

# **Statement of Work**

Submitted by: Douglas Banks

Department of State

## Barrier Installation Project, Dili Front and Rear Gates JOB# 7717 A/B

The general scope of the project will be as follows:

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### **1.0 OBJECTIVE.**

- 1.1 Remove existing Delta model TT207SFM and Natsaka III vehicle arrest system. Replace with a new Delta model DSC2000 vehicle arrest system.

### **2.0 BACKGROUND.**

- 2.1 Post upgrades have warranted replacement for a DS approved vehicle arrest system.

### **3.0 REQUIREMENTS.**

#### **3.1 Scope. The general scope of the project will be as follows:**

##### **Removal Cost Estimation. (Barrier System)**

- 3.1.1 The contractor shall conduct an estimation of cost for the removal of one (1) Natsaka III vehicle arrest system located at Front Gate.
- 3.1.2 The contractor shall conduct an estimation of cost for the removal of one (1) Delta model TT207SFM vehicle arrest barrier located at Rear Gate.
- 3.1.3 The contractor shall conduct an estimation of cost as required for the concrete foundation removal and disposal of all waste concrete, barrier road plate/drop-arm(s), reinforcing steel rebar(s), PVC conduit piping, electrical wiring, and waste materials associated with the Delta model TT207SFM and Natsaka III vehicle arrest systems.
- 3.1.4 The contractor shall conduct an estimation of cost for the removal of all hydraulic lines, electrical wiring, and PVC conduit piping as connected underground from the Natsaka III and Delta model TT207SFM vehicle arrest barrier and back to the hydraulic pumping unit.

- 3.1.5 The contractor shall conduct an estimation of cost for the removal of the hydraulic pumping unit, associated concrete foundation, and all hydraulic lines, electrical wiring, and PVC conduit piping as connected underground and back to the Natsaka III and Delta model TT207SFM vehicle arrest barrier.
- 3.1.6 The contractor shall conduct an estimation of cost for the removal of the vehicle Stop/Go signal light assemblies, associated concrete foundation, all electrical wiring, and PVC conduit piping as connected underground and back to the control circuits for the Natsaka III and Delta model TT207SFM vehicle arrest system.
- 3.1.7 The contractor shall conduct an estimation of cost for the removal of the vehicle detector circuits, associated concrete foundation, all electrical wiring, and PVC conduit piping as connected underground and back to the control circuits for the Natsaka III and Delta model TT207SFM vehicle arrest system.
- 3.1.8 The contractor shall conduct an estimation of cost for the removal of the vehicle barrier drainage water sump pump system including all associated electrical wiring and PVC conduit piping as connected underground from the Natsaka III and Delta model TT207SFM vehicle arrest barrier and back to the sump pump unit.
- 3.1.9 The contractor shall conduct an estimation of cost for the removal of existing water drainage piping as required for rerouting the flow of water drainage through and/or around the vehicle barrier construction site.
- 3.1.10 The contractor shall conduct an estimation of cost for the removal of existing fresh water piping as required for the rerouting of fresh water and piping through and/or around the vehicle barrier construction site.
- 3.1.11 The contractor shall conduct an estimation of cost for the removal of existing gas piping (See 3.1.12) as required for the rerouting of gas and piping through and/or around the vehicle barrier construction site.
- 3.1.12 Notice of Construction and/or Repair (See 6.1.21) for any gas line must be submitted to the local oil and gas commission before the start of any construction or repairs. Construction and/or repairs must be under the authority and supervision of the local oil and gas commission.

- 3.1.13 The contractor shall conduct an estimation of cost for the removal of electrical lines or wiring (See 3.1.14) as required for the rerouting of electrical lines or wiring through and/or around the vehicle barrier construction site.
- 3.1.14 Notice of Construction and/or Repair (See 6.1.22) for any electrical line must be submitted to the local electric cooperative before the start of any construction or repairs. Construction and/or repairs must be under the authority and supervision of the local electric cooperative.
- 3.1.15 The contractor shall conduct an estimation of cost for damage restoration improvements as associated with the vehicle arrest system removal process.
- 3.1.16 The contractor shall identify and address any anomalies of concern.

