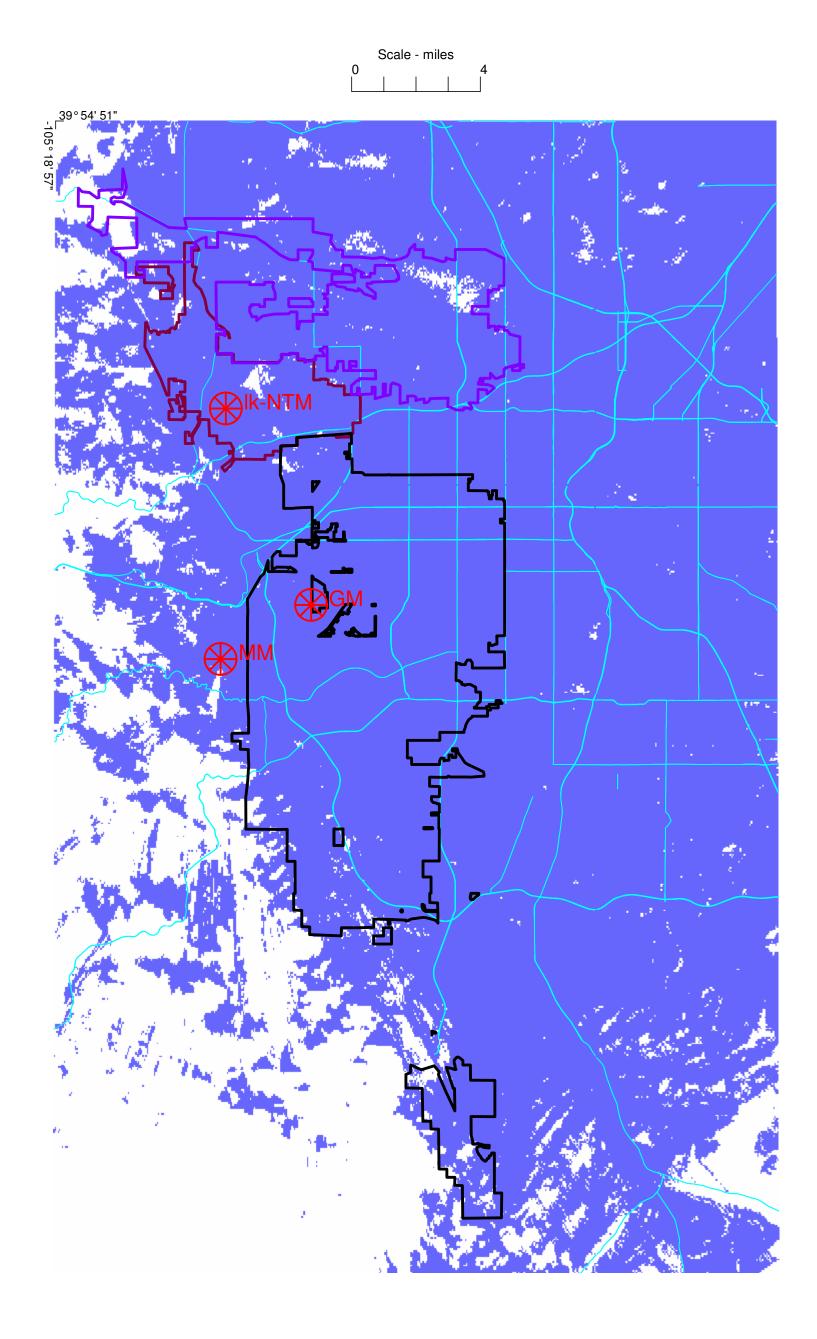
Figure: 4 - Three Site Portable Talk-back Coverage - FOR INFORMATION ONLY

Engineer:

Map type - 1:189,106

Note: Map depicts coverage across the defined service area. Statistical variability does not allow for guarantee of coverage in specific locations, but does represent graphically area % coverage.





6.Contractual Documentation

Harris has included in this section, for the City of Lakewood's review, Harris' model contract templates which are customary to the Land Mobile Radio Industry as well as specific to the technology being proposed. Harris' proposal is priced based on these standard contract terms and conditions. Changes resulting from negotiations may impact Harris' proposed price and may require an updated pricing proposal. Using these documents as the basis of negotiations, we look forward to establishing a mutually agreeable set of terms and conditions for the proposed radio communications system.

Harris' model contract templates included with this proposal:

- System Purchase Agreement
- P25 Software License Agreement
- Software FX Agreement



SYSTEM PURCHASE

AGREEMENT
BETWEEN
(Buyer)

and

HARRIS CORPORATION RF COMMUNICATIONS DIVISION (Seller)

DATE: _____, 2015

SYSTEM PURCHASE AGREEMENT

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- 2. SCOPE OF WORK
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- 4. OBLIGATIONS FOR SYSTEM IMPLEMENTATION
- 5. DELIVERY, TITLE AND RISK OF LOSS
- 6. PRICE
- 7. TAXES
- 8. CHANGES AND ADDITIONS
- 9. PAYMENTS
- 10. SUBCONTRACTING
- 11. EXCUSABLE DELAYS
- 12. SELLER'S INSURANCE
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- 15. COVERAGE
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EXHIBITS [to be tailored, as applicable]

- A. STATEMENT OF WORK
- B. SOFTWARE LICENSE AGREEMENT
- C. SOFTWARE F/X AGREEMENT
- D. RESERVED

SYSTEM PURCHASE AGREEMENT

THIS SYSTEM PURCHASE AGREEMENT ("Agreement") is made and entered into this day of _____, 2015 ("Effective Date"), by and between City of Lakewood, (hereinafter referred to as "Buyer") and Harris Corporation, a Delaware corporation, acting through its RF Communications Division (hereinafter referred to as "Seller") together the ("Parties").

WITNESSETH:

WHEREAS , Buyer whose address

WHEREAS Seller, whose address is 221 Jefferson Ridge Parkway, Lynchburg, VA 24501, delivered a proposal (collectively, the "Seller's Proposal") to provide the radio communication system and services requested by Buyer.

WHEREAS Buyer has selected Seller's Proposal and now desires to contract with Seller to provide Buyer with the radio communications system and services set forth in the Statement of Work attached to this Agreement as an exhibit.

WHEREAS Buyer and Seller desire to enter into this Agreement to set forth in writing their respective rights, duties and obligations hereunder.

NOW, THEREFORE, for and in consideration of the mutual promises contained herein and other good and valuable consideration, the sufficiency and receipt of which are hereby acknowledged, it is mutually agreed between the Buyer and Seller as follows:

SECTION 1. DEFINITIONS:

As used herein, the terms set forth below shall have meanings set forth below.

- **A.** "Acceptance" shall mean acceptance of the System as set forth in the Testing and Acceptance section of this Agreement.
- **B.** "Acceptance Date" shall mean the date the System is accepted or deemed accepted as set forth in the Testing And Acceptance section of this Agreement.
- C. "Acceptance Tests" shall mean the testing procedures attached to the Statement of Work and mutually agreed upon by Buyer and Seller to be performed to determine whether the System has met the acceptance criteria either set forth in the Statement of Work attached to this Agreement as an exhibit or as mutually agreed upon in writing by Buyer and Seller.
- **D.** "Certificate of Insurance" shall mean the certificate to be provided by Seller evidencing the insurance coverage of Seller.
- **E.** "Change Order" shall mean a written modification to the Total Agreement Price, Project Schedule or other Agreement terms which is signed by both Parties.
- **F.** "Detailed Design Documents" shall mean those documents deliverable by Seller to Buyer at the conclusion of the Detailed Design Review described in the subsection Detailed Design Review under the Project Management Planning section of this agreement.

- **G.** "Detailed Design Review" or "DDR" shall have the meaning given in the subsection Detailed Design Review under the Project Management Planning section of this agreement.
- **H.** "Documentation Deliverables" shall mean the standard commercial quality manuals to be furnished by the Seller to the Buyer pursuant to the terms set forth in the Statement of Work attached to this Agreement as an exhibit and this Agreement.
- **I.** "Effective Date of the Agreement" shall be the date on which the Agreement is signed by the last of the parties to sign the Agreement. The "Effective Date" shall be the date inserted on the first page of the Agreement.
- J. "Expiration Date" shall mean the date on which the Term of this Agreement shall end which shall be the end of the Warranty Period (as defined in the Warranty Section) except that some other sections of this Agreement may have a later end date for that section of the Agreement as specifically provided in those sections of this Agreement.
- **K.** "FX Agreement" shall have the meaning given in Section Software License Software Maintenance Services of this agreement.
- **L.** "Hardware" shall mean, collectively, the Terminal Hardware and Infrastructure Hardware, as defined below.
- M. "Infrastructure Hardware" shall mean the equipment, goods, and materials to be supplied by Seller for the System infrastructure, as further described in the Statement of Work attached to this Agreement as an exhibit.
- **N.** "Project Kick-Off Meeting" shall have the meeting given in the Project Management and Planning section of this Agreement.
- **O.** "Project Manager" shall mean each respective Party's duly authorized representative designated to manage each Party's Project obligations.
- Project Schedule" shall mean the schedule attached to the Statement of Work or otherwise mutually agreed upon by Seller and Buyer in writing for the delivery of the Hardware and Software and the performance of the Services described in the Statement of Work attached to this Agreement as an exhibit.
- Q. "Project Sites" shall mean those sites where any construction work is performed or any Infrastructure Hardware is installed under the terms of this Agreement. The term "Project Sites" will include all of the Tower Sites (as defined below).
- **R.** "Responsibility Matrix" shall mean the table included in the Statement of Work attached to this Agreement as an exhibit. which depicts the roles and responsibilities of Seller and Buyer set forth this Agreement.
- S. "Services" or "Work" shall mean the services and work to be provided by Seller to Buyer included in the Statement of Work attached to this Agreement as an exhibit.
- **T.** "Software" shall mean the proprietary computer software of Seller as owned exclusively by Seller or Seller's suppliers, as appropriate, and as further defined in and licensed to Buyer pursuant to the terms of the Software License Agreement.

- U. "Software License Agreement" shall mean the System Software License Agreement set forth in an exhibit attached to this Agreement.
- V. "Statement of Work" shall mean the description of the work to be performed by Seller to deliver the Hardware, install the System and provide the Services, all as described in an exhibit attached to this Agreement.
- W. "System" shall mean the radio communications system comprised of the Hardware and Software to be furnished by Seller to Buyer pursuant to the terms set forth in the Statement of Work attached to this Agreement as an exhibit.
- **X.** "Terminal Hardware" shall mean mobile units, portable units, control stations and related accessories to be provided by Seller as listed in the Statement of Work attached to this Agreement as an exhibit.
- Y. "Total Agreement Price" shall mean the price of the Hardware, the Software license and the Services to be furnished by Seller to Buyer pursuant to the terms set forth in the Statement of Work attached to this Agreement as an exhibit and this Agreement.
- **Z.** "Tower Sites" shall mean those sites where equipment will be installed on existing or new towers as included in the Contractor's Proposal and to be finalized in the Detailed Design Documents or subsequent Change Orders.

SECTION 2. SCOPE OF WORK:

- **A.** Seller shall furnish, deliver and install the Hardware and Software for the System and provide the Documentation Deliverables and Services in accordance with the terms of the Statement of Work, attached to this Agreement as an exhibit, the Project Schedule and this Agreement.
- **B.** The Detailed Design Documents, as described in the Project Management and Planning section of this Agreement and as amended from time to time in writing by the Parties, shall be incorporated into this Agreement after the Detailed Design Documents are approved by the Buyer and thereafter shall supersede any contrary provisions in the Statement of Work attached to this Agreement as an exhibit.
- C. Seller shall commence, carry on and complete its obligations under this Agreement with all deliberate speed in accordance with the dates set forth in the Project Schedule and in a sound, economical and efficient manner, in accordance with this Agreement and all applicable laws. In providing services under this Agreement, Seller agrees to cooperate with the various departments, agencies, employees and officers of Buyer.
- **D.** Seller agrees to secure at Seller's own expense all personnel necessary to carry out Seller's obligations under this Agreement. Such personnel shall not be deemed to be employees of Buyer nor shall they or any of them have or be deemed to have any direct contractual relationship with Buyer. Seller expressly understands and agrees that the Seller is and shall in all respects be considered an independent contractor.

SECTION 3. PROJECT MANAGEMENT AND PLANNING:

A. Project Managers. Seller shall designate a Project Manager who will lead the Seller' team for the System installation project and other Services and Work described in this Agreement (the "Project")

and will serve as the Buyer's primary point-of-contact for Seller's project team and the official liaison between Seller's project team and Buyer. Buyer shall designate a Project Manager to function as the single point-of-contact and official liaison between Seller's Project Manager and the Buyer.

