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Client Reference No. - N° de référence du client EN438-16-7003	
GETS Reference No. - N° de référence de SEAG PW-\$KIN-519-6971	
File No. - N° de dossier KIN-5-44218 (519)	CCC No./N° CCC - FMS No./N° VME
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ANNEX A, STATEMENT OF WORK

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01-003	SITE SPECIFIC CONDITIONS
01-004	SCOPE OF SERVICES
01-005	GENERAL REQUIREMENTS, TERMS AND CONDITIONS
01-006	MOBILIZATION AND DEMOBILIZATION
01-007	SECURITY
01-008	PROJECT MANAGER RESPONSIBILITIES
01-009	MEETINGS AND BRIEFINGS
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01-012	OVERALL QUALITY MANAGEMENT ATTACHMENT 1 – CRITICAL ELEMENTS OF WORK EXAMPLE ATTACHMENT 2 – CRITICAL ELEMENTS OF WORK TEMPLATE
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DIVISION 2: TECHNICAL REQUIREMENTS

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02-006	DIGITAL GEOPHYSICAL MAPPING
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1 SUMMARY


1.1 This section provides definitions of acronyms and a glossary of terms applicable to this Task Authorization Contract for UXO Services.

2 ACRONYMS

- 2.1 A&EI – Ammunition and Explosive Instruction
- 2.2 BIP – Blow In Place
- 2.3 CAF – Canadian Armed Forces
- 2.4 CoE – Centre of Expertise for UXO within DND
- 2.5 CG – Controlled Goods
- 2.6 CGD – Controlled Goods Directorate
- 2.7 DCLSPD – Directorate of Contaminated and Legacy Site Project Delivery
- 2.8 DMM – Discarded Military Munitions
- 2.9 DND – Department of National Defence
- 2.10 DND PM – Department of National Defence Project Manager
- 2.11 DQO – Data Quality Objective
- 2.12 EED – Environmental Effects Determination
- 2.13 EMP – Environmental Mitigation Plan
- 2.14 EO – Explosive Ordnance
- 2.15 EOD – Explosive Ordnance Disposal
- 2.16 FTP – File Transfer Protocol
- 2.17 GIS – Geographic Information System
- 2.18 GPS – Global Positioning System
- 2.19 GSP – Geophysical Survey Plan
- 2.20 HPO – Hard Prove-Out
- 2.21 MCE – Maximum Credible Event

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- 2.22 MD – Munitions Debris
- 2.23 MEC – Munitions and Explosives of Concern
- 2.24 MS – Munitions Scrap
- 2.25 MWP – Master Work Plan
- 2.26 NCR – Non-Conformance Report
- 2.27 NEQ – Net Explosive Quantity
- 2.28 NMS – Non-Munitions Scrap
- 2.29 NSTM – Not Safe to Move
- 2.30 NOTAM - Notice to Airmen
- 2.31 NOTMAR -Notice to Mariners
- 2.32 NRCan – Natural Resources Canada
- 2.33 PMP – Project Management Plan
- 2.34 PMT – Project Management Team
- 2.35 PPE – Personnel Protective Equipment
- 2.36 PWGSC – Public Works and Government Services Canada
- 2.37 QA – Quality Assurance
- 2.38 QC – Quality Control
- 2.39 Q-D – Quantity – Distance
- 2.40 QCP – Quality Control Plan
- 2.41 QCS – Quality Control Specialist
- 2.42 SAA – Small Arms Ammunition
- 2.43 SOP – Standard Operating Procedure
- 2.44 SOW – Statement Of Work
- 2.45 SPO – Soft Prove-Out

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- 2.46 STM – Safe To Move
- 2.47 TA – Task Authorization
- 2.48 TAC – Task Authorized Contract
- 2.49 TMP – Technical Management Plan
- 2.50 UXO – Unexploded Explosive Ordnance
- 2.51 UXOFS – UXO Field Supervisor
- 2.52 UXOPL – UXO Project Leader
- 2.53 UXOQCS – UXO Quality Control Specialist
- 2.54 UXOSO – UXO Safety Officer
- 2.55 UXOT – UXO Technician
- 2.56 UXOTS – UXO Technician Supervisor
- 2.57 WPR – Weekly Progress Report
- 2.58 WP – Work Plan

3 DEFINITIONS

- 3.1 “Ammunition”: a device charged with explosives, propellants, pyrotechnics, initiating composition, or nuclear, biological or chemical material, for use in military operations, and includes a non-charged or inert replica of such a device (Defence Administrative Orders and Directives 3002-0).
- 3.2 “Ammunition Salvage”: Any non-explosive ammunition accessory or component, including fired cartridge cases and links, recovered from the firing point or during explosives workshop operations. Note: Ammunition salvage may contain energetic residue, but does not include packaging (Defence Terminology Standardization Board).
- 3.3 “Blind”: See “Unexploded Explosive Ordnance (UXO)”
- 3.4 “Blow-in-Place”: Destroying and disposing of munitions with an explosive in the place that they are found.
- 3.5 “Calibration Grid”: Geographical area selected for HPO UXO investigation.


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- 3.6 “Character (target)”: Nature of the target of interest to include, but not limited to distinguishing features, size, shape, mass; and spatial attributes in 3-d space (i.e. depth, orientation etc.). Others may refer to it as mode.
- 3.7 “Characterization (site)”: Spatial distribution of targets of interest for a given site (depth, orientation, distribution density, etc.). Normally included as a part of the Conceptual Site Model.
- 3.8 “Conceptual Site Model”: All data, information and interpretations (historical and current) that may impact the detection and discrimination of Explosive Ordnance (EO). It describes sources and receptors, and the interactions that link these. It assists the planning, data interpretation, and communication. Usually portrayed in a GIS graphic format by a combination of descriptive narration, GIS compilation and chart(s).
- 3.9 “Danger Area”: A specified area where above, below, or within which there may exist a potential danger for personnel or equipment.
- 3.10 “Data Quality Objectives (DQO)”: Qualitative and quantitative statements that specify the tolerable levels of potential decision errors that will be used as the basis for establishing the quality and quantity of data needed to support decisions.
- 3.11 “Debris”: Any portion of the natural ground or of a structure (rocks, structural materials, fittings, equipment, barricade materials etc.) which is propelled from the site of an explosion. (Defence Terminology Standardization Board)
- 3.12 “Destruction Site”: An area authorized for the destruction of ammunition and explosives by detonation and burning.
- 3.13 “Discarded Military Munitions”: EO that has been lost, abandoned, buried or otherwise disposed of in an improper manner. See UXO. [For UXO related work, UXO includes Discarded Military Munitions (DMM)]
- 3.14 “Disposal”: The end-of-life tasks and actions for residual materials resulting from demilitarization operations. Disposal encompasses the process of distributing, transferring, donating, selling, abandoning, or destroying military munitions.
- 3.15 “Dud”: See “UXO”.
- 3.16 “Energetic Material”: A substance or mixture of substances that, through chemical reaction, is capable of rapidly releasing energy. (Defence Terminology Standardization Board)
- 3.17 “Environmental Contaminant”: Any physical, chemical, biological or radiological substance in air, soil or water that has an adverse effect, which has been Released into the environment and whose concentration exceeds the greater of (i) the concentration or quantity of such substance naturally occurring in the environment at the site or (ii) the concentration for such substance


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established in accordance with Applicable Legislation or Applicable Environmental Guidelines. Hazardous Materials are not necessarily environmental contaminants.


- 3.18 “Exclusion Zone”: The area associated with a UXO clearance activity from which unauthorized ships, personnel, equipment, vehicles and aircraft are excluded for reasons of safety because of actual or suspected presence or UXO. May also referred to as a Danger Zone, Danger Area or a Safety Template.
- 3.19 “Explosive”: Anything that is made, manufactured or used to produce an explosion or a detonation or pyrotechnic effect, and includes anything prescribed to be an explosive by the regulations, but does not include gases, organic peroxides or anything prescribed not to be an explosive by the regulations. (Defence Terminology Standardization Board)
- 3.20 “Explosive Ordnance (EO)”: All munitions containing explosives, nuclear fission or fusion materials and biological and chemical agents. This includes bombs and warheads; guided and ballistic missiles; artillery, mortar, rocket and small arms ammunition (SAA); all mines, torpedoes and depth charges, demolition charges; pyrotechnics; clusters and dispensers; cartridge and propellant actuated devices; and all similar or related items or components explosive in nature. (Defence Terminology Standardization Board)
- 3.21 “Explosive Residue”: Energetic material from functioned EO that accumulated in sufficient quantity to create an explosive risk. See “UXO”. (For UXO related work, UXO includes “explosive residue”.)
- 3.22 “Exposed Explosives”: Explosives that are actually visible and which are also susceptible to initiation directly by static or mechanical spark, or those that create (or accidentally create) explosives dust or give off vapours, fumes or gases in explosive concentrations. (Defence Terminology Standardization Board)
- 3.23 “Fragments”: Fragments can be primary or secondary fragments.
- (1) “Primary fragment”: Piece of material, normally metal, which originates from a detonating cased explosive charge.
- (2) “Secondary Fragment”: Any fragment which is not directly from the munition case.
- (Defence Terminology Standardization Board)
- 3.24 “Geophysical System”: Consists of project specific geophysical operators, hardware, software, processing and interpretation methods and geophysicist(s).
- 3.25 “Geophysical Data Analysis”: Production metrics derived from site-specific Soft and Hard Prove Outs. Includes but is not limited to geophysical background, target specifications, systems noise, cultural noise, detection thresholds, etc. (Also known as “Geophysical Sensitivity Analysis”)

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- 3.26 “Geophysical Interpretation”: Transforming geophysical analysis into deliverable results as per the SOW.
- 3.27 “Geophysical Sensitivity Analysis”: See Geophysical Data Analysis.
- 3.28 “Geophysical Survey”: Field acquisition of high-quality, accurately geo-referenced digital geophysical data using a systematic and justified methodology to detect subsurface anomalies in a non-intrusive manner.
- 3.29 “Hard Prove-Out”: Intrusive investigation of selected anomaly sources identified in a Munitions Response geophysical survey. Hard Prove-Out (HPO) is often conducted on a sample of geophysical anomalies mapped within the Munitions Response Site. Anomalies are selected for HPO with the purpose of validating the findings of the Soft Prove-Out (SPO) including the target selection response thresholds. The use of the term HPO should not be confused with general intrusive-investigation and clearance operations.
- 3.30 “Hazard”: A condition or entity with the capability to cause an adverse effect. (Defence Terminology Standardization Board)
- 3.31 “Impact Area”: An area having designated boundaries within the limits of which all ordnance is to make contact with the ground. (Defence Terminology Standardization Board)
- 3.32 “Legacy Site – Category C”: A site on land or offshore that has or is suspected to have resulted in a UXO affected area where:
- (1) the property has left the DND inventory (whether owned or leased);
 - (2) past CF or foreign military activity (training or operational) has occurred; or
 - (3) past federal government activities related to military munitions has occurred.
- 3.33 “Maximum Credible Event”: The worst single event that is likely to occur from a hypothesized accidental explosion, fire or agent release based on a given quantity and disposition of ammunition and explosives. (Defence Terminology Standardization Board)
- 3.34 “Military Munitions (MM)”: Munitions related to military forces. See “Ammunition”.
- 3.35 “Mode”: See “Character (target)”
- 3.36 “Munitions”: see Ammunition.
- 3.37 “Munitions and Explosive of Concern (MEC)”: See “UXO”
- 3.38 “Munitions Debris”: See “Munitions Scrap”

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- 3.39 “Munitions Scrap”: All recoverable solid by-products, including empty projectile remnants, fragments and pieces of fuse, resulting from the normal functioning of ammunition and explosives, other than those generated at the firing point. Note: Munition scrap may contain energetic residue (Defence Terminology Standardization Board).
- 3.40 “Non-Munitions Scrap”: All scrap items that are not related to munitions. This covers metallic items (barbed wire, angle iron pickets, non-target vehicle pieces, soft drink cans, etc.), wood (boards, crates, etc.), glass, plastics and paper.
- 3.41 “Ordnance”: see Explosive Ordnance. See EO.
- 3.42 “Quality Control Plan (QCP)”: Plan that addresses all quality control systems used for each task of a project.
- 3.43 “Render Safe Procedures (RSP)” The application of special EOD methods and tools to provide for the interruption or separation of essential components of UXO to prevent an unacceptable detonation.
- 3.44 “Risk”: The combination of the frequency, or probability, and the consequence of a mishap. (AOP-38-4)
- 3.45 “Risk Assessment”: A systematic method of identifying and evaluating hazards or threats, the results of which are derived from probability and severity (Defence Terminology Standardization Board).
- 3.46 “Risk Management”: The systematic application of management policies, procedures and practices to the tasks of analyzing, evaluating and controlling risks.
- 3.47 “Safe”: Having an acceptable degree of freedom from risks to personnel and material at all times. (Defence Terminology Standardization Board)
- 3.48 “Safe Distances”: The applicable safe distance is the minimum distance that personnel or specified equipment, installations or objects must be separated from the intended point of impact, point of burst, point of detonation or planned trajectory.
- (1) “Normal Safe Distance”: The distance from point of impact beyond which, on an average, one fragment per shell fired may be expected to travel.
- (2) “Positive Safe Distance”: The distance from the point of impact or detonation beyond which, on an average, no fragment is expected to travel.
- (Defence Terminology Standardization Board).

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- 3.49 “Safe-To-Transport”: Items declared “Safe-to-transport” have been suitably inspected and certified that they no longer contain energetic material and can be transported on public roadways.
- 3.50 “Safe-To-Move”: “UXO” or “DMM” determined to be safe to move to a Storage Point on site for later disposal.
- 3.51 “Safety”: The inherent property of a system, subsystem or item that enables it to possess and to maintain an acceptable level of risk during all situations and activities occurring during its specified life cycle (Defence Terminology Standardization Board).
- 3.52 “Scrap”: All items and residue remaining as a result of the occupation or use. See Non-Munitions or Munitions Scrap and Ammunition Salvage.
- 3.53 “Seed Items”: Representative of a live munitions item (i.e., a suitable proxy) or a live munitions item that has been rendered inert and is used as planted item to validate delectability by the geophysical system (SPO); or to provide quality control of the survey data. Items are intended to closely replicate potential ordnance-related items that might be found in the associated production survey. Seeding is typically done in a blind-mode so as to test the geophysical systems ability to achieve the survey goal.
- 3.54 “Small Arms Ammunition (SAA)”: Fixed cartridge ammunition, less than 20 mm in calibre, designed to be discharged by a personal firearm or crew-served weapon (Defence Terminology Standardization Board).
- 3.55 “Soft Prove-Out”: Testing performed on geophysical equipment that is proposed for use on a Munitions Response Site. The SPO procedure involves deploying the geophysical equipment over an area representative of the proposed survey area in terms of site characteristics. The SPO area is seeded with inert military munitions or their surrogates to determine the capabilities of the proposed survey methods to detect the military munitions expected to be found on the site. The SPO aims to validate the entire survey process from field data collection to anomaly selection to anomaly reacquisition
- 3.56 “Special Status Site – Category D”: Land or offshore sites, determined on a case-by-case basis, encompass those areas where a UXO hazard caused or created by a variety of known (i.e. current training, operations, etc.) or unknown reasons (i.e. air crashes, shipwrecks, dumps, etc.) but for which DND has a lead agency responsibility to rectify on behalf of the Government due to the nature of the circumstances.
- 3.57 “Subsurface Clearance”: Subsurface clearances are conducted to locate, remove or destroy all subsurface UXO and remove (as required) MS, NMS and hard target material below the surface of the site. There is no set depth for a subsurface clearance. The site is cleared to a depth that is deemed safe for the intended use of the site. (Source: B-GL-381-003/TS-000)

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- 3.58 “Surface Clearance”: Surface clearances are conducted to locate, remove or destroy all surface UXO and remove MS, NMS and hard target material visible on the surface of the site. The benefits of a surface clearance must be considered in terrain where brush or undergrowth prevents a clear view of the ground. The possibility of erosion, topographic change or frost action exposing buried items near the surface, thus requiring further clearance, must also be considered. A surface clearance is normally a precursor to subsurface clearance. (Source: B-GL-381-003/TS-000)
- 3.59 “Target”: The object of a particular action, for example a geographic area, a complex, an installation, a force, equipment, an individual, a group or a system, planned for capture, exploitation, neutralization or destruction by military forces. (Defence Terminology Standardization Board)
- 3.60 “Target of Interest”: (Geophysical context) Causative body or physical entity delineated through quantitative analysis or interpretation of geophysical data. Reported in geo-referenced space (X, Y and Z) with associated geophysical parameters.
- 3.61 “Target Area”: An area in which targets can be safely engaged by one or more weapons firing from a designated firing area. (CFP 381(1)). See “Impact Area”.
- 3.62 “Target Ranking or Prioritization”: Prioritization of Targets of Interest or anomalies based on Character (target) supported by SPO.
- 3.63 “Unexploded Explosive Ordnance (UXO)”: Explosive ordnance which has been primed, fused, armed or otherwise prepared for action, and which has been fired, dropped, launched, projected or placed in such a manner as to constitute a hazard to operations, installations, personnel or material and remains unexploded either by malfunction or design or for any other cause. (Defence Terminology Standardization Board)
- 3.64 “UXO Assessment Survey”: An activity designed to determine, assess and report on whether an area is affected by UXO; the boundaries of the affected area; the densities of the UXO, including the locations and characteristics of impact areas within the affected area; and the residual depths, types and natures of UXO and inert ordnance-related items within the affected areas.
- 3.65 “UXO Avoidance”: During UXO avoidance tasks, the surface is visually swept and detection equipment is used to detect potential subsurface UXO. No intrusive work is done and any UXO or potential UXO found or detected is not disturbed or handled.
- 3.66 “UXO Clearance”: see Surface and Subsurface Clearance.
- 3.67 “UXO Risk Mitigation”: An activity conducted to reduce the hazards associated with UXO to a level that is acceptable to the appropriate approving authority with regard to the planned use of the land. Risk can be mitigated by activities such as communications (audio, visual and written

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warning), property use controls, property access controls, and UXO survey or investigation and clearance contracts.