### **3.2 Excavation Cost Estimation. (Barrier System)**

- 3.2.1 The contractor shall conduct an excavation estimation of cost as required for the installation of one (1) Natsaka III vehicle arrest system located at Front Gate.
- 3.2.2 The contractor shall conduct an excavation estimation of cost as required for the installation of one (1) Delta model TT207SFM vehicle arrest barrier located at Rear Gate.
- 3.2.3 The contractor shall conduct an excavation estimation of cost as required for the installation of all hydraulic lines, electrical wiring, and PVC conduit piping as required underground connecting from the Natsaka III and Delta model TT207SFM vehicle arrest barrier and back to the hydraulic pumping unit.
- 3.2.4 The contractor shall conduct an excavation estimation of cost as required for the installation of the hydraulic pumping unit.
- 3.2.5 The contractor shall conduct an excavation estimation of cost as required for the installation of all hydraulic lines, electrical wiring, and PVC conduit piping as required underground connecting from the hydraulic pumping unit and back to the Natsaka and TT207SFM vehicle arrest barrier.
- 3.2.6 The contractor shall conduct an excavation estimation of cost as required for the installation of the enclosure that houses the hydraulic pumping units.

- 3.2.7 The contractor shall conduct an excavation estimation of cost as required for the installation of the vehicle Stop/Go signal light assemblies, associated concrete foundation, all electrical wiring, and PVC conduit piping as connected underground and back to the control circuits for the Delta Model TT207SFM vehicle arrest system.
- 3.2.8 The contractor shall conduct an excavation estimation of cost as required for the installation of the vehicle detector circuits, associated concrete foundation, all electrical wiring, and PVC conduit piping as connected underground and back to the control circuits for the Natsaka III and Delta model TT207SFM vehicle arrest system.
- 3.2.9 The contractor shall conduct an excavation estimation of cost as required for the installation of the vehicle barrier drainage water sump pump system to include the appropriate disposal of water to the nearest water drainage or sewer including all associated electrical wiring and PVC conduit piping as required underground and connecting from the Natsaka III and Delta model TT207SFM vehicle arrest barrier and back to the sump pump and water drainage or sewer system.
- 3.2.10 The contractor shall conduct an excavation estimation of cost for the installation of water drainage piping as required for rerouting the flow of water drainage through and/or around the vehicle barrier construction site.
- 3.2.11 The contractor shall conduct an excavation estimation of cost for the installation of fresh water piping as required for the rerouting of fresh water and piping through and/or around the vehicle barrier construction site.
- 3.2.12 The contractor shall conduct an excavation estimation of cost for the installation of gas piping (See 3.2.13) as required for the rerouting of gas and piping through and/or around the vehicle barrier construction site.
- 3.2.13 Notice of Construction and/or Repair (See 6.1.21) for any gas line must be submitted to the local oil and gas commission before the start of any construction or repairs. Construction and/or repairs must be under the authority and supervision of the local oil and gas commission.

- 3.2.14 The contractor shall conduct an excavation estimation of cost for the installation of electrical lines (See 3.2.15) or wiring as required for the rerouting of electrical lines or wiring through and/or around the vehicle barrier construction site.
- 3.2.15 Notice of Construction and/or Repair (See 6.1.22) for any electrical line must be submitted to the local electric cooperative before the start of any construction or repairs. Construction and/or repairs must be under the authority and supervision of the local electric cooperative.
- 3.2.16 The contractor shall conduct an excavation estimation of cost for the installation of a sump pump well as required for the installation of a sump pump system.
- 3.2.17 The contractor shall conduct an estimation of cost for damage restoration improvements as associated with the vehicle arrest system excavation process.
- 3.2.18 The contractor shall identify and address any anomalies of concern.

### **3.3 Installation Cost Estimation. (Barrier System)**

- 3.3.1 The contractor shall conduct an estimation of cost as required for the installation of one (1) Delta model DSC 2000 vehicle arrest system located at Front Gate per manufacture instructions.
- 3.3.2 The contractor shall conduct an estimation of cost as required for the installation of one (1) Delta model DSC 2000 vehicle arrest barrier located at Rear Gate per manufacture instructions.
- 3.3.3 The contractor shall conduct an estimation of cost as required for the installation of two (2) Delta model DSC High Security Crash Rated Fixed Post Bollards located at Rear Gate per manufacture instructions.
- 3.3. 4 The contractor shall conduct an estimation of cost as required for the Delta model DSC 2000 installation to include the concrete foundation, reinforcing steel rebar, and aggregate materials, as required per manufacture instructions.
- 3.3. 5 The contractor shall conduct an estimation of cost as required for the installation of all new hydraulic lines, electrical wiring, and PVC conduit piping as required underground and connecting from the DSC 2000 vehicle arrest barrier and back to the hydraulic pumping unit per manufacture instructions.