- **B.** Project Completion Dates. The Project completion dates are described in the schedule included in the Statement of Work, entitled "Project Schedule." The Project Schedule may only be modified by mutual written approval of the Parties or as otherwise provided in this Agreement.
- C. <u>Project Kick-off Meeting.</u> Promptly after the Effective Date of the Agreement, the Seller's Project Manager shall schedule a Project Kick-Off Meeting, the timing and location of which will be mutually agreed upon by Seller and Buyer. The objectives of this meeting include introduction of all project participants, review of the roles of the project participants, review of the overall project scope and objectives, review of the resource and scheduling requirements and review of current site status.
- **D.** <u>Site Visits.</u> All existing towers, shelters and associated equipment provided by or mandated by Buyer shall be satisfactory in all manners to accommodate the System proposed by the Seller. Following the Effective Date of the Agreement, the Buyer shall provide Seller with access to all Project Sites upon reasonable notice to allow Seller to thoroughly examine each Site and to perform the Detailed Design Review, to prepare a schedule of preparatory work required for each site and a timeline for completion of the preparatory work at each site.
- E. <u>Construction Management Services, Site Preparatory Work.</u> Seller shall perform the civil construction services set forth in the Statement of Work and the Responsibility Matrix including, but not limited to, the site improvement civil construction to be performed at the identified sites. Buyer shall identify and disclose to Seller any and all problems or conditions at all Project Sites of which Buyer is aware that may affect the Work to be performed by Seller under this Agreement.
- **Petailed Design Review.** The Detailed Design Review ("DDR") phase will commence after the Effective Date of the Agreement, and conclude at a mutually acceptable time to maintain adherence to the Project Schedule. During the DDR, Seller's Project Manager will meet with Buyer's project team on one or multiple occasions to review the system design, technical data, and site specific information to confirm and to refine the System and Tower Sites. At the conclusion of the DDR, Seller will provide Buyer with the following documents (the "Detailed Design Documents") for review and approval by Buyer:
 - Final Siting Plans
 - Project Schedule
 - Engineered Site plans (sufficient for the Buyer to obtain required zoning approvals) and construction drawings for each site.
 - Shelter Floor Plan Drawings
 - Rack Elevation Drawings
 - System Block and Level Diagrams
 - Power and HVAC Loads
 - Antenna Network Diagrams
 - Site Frequency Plans (including spectrum analysis and intermodulation studies of existing and proposed frequencies at each site).

- TX Combiner Plan by Site
- Network Backhaul Plans
- Any other documents as mutually agreed upon by the parties

Buyer shall have fourteen (14) days to conduct its review of the above documents. Approval of Detailed Design Documents by the Buyer shall not be unreasonably withheld, conditioned or delayed.

- **G. Project Schedule.** The Project Schedule for the Work is included in the Statement of Work, as an attachment entitled "Project Schedule." Updates to the start dates and durations will be made as the information evolves and will be mutually agreed upon by both parties or updated as otherwise provided herein.
- **H.** System Implementation Communications. Seller and Buyer shall jointly establish a plan that defines regular meetings, reporting structure, and other communications activities, including working sessions that may be needed throughout the term of this Agreement to plan sub-tasks, including at a minimum: (a) one or more DDR meetings to communicate the final engineering design; (b) formal monthly reports to Buyer's Project Manager concerning work in progress and accomplishments; (c) periodic status meetings at which the parties' Project Managers and other project participants will provide updates; (d) conference calls with Seller's and Buyer's project teams to discuss tasks, assign responsibility, and establish schedules; and (e) workshops or working sessions that may be needed throughout the Project to plan subtasks.
- **I.** Buyer Approvals. Buyer will review and respond with reasonable promptness to all submittals or other items requiring its approval under this Agreement. For all such submittals or other items Buyer will provide the Seller with either; (i) written notification of Buyer's approval, or (ii) a written notification of conditional approval subject to Seller providing prompt correction of any noted deficiency, or (iii) in the case of a submittal that does not meet the requirements of the Agreement, a written notification of Buyer's disapproval. Buyer's disapproval notification will be provided with reasonable detail to sufficiently advise Seller of the basis on which the submittal was determined to be unacceptable. Buyer agrees that, except as otherwise provided, failure to provide approval, conditional approval or non-approval of a submittal for which its approval is required within fifteen (15) days of receipt of the submittal from the Seller shall constitute approval of the submittal. The parties agree that this section, Project Management and Planning, does not relate to the Testing and Acceptance procedures in the Testing and Acceptance section of this Agreement.

SECTION 4. OBLIGATIONS FOR SYSTEM IMPLEMENTATION:

The following subsections apply to the Work to be performed under the Agreement.

- A. Project Management and Implementation Plan. Buyer and Seller each agree to perform their respective tasks and obligations pertaining to permits and licenses, Project Site surveys, general Project Site-related responsibilities, general Hardware-related responsibilities, and Project Site-specific responsibilities as set forth in the Statement of Work. The Buyer's obligations set forth in the Statement of Work shall be performed by Buyer in a timely and proper fashion in accordance with the Project Schedule, or as otherwise agreed upon by Buyer and Seller, to allow Seller to timely perform its obligations under the Agreement.
- **B.** Access. Buyer shall provide access, at no cost to Seller, to all owned, leased, or licensed Project Sites at reasonable times, and with an escort (if required) at no charge, upon reasonable prior

notification from Seller. Buyer shall ensure sufficient room, within reason, for construction vehicles used by Seller. Buyer shall issue temporary identification cards to Seller's personnel and its authorized subcontractors, if required, for access to any of the Project Sites.

- Changes in Sites. Any sites where Seller will operate and perform System installation under the terms of this Contract must be approved by Buyer, which approval shall not be unreasonably withheld, delayed or conditioned. Should Buyer direct an addition to, removal from, or modification of the list of sites as detailed in this Agreement that affects Seller's cost or schedule or System performance, the parties agree that such change shall entitle Seller to a Change Order and each Party shall attempt, in good faith to fully negotiate and execute such change order prior to commencement of the Work at the changed site.
- D. Preparatory Work on Sites. Notwithstanding anything to the contrary contained in this Agreement, the parties agree that some Project Sites may require tower replacement or modifications, as well as related permitting and licensing for Work and/or obtaining physical real estate space. As stated in the Responsibility Matrix, Buyer shall be responsible for securing all necessary site zoning, site access, or other permits (including but not limited to easements, impact studies, planning commission approval, variances, etc.) necessary for the Work, whether required by federal, state, or local authorities, with Seller assisting by providing information and any required civil engineering drawings. Buyer shall also have the responsibility to secure by lease, purchase, easement or otherwise all rights and access to selected sites or additional real estate as may be required. Buyer also shall be responsible for paying all utility charges to the appropriate utility for providing utility services to the System installation areas. The Parties agree to mitigate the need for tower replacement or modification to the extent practical. If any unanticipated tower replacements become necessary, Seller is entitled to an extension of time for any impacted activities and/or an equitable adjustment to the Contract Price to maintain the Project Schedule.
- **E.** <u>Frequency FCC Licensing.</u> The Buyer will be responsible for obtaining all Federal Communications Commission frequency licenses for the System, with Seller providing technical assistance and information as set forth in the Statement of Work. Seller has no responsibility or obligation to secure licensed frequencies.
- **F.** <u>Federal Aviation Administration (FAA) Approvals</u>. Buyer will be responsible for obtaining all FAA approvals for newly-constructed or modified towers.
- **G.** <u>Contractor Licenses</u>. Seller will be responsible for obtaining all contractor licenses required for the performance of its duties and obligations.

SECTION 5. DELIVERY, TITLE AND RISK OF LOSS:

- A. Seller shall ship the Hardware to Buyer at Buyer's expense on or before the dates set forth in the Project Schedule. Partial deliveries shall be permitted. Upon delivery to the first carrier, title to each portion of the Hardware and all risk of loss or damage shall pass to Buyer; provided, however, that Seller shall remain responsible until Acceptance of the System for loss or damage resulting from the willful misconduct or negligent acts or omissions of Seller, its employees, agents, and subcontractors. Buyer shall keep the Hardware fully insured for the total amount of all monies then due, or yet to become due, to Seller with respect to this Agreement.
- **B.** If Buyer fails to take delivery of any of the Hardware, Seller may place such Hardware in storage at the place of manufacture or elsewhere. In such event: (1) Seller shall notify Buyer of the placement

of any Hardware in storage; (2) Seller's delivery obligations shall be deemed fulfilled and title and all risk of loss or damage shall thereupon pass to Buyer; (3) any amounts otherwise payable to Seller upon delivery shall be payable upon presentation of Seller's invoices therefore; and (4) promptly upon submission of Seller's invoices therefore Buyer shall reimburse Seller for all expenses incurred by Seller such as preparation for and placement into storage, handling, storage, demurrage, inspection, preservation and insurance.

SECTION 6. PRICE:

The Total Agreement Price to be paid by Buyer to Seller is ______Dollars (\$______). The individual prices for the units of Hardware, the Software license and the Services to be performed are as set forth in the Price Schedule as an attachment to the Statement of Work.

SECTION 7. TAXES:

In addition to any price specified herein, Buyer shall pay the gross amount of any present or future sales, use, excise, value-added, or other similar tax applicable to the price, sale or any Products or services furnished hereunder or to their use by Seller or Buyer, or Buyer shall otherwise furnish Seller with tax exemption certificates acceptable to all applicable taxing authorities.

SECTION 8. CHANGES AND ADDITIONS:

- **A.** <u>Hardware Changes</u>. In the event of any change in the Hardware as a result of the imposition after the Effective Date of this Agreement of any requirements by any federal, state, or local government, an equitable adjustment in the price shall be made to reflect any added cost and expense of such change and the Agreement shall be modified in writing accordingly.
- **B.** Buyer Requested Changes. Buyer may request changes in or additions to the Work or in the time or place of performance of the Work under this Agreement. If any such change causes an increase or decrease in the cost of, or the time required for, performance of any part of the Work under this Agreement, Seller shall be entitled to an equitable adjustment, by change order, in the Total Agreement Price, the Project Schedule, or both. Any such adjustment in the Total Agreement Price or Project Schedule shall be mutually satisfactory to Buyer and Seller. Price increases and/or extensions of time shall not be binding upon either Party unless and until evidenced by a change order signed by the parties hereto.
- C. <u>Buyer Delays In Performance</u>. To the extent that Buyer fails to timely perform its obligations under the Responsibility Matrix or otherwise under this Agreement, and such failure has a material impact on the cost of Work performed by Seller under the Agreement and/or the schedule, the parties agree that Seller shall be entitled to an equitable adjustment to the Project Schedule, the Total Agreement Price, or both and that a Change Order shall be agreed to by the parties.
- **D.** <u>Concealed Conditions.</u> If, following Buyer's acceptance of the Detailed Design Documents, Seller encounters a concealed condition, of which it had no reason to be aware, at one or more Project Sites, then the Parties agree to work together to determine the best course of action and agree to negotiate in good faith a Change Order and an equitable adjustment to the Project Schedule and/or Total Agreement Price.
- **E. Product Discontinuance**. Subject to its obligation to fulfill its obligations set forth in the Agreement, Seller reserves the right to change or to discontinue any product covered by the

Agreement provided that Seller agrees to make available to the Buyer a functionally equivalent replacement product equal to or better than the product discontinued.

Frequency Support and Frequency Changes. Seller shall reasonably support Buyer in submitting the Buyer's frequency licensing applications to the Regional authorities and the Federal Communications Commission for this project. In the event that, after all commercially reasonable efforts and due diligence have been expended, the Buyer cannot obtain all of the necessary United States and Canada government approvals for the frequency plan as described in this Statement of Work and this Agreement, it shall be treated as an excusable delay event pursuant to the Excusable Delays section of this agreement for which an extension to the Project Schedule shall be granted, and Seller will diligently and expeditiously prepare and provide to Buyer a System re-design for its review and approval including all price and schedule changes. Notwithstanding anything to the contrary contained in the Agreement, the Parties agree that Seller may be entitled to an equitable adjustment to the Total Agreement Price and/or the Project Schedule for Seller's services on any such System re-design. In the event that Buyer and Seller cannot mutually agree on the System re-design, either party may then terminate the Agreement on thirty (30) days written notice to the other Party.