- 3.68 “UXO Site”: A property where UXO is present or there is a likelihood of UXO based on past military operations or accidents. Includes DND Active and Inactive, Special Status and Legacy Sites. Others may refer to it as a MEC Area.
- 3.69 “Universal Transverse Mercator (UTM)”: The UTM coordinates map projection system is a grid-based method of specifying locations on the surface of the Earth as Eastings and Northings.
- 3.70 “Wide Area Assessment”: Process to provide generic characterization of the UXO risk over a large area or the entire site. It may include any or all combinations of historical or anecdotal research, Aerial Geophysical Survey, ground (vehicle or foot borne) and water (surface or sub-surface) geophysical surveys and visual or other types or searches.

END OF SECTION

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1 SUMMARY

1.1 This section outlines the document objectives and project aim.

2 RELATED SECTIONS

01-004 - Scope of Services

3 REFERENCE STANDARDS

Not used.

4 DOCUMENT OBJECTIVES

4.1 This specification has been developed for the Contractor to provide Unexploded Explosive Ordnance (UXO) services on Department of National Defence (DND) at non-operational DND sites and Legacy sites located throughout Canada.

4.2 This specification has also been developed to identify work requirements for a Contractor to provide UXO services on an as-needed basis for time-critical projects, where UXO are encountered and the Director of Contaminated and Legacy Site Project Delivery determines the use of this Task Authorization Contract (TAC) as required.

4.3 This specification provides project requirements and other project information to the Contractor, and will form part of the contract documentation.


5 PROJECT AIM

5.1 The aim of this TAC is to conduct UXO risk management, risk mitigation and site characterization activities at legacy sites located throughout Canada.

5.2 Activities conducted under this TAC may include (but are not limited to) UXO avoidance, signage installation, UXO investigation activities including wide area assessments and hard prove outs, geophysical surveys, communication and institutional control, surface and subsurface clearance, subcontracted consultant support to UXO services, and all associated project management and reporting activities.

5.3 The Contractor will be responsible for ensuring all personnel, equipment, and technical expertise required to carry out work describes in this TAC and subsequent Task Authorizations (TAs) are available and meet all regulations and standards applicable to the work.

5.4 Specific details of the work will be communicated in subsequent TAs. Activities will be conducted on an as-needed, as-requested basis, as determined by the DND Project Manager (DND PM).


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5.5 For all activities conducted under this TAC, the Contractor will be responsible for abiding by all applicable regulations and laws.

6 PROJECT FTP SITE

6.1 The contractor will provide an FTP site for the electronic exchange of TA documentation (including deliverables) for the duration of the TAC.

END OF SECTION

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1 SUMMARY

1.1 This section outlines background information and site specific conditions.

2 RELATED SECTIONS

None.


3 REFERENCE STANDARDS

Not used.

4 SITE CONDITIONS

4.1 Activities conducted under this TAC will take place at DND sites and Legacy sites located throughout Canada. Therefore, site conditions are expected to vary widely and will be described in each TA issued under the Contract.

END OF SECTION

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1 SUMMARY

1.1 This section provides a summary of the scope of services required under this UXO Services TAC.

2 RELATED SECTIONS

2.1 All.


3 REFERENCE STANDARDS

Not used.

4 SCOPE SUMMARY

4.1 DND occasionally identifies sites under its responsibility or liability for which UXO services are required. Such DND sites may be located anywhere in Canada. On an as-needed, as-requested basis, the Contractor will:


- 4.1.1 As requested in a Task Authorization Statement of Work (TA SOW), develop a Task Authorization Work Plan (TA WP) modifying the Master Work Plan (MWP), based on the specific requirements of the Task Authorization and site, including all necessary supporting subcontractors and equipment required to carry out the work, in accordance with the TA SOW. Note that at the discretion of the DND PM, time-critical Task Authorizations may forgo a TA SOW and TA WP and simply use the Task Authorization Form (DND626 Form) to describe necessary services for a fast turn-around time on site mobilization;
- 4.1.2 Conduct UXO avoidance and escort activities in accordance with Section 02-002 *UXO Avoidance and Escort*;
- 4.1.3 Supply and install UXO signage in accordance with Section 02-003 *UXO Signage Installation*;
- 4.1.4 Conduct vegetation removal (in advance of other UXO-related activities) in accordance with Section 02-004 *Vegetation Removal*;
- 4.1.5 Conduct grid and polygon stakeout (in advance of geophysical survey, analog survey or UXO clearance activities) in accordance with Section 02-005 *Grid or Polygon Stakeout*;
- 4.1.6 Conduct geophysical surveys in accordance with Section 02-006 *Digital and Geophysical Mapping*;
- 4.1.7 Conduct detector-aided investigations in accordance with Section 02-007 *Detector-Aided Investigations*;

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- 4.1.8 Conduct surface clearance operations in accordance with Section 02-008 *UXO Surface Clearance*;
- 4.1.9 Conduct sub-surface clearance operations in accordance with Section 02-009 *UXO Sub-surface Clearance*;
- 4.1.10 Store UXO and Explosives in accordance with Section 02-010 *UXO or Explosives Storage*;
- 4.1.11 Destroy UXO in accordance with Section 02-011 *UXO Destruction*;
- 4.1.12 Manage Munition Scrap (MS), including screening, storage, packaging and transportation, in accordance with Section 02-012 *MS Management*; and,
- 4.1.13 Collect and prepare Geographic Information System (GIS) data for all activities in accordance with Section 02-001 *Geographic Information Systems and Data Products*.
- 4.2 The scope of this TAC includes the provision of all components required to accomplish the work, including, but not limited to: material, equipment, labour, overhead, permits, security, packaging, transport, and all meetings and deliverables.
- 4.3 Render safe procedures are not authorized for use by UXO Contractors in Canada.
- 4.4 For time-critical Task Authorizations, the Contractor must be prepared to mobilize to a DND site or legacy site within 48 hours of receipt of a Task Authorization Form (DND626 Form) under the Contract.
- 4.5 For Task Authorizations that are not time-critical, mobilization schedules will be based on site conditions and requirements, and will be specified in the TA SOW. The DND PM will also identify in the TA SOW if the site has potential or known significant cultural sites and species at risk and potential or known environmental contaminants that may require specialist sub-consultants to support the TA.

5 DELIVERABLES

- 5.1 The Contractor must submit all draft and final deliverables in accordance with Section 01-010–*Deliverables*. Major deliverables include, but are not limited to:
 - 5.1.1 Draft and final MWP;
 - 5.1.2 CGD Certificate of Registration from PWGSC;
 - 5.1.3 As per TA SOW, TA WP and project schedule;
 - 5.1.4 Meeting minutes and records of discussion;

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- 5.1.5 Daily reports;
- 5.1.6 Weekly progress reports, including project schedule updates;
- 5.1.7 GIS data product; and,
- 5.1.8 Draft and final reports, including all photos, video, mapping products, etc.


6 PROJECT MANAGEMENT

- 6.1 Perform all project management functions in accordance with Section 01-008 *Project Manager Responsibilities*.

7 OVERALL QUALITY REQUIREMENTS

- 7.1 Apply a Quality Management System in accordance with Section 01-012 *Overall Quality Management*.

END OF SECTION

 <p>ADM(IE)/DGIEES/DCLSPD</p>	<p>Section No. 01-005 General Requirements</p> <p>Task Authorization Contract for UXO Services on DND Sites and Legacy Sites</p>	<p>Effective Date: 07/21/2016</p> <p>Revision: 1.2.7</p>
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1 SUMMARY


1.1 This section describes general requirements and responsibilities of the Contractor for the duration of the TAC.

2 RELATED SECTIONS

All.

3 REFERENCE STANDARDS

- 3.1 Canada Labour Code, Part II
- 3.2 Defence Production Act (R.S.C., 1985, c. D-1)
- 3.3 Explosives Act (R.S.C., 1985, c. E-17) and Explosives Regulations (C.R.C., c. 599)
- 3.4 Controlled Goods Regulations (SOR/2001-32)
- 3.5 Provincial Worker's Compensation Board (as applicable)
- 3.6 DND. A&EI 15, Recognized Civilian Qualifications Applicable to Ammunitions and Explosives Employment, Change 2
- 3.7 DND. A&EI 14, Mitigation of Blast and Fragmentation Effect Utilizing Sandbags. 16 Dec 2008
- 3.8 DND. A&EI 17, Civilian Qualification Expiry Criteria
- 3.9 DND. A&EI 34, Approved Misfire Procedure for Electrically Initiated Disposal Operations. 28 October, 2011
- 3.10 DND. A-GG-040-006/AG-002 DND Ammunition Accident /Defect/Malfunction Reporting. 2008-05-05
- 3.11 DND. B-GL-381-003/TS-000 Range Clearance and Unexploded Explosive Ordnance (UXO) Activities Manual. Interim, April 2011
- 3.12 Natural Resources Canada. Blasting Explosives and Initiation Systems – Storage, Possession, Transportation, Destruction and Sale. Natural Resources Canada, Explosives Regulatory Division. March 2008
- 3.13 DND. C-09-005-002/TS-000 Ammunition and Explosives Safety Manual – Volume 2, Storage and Facility Operations. 2013-02-01
- 3.14 DND. C-09-005-003/TS-000 Ammunition and Explosives Safety Manual – Volume 3, Transportation. 2013-02-01.

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- 3.15 DND. C-09-008-001/FP-000 Destruction of Surplus, Obsolete and Deteriorated Ammunition. 29 October, 1993
- 3.16 DND. C-09-008-002/FP-000 Ammunition and Explosives Procedural Manual, Destruction of DUD and Misfired Ammunition of CF Ranges and Training Areas. 2011-09-01
- 3.17 DND. C-09-008-003/FP-000 EOD Disposal of Stray Ammunition. 2003-05-21
- 3.18 DCC. Geophysical Standards For Munitions Response Projects, V3.0
- 3.19 DCC. Geospatial Data Standard, V1.07
- 3.20 DND. MEC Field Data Layering and Attribute Database, V2.3
- 3.21 DND. UXO-SOP-11151 Shipping of Munition Scrap

4 REGULATIONS AND AUTHORITIES


- 4.1 All work must be executed in conformance with all current federal and provincial laws, DND Policy and standards, codes and applicable references. Where discrepancies or contradictions occur, the more stringent requirements will be used.

5 ROLES AND RESPONSIBILITIES

- 5.1 The Contractor is fully responsible for coordinating all work, and is legally and professionally responsible and accountable for the proper execution of all work conducted under this TAC.
- 5.2 The Contractor is responsible for the completeness and accuracy of the work. DND’s review and acceptance of the Contractor’s work does not relieve the Contractor of this responsibility.
- 5.3 All Contractor requests for clarification or communications related to the scope of the Task Authorizations must be made to the DND PM.

6 ON-SITE DOCUMENTATION

- 6.1 The following documentation must be available at all Contractor work sites for the duration of the project:
 - 6.1.1 TA SOW and Appendices;
 - 6.1.2 Approved Work Plans and updated sections;
 - 6.1.3 Permits (as applicable);
 - 6.1.4 Standard Operating Procedures (SOPs);

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- 6.1.5 Contractor's Quality Control Plan (QCP);
- 6.1.6 Site Health and Safety Plans;
- 6.1.7 Records of personnel training and qualifications;
- 6.1.8 Confirmation of UXO Personnel Qualifications (including CVs);
- 6.1.9 UXO Disposal Plans;
- 6.1.10 Progress charts and maps;
- 6.1.11 Environmental Approvals and Field forms, as applicable;
- 6.1.12 Cultural Approvals and Field forms, as applicable;
- 6.1.13 Meeting minutes, as applicable;
- 6.1.14 Quality management system records; and,
- 6.1.15 Other pertinent Contract documents.

7 RESOURCE ALLOCATION

- 7.1 The Contractor is responsible for providing the labour, and resources to complete the work conducted under this TAC. This may include, but is not limited to: the necessary qualified personnel, management, supervision, transportation, equipment, laboratory facilities, materials, tools, office and storage space, reference documents, data-processing supplies, computers, overhead, disbursements and other incidentals.
- 7.2 Personnel including the Senior Geophysicist, Project Manager, Quality Manager, UXOPL, UXOSO, UXOQCS must be employed by the Contractor (either directly, through a joint venture or in a partnership or limited partnership), these roles cannot be subcontracted.

8 PERMITS, LICENSES, REGISTRATIONS, NOTIFICATIONS

- 8.1 The Contractor is responsible for obtaining permits, licenses and registration as required prior to site activities to fulfill the terms of this Specification, including but not limited to, any obligations under federal and provincial legislation. The Contractor must provide copies of the documentation to the DND PM prior to mobilization.
- 8.2 Registration under the PWGSC CGD is required of anyone who examines, possesses, or transfers controlled goods or technology in Canada, and will be required of the Contractor as both UXO and MS falls under Group 2 of the Export Control List provisions of References 3.2 and 3.4.

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9 SPILLS OR OTHER EMERGENCY NOTIFICATION

9.1 If the Contractor discovers conditions that pose an immediate threat to human health or the environment, or if the Contractor is made aware of any spills, the Contractor must notify the appropriate regulatory authorities (e.g. Environment Canada) in accordance with federal requirements (for federal land) and provincial requirements (for non-federal sites).

10 WORKING HOURS

10.1 Unless otherwise specified, working hours are limited to daylight hours. Work hours may be modified to meet time of year and work requirements upon written acceptance of the Contractor’s proposed changes by the DND Representative.

11 TIME MANAGEMENT

11.1 For UXO services on DND sites or Legacy sites where time is not a critical concern, the Contractor will provide a TA proposal within a reasonable time frame (no later than 10 business days) of receipt of a TA SOW.


11.2 For time-critical UXO services, the Contractor should mobilize UXO personnel to any site within Canada 48 hours of receipt of a Task Authorization (DND626 Form). Where mobilization is not possible within 48 hours, the Contractor must notify the DND PM within 24 hours of receipt of a TA to make alternate mobilization arrangements.

11.3 The Contractor must organize the work and devote the necessary resources to achieve the milestones indicated in this specification and the approved Work Plan(s).

11.4 The Contractor must execute the contract in accordance with target dates in the TA schedule accepted by the DND PM.

11.5 If the Contractor expects delays to occur in the delivery of services or deliverables, the Contractor must immediately notify the DND PM in writing and provide an explanation. The Contractor may be expected to make up for any delay within the remaining Work Plan schedule and approved budget.

END OF SECTION

 <p>ADM(IE)/DGIEES/DCLSPD</p>	<p>Section No. 01-006 Mobilization / Demobilization</p> <p>Task Authorization Contract for UXO Services on DND Sites and Legacy Sites</p>	<p>Effective Date: 07/21/2016</p> <p>Revision: 1.2.7</p>
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1 SUMMARY

- 1.1 This Section provides requirements that must be met prior to Contractor mobilization and demobilization for each TA (DND626 Form).

2 RELATED SECTIONS

Section 01-010 – Deliverables

3 REFERENCE STANDARDS

Not used.


4 MOBILIZATION

- 4.1 If required, the Contractor must be prepared to mobilize to any site within Canada 48 hours of receipt of a TA under the Contract.
- 4.2 The Contractor will mobilize or demobilize only when authorization to do so has been received in writing from the DND PM or designated representative.
- 4.3 Prior to receiving authority to mobilize, the DND PM must receive all work plan submittals as indicated in Paragraphs 5, 6 and 7 of Section 01-010 – *Deliverables*, and all must be accepted by the DND PM.
- 4.4 All submittals must be authenticated as originals by signature of the Contractor’s authorized representative certifying approval of submissions, verification of field measurements and quantities where applicable, and in compliance with Contract documents.

