



Utah Transit Authority
 669 West 200 South
 Salt Lake City, Utah 84101
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Project: SGR404 Rail Switches & Trackwork Ctrl

Task Order Request #25-016 - Signal Design for 6 Interlockings

Status	Open	Assignees	Dean Hansen
Created Date	Jul 14, 2025	Issued Date	Jul 14, 2025

TASK ORDER IDENTIFICATION

Contract No	24-03814		
Contractor Name ("Contractor")	ROCKY MOUNTAIN SYSTEMS SERVICES	Contract Start Date	06/14/24
Account Code(s)	2025 \$415,947.00 – TO 25-016 Signal Design for 6 Interlockings: Engineering – 40-7404.68000.8002 \$151,171.00 – TO 25-016 Signal Design for 6 Interlockings: PM for Design & Construction – 40-7404.68000.8003 2026 \$802,932.00 – TO 25-016 Signal Design for 6 Interlockings: Engineering – 40-7404.68000.8002 \$298,283.00 – TO 25-016 Signal Design for 6 Interlockings: PM for Design & Construction – 40-7404.68000.8003		

1.0 SCOPE OF SERVICES

The contractor's scope letter and price estimate is hereby attached and incorporated into this Task Order

[25-016_Signal Design for 6 Interlockings_Proposal.pdf](#)

2.0 SCHEDULE

The Substantial Completion Date for this Task is	11/30/26	The Final Acceptance Date for this Task is	12/31/26
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3.0 PRICING

The pricing agreement for this item is one of the following:	Lump Sum	Invoices will be billed on a monthly basis for completed work to date. The price for this item is in the amount of	\$1,668,333
Provisional Sum Amount (if applicable). Note: Any unused amount of this provisional sum amount will be deducted from the contract upon closeout of the task order.	N/A	Independent Cost Estimate (ICE) link, if applicable	25-016_Signal Design for 6 Interlockings_ICE.xlsx

4.0 APPLICABILITY OF FEDERAL CLAUSES

Does this Task Order include federal assistance	No	If federal assistance funds are anticipated, the UTA	N/A
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funds which requires the application of the Federal Clauses appended as Exhibit D to the Contract?

Civil Rights group has set a Disadvantaged Business Enterprises (DBE) participation goal for this Task Order of

UTAH TRANSIT AUTHORITY:

Required Signatures Explanation Project Manager \$0 - 24,999 Legal Review \$10k or greater Dir. of Capital Projects \$25k - 74,999 Chief Service Dev. Ofcr. \$75k - 199,999 Executive Director \$200,000+ Procurement/Contracts (for all)

Signature (Legal) By: Mike Bell (DocuSigned by: Mike Bell) Name: Mike Bell Date: 7/25/2025

PM Approval The costs associated with this item have been measured against the standard schedule of rates and the agreed contract pricing, (where applicable) and have been deemed consistent and appropriate for the proposed scope of work.

Signature (Project Manager) By: Greg Thurston (Signed by: Greg Thurston) Name: Greg Thurston Date: 7/23/2025 On behalf of Dean Hansen

Director Approval I have evaluated the content of this task order and the scope of work described in the task ordering agreement and have made the determination that this Task Order is within the scope of work contemplated and described by the contracting parties when they executed the original task ordering agreement.

Signature (Director) By: David Osborn (DocuSigned by: David Osborn) Name: David Osborn Date: 7/23/2025

Signature (Procurement) By: Name: Date:

Signature (Chief Service Development Officer) By: Name: Date:

Signature (Executive Director) By: Jay Fox, Executive Director Date:

COMPANY:

COMPANY: ROCKY MOUNTAIN SYSTEMS SERVICES

**RMSS Required
Signature
Explanation**

- Up to \$100K – Josh Lafleur (jlafleur@modrailsystems.com)
- \$100K - \$500K – Anthony Ortolani (aortolani@modrailsystems.com)
- \$500K – \$2.5M - Shon Tulik (stulik@modrailsystems.com)
- >\$2.5M or Contract Time Extensions – Paul Reiger (prieiger@modrailsystems.com)

**Signature
(Contractor)**

DocuSigned by:
By: Paul Reiger
6534325C1D0847B...
Name: Paul Reiger
Date: 7/21/2025



June 5th, 2025,

RMSS-52720-009a

Mr. Dean Hansen
Manager of Systems Engineering
2264 South 900 West
Salt Lake City, UT 84119

Reference: Utah Transit Authority – Systems On-Call Services

Subject: Interlocking Upgrades Design

Dean,

Rocky Mountain Systems Services (RMSS) is pleased to provide a proposal to complete the design scope, for the following interlockings

- Beetdigger
- Cushing A
- Cushing B
- Yellowstone
- Ballpark
- 700 S

Our lump sum price for this proposal is **\$1,668,333**

The scope of work covered in this proposal is as follows: This project is focused on design work to upgrade and replace the existing wayside equipment and software at the above-mentioned locations. This scope will include but is not limited to upgraded wayside processors, new train detecting circuits, and new powered switch machines. This scope is for train control signal design only. Future procurement and construction Task Orders will be required to complete the program.

Our work will comply with FRA regulations and all work will meet industry standards, including AREMA and UTA's latest design criteria.

This work will be organized into 3 Design phases as outlined below, future procurement and construction task orders will be broken into individual scopes to meet intended infrastructure construction seasons.

Design Phasing Table Shown below:



Phase 1 Pricing

- **Beetdigger Interlocking**
 - Total \$308,259

- **Cushing A Interlocking**
 - Total \$258,859

- **Cushing B Interlocking**
 - Total \$247,110

Phase 1 Scopes of work

Beetdiggers Interlocking Design

- Design for hardware and software as applicable to integrate with future bidirectional signaling to include the below upgrades
 - Replace VHLC with a single ElectroLogIXS unit
 - Update Vital and Non-Vital software for ElectroLogIXS
 - Update communication interface modules for ElectroLogIXS
 - Provide communication between the adjacent locations and control center
 - Replace all the AFTAC track circuits with PSO track circuits to detect trains
 - Replace the existing coupler cases with new, larger coupler case to accommodate PSO equipment
 - Replace existing LCP with new QuEST sQLCP soft panel
 - Replace all AC Vane circuits with PSO track circuits to detect trains
 - Replace four (4) existing 5F switch machines with new M23A switch machines
 - Add new switch heater covers
 - Convert welded impedance bond connections to bolted connections
 - Add applicable air conditioning system (1-ton mini-split preferred)
 - Replace signal heads on four (4) existing full-size signals with new signal heads and LED signal lamps. Replace masts if necessary
 - Replace existing KEPCO (PRN-12-35) power supply with new battery charger and battery bank
 - Replace existing KEPCO (PRR-12-77M) power supply with new battery charger and battery bank
 - Remove and replace all existing batteries
 - Upgrade existing AC breaker panel to run multiple circuits
 - Remove existing 9800 S crossing house and Beetdigger Interlocking house. Installing a new fully equipped 8'X12' Interlocking/Crossing house
 - Assess whether the 8' x 12' house meets the size requirements.
 - Reconfigure the fiber path



- Relocate the controllers from the existing houses at 9800 South and combine them into the new Beetdigger Interlocking House
- Relocate GCI that's mounted on the current signal house
- Replace the current gate mechanisms with S80 gates, and ensure the circuits are integrated with the ElectroLogiXS crossing control module
- Relocate existing power meter as applicable
- SATS test new software

Cushing "A" Interlocking Design

- Design for hardware and software as applicable to integrate with future bidirectional signaling to include the below upgrades
 - Replace VHLC with a single ElectroLogiXS unit
 - Update Vital and Non-Vital software for ElectroLogiXS
 - Update communication interface modules for ElectroLogiXS
 - Provide communication between the adjacent locations and control center
 - Replace all the AFTAC track circuits with PSO track circuits to detect trains
 - Replace the existing coupler cases with new, larger coupler cases to accommodate PSO equipment
 - Replace two (2) existing 5F switch machines with new M23A switch machines
 - Replace existing dwarf signal with new full size signal mast, head, and LED signal lamps
 - Replace the signal head on existing full-size signal with new signal head and LED signal lamps. Replace the mast if necessary
 - Replace existing LCP with new QuEST sQLCP soft panel
 - Add new switch heater covers
 - Replace existing KEPCO (PRN-12-35) power supply with new battery charger and battery bank
 - Replace existing KEPCO (PRR-12-77M) power supply with new battery charger and battery bank
 - Remove and replace all existing batteries
 - SATS test new software
 - Coordinate the feasibility of Train to Wayside Control (TWC) functionality into the system

Cushing "B" Interlocking Design

- Design for hardware and software as applicable to integrate with future bidirectional signaling to include the below upgrades
 - Some approach track indication bits are currently disabled. Enable all track indication bits to ensure proper track status is communicated back to the office
 - Replace VHLC with a single ElectroLogiXS unit
 - Update Vital and Non-Vital software for ElectroLogiXS
 - Update communication interface modules for ElectroLogiXS