SECTION 9. PAYMENTS:

A. The Total Agreement Price for the Hardware, the Software license and the Services shall be paid by the Buyer to Seller as follows:

A.1. Infrastructure Hardware:

- 1. Twenty percent (20%) of the Total Agreement Price (excluding the aggregate price of the Terminal Hardware included in the Total Agreement Price) shall be due at the time of the signing of the Agreement by the Buyer and Seller.
- 2. Ten percent (10%) of the Total Agreement Price (excluding the aggregate price of the Terminal Hardware included in the Total Agreement Price) shall be due at the time of the first System design review meeting.
- 3. Twenty percent (20%) of the Total Agreement Price (excluding the aggregate price of the Terminal Hardware included in the Total Agreement Price) shall be due at the time of Infrastructure Hardware factory staging as described in the project schedule.
- 4. Twenty five percent (25%) of the Total Agreement Price (excluding the aggregate price of the Terminal Hardware included in the Total Agreement Price) shall be due at the time of Infrastructure Hardware shipment and delivery to Buyer. Partial payments of the total Infrastructure Hardware amount due under this subparagraph shall be allowed and shall be calculated using the value of the Infrastructure Hardware shipped and delivered as a percentage of the total value of the Infrastructure Hardware to be shipped and delivered under the terms of this Agreement. The Buyer shall have the right to inspect and confirm that the Infrastructure Hardware included in Seller's invoice has been delivered to County.
- 5. Ten percent (10%) of the Total Agreement Price (excluding the aggregate price of the Terminal Hardware included in the Total Agreement Price) shall be payable for Services performed by Seller and shall be due in equal monthly installments with the first installment being due on the first day of the first full calendar month after the Effective Date.

- 6. Ten percent (10%) of the Total Agreement Price (excluding the aggregate price of the Terminal Hardware included in the Total Agreement Price) shall be due upon substantial completion of the Hardware installation (exclusive of the mutually agreed upon value of any punchlist items).
- 7. Five percent (5%) of the Total Agreement Price (excluding the aggregate price of the Terminal Hardware included in the Total Agreement Price) plus any remaining unpaid portion of the Total Agreement Price for all Hardware, Software and Services to be provided under the terms of this Agreement (excluding the aggregate price of the Terminal Hardware included in the Total Agreement Price) shall be due upon final Acceptance of the System.

A.2. Terminal Hardware:

1. One Hundred Percent (100%) of the purchase price of Terminal Hardware shall be invoiced upon shipment of unit on a per unit basis.

B. Payment Dates

The Payment(s) associated with the event(s) above shall be due thirty (30) days following the date of Seller's invoice.

C. Other Amounts

Any other amounts due Seller hereunder shall be due upon Buyer's receipt of Seller's invoice.

D. Late Payments

All amounts past due over thirty (30) days shall accrue interest from their due date at the rate of one and one-half percent (1-1/2%) per month (or such lesser rate as may be the maximum permissible rate under applicable law).

SECTION 10. SUBCONTRACTING:

Seller may subcontract any portion of Work to be performed by Seller hereunder provided that Seller shall be responsible for the performance and Work of any such subcontractors.

SECTION 11. EXCUSABLE DELAYS:

- A. Seller shall not be liable for delays in delivery or failure to perform due directly or indirectly to: (1) causes beyond Seller's reasonable control, (2) Acts of God, acts (including failure to act) of any governmental authority (de jure or de facto), wars (declared or undeclared), riots, revolutions, strikes or other labor disputes, fires, floods, sabotage, nuclear incidents, earthquakes, storms, epidemics, (3) Seller's inability to timely obtain necessary materials, items, components or services from suppliers who are affected by the foregoing circumstances, or (4) the failure of the Buyer to perform its obligations hereunder in a timely manner. The foregoing shall apply even though any of such causes exists at the time of signature of the Agreement by Seller or occurs after delays in Seller's performance of its obligations due to other reasons.
- **B.** In the event of any delay or failure excused by this Section Excusable Delays, Seller shall as soon as practical notify Buyer and shall at the same time, or at the earliest practical date after such notice,

specify the revised delivery and performance dates. In the event of such delay, the time of delivery or of performance shall be extended for a reasonable time period to compensate for the time lost by Seller by reason of the delay.

SECTION 12. SELLER'S INSURANCE:

- A. In order to protect itself and Buyer, its officers, boards, commissions, agencies, employees and representatives under the indemnity and other provisions of this Agreement, Seller shall obtain and at all times during the term of this Agreement keep in full force and effect comprehensive general liability and auto liability insurance policies issued by a company or companies authorized to do business in the State of and licensed by the Insurance Department, with liability coverage provided for therein in the amounts of at least \$1,000,000.00 CSL (Combined Single Limits). Coverage afforded shall apply as primary. Buyer shall be given ten (10) days advance notice of cancellation or nonrenewal. Within ten (10) days after execution of this Agreement, Seller shall furnish Buyer with a Certificate of Insurance listing Buyer as an additional insured. If Seller's insurance is underwritten on a Claims-Made basis, the Retroactive Date shall be prior to or coincide with the date of this Agreement and the Certificate of Insurance shall state that coverage is Claims-Made and indicate the Retroactive Date, Seller shall maintain coverage for the duration of this Agreement and for two years following the completion of this Agreement. Seller shall furnish Buyer, annually on the policy renewal date, a Certificate of Insurance as evidence of coverage. It is further agreed that Seller shall furnish the Buyer with a 30-day notice of cancellation or renewal. Seller shall furnish evidence of adequate Worker's Compensation Insurance.
- **B.** In case of any sublet of Work under this Agreement, Seller shall furnish evidence that each and every subcontractor has in force and effect insurance policies providing coverage substantially equal to that required of Seller.
- C. The parties do hereby expressly agree that Buyer, acting at its sole option and through its Risk Manager, may waive any and all requirements contained in this section Seller's Insurance, such waiver to be in writing only. Such waiver may include or be limited to a reduction in the amount of coverage required above. The extent of waiver shall be determined solely by Buyer's Risk Manager taking into account the nature of the Work and other factors relevant to Buyer's exposure, if any, under this Agreement.

SECTION 13. TESTING AND ACCEPTANCE:

- A. Seller shall notify Buyer that the System is ready for Acceptance Tests at least ten (10) days before commencement of the Acceptance Tests. Buyer and Seller shall jointly commence the Acceptance Tests on the date specified in Seller's notice (or other mutually agreeable date) and a representative of Seller and a representative of Buyer shall sign off on the form provided as part of the test procedure whether each item of the test was passed or failed. If the System does not fulfill the requirements of the Acceptance Tests, Seller shall correct the defects at no additional cost to Buyer as soon as practicable. Upon correction of the defects the Acceptance Tests for the applicable part of the System shall be repeated in accordance with the procedures set forth in this Section. Successful completion of the Acceptance Test is the sole criterion for technical system acceptance and the initiation of the warranty period. Final system acceptance shall occur when the Hardware and Software for the System, Documentation Deliverables and Services have been furnished, delivered, installed and the Acceptance Tests have been passed.
- **B.** Notwithstanding the acceptance testing of the System set forth in subsection A above, if Buyer commences use of any portion of the System for its intended purpose, other than for the express

purpose of training or testing as mutually agreed upon by Seller and Buyer in writing, prior to System Acceptance, the applicable portion of the System shall be deemed accepted by Buyer. The final payment for the applicable portion of the System shall be due and payable upon such acceptance. The Warranty Period for the applicable portion of the System put into use together with the associated installation Services shall be deemed to have commenced concurrently with the use of the applicable portion of the System for its intended purpose. The use of the applicable portion of the System for its intended purpose shall be deemed to have occurred when Buyer commences to use and rely primarily on the applicable portion of the System for its communications.

- C. As used in the Agreement, the term "Acceptance Date" shall mean and "Acceptance" of the System shall be deemed to occur upon the earlier of: (1) the date on which the System is deemed accepted pursuant to subsection (A) above, or (2) the date on which the System is deemed accepted pursuant to subsection (B) above.
- D. Buyer and Seller agree that in the process of completing the Acceptance Tests, most if not all of the Acceptance Tests can be successfully completed with only a minor number of punchlist items remaining to be completed. In such event, Buyer and Seller shall mutually (and reasonably) agree upon the punchlist items to be completed, the value of those items and that "conditional acceptance" of the System has occurred. For the purpose of initiating the Warranty Period, satisfying the Project Schedule requirements and the release of any retained funds (other than the value of the punchlist items) conditional acceptance shall constitute "Acceptance" of the specific portion or phase of the System. This conditional acceptance shall not, however, release Seller from its obligations to complete the remaining punchlist items by the dates set forth on the punchlist schedule.
- **E.** Terminal Hardware shall be deemed accepted upon Buyer's receipt of delivery at a Buyer-controlled facility, together with a bill of sale or other reasonably requested evidence of title.

SECTION 14. SOFTWARE LICENSE, SOFTWARE MAINTENANCE SERVICES

A. Subject to the terms and conditions of the Software License Agreement attached hereto as an exhibit to this Agreement, Buyer is granted a license to use the Software only in conjunction with the System purchased under this Agreement. "Software" means the "Licensed Programs" as defined in the Software License Agreement.

[If applicable]

B. Seller shall furnish to Buyer a Software maintenance services contract ("FX Agreement") running for a period of _____ years from System Acceptance and subject to the terms and conditions of the FX Agreement in the form set forth in an exhibit attached to this Agreement. Pricing for Software maintenance services shall be defined in the Price Schedule attached to the Statement of Work.

SECTION 15. COVERAGE:

Seller's representations concerning the distance at which usable radio signals will be transmitted and received by Hardware supplied hereunder are set forth in the Statement of Work. Coverage for the System shall be measured as provided in the Testing and Acceptance section of this Agreement.

SECTION 16. WARRANTIES:

A. Hardware and Services

Seller warrants for the following periods of time from the Acceptance Date (hereinafter referred to as the "Warranty Period"), that the Hardware and installation Services furnished by Seller under this Agreement shall be free from defects in material and workmanship and shall conform to the Agreement specifications. Any and all claims for breach of this warranty are conclusively deemed waived unless made within the Warranty Period. The warranty period for additional Hardware purchased by Buyer from Seller after System Acceptance shall be warranted for the following periods of time from the date the Hardware is delivered to Buyer:

- 1. for mobile and portable radios ("Subscriber Units"), twenty-four (24) months.
- 2. for Unity® model Subscriber Units, thirty-six (36) months.
- 3. for all other Hardware, one (1) year.
- **B.** For purposes of this Warranty the batteries supplied by Seller shall be deemed defective if: (1) the battery capacity is less than 80% of rated capacity, or (2) the battery develops leakage. Replacement batteries shall be warranted only for the remaining unexpired portion of the Warranty Period. This warranty becomes void if: (1) the battery has been subjected to any kind of misuse, detrimental exposure, or has been involved in an accident, or (2) the battery is used in equipment or service other than the Hardware for which it is specified.
- C. During the Warranty Period if any component of the Hardware or portion of the installation Services fails to meet the foregoing warranties, Seller's sole obligation and Buyer's exclusive remedy under this warranty shall be the correction by Seller of the failure at Seller's option: (1) by repairing any defective component of the Hardware, or (2) by furnishing any necessary repaired or replacement parts, or (3) by the redoing of the faulty installation. Any such failure, or the repair or replacement of the defective component or the redoing of any installation, shall not extend the Warranty Period. Where such failure cannot be corrected by Seller's reasonable efforts, the parties will negotiate an equitable adjustment in price. Seller will be responsible for all charges incurred in returning defective parts to Seller's plant and shipping repaired or replacement parts to Buyer. All warranty labor must be performed by an authorized service group approved by Seller either at its place of business, for mobile or portable equipment, or at the Buyer's location for fixed location equipment should Seller determine that it is not feasible to return the fixed location equipment to Seller's authorized service group.
- **D.** Any additional purchases of equipment, including radios, and installation services which may be purchased by Buyer and delivered or performed by Seller after System Acceptance, shall be warranted on the same terms, limitations, and exclusions as are set forth herein, except that the warranty on the equipment and installation services shall be for a period of two (2) years for additional Terminal Hardware items from the date of delivery of that item of equipment, one (1) year for additional Infrastructure Hardware items from the date of delivery of that item of equipment, and one (1) year from the date of completion of that installation service.
- E. Seller's obligations shall not apply to: (1) Hardware or components thereof which are normally consumed in operation, or, or (2) defects which are the result of improper storage, use, or installation performed by other than Seller, maintenance performed by other than Seller, or repair performed by other than Seller, or (3) Hardware which has been subjected to any other kind of misuse or detrimental exposure or has been involved in an accident, or (4) Hardware or installations altered or repaired by any party other than Seller without Seller's prior written consent.

F. Coverage Warranty. Notwithstanding the other provisions of this Section Warranties, Seller's only Warranty as to radio coverage is that the System, prior to Acceptance, shall have successfully passed the coverage tests in the Acceptance Test Plan.

G. Software

The warranty for the Software is set forth in the Software License Agreement.