- 3.3.6 The contractor shall conduct an estimation of cost as required for the installation of all new hydraulic lines, electrical wiring, and PVC conduit piping as required underground and connecting from the DSC 2000 vehicle arrest barrier and back to the hydraulic pumping unit per manufacture instructions.
- 3.3.7 The contractor shall conduct an estimation of cost as required for the installation of the hydraulic pumping unit per manufacture instructions.
- 3.3.8 The contractor shall conduct an estimation of cost as required for the installation of the enclosure that houses the hydraulic pumping unit per manufacture instructions.
- 3.3.9 The contractor shall conduct an estimation of cost as required for the installation of the vehicle Stop/Go signal light assemblies, associated concrete foundation, all electrical wiring, and PVC conduit piping as connected underground and back to the control circuits for the DSC 2000 vehicle arrest system per manufacture instructions.
- 3.3.10 The contractor shall conduct an estimation of cost as required for the installation of the vehicle detector circuits, associated concrete foundation, all electrical wiring, and PVC conduit piping as connected underground and back to the control circuits for the DSC 2000 vehicle arrest system per manufacture instructions.
- 3.3.11 The contractor shall conduct an estimation of cost as required for the installation of the vehicle barrier drainage water sump pump system to include the appropriate disposal of water to the nearest water drainage or sewer including all associated electrical wiring and PVC conduit piping as required underground and connecting from the DSC 2000 vehicle arrest barrier and back to the sump pump and water drainage or sewer system.
- 3.3.12 The contractor shall conduct an estimation of cost for the installation of the water drainage piping as required for rerouting the flow of drainage water through and/or around the vehicle barrier construction site.
- 3.3.13 The contractor shall conduct an estimation of cost for the installation of fresh water piping as required for the rerouting of

fresh water and piping through and/or around the vehicle barrier construction site.

- 3.3.14 The contractor shall conduct an estimation of cost for the installation of gas piping (See 3.3.14) as required for the rerouting of gas and piping through and/or around the vehicle barrier construction site.
- 3.3.15 Notice of Construction and/or Repair (See 6.1.21) for any gas line must be submitted to the local oil and gas commission before the start of any construction or repairs. Construction and/or repairs must be under the authority and supervision of the local oil and gas commission.
- 3.3.16 The contractor shall conduct an estimation of cost for the installation of electrical lines (See 3.3.16) or wiring as required for the rerouting of electrical lines or wiring through and/or around the vehicle barrier construction site.
- 3.3.17 Notice of Construction and/or Repair (See 6.1.22) for any electrical line must be submitted to the local electric cooperative before the start of any construction or repairs. Construction and/or repairs must be under the authority and supervision of the local electric cooperative.
- 3.3.18 The contractor shall conduct an estimation of cost for the installation of a sump pump well as required for the installation of a sump pump system.
- 3.3.19 The contractor shall conduct an estimation of cost for damage restoration improvements as associated with the vehicle arrest system installation process.
- 3.3.20 The contractor shall identify and address any anomalies of concern.

### **3.4 Estimation of Cost. (Trucking & Equipment)**

- 3.4.1 The contractor shall conduct an estimation of cost for concrete mixer trucking and delivery of concrete as required for the installation of two (2) Delta Model DSC 2000 vehicle arrest systems to include the concrete foundation for the vehicle barrier, hydraulic pumping unit and enclosure, vehicle detector circuits, and the Stop/Go signal light assemblies, and water sump pump system as required for the installation project per manufacture instructions.

- 3.4.2 The contractor shall conduct an estimation of cost for the trucking and delivery of reinforcing steel rebar(s) as required for the installation of two (2) Delta Model DSC 2000 vehicle arrest systems to include the concrete foundation for the vehicle barrier, hydraulic pumping unit, vehicle Stop/Go signal light assemblies, and water sump pump system as required for the installation project per manufacture instructions.
- 3.4.3 The contractor shall conduct an estimation of cost for the trucking and delivery of aggregate materials as required for the installation of two (2) Delta Model DSC 2000 vehicle arrest system to include the concrete foundation for the vehicle barrier, hydraulic pumping unit, vehicle detector circuits, and the Stop/Go signal light assemblies, and water sump pump system as required for the installation project per manufacture instructions.
- 3.4.4 The contractor shall conduct an estimation of cost as required for the rental and/or use of all heavy duty equipment (i.e., forklift, front loader, excavator with hoe ram and bucket attachments) and/or other equipment as required for the removal and installation process to include the concrete foundation, reinforcing steel rebar and excavation necessary to the installation project per manufacture instructions.
- 3.4.5 The contractor shall conduct an estimation of cost as required for the rental and/or use, pickup and delivery of a dumpster(s) as necessary to the project cleanup and waste removal.
- 3.4.6 The contractor shall conduct an estimation of cost for a vehicle blocking barrier(s) as required to ensure construction site security. The blocking barrier(s) must be approved by the Post Regional Security Officer or Post Security Officer.
- 3.4.7 The contractor shall conduct an estimation of cost for pedestrian fencing and/or netting as required for pedestrian safety and access control.
- 3.4.8 The contractor shall conduct an estimation of cost for a construction site Portable Restroom as required for contractor personnel.
- 3.4.9 The contractor shall identify and address any anomalies of concern.

