

TASK ORDER NO. 23-012

TASK ORDER NAME: 5300-5400 S. Construction

PROJECT CODE: SGR-404

This is Task Order #23-012 to the On-Call Maintenance Contract entered into by and between Utah Transit Authority (UTA) and Rocky Mountain Systems Services, (Contractor) as of February 24th, 2021.

This Task Order is part of the On-Call Maintenance Contract and is governed by the terms thereof.

The purpose of this Task Order is to specifically define the scope, schedule, lump sum price, and other terms applicable to the work identified herein.

UTA and Contractor hereby agree as follows:

1.0 SCOPE OF SERVICES

The scope of work for the Task Order #23-012 is hereby attached and incorporated into this Task Order.

2.0 SCHEDULE

The Substantial Completion Date for this Task is September 30, 2023. The Final Acceptance Date for this Task is September 30, 2023.

3.0 LUMP SUM PRICE

The price for this task order is a not to exceed \$1,615,102. Invoices will be billed on monthly basis for work completed to date.

4.0 APPLICABILITY OF FEDERAL CLAUSES

This Task Order does does not [Check Applicable] include federal assistance funds which requires the application of the Federal Clauses appended as Exhibit D to the On Call Maintenance Contract.

IN WITNESS WHEREOF, this Task Order has been executed by UTA and the Contractor or its appointed representative

UTAH TRANSIT AUTHORITY:

ROCKY MOUNTAIN SYSTEMS SERVICES:

By: _____ Date
Jay Fox, Executive Director > \$200,000

DocuSigned by:
By: Dan Meservey
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By: _____ Date
Mary DeLoretto, Chief Service Development Ofc. < 200,000

Date: 4/2/2023

By: _____ Date
Jared Scarbrough, Director of Capital Construction < \$75,000

By: _____ Date
Dean Hansen, Systems Engineering Manager < \$25,000

DocuSigned by:
Mike Ball 4/3/2023
Legal Review Date Procurement Review Date
70E33A415BA44F6...



March 20, 2023

RMSS-52598-070

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: 5300S/5400S Powered Crossovers - Construction

Dean,

Rocky Mountain Systems Services (RMSS) is pleased to provide a proposal for the construction phase of upgrading the 5300S & 5400S TRAX crossovers. This will upgrade both crossovers from electric locks to fully signalized interlockings with powered switch machines, with each set of crossovers functioning as an independent interlocking. The modifications will also include a bi-directional signaling element between 5300S Crossover (Ash Interlocking) and Sugar Interlocking on both main tracks. This includes modifying the affected reverse running crossing approaches. Lastly, this work includes upgrading the current ElectroCode 4 Plus equipment to ElectroLogIXS at the S9122 (5810/5811) Intermediate Signal location. This task order coincides with previous task orders 19, 26, and 28 for design and procurement of long lead items at these locations.

Our lump sum price for this proposal is **\$1,615,102.00**

The scope of work covered in this proposal at the listed locations is outlined in the attached documents and as follows:

- Vine Street Grade Crossing
 - Reconfigure existing NB crossing approach (both tracks) AFTAC equipment applicable to the removal of signals 5000/5001
- S9244RC (5000/5001)
 - Remove and retire existing signal CIH, associated signals, impedance bonds, and applicable wiring/cable
- Ash Interlocking (5300 So crossover)
 - Removal
 - Remove and retire S9220 switch case, applicable electric locks, lifting block derail, and wiring/cable
 - Installation
 - 1 ea. new 8 x 12 CIH with applicable wiring, equipment, LCP, and foundations
 - 5 ea. new signals (masts, LED heads, ladders, and foundations)
 - 2 ea. route indicators (masts, LED heads, and foundations)
 - 4 ea. POSM – 3 for switches, 1 for a split point derail