H. THE WARRANTIES AND REMEDIES SET FORTH IN THIS SECTION AND IN THE SOFTWARE LICENSE AGREEMENT CONSTITUTE THE ONLY WARRANTIES WITH RESPECT TO THE HARDWARE, SOFTWARE AND SERVICES AND THE BUYER'S EXCLUSIVE REMEDIES IN THE EVENT SUCH WARRANTIES ARE BREACHED. THEY ARE IN LIEU OF ALL OTHER WARRANTIES WHETHER WRITTEN, ORAL, EXPRESS, IMPLIED, OR STATUTORY INCLUDING, WITHOUT LIMITATION, THE WARRANTY OF MERCHANTABILITY AND THE WARRANTY OF FITNESS FOR A PARTICULAR PURPOSE. IN NO EVENT SHALL SELLER BE LIABLE FOR SPECIAL, CONSEQUENTIAL OR INDIRECT DAMAGES INCLUDING, BUT NOT LIMITED TO, LOSS OF PROFITS OR REVENUES.

SECTION 17. INTERFERENCE:

Radio system coverage and performance are subject to degradation due to anomalous propagation and interference beyond the reasonable control of Seller. Seller cannot be responsible for degradation or disruption of Service caused by operation of other radio systems or by natural phenomena or other interference over which the Seller has no reasonable control. In the event of a case of degradation due to interference by an outside party, Seller will provide engineering support to Buyer at Buyer's expense to support Buyer's efforts in resolving the interference issue with the outside party.

SECTION 18. INDEMNIFICATION:

- A. Seller shall be responsible for and agrees to indemnify, hold harmless and defend the Buyer and its boards, commissions, agencies, officers and employees from and against all liability, losses, damages, costs or expenses which the Buyer and its boards, commissions, agencies and employees may sustain, incur or be required to pay by reason of third party claims, demands and causes of action for damages resulting from personal injuries, loss of life or damage to tangible property to the extent resulting from the willful misconduct or negligent acts or omissions of Seller, Seller's officers, agents, employees, or subcontractors. Buyer agrees to notify Seller in writing as soon as practical of any third party claim, demand or cause of action for which Buyer will request indemnification from Seller. Buyer will provide Seller with the necessary information and assistance to defend or settle such claim, demand or cause of action. The obligations of Seller under this paragraph shall survive the expiration or termination of this Agreement.
- B. Buyer shall be responsible for and agrees to indemnify, hold harmless and defend the Seller and its board of directors, officers and employees from and against all liability, losses, damages, costs or expenses which the Seller and its board of directors, officers and employees may sustain, incur or be required to pay by reason of third party claims, demands and causes of action for damages resulting from personal injuries, loss of life or damage to tangible property to the extent resulting from the willful misconduct or negligent acts or omissions of the Buyer and its boards, commissions, agencies, employees and subcontractors. Seller agrees to notify Buyer in writing as soon as practical of any third party claim, demand or cause of action for which Seller will request indemnification from Buyer. Seller will provide Buyer with the necessary information and assistance to defend or

settle such claim, demand or cause of action. The obligations of Buyer under this paragraph shall survive the expiration or termination of this Agreement.

SECTION 19. PATENTS:

- A. Seller warrants that the System furnished hereunder shall be delivered free of any rightful claim of any third party for infringement of any United States patent or copyright. If Buyer notifies Seller promptly of the receipt of any claim that the System infringes a United States patent or copyright and gives Seller information, assistance and exclusive authority to settle and defend such claim, Seller at its own expense shall defend, or may settle, any suit or proceeding against Buyer so far as based on a claimed infringement which breaches this warranty. If, in any such suit arising from such claim, the continued use of the System for the purpose intended is enjoined by any court of competent jurisdiction, Seller shall, at its expense and option, either: (1) procure for Buyer the right to continue using the System, or (2) modify the System so that it becomes non-infringing, or (3) replace the System or portions thereof so that it becomes non-infringing, or (4) remove the System and refund the purchase price (less reasonable depreciation for use). The foregoing states the entire liability of Seller for patent or copyright infringement by the System and is subject to any limitation of total liability set forth in this Agreement.
- **B.** The preceding subsection (A) shall not apply to: (1) any portion of the System which is manufactured to Buyer's design, or (2) the use of the System in conjunction with any other apparatus or material not supplied by Seller to the extent that such conjoined use causes the alleged infringement. As to any portion of the System or use described in the preceding sentence, Seller assumes no liability whatsoever for patent infringement.
- C. THE PATENT AND COPYRIGHT WARRANTY AND INDEMNITY OBLIGATIONS RECITED ABOVE ARE IN LIEU OF ALL OTHER PATENT AND COPYRIGHT WARRANTIES AND INDEMNITIES WHATSOEVER, WHETHER ORAL, WRITTEN, EXPRESS, IMPLIED OR STATUTORY.

SECTION 20. LIMITATION OF LIABILITY:

- A. Except for Seller's liability to third parties for its willful misconduct or negligent acts or omissions as more particularly described in the Indemnification Section of this Agreement, the total liability of Seller, including its subcontractors or suppliers, for all claims of any kind for any loss or damage, whether in contract, warranty, tort (including negligence or infringement), strict liability or otherwise, arising out of, connected with, or resulting from the performance or non-performance of this Agreement or from the manufacture, sale, delivery, installation, technical direction of installation, resale, repair, replacement, licensing or use of any Hardware, Software or the furnishing of any Service, shall not exceed the amount paid by Buyer allocable to the particular item of Hardware, Software or Service which gives rise to the claim. Except as to title, any such liability shall terminate upon the expiration of the Warranty Period.
- B. IN NO EVENT, WHETHER AS A RESULT OF BREACH OF AGREEMENT, WARRANTY, TORT (INCLUDING NEGLIGENCE OR INFRINGEMENT), STRICT LIABILITY OR OTHERWISE, SHALL SELLER, OR ITS SUBCONTRACTORS OR SUPPLIERS, BE LIABLE FOR ANY SPECIAL, CONSEQUENTIAL, INCIDENTAL, INDIRECT OR EXEMPLARY DAMAGES INCLUDING, BUT NOT LIMITED TO, LOSS OF PROFITS OR REVENUES, LOSS OF USE OF THE HARDWARE OR ANY OTHER EQUIPMENT, COST OF CAPITAL, COST OF SUBSTITUTE GOODS, FACILITIES, SERVICES OR DOWNTIME COSTS.

- C. Any action for any claim of any kind for any loss or damages arising out of, connected with, or resulting from the performance, non-performance or breach of the Agreement, or from the manufacture, sale, delivery, installation, technical direction of installation, resale, repair, replacement, licensing or use of any Hardware, Software or the furnishing of any Services, shall be commenced within one (1) year after the cause of action accrued or it shall be deemed waived or barred.
- **D.** The provisions of this Section, LIMITATION OF LIABILITY, shall apply notwithstanding any other provisions of this Agreement or any other agreement.
- **E.** The provisions of this Section, LIMITATION OF LIABILITY, shall survive the expiration or termination of this Agreement.

SECTION 21. REMEDIES:

- A. In the event of a material breach of this Agreement by Seller which shall continue for one hundred twenty (120) or more days after written notice of such breach (including a reasonably detailed statement of the nature of such breach) shall have been given to Seller by Buyer, Buyer shall be entitled to avail itself cumulatively of any and all remedies available at law or in equity (provided such remedies are not otherwise limited under the terms of this Agreement) and either: (1) suspend performance of its payment obligations under the Agreement for as long as the breach continues uncorrected; or (2) terminate this Agreement by written notice to Seller if the breach remains uncorrected. The following shall constitute material breaches of this Agreement:
 - 1. violation by Seller of any State, Federal or local law, or failure by Seller to comply with any applicable States and Federal service standards, as expressed by applicable statutes, rules and regulations.
 - 2. failure by Seller to carry applicable licenses or certifications as required by law.
 - 3. failure of Seller to comply with reporting requirements contained herein.
 - 4. inability of Seller to perform the Work provided for herein.
- **B.** In the event of: (1) any failure by Buyer for thirty (30) or more days to make any payment when due, or (2) any other material breach of this Agreement by Buyer which shall continue for one hundred twenty (120) or more days after written notice of such breach (including a reasonably detailed statement of the nature of such breach) shall have been given to Buyer by Seller, Seller shall be entitled to avail itself cumulatively of any and all remedies available at law or in equity (provided such remedies are not otherwise limited under the terms of this Agreement) and either: (1) suspend performance of its obligations under this Agreement for as long as the breach remains uncorrected; or (2) terminate this Agreement by written notice to Buyer if the breach remains uncorrected.
- C. In the event Buyer terminates this Agreement as provided herein, all finished and unfinished Hardware and Documentation Deliverables produced or made by Seller for Buyer under this Agreement shall become the property of Buyer and Seller shall be entitled to receive compensation in accordance with the terms of this Agreement for any such Hardware and Documentation Deliverables. Notwithstanding the above, Seller shall not be relieved of liability to Buyer for damages sustained by Buyer by virtue of any breach of this Agreement by Seller described in subsection A above and, after providing Seller with written notice of breach as set forth in subsection

A, Buyer may withhold any payments to Seller for the purpose of set-off of any damages, as agreed upon or finally adjudicated, against such payment.

SECTION 22. CONFIDENTIALITY:

- A. During the term of this Agreement, it is anticipated that one party (hereafter the "Disclosing Party") may disclose to the other party (hereafter the "Receiving Party") information which the Disclosing Party considers proprietary and confidential. Accordingly, with respect to any specification, drawings, sketches, models, samples, tools, technical information, confidential business information or data, in written or other tangible form which: (1) has been designated in writing by the Disclosing Party as confidential or proprietary, or (2) is of the type that the Receiving Party customarily treats as confidential or proprietary, and which is furnished by the Disclosing Party to the Receiving party in contemplation of or under this Agreement (hereinafter "Information"), the Receiving Party shall treat such Information, for a period of five (5) years after the Effective Date of this Agreement, as confidential information with the same degree of care as the Receiving Party affords to confidential information of its own of a similar nature and shall not reproduce any such Information, in whole or in part, except as specifically authorized in writing by the Disclosing Party.
- **B.** The provisions of the preceding subsection shall not apply to any Information which:
 - 1. is or shall become publicly available without breach of this Section Confidentiality, on the part of the Receiving Party;
 - 2. is already known by the Receiving Party prior to receipt from the Disclosing Party;
 - 3. is independently developed by the Receiving Party;
 - 4. is rightfully obtained by the Receiving Party from third parties without restriction; or
 - 5. is required to be disclosed by appropriate governmental or judicial order provided that Receiving Party gives Disclosing Party prior written notice of such order and assists Disclosing Party in taking reasonable actions to restrict such order.
- **C.** The provisions of this Section, Confidentiality, shall survive the expiration or termination of this Agreement.
- **D.** The confidentiality obligations of this Section, Confidentiality, shall not apply to Software, the confidentiality and other rights and obligations with respect to which are set forth in the Software License Agreement.

SECTION 23. COMPLIANCE:

Seller agrees to comply with all federal, state and local laws, ordinances, codes, rules and regulations in effect as of the Effective Date of this Agreement that may in any way affect the Work by Seller hereunder. Any Hardware or Software furnished by Seller under this Agreement shall comply in all material respects with federal, state and local laws and regulations applicable to the manufacture, packing, sale and shipment of such Hardware or Software as of the Effective Date of this Agreement and shall comply with any amendments thereto which may have come into effect prior to the time such Hardware or Software are delivered provided that the price and, if necessary, delivery of such Hardware or Software shall be equitably adjusted to compensate Seller for the effect of compliance with any such amendments.

SECTION 24. NOTICES:

Notices and other communications between the parties shall be transmitted in writing by certified mail or nationally recognized overnight courier service to the parties at the addresses set forth below and shall be deemed effective upon receipt by the receiving party. Either party may change its address by giving notice in writing thereof to the other party.

IF TC	BUY	<u>ER:</u>		
Attn:				
	H A C	ЭРҮ Т	ГО:	
Attn:				

IF TO SELLER:

Harris Corporation 221 Jefferson Ridge Parkway Lynchburg, Virginia 24501 Attn: [Program Manager]

WITH A COPY TO:

Harris Corporation 221 Jefferson Ridge Parkway Lynchburg, Virginia 24501 Attn: [Contracts Manager]

SECTION 25. ORDER OF PRECEDENCE:

The Statement of Work and the following Exhibits are expressly incorporated herein by reference and, together with this Agreement, constitute the Agreement Documents. In the event of a conflict among or between the Agreement Documents, the documents shall control in the order of precedence set forth below:

- 1. Amendments to this Agreement
- 2. This Agreement (not including the Exhibits and documents listed below)
- 3. Detailed Design Documents

Exhibits to be tailored, as applicable

- 4. **Exhibit A** Statement of Work, with Attachments
- 5. Exhibit B Software License Agreement
- 6. Exhibit C Software FX Agreement
- 7. **Exhibit D** Reserved

SECTION 26. TERM:

The term of this Agreement shall commence upon the Effective Date of this Agreement and shall run through the Expiration Date. The term of the Software license is set forth in the Software License Agreement.