### **3.5 Tasks. (Removal)**

- 3.5.1 The contractor shall remove one (1) Natsaka III vehicle arrest system located at Front Gate.

- 3.5.2 The contractor shall remove one (1) Delta model TT207SFM vehicle arrest barrier located at Rear Gate.
- 3.5.3 The contractor shall remove the concrete foundation, reinforcing steel rebar(s), aggregate material, all hydraulic lines, electrical wiring, and conduit piping as required underground connecting from the Natsaka III vehicle arrest barrier and back to the hydraulic pumping unit.
- 3.5.4 The contractor shall remove the concrete foundation, reinforcing steel rebar(s), aggregate material, all hydraulic lines, electrical wiring, and conduit piping as required underground connecting from the Delta Model TT207SFM vehicle arrest barrier and back to the hydraulic pumping unit.
- 3.5.5 The contractor shall remove the hydraulic pumping unit, associated concrete foundation, reinforcing steel rebar(s), all hydraulic lines, electrical wiring, and conduit piping as required underground and connecting back to the Natsaka III vehicle arrest barrier.
- 3.5.6 The contractor shall remove the hydraulic pumping unit, associated concrete foundation, reinforcing steel rebar(s), all hydraulic lines, electrical wiring, and conduit piping as required underground and connecting back to the Delta model TT207SFM vehicle arrest barrier.
- 3.5.7 The contractor shall remove the vehicle Stop/Go signal light assemblies, associated concrete foundation, all electrical wiring, and PVC conduit piping as connected underground and back to the control circuits for the Natsaka III vehicle arrest system.
- 3.5.8 The contractor shall remove the vehicle Stop/Go signal light assemblies, associated concrete foundation, all electrical wiring, and PVC conduit piping as connected underground and back to the control circuits for the Delta Model TT207SFM vehicle arrest system.
- 3.5.9 The contractor shall remove the vehicle detector circuits, associated concrete foundation, all electrical wiring, and PVC conduit piping as connected underground and back to the control circuits for the Natsaka III vehicle arrest system.

- 3.5.10 The contractor shall remove the vehicle detector circuits, associated concrete foundation, all electrical wiring, and PVC conduit piping as connected underground and back to the control circuits for the Natsaka III vehicle arrest system.
- 3.5.11 The contractor shall remove the vehicle detector circuits, associated concrete foundation, all electrical wiring, and PVC conduit piping as connected underground and back to the control circuits for the Delta Model TT207SFM vehicle arrest system.
- 3.5.12 The contractor shall remove the vehicle barrier drainage water sump pump system including all associated electrical wiring and PVC conduit piping as connected underground and back to the Natsaka III vehicle arrest barrier.
- 3.5.13 The contractor shall remove the vehicle barrier drainage water sump pump system including all associated electrical wiring and PVC conduit piping as connected underground and back to the Delta model TT207SFM vehicle arrest barrier.
- 3.5.14 The contractor shall remove water drainage piping as required for rerouting the flow of drainage water through and/or around the vehicle barrier construction site.
- 3.5.15 The contractor shall remove fresh water piping as required for the rerouting of fresh water and piping through and/or around the vehicle barrier construction site.
- 3.5.16 The contractor shall remove gas piping (See 3.5.11) as required for the rerouting of gas and piping through and/or around the vehicle barrier construction site.
- 3.5.17 Notice of Construction and/or Repair (See 6.1.21) for any gas line must be submitted to the local oil and gas commission before the start of any construction or repairs. Construction and/or repairs must be under the authority and supervision of the local oil and gas commission.
- 3.5.18 The contractor shall remove electrical lines (See 3.5.13) or wiring as required for the rerouting of electrical lines or wiring through and/or around the vehicle barrier construction site.
- 3.5.19 Notice of Construction and/or Repair (See 6.1.22) for any electrical line must be submitted to the local electric cooperative before the start of any construction or repairs. Construction and/or repairs

must be under the authority and supervision of the local electric cooperative.

3.5.14 The contractor shall identify and address any anomalies of concern.

### **3.6 Tasks. (Install)**

- 3.6.1 The contractor shall install one (1) Delta model DSC 2000 vehicle arrest system located at Front Gate as required per manufacture instructions.
- 3.6.2 The contractor shall install one (1) Delta model DSC 2000 vehicle arrest barrier located at Rear Gate as required per manufacture instructions.
- 3.6.3 The contractor shall install one (1) Delta model DSC 720 Fixed Post Bollards located at Rear Gate as required per manufacturer instructions.
- 3.6.4 The contractor shall install as required for the Delta Model DSC 720 Fixed Post Bollard a concrete foundation, reinforcing steel rebar(s), and aggregate materials, as required per manufacture instructions.
- 3.6.5 The contractor shall install all hydraulic lines, electrical wiring, and PVC conduit piping as required underground connecting from the Natsaka III vehicle arrest barrier and back to the hydraulic pumping unit per manufacture instructions.
- 3.6.7 The contractor shall install all hydraulic lines, electrical wiring, and PVC conduit piping as required underground connecting from the hydraulic pumping unit and back to the DSC 2000 vehicle arrest barrier per manufacture instructions.
- 3.6.8 The contractor shall install the hydraulic pumping unit and all associated wiring and PVC conduit piping per manufacture instructions.
- 3.6.9 The contractor shall install the enclosure that houses the hydraulic pumping unit per manufacture instructions.
- 3.6.10 The contractor shall install the vehicle Stop/Go signal light assemblies, associated concrete foundation, all electrical wiring, and PVC conduit piping as connected underground and back to the control circuits for Delta Model DSC 2000 vehicle arrest systems located at Front Gate per manufacture instructions.

- 3.6.11 The contractor shall install the vehicle Stop/Go signal light assemblies, associated concrete foundation, all electrical wiring, and PVC conduit piping as connected underground and back to the control circuits for Delta Model DSC 2000 vehicle arrest systems located at Rear Gate per manufacture instructions.
- 3.6.12 The contractor shall install the vehicle detector circuits, associated concrete foundation, all electrical wiring, and PVC conduit piping as connected underground and back to the control circuits for the Delta Model DSC 2000 vehicle arrest system per manufacture instructions.
- 3.6.13 The contractor shall install the vehicle barrier drainage water sump pump system to include the appropriate disposal of water to the nearest water drainage or sewer including all associated electrical wiring and PVC conduit piping as required underground and connecting from the Delta Model DSC 2000 vehicle arrest barrier and back to the sump pump and water drainage or sewer system.
- 3.6.14 The contractor shall install water drainage piping as required for rerouting the flow of water drainage through and/or around the vehicle barrier construction site.
- 3.6.15 The contractor shall install fresh water piping as required for the rerouting of fresh water and piping through and/or around the vehicle barrier construction site.
- 3.6.16 The contractor shall install gas piping (See 3.6.14) as required for the rerouting of gas and piping through and/or around the vehicle barrier construction site.
- 3.6.17 Notice of Construction and/or Repair (See 6.1.21) for any gas line must be submitted to the local oil and gas commission before the start of any construction or repairs. Construction and/or repairs must be under the authority and supervision of the local oil and gas commission.
- 3.6.18 The contractor shall install electrical lines (See 3.6.16) or wiring as required for the rerouting of electrical lines or wiring through and/or around the vehicle barrier construction site.
- 3.6.19 Notice of Construction and/or Repair (See 6.1.22) for any electrical line must be submitted to the local electric cooperative before the start of any construction or repairs. Construction and/or repairs must be under the authority and supervision of the local electric cooperative.

3.6.20 The contractor shall install a sump pump well as required for the installation of a sump pump system.

3.6.21 The contractor shall identify and address any anomalies of concern.

### **3.7 Tasks. (Waste Disposal)**

3.7.1 The contractor shall remove and dispose of all waste materials including concrete, aggregate materials, reinforcing steel rebar(s), steel barrier road plate/drop-arm(s), conduit piping, all electrical wiring, hydraulic lines and hydraulic oil (in accordance with local regulations) associated with the removal and installation process pertaining to the Delta Model DSC 2000, the Natsaka III vehicle arrest system and the TT207SFM vehicle arrest barriers to include associated system parts.