5 DEMOBILIZATION

- 5.1 When demobilizing, the Contractor will leave the site in its original, or close to original, state. All equipment, material, etc. belonging to the Contractor must be removed from site.
- 5.2 The Contractor may be required to host a pre-demobilization walk through with the DND PM or designate to demonstrate that all field work tasks have been successfully completed.

END OF SECTION

 <p>ADM(IE)/DGIEES/DCLSPD</p>	<p>Section No. 01-007 Security</p> <p>Task Authorization Contract for UXO Services on DND Sites and Legacy Sites</p>	<p>Effective Date: 07/21/2016 Revision: 1.2.7</p>
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1 SUMMARY

1.1 This section describes security requirements for the physical security of project sites.

2 RELATED SECTIONS

Section 01-010 – Deliverables
Section 02-010 – UXO or Explosives Storage
Section 02-011 – UXO Destruction
Section 02-012 – MS Management

3 REFERENCE STANDARDS

3.1 Defence Production Act (R.S.C., 1985, c. D-1)
3.2 Controlled Goods Regulations (SOR/2001-32)

4 PHYSICAL SECURITY


4.1 The Contractor is responsible to ensure all equipment and materials are secured in a suitable fashion at the end of the workday and weekends on all project-related sites.

4.2 The Crown will not accept any claims for lost, stolen or damaged materials or equipment under the Contractor’s control.

4.3 Any thefts or break-ins of Contractor lock ups or buildings must be reported immediately to the DND PM. The Contractor must advise local Authorities of the incident.

4.4 For security requirements related to UXO or explosives storage refer to Section 02-010 *UXO or Explosives Storage*.

END OF SECTION

 <p>ADM(IE)/DGIEES/DCLSPD</p>	<p>Section No. 01-008 Project Manager Responsibilities</p> <p>Task Authorization Contract for UXO Services on DND Sites and Legacy Sites</p>	<p>Effective Date: 07/21/2016 Revision: 1.2.7</p>
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1 SUMMARY

1.1 This Section describes Project Manager responsibilities of the Contractor in completing the project.

2 RELATED SECTIONS

Section 01-010 – Deliverables
Section 01-011 – Qualifications
Section 01-012 – Overall Quality Management


3 REFERENCE STANDARDS

Not used.

4 PROJECT MANAGER

4.1 The Contractor must perform project management activities necessary for maintaining project control and meet reporting requirements stipulated in Section 01-010 - *Deliverables*. Project Manager responsibilities include but are not limited to the following:

- 4.1.1 Responsible for ensuring the Contractor team meets the contract qualifications requirements, in accordance with Section 01-011 *Qualifications*;
- 4.1.2 Responsible for deliverables, schedule, and budget;
- 4.1.3 Coordination of overall quality management, in accordance with Section 01-012 *Overall Quality Management*;
- 4.1.4 Responsible for maintaining accurate records of project progress and status;
- 4.1.5 Notifying the DND PM immediately of issues that may affect the schedule, cost or quality of the work carried out under the contract;
- 4.1.6 Maintaining all communication and documentation of activities as outlined in this specification on a continuing basis throughout the life of this project;
- 4.1.7 Initiating Contractor tasks and duties as outlined in the Specification, MWP, TA WP and Project Schedule;
- 4.1.8 To seek confirmation through written approval from the DND PM prior to any deviations from the Contractor’s approved work force, project scope, cost, work plan or Schedule; and,

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4.1.9 Submit all formal communication (e.g., letters of direction, approvals, etc.) to the DND PM or designate in a timely manner.


5 PROJECT SCHEDULE

- 5.1 The Contractor must prepare a comprehensive project schedule to be included with each TA WP.
- 5.2 The Contractor must have a copy of the current schedule available on the site.
- 5.3 Should changes to the schedule occur, the updated project schedule must correlate with activities and events recorded in the Daily Reports.
- 5.4 Planned versus actual performance must be reflected of any updates to the project schedule.

6 SITE MANAGEMENT

- 6.1 All personnel must be equipped with adequate communication devices (e.g., two-way radios) for the work activities. The use of two-way radios, cell phones or satellite phones is authorized; the system used must meet safe to operate distance limitations. A minimum of two additional communication devices must be maintained at the site office or trailer in the event of a device malfunction and for site visitors.

END OF SECTION

 ADM(IE)/DGIEES/DCLSPD	Section No. 01-009 Meetings and Briefings Task Authorization Contract for UXO Services on DND Sites and Legacy Sites	Effective Date: 07/21/2016 Revision: 1.2.7
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1 SUMMARY

1.1 This section describes meetings and briefings required of the Contractor during the course of the project.

2 RELATED SECTIONS

Section 01-010 – Deliverables

3 REFERENCE STANDARDS

Not used.

4 PRE-COMMENCEMENT MEETING

4.1 The Contractor will attend a Pre-Commencement Meeting following the award of the TAC. Details for this meeting will be specified in a Task Authorization request under this Contract.

4.2 The meeting will discuss the execution of the project with relevant team members in attendance.

4.3 Lines of communication will be established and followed.


5 DAILY BRIEFINGS

5.1 The Contractor must hold a short meeting (‘tailgate briefing’) with the work crew during work days, every morning from date of mobilization to date of demobilization. The meeting will detail the planned activities for that day including the site specific responsibilities of personnel, the types of munitions items expected to be found and their associated hazards and the health and safety risks and personal protective equipment (PPE) and mitigating measures associated with the day’s work.

5.2 The Contractor and DND Representative may meet daily to review the work accomplished and to discuss, as specified in the Task Authorization SOW:

- a. Current status;
- b. Percentage complete;
- c. Planned versus actual work completed as reflected on the project schedule;
- d. Causes for production variations (+/-); and,
- e. Any significant observations relevant to the work and the site, or any other relevant information.

6 WEEKLY PROGRESS MEETINGS

 <p>ADM(IE)/DGIEES/DCLSPD</p>	<p>Section No. 01-009 Meetings and Briefings</p> <p>Task Authorization Contract for UXO Services on DND Sites and Legacy Sites</p>	<p>Effective Date: 07/21/2016 Revision: 1.2.7</p>
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- 6.1 The Contractor must facilitate, coordinate and participate in weekly site meetings to track the progress of the field program and address any concerns including schedule changes that may impact the work on site and should be attended by the DND PM or Representative.
- 6.2 Weekly site meetings will include necessary technical personnel from the Contractor’s team that are key to completion and communication of the active field tasks and the DND PMT, in person or via teleconference.
- 6.3 A Record of Discussion must be issued by the Contractor in accordance with Section 01-010 – Deliverables, Article 10.1 and provided to the DND PM.


7 DRAFT REPORT REVIEW TELECONFERENCE

- 7.1 As required, the Contractor, the DND PMT will meet via teleconference to discuss feedback on draft reports issued under this TAC.

8 TASK CLOSE OUT AND LESSONS LEARNED MEETING

- 8.1 As required, a Task Authorization Close-Out Meeting will be conducted by teleconference following acceptance of the Final Report by DND for each Task Authorization under the TAC.
- 8.2 The Contractor’s Project Manager and UXO Project Leader (UXOPL) will be required to participate.
- 8.3 The Contractor will provide the agenda and produce the minutes for this meeting.

END OF SECTION

 <p>ADM(IE)/DGIEES/DCLSPD</p>	<p>Section No. 01-010 Deliverables</p> <p>Task Authorization Contract for UXO Services on DND Sites and Legacy Sites</p>	<p>Effective Date: 07/21/2016 Revision: 1.2.7</p>
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1 SUMMARY

- 1.1 This section provides requirements for Contractor deliverables during the course of the project.

2 RELATED SECTIONS

Section 01-006 – Mobilization or Demobilization
Section 01-007 – Security
Section 01-008 – Project Manager Responsibilities
Section 01-009 – Meetings and Briefings
Section 01-012 – Overall Quality Management
Section 01-013 – Health and Safety
Section 01-014 – Environment
Section 01-015 – Cultural
Division 2 – All sections

3 REFERENCE STANDARDS


- 3.1 DCC. Geophysical Standards For Munitions Response Projects, V3.0
3.2 DND. MEC Field Data Layering and Attribute Database, V2.3

4 MASTER WORK PLAN

- 4.1 A MWP will be required at the outset of the project, with supplemental TA WPs to be submitted in response to each TA, as they are issued. The Contractor must submit a draft MWP no later than ten (10) business days after the Pre-commencement Meeting. The MWP will define general contract objectives, general work processes for all activities identified in Section 01-004 *Scope of Services*, and associated data needs to reach project objectives. The MWP will apply to all activities that will potentially be conducted under the TAC; site-specific tasks will be defined in each TA WP. The MWP must include, at minimum, the following elements:

4.1.1 Project Management Plan (PMP), including:

- 4.1.1.1 Identification of schedule risks and contingencies;
4.1.1.2 Organizational chart;
4.1.1.3 Process flow charts (reflecting both process and quality control);
4.1.1.4 Communication Plan; and,
4.1.1.5 Health, Safety and Emergency Response Plan (see Section 01-013 *Health and Safety*)

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4.1.2 Technical Management Plan (TMP), including equipment, materials and procedures for each component of the project scope including:

4.1.2.1 Quality Control Plan (QCP) (see Section 01-012 *Overall Quality Management*);

4.1.2.2 Geophysical Survey Overview and SOPs;

4.1.2.3 Environmental Management Plan (see Section 01-014 *Environment*);

4.1.2.4 Ammunition and Explosives Handling Management (for surface clearance, sub-surface clearance, packaging, transport, and general UXO destruction procedures, etc.)

4.1.2.5 Personnel Qualifications Statement.

4.2 The Contractor will notify the DND PM and the PWGSC Representative when the complete draft MWP and schedule have been uploaded to the project FTP site (see Section 01-002 – *Introduction and Aim* for FTP site details).

4.3 The DND PM will provide compiled comments on the draft MWP within ten (10) business days. The Contractor must be prepared to attend a meeting or teleconference with DND to discuss the draft MWP within three (3) days of receipt of comments from the DND if requested to do so.


4.4 The Contractor will be required to revise the MWP within five (5) business days of the MWP review meeting.

4.5 No change to any component of the MWP can be made without written authorization from the DND PM.


5 TASK AUTHORIZATION WORK PLAN, COST PROPOSAL, SCHEDULE AND WORK BREAKDOWN STRUCTURE FOR TIME-CRITICAL TASK AUTHORIZATIONS

5.1 Upon receipt of a time-critical Task Authorization, the Contractor must submit a draft TA WP, cost proposal and schedule no later than 48 hours after receipt of a commitment for services. A TA WP does not require the resubmission of a fully amended MWP, but should be a document referencing to the approved MWP and containing the necessary updated and supplemental information, as required.

5.2 The cost proposal must include a cost estimate for Contractor’s time and materials, based on the accepted rates for this TAC.

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- 5.3 The Task Authorization schedule (Gantt format) and work breakdown structure (WBS) identifying tasks and sub-tasks for each definable feature of work must be submitted and maintained in hard copy on site (see also Section 01-008 *Project Manager Responsibilities*).
- 5.4 The DND PM will provide compiled comments on the draft TA proposal documents. The Contractor will be required to revise the documents within twenty four (24) hours of receipt of comments.
- 5.5 The Contractor will mobilize only after DND PM has accepted the TA WP, schedule and all pre-mobilization permits, licenses, certificates, and notifications (see Section 01-005 *General Requirements*). This acceptance will be provided in writing by the DND PM.
- 5.6 The Contractor must update the project schedule as part of the Weekly Progress Report, with discrepancies from original schedule noted and explained.
- 5.7 No change to any component of the TA WP can be made without written authorization from the DND PM.
- 6 TASK AUTHORIZATION WORK PLAN, COST PROPOSAL, SCHEDULE AND WORK BREAKDOWN STRUCTURE FOR TASK AUTHORIZATIONS FOR NON TIME-CRITICAL TASK AUTHORIZATIONS**
- 6.1 Upon receipt of a non-time-critical Task Authorization, the Contractor must submit a draft TA WP, cost proposal and schedule no later than 10 business days after receipt of a commitment for services. A TA WP does not require the resubmission of a fully amended MWP, but should be a document referencing to the approved MWP and containing the necessary updated and supplemental information, as required.
- 6.2 The TA WP must provide site-specific updates to all applicable sections of the MWP, including detailed information including discipline specific technical work plans for applicable work processes, including:
- 6.2.1 Proposed Team and CVs (maximum 2 pages) that demonstrate that Section 01-011 Qualifications are met.
 - 6.2.2 Geophysical Survey Plan
 - 6.2.3 Applicable Site Plans:
 - 6.2.3.1 Location and mapping plan
 - 6.2.3.2 Explosive Siting Plan

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6.2.4 UXO Disposal Plan; and

6.2.5 Cultural Protection Plan (see Section 001-015 *Cultural*).

6.3 The cost proposal must include a bottom-up cost break down to establish the maximum funding call up limit for the TA, based on the accepted rates for this TAC.

6.4 The Task Authorization schedule (Gantt format) and work breakdown structure (WBS) identifying tasks and sub-tasks for each definable feature of work must be submitted and maintained in hard copy on site (see also Section 01-008).

6.5 DND will provide compiled comments on the draft TA proposal documents. The Contractor will be required to revise the documents within twenty four (24) hours of receipt of comments.

6.6 The Contractor will mobilize only after DND PM has accepted the TA WP and schedule and all pre-mobilization permits, licenses, certificates, and notifications (see Section 01-005 *General Requirements*). This acceptance will be provided in writing by the DND PM.

6.7 The Contractor must update the project schedule as part of the Weekly Progress Report, with discrepancies from original schedule noted and explained.

6.8 No change to any component of the TA WP can be made without written authorization from the DND PM.

7 DAILY REPORTS

7.1 During the execution of Task Authorization activities, from the date of mobilization to date of demobilization, the Contractor must submit a Daily Report to the DND PM and place a PDF copy on the project FTP site by 1100 EST the following day.

7.2 As applicable, the Daily Report must include:


7.2.1 A summary of the activities and events that occurred that day;

7.2.2 A summary of problems encountered and actions taken;

7.2.3 UXO discovered, along with UXO ID form(s);

7.2.4 Digital photos from all possible sides of UXO with GPS coordinates and scale, including any visible permanent, semi-permanent or temporary markings;


7.2.5 Digital photos of UXO with GPS coordinates and scale prior to removal from the dig, and if removed from the hole, then another picture once taken out of the hole;

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- 7.2.6 Digital photos of sandbagged disposal site, prior to demolition;
- 7.2.7 Maps or schematics demonstrating the work areas, including areas cleared, surveyed, etc. (as applicable);
- 7.2.8 Daily Quality Report; and,
- 7.2.9 Site conditions observed should also be documented as applicable, including, but not limited to:
 - 7.2.9.1 vegetation;
 - 7.2.9.2 topography;
 - 7.2.9.3 weather;
 - 7.2.9.4 site accessibility;
 - 7.2.9.5 environmental or cultural conditions or issues; and,
 - 7.2.9.6 personnel who worked on site, hours, and visitors to the site.
- 7.3 If the Contractor does not submit the Daily Reports in accordance with requirements, Canada may suspend work until the reports are satisfactory. A delay in work resulting from failure to deliver the Daily Reports in required timeframes and accepted format will be at the Contractor's expense.
- 7.4 Photos must be noted with unique identifiers stated in text and attached as appendices to the Daily Report. Photos must also clearly identify components (front and side view).
- 7.5 The format and content of the Daily Report must be accepted by the DND PM in writing and must be established before mobilization.
- 7.6 Daily Reports will form part of each Task Authorization Report.

8 WEEKLY PROGRESS REPORTS

- 8.1 During the execution of Task Authorization activities, the Weekly Progress Report (WPR) will be completed by the Contractor's PM. The WPR must be submitted to the DND PM electronically via email and project FTP site each week during field work. The WPR must cover the work carried out in the previous week and discuss the work scheduled for the coming week.
- 8.2 The weekly schedule updates must reflect planned versus actual progress and must be measured against the schedule baseline. Any indication that there may be a requirement to formally amend the contract completion date must be discussed in the report. Weekly schedule updates must be

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delivered in a tracking Gantt format with a progress line visible on the update date (current status date).