SECTION 27. ENTIRE AGREEMENT:

The entire agreement of the parties is contained herein and this Agreement supersedes any and all oral agreements and negotiations between the parties relating to the subject matter hereof.

SECTION 28. AMENDMENT:

The parties expressly agree that this Agreement shall not be amended in any fashion except in a writing(s) executed by authorized representatives of both parties.

SECTION 29. SEVERABILITY:

The invalidity, in whole or in part, of any Section or part of any Section of this Agreement shall not affect the validity of the remainder of such Section or the Agreement.

SECTION 30. WAIVER:

No term of this Agreement may be waived except in a writing signed by the party waiving enforcement. No term of this Agreement shall be deemed to be waived by reason of any failure to previously enforce such term. In no event shall the making of any payment required by this Agreement constitute or be construed as a waiver by Buyer of any breach of the covenants of this Agreement or a waiver of any default of Seller and the making of any such payment by Buyer while any such default or breach shall exist shall in no way impair or prejudice the right of Buyer with respect to recovery of damages or other remedy as a result of such breach or default.

SECTION 31. HEADINGS:

Section headings are inserted for convenience only and shall not be used in any way to construe the meaning of terms used in this Agreement.

SECTION 32. GOVERNING LAW:

It is expressly understood and agreed to by the parties hereto that in the event of any disagreement or controversy between the parties, law shall be controlling. Venue for any legal proceedings shall be in any state or federal court in the State of Virginia.

SECTION 33. ASSIGNMENT; SUCCESSORS AND ASSIGNS:

This Agreement shall not be assigned nor any interest or obligation in this Agreement transferred by either Party without the written consent of the other Party, which shall not be unreasonably withheld or delayed. Notwithstanding the above, Seller may assign this Agreement, without consent, (a) in whole or in part, to an affiliate or subsidiary or (b) in the event of a change of controlling ownership interest (either directly or indirectly) in Seller or in the event of merger, recapitalization, consolidation, other business combination or sale of all or substantially all of the assets of Seller. In addition, Seller may also assign or transfer, without consent, claims for money due or to become due Seller from Buyer under this Agreement to a bank, trust company or other financial institution if and only if the instrument of assignment contains a provision substantially to the effect that it is agreed that the right of the assignee in

and to any moneys due or to become due to Seller shall be subject to prior claims of all persons, firms and corporations for services rendered or materials supplied for the performance of the Work called for in this Agreement. Seller shall promptly provide to Buyer notice of any such permitted assignment or transfer without consent.

[End of Text This Page]

IN WITNESS WHEREOF, Buyer and Seller have executed this Agreement.

BUYER

	WITNESS:	
By:		
Name:	Witness Name:	
Title:		
Date:		
SELLER		
HARRIS CORPORATION, RF COMMUNICATIONS DIVISION		
	WITNESS:	
By:		
Name:	Witness Name:	
Title:		
Date:		

LIST OF EXHIBITS [to be tailored, as applicable]

Exhibit A - STATEMENT OF WORK (with Attachments)
Exhibit B - SOFTWARE LICENSE AGREEMENT

Exhibit C - SOFTWARE F/X AGREEMENT

Exhibit D - RESERVED

EXHIBIT A

STATEMENT OF WORK

TABLE OF CONTENTS

Attachments to Exhibit A [to be tailored, as applicable]

EXHIBIT B

SOFTWARE LICENSE AGREEMENT

This License Agreement ("License	Agreement") is made upon the Effective Date of the Primary
Agreement (the "Effective Date") be	etween Harris Corporation, a Delaware Corporation, through its RF
Communications Division, ("LICENS	SOR") with offices at 221 Jefferson Ridge Parkway, Lynchburg, VA
24501 and	_ ("LICENSEE"). LICENSOR is the owner of certain wireless
communications software programs a	and LICENSEE desires to obtain a license from LICENSOR to use
such wireless communications progra	ims.

1.0 Definitions.

- 1.1 <u>"Designated Systems":</u> Means the Harris system(s), products, and Designated Terminals purchased by Buyer and identified in the Primary Agreement for which the Licensed Programs and documentation are intended to be used.
- 1.2 "Designated Terminals": Means the LICENSOR's Terminals purchased by LICENSEE.
- 1.3 <u>"Licensed Programs":</u> The term Licensed Programs shall mean the wireless communications computer programs in software or firmware supplied under this License Agreement by LICENSOR in binary object code format to the LICENSEE (stand alone or in conjunction with the purchase of a LICENSOR wireless communications system.) Licensed Programs shall also include all other material related to the Licensed Programs supplied by LICENSOR to LICENSEE hereunder, and which may be in machine readable or printed form, including but not limited to user documentation and/or manuals.
- 1.4 <u>"Open Source Software"</u>: Means software with either freely obtainable source code, license for modification, or permission for free distribution.
- 1.5 <u>"Open Source Software License":</u> The terms or conditions under which the Open Source Software is licensed.
- 1.6 "Primary Agreement": The agreement to which this exhibit is attached.
- 1.7 <u>"Third Party Software Products":</u> Shall mean programs that are not developed by LICENSOR which are licensed / purchased by LICENSOR for inclusion in its products.

2.0 License Grant for Licensed Programs.

2.1 Subject to the Contract and the performance by Licensee of its obligations hereunder, LICENSOR hereby grants to Licensee, and Licensee hereby accepts from LICENSOR, (a) a personal, non-transferable, non-exclusive, perpetual, limited license to use the Licensed Programs in object code format only and (b) install and execute such Licensed Programs on Licensee's equipment and (c) are to be used for internal business purposes only. All licensed programs under this License Agreement shall only be used in conjunction with the Designated System. This license does not transfer any right, title, or interest in the Licensed Programs. The license granted authorizes Licensee to use the Licensed Programs in object code format and does not grant any rights to source code.

- 2.2 LICENSEE will not reproduce, modify, or make derivative works of the Licensed Programs, except that LICENSEE may make one archival, and one inactive backup, copy of the Licensed Programs. In addition, LICENSEE, its agents, consultants and/or its subcontractors will not attempt to reverse engineer, decompile, or reverse-compile any software contained in the Licensed Programs and any attempt to do so shall be a material breach of this License Agreement. With respect to the Licensed Programs, LICENSEE will not alter, deface, discard, or erase any media, documentation, or LICENSOR or Third Party Licensor's trademarks or proprietary rights notices.
- 2.3 Third Party Software Products may be subject to additional license terms, which, if applicable, are set out in Product Specific License Terms delivered with each product. Additional Third Party license terms and conditions may be found at https://premier.pspc.harris.com/infocenter/Licenses 1.htm. To the extent applicable, LICENSEE shall comply with any additional Third Party Software Product license terms.
- 2.4 If the Software licensed under this License Agreement contains or is derived from Open Source Software, the terms and conditions governing the use of such Open Source Software are in the Open Source Software Licenses of the copyright owner and not this License Agreement and, to the extent applicable, LICENSEE will comply with the Open Source Software terms License terms. If there is a conflict between the terms and conditions of this License Agreement and the terms and conditions of the Open Source Software Licenses governing Licensee's use of the Open Source Software, the terms and conditions of the license grant of the applicable Open Source Software Licenses will take precedence over the license grants in this License Agreement. If requested by Licensee, Harris will use commercially reasonable efforts to: (i) determine whether any Open Source Software is provided under this License Agreement; (ii) identify the Open Source Software and provide Licensee a copy of the applicable Open Source Software License (or specify where that license may be found).

3.0 Protection and Security of Licensed Programs.

LICENSEE acknowledges and agrees that the Licensed Programs and any materials and/or documentation related thereto, and any portion thereof, supplied by LICENSOR hereunder are proprietary and confidential to LICENSOR or applicable third party licensors and are a valuable commercial asset of LICENSOR or their third party owners. LICENSEE also acknowledges and agrees that LICENSOR and/or the third party licensors have and shall retain all proprietary rights in their respective portions of the Licensed Programs and any materials and/or documentation related thereto. LICENSEE (i) shall respect such proprietary rights, (ii) shall protect LICENSOR and any third party licensor's proprietary rights at least to the extent that it protects its own proprietary information, or such (iii) shall not use the Licensed Programs nor any materials or documentation related thereto except for the purposes for which they are being made available as set forth in this License Agreement and (iv) shall not reproduce, print, disclose, or otherwise make said Licensed Programs or materials and/or documentation related thereto available to any third party, in whole or in part, in whatever form, except as permitted in the terms of this License Agreement.

4.0 Warranty

Seller warrants, for the greater of a period of one year or, if a longer warranty period for the product containing the Licensed Program is set forth in a Primary Agreement, the longer warranty period shall apply commencing with the date of Licensee's acceptance of their Designated System, that any Licensed Program furnished to Licensee under this License Agreement shall be capable of successfully operating on the Designated System in accordance with the logic defined in the operator's manuals when the system is supplied with correct input data. If, on the basis of evidence submitted to LICENSOR within the term of this warranty, it is shown that any Licensed Program does not meet this warranty, LICENSOR will, at

its option, either correct the defect or error in the Licensed Program, free of charge, or make available to Licensee a substitute program. The foregoing warranty is exclusive and in lieu of all other warranties whether written, oral, implied or statutory. NO IMPLIED OR STATUTORY WARRANTY OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE, NONINFRINGEMENT, SHALL APPLY, ALL OF WHICH ARE EXPRESSLY DISCLAIMED BY LICENSOR.

Licensed Programs which have been developed or are owned by a third party licensor and which are sublicensed by LICENSOR to LICENSEE hereunder shall be warranted to LICENSEE only to the extent that the licensor of such sublicensed programs warrants such sublicensed programs to LICENSOR.

In the event that the Licensed Programs do not conform to the representation above, LICENSEE's sole remedy and LICENSOR's sole and exclusive liability shall be to replace such Licensed Programs with the then current released version of such Licensed Programs.

5.0 Limitation of Liability.

- 5.1 THE LIMITATION OF LIABILITY PROVISION IN THE PRIMARY AGREEMENT SHALL GOVERN THIS LICENSE AGREEMENT AND SECTION 5.2 SHALL NOT APPLY. IF THERE IS NO LIMITATION OF LIABILITY PROVISION IN THE PRIMARY AGREEMENT, SECTION 5.2 SHALL APPLY.
- 5.2 IN NO EVENT WILL LICENSOR AND/OR ANY THIRD PARTY LICENSOR(S) BE LIABLE FOR ANY SPECIAL, INDIRECT, INCIDENTAL, CONSEQUENTIAL, PUNITIVE OR EXEMPLARY DAMAGES, INCLUDING BUT NOT LIMITED TO ANY DAMAGES RESULTING FROM LOSS OF USE, LOSS OF DATA, LOSS OF PROFITS OR LOSS OF BUSINESS, WHETHER BASED ON CONTRACT, TORT, STRICT LIABILITY OR ANY OTHER THEORY OR FORM OF ACTION, EVEN IF LICENSOR AND/OR ITS THIRD PARTY LICENSOR(S) HAS BEEN ADVISED OF THE POSSIBILITY OF SUCH DAMAGES. LICENSOR'S AND THIRD PARTY LICENSORS', LIABILITY IN CONTRACT, TORT OR OTHERWISE ARISING OUT OF OR IN CONNECTION WITH THIS LICENSE AGREEMENT OR THE USE OF THE LICENSED PROGRAMS SHALL NOT EXCEED THE TOTAL COMPENSATION PAID TO LICENSOR BY LICENSEE FOR THE PRODUCTS CONTAINING THE LICENSED PROGRAMS.

6.0 Term and Termination.

- 6.1 LICENSOR reserves the right, in addition to any other remedies it may retain in this License Agreement or may be entitled to in law or equity (including immediate injunctive relief and repossession of all non-embedded Licensed Programs and documentation), to terminate this License Agreement at any time prior to the expiration of any Term in the event LICENSEE breaches any material term or condition or fails to perform or observe any obligations or covenants of this License Agreement and such failure and/or breach is not remedied within thirty (30) days of written notice from LICENSOR.
- 6.2 Within thirty (30) days after termination or expiration of this License Agreement, LICENSEE will return to LICENSOR all confidential material including but not limited to all copies, partial copies, and/or modified copies (if any) of Licensed Programs and any equipment owned by LICENSOR in LICENSEE's possession.

7.0 Assignment/Transfer.

This License Agreement, the licenses granted hereunder and the Licensed Programs provided to LICENSEE under this License Agreement may not be assigned, sub-licensed, or otherwise transferred by LICENSEE to any third party without LICENSOR's prior written consent, except that this license may be assigned if the Products containing the Licensed Programs are transferred but the new owner or user of the Products may only use the Licensed Programs in accordance with terms of this License Agreement. Subject to the foregoing, any assignee hereunder shall be subject to all of the terms, conditions and provisions of this License Agreement. Any attempt by LICENSEE to assign, sub-license, or transfer the Licensed Programs, or any of the rights or duties contained in this License Agreement, without LICENSOR's prior written consent shall be void.