3.7.2 The contractor shall identify and address any anomalies of concern.

### **3.8 Project Time Line.**

3.8.1 The contractor shall determine the project time line required to initiate and complete the removal, excavation, and installation of the two (2) Delta DSC 2000 and two (2) DSC 720 Fixed Bollards as fully operational vehicle arrest systems within 60 calendar days of Project Initiation Date.

3.8.1 The contractor shall identify and address any anomalies of concern.

## **4.0 GOVERNMENT FURNISHED MATERIALS.**

### **4.1 The government shall provide the following:**

4.1.1 The government shall provide two (2) Delta Model DSC 2000 vehicle arrest barricade systems and two (2) Delta Model DSC 720 Crash Rated Fixed Post Bollards.

4.1.2 The government shall provide the associated control panels.

4.1.3 The government shall provide the hydraulic power unit (HPU).

4.1.4 The government shall provide the enclosure, (for the hydraulic pumping unit(s), if necessary).

- 4.1.5 The government shall provide the Stop/Go signal assemblies.
- 4.1.6 The government shall provide the vehicle detector circuit(s).
- 4.1.7 The government shall provide the sump pump unit.
- 4.1.8 The government shall provide the hydraulic oil. 46 Grade or equivalent.
- 4.1.9 The government shall provide the dry nitrogen, 2000 PSI.
- 4.1.10 The government shall provide the spray paint, safety yellow.
- 4.1.11 The government shall provide the spray paint, gloss black.
- 4.1.12 The government shall provide all of the hydraulic hoses, hose fittings, PVC/EMT conduit, conduit fittings, water drainage piping, fresh water piping, gas piping, HPU electrical wiring, control wiring, biodegradable grease cleaner, and miscellaneous parts associated with the installation.
- 4.1.13 The contractor shall identify and address any anomalies of concern.

## **5.0 CONTRACTOR FURNISHED MATERIALS.**

### **5.1 The contractor shall provide the following:**

- 5.1.1 The contractor shall provide all concrete required for the foundation installation of two (2) Delta DSC 2000 vehicle arrest systems and two (2) Delta DSC 720 Crash Rated Fixed Post Bollard Systems per manufacture instructions.
- 5.1.2 The contractor shall provide all concrete required for the foundation installation of the hydraulic pumping unit to include the enclosure that houses the hydraulic pumping unit per manufacture instructions.
- 5.1.3 The contractor shall provide all concrete and aggregate materials required for the foundation installation of the vehicle detector circuits, and the Stop/Go signal light assemblies per manufacture instructions.
- 5.1.4 The contractor shall provide all concrete required for the foundation installation of the sump pump system per manufacture instructions.

- 5.1.5 The contractor shall provide all concrete required for the foundation installation of the water drainage piping.
- 5.1.6 The contractor shall provide all concrete required for the foundation installation of the fresh water piping.
- 5.1.7 The contractor shall provide all concrete required for the foundation installation of the gas piping (See 5.1.8).
- 5.1.8 Notice of Construction and/or Repair (See 6.1.21) for any gas line must be submitted to the local oil and gas Commission before the start of any construction or repairs. Construction and/or repairs must be under the authority and supervision of the local oil and gas commission.
- 5.1.9 The contractor shall provide all concrete required for the foundation installation of the electrical lines or wiring (See 5.1.10).
- 5.1.10 Notice of Construction and/or Repair (See 6.1.22) for any electrical line must be submitted to the local electric cooperative before the start of any construction or repairs. Construction and/or repairs must be under the authority and supervision of the local electric cooperative.
- 5.1.11 The contractor shall provide all aggregate materials required for the foundation installation of the DSC 2000 Vehicle Arrest Systems and DSC 720 Fixed Post Bollards vehicle barrier per manufacture instructions.
- 5.1.12 The contractor shall provide all aggregate materials required for the foundation installation of the hydraulic pumping unit and enclosure that houses the hydraulic pumping unit per manufacture instructions.
- 5.1.13 The contractor shall provide all aggregate materials required for the foundation installation of the sump pump unit per manufacture instructions.
- 5.1.14 The contractor shall provide all aggregate materials required for the foundation installation of the water drainage piping.
- 5.1.15 The contractor shall provide all aggregate materials required for the foundation installation of the fresh water piping.
- 5.1.16 The contractor shall provide all aggregate materials required for the foundation installation of the gas piping (See 5.1.17).