- 3 ea. natural gas hot air blower switch heaters with ductwork, 1 ea. cal rod switch heater for the derail, control panels, and radios
- 8 ea. new impedance bonds with associated 500 MCM bonding
- Applicable new track circuits
- Incorporate S9212SWC battery backup from new CIH
- Reconfigure S9212SWC utility power to be supplied from new Ash Interlocking CIH
- Incorporate existing Mid Jordan route selector functionality at the Murray Central south platform into new CIH
- Applicable new conduit runs and pull boxes
- Applicable new field cable
- Applicable new power/signal bonding
- Testing – static and dynamic as required
- S9199RC Switch Case
 - Installation
 - 1 ea. new 30" case with foundations to be installed adjacent to existing case to provide battery back up
 - Reconfigure case utility power to be supplied from new Ash Interlocking CIH
 - Incorporate block repeater circuits into new Ash Interlocking CIH
 - Applicable new conduit runs and pull boxes
 - Applicable new field cable
 - Testing – static and dynamic as required
- Hunter Interlocking (5400 So crossover)
 - Removal
 - Remove and retire existing S9179RC signal CIH, impedance bonds, and applicable wiring/cable
 - Remove and retire S9182 switch case and applicable wiring/cable
 - Remove and retire S9173 switch case, associated electric locks, and wiring/cable
 - Installation
 - 1 ea. new 8 x 12 CIH with applicable wiring, equipment, LCP, and foundations
 - 2 ea. new signals (masts, LED heads, ladders, and foundations)
 - Reposition existing S9178/5401 (new MI4) signal head and ladder assembly
 - 2 ea. power operated switch machines with layouts
 - 2 ea. gas hot air blower switch heaters with ductwork, control panels, and radios
 - 8 ea. new impedance bonds with associated 500 MCM bonding
 - Applicable new track circuits
 - Incorporate S9183A EL and S9138B switch indication into new CIH
 - Applicable new conduit runs and pull boxes
 - Applicable new field cable
 - Applicable new power/signal bonding
 - Testing – static and dynamic as required
- S9122RC (5810/5811 Intermediate)



- Removal
 - Remove 2 ea. existing EC4 plus boxes and associated wiring in the CIH
- Installation
 - 1 ea. new ElectroLogIXS vital signal processor with associated wiring and communications connections
 - 2 ea. new LED signals heads (to be mounted to existing signal masts and ladders/platforms are to be reconfigured)
 - New field cable
- Testing – static and dynamic as required
- Lovendahl Interlocking
 - Testing – static and dynamic as required for additional aspects at SL6 (software only)
- Sugar Interlocking
 - Replace existing 2 aspect signal head with new 3 aspect signal head
 - Testing – static and dynamic as required
- Grade Crossing approach upgrades – modify reverse run crossing approaches to allow bi-directional operation between Ash Interlocking and Sugar Interlocking by utilizing overlapping/existing AFTAC circuits and DAXing over vital communication links to adjacent locations
 - Installation of RS232/fiber modems, updated software, and the removal of existing applicable AFTAC equipment and associated wiring at the following locations:
 - 5813 South grade crossing and associated coupler cases
 - 5900 South grade crossing and associated coupler cases
 - 6100 South grade crossing and associated coupler cases
 - Reconfiguration of existing AFTAC frequencies between new Hunter Interlocking and S9122RC (5810/5811 Intermediate)
 - Testing – static and dynamic as required
- Design and implement TDX office changes to reflect applicable new locations and functionality.
- Procurement of various materials not previously included in the long lead procurement under Task Order 28

Clarifications

1. On-call overhead personnel will be used for signal testing; however, this project will require additional testing personnel to be brought in as applicable.
2. RMSS to provide AIS conduit layout drawings per the request of UTA.
3. Any hazardous material encountered during construction will remain within the UTA ROW. RMSS will perform work in accordance with approved UTA Trenching Work Plan.
4. Formal training for UTA MOW and Operations personnel will be basic familiarization of the new locations only. RMSS will not provide any training submittals.