8.0 Severability.

If any term or provision of the License Agreement is determined by a court or government agency of competent jurisdiction to be invalid under any applicable statute or rule of law, such provision(s) are, to that extent, deemed omitted, but this License Agreement and the remainder of its provision shall otherwise remain in full force and effect.

9.0 Waiver.

No waiver will be implied from conduct or failure to enforce rights. No waiver will be effective unless in writing signed on behalf of the party against whom the waiver is asserted.

10.0 Compliance with Laws.

Licensee acknowledges that the Licensed Programs are subject to the laws and regulations of the United States and Licensee will comply with all applicable laws and regulations, including export laws and regulations of the United States. Licensee will not, without the prior authorization of Harris and the appropriate governmental authority of the United States, in any form export or re-export, sell or resell, ship or reship, or divert, through direct or indirect means, any item or technical data or direct or indirect products sold or otherwise furnished to any person within any territory for which the United States Government or any of its agencies at the time of the action, requires an export license or other governmental approval. Violation of this provision is a material breach of this License Agreement.

11.0 Governing Law.

This License Agreement will be governed by the laws of the Unites States to extent that they apply and otherwise to the laws of the State of New York. The terms of the U.N. Convention on Contracts for the International Sale of Goods do not apply. The parties expressly agree that the Uniform Computer Information Transactions Act ("UCITA") applicable in any jurisdiction shall not apply to this License Agreement.

12.0 U.S. Government.

If Licensee is the U.S. Government, the Licensed Programs and documentation qualify as "commercial items," as that term is defined at Federal Acquisition Regulation ("FAR") (48 C.F.R.) 2.101, consisting of "commercial computer software" and "commercial computer software documentation" as such terms are used in FAR 12.212. Consistent with FAR 12.212, and notwithstanding any other FAR or other contractual clause to the contrary in any agreement into which the License Agreement may be

incorporated, Customer may provide to Government end user or, if the License Agreement is direct, Government end user will acquire, the software and documentation with only those rights set forth in the License Agreement. Use of either the software or documentation or both constitutes agreement by the Government that the software and documentation are "commercial computer software" and "commercial computer software documentation," and constitutes acceptance of the rights and restrictions herein.

13.0 Agreement.

This License Agreement may be part of a Primary Agreement between LICENSOR and LICENSEE for the purchased products by LICENSEE from LICENSOR. The Primary Agreement and this License Agreement contain the full understanding of the parties with respect to the subject matter hereof and which supersede all prior understandings and writings relating thereto and which shall become binding on the Effective Date of this License Agreement. No waiver, consent, modification, amendment, or change to the terms of this License Agreement shall be binding unless agreed to in a writing signed by LICENSEE and LICENSOR. If there is any conflict between the terms of the Primary Agreement and this License Agreement as to the Licensed Programs, the terms of this License Agreement will prevail.

14.0 Notices.

Notices shall be provided as set forth in the Primary Agreement. In the event there is no notice provision in the Primary Agreement, notices and other communications between the parties shall be transmitted in writing by certified mail or nationally recognized overnight courier service.

15.0 Survival.

Sections 2.2, 2.5, 3, 5, 6, 8, 9, 11, and 13 of this License Agreement shall survive termination of this agreement.

EXHIBIT C

SOFTWARE F/X AGREEMENT



Exhibit C SOFTWARE FX AGREEMENT

THIS SOFTWARE FX AGREEMENT ("Agreement") is hereby entered into between Harris Corporation, a Delaware Corporation, through its RF Communications Division ("Harris") and ("Subscriber") on the following terms and conditions:

1. SCOPE OF AGREEMENT

During the term of this Agreement, as set forth in Section 11, Harris agrees to provide Subscriber with the following:

- A. Harris Software Update benefits including software updates, documentation updates and other services, as set forth in Section 3 of this Agreement, for the software developed and provided by Harris and contained within the Subscriber's Designated Harris System(s) as described in **Exhibit A** to this Agreement; and
- B. Harris Security Update Management Service including patch management services for the updating of security related patches, as set forth in Section 4 of this Agreement, to the Subscriber's Designated Harris System(s) as described in **Exhibit A** to this Agreement.

2. **DEFINITIONS**

As used in this Agreement, the following terms shall have the meanings set forth below.

- A. "Contract" means the Agreement for the purchase of the Designated System(s).
- B. "Current Software Release Levels" means the most recent Software release announced by Harris as being commercially available. "Commercially available" does not include interim releases provided as emergency fixes or software released for beta test or noncommercial or similar purposes.
- C. "Designated System(s)" means the Harris system(s) purchased by Subscriber and identified in Exhibit A to this Agreement. The Designated System does not include Third Party Software Products. Excluded Products or other systems to which the Designated System may be linked.
- D. "Enterprise Configuration" means a radio system level configuration that is capable of supporting Large county, multi-county, regional or state wide installations.
- E. "Excluded Products" means third Party Products contained in the customer's system that were not sold by Harris to Subscriber.
- F. "Harris Licensed Programs" means all Harris Software programs and associated documentation nonexclusively licensed to Subscriber by Harris for use solely with Subscriber's Designated System.
- G. "Harris Software Updates" means any commercially available corrections, modifications or enhancements to the Licensed Programs generally released and/or provided by Harris.

- H. "Harris Network Solutions Provider" (NSP) means an entity authorized by Harris to sell certain Harris products and systems as an authorized NSP in accordance with the provisions of a NSP Agreement between Harris and such person or entity.
- I. "IAVA" Information Assurance Vulnerability Alert. An IAVA is an announcement of a computer application software or operating system vulnerability notification in the form of alerts, bulletins, and technical advisories identified by DoD-CERT, a division of the United States Cyber Command.
- J. "Optional Feature" means those Harris Software features, not currently contained in the Subscriber's Designated System, available for Current Software Release Levels that are available to Subscriber at an additional cost.
- K. "Product Vulnerability Alerts" (PVAs) means security vulnerabilities reported against a product supplied by the Seller. Notifications of these PVAs are obtained from multiple sources; governmental, vendor, independent and open source databases.
- L. "PVA Evaluation" means the Seller's process for evaluation of a potential Product Vulnerability Alert affecting products provided by the Seller.
- M. "RCE" means Harris's Regional Centers of Excellence. RCEs are Harris master distributors of all Harris land mobile radio products and services.
- N. "STIG" means Security Technical Implementation Guide. A STIG is a methodology for standardized secure installation and maintenance of computer software and hardware
- O. "Security Updates" means software updates that mitigate, address and/or resolve product security vulnerabilities in system components offered by the Seller. These updates may include Vendor Patches and/or Vendor Work-Arounds.
- P. "Security Update Distribution" means the Seller providing Security Updates to which the Subscriber is entitled under the terms of this Agreement, affecting components of the Subscriber's Designated System as defined in Exhibit A.
- Q. "Software Updates" means all Harris provided software updates to either Harris designated SW system components or SUMS Software updates.
- R. "SUMS" means Harris's Security Update Management Service. Harris's automated patch management system that provides periodic, security-related software updates.
- S. "SUMS Software Updates" means periodic, security-related software, including but not limited to, operating system updates, antivirus signatures, and other security related Windows-based 3rd party updates (Adobe, Java, Flash).
- T. "Tech-Link" is the technical information section of Harris's web site. Access is restricted to authorized subscribers via user ID and password login.
- U. "Third Party Software Products" means software owned by a party other than Harris Corporation.
- V. "Vendor Patches" means software updates provided by third-party software vendors that mitigate, address and/or resolve PVA(s).
- W. "Vendor Work-Arounds" means configuration and/or procedural changes provided by third-party software vendors that mitigate, address and/or resolve PVA(s).

3. HARRIS SOFTWARE UPDATES

- A. <u>Harris Software Releases Included</u>. With respect to each Licensed Program, and subject to the conditions of this Agreement, Harris will provide the Software Updates described below during the term of this Agreement. All Updates shall be shipped to Subscriber's Software FX contact designated in Exhibit A of this Agreement via protective packaging containing a quantity of programmed Software media (e.g., Proms, Tapes, Compact Discs or DVDs) necessary for Subscriber to fully implement the Software Updates within its Designated System. In addition, each shipment of Software Updates shall contain at least one set of Software release notes detailing the contents of the Software Update and providing installation instructions.
 - i. <u>Software Updates Upon Enrollment</u>. As determined by the system audit described in Section 6.A.i. of this Agreement, Harris shall provide to Subscriber the Software Updates needed, if any, to bring the Licensed Programs within Subscriber's Designated System up to Harris's Current Software Release Levels. Such Updates will be provided at no additional cost to Subscriber provided Subscriber has enrolled in the Software FX program within the enrollment deadline specified in Section 9.A of this Agreement. [To be tailored dependant upon customer's HW FX enrollment] [and provided Subscriber has installed, at Subscriber's expense, the compatible hardware necessary to accommodate the Software Updates.]
 - ii. <u>Subsequent Software Updates</u>. During the term of this Agreement and subject to Subscriber's performance of its obligations, Harris shall provide to Subscriber Software Updates, released by Harris subsequent to Subscriber's enrollment in Software FX, for the Licensed Programs contained within Subscriber's Designated System. Such subsequent Software Updates may include:
 - a. Enhancements and/or corrections to existing features for all Designated System backbone components and/or radios;
 - b. New features or improvements to existing features implemented via the system components already contained within Subscriber's Designated System.
- B. System Level Release Documentation: Prior to the general release of a major system release by Harris for Harris Licensed Programs, Harris shall make available a system level release document announcing the impending release, and detailing its contents and impact, if any, on any other Harris hardware or Software components. Subscriber acknowledges that older hardware may not have sufficient capacity for the operation of the Software Updates. NOTHING IN THIS AGREEMENT OR OTHERWISE REQUIRES HARRIS EITHER TO DESIGN UPDATES THAT REMAIN COMPATIBLE WITH DESIGNATED SYSTEM HARDWARE OR TO PROVIDE ADDITIONAL HARDWARE UNDER THIS AGREEMENT, AND SUBSCRIBER WAIVES ANY SUCH DUTY OR OBLIGATION BY HARRIS.

4. HARRIS SECURITY UPDATE MANAGEMENT SERVICE

- A. <u>Security Update Distributions Inclusions</u>. Subject to the conditions of this Agreement, Seller will provide periodic SECURITY UPDATES described below during the term of this Agreement. All SECURITY UPDATES shall be provided to Subscriber's contact designated in Exhibit A. SECURITY UPDATES shall contain software necessary for the Subscriber to fully implement the Security Update within the Designated System and at least one set of Software release notes detailing the contents of the SECURITY UPDATES and providing installation instructions.
 - i. <u>Security Updates Upon Enrollment</u>. As determined by the system audit described in Section 6.A.i. of this Agreement, Seller shall provide to Subscriber the SECURITY UPDATES needed, if any, to bring

the Licensed Programs within Subscriber's Designated System up to Seller's current security software release levels. Such updates will be provided at no additional cost to Subscriber provided Subscriber has enrolled in the Software FX program within the enrollment deadlines specified in this Agreement. [To be tailored dependant upon customer's HW FX enrollment] – [and provided Subscriber has installed, at Subscriber's expense, any compatible hardware necessary to accommodate the SECURITY UPDATES.]

- ii. <u>Subsequent Security Updates</u>. During the term of this Agreement and subject to Subscriber's performance of its obligations, Seller shall provide to Subscriber SECURITY UPDATES that may include:
 - a. Vendor Patches and/or Vendor Work-Arounds, enhancements, corrections and/or changes, made by third-party software vendors to software included in Seller provided products subject to the Subscriber's right to receive the third-party software. The Subscriber may be required to have currently executed services/support Agreement(s) with third-party vendor(s) separate from this Agreement.

B. **SUMS PRODUCT Features Summary.**

- a. The Seller will use reasonable efforts to monitor pertinent governmental, vendor, independent and open source databases for PVAs, IAVAs, STIGs and for any subsequent resolutions that affect products provided by the Seller that are part of the Subscriber's Designated System.
- b. The Seller will make every reasonable effort to verify that the PVA, IAVA, and STIG resolutions, Vendor Patches and/or Vendor Work-Arounds, do not adversely affect the Seller's stated performance of the Subscriber's Designated System.
- c. The Seller will provide Security Update Distributions to the Subscriber at periodic intervals targeting bi-monthly releases. The interval shall be determined solely by the Seller. More frequent Security Update Distributions may be required to address urgent product security vulnerabilities. Security Update Distributions on other than a bi-monthly basis do not constitute a contractual default by the Seller.
- d. The Seller will provide Security Update Distributions in a means suitable for use on the target devices of the Subscriber's Designated System. Optional On-Site Support Services may be contracted by the Subscriber, outside of this Agreement, through the Seller or the Seller's RCE or Network Solutions Provider or designated local service provider as set forth in Section 6.A.iv.
- e. Prior to the general release by Seller of any Security Updates, Seller shall make available a SUMS PRODUCT release document announcing the impending release, and detailing its contents and impact, if any, on any other Seller hardware or Software components. Subscriber acknowledges that older hardware may not have sufficient capacity for the operation of the Software Updates. NOTHING IN THIS AGREEMENT OR OTHERWISE REQUIRES SELLER EITHER TO DESIGN UPDATES THAT REMAIN COMPATIBLE WITH DESIGNATED SYSTEM HARDWARE OR TO PROVIDE ADDITIONAL HARDWARE UNDER THIS AGREEMENT, AND SUBSCRIBER WAIVES ANY SUCH DUTY OR OBLIGATION BY SELLER.
- f. The Seller will provide with each Security Update Distribution a Security Release Notes document. This document will detail the PVA resolutions and/or mitigation addressed by this release, installation and installation recovery procedures and software and hardware compatibility information where applicable.

- g. Automated Security Update Distribution Services. The Seller will provide a means of automating the distribution of Security Updates to the target devices within the Subscriber's Designated System. Subscriber shall be responsible for providing the necessary hardware and licenses to run the automated distribution of Security Updates. This hardware shall be part of Subscriber's Designated Harris System or purchased at Subscriber's expense from Seller prior to the initialization of this Software FX Agreement. As set forth in Section 9.C. of this Agreement, it shall be the Subscriber's responsibility to complete the security update process on the target devices (e.g. rebooting the target devices) following the Patch Application instructions in the Release Notes accompanying each Security Update Distribution. Optional On-Site Support Services may be contracted by the Subscriber, outside of this Agreement, through the Seller or the Seller's RCE or Network Solutions Provider or designated local service provider as set forth in Section 6.A.iv.
- h. Assessment Reporting. For those PVAs monitored by the Seller as stated in Section 4.B.h., the Seller will provide responses assessing the affects of the monitored PVAs on the LMR system and stating Seller's recommendations for required actions. Access to the PVA assessments will be granted through Tech-Link, a restricted web site maintained by the Seller. The Seller does not guarantee assessment response time, but will make reasonable efforts to provide timely assessment responses.

5. SOFTWARE RELEASES NOT INCLUDED

- A. <u>Software Releases Not Included</u>. The following Software releases are not included within the terms of this Agreement:
 - i. New Products. Any Software products released by Harris for which an earlier generation or release level is not already contained within Subscriber's Designated System. If Subscriber wishes to implement such Software products within its Designated System, it will need to license such products at the fees then in effect and purchase any necessary compatible hardware for operation of such Software.
 - ii. <u>Third Party Software</u>. To the extent that such Third Party Software Products are available and compatible with the Designated System, Harris reserves the right to charge an additional fee for upgrades to software programs that are licensed by a third party for use with the Harris system yet are not the property of Harris. The Subscriber may be required to have currently executed services/support Agreement(s) with third-party vendor(s) separate from this Agreement. Subscriber must provide evidence of a current services/support Agreement at the seller's request.

6. SOFTWARE SERVICES INCLUDED

- A. <u>Services Included</u>. Subject to the terms and conditions of this Agreement and Subscriber's compliance therewith, Harris will provide to Subscriber the services described below.
 - i. System Configuration Baseline and Documentation Update. As part of the initial enrollment process for Software FX, Harris may deem it necessary to conduct a system audit of Subscriber's Designated System(s) to be covered under this Agreement. If said audit is required, Harris, or its RCE or Harris Network Solutions Provider will conduct the audit. This audit will be used to verify Subscriber's first-year Software FX Fee and to determine the Software release levels for Licensed Programs contained within Subscriber's System at the time of enrollment, together with any hardware updates necessary to accommodate Software Updates.

- ii. <u>Installation Phone Support</u>. Subscriber's Software FX subscription shall include telephone support by Harris's Technical Assistance Center (TAC) personnel with respect to the installation of Software Updates. Such support will be available during Harris' normal business hours (8:00 a.m. to 5:00 p.m. Eastern Standard Time Monday through Friday, excluding holidays) and for a period of ninety (90) days from the date the Software Update is released to Subscriber. After-hours emergency support will be available through Harris optional System Maintenance services at prices then in effect, provided that Subscriber is in compliance with the terms of this Agreement.
- iii. <u>Upgrade Planning</u>. If Subscriber is in compliance with the terms of this Agreement and its Designated System is classified as an Enterprise Configuration, Harris, or its RCE or Network Solutions Provider, shall provide an annual consultation service to review Harris' planned Software releases and evaluate the operational and financial impact such releases may have on Subscriber's Designated System. If Subscriber is in compliance with the terms of this Agreement and its Designated System is classified below an Enterprise Configuration, upgrade planning is not included within the terms of this Agreement but can be obtained from Harris at the rates then in effect for such service.
- iv. <u>On-Site Services.</u> Initial Installation Services are optionally available, outside of this Agreement, through the Seller's RCE or Network Solutions Provider, or a designated local service provider provided that Subscriber is in compliance with the terms of this Agreement.
- v. <u>Tech-Link</u>. Tech-Link is the restricted access, technical information section of Seller's web site. Seller will provide FX subscribers access, via user ID and password authorization, to FX and SUMS release documentation and downloadable distribution media. Seller will also provide additional authorization to allow subscribers to view PVA, IAVA, and STIG assessment recommendations described in Section 4.B.i.

7. SOFTWARE SERVICES NOT INCLUDED

<u>Services Not Included</u>. The following services/products are not included within the terms of this Agreement:

- i. <u>Hardware Upgrades</u>. In the occasional event that a Software Update released requires a corresponding hardware change, Subscriber will need to purchase separately the compatible hardware required. Harris will endeavor to notify Subscriber in advance via the system level release documentation or, if applicable, via Software FX's upgrade planning service of any hardware changes needed in order to implement a Software Update. No such notice will be given for Third Party Software Updates or Excluded Products, and no hardware upgrade may be available.
- ii. <u>Software Update Installation</u>. Installation of Software Updates for terminal products, Software Updates for infrastructure, and Security Updates by Seller are not included, but such installations may be obtained from Seller, or its RCE or Network Solutions Provider, at the rates then in effect for such service, provided that Subscriber is in compliance with the terms of this Agreement.
- iii. Optional Support Services. Other Software support services Subscriber may require, including, but not limited to, training, customized software programming or troubleshooting through Seller's Technical Assistance Center are outside the scope of this Agreement but may be obtainable through other programs offered by Seller.

8. SOFTWARE DISTRIBUTION AND INSTALLATION

All Software Updates shall be provided to Subscriber's contact designated in Exhibit A. In addition, each shipment of Software Updates shall contain at least one set of Software release notes detailing the contents of the Software Update and providing installation instructions

In the event any Software media contained within Subscriber's Designated System incurs damage, whether from acts of Nature or human error, Harris shall provide replacements for such Software to Subscriber at no additional charge, subject to the terms and conditions of this Agreement.

9. CONDITIONS FOR SERVICE

- A. <u>Enrollment Deadline</u>. Subscriber agrees to enroll in Software FX no later than sixty (60) days after the earlier of: (i) the first expiration date of the warranty provided by Harris for any component of Subscriber's Designated System, or (ii) the first expiration date of the warranty provided by Harris for any of the Software within Subscriber's Designated System. If either such warranty already has expired when Subscriber is first offered the Software FX Program, Subscriber will be given a 60-day grace period in which to enroll in Software FX. A Subscriber meeting the enrollment deadline will receive, at no additional charge as described in Sections 3.A.i. and 4.A.i of this Agreement; the Software Updates needed to bring its Designated System up to Harris's Current Software Release Levels to the extent the Designated System hardware is compatible with such Software Updates.
- B. <u>Subscriber Contact</u>. Seller requests that Subscriber identify its Subscriber Contact in Exhibit A. Subscriber shall designate a person with sufficient technical expertise to be able to interact knowledgeably with Seller's technical support personnel. To the maximum extent practicable, Subscriber's communications with Seller (with regard to the Software Updates provided under this Agreement) should be through the Subscriber Contact.
- C. <u>Installation</u>. Subscriber agrees to properly install the Software Updates provided by Seller in order of receipt from Seller. Subscriber understands that Software support provided by Seller is limited to Seller's Current and current minus 1 Software Release Levels of Licensed Programs for the Designated System.
- D. <u>Media Labeling</u>. Subscriber agrees that if it makes copies of any Software Update supplied by Harris, for backup purposes, Subscriber will reproduce any copyright notice and/or proprietary notice appearing on and/or in such Update and will label all copies with all information, including part numbers and revision levels, provided on the set of media provided by Harris. Nothing herein grants Subscriber any right to sublicense any Software or to distribute copies to any other person, and such sublicensing and distribution is expressly prohibited.
- E. <u>No Modification of Software</u>. Subscriber agrees not to modify, enhance or otherwise alter any Software unless specifically authorized in the user documentation provided by Harris with such Software Update or unless the prior written consent of Harris is obtained. Under no circumstance shall Subscriber create or permit the creation of any derivative work from any Software or the reverse engineering or replication of any Software.
- F. Harris's obligations under this Agreement are conditional upon Subscriber's compliance with the terms of this Agreement and any Contract then in effect between Harris and Subscriber.
- G. <u>Delegation of Authority.</u> The Subscriber hereby delegates, grants, and assigns to Seller, acting as the Subscriber's agent or to a person or entity authorized by Seller, all approval rights relating to the selection of Vendor Patches. All approvals given to third-party vendors by the seller acting as the subscriber's agent under the terms of this AGREEMENT shall be deemed as being granted by the Subscriber.

10. FEES, TERMS OF PAYMENT & TAXES

- A. <u>SOFTWARE FX Fee</u>. Subscriber agrees to pay Harris or its RCE an annual Software FX Fee, in the amount set forth in Exhibit A to this Agreement, plus taxes pursuant to Subsection E below, for Software FX services provided during the term as defined in Exhibit A. Subsequent years' Software FX Fees, beyond Subscriber's first-year fee specified in Exhibit A, may or may not remain at the same rates. Any significant changes made to Subscriber's Designated System(s) configuration will be reflected in the following year's Software FX Fee. If Harris's rates for Software FX should increase, Subscriber will be notified in writing of any such increases at least one hundred twenty (120) days prior to the end of Subscriber's yearly Software FX period then in effect.
- B. Other Charges. Subscriber understands that if it chooses to delay its enrollment in Software FX beyond the deadline described in Section 9.A. of this Agreement, Subscriber will need to license, at the applicable fees then in effect, the initial Software Updates needed to bring its System up to Harris's Current Software Release Levels, as well as any hardware which may be required to accommodate such Updates.
- C. <u>Due Date</u>. Subscriber's first-year Software FX Fee will be invoiced upon receipt of this Agreement signed by Subscriber. Payment will be due thirty (30) days from the date of the invoice. Subscriber's subsequent years' Software FX Fees will be automatically invoiced sixty (60) days prior to the commencement of the subsequent year's term. Payment of all amounts due is a condition precedent to Harris providing any future Software Updates or other services.
- D. <u>Taxes</u>. In addition to all fees specified herein, Subscriber shall pay the gross amount of any present or future sales, use, excise, value-added, or other similar tax applicable to the price, sale or delivery of any products or services furnished hereunder or to their use by Subscriber, unless Subscriber shall otherwise furnish Harris with a tax-exemption certificate acceptable to the applicable taxing authorities.
- E. <u>Discontinuance</u>. Subscriber understands that if Subscriber discontinues and then subsequently resumes participation in the Software FX Program, Subscriber will be required to pay a re-entry fee for any benefits provided to Subscriber upon re-entry to the Software FX Program plus the Software FX Fee for the term then commencing.

11. TERM & TERMINATION

- A. Software FX services will be provided by Harris to Subscriber for an initial one-year term, as defined in Exhibit A to this Agreement, and thereafter on a year-to-year basis as provided herein, subject to prior payment in full of all outstanding fees and charges at the time of renewal and compliance with the provisions of this Agreement.
- B. Provided Subscriber is then in full compliance with all of its obligations, Subscriber's Software FX enrollment shall be automatically renewed on a succeeding yearly basis thereafter unless either party notifies the other in writing, at least ninety (90) days prior to the end of the yearly period then in effect, that this Agreement will not be renewed.
- C. Harris shall have the right to suspend or terminate this Agreement upon thirty (30) days' prior written notice if Subscriber fails to pay any fees or charges due hereunder or if Subscriber commits any other breach of this Agreement or commits any breach of any applicable Software license Agreement for any Licensed Program being supported under this Agreement, any contract between Subscriber and Harris or any other obligation of Subscriber to Harris or any of its affiliates.
- D. Harris shall have the right to discontinue providing Software FX services (including Updates) for any Licensed Program supported under this Agreement. Software Updates may be discontinued at any time at Harris's discretion. Other services shall not be discontinued without at least ninety (90) days' prior written notice by Harris to Subscriber. Notwithstanding any other provision of this Agreement, as

Subscriber's sole and exclusive remedy Harris will provide a pro-rata refund of Subscriber's annual Software FX Fee if Harris elects to discontinue providing Software FX services for any Licensed Program supported under this Agreement.