- 5.1.17 Notice of Construction and/or Repair (See 6.1.21) for any gas line must be submitted to the local oil and gas Commission before the start of any construction or repairs. Construction and/or repairs must be under the authority and supervision of the local oil and gas commission.
- 5.1.18 The contractor shall provide all aggregate materials required for the foundation installation of the electrical lines or wiring (See 5.1.19).
- 5.1.19 Notice of Construction and/or Repair (See 6.1.22) for any electrical line must be submitted to the local electric cooperative before the start of any construction or repairs. Construction and/or repairs must be under the authority and supervision of the local electric cooperative.
- 5.1.20 The contractor shall provide all reinforcing steel rebar(s) required for the foundation installation of two (2) DSC 2000 vehicle arrest systems and two (2) DSC 720 Fixed Bollards per manufacture instructions.
- 5.1.21 The contractor shall provide all reinforcing steel rebar(s) required for the foundation installation of the hydraulic pumping unit and enclosure that houses the hydraulic pumping unit per manufacture instructions.
- 5.1.22 The contractor shall provide all reinforcing steel rebar(s) required for the foundation installation of the sump pump unit per manufacture instructions.
- 5.1.23 The contractor shall provide all reinforcing steel rebar(s) required for the foundation installation of the water drainage piping.
- 5.1.24 The contractor shall provide all reinforcing steel rebar(s) required for the foundation installation of the fresh water piping.
- 5.1.25 The contractor shall provide all reinforcing steel rebar(s) required for the foundation installation of the gas piping (See 5.1.26).
- 5.1.26 Notice of Construction and/or Repair (See 6.1.21) for any gas line must be submitted to the local oil and gas Commission before the start of any construction or repairs. Construction and/or repairs must be under the authority and supervision of the local oil and gas commission.

- 5.1.27 The contractor shall provide all reinforcing steel rebar(s) required for the foundation installation of the electrical lines or wiring (See 5.1.28).
- 5.1.28 Notice of Construction and/or Repair (See 6.1.22) for any electrical line must be submitted to the local electric cooperative before the start of any construction or repairs. Construction and/or repairs must be under the authority and supervision of the local electric cooperative.
- 5.1.29 The contractor shall provide a dumpster(s) as required for the cleanup and disposal of all waste materials.
- 5.1.30 The contractor shall provide all excavation and installation equipment required (i.e. forklift, front loader, excavator with hoe ram and bucket attachments, handheld breaker hammer, arc welding equipment, cutting torch, ground tamper, wheel barrow(s), powered saw for concrete cutting, steel rake(s), pick axe(s), flat head shovel(s), spade shovel(s), push broom(s), water hose w/spray attachments, pressure washer, large handheld grinder with cutoff and masonry wheels, electrical extension cord(s), concrete vibrator(s), chain slings, etc.
- 5.1.31 The contractor shall provide all excavation materials (i.e. masonry blocks, lumber for formwork, concrete to concrete expansion joints, plastic sheeting for concrete curing, string line, nails, expandable spray foam, etc.).
- 5.1.32 The contractor shall provide all small handheld tools, drills, drill bits, wrenches, screwdrivers, knockout hole punch set, hole saw kit, fish tape, handheld hydraulic oil fluid pump, large funnel spout, etc. as required for the installation project.
- 5.1.33 The contractor shall provide well covers as required for the project installation. The well and covers shall meet or exceed a 25 ton load capacity.
- 5.1.34 The contractor shall provide vehicle blocking barrier(s) as required to ensure construction site security. The blocking barrier(s) must be approved by the Post Regional Security Officer or Post Security Officer.
- 5.1.35 The contractor shall provide pedestrian fencing and/or netting as required for pedestrian safety and access control.

5.1.36 The contractor shall provide a construction site Portable Restroom as required for contractor personnel.

5.1.37 The contractor shall identify and address any anomalies of concern.

## **6.0 CONTRACTOR RESPONSIBILITIES.**

### **6.1 The contractor shall conform to the following:**

- 6.1.1 The contractor shall conform to the manufacture guidelines and installation specifications.
- 6.1.2 The contractor shall verify and be responsible for all dimensions and conditions at the job site.
- 6.1.3 The contractor shall verify that the foundation concrete will be placed directly into neat excavations. And where sides of the excavation are not stable the contractor shall provide shoring. Type and method of shoring shall be at the contractor's discretion in accordance with standard trade practices.
- 6.1.4 The contractor shall ensure the excavation is kept dry at all times.
- 6.1.5 The contractor shall ensure the concrete is laboratory designed, machine mixed, producing 3,000 PSI (20,68 MPA) at 28 days.
- 6.1.6 The contractor shall ensure the cement is tested Portland cement conforming to ASTM C150, Type II Only.
- 6.1.7 The contractor shall ensure the aggregates conform to ASTM C33 & B GRADE per standard specifications. Maximum size of aggregate shall be 1-1/2 inches (38mm).
- 6.1.8 The contractor shall ensure the reinforcing steel to be deformed bars conforming to ASTM A615, grade 60 (60,000 PSI or 413.7MPA).
- 6.1.9 The contractor shall ensure that all hooks and bends conform to ACI STANDARD 318. Latest revision. Inside diameter of hooks and bends shall be at least six (6) bar diameters.
- 6.1.10 The contractor shall provide spacer bars, chairs, spreaders, blocks, etc. as required to positively hold the steel in place before concrete is poured.

- 6.1.11 The contractor shall ensure the concrete is conveyed from the mixer to final deposit by methods that will prevent separation and/or loss of material.
- 6.1.12 The contractor shall ensure the concrete is thoroughly consolidated by suitable means during placement and shall be thoroughly worked around reinforcement and embedded fixtures and corners of forms.
- 6.1.13 The contractor shall ensure the concrete is maintained above 50°F (10°C) and in a moist condition for at least seven (7) days after placement. And that adequate equipment shall be provided for heating concrete materials and protecting concrete during freezing or near freezing weather.
- 6.1.14 The contractor shall ensure that where exterior wall face requires shoring and/or forming, the forms shall be substantial and sufficiently tight to prevent leakage, and that forms shall not be removed until the concrete is seven (7) days old.
- 6.1.15 The contractor shall ensure that backfilling will be done by depositing and tamping into place clean sand or pouring lean concrete to 95% percent compaction. Water jetting shall not be allowed.
- 6.1.16 The contractor shall ensure that conduit and pipes of aluminum are not utilized.
- 6.1.17 The contractor shall ensure that construction joints that are not indicated on the drawings shall not be allowed. The contractor shall ensure that where a construction joint is to be made, the surface of the concrete shall be thoroughly cleaned and all laitance and standing water removed.
- 6.1.18 The contractor shall be responsible for the protection of all adjacent areas against damage and shall repair all damaged areas to match existing improvements.
- 6.1.19 The contractor shall be responsible for the protection of all electrical lines and/or wiring located in the adjacent areas against damage and shall repair all damaged electrical lines and/or wiring.
- 6.1.20 The contractor shall be responsible for the protection of all water, gas, and sewage lines located in the adjacent area against damage and shall repair all damaged water, gas and/or sewage lines.

- 6.1.21 The contractor shall be responsible for notifying the local Oil and Gas Commission before the commencement of any construction and/or repairs of gas lines.
- 6.1.22 The contractor shall be responsible for determining the location of underground power lines, water, gas, and sewer mains to prevent damage during construction.
- 6.1.23 The contractor shall keep the construction area clean at all times and at completion of work remove all surplus materials, equipment and debris leaving the premises in a clean condition acceptable to the Government Contracting Officer or Government Contracting Officer's representative.
- 6.1.24 The contractor shall perform damage restoration improvements as associated with the vehicle arrest system installation.
- 6.1.25 The contractor shall identify and address any anomalies of concern.

## **7.0 DELIVERY REQUIREMENTS.**

### **7.1 The contractor shall provide the following:**

- 7.1.1 The contractor shall provide daily oral progress reports as requested to the government project representative.
- 7.1.2 The contractor shall provide weekly written progress reports to the government project representative.
- 7.1.3 The contractor shall identify and address any anomalies of concern.

## **8.0 PERIOD OF PERFORMANCE.**

### **8.1 Initiation and completion date:**

- 8.1.1 Date of Award\_\_\_\_\_.
- 8.1.2 Project Initiation Date 14 January 2013\_\_\_\_\_.
- 8.1.3 Project Completion Date: 60 days from Project Initiation Date.

## **9.0 COMMENTS.**

### **9.1 Additional Information:**

9.1.1 Throughout the installation process there will be a government project representative on site to assist the contractor with any anomalies or areas of concern.

9.1.2 The contractor, upon completion of the project shall remand all documentation for the project as required by post Regional Security Officer and/or Post Security Officer.