



Statement of Work

Red Peak Site Construction Nevada Shared Radio System (NSRS)

<i>Prepared By:</i>		
Revision History		
Date	Revision	Description
2025-07-03	0	Initial Release

Proprietary

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1. Introduction

This Statement of Work (SOW) describes the work to be performed by the Subcontractor for construction work associated with the new Land Mobile Radio system for the Nevada Shared Radio System ("NSRS" or "Customer").

2. Delivery & Staging of Materials

Except as noted, Subcontractor shall be required to provide their own staging and storage of materials and transport to the work site.

3. Site Information

Name	Lat	Long
Red Peak	39.584481°	-119.798258°

4. Scope of Work

4.1 Summary:

- A. Greenfield site as detailed in Attachment 1, Red Peak Construction Drawings.
- B. New Compound – Irregularly shaped, approx. 3,615 sf per construction drawings, including:
 - 1) Chain link fence, 9' overall height, with one vehicle gate.
 - 2) Clearing, grubbing and grading: Heavy grading required to create compound area, retaining walls required, rock and brush removal/disposal included.
 - 3) Retaining walls per construction drawings.
 - 4) Estimated area to be cleared / graded 7,600 sf.
- C. New bypass access road: 12' width, approx. 180 ft. length.
- D. New power run from compound to transformer, approx. 200'.
- E. Construct pad for shelter and set shelter – 12-foot x 31-foot with stoop:
 - 1) L3Harris to provide shelter.
- F. Tower:
 - 1) Construct foundation for 180', 4 leg, self-supporting tower.
 - 2) L3Harris to provide tower.
 - 3) Erect tower.
- G. Construct new ice bridge between shelter and tower.
- H. Install antenna mounts, antennas, tower-top amplifier (TTA) and coaxial cables.
- I. Generator fuel tank:

- 1) L3Harris to provide generator fuel tank; shelter manufacturer will pre-install generator in shelter.
- 2) Construct pad per construction drawings and set tank. Anchor tank to pad.
- 3) Connect fuel and monitor/alarm lines.
- 4) Install new grounding system including buried ground rings for shelter and tower.

4.2 Detailed Requirements:

Schedule and Coordinate all work with the L3Harris Site Manager.

A. Safety:

- 1) Subcontractor shall provide a safety plan, including daily start-of-day safety briefings and establishment of fall zones, including use of appropriate personal protective equipment (PPE). Establish a safety perimeter. Secure the area around the work area, with caution tape, barriers, etc., as needed. Provide traffic control if required.
- 2) Provide Material Safety Data Sheets (MSDS) for chemicals and materials being brought to or stored on site to the L3Harris program manager, at least two weeks in advance.

B. General:

- 1) Subcontractor shall provide all labor required to complete the work.
- 2) One mobilization is included unless otherwise specified.
 - Mobilization/demobilization for crew rotation is non-compensable.
 - Weather-induced delays are non-compensable.
- 3) Obtain necessary trade permits (building, electrical, etc.) and pay permit fees as required.
- 4) Permits shall be closed out once the work is accepted by L3Harris and copies of the respective jurisdiction's sign off provided to the Site Manager.
- 5) All equipment and hardware shall be installed using industry best practices. All deliverables shall present a neat and symmetrical appearance.
- 6) Subcontractor shall protect electronic equipment from debris and damage. Equipment shall be wrapped and covered to prevent damage from dust and debris.
- 7) Grounding work shall comply with L3Harris Site Grounding and Lightning Protection Guidelines, AE/LZT 123 4618/1 (latest revision attached as Attachment 10), in addition to any requirements contained herein. If there is a contradiction between this SOW and the attached grounding standard, Subcontractor to follow the guidance within this SOW, as it reflects specific interpretations unique to the project.
- 8) Electrical work shall comply with the National Electrical Code and State of Nevada codes.
- 9) The Subcontractor shall remove from the vicinity of the work, rubbish, unused materials, and other like material belonging to him, or used under his direction, at the end of each day.
- 10) It will be the Subcontractor's responsibility to provide ongoing 'redline' updates and corrections to the construction drawings, as required by L3Harris, throughout the life of the contract, to adequately describe the work, and deliverables.

C. Compound:

- 1) Establish proper erosion control in accordance with the construction drawings. Silt fences or hay bales may be used in accordance with local jurisdiction and industry standards. Erosion control must be checked each day to ensure no seepage to the surrounding area.
- 2) Obtain utility mark-outs prior to digging, boring or trenching.
- 3) Provide all trenching, conduit and cable for underground connections.
 - All underground systems (with the exception of grounding) will include utility marking tape located above the installation.
- 4) Clear, grub and grade the compound per construction drawings.
 - Grade compound area to allow for correct drainage in line with construction drawings.
 - Provide clean fill if necessary.
- 5) Place herbicide (in accordance with local/federal regulations), per construction drawings.
- 6) Provide and Install 9' high security fence (8' fabric with top and bottom rails, plus 1' triple strand barb wire) with fence posts secured with concrete footings in accordance with construction drawings.
 - One 16' wide, 2-panel vehicle gate per construction drawings.
 - New fencing will be connected to ground system in accordance with L3Harris grounding specifications and construction drawings.
- 7) Construct retaining walls as shown in construction drawings, to be built in accordance with local/federal regulations.
- 8) Place one layer of geo-fabric within compound and top with 6" of 3/4" gravel. Slope away from shelter and tower.

D. Site Construction and Installation:

- 1) Stake the location of the shelter foundation, generator pad, and ice bridge/cable tray posts. Establish a reference to two fixed landmarks for locating foundation(s), pad(s) and other items to be installed.
- 2) Reinforced concrete foundations for shelter as defined in construction drawings.
- 3) The Subcontractor shall provide to L3Harris a complete Lifting and Rigging Plan for approval, before the shelter, tower, (or any other equipment required to be lifted and rigged into place on site) are delivered and placed on site. This plan shall include all required details of the Lifting and Rigging Procedures to be employed by the Subcontractor. This shall include a complete Safety Plan inside or submitted separately, with the Rigging Plan, for approval by L3Harris.
- 4) Install shelter:
 - Offload and set shelter, secure to foundation, install loose-shipped items.
- 5) Connect to primary AC power.
- 6) Generator and fuel tank:
 - Construct pad for fuel tanks as shown in the construction drawings.
 - Offload fuel tanks and anchor to pad.

- Trenching for fuel and monitor/alarm lines.
 - Connect fuel line to generator. Connect all lines and alarms to punch block.
 - Initial generator start-up by a manufacturer's authorized representative.
 - Load test per generator manufacturer's requirements.
- 7) Construct tower foundation per tower construction drawings and site plans, including bore hole inspection, rebar inspections and concrete testing.
- Independent review and approval of the tower bolt alignment prior to pier pouring is required and must be submitted to the Site Manager. Subcontractor will be responsible for all rework required to correct problems deemed by L3Harris to be caused by the bolt alignment.
- 8) Erect tower per tower construction drawings.
- Tower shall be plumb.
 - Install cable ladder(s), antenna mounts and other accessories per tower construction drawings.
 - Touch up damaged galvanizing with 95% zinc cold galvanizing spray.
- 9) Connect tower to ground ring and ground ring to site grounding system per construction drawings.
- 10) Install new ice bridge between tower and shelter as shown in construction drawings.
- Ice bridge shall not be supported by or touch either the tower or the shelter.
- 11) Restore any areas that may have been damaged during the construction of the compound.
- Include final grading and seeding of disturbed areas outside of the fenced compound area.
 - Remove all erosion and sediment control measures previously installed at the beginning of the project.
- 12) Remove of all spoils in accordance with laws and regulations.
- E. General Requirements for Foundations:
- 1) Compact soil per construction drawings or engineer's requirements and place vapor barrier prior to pouring concrete (except for tower foundations).
 - 2) Concrete testing is to be performed as specified in Attachment 9, L3Harris Specifications, Guidelines, and Practices (Tower Requirements and General Specifications) or as required by local building codes, whichever is more stringent. Provide test data to Site Manager for approval.
 - 3) Set elevations for all foundations to be above final site grade allowing for a finish layer of crushed stone per the construction drawings.
 - 4) Light broom finish on all concrete.
- F. Electrical Work:
- 1) Electric power service will be ordered by Washoe County and provided by the local power company:
 - Coordinate with the delivery of power to the site with the power company prior to the start of the electrical installation. The Subcontractor will be responsible for all other utility coordination details so that the utility

company can install the power within five days of the substantial completion of the construction work.

- 2) Provide conduit, cable and trenching required to connect power to shelter.

G. New Ground System:

- 1) Install per construction drawings and L3Harris Site Grounding and Lightning Protection Guidelines.
- 2) Buried, interconnected ground rings for shelter and tower. Include pigtails for connection above-ground metallic objects to the ground rings.
- 3) All below ground connections to the ground ring and connections to the above-ground metallic components that will not be damaged by the process shall be exothermically welded. Subcontractor to provide weld materials and tools:
 - Touch up all galvanizing with 95% zinc cold galvanizing spray.
 - DO NOT coat below-ground connections with zinc-containing spray.
- 4) Ground tower, shelter, ice bridge, antennas and lines, fence, fuel tank(s), bollards and other exterior metallic objects to ground system.
- 5) Test new ground system to determine the resistance to ground in accordance with L3Harris Site Grounding and Lightning Protection Guidelines. Provide test data report to the L3Harris Site Manager.

H. Line & Antenna Installation:

- 1) L3Harris shall provide antennas, mounts, coaxial cables, connectors, factory-assembled RF jumpers, RF surge suppressors (Polyphasers) and TTA. L3Harris shall provide materials listed in the BOM to include cable support hangers, hoisting grips, coaxial cable ground kits, beam clamps, and rubber feedthrough boots for entry ports.
- 2) Subcontractor shall provide weatherproofing materials (using RFS WPGF-1 kits) for mating all new connectors, 2-hole ground lugs, heat shrink for ground lugs, miscellaneous sized stainless-steel hardware (bolts, hex nuts, washers and lock washers) for bonding lugs to ground bars, No-Ox compound, UV-rated black-colored zip ties and UV rated colored electrical tape for cable identification (Red, Green, Blue, Yellow).
- 3) Subcontractor shall inspect all antennas and coaxial cables upon receipt and immediately notify the L3Harris Site Manager if defects are found.
- 4) Subcontractor shall install all antenna mounts, standoffs, tiebacks, antennas, TTA, lines, connectors, surge suppressors, grounds, etc. for a complete installation per the L3Harris supplied Site Installation Package (SIP):
 - Ground kits shall be installed at the antenna-level TGB (if one exists) or to tower member using a beam clamp.
 - Install any additional ground kits on the vertical run, if necessary, so that maximum cable length between ground kits is no greater than 50'.
 - Ground kits shall be installed at the point no more than 2' above the TGB and bond to TGB with 2-hole lugs, correct sized stainless-steel hardware and No-Ox compound.

- Ground kits shall be installed within 2' of shelter cable entry port and connect to EGB with two-hole lugs, correct sized stainless-steel hardware and No-Ox compound.
 - Install coaxial surge suppressors (Polyphasers) inside the shelter, within 2' of the coaxial cable entry port on all coaxial cables. Bond surge suppressors to MGB using 2-hole lugs, correct sized stainless-steel hardware and No-Ox compound to attach to MGB. NOTE: If there is an existing polyphaser trapeze configuration allowing for it (i.e. bulkhead mounting of the polyphaser directly to the polyphaser trapeze, that grounding is sufficient, and no grounding jumper is required).
 - All antenna mounts, clamps, tie-backs, brackets shall be torqued to manufacturer specifications per Attachment 16 and documented by photograph.
 - All connectors shall be installed and torqued to manufacturer specification per Attachment 13, 14 & 15 and documented by photograph.
 - Tooling (torque wrenches or other measurement devices) shall have a current calibration where applicable; certificate submitted with close out documents.
- 5) For any bonds made with two-hole lugs:
- Use UL-listed lugs with inspection windows.
 - Use conductive antioxidant compound between wire and lug prior to crimping.
 - Clean surface(s) to be bonded and remove any paint or other coatings. Ensure mating surfaces are free from dirt, oil or grease. Use conductive antioxidant compound between the mating surfaces.
 - Use correct size stainless-steel hardware.
 - Use correct size heat shrink and shrink down using heat gun on all ground lug connections.
- 6) For any bonds made with irreversible high-compression crimp connectors:
- Use UL-listed connectors.
 - Use a connector correctly sized for the wire sizes being joined.
 - Only use compression tools recommended by the connector manufacturer.
 - Ensure conductors are clean (free from dirt, oil or grease) and dry, and coat with conductive antioxidant compound before crimping.
 - After the connection is crimped, insulate the connector with green electrical tape.
- 7) An antenna alignment tool such as the SunSight AntennAlign or equivalent shall be used when measuring antenna azimuth and tilt. Readings taken with a magnetic compass are not acceptable. Results documented by photograph.
- 8) Subcontractor shall have personnel trained in RF cable makeup on RFS branded cable and have the appropriate RFS tooling for cable and connectors. All tooling will be within the manufacturers recommended usage parameters:
- Tooling that is found to not perform per the manufacturer will be replaced at the cost of the subcontractor. Connections that do not pass sweeps due to tooling issues will be replaced at the cost of the subcontractor.

- 9) All jumpers will be ordered from the manufacturer, PIM rated, and will NOT be cut in the field, service (slack) loops will utilize the balance of the jumper with a bend radius no less than manufacturers specification:
 - Should a jumper need to be manufactured in the field, it will be PIM Tested by the vendor in accordance to industry standards utilizing calibrated test equipment such as the Anritsu MW82119B-700/-800 or equivalent, the jumper will also be sweep tested in accordance to L3Harris standard 14221-7100-2040 [Current Revision].
- 10) Subcontractor shall place or remove antenna drain plugs on antennas at the proper location prior to hoisting onto the tower. Note that some antennas have the option for an inverted mount and the factory may have installed all drain plugs. Ensure drain plugs are configured for the proper drainage of water based on the orientation of the installed antenna. and provide photographic evidence of same.
- 11) Subcontractor shall correctly perform Tape Drops of all antennas (mounts) and TTA and adjust as needed. That is, the tape zero scale end shall be dropped to the ground, tensioned, and the indicated height at the antenna base shall be clearly photographed next to the subject antenna.
- 12) Subcontractor shall correctly mount antennas to where they are level and plumb on two azimuths (axis) with digital level and adjust as needed.
- 13) Line sweeps will be performed after all lines are secured, all ground kits are in place, and antenna alignment is confirmed but before connectors are weather proofed:
 - Subcontractor will perform sweep tests on each antenna and line to include PIM testing.
 - Subcontractor shall have a crew on the tower during the testing to connect and disconnect antennas and lines according to the test procedures.
 - If post-installation sweep testing reveals defects in workmanship, Subcontractor shall perform all rework at its sole cost and expense.
- 14) Subcontractor shall weatherproof ground kits and connectors after inspection, testing and approval from the L3Harris Site Manager.
- 15) All coaxial cables shall be properly supported at maximum 3-foot intervals.
- 16) Subcontractor shall correctly route and terminate all coaxial cabling to prevent exceeding industry standard and manufacturer specification for the bend radius of cables.
- 17) Drip loops shall be provided where coaxial cables enter a building or other enclosure, make a transition from tower to ice bridge, or any other point where water running down a cable could cause leakage or damage.
- 18) Subcontractor shall correctly affix color code tape, according to the line color key included with this SOW, on all coaxial cables and jumpers at antenna, mainline to jumper connections, all TTA connections, bottom of tower where cables transition upward from ice bridge, and at each side of shelter entry port (exterior & interior).

5. Areas of Responsibility & Reporting Requirements

- A. The following persons will be directly involved in the project and will have dedicated areas of responsibility. The tasks indicated here are not all-inclusive, and each person may later assume additional responsibilities as required.
- 1) **Customer.** Ultimate owner of the radio system being implemented, and the equipment being installed. The Customer may or may not be the owner of the Site where work is being performed.
 - 2) **L3Harris Program Manager.** The Program Manager has overall control of all aspects of the program. He/she is the primary point of contact with the customer. The Program Manager will direct all personnel assigned to the project.
 - 3) **L3Harris Construction Manager.** The Construction Manager has overall control of site development (civils). The Construction Manager will direct all personnel assigned to the development of the site(s).
 - 4) **L3Harris Site Manager.** The L3Harris Construction Manager will assign a Site Manager in the field, responsible for coordinating and scheduling construction tasks and supervising contractors. The Site Manager is the Subcontractor's primary point of contact. The Site Manager will ensure that all personnel and work meet the requirements of the contract.
 - 5) **Subcontractor.** The Subcontractor will work under the direction of the Site Manager. The Subcontractor is responsible for the successful and on-time completion of the tasks defined within this SOW. The Subcontractor will provide progress reports and identify delays that would impact the construction schedule. The Subcontractor shall participate in the weekly site development meetings (conference call) with attendance in person or via conference call. The Subcontractor will provide daily reports to the Site Manager (submitted at the end of each day) to include the following:
 - Sign-in / sign-out sheet for all personnel on site (may be digital).
 - 15-minute safety briefing at the beginning of each workday.
 - Work planned for each day.
 - Work accomplished for each day, including inspections and quality control reports.
 - Any safety-related incidents or near-misses.
 - Any delays that would impact the installation schedule.
- B. Adhere to all NSRS rules and policies, laws, and regulations regarding the installation including processes, permitting, inspection, reporting, and procedures during the installation:
- 1) Prevailing Wage and Relevant Prevailing Wage Tracking Requirements. Construction work is subject to Nevada Prevailing Wage regulations. Subcontractor shall comply with attached Nevada Prevailing Wage requirements pursuant to processes provided by the

Customer. Please see Attachment 6 for correct prevailing wage rates to be used for this RFQ:

- Do not use tables for the current year.
 - Use only attached table for Washoe County.
- 2) Certified Prevailing Wage Reporting. Subcontractor shall be required to submit certified payroll reports weekly in the Customer's approved system: LCPTracker. Additional information regarding LCPTracker can be found at its site:
<https://www.lcptracker.com/>. L3Harris will facilitate Subcontractor's access to the LCP Tracker system for certified payroll reporting.
- 3) Fines for Non-compliance with Nevada Prevailing Wage Reporting. Subcontractor shall be responsible for all fines resulting from Subcontractor's failure to comply with Nevada Prevailing Wage requirements including but not limited to fines assessed for non-compliance with timely submission weekly of Subcontractor's certified payroll on LCPTracker.
- 4) The Customer's prevailing wage inspectors will periodically interview the Contractor's employees while on-site to ensure prevailing wage regulations are being followed.
- C. Required Licensing. Subcontractor and sub-tier contractors must operate under all State of Nevada licensing requirements bearing on the conduct of the Work without additional expense to L3Harris. This means that Subcontractor and all sub-tier contractors (even those from out-of-state) must have a valid and active Nevada Business License as well as a valid and active Nevada Contractors License which license type will be commensurate with the type of Work the Subcontractor (or sub-tier contractor) is awarded. Subcontractor will be responsible for ensuring all sub-tier contractors have a valid and active Nevada Business License in good standing. Non-Compliance will result in fines being assessed. Additional information regarding licensing required for Work performed under this Agreement can be found at the following:
- 1) Nevada Business License (<https://www.nvsos.gov/sos/licensing/state-business-license/state-business-license-faq>) and,
 - 2) Nevada Construction License (http://www.nvcontractorsboard.com/contractor_license_requirements.html).
- D. Subcontractors will be subject to federal GSA limits for reimbursable travel expenses. Refer to the Bid Response form for the approved rate tables.
- E. The Subcontractor shall obtain permission for site access from L3Harris. The subcontractor shall adhere to any special ingress or egress requirements for sites that must be accessed via private property. Under no condition shall the Subcontractor go to a site without authorization from L3Harris.

6. Schedule

- A. L3Harris shall issue a Notice-To-Proceed for each site or group of sites, and the Subcontractor shall commence work (planning, scheduling, preparing for permit submittal, etc.) within 10 business days of that notice.

- B. The Subcontractor is expected to complete all work in accordance with the Workflow Plan that was submitted with their quotation for the work.
- C. The Subcontractor shall submit Daily Reports DAILY to L3Harris Documentation Manager, L3Harris Site Manager, and L3Harris Program Manager.

7. Acceptance of the Work

The following items must be satisfied by the Subcontractor prior to L3Harris providing Acceptance of the Work, and final payment of construction work. In addition, Subcontractor will be responsible, during the Warranty period, for all rework required to correct problems deemed by L3Harris to be caused by the below work:

7.1 Punch List Completion

- A. The Subcontractor shall make their own inspections of installed components, assemblies, and finished construction for compliance with the Site Overview Checklist, construction drawings and L3Harris Standards and Guidelines, and repair any defects found prior to inspections by L3Harris or the Customer. The Subcontractor shall notify the L3Harris Site Manager when the site is ready for inspection.
- B. L3Harris will inspect the site with the Subcontractor and provide a Punch List to the Subcontractor.
- C. Subcontractor will repair any defects noted on the Punch List and notify the Site Manager upon completion.
- D. The L3Harris Site Manager will verify that defects have been repaired.
- E. A final inspection will be performed by L3Harris and the Customer. If any additional defects are noted, L3Harris will submit a final Punch List to the Subcontractor for correction of the work.
- F. The Subcontractor will repair the defects noted and notify the Site Manager upon completion.
- G. L3Harris will deem the punch list complete when each punch list item has been repaired and approved by L3Harris and the Customer.

7.2 Close-Out Documentation

- A. All close out deliverables are due to the Site Manager prior to departing site.

8. Quality Assurance

- A. The Subcontractor shall have a quality assurance program to ensure that the product and/or service meets the requirements specified in this SOW. Throughout this program, incoming and in-process inspections, components, and assemblies shall be checked for compliance with customer specifications, engineering specifications, and drawings. Records shall be maintained with inspection disposition recorded by the quality assurance inspector. A copy of these records shall be provided to L3Harris upon delivery.
- B. All equipment and hardware shall be installed using industry best practices.

- C. The site, when finished, shall be complete in every respect (in accordance with the Statement of Work and construction drawings), and ready for the use(s) intended.
- D. Supplier/Subcontractor is expected to comply with L3Harris Supplier Quality requirements.

9. Attachments

- Attachment 1 – Red Peak Construction Drawings
- Attachment 2 – Geotechnical Report
- Attachment 3 – Tower and Foundation Design Drawings
- Attachment 4 – Shelter Design Drawings
- Attachment 5A – [REDACTED]
- Attachment 5B – [REDACTED]
- Attachment 6 – State of Nevada 2017-2018 Prevailing Wage Rates for Washoe County
- Attachment 7 – Bidder Response Form (Mandatory) (Excel Spreadsheet)
- Attachment 8 – Site Overview Checklist (latest revision)
- Attachment 9 – Specifications, Guidelines and Practices: Tower Requirements and General Specifications, (latest revision)
- Attachment 10 – L3Harris Site Grounding and Lightning Protection Guidelines, AE/LZT 123-4618/1 (latest revision)
- Attachment 11 – Standards for Site Construction and Contractor Specifications LBI-39148B, (latest revision)
- Attachment 12 – List of Required Photographs – Lines and Antennas
- Attachment 13 – RFS 158 CELLFLEX Connector Instructions
- Attachment 14 – RFS 78 CELLFLEX Connector Instructions
- Attachment 15 – RFS 12 CELLFLEX Connector Instructions
- Attachment 16 – Spec for Structural Joints
- Attachment 17 – L3Harris Supplier Quality Standards