E. Except as provided in Section 11.D. above, under no circumstances (including any termination of this Agreement) shall any fees paid pursuant to this Agreement be refundable once paid by Subscriber.

12. LIMITATION OF LIABILITY

EXCEPT FOR PERSONAL INJURY OR DEATH, HARRIS' TOTAL LIABILITY ARISING FROM THIS AGREEMENT WILL BE LIMITED TO THE AGGREGATE AMOUNT OF SOFTWARE FX FEES PAID TO HARRIS UNDER THIS AGREEMENT.

13. GOVERNING LAW AND DISPUTE RESOLUTION

This Agreement shall be governed by and construed in accordance with the laws of the Commonwealth of Virginia, excluding its rules pertaining to conflict of laws. Subscriber consents to the personal jurisdiction of the state and federal courts in the Commonwealth of Virginia. By entering into this Agreement, Harris and Subscriber hereby expressly waive any rights either party may have to a trial by jury of any civil litigation related to , or arising out of this Agreement.

14. NOTICES

All notices required or permitted hereunder shall be in writing and shall be deemed validly given upon being hand delivered, or upon receipt if sent by facsimile, e-mail or if mailed by certified mail, return receipt requested, to Subscriber at the address set forth in Exhibit A or to Harris Corporation at 221 Jefferson Ridge Parkway, Lynchburg, VA. 24501, Attention: Software Services Group, or to such other address as either party may designate to the other in writing.

15. ENTIRE AGREEMENT, EXECUTION AND MODIFICATION

- A. This Agreement contains the entire and only Agreement between the parties concerning the subject matter hereof, and all prior representations and understandings in connection with the subject matter hereof are superseded and merged herein, and any representation or understanding not incorporated herein shall not be binding upon either party.
- B. This Agreement shall not become effective until signed on behalf of Harris by one of its officers or by an executive duly authorized by Harris's Vice President. No change, modification, ratification, rescission, or waiver of this Agreement or any of the provisions hereof shall be binding upon Harris unless made in writing and signed on its behalf in like manner.
- C. HARRIS DOES NOT ASSUME ANY OBLIGATIONS OR LIABILITIES IN CONNECTION WITH THE SOFTWARE OR SERVICES OTHER THAN THOSE EXPRESSLY STATED IN THIS AGREEMENT, AND DOES NOT AUTHORIZE ANY PERSON (INCLUDING HARRIS'S RCES OR SUBCONTRACTORS OR SUPPLIERS) TO ASSUME FOR HARRIS ANY OTHER OBLIGATIONS OR LIABILITIES.

IN WITNESS WHEREOF, and intending to be legally bound, the parties hereto have caused this Agreement to be executed by their duly authorized officers or representatives.

HARRIS:	SUBSCRIBER:	
HARRIS CORPORATION RF COMMUNICATIONS DIVISION		
By:	By:	
Name:	Name:	
Title:	Title:	
Date:	Date:	
Harris Corporation		
RF Communications Division		
221 Jefferson Ridge Parkway		

Lynchburg, VA. 24501

EXHIBIT A Designated System

1. Term of Software FX Agreement.	
The services, as described in the Software FX Agreement to which this Ex	hibit A is attached, will be
Provided for the initial period beginning and	ending
and will be automatically renewed for one-year periods thereafter pursuant	to Section 8 of the Agreement.

2. Designated System Fees.

The Designated System(s) for which the Software FX Agreement will apply is (are):

System	System	FX	FX
Name	Classification	Option	Fee
		1	
	TBD		
	NI/A		
	N/A		
	N/A		
	N/A		
	N/A		
	N/A		
	N/A		

Subscriber's subsequent years' Software FX Fees will be determined in accordance with Section 10.A. of the Agreement.

3.	All Notices and Software Updates under this Software FX Agreement are to be provided by Harris to
Subscri	er under this Agreement are to be sent to:

	Contact's Name: Company Name: Title: Address:
(Do	not use P.O. Boxes)
`	Telephone: FAX No.

EXHIBIT B



CERTIFICATE OF LIABILITY INSURANCE Page 1 of 1

DATE (MM/DD/YYYY) 06/03/2015

THIS CERTIFICATE IS ISSUED AS A MATTER OF INFORMATION ONLY AND CONFERS NO RIGHTS UPON THE CERTIFICATE HOLDER. THIS CERTIFICATE DOES NOT AFFIRMATIVELY OR NEGATIVELY AMEND, EXTEND OR ALTER THE COVERAGE AFFORDED BY THE POLICIES BELOW. THIS CERTIFICATE OF INSURANCE DOES NOT CONSTITUTE A CONTRACT BETWEEN THE ISSUING INSURER(S), AUTHORIZED REPRESENTATIVE OR PRODUCER, AND THE CERTIFICATE HOLDER.

IMPORTANT: If the certificate holder is an ADDITIONAL INSURED, the policy(ies)must be endorsed. If SUBROGATION IS WAIVED, subject to the terms and conditions of the policy, certain policies may require an endorsement. A statement on this certificate does not confer rights to the certificate holder in lieu of such endorsement(s).

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PRODUCER				CONTACT		-	
Willis of Pennsylvania	, In	c.		PHONE OF	77 045 555	FAX 000 4	CE 0350
c/o 26 Century Blvd. P. O. Box 305191				E-MAIL	77-945-737	(1 1 11) 2 111 /	67-2378
Nashville, TN 37230-5	191			ADDRESS: CE		s@willis.com	Ţ
					URER(S)AFFORDIN		NAIC#
INSURED				<u> </u>	becrarth Tue	surance Company	26883-001
Harris Corporation				INSURER B:		***************************************	<u> </u>
Mail Stop A-12G 1025 West NASA Bouleva	ırd			INSURER C:			+
Melbourne, FL 32919				INSURER D			<u> </u>
				INSURER E:			<u> </u>
COVERACES	F1C10			INSURER F:			1
			NUMBER: 23238189			REVISION NUMBER:	
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ANY PROPRIETOR/PARTNER/EXECUTIVE	N/A					E.L. EACH ACCIDENT \$	
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(Mandatory in NH) If yes, describe under DESCRIPTION OF OPERATIONS below						E.L. DISEASE - POLICY LIMIT \$	
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William							
DESCRIPTION OF OPERATIONS/LOCATIONS/VEHIC	LES (AC	ORD	101, Additonal Remarks Schedule,	may be attached if mor	e space is required)		
Re: Contract No.MOOEM-20/5221	162.	Cor	itract Term: 05/07	/2015-05/31/	2016		

CERTIFICATE HOLDER			CANCELLATION				
					ON DATE THEF	SCRIBED POLICIES BE CANCEL REOF, NOTICE WILL BE DEL Y PROVISIONS.	
City and County of Denver			AUTHORIZED REPRE	SENTATIVE			
Dept. of Public Works 201 West Colfax, Dept 611			~~	$\alpha \alpha$			

Denver, CO 80202



CERTIFICATE OF LIABILITY INSURANCE

DATE (MM/DD/YYYY) 06/02/2015

THIS CERTIFICATE IS ISSUED AS A MATTER OF INFORMATION ONLY AND CONFERS NO RIGHTS UPON THE CERTIFICATE HOLDER. THIS CERTIFICATE DOES NOT AFFIRMATIVELY OR NEGATIVELY AMEND, EXTEND OR ALTER THE COVERAGE AFFORDED BY THE POLICIES BELOW. THIS CERTIFICATE OF INSURANCE DOES NOT CONSTITUTE A CONTRACT BETWEEN THE ISSUING INSURER(S), AUTHORIZED REPRESENTATIVE OR PRODUCER, AND THE CERTIFICATE HOLDER.

IMPORTANT: If the certificate holder is an ADDITIONAL INSURED, the policy(ies) must be endorsed. If SUBROGATION IS WAIVED, subject to the terms and conditions of the policy, certain policies may require an endorsement. A statement on this certificate does not confer rights to the certificate holder in lieu of such endorsement(s).

CONTACT NAME:	
(A/C, No, Ext): (A/C, No	L
ADDRESS:	
INSURER(S) AFFORDING COVERAGE	NAIC#
INSURER A: Zurich American Insurance Company	16535
INSURER B: American Zurich Insurance Company	40142
INSURER C: N/A	N/A
INSURER D:	
INSURER E :	
INSURER F:	
ATL-003877863-01 REVISION NUMBER:	
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	TO ALL THE TERMS,
	NAME: PHONE (A/C, No. Ext): E-MAIL ADDRESS: INSURER(S) AFFORDING COVERAGE INSURER A: Zurich American Insurance Company INSURER B: American Zurich Insurance Company INSURER C: N/A INSURER C: INSURER E: INSURER E: INSURER F: ATL-003877863-01 REVISION NUMBER: / HAVE BEEN ISSUED TO THE INSURED NAMED ABOVE FOR

INDICATED. NOTWITHSTANDING ANY REQUIREMENT, TERM OR CONDITION OF ANY CONTRACT OR OTHER DOCUMENT WITH RESPECT TO WHICH THIS CERTIFICATE MAY BE ISSUED OR MAY PERTAIN, THE INSURANCE AFFORDED BY THE POLICIES DESCRIBED HEREIN IS SUBJECT TO ALL THE TERMS, EXCLUSIONS AND CONDITIONS OF SUCH POLICIES. LIMITS SHOWN MAY HAVE BEEN REDUCED BY PAID CLAIMS.

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LTR	TYPE OF INSURANCE	INSD	WVD	POLICY NUMBER	(MM/DD/YYYY)	(MM/DD/YYYY)	LIMIT	S	
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	X POLICY PRO- JECT LOC	MALAW WATER	CONTRACTOR OF THE CONTRACTOR O		***		PRODUCTS - COMP/OP AGG	\$	2,000,000
	OTHER:							\$	1
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	UMBRELLA LIAB OCCUR	WHITE STATE OF THE	ar was				EACH OCCURRENCE	\$	
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	ANY PROPRIETOR/PARTNER/EXECUTIVE N	N/A	W. 1	WC 3878578 00 (NY, WI)	07/01/2014	07/01/2015	E.L. EACH ACCIDENT	\$	1,000,000
	(Mandatory in NH) If yes, describe under	PANNA PARA					E.L. DISEASE - EA EMPLOYEE	\$	1,000,000
	DESCRIPTION OF OPERATIONS below						E.L. DISEASE - POLICY LIMIT	\$	1,000,000
	TRANSPORTED					The second			
				A TOTAL CONTROL OF THE CONTROL OF TH	4	ALVENINA			

DESCRIPTION OF OPERATIONS / LOCATIONS / VEHICLES (ACORD 101, Additional Remarks Schedule, may be attached if more space is required)

Re: Contract No.MOOEM-20/522162. Contract Term: 05/07/2015-05/31/2016

The City and County of Denver, its elected and appointed officials, employees and volunteers are included as Additional Insured (except Workers' Compensation) where required by written contract. If required by written contract executed prior to any loss, Waiver of Subrogation is provided.

The General and Auto Liability policy is Primary and Non-Contributory over any existing insurance and limited to liability arising out of the operations of the Named Insured and where required by written contract.

	Cheryll Whelan Cheryll Whelan
	AUTHORIZED REPRESENTATIVE of Marsh USA Inc.
City and County of Denver Dept. of Public Works 201 West Colfax, Dept. 611 Denver, CO 80202	SHOULD ANY OF THE ABOVE DESCRIBED POLICIES BE CANCELLED BEFORE THE EXPIRATION DATE THEREOF, NOTICE WILL BE DELIVERED IN ACCORDANCE WITH THE POLICY PROVISIONS.
CERTIFICATE HOLDER	CANCELLATION

Contract Control Number:	
IN WITNESS WHEREOF, the parties h Denver, Colorado as of	ave set their hands and affixed their seals at
SEAL	CITY AND COUNTY OF DENVER
ATTEST:	By
APPROVED AS TO FORM:	REGISTERED AND COUNTERSIGNED
By	By
	By



Contract Control Number:	MOOEM-201522162-00
Contractor Name:	HARRIS CORPORATION
	By: Lori Rodriguez
	Name: Lor, Rodriguez (please print)
	Title: Contract Manager (please print)
	ATTEST: [if required]
	By:
	Name:(please print)
	Title: (please print)