- Provide communication between the adjacent locations and control center
- Replace existing dwarf signal with new full size signal mast, head, and LED signal lamps
- Replace the signal head on existing full-size signal with new signal head and LED signal
- Replace all the AFTAC track circuits with PSO track circuits to detect trains
- Replace the existing coupler cases with new, larger coupler case to accommodate PSO equipment
- Remove and replace the outdated KEPCO (PRR-12-77M) power supply with a new battery charger and battery bank
- Remove and replace all existing batteries
- A 1-ton mini split unit is preferred; however, an alternative may be required based on the size of the bungalow
- Convert welded impedance bond connections to bolted connections
- SATS test new software
- Coordinate the feasibility of Train to Wayside Control (TWC) functionality into the system

Phase 2

- **Yellowstone Interlocking**
 - **Total \$319,812**

Yellow Stone Interlocking Design

- Operations stakeholders have made a firm decision to retain the S2700/S2701 signals in their current configuration. Design for hardware and software as applicable to integrate with future bidirectional signaling to include the below upgrades Replace EC4 with new ElectroLogIXS
 - Replace VHLC with a single ElectroLogIXS unit
 - Update communication interface modules for ElectroLogIXS
 - Provide communication between the adjacent locations and control center
 - Replace four (4) existing 5F switch machines with new M23A switch machines
 - Replace the existing coupler cases with new, larger coupler case to accommodate PSO equipment
 - Replace existing LCP with new QuEST sQLCP soft panel
 - Add new switch heater covers
 - Replace all the AFTAC track circuits with PSO track circuits to detect trains
 - Replace the existing AFTAC couplers with PSO-type components
 - Update Vital and Non-Vital software for ElectroLogIXS
 - Remove and replace all existing batteries
 - Remove and replace all existing battery chargers
 - SATS test new software



- Host and attend progress meetings with UTA and other stakeholders

Phase 3

- **Ballpark Interlocking**
 - **Total \$306,958**
- **700 South Interlocking**
 - **Total \$227,335**

Ballpark Interlocking Design

- Design for hardware and software as applicable to include the below upgrades
 - Replace VHLC with a single ElectroLogIXS unit
 - Update Vital and Non-Vital software for ElectroLogIXS
 - Update communication interface modules for ElectroLogIXS
 - Provide communication between the adjacent locations and control center
 - Replace four (4) existing M23A switch machines with new M23A switch machines
 - Replace all the AFTAC track circuits with PSO track circuits to detect trains
 - Replace the existing couplers with PSO-type components
 - Replace the existing coupler cases with new, larger coupler cases to accommodate PSO equipment
 - Remove existing S1400/S1401 intermediate signal house
 - Reconfigure the fiber cable/path
 - Relocate pole lighting control unit and circuit from S1400/1401 house to Ballpark Interlocking
 - Remove existing S9783 switch case
 - Add new switch heater covers
 - Remove and replace all existing batteries
 - Remove and replace all existing battery chargers
 - Convert welded impedance bond connections to bolted connections
 - Replace existing A/C unit to an applicable air conditioning system (1-ton mini-split preferred)
 - SATS test new software

700 S Interlocking Design

- Design for hardware and software as applicable to include the below upgrades
 - Replace VHLC with a single ElectroLogIXS
 - Update Vital and Non-Vital software for ElectroLogIXS
 - Update communication interface modules for ElectroLogIXS
 - Provide communication between the adjacent locations and control center



- Replace four (4) existing H&K HWE61 switch machines with new CSV 24 switch machines
- Replace all the AFTAC track circuits with PSO track circuits to detect trains
- Replace the existing couplers and coupler cases with PSO-type components
- Replace Fast Trax switch heaters if necessary
- Remove and replace all existing batteries
- Remove and replace all existing battery chargers
- Replace impedance bond connections if needed
- SATS test new software
- Host and attend progress meetings with UTA and other stakeholders
- Coordinate the feasibility of Train to Wayside Control (TWC) functionality into the system
- Add applicable air conditioning system (1-ton mini-split preferred)

Deliverables

- A full list of planned submittals will be developed and agreed upon at execution of the Task Order.
 - Deliverables will include
 - IFR, IFC software
 - Location specific ElogIXS Application Logic
 - IFR, IFC drawings
 - Control lines (where applicable)
 - Location Plans
 - Crossing approach lines

Schedule

- A full schedule with planned deliverables will be developed and agreed upon at execution of the Task order.
- The schedule will be developed to accommodate the planned infrastructure construction seasons and match the phasing as follows
 - **Phase 1 – Beetdigger, Cushing A, Cushing B**
 - Design Work anticipated to be completed in the Summer of 2026 to accommodate procurement and Construction in the 2027 Summer Season
 - **Phase 2 – Yellowstone**
 - Design Work anticipated to be completed in the Summer of 2027 to accommodate procurement and Construction in the 2028 Summer Season
 - **Phase 3 – Ballpark, 700 South**
 - Design Work anticipated to be completed in the Summer of 2028 to accommodate procurement and Construction in the 2029 Summer Season

Clarifications



1. The design for 700 S will be based upon embedded track. If UTA determines they will implement direct fixation track, we will prepare an optional design upgrade to accommodate.

Assumptions

1. Existing Speeds printed on AIS Crossing Approach plans have been verified against project plan and profiles
2. Replace any affected EC4 units with ElectroLogIXS
3. ElectroLogIXS 9 slot chassis will be used
4. Trips for Cutovers 2 people for 4 days for individual Interlocking
5. Assume accurate and complete prints & CAD files to be provided by UTA
6. Comms to provide redlines on circuit plans to signal team. Signals CAD to update the minimal redlines required for comms updates
7. This estimate is based on the current vital point-to-point configuration not changing

Exclusions

1. There is no procurement or install or testing included in this scope of work.
2. Ruggedcom NMS updates
3. TWC Design is not included in this estimate
4. The following will be provided in the Procurement and Construction Task Orders and is not accounted for in this proposal.
 - a. Product submittals
 - b. Product Manuals
 - c. Training documents
 - d. New LCP Config files
 - e. New ethernet switch config files (where applicable)
 - f. Fiber Allocation Table Drawings
 - g. Communication interface module config files (where applicable)

This proposal is valid for 60 days, unless extended in writing by RMSS.

If you need any additional information, please don't hesitate to contact us.

Sincerely,

A handwritten signature in black ink, appearing to read "J. LaFleur", is written over a light blue horizontal line.

Josh LaFleur
Project Manager
Rocky Mountain Systems Services

cc:

Marshall Wilson – RMSS
Anthony Ortolani – RMSS
Shon Tulik – RMSS
Paul Rieger – RMSS

Our pricing is in U.S. Dollars, F.O.B. Salt Lake City UT, and excludes all allowances, taxes, tariffs, licenses, and permits

UTA - On Call
PTO 009a - Interlocking upgrades Design
Task Order Estimate Summary



6/5/2025

Administrative	\$	154,330.00
Design/Engineering	\$	1,218,879.00
Travel & Perdiem	\$	12,000.00
Other Costs and Fee	\$	283,124.00
Total:	\$	<u>1,668,333.00</u>

2025	2026																
J	A	S	O	N	D	J	F	M	A	M	J	J	A	S	O	N	D

Phase	Area	Location	Base Scope/BI-Dir	Type	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	Notes		
Phase 1 Base - 3 Interlockings - 1 Xing	Beetdigger	NEW 63+70 Beetdigger/9800 S	Base	Interlocking				1	1	1														Combine 9800S & Beetdiggers in new house	
		Retire existing 9800 S	Base	Xing					1	1	1														Retire
		Retire existing Beetdiggers	Base	Interlocking							1	1	1	1											
	Cushing B	198+47 Cushing A	Base	Interlocking								1	1	1	1	1	1	1							Interlocking Upgrade
	Cushing A	190+15 Cushing B	Base	Interlocking									1	1	1	1	1	1							Interlocking Upgrade
Phase 2 Base - 1 Interlockings - 1 Intermediate	I-80 (YRC) Yellowstone	600+00 I-80 (YRC) Yellowstone	Base	Interlocking									1	1	1	1								Interlocking Upgrade	
		Update S2700/S2701	Base	Intermediate											1	1	1	1							EC4 to ELIXS
Phase 3 Base - 2 Interlocking - 1 Intermediate - 1 SW Case	Ballpark	679+64 Ballpark	Base	Interlocking													1	1	1	1	1			Interlocking Upgrade	
		Retire IS S1400/S1401	Base	Intermediate															1	1	1				Retire
		Retire S9783 SW Case	Base	SW Case																		1	1		
	700 South	754+00 700 South	Base	Interlocking													1	1	1	1	1	1	1		Interlocking Upgrade

0 0 1 2 3 3 4 4 4 4 6 5 5 3 4 2 1 0