Assumptions

1. Full cutover of the new Ash and Hunter Interlockings is assumed to be performed in two phases:
 - a. Phase 1 – in conjunction with the civil shutdown
 - i. Installation of M23A switch machines to replace existing electric locks and switch circuit controllers
 - ii. IJ's - RMSS will bond around applicable new IJ's to permit the signal and crossing systems to remain in current operation.
 - iii. Operations into Murray Central station
 1. No-Bo's/insulators for OCS to be installed by UTA for the NB and SB OCS isolation (south of the station)
 - a. RMSS to provide oversight only
 2. Vine Street NB crossing approaches
 - a. Shorten NB approach on NB track
 - i. Installation of temp track wires into existing coupler case required
 - b. Remove SB track NB approach SNBT from service
 - c. Crossing approaches will be returned to existing service after the civil shutdown until Phase 2 cutover of Vine Street.
 - d. No temp software required
 - b. Phase 2
 - i. To be performed during regular and extended (weekends) non-revenue hours:
 1. Cut over of bi-directional signaling between S9122RC (5810/5811 Intermediate) and Sugar interlocking, associate grade crossing approaches, and the new ELX at S9122RC (5810/5811 Intermediate)
 2. Installation of M23A switch machine in conjunction with civil installation of the new split point derail in the Murray Central siding. POSM will operate as a hand throw and switch controller to replace the existing lifting block derail until full cutover of Ash Interlocking.
 - ii. To be performed during two (2) weekend shutdowns (Friday night through Mon morning):
 1. Cut over of new Ash and Hunter Interlockings
 2. Cut over of Vine Street grade crossing NB approaches
2. Schedule assumptions are as follows:
 - a. Phase 1 – 4/23/2023-5/18/2023
 - i. The pricing in this proposal is based on RMSS access and construction to the work site during the Phase 1 shutdown.
 - ii. RMSS reserves the right to recover additional costs incurred due to inadequate access for construction activities during the shutdown.
 - b. Phase 2 - Mid June 2023 – October 2023
3. Insulated joints
 - a. Removal of 5000/5001 IJ's by others. RMSS will bond around existing IJ's if necessary until they can be removed.



- b. New IJ's will be by others. RMSS will coordinate with others for placement of new applicable IJ's
4. New CIH's will be placed within existing UTA ROW.
5. RMSS will utilize existing duct bank and pull boxes to the extent possible.
6. Power and gas service
 - a. Refer to attached utility layouts for scope breakout
 - b. Power service cable from ground sleeves to meters by UTA/Murray Power
 - c. Power service transformers by UTA/Murray Power
 - d. Gas service lines from Dominion main line to meters by UTA/Dominion
 - e. Power and gas services from the meters to applicable appurtenances to be by RMSS.
7. Pull boxes and conduit for future Red Signal Enforcement and TWC functionality will be performed with this project
8. Fiber optic work and removal of existing fiber patch panel at S9244RC (5000/5001) will be performed in conjunction with the UTA Fiber Optic Upgrade project.
9. Any applicable Systems Integration Testing to be performed by UTA with RMSS support.

Exclusions

1. Any costs associated with bus bridges or train operations in conjunction with cutting over all new locations and functionality.
2. Hazardous material handling permits or compliance documentation.
3. Spare parts – no spare parts will be included with this proposal.

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

If you need any additional information, please do not hesitate to contact us.

Sincerely,

Travis Baxter
Project Manager
Rocky Mountain Systems Services

Attachments:

- 5300S_5400S Powered Crossovers – Cost Estimate
- 5300S_5400S Utility Scope Markup Drawings

cc:

Anthony Ortolani - RMSS
Marshall Wilson – RMSS
Dan Meservey – RMSS
Doug Jones - RMSS

Procurement lead times may be affected by Covid-19 pandemic
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

RMSS-52598-070 5300S/5400S Powered Crossovers - Construction



Task Order Estimate Summary

3/20/2023

Subcontractors \$	163,000.00
Materials \$	338,703.84
Administrative \$	129,181.00
Design/Engineering \$	28,596.92
Construction/Testing \$	622,658.00
Travel & Perdiem \$	12,000.00
Other Costs and Fee \$	320,962.00
Total: \$	1,615,101.76