8.3 The WPR must include, but is not limited to:

8.3.1 Project Overview;

8.3.2 Work completed to date since the last progress report including a summary of general communication between the DND PM, and the Contractor and detailing direction from the PWGSC Representative or the DND PM to the Contractor;

8.3.3 Summary of planned upcoming work;

8.3.4 Potential and Actual Schedule changes;

8.3.5 Potential and Actual Budget change request;

8.3.6 General project issues, Comments, Concerns;

8.3.7 Health and Safety incidents, Issues, Concerns and Inspections;

8.3.8 Quality Managements Issues;

8.3.9 Environmental, Species at Risk or Cultural issues, comments, concerns; and,

8.3.10 Other Issues.

8.4 The format and content of the Weekly Progress Report must be accepted by the DND PM in writing before mobilization.


8.5 The Weekly Progress Report may not be required for short duration Task Authorization, as determined by the DND PM.

9 MEETING MINUTES AND RECORD OF DISCUSSION

9.1 For all meetings, with the exception of the pre-commencement meeting, including those outlined in Section 01-009 *Meetings and Briefings*, the Contractor must prepare and distribute minutes and Record of Discussion to the DND PM within 2 business days.

10 PHOTO OR VIDEO DOCUMENTATION

10.1 The Contractor must ensure that a sufficient number of photographs and video clips are taken to adequately document all project activities.

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- 10.2 A record of each day's activities of interest must be captured on digital photographs and provided in a folder with the title as the days date in year, month, day format. (i.e.: 20120923).
- 10.3 Photographs must be incorporated in the Report.
- 10.4 A commercially produced linear scale, or photo documentation ruler, must be used in photographs of munitions items.
- 10.5 Photos must be time and date stamped and be catalogued with a unique identifier and GPS waypoints.
- 10.6 If a photo or video is of a feature captured in the GIS database, the photo or video must be added to the Documents table and related to the corresponding feature (see Section 02-001 *GIS and Data Products*).

11 GEOPHYSICAL REPORTS AND DATA PRODUCTS


- 11.1 Geophysical reporting and data products must be provided in accordance with Reference 3.1. Deliverables include, but are not limited to:
 - 11.1.1 Daily geophysical report;
 - 11.1.2 Daily equipment functionality test data;
 - 11.1.3 Raw survey data;
 - 11.1.4 Processed survey data;
 - 11.1.5 Target or dig list; and,
 - 11.1.6 SPO report.

12 GEOGRAPHICAL INFORMATION SYSTEM (GIS) AND DATA PRODUCTS

- 12.1 Section 02-001 *GIS and Data Products*, details the tables that must be completed, along with data format, quality and delivery standards for this project in accordance with paragraph 3 of this Section.
- 12.2 The GIS and data products are due on the same schedule as the draft and final Task Authorization Reports.

13 DRAFT AND FINAL TASK AUTHORIZATION REPORT


- 13.1 All documents and data must be submitted in a format acceptable to the DND PM. It is the Contractor's responsibility to verify that the electronic format is acceptable to the DND PM.

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- 13.2 For each Task Authorization under this TAC, the Contractor must submit a draft version of the Task Authorization Report to the DND PM within fifteen (15) business days of demobilization from the worksite unless otherwise stated in the Task Authorization SOW. Draft reports must be prepared and submitted with the same content and quality standards as if they were final reports.
- 13.3 The Task Authorization Final Report must be accepted in writing by the DND PM before that component of the contract is considered complete. The Draft and Final versions of the report must include, at minimum, the sections and information in Table 01-010-01.
- 13.4 If a draft report is submitted that is judged by the DND PM to not meet the requirements of this contract, the DND PM reserves the right to request a second draft report from the Contractor at no cost to the Crown.

Table 01-010-01- Minimum Reporting Deliverables for Draft and Final Reports

Item	Description
Title Page	Report name; contract and task numbers; date submitted and date accepted; authors and contributors; senior reviewer, titles; designations and signatures.
Revision Index	Table summarizing versioning of the document and status as draft or final.
Executive Summary	Synopsis of the key points with summary of project, process and results.
Table of Contents	Compiled lists of sections, tables, figures and appendices.
Glossary	List of Acronyms
Introduction	Include a brief statement of the project goals and objectives, and the Contractor’s approach and methodology to achieving those objectives specifically as it relates to UXO.
Site History and Description	Brief site description – operational history; physical characteristics, boundaries and environment. Emphasis on site conditions observed during the project including: site location, land use, surrounding properties, vegetation, topography, weather, soil conditions, etc.
Methodology	Discuss the general approach; provide a discussion of main features and activities. Describe how operational activities and solutions were applied. Describe rationale, methods, equipment and personnel.
Ammunition and Explosives Accidents and Incidents	A list of all accidents and incidents involving ammunition and explosives that occurred during the Task Authorization.
Results	Summarize survey findings, clearance activities.
Lessons Learned	Include an assessment of goals and objectives; identification of activities or areas which require additional work; comment on particularly effective or new activities or strategies; assessment of organizational roles in the project and the interaction among the organizations.

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Item	Description
Conclusions	Assess the overall success of the project with particular reference to the project goals and objectives.
References	List of References used to develop or cited in report.
Appendices	Maps or GIS products, video or photos, logs, Daily and weekly reports, record of QC activities, environmental forms and approvals, cultural forms and approvals, chains of custody forms, permits and licenses, etc.


- 13.5 The Contractor must inform the DND PM when the draft Task Authorization Report (PDF format), including Appendices such as maps, logs, etc., and digital deliverables (photos, GIS, etc.) are uploaded to the project FTP site. If video or other files are too large for practical use of the FTP site, these may be put on DVD or hard drive and courier to the DND PM.
- 13.6 Once received, the DND PMT will review the draft Task Authorization Report and submit comments or questions or request changes of the Contractor within ten (10) business days. All DND comments must be addressed, either by incorporating a comment, answering a question, or providing an explanation of why a revision was not made.
- 13.7 On receipt of comments, questions and changes, the Contractor has ten (10) business days to integrate the comments questions and changes and submit the final Task Authorization Report to the DND PM.
- 13.8 Once the final Task Authorization report has been accepted by DND, the Contractor must submit three (3) paper copies (in colour) and upload PDF copy of the report to the project FTP site.

14 SUMMARY OF DELIVERABLES


- 1.1 Table 01-010-02 provides information on minimum requirements and timelines for the various deliverables unless otherwise stated in the TA SOW.

Table 01-010-02 - Summary of Deliverables

Description	Format	Schedule
Draft Master Work Plan	PDF posted on FTP site	Pre-Commencement Meeting + 10 business days
Final Master Work Plan	PDF posted on FTP site	MWP review meeting + 5 business days

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Description	Format	Schedule
Pre-Mobilization permits, licenses, registrations, and notifications	PDF posted on FTP site	Prior to mobilization
Draft Task Authorization Work Plan – Time-critical TAs	PDF posted on FTP site	Within 24 hours of receipt of a Task Authorization
Final Task Authorization Work Plan – Time-critical TAs	PDF posted on FTP site	Within 24 hours of receipt of comments
Draft Task Authorization Work Plan – Not Time-critical TAs	PDF posted on FTP site	Within 10 days of receipt of a Task Authorization
Final Task Authorization Work Plan – Not Time-critical TAs	PDF posted on FTP site	Within 10 days of receipt of comments
Daily Report	1 hard copy (SR) PDF posted on FTP site	By 11am EST next business day
Daily Quality Report	PDF posted on FTP site	By 11am EST next business day
Daily Geophysical Reporting	PDF posted on FTP site	By 11am EST next business day
Environmental and Cultural Records	PDF posted on FTP site	By 11am EST next business day
Weekly Progress Reports and Schedule Updates	PDF to FTP site	Weekly
Meeting Minutes	PDF to FTP site	2 business days
Photo Documentation	Photos of interest in Report Appendix, all photos in digital deliverable	Demobilization + 15 business days
GIS & Database (incl. Raw and Processed Data)	Data (FTP or data DVD or portable drive)	Demobilization + 15 business days
Draft Task Authorization Report (incl. all Appendices)	PDF and all associated data posted on FTP site	Demobilization + 15 business days
Final Task Authorization Report (incl. Raw and Processed Data) (3 copies)	Hard and soft copy (PDF + data DVD or portable drive)	1 week after comments

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15 OWNERSHIP OF DELIVERABLES

- 15.1 All reports, data, maps, photos and correspondence generated on completion of the work must remain the property of the DND.
- 15.2 Any use of them by the Contractor, for any purpose unrelated to the fulfillment of the terms of this project, constitutes a violation of these terms and conditions. The Contractor must ensure that its employees do not divulge the information contained therein.
- 15.3 DND reserves the right to duplicate and release the Contractor’s reports to third parties without the permission of the Contractor and allow derivative work.

END OF SECTION

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1 SUMMARY

- 1.1 This section describes qualifications required of the Contractor and all personnel, employed or sub-contracted, to achieve project objectives.

2 RELATED SECTIONS

Section 01-008 – Project Manager Responsibilities


Section 01-010 – Deliverables

3 REFERENCE STANDARDS

- 3.1 DND. B-GL-381-003/TS-000 Range Clearance and UXO Activities Manual DND. Interim, 12 April, 2011. Annex A to Chapter 3: Personnel Qualifications for Contracted Range Clearance/UXO Activities.
- 3.2 DND. A&EI 15, Recognized Civilian Qualifications Applicable to Ammunition and Explosives Employment, Change 2
- 3.3 CANFORGEN 106/07 ADM IE 004/07 181246Z JUN 07, Civilian Equivalent Qualifications for Contracted Range
- 3.4 DND. A&EI 17, Civilian Qualification Expiry Criteria
- 3.5 Controlled Goods Regulations (SOR/2001-32)
- 3.6 Defence Production Act (R.S.C., 1985, c. D-1)
- 3.7 DCC. Geophysical Standards For Munitions Response Projects, V3.0

4 PERSONNEL QUALIFICATIONS

- 4.1 The Contractor is required to provide and maintain a qualified workforce to carry out the work as outlined in this Specification and subsequent Task Authorizations, and is responsible to ensure that team members meet the minimum qualifications for their positions.
- 4.2 The Contractor must acquire and maintain all permits, licenses, registration and certifications to carry out the work, including Blaster Certification in provinces where it is required.
- 4.3 The Contractor must maintain and provide upon request, records of training and qualifications of personnel involved in the project. Resumes or CVs for all personnel employed on a specific project must be maintained on the work site and be made available to the DND PM Representative, on request.

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- 4.4 The DND PM Representative reserves the right to review resumes and CVs, interview personnel and request their credentials solely for the purpose of ascertaining their qualifications relative to their task(s).
- 4.5 Personnel found to be unqualified to accomplish their task(s) will be asked to leave the work site by the DND PM Representative and the Contractor will have to supply appropriately qualified replacement personnel.
- 4.6 While in the safety template exclusion zone, all non-UXO qualified personnel must be escorted at all times by a UXOT or higher. When continuous supervision is not possible, the non-UXO qualified personnel must be removed from the area.
- 4.7 Costs associated with lost production or revenue resulting during replacement of unqualified personnel will be assumed by the Contractor. The per diem rates paid for an unqualified person will be retroactively lowered to the rate that corresponds with their qualifications. The Contractor must provide a credit for any overpayment on the next invoice.

5 UXO PERSONNEL QUALIFICATIONS


- 5.1 Each Contractor team member employed as UXOPL, UXOFS, UXOSO, UXO Quality Control Specialist (UXOQCS), UXO Quality Manager (UXOQM), UXO Technician Supervisor (UXOTS), UXO Technician (UXOT) must meet the minimum qualification requirements for their position in accordance with References 3.1, 3.2, and 3.3.
- 5.2 All proposed personnel involved in the handling, packaging and the transportation of MEC and explosives and munitions scrap (MS) and other hazardous materials must meet all federal and provincial requirements and must complete activities under all applicable procedures, licenses and approved processes. A copy of all relevant certificates, resumes and curriculum vitas (CVs) must be kept on file at the project site(s).

6 GEOPHYSICIST QUALIFICATIONS

- 6.1 The Senior Geophysicist, project Geophysicist and Geophysical Crew Chief must have the qualifications as specified Reference 3.1 (Section 3A05, Annex A to Chapter 3).

7 GIS ANALYST QUALIFICATIONS

- 7.1 The GIS Analyst must have a minimum of three (3) years of professional industry experience in creating, organizing and managing geospatial data.
- 7.2 The GIS Analyst must have completed a post-secondary education from a recognized institution with either a degree in Geography or Geomatics with a focus on GIS, or a two (2) year diploma program focused entirely on GIS and Geomatics.

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8 PROJECT MANAGER QUALIFICATIONS

8.1 The Contractor’s PM must have at least 6 years’ experience managing projects and at least 3 year’s experiencing managing UXO clearance projects.

9 QUALITY MANAGER QUALIFICATIONS

9.1 The Quality Manger must have certification as a Quality Professional (Certified Manager of Quality, Certified Quality Auditor, or a holder of Quality Assurance Certificate) from a recognized institution or organization such as the Canadian Chapter of the American Society for Quality (ASQ).


10 ADDITIONAL TRAINING

10.1 Prior to beginning work, the Contractor must provide personnel with site specific training on equipment and procedures specific to their project position. Training must include all relevant SOPs and Work Plan components which will govern their work.

11 PERSONNEL QUALIFICATIONS STATEMENT

11.1 The contractor must submit a signed Personnel Qualifications Statement and maintain a copy on site, certifying that all personnel involved in project work meet all qualifications requirements and will complete activities according to conditions of all applicable procedures, licenses and approved processes.

END OF SECTION

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1 SUMMARY

1.1 This section outlines requirements for UXO quality management.

2 RELATED SECTIONS

All.

3 REFERENCE STANDARDS

3.1 DCC. Geophysical Standards For Munitions Response Projects, V3.0

4 QUALITY MANAGEMENT SYSTEM

4.1 The Contractor must be minimum ISO 9001:2008 Certified for the corporation, region, or offices that provide the UXO services or commit to completing ISO 9001:2015 Certification within 24 months of contract award.

5 QUALITY CONTROL PLAN AND PROCESS FLOW DIAGRAMS


5.1 The Contractor will implement a detailed QCP that will ensure that the work completed is thorough and the results from the work will meet the requirements of the project and specifically the Data Quality Objectives (DQO).

5.2 In the QCP, the Contractor must clearly identify the Quality Control points as well as critical elements of work and actions required in order to achieve the project requirements and the DQO. This will be outlined in the Critical Elements of Work Table (refer to Attachments1 and 2 to this Section for the template and an example)

5.3 A Critical Element is a key task or requirement of such importance that failure to complete or follow procedure will result in a detrimental impact to the project's goals. The contractor is expected to review their entire work plan and clearly identify these key tasks, steps or personnel responsibilities. Critical elements must be communicated to all members of the project team.

5.4 When multi-disciplinary teams are specified in the TA SOW based on site requirements, the TA WP will integrate critical elements of work and associated Quality Control points for all disciplines (not simply UXO) and the QCP will cover all aspects of the work in the TA in one comprehensive plan. The QCP cannot be split into separate sections for different disciplines (i.e., UXO, environmental, cultural), it must be integrated.


5.5 The QC process is also to be clearly outlined in a flow chart and show what actions and decisions will be followed to ensure that project goals and DQO are being met.

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- 5.6 The QCP and flow chart(s) must be presented in a logical, step-by-step plan. It should show all the key decision points, persons (roles) responsible at each action step and identify any documentation that needs to be completed as a result of the description.
- 5.7 For each QC activity, the following must be described in the Plan:
- 5.7.1 Approach and methods;
 - 5.7.2 Standard Operating Procedures (SOPs);
 - 5.7.3 Precise detail on what is being measured with acceptance and rejection criteria;
 - 5.7.4 Corrective actions to be taken in the event of non-compliance or non-acceptance;
 - 5.7.5 The responsible person.
- 5.8 The Contractor must prepare a table that lists and identifies the critical elements of work and the associated quality control checks that will be conducted for each element including: the definition of the critical element in work plans or standards, checklist or other deliverables as required, the frequency of submittal (daily, weekly, monthly), what person of the Contractor's team is responsible for the item (subject matter expert), the pass or fail criteria, the consequences of failure and necessary corrective actions should a failure occur.
- 5.9 DND will review and approve the QCP prior conducting the field work.

6 QC SAMPLING AND REPORTING


- 6.1 In order to conduct QC, the Contractor must identify areas to be randomly sampled, audited and or checked by QC personnel, using the same equipment and methods used by the primary work group.
- 6.2 The Contractor must describe how areas will be selected for QC operations. The Contractor must demonstrate a statistically based plan for selection of areas.
- 6.3 Quality Control records and documentation must record the following information where applicable:
- 6.3.1 Grid, Lot and Area identification
 - 6.3.2 Any pertinent information to accurately identify location of the grid, lot and area (i.e. GPS coordinates);
 - 6.3.3 Audit criteria

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- 6.3.4 Date and time
- 6.3.5 Personnel conducting the QC operation;
- 6.3.6 All results and observations obtained from the work;
- 6.3.7 Confirm equipment used to complete the work
- 6.4 In terms of QC sampling, there are three levels of QC inspection that are to be applied; Reduced, Normal and Tightened.
 - 6.4.1 **Reduced:** conducted generally when confidence level is high, or when 3 consecutive inspections or audits are found acceptable at the Normal level.
 - 6.4.2 **Normal:** conducted when non-conformity occurs at the Reduced level or at the beginning of work in a new work area as the starting level. Also when 3 consecutively inspections or audits are found acceptable at the Tightened level.
 - 6.4.3 **Tightened:** conducted when anon-conformity occurs at the Normal level.
- 6.5 Submit within 48 hours, or upon DND PM or designee’s request, all QC reports and related QC documentation.

7 CLASSIFICATION OF DEFECTS – GENERAL

- 7.1 Based on the non-conformance criteria stated below in this requirement, the Contractor must develop a summary of what constitutes a minor, major and critical failure. This summary is to be included in the Critical Elements of Work Table and communicated to the project team.
- 7.2 If, prior to acceptance of work performed by the Contractor, an inspection or audit reveals a defect or failure in the quality of the work carried out by the Contractor, that defect will be classified using the following defect classification system:
 - 7.2.1 **Minor Non-conformance.** A non-conformance that is not likely to materially reduce the usability of the supplies or services for their intended purpose, or is a departure from established standards having little bearing on the effective use or operation of the supplies or services. The UXO QCS will provide a written response to the Non-Conformance Report (NCR) with-in 5 business days. In the event that 3 minor non-conformances for an identical failure occurs, then the minor non-conformance is elevated to a major non-conformance.
 - 7.2.2 **Major Non-conformance.** A non-conformance, other than critical, that is likely to result in failure of services, or to materially reduce the usability of the services for their

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intended purpose. The Contractor's Project Manager will provide a written response to the NCR with-in 2 business days. In the event that 3 major non-conformances for an identical failure occurs, then the major non-conformance is elevated to a critical non-conformance.

7.2.3 **Critical Non-conformance.** A non-conformance that is likely or will result in hazardous or unsafe conditions for individuals using, maintaining, or depending upon the supplies or services; or is likely to prevent performance of the vital agency mission. The Contractor's Project Manager will provide a written response to the NCR with-in 1 business day.

8 NON-COMPLIANCE TO QUALITY CONTROL PLAN


- 8.1 It must be understood that Quality Assurance and Quality Control does not only relate to the clearance work. All aspects of the Contractor's work will be reviewed and the DND PMT will report any deviation from work plans to the Contracting Authority and the Contractor.
- 8.2 If, in the opinion of the DND Representative, the Contractor is found not to be in compliance of their QCP, the Contractor risks non-acceptance of the work completed to date. Re-work of the area(s) will be completed at the Contractor's expense.

9 CORRECTIVE AND PREVENTATIVE ACTION

- 9.1 Deviations from the acceptable standard, whether identified by the DND Representative or by the UXOQCS, must be rectified at no additional cost to the Crown.
- 9.2 All defects, as classified in Section 14.4, 14.5 and 7.2 must be corrected at no additional cost to the Crown.
- 9.3 All corrective and preventative actions must follow the Root Cause Analysis methodology for determining the root cause and identifying the corrective and preventative actions. All corrective and preventive action reports are to remain open until approved by the Contracting Authority or DND PM or Designate, in consultation with the Contracting Authority and DND Quality Management.
- 9.4 All corrective and preventative action reported are to be included in the contractor's final project report.

10 QUALITY REPORTING

- 10.1 The Contractor's Quality Control Specialist (QCS) or UXOQCS is required to complete a daily report of all inspections, investigations, corrective and preventative actions, and deviations that occur for the work day. They are to record the results of all inspections that are listed in the

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Quality Control Plan for the specific activity or work that is being performed each day. If at any time the field team request the QCS or UXOQCS to investigate a quality concern, regardless of the outcome (acceptable or unacceptable) they are to record this in the daily report.

- 10.2 The daily QC report is to list the inspections performed, the results of those inspections, and any investigations that are requested by the DND PM.

11 TRAINING


- 11.1 Each member of the contractor’s team has an important role in ensuring the project’s goals are met. The Contractor must ensure that each member of the team understands the requirements and Objectives of the project and what constitutes success or failure, based on the Contractor’s MWP and subsequent TA WP including the QCP.
- 11.2 The Contractor, prior to commencement of the work, must conduct a training session to all members of the Contractor’s team. Ensuring that each member of the team has a thorough understanding of the project’s objectives, the importance of quality control, what constitutes a failure, how to communicate issues of concern which affects the work and individual’s roles and responsibilities.

12 LESSONS TO BE LEARNED

- 12.1 The Contractor must during the project, identify from Non Compliance Reports, inspection reports, audits, or other opportunities any lessons learned. All lessons learned are to be captured, documented, communicated and applied.
- 12.2 All preventive action items from non-conformance reports are to be documented in lessons learned.
- 12.3 Lesson learned can also come from best practices identified that would be captured and applied to future projects.
- 12.4 During the project activity the Contractor is to apply all lessons learned that may impact the work being performed. Lessons learned may also be applied to future projects as necessary.
- 12.5 The Contractor is to submit all lessons learned in the weekly report and with the project final report in accordance with Section 01-010 *Deliverables*.

13 PROJECT AUDITS

- 13.1 A designated DND Representative(s) may, at any time, conduct audits of the Contractor’s work.

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- 13.2 Any or all aspects of the Contractor’s work may be reviewed. The DND PM or designate will inform the Contractor of any deviation from the contractual documents.
- 13.3 If the Contractor’s work is found not to be in compliance with the contractual documents, the Contractor risks non-acceptance of the work completed to date. Re-work of the area(s) will be completed at the Contractor’s expense.
- 13.4 Audits may consist of interviews, review of records and documentation, as well as on-site fieldwork quality assurance
- 13.5 The Contractor will allow the DND Representative access to the work site and to all records and documentation of the work.
- 13.6 The DND Representative reserves the right to perform independent quality audits of the project. These audits are intended to validate compliance and conformance to the MWP, TA WP and SOPs, processes, standards, and systems (ISO 9001 -if applicable).

14 UXO COMPONENT

14.1 RESPONSIBILITIES OF UXOQCS


- 14.1.1 In addition to the responsibilities previously outlined, the UXOQCS must have the responsibility to ensure that all work is being completed in accordance with the WP and QCP. The UXOQCS is expected to have thorough knowledge of the QCP, especially in regard to meeting the requirements and Objectives of the project. As a result, it is expected that the UXOQCS will initiate all measures required to ensure that results are in compliance with project requirements. Where results from the work are not in compliance with the project’s objectives, the UXOQCS will initiate the corrective actions required to rectify the issues.
- 14.1.2 The UXOQCS must sign all quality reports and related documentation provided to the Contractor’s Project Manager and the DND PM.

14.2 QUALITY CONTROL DISCREPANCIES

- 14.2.1 The Contractor must clearly identify quality control findings to the DND PM promptly and identify the course of action (as described in the QCP) undertaken.

14.3 INSTRUMENT AND EQUIPMENT (CALIBRATION AND FREQUENCY)

- 14.3.1 Critical to the success of the work is the proper functioning of all equipment. The contractor must maintain the equipment in good working order. Included in the QCP, a description of the maintenance tasks must include, but are not limited to, the following:

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- (1) A calibration procedure for all equipment used and state if this is in compliance with the manufacturer's recommendations.
- (2) Frequency of calibration for all equipment.
- (3) Procedures to be undertaken in the event of out-of-calibration (part of the QCP process flow) discovery, equipment malfunction or inability to calibrate.
- (4) Record calibration frequency and make the records available to the DND PM or designate.

14.4 CLASSIFICATION OF DEFECTS – GEOPHYSICAL SURVEY

14.4.1 In addition to the classification of defects, as per Paragraph 7.2 of this Section, geophysical survey Failure criteria is as follows:


- (1) **Failure - Survey.** The identification, as the result of inspection or audit, of a single item (UXO or EO or Non Munitions Scrap) will result in a failure of the identified study area or grid in which it is found. (Single SAA up to .50 caliber do not apply). The identification of (UXO or EO or Non Munitions Scrap) items as the result of inspection of the same study area or grid will constitute a failure and re-work of the identified study area or grid at no additional cost to the Crown. The identification of one (1) Failure under this contract will provide cause for Project Manager to re-examine the survey process and work completed which could form the basis for recommendations to the Contracting Authority for the termination of the contract.

14.5 CLASSIFICATION OF DEFECTS –CLEARANCE ACTIVITY

14.5.1 Based on the non-conformance criteria stated below in 14.5.2, the Contractor must develop a summary of what constitutes a minor, major and critical failure in accordance with Paragraph 5.2 of this Section. These DQOs are to be communicated to the project team.

14.5.2 If, prior to acceptance of a Clearance Grid identified by the Contractor as cleared, an inspection reveals a non-conformance in the quality of the clearance work carried out by the Contractor, that defect will be classified using the following defect classification system:

- (1) **Minor Non-conformance.** The identification, as the result of inspection, of more than, five percent (5%) in weight of non-natural materials based on the total weight of materials removed from the study area or any grid, will result in a Minor Defect. Small Arms Ammunition (SAA) in close proximity, numbering 25 or fewer, which would have been expected to be recovered, will result in a Minor defect;
- (2) **Major Non-conformance.** Three (3) or more Minor Defects (15% in weight of total volume removed) within the study area or grid will result in a Major Defect. The identification, as the result of inspection, of one (1) expended MS in a study area or grid will constitute a Major Defect. SAA numbering greater than 26 in

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close proximity (1.5m diameter circle) in a single anomaly dig will result in a Major Defect. The identification of three (3) Major Defects under this contract will provide cause for the Project Manager to re-examine the clearance process and work completed which could form the basis for recommendations to the Contracting Authority for the termination of the contract;

- (3) **Critical Non-conformance.** The identification of two (2) or more Major Defects on one single or two consecutively inspected study areas or grids constitutes a Critical Defect. The identification, as the result of inspection, of two expended MS in a single anomaly dig will constitute a critical defect. The identification of three (3) critical defects under this contract will provide cause for the Project Manager to re-examine the clearance process and work completed which could form the basis for recommendations to the Contracting Authority for the termination of the contract; and,
- (4) **Failure.** The identification, as the result of inspection, of a single live ordnance item (UXO or EO) will result in a failure of the study area or grid in which it is found. (Single SAA up to .50 caliber do not apply). The identification of three or more expended MS items as the result of inspection of the same study area or grid will constitute a failure. The identification of one (1) Failure under this contract will provide cause for Project Manager to re-examine the clearance process and work completed which could form the basis for recommendations to the Contracting Authority for the termination of the contract.

14.5.3 The Contractor must demonstrate, prior to commencement of work, how data will be recorded to be able to measure to the above requirements.

14.6 QUALITY CONTROL AND SEED PROGRAM

14.6.1 The DND PM or designate may at any time implement a quality control seeding program. The seed program allows the DND to check the work being conducted by placing either on the surface or by burying inert UXO items within the work area. The DND PM or designate will record coordinates of the seed items. The Contractor will be informed that a seed program has been initiated.


14.7 SEED ITEM

14.7.1 A seed item will be marked or tagged identifying it as a seed item with a control number.

14.7.2 The seed item if buried will be within the depth of investigation or Clearance of the contract and within the contracted area.

14.7.3 The seed item, if placed on or near the surface, will be painted only on part of its surface area to allow a degree of obscurity. The item will still be identifiable as a seed item.

14.7.4 Surrogate materials may be used and will be marked in the same fashion as an inert item.

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14.8 DISCOVERY OF A SEED ITEM

14.8.1 During Sub-Surface Clearance activities, the seed item, if discovered, will be removed and depth GPS location and control number must be recorded. This information, along with the item, is to be presented to the Contractor’s Project Manager, DND PM or Designate. This information must be passed to the Contractor’s Quality Control personnel of QC processing.

14.9 FAILURE TO LOCATE A SEED ITEM

14.9.1 Should the Contractor’s team fail to discover or locate a seed item; the following actions will take place:


- (1) The Contractor’s Field Supervisor (UXOFS) and Quality Control Specialist will be informed;
- (2) The Field Supervisor, and Quality Control Specialist will accompany the Contractor’s Project Manager, DND PM or Designate to the location of the seed item;
- (3) Coordinates will be confirmed and a hand held instrument of the same type used by the Contractor will be used to locate the seed item;
- (4) The item will be unearthed and the control number will be verified;
- (5) If missed during a Geo Survey, all data collected the day the seed item was missed will be reviewed by the Contracting Authority for validation;
- (6) If missed during a Surface Clearance, the grid the item was left in will be reviewed. All equipment used will be verified in working condition;
- (7) In all situations a root cause analysis will be implemented;
- (8) Causal factor may require re-work of the grids.
- (9) The incident may be considered as a minor or major non-conformance.

14.10 REWORK

14.10.1 The DND PM or designate will inform the Contractor of the final decision regarding rework of the grid(s). Any re-work will be at the Contractors cost.

14.11 GEOPHYSICAL ANOMALIES, FALSE POSITIVES, NO FINDS

14.11.1 The contractor is to report all dig findings regardless if there is an anomaly found in the location or not. In the event that the findings result in false positives, no finds, no contacts, hot rocks or geology, they are to be investigated and verified by the UXOQCS and reported on the quality control daily report. In the event that more than a single false positive, no finds, no contacts, hot rocks or geology occur in a survey area, the

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UXOQCS is to initiate a root cause analysis to determine if a corrective action is required per Section 5.0.

15 ENVIRONMENTAL COMPONENT - WHERE APPLICABLE

15.1 The TA WP will clearly identify who is responsible for field QC for environmental activities on the site and how those QC responsibilities will be integrated with UXOQCS so that there is no confusion between disciplines.

15.2 Analytical Requirements, Analytical Parameters, and Methods

15.2.1 The technique and level of detection used to analyze samples must be specified in the sampling plan. The selection of techniques employed at the laboratory is influenced by the types and concentrations of substances of concerns encountered or suspected to be present at the site. The method must be applicable for the scope of work and accredited for the analysis being undertaken, and all detection levels must be less than or equal to the applicable criteria.

15.3 Sampling Plan


15.3.1 The sampling plan must identify the number and type of quality assurance samples and measurements and must include both field and lab QA and QC. For direct measurements, QA and QC procedures may include calibrations of measuring devices and ambient or background measurements to ensure that all collected data and the decisions based on these data are technically sound, statistically valid, and properly documented. An appropriately certified or accredited laboratory must be used to conduct the analysis.

15.4 Limitations and Deviations

15.4.1 During implementation of a sampling plan, conditions may be discovered that require deviations from the plan. In such circumstances, the team member must record the nature of the conditions, including those posed by physical limitations (e.g., access denied, inaccessible areas, and safety considerations not previously noted). Where adjustments to the sampling plan are required, the PM must seek the DND PM's permission prior to conducting additional work. The deviation and the rationale for the deviation must be documented. Discussions with the DND PM and regulatory agencies could be necessary to decide how to respond to deviations.

15.5 Sample Shipment and Analysis

15.5.1 Proper QA and QC procedures must be followed throughout the handling, shipment, and analysis of samples. If samples of matrices are collected, the chain-of-custody

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procedures described in the sampling plan must be followed to ensure that the samples are analyzed for the appropriate parameters, that all samples sent to the laboratory are actually received by the laboratory, samples are kept cool during shipment, and that the samples are analyzed within the prescribed holding times. Chemical analyses must be performed only by certified or accredited laboratories that are accredited for each type of analysis being undertaken.

15.5.2 Ensure that all environmental samples are analyzed by laboratory meeting the following requirements:

- (1) Accredited by the Canadian Association for Laboratory Accreditation Inc. or the Standards Council of Canada and in accordance with the ISO Standard 17025, and the accreditation must be current and in good standing for the parameters being analyzed;
- (2) The laboratory must conduct internal QA as per their accreditation or internal standard procedures. The Contractor's Consultant will include the results on the laboratory's internal QA in the report and will comment on the reliability, accuracy and reproducibility of the data; and,

15.5.3 A standard turnaround time for laboratory analysis.

15.6 Validation of Information

15.6.1 Inaccurate background information can seriously limit the effectiveness of a site characterization. Where practical, the Contractor must corroborate and validate the information extracted from reports. Validation is the process whereby the Contractor determines that the information gathered is accurate, reliable, sufficient, and appropriate. If the Contractor determines that there are limitations in the information provided by the DND PMT, this should be communicated to the DND PM as soon as possible. The implications of any such limitations should be considered against the scope of work.

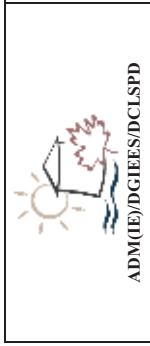


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QC1	UXO Training - on the job training	Prior to any personnel starting work on the project, they are to complete on the job training session.	Section XX of the MWP	Prior to project field work and after each personnel change Audit - Once every 60 days	Each on-site personnel	Documented in on site records	UXOPL UXOQCS	Training not provided to personnel and they are engaged on-site.	Major	Untrained personnel engaged on-site. Personnel restricted from working on-site - All work performed by personnel to be audited for compliance.	Contractor to provide training and issue non-conformance report.
QC2	Health and Safety or Environmental Awareness Training	Prior to any personnel starting work on the project, they are to complete a defined training.	Section XX of the MWP	Prior to project field work and after each personnel change Audit - Once every 60 days	Each on-site personnel	Documented in on site records	UXOSO & UXOQCS UXOSO & UXOQCS	Training not provided to personnel and they are engaged on-site.	Major	Untrained personnel engaged on-site. Personnel restricted from working on-site - All work performed by personnel to be audited for compliance.	Contractor to provide training and issue non-conformance report.
QC3	Daily Reports	Daily report to be completed daily and submitted to the FTP site within 1 business day.	Section XX of the MWP	Daily	Once	Appears on FTP site	UXOPL and Contractor PM	Daily report not completed or uploaded to FTP site.	Minor	Minor non-conformance report issued	Complete and submit non-conformance report.
QC4	Field Log Books	Field log books to be completed daily. The UXOPL, UXOQCS, UXOTL to complete. Record daily activities, such as areas	Section XX of the MWP	Weekly Audit - Once every 60 days	Each daily entry 10 daily entries at random	View each log book View each log book	UXOQCS Contractor PM	Log books not completed and record of activities not documented. Risk of project activity.	Minor	Minor non-conformance report issued	Complete and submit non-conformance report.

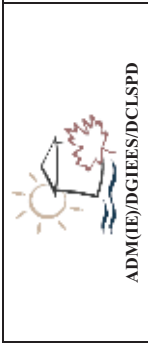


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		surveyed, cleared, personnel assignments, quality inspections, lessons learned, non-conformances etc.									
QC5	Weekly Progress Report	A weekly summary of project activities as defined in daily reports - Submitted to the FTP site by end of day the following Monday.	Section XX of the MWP	Weekly	Once	Verify FTP site	Contractor PM	Weekly Progress report not completed or uploaded to FTP site	Minor	Minor non-conformance report issued.	Complete and submit non-conformance report.
QC6	Project Schedule/WBS	Contractor to meet the approve schedule - with action plan for deviation to schedule.	Section XX of the MWP	Weekly	Once	Project Schedule	Contractor PM	Project is behind schedule with no recovery plan	Major	Major non-conformance report issued along with Root Cause Analysis - FM-QC-NCR.	Complete and submit non-conformance report and Root Cause Analysis Report.
QC7	Subcontractor Management	Contractor is responsible for subcontractor management, audit subcontractor reports to validate compliance to all requirements under section XX of the contractor	Section XX of the MWP	Weekly	10% of all subcontractor s daily reports	Subcontractors daily reports	UXOQCS	Subcontractors are not being monitored by prime contractor and daily reports are not completed	Major	Major non-conformance report issued along with Root Cause Analysis.	Complete and submit non-conformance report and Root Cause Analysis Report.
				Audit - Once every 60 days	10% of all subcontractor s daily reports	View each log book	UXOPL				

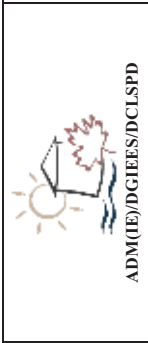


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Q8	Three Phase Control - preparatory phase inspection	Contractor to perform inspections for each DFw within this phase per section XX of the QCP. Completion of each phase is to be validated as completed before moving to the next phase	Section XX of the MWP	Upon completion of checklist	Once	Form XX (Preparatory Phase Inspection Checklist)	DND PMT	Checklist not complete before proceeding the initial phase. Items marked completed on checklist are not in fact complete	Critical	Stop work by the contractor until all items on checklist are validated complete. Issue critical non-conformance report - Form UXO-FM-10141 in accordance to QA and QC Requirements section 6.2	Contractor to complete and submit non-conformance report form. DND Quality Representative to validate corrective action before contractor can resume work
				Audit - Once every 60 days	All Checklists	Form XX (Preparatory Phase Inspection Checklist)	DND PMT				
Q9	Three Phase Control -Initial phase inspection	Contractor to perform inspections for each DFw within this phase per section XX of the QCP. Completion of each phase is to be validated as completed before moving to the next phase	Section XX of the MWP	Upon completion of checklist	Once	Form XX (Initial Phase Inspection Checklist)	DND PMT	Checklist not complete before proceeding the initial phase. Items marked completed on checklist are not in fact complete	Critical	Stop work by the contractor until all items on checklist are validated complete. Issue critical non-conformance report.	Contractor to complete and submit non-conformance report form. DND Quality Representative to validate corrective action before contractor can resume work
				Audit - Once every 60 days	All Checklists	Form XX (Initial Phase Inspection Checklist)	DND PMT				

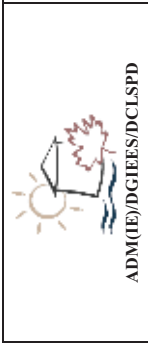


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Q10	Three Phase Control - follow-up phase inspection	Contractor to perform inspections for each DFW within this phase per section XX of the QCP. Completion of each phase is to be validated as completed before moving to the next phase	Section XX of the MWP	Upon completion of checklist	Once	Form XX (Follow-up Phase Inspection Checklist)	DND PMT	Checklist not complete before proceeding the initial phase. Items marked completed on checklist are not in fact complete	Critical	Stop work by the contractor until all items on checklist are validated complete. Issue Critical non-conformance report.	Contractor to complete and submit non-conformance report form. DND Quality Representative to validate corrective action before contractor can resume work
Q11	Vegetation Removal - per grid - biologist approval	Where applicable for each grid, the vegetation removal must be in compliance to the Calibration Grid Layout plan and SARA Permit. Review Biologist report.	Section XX of the MWP	Upon completion of each effected grid (vegetation removal)	Once	Biologist report	DND PMT	Vegetation was removed or is being removed with authorization from the Biologist.	Critical	Stop work by the contractor until approvals granted or corrective action implemented by contractor. Issue critical non-conformance report.	Contractor to complete and submit non-conformance report form. DND Quality Representative to validate corrective action before contractor can resume work
Q12	Vegetation Removal	Where applicable for each grid, the vegetation removal must be in compliance to the Calibration Grid Layout plan and to the requirements for height and density.	Section XX of the MWP	Upon completion of each effected grid (vegetation removal)	Once	Daily Report	UXOPL	Vegetation was not cleared in accordance to the requirements	Major	Geophysical survey of the grid to place on hold until corrective action implemented. Issue Major non-conformance report.	Conduct secondary vegetation removal and issue non-conformance report and Root Cause Analysis Report.

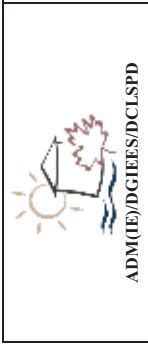


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Q13	Geophysical survey of grid - Biologist approval	Verify that the biologist has approved geophysical work in a grid prior to survey	Section XX of the MWP	Prior to survey of each grid	Once	Biologist Report	DND PMT	Survey work has begun without approval of Biologist	Critical	Stop work by the contractor until approvals granted or corrective action implemented by contractor. Issue Critical non-conformance report.	Contractor to complete and submit non-conformance report form. DND Quality Representative to validate corrective action before contractor can resume work
QC1 4	Geophysical Equipment Verification	Functional test are to be completed daily on all survey equipment.	Section XX of the MWP	Observe test as per QC state	Per test	Daily Report - QC	UXOQCS	Tests and or reports are not completed	Major	If test not completed, resurvey area back to last know test completed. If report not completed, correct discrepancy. Issue major non-conformance report.	Resurvey grids completed back to last known test. Complete non-conformance report a root cause analysis. PGEO to validate corrective action before work can resume.
QC1 5	QC Seed Item - Geophysical Survey	QC seed items will be placed with the intention of encountering at least one item by each DGM surveys.	Section XX of the MWP	Daily or per Ha	One (1) Seed item per Ha or grid	QC seed registry	Contractor Geophysicist	No seed item identified in data	Critical	Resurvey of the calibration grid by the DGM team. Issue major non-conformance report and root cause analysis - Form FM-QC-NCR.	Resurvey grids completed back to last known test. Complete non-conformance report a root cause analysis. PGEO to validate



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QC1 6	QC Seed Item - Surface Clearance	QC seed items will be placed with the intention of encountering at least one item by each UXO team per day.	Section XX of the MWP	Daily	One (1) per intrusive team	Daily QC report	UXOQCS	No seed item returned from the identified grid	Major	Failure of the intrusive investigation team to retrieve the seed item as defined in the data. Issue major non-conformance report and root cause analysis form. UXOPL to validate corrective action before contractor can resume work.	Re-investigate the current grid. Contractor to complete non-conformance report and root cause analysis form. UXOPL to validate corrective action before contractor can resume work.
QC1 7	UXOQCS Daily Audit Verification	All checklists and requirements completed as per the MWP.	Section XX of the MWP	Daily	once	Daily QC report	UXOQCS	Quality checks not completed by the UXOQCS	Major	Major non-conformance report issued along with Root Cause Analysis.	Complete and submit non-conformance report and Root Cause Analysis Report.
QC1 8	Geophysical Re-survey of Calibration Grids	Upon completion of the intrusive work, complete a verification survey over areas exhibiting a high density of targets to verify the area is clear.	DGM Standard	As required	100% of high risk areas	Geophysical Daily Report	Contractor Geophysicist	Anomalies detected by survey equipment in the identified calibration grids after intrusive investigation.	Major	Designate area as not cleared. Major non-conformance report issued along with Root Cause Analysis.	Re-investigate all remaining geophysical targets. Complete and submit non-conformance report and Root Cause Analysis Report.



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QC1 9	Verification of Intrusive Investigation	Upon completion of the intrusive work, conduct EM61 verification of sub-surface targets at a frequency as per the QC state.	DGM Standard	As per QC state	Per target	Daily report	UXOQCS	Anomalies detected by survey equipment in the identified calibration grids after intrusive investigation.	Major	Call into question all digs conducted that day by the same team. Major non-conformance report issued along with Root Cause Analysis.	Re-check all dig locations performed by that team that day. Complete and submit non-conformance report and Root Cause Analysis Report.
QC2 0	DQO	UXOQCS will verify the Data Quality Objectives and their respective processes used by intrusive investigation teams are in compliance with the work plans and SOP's.	Section XX of the MWP	Daily	Each respective objective report	Daily Report	UXOQCS	Failure to complete validation of each DQO	Major	Major non-conformance report issued along with Root Cause Analysis.	Complete and submit non-conformance report and Root Cause Analysis Report.
			Section XX of the MWP	Audit - Once every 60 days	Random sampling of daily reports	View each log book	UXOQCS				



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Project Program:		Contractor :						Control Plan Scope: UXO		Date of Release: 25/05/2015	
Item #	Characteristic or Critical Work Element	Standard, Requirement or Attribute	Source Document	Sampling Frequency	Sample Size	Record of Measurement	Responsible Person	Pass or Fail Criteria	Failure Classification, Major, Minor	Consequence of Failure	Corrective Action
QC2 1	Level I, II and III Screening Audit	The UXOQCS must audit 10% of all daily level I, II and III screened MEC items.	Section XX of the MWP	Daily	Once	Daily Report	UXOQCS	Failure to complete the 10% audit.	Major	Reject MEC level III screened MEC. Major non-conformance report issued along with Root Cause Analysis.	Perform 10% audit by UXOQCS before accepting Daily MEC items for storage. Complete and submit non-conformance report and Root Cause Analysis Report.
		Validate compliance of the Contractors work plans and quality control plan.	Section XX of the MWP	Daily	Once	Daily Report	UXOQCS	Failure to meet the requirement of the audit form as it relates to the various work plans and QCP Rev 6	See pass or fail criteria	A critical non-conformance stops the audit, major and minor non-conformance trigger a corrective action report	Contractor to complete and submit non-conformance report form. DND Quality Representative to validate corrective action before contractor can resume work
		Validate that the UXOQCS has inspected all grids and anomalies upon completion of intrusive work	Section XX of the MWP	Daily	Once	Daily Report	UXOQCS	Failure to inspect the grids after intrusive work	Major	Major non-conformance report issued against contractor.	Contractor UXOQCS to inspect the grid and close out until inspection complete.
		MS only in screened material.	Section XX of the MWP	Daily	Once	Daily Report	UXOQCS	NMS identified as MS in the level I, II or III material	Major	Reject MS level I, II, or III screened MEC. Major non-conformance report	Re-screen all MS. Complete and submit non-conformance



ADM(IE)/DGIEES/DCLSPD

Section No. 01-012
Overall Quality Requirements
ATTACHMENT 1 - QUALITY VERIFICATION PLAN EXAMPLE
Task Authorization Contract for UXO Services on
DND Sites and Legacy Sites

Effective Date: 07/21/2016
Revision: 1.2.7

Project Program:		Contractor :						Control Plan Scope: UXO		Date of Release: 25/05/2015	
Item #	Characteristic or Critical Work Element	Standard, Requirement or Attribute	Source Document	Sampling Frequency	Sample Size	Record of Measurement	Responsible Person	Pass or Fail Criteria	Failure Classification, Major, Minor	Consequence of Failure	Corrective Action
		MS only in screened material.	Section XX of the MWP	Daily	Once	Daily Report	UXOQCS	Live ammunition found beyond level II or III screening	Critical	Reject all MS at the level found. Major non-conformance report issued along with Root Cause Analysis.	Re-screen all MS. Complete and submit non-conformance report and Root Cause Analysis Report.
		Safety Related failure - exclusions zone, sentries, notifications to authorities.	Section XX of the MWP	When Demolition operations are done	Once	Daily Report	UXOSO & UXOQCS	Failure of any of the safety features as defined in the RSO checklist	Major	Do not proceed with Demolition operations until actions items have been resolved. Major non-conformance report issued along with Root Cause Analysis.	Correct discrepancies. Complete and submit non-conformance report and Root Cause Analysis Report.
QC2	UXO Demolition Operations	Detonation of Safe to Move and Blow in Place items done as per Section 6 of MWP upon clearance that all safety aspects have been put in place.	Section XX of the MWP	When Demolition operations are done	Once	Daily Report	UXOSO & UXOQCS	Accidental detonation	Critical	No further demolition operations by contracted company until all non-conformances are corrected. Major non-conformance report issued along with Root Cause Analysis.	Correct discrepancies. Complete and submit non-conformance report and Root Cause Analysis Report.
		Explosives stored on site without proper storage and permits.	Section XX of the MWP	Daily	Once	Daily Report	UXOPL	In violation to NRCAN and Requirements	Critical	Do not proceed with Demolition operations until actions items have	Correct discrepancies. Complete and submit non-



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Project Program:		Contractor :					Control Plan Scope: UXO		Date of Release: 25/05/2015		
Item #	Characteristic or Critical Work Element	Standard, Requirement or Attribute	Source Document	Sampling Frequency	Sample Size	Record of Measurement	Responsible Person	Pass or Fail Criteria	Failure Classification, Major, Minor	Consequence of Failure	Corrective Action
QC2 3	Munitions Scrap Storage, Packaging and Transport	Container meets B-GL-381-003/TS-000 requirements.	Section XX of the MWP	Each container	Once	Daily Report	UXOSO & UXOQCS	Container size and material does not meet requirements.	Critical	Rebuilt containers; do not ship any non-standard containers. Major non-conformance report issued along with Root Cause Analysis - FM-QC-NCR.	Correct discrepancies. Complete and submit non-conformance report and Root Cause Analysis Report.
		Chain of Custody signatures are on Shipping Documentation.	Section XX of the MWP	Each Shipment	Once	Daily Report	UXOPL	Chain of Custody is not signed prior to shipping containers.	Major	PL to sign paperwork. Major non-conformance report issued along with Root Cause Analysis.	Complete and submit non-conformance report and Root Cause Analysis Report.
QC2 4	Change Management	Container labeled in accordance to B-GL-381-003/TS-000 requirements.	Section XX of the MWP	Each container	Once	Daily Report	UXOSO & UXOQCS	Incorrect label and positioning on container.	Major	Containers corrected with proper labeling. Major non-conformance report issued along with Root Cause Analysis.	Complete and submit non-conformance report and Root Cause Analysis Report.
		Validate that there has not been a Change in Staff - new subcontractor performing work - change in scope or addition of new tasks.	Section XX of the MWP	Daily	Once	Daily Report	UXOQCS	All changes are to be presented to PM in advance and a plan presented for the change.	Major	Major non-conformance report issued along with Root Cause Analysis.	Complete and submit non-conformance report and Root Cause Analysis Report.
			Section XX of the MWP	Audit - Once every 60 days	Random sampling of daily reports and training records	Review records	UXOQCS				



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Overall Quality Requirements
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Task Authorization Contract for UXO Services on
DND Sites and Legacy Sites

Effective Date: 07/21/2016
Revision: 1.2.7

Project Program:		Contractor :						Control Plan Scope: UXO		Date of Release: 25/05/2015	
Item #	Characteristic or Critical Work Element	Standard, Requirement or Attribute	Source Document	Sampling Frequency	Sample Size	Record of Measurement	Responsible Person	Pass or Fail Criteria	Failure Classification, Major, Minor	Consequence of Failure	Corrective Action
Q25	Screening of test pit natural subsoil	Cultural personnel will excavate a 30-cm-diameter test pit and screen soil through a 6 mm mesh looking for archaeological artifacts	Section XX of the MWP	As required	each	Documented on Form 4-2 - on-site records	DND PMT	Fail to comply with requirement of 3.5.5 of work plan	Minor	Minor non-conformance report issued against contractor.	Contractor to complete and submit non-conformance report form. Contractor to rework the test pit to specifications.
Q26	Inspection of Cultural anomalies	10 percent inspection of anomaly excavations. The cultural sub-contractor must screen soil from 10% of all anomaly excavations looking for artifacts.	Section XX of the MWP	As required	Each	Documented on Form XX - on-site records	DND PMT	Fail to inspect 10% of all anomaly excavations and record on daily sheet	Major	Major non-conformance report issued against contractor.	Contractor to complete and submit non-conformance report form
QC27	Health and Safety - first-aid kits	Each independent team in the investigation area will carry a first-aid kit.	Section XX of the MWP	Daily	Each team	Daily Report	UXOSO	Failure to have a first-aid kit with the team in the investigation area.	Minor	Minor non-conformance report issued.	Complete and submit non-conformance report.
QC28	Emergency Equipment and Supplies	The Contractor is to have emergency equipment and supplies available on site as per section XX	Section XX of the MWP	Start of project	once	Daily Report	UXOSO	Emergency equipment and supplies not available at the time of mobilization.	Minor	Minor non-conformance report issued.	Complete and submit non-conformance report.

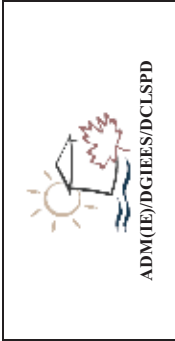


ADM(IE)/DGIEES/DCLSPD

Section No. 01-012
Overall Quality Requirements
ATTACHMENT 1 - QUALITY VERIFICATION PLAN EXAMPLE
Task Authorization Contract for UXO Services on
DND Sites and Legacy Sites

Effective Date: 07/21/2016
Revision: 1.2.7

Project Program:		Contractor :					Control Plan Scope: UXO			Date of Release: 25/05/2015	
Item #	Characteristic or Critical Work Element	Standard, Requirement or Attribute	Source Document	Sampling Frequency	Sample Size	Record of Measurement	Responsible Person	Pass or Fail Criteria	Failure Classification, Major, Minor	Consequence of Failure	Corrective Action
QC29	General Mitigation Measures - per Environmental Management Plan	Comply with the general mitigation measures of the Environmental Management Plan.	Section XX of the MWP	Each day of site activity	Daily	Daily Report	UXOSO	Failure to comply with the general mitigation measures as required.	Major	Major non-conformance report issued along with Root Cause Analysis.	Complete and submit non-conformance report.
QC30	General Safety Practices and Housekeeping per the Site Health and Safety Plan	Comply with the general safety practices and housekeeping requirements XX of the SHSP.	Section XX of the MWP	Each day of site activity	Daily	Daily Report	UXOSO	Failure to comply with the general mitigation measures as required.	Minor	Minor non-conformance report issued.	Complete and submit non-conformance report.



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Section No. 01-012
Overall Quality Requirements
ATTACHMENT 2 - QUALITY CONTROL / VERIFICATION PLAN
TEMPLATE
Task Authorization Contract for UXO Services on
DND Sites and Legacy Sites


Effective Date: 07/21/2016
Revision: 1.2.7

Contractor / Program Group:

Plan Scope:

Standard, Requirement or Attribute	Source Document	Sampling Frequency	Sample Size	Record of Measurement	Subject Matter Expert	Pass or Fail Criteria	Failure Classification (Critical, Major, Minor)	Consequence of Failure	Corrective Action	Time Frame for Corrective Action	Consequence of Failure to Implement Corrective Action
Identify the inspection criteria are for the related to characteristic or critical work element. Detail what the standard or requirement states for the characteristic.	Identify the document, standard or reference material where the characteristic or critical work element can be located to support the requirement.	Identify how many times per hour, day, week, month that this item is inspected.	Identify the number of samples that would be taken to measure during each inspection.	Identify the document or location that the results of the inspection are recorded or documented.	Identify the person (function) in the organization who will be responsible for checking this item	Identify what the pass or fail criteria are for this characteristic. This will be found in work plan, standard or requirement. What constitutes a pass or failure?	Identify the classification of the failure. This will define the corrective action requirements.	Identify the actions that are to be taken as a result of the failure. (example: stop work, continue work with corrective action, and redo work. Also include corrective action documentation if required.)	Identify what actions will be taken for corrective action before continuing work. This is based on the failure classification.	Identify the time frame for inciting and completing a corrective action based on the failure classification. (ex: 24, 48 hrs or # of days)	Identify what actions to be taken as a result of not providing and implementing a corrective action. This could be stopping work until completed.
The UXOQCS must audit 10% of all daily level III screened MEC items	Contractor Calibration Grid Geophysical Survey and Intrusive UXO Investigation Work Plan Section 7.7 (Screening Level III)	Audit - Once every 60 days	Once	Documented on form 4-11 Daily QC report	UXOQCS	Failure to complete the 10% audit.	Major	Reject MEC level III screened MEC. Rescreen the MEC and issue Major non-conformance report	Perform 10% audit by UXOQCS before accepting Daily MEC items for storage. Contractor to complete and submit non-conformance report form 4-13		

END OF SECTION

 <p>ADM(IE)/DGIEES/DCLSPD</p>	<p>Section No. 01-013 Health and Safety</p> <p>Task Authorization Contract for UXO Services on DND Sites and Legacy Sites</p>	<p>Effective Date: 07/21/2016</p> <p>Revision: 1.2.7</p>
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1 SUMMARY

- 1.1 This section outlines health and safety requirements associated with the implementation of this project.

2 RELATED SECTIONS


Section 01-003 – Site Specific Conditions
Section 01-010 – Deliverables
Section 01-012 – Overall Quality Management

3 REFERENCE STANDARDS

- 3.1 Canada Labour Code, Part II
- 3.2 Provincial Worker’s Compensation Board (as applicable)
- 3.3 DND. A-GG-040-006/AG-002 DND Ammunition or Explosives Accident / Incident / Defect / Malfunction reporting. 2008-05-05
- 3.4 In event of conflict between any provisions of above authorities the most stringent provision will apply.

4 SUBMITTALS

- 4.1 Submit to the DND PM copies of the following documents, including updates issued:
- 4.1.1 Health, Safety and Emergency Response Plan as indicated in Paragraph 4 of Section 01-010 *Deliverables* of this specification, as part of the MWP submission;
 - 4.1.2 Site-specific updates to the Health, Safety and Emergency Response Plan on a site-specific basis, submitted as part of each TA WP submission;
 - 4.1.3 Reports or directions issued by authorities having jurisdiction, immediately upon issuance from that authority;
 - 4.1.4 Accident or Incident Reports, within 24 hours of occurrence, or per Provincial requirements, whichever is more stringent. For accidents or incidents involving ammunition or explosives, a report must be provided to the DND PM and DND CoE within eight (8) hours (after calls for first responders, provincial health and safety (using the fastest means possible i.e.: cell phone, email); and,
 - 4.1.5 Provide and maintain Worker’s Compensation Board coverage for all employees for the duration of the contract.


 <p>ADM(IE)/DGIEES/DCLSPD</p>	<p>Section No. 01-013 Health and Safety</p> <p>Task Authorization Contract for UXO Services on DND Sites and Legacy Sites</p>	<p>Effective Date: 07/21/2016</p> <p>Revision: 1.2.7</p>
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5 CONTRACTOR HEALTH AND SAFETY RESPONSIBILITIES

- 5.1 The Contractor is legally and professionally responsible and accountable for identification and compliance with all federal, provincial and municipal health and safety regulations applicable under this scope of work, including permitting and licenses, notifications and reporting.
- 5.2 The Contractor is required to have in place a Health, Safety and Emergency Response Plan. Compliance requirements for the content, detail and implementation of the program resides with the applicable provincial or territorial authority.
- 5.3 The Contractor is responsible for the safety of persons and property at the work site including federal employees and any member of the general public circulating on and adjacent to work site operations to extent that they may be affected by conduct of work.
- 5.4 The Contractor must enforce compliance by workers and other persons granted access to the work site with safety requirements of Contract Documents, applicable federal, provincial, and local statues, regulations, and ordinances, and with the Contractor's Health and Safety Program.
- 5.5 In the event of an unforeseen or peculiar safety related hazard or conditions becomes evident during performance of work:
 - 5.5.1 Immediately take measures to rectify the situation and prevent damage or harm; and,
 - 5.5.2 Advise the DND PM verbally and in writing of the hazard or condition.

6 HEALTH AND SAFETY PROGRAM

- 6.1 For the purpose of this contract the Health and Safety Program must include a site-specific Health, Safety and Emergency Response Plan that acknowledges, assesses and addresses the hazardous substances and hazardous conditions known and on-going hazard assessments performed during the progress of work identifying and documenting new or potential health risks and safety hazards not previously known and identified.
- 6.2 Provide one copy of the Health, Safety and Emergency Response Plan to the DND PM prior to commencement of work on the work site. The copy provided to the DND PM is for the purpose of review against the contract requirements related to the known hazardous substances and hazardous conditions.
- 6.3 The review is not to be construed to imply approval by the DND PM that the program is complete, accurate and legislatively compliant with applicable regulations and does not relieve the Contractor of their legal obligations under such legislation.

 <p>ADM(IE)/DGIEES/DCLSPD</p>	<p>Section No. 01-013 Health and Safety</p> <p>Task Authorization Contract for UXO Services on DND Sites and Legacy Sites</p>	<p>Effective Date: 07/21/2016 Revision: 1.2.7</p>
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7 SITE CONTROL AND ACCESS

7.1 The contractor must:


- 7.1.1 Control all work site access points and work site activities to protect against unauthorized access.
- 7.1.2 Delineate and isolate the work site from adjacent and surrounding areas by use of appropriate means to maintain control of all work site access points.
- 7.1.3 Ensure persons granted access to the work site are in possession of and wear the minimum PPE specified in the Contractor's Health, Safety and Emergency Response Plan. Ensure persons granted access to the work site are provided with, trained in the use of, and wear, appropriate PPE as specifically related to the work site activity that they are involved in. A minimum of two additional sets of PPE must be maintained at the site office for use by site visitors or DND PMT.
- 7.1.4 Make provisions for granting permission to access onto work site to all persons who require access. Procedures for granting permission to access are to be in accordance with the provincial regulations made pursuant to the Occupational Health and Safety Act and the Contractor's Health and Safety Program and Site Health, Safety and Emergency Response Plan, and conditions of CDG registration.
- 7.1.5 Erect signage at access points and at other strategic locations around the work site clearly identifying the work site area(s) as being "off-limits" to non-authorized persons. Signage must meet requirements of C-09-008-001/FP-000, Part 1, on warning sign specifications or comparable.

8 PERMITS

8.1 The contractor must post all permits, licenses and compliance certificates on the work site and provide copies to the DND PM or Designate.

9 INVESTIGATION OF NON-AMMUNITION OR EXPLOSIVES ACCIDENTS AND INCIDENTS

- 9.1 The contractor must participate in the investigation and reporting of incidents and accidents as required by applicable regulations.
- 9.2 For the purpose of this contract immediately investigate and provide a report to the DND PM on incidents and accidents that involve:

 <p>ADM(IE)/DGIEES/DCLSPD</p>	<p>Section No. 01-013 Health and Safety</p> <p>Task Authorization Contract for UXO Services on DND Sites and Legacy Sites</p>	<p>Effective Date: 07/21/2016 Revision: 1.2.7</p>
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- 9.2.1 A resulting injury that may or may not require medical attention but involves lost time at work by the injured person(s);
- 9.2.2 Exposure to toxic chemicals or substances;
- 9.2.3 Property damage; and,
- 9.2.4 Interruption to adjacent or integral infrastructure operations with potential loss implications.

9.3 In the investigation and reporting of incidents and accidents, the Contractor is required to respond in a timely fashion to correct the action that was deemed to have caused the incident or accident and provide in writing, the action taken to prevent a re-occurrence of the incident or accident.


10 INVESTIGATION OF AMMUNITION OR EXPLOSIVES ACCIDENTS AND INCIDENTS

10.1 See Section 02-013 *Investigation of Ammunition and Explosive Accidents or Incidents*.

11 MEETINGS

11.1 Conduct site-specific occupational health and safety meetings as required by applicable regulations.

END OF SECTION

 <p>ADM(IE)/DGIEES/DCLSPD</p>	<p>Section No. 01-014 Environment</p> <p>Task Authorization Contract for UXO Services on DND Sites and Legacy Sites</p>	<p>Effective Date: 07/21/2016 Revision: 1.2.7</p>
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1 SUMMARY

- 1.1 This section describes requirements for the Contractor to implement, monitor, and record and report environmental mitigation measures.

2 RELATED SECTIONS


Section 01-010 – Deliverables
Section 02-002 – UXO Avoidance and Escort

3 REFERENCE STANDARDS

Not used.


4 ENVIRONMENTAL REQUIREMENTS

- 4.1 An Environmental Effects Determination (EED) and associated Screening Report, if applicable to the work, will be provided with each TA by DND.
- 4.2 The Contractor’s Environmental Mitigation Plan (EMP), a section of the MWP, must adequately address all potential environmental concerns and procedures associated with generic execution of UXO services. The Contractor must provide a site-specific update to the EMP in the TA WP.
- 4.3 The Contractor must implement all mitigation measures identified in the EED documentation with due regard to preserving and protecting the environment. The Contractor must become familiar with and follow the required mitigation measures identified.
- 4.4 Should an environmental discovery, such as a pocket of impacted soils or groundwater, be made, the Contractor must inform the DND PM immediately, and the following actions must be taken:
- 4.4.1 If there is a hazard to workers, all work in the immediate area of the discovery is to stop;
 - 4.4.2 The Contractor is to move personnel to other areas of work or as directed by the DND PM or designate;
 - 4.4.3 The Contractor must record all actions taken by Contractor’s personnel upon discovery of the environmental issue. A copy of this record must be provided to the DND PM or Designate.
- 4.5 All spills of hydrocarbon-based products such as gasoline, kerosene, naphtha, lubricating oils, engine oils, greases and de-icing fluids or anti-freeze are to be reported to the DND PM regardless of the spill size.
- 4.6 Refueling of equipment will be performed at locations as directed by the DND PM or designate.

 <p>ADM(IE)/DGIEES/DCLSPD</p>	<p>Section No. 01-014 Environment</p> <p>Task Authorization Contract for UXO Services on DND Sites and Legacy Sites</p>	<p>Effective Date: 07/21/2016 Revision: 1.2.7</p>
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- 4.7 No refueling of equipment will occur within 30 meters of any watercourse or storm water catch basin unless protection against spills is in place and the location is approved by the DND PM.
- 4.8 The Contractor must have at the worksite a spill control kit consisting of the following types of equipment:
 - 4.8.1 a spaded shovel, a stable broom and a broad nosed shovel;
 - 4.8.2 a container compatible to and of sufficient size to contain petroleum products being used in equipment;
 - 4.8.3 absorbents;
 - 4.8.4 rags; and,
 - 4.8.5 a metal container for soiled rags.
- 4.9 Contractor personnel must be trained in the use of the spill kit.
- 4.10 Cleanup of spills will be at no cost to the Crown and must be to the satisfaction of the DND PM or designate.

END OF SECTION

 <p>ADM(IE)/DGIEES/DCLSPD</p>	<p>Section No. 01-015 Cultural</p> <p>Task Authorization Contract for UXO Services on DND Sites and Legacy Sites</p>	<p>Effective Date: 07/21/2016</p> <p>Revision: 1.2.7</p>
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1 SUMMARY

- 1.1 This section describes requirements for the Contractor to implement, monitor, record and report cultural protection measures.

2 RELATED SECTIONS

- Section 01-010 – Deliverables
- Section 02-002 – UXO Avoidance and Escort


3 REFERENCE STANDARDS

Not used.

4 CULTURAL REQUIREMENTS

- 4.1 Site specific cultural protocols will be provided, as applicable to the site, with each TA.
- 4.2 The Contractor will be responsible for ensuring the required archeological support is put in place for the TA and will be responsible for protecting cultural sites and artifacts in the work area(s).
- 4.3 The Contractor must implement all mitigation measures identified in the cultural protocol documentation with due regard to preserving and protecting known or potential cultural sites that are at the ground surface or in the subsurface. The Contractor must become familiar with and follow the required mitigation measures.
- 4.4 The Contractor’s Cultural Protection Plan, a section of the TA WP, must integrate the cultural protocols into their work.
- 4.5 Damage to cultural sites will be reported to the DND PM or designate immediately.

END OF SECTION

 <p>ADM(IE)/DGIEES/DCLSPD</p>	<p>Section No. 02-001 Geographic Information Systems and Data Products Task Authorization Contract for UXO Services on DND Sites and Legacy Sites</p>	<p>Effective Date: 07/21/2016 Revision: 1.2.7</p>
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1 SUMMARY

- 1.1 This section provides requirements for the Contractor to provide a complete Geographic Information System (GIS), incorporating all specified data attributes captured during activities conducted under this requirement.

2 RELATED SECTIONS

- 01-010 – Deliverables
- 01-011 – Qualifications
- 01-012 – Overall Quality Management
- 02-002 – UXO Avoidance and Escort Services
- 02-003 – Vegetation Removal
- 02-004 – Grid or Polygon Stakeout
- 02-005 – Geophysical Survey
- 02-006 – Geophysical Survey Soft Prove-Out
- 02-007 – Detector-aided Investigations
- 02-008 – UXO Surface Clearance
- 02-009 – UXO Sub-Surface Clearance
- 02-010 – UXO Storage
- 02-011 – UXO Destruction

3 REFERENCE STANDARDS


- 3.1 DCC. Geophysical Standards For Munitions Response Projects, V3.0
- 3.2 DCC. Geospatial Data Standard, V1.07
- 3.3 DND. MEC Field Data Layering and Attribute Database, V2.3

4 INTRODUCTION

- 4.1 All GIS Deliverables are to be completed in accordance with reference standards listed in Section 3. GIS personnel must be qualified in accordance with Section 01-011 *Qualifications*.

5 TECHNICAL REQUIREMENTS

- 5.1 The GIS requirements include the collection of geospatial information to record the locations and coverage of UXO-related activities (e.g., avoidance, survey, clearance), found UXO, observed UXO characteristics, and other project-related data per defined feature classes. This includes activities related to the disposal of UXO.


 <p>ADM(IE)/DGIEES/DCLSPD</p>	<p>Section No. 02-001 Geographic Information Systems and Data Products Task Authorization Contract for UXO Services on DND Sites and Legacy Sites</p>	<p>Effective Date: 07/21/2016 Revision: 1.2.7</p>
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- 5.2 To facilitate data capture, DND will provide the Contractor with structured ESRI file geodatabases that follow the aforementioned standards once the Task is authorized. These geodatabases will be populated by the Contractor using an ArcEditor license (or higher) and will be compatible with ArcGIS 10.1 (or higher).
- 5.3 The Contractor must ensure that a sufficient number of JPEG photographs are provided to adequately describe the work activities carried out. The JPEG photographs must be in focus and be of sufficient quality to be reproduced on paper to clearly show the work activities. Photographs must be submitted with Daily Reports and incorporated in the final report. A MS Excel spreadsheet must be used to provide a table of photos and should include date, location (UTM coordinates), time, photo identifiers, and descriptions. It should be provided with the Final Task Authorization Report.
- 5.4 Spatial data (UTM coordinates) time and date stamp must follow a standardized naming convention for each photograph or video taken.
- 5.5 The Contractor will relate the records to the appropriate features as described in Reference 3.3 to 3.6. The Documents table is intended to store documents such as reports, logs, photos, etc. which relate to either projects, individual features and records. All documents relevant to a project must be added to the Documents table and related to the associated features and records.

6 GIS LAYERS OR THEMES

- 6.1 At a minimum the GIS data, in accordance with paragraph 3.3 of this section will be created by the Contractor to record features encountered and activities conducted during the course of work. In addition, the TA SOW may identify other GIS data standards from paragraph 3.3 that apply to the individual TA.

END OF SECTION

 <p>ADM(IE)/DGIEES/DCLSPD</p>	<p>Section No. 02-002 UXO Avoidance and Escort Services</p> <p>Task Authorization Contract for UXO Services on DND Sites and Legacy Sites</p>	<p>Effective Date: 07/21/2016 Revision: 1.2.7</p>
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1 SUMMARY

1.1 This section provides requirements for conducting UXO avoidance and escort activities.

2 RELATED SECTIONS


- Section 01-010 – Deliverables
- Section 01-011 – Qualifications
- Section 01-012 – Overall Quality Management
- Section 01-013 – Health and Safety
- Section 01-014 – Environment
- Section 01-015 – Cultural
- Section 02-001 – GIS and Data Products

3 REFERENCE STANDARDS

- 3.1 DCC. Geophysical Standards For Munitions Response Projects, V3.0
- 3.2 DCC. Geospatial Data Standard, V1.07
- 3.3 DND. MEC Field Data Layering and Attribute Database, V2.3
- 3.4 DND. DND. B-GL-381-003/TS-000 Range Clearance and UXO Activities Manual. Interim 2011

4 INTRODUCTION

- 4.1 The aim of a UXO avoidance task is to detect and avoid potential UXO so that another non-UXO related activity can proceed in a safe manner. UXO avoidance is usually employed to support activities that do not require the entire area to be cleared of UXO or MS or NMS and have the flexibility to shift short distances (e.g., environmental or cultural sampling locations).
- 4.2 During UXO avoidance tasks, the surface is visually swept by qualified personnel (minimum UXOT) and detection equipment is used to detect potential UXO below the surface in advance of intrusive activities. At no time is UXO, MS, or NMS to be moved or intrusive activities to be taken.
- 4.3 UXO escort activities are conducted on sites where non-UXO qualified personnel must access a site that is, or may be, affected by UXO. An appropriately qualified UXO person must escort any non-UXO qualified personnel in such areas. Only personnel qualified as UXOT or above can perform escort duties. The number of escorts will be dependent on the scope of the task and safety considerations. Under normal conditions, one UXOT may escort up to five personnel where the work area allows the UXOT visual contact with the entire group escorted. Where more than one

 <p>ADM(IE)/DGIEES/DCLSPD</p>	<p>Section No. 02-002 UXO Avoidance and Escort Services</p> <p>Task Authorization Contract for UXO Services on DND Sites and Legacy Sites</p>	<p>Effective Date: 07/21/2016 Revision: 1.2.7</p>
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location is to be employed simultaneously or when the UXOT cannot maintain visual contact with all members of the escorted group, additional escort UXOTs must be provided.

5 TECHNICAL REQUIREMENTS

- 5.1 The Contractor must have in place a SOP for personnel conducting UXO avoidance and escort operations, as per Section 01-010 *Deliverables*.
- 5.2 A detailed description of UXO avoidance and escort procedures must be included in the Technical Management Portion of the MWP, subsequent TA work plans and, in accordance with Section 01-010 *Deliverables*.
- 5.3 Site-specific updates to the MWP must be completed on an individual TA basis within the TA WP, including specific UXO avoidance and escort areas.
- 5.4 UXO avoidance and escort activities will be conducted in general accordance with the procedures and personnel requirements described in Reference 3.4.
- 5.5 Data recording of UXO avoidance and escort activities must meet the requirements of Section 02-001 *GIS and Data Products*.

6 EQUIPMENT AND QUALIFICATIONS

- 6.1 Equipment, composition of UXO avoidance or escort team, and team member qualifications must be consistent with requirements of other sections of this Specification, including Section 01-011 *Qualifications*.
- 6.2 UXO avoidance or escort personnel must be equipped with detection equipment suitable for the site conditions and the planned intrusive depth of the non-UXO related activities.

END OF SECTION

 <p>ADM(IE)/DGIEES/DCLSPD</p>	<p>Section No. 02-003 UXO Signage Installation</p> <p>Task Authorization Contract for UXO Services on DND Sites and Legacy Sites</p>	<p>Effective Date: 07/21/2016</p> <p>Revision: 1.2.7</p>
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1 SUMMARY

- 1.1 This section provides requirements for conducting UXO signage installation.

2 RELATED SECTIONS

Section 01-010 – Deliverables
Section 01-013 – Health and Safety
Section 02-001 – GIS and Data Products
Section 02-002 – Signage Installation

3 REFERENCE STANDARDS

- 3.1 DCC. Geophysical Standards For Munitions Response Projects, V3.0
3.2 DCC. Geospatial Data Standard, V1.07
3.3 DND. MEC Field Data Layering and Attribute Database, V2.3

4 INTRODUCTION

- 4.1 UXO signage may be installed at required locations to alert property users of a potential UXO risk at a site.


5 TECHNICAL REQUIREMENTS

- 5.1 The Contractor must have in place a SOP for personnel conducting UXO signage installation activities, as per Section 01-010 *Deliverables*.
- 5.2 A detailed description of UXO signage installation procedures must be included in the Technical Management Portion of the MWP, subsequent TA WPs and, in accordance with Section 01-010 *Deliverables*.
- 5.3 Site-specific updates to the MWP must be completed on an individual TA basis within the TA WP, including the specific locations of signage to be installed.
- 5.4 The Contractor will be required to determine the most feasible and cost effective method of erecting the signs throughout the site that will ensure long term placement (i.e., duration of at least two years). Signage, supplies and installation will be provided by the Contractor. Signage installation must include the use of bolts and washers of sufficient size to prevent sign detachment due to windy conditions or tampering.
- 5.5 Data recording of UXO signage installation activities, including GPS coordinates and photos of the signage locations, must meet the requirements of Section 02-001 *GIS and Data Products*.

 ADM(IE)/DGIEES/DCLSPD	Section No. 02-003 UXO Signage Installation Task Authorization Contract for UXO Services on DND Sites and Legacy Sites	Effective Date: 07/21/2016 Revision: 1.2.7
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5.6 The installation of signs will generally require the provision of UXO avoidance services (see Section 02-002 *UXO Avoidance and Escort*).

END OF SECTION

 <p>ADM(IE)/DGIEES/DCLSPD</p>	<p>Section No. 02-004 Vegetation Removal</p> <p>Task Authorization Contract for UXO Services on DND Sites and Legacy Sites</p>	<p>Effective Date: 07/21/2016 Revision: 1.2.7</p>
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1 SUMMARY

- 1.1 This section provides requirements for conducting vegetation removal activities.

2 RELATED SECTIONS

Section 01-010 – Deliverables
Section 01-011 – Qualifications
Section 01-012 – Overall Quality Management
Section 01-013 – Health and Safety
Section 01-014 – Environment
Section 01-015 – Cultural
Section 02-001 – GIS and Data Products
Section 02-002 – UXO Avoidance and Escort
Section 02-005 – Grid or Polygon Stakeout
Section 02-006 – Geophysical Survey
Section 02-007 – Detector-aided Investigations
Section 02-008 – UXO Surface Clearance
Section 02-009 – UXO Sub-Surface Clearance

3 REFERENCE STANDARDS


- 3.1 DND. B-GL-381-003/TS-000 Range Clearance and UXO Activities Manual
3.2 DCC. Geophysical Standards For Munitions Response Projects, V3.0
3.3 DCC. Geospatial Data Standard, V1.07
3.4 DND. MEC Field Data Layering and Attribute Database, V2.3

4 INTRODUCTION


- 4.1 Vegetation removal may be required to facilitate geophysical survey or clearance activities.
4.2 Depending on site conditions, surface clearance operations may be conducted in advance of vegetation removal activities.

5 TECHNICAL REQUIREMENTS

- 5.1 Vegetation removal restrictions may apply to individual Task Authorizations, and vegetation removal requirements may require task specific approaches when working in or near sensitive biological or cultural sites. This will be determined in individual TAs as per requirements specified in the EED.


 <p>ADM(IE)/DGIEES/DCLSPD</p>	<p>Section No. 02-004 Vegetation Removal</p> <p>Task Authorization Contract for UXO Services on DND Sites and Legacy Sites</p>	<p>Effective Date: 07/21/2016 Revision: 1.2.7</p>
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- 5.2 Vegetation removed during the execution of this contract may require off-site disposal by the Contractor in accordance with applicable provincial solid waste disposal guidelines.
- 5.3 The Contractor must have in place a SOP for personnel conducting Vegetation Removal Operations, as per Section 01-010 Deliverables.
- 5.4 As a minimum, vegetation removal personnel must:
 - 5.4.1 Be briefed on a daily basis to the extent of their duties;
 - 5.4.2 Fully understand the nature of the ordnance hazards in the work area;
 - 5.4.3 Know the limitations and boundaries of the work area;
 - 5.4.4 Be aware of the safety area required for vegetation cutting and ensure people cannot inadvertently come into that danger area.
 - 5.4.5 Know the limitations and requirements of the vegetation being removed;
 - 5.4.6 Know the maximum height above ground stumps are to extend;
 - 5.4.7 Be proficient in the operation of the equipment to be used;
 - 5.4.8 Know the actions to be taken in the event of an emergency;
 - 5.4.9 Be equipped with, or have ready access to, proper communications;
 - 5.4.10 Be provided and have in use proper PPE for the operation being conducted; and,
 - 5.4.11 Know the actions to take should UXO or un-forecasted hazards be encountered.
- 5.5 If UXO or UXO is encountered while conducting Vegetation Removal Operations, the individual must:
 - 5.5.1 Advise the UXO personnel and any personnel working nearby, of the potential for UXO hazards;
 - 5.5.2 The UXO FS will place a marker in the vicinity of the item, without disturbing the item;
 - 5.5.3 Establish work safe procedures specified in Contractor SOPs;
 - 5.5.4 Record all data which can safely be captured for inclusion in the project database; and
 - 5.5.5 Inform the DND PM at the earliest opportunity, in writing.

 ADM(IE)/DGIEES/DCLSPD	Section No. 02-004 Vegetation Removal Task Authorization Contract for UXO Services on DND Sites and Legacy Sites	Effective Date: 07/21/2016 Revision: 1.2.7
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- 5.6 Only personnel trained and qualified to operate the equipment required to perform vegetation removal will do so.
- 5.7 All due regard to personnel safety is to be enforced.
- 5.8 Data recording of Vegetation Removal activities, including GPS coordinates and photos, must meet the requirements of Section 02-001, GIS and Data Products.

END OF SECTION

 <p>ADM(IE)/DGIEES/DCLSPD</p>	<p>Section No. 02-005 Grid and/or Polygon Stakeout</p> <p>Task Authorization Contract for UXO Services on DND Sites and Legacy Sites</p>	<p>Effective Date: 07/21/2016</p> <p>Revision: 1.2.7</p>
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1 SUMMARY

- 1.1 This section provides requirements for conducting grid or polygon stakeout activities.

2 RELATED SECTIONS


Section 01-010 – Deliverables
Section 01-014 – Environment
Section 01-015 – Cultural
Section 02-001 – GIS and Data Products
Section 02-002 – UXO Avoidance and Escort
Section 02-006 – Geophysical Survey
Section 02-007 – Detector-aided Investigations
Section 02-008 – UXO Surface Clearance
Section 02-009 – UXO Sub-Surface Clearance

3 REFERENCE STANDARDS

- 3.1 DCC. Geophysical Standards For Munitions Response Projects, V3.0
3.2 DCC. Geospatial Data Standard, V1.07
3.3 DND. MEC Field Data Layering and Attribute Database, V2.3
3.4 DND. B-GL-381-003/TS-000 Range Clearance and UXO Activities Manual


4 TECHNICAL REQUIREMENTS

- 4.1 Stakeout operations provide a visual reference defining the limits of work areas and grids. Stakes are typically used to define special hazard areas or provide direction to personnel.
- 4.2 The Contractor must have in place a SOP for personnel conducting stakeout operations, as per Section 01-010 *Deliverables*.
- 4.3 A detailed description of stakeout procedures must be included in the TMP as part of the MWP, in accordance with Section 01-010 *Deliverables*.
- 4.4 Site-specific updates to the TMP must be completed within the TA WP, including specific stake locations.
- 4.5 Each stake should be marked with materials or paint that makes it easily visible to personnel (e.g., high visibility surveyors tape).

 ADM(IE)/DGIEES/DCLSPD	Section No. 02-005 Grid and/or Polygon Stakeout Task Authorization Contract for UXO Services on DND Sites and Legacy Sites	Effective Date: 07/21/2016 Revision: 1.2.7
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- 4.6 Each stake should be marked indicating its location and purpose. Any offset must be annotated on the stake indicating distance and direction. Markings must be made in permanent marker.
- 4.7 The stake placement must be located using GPS or as specified in the approved MWP or TA WP.
- 4.8 Each stake must be of sufficient height and thickness to be seen above or through local vegetation conditions.
- 4.9 The stake must be placed in the ground to a depth that will support the stake in high winds.
- 4.10 Depending on site conditions, UXO avoidance may be required in advance of stakeout activities (see Section 02-002 *UXO Avoidance and Escort*). Once the location has been cleared the stake is hammered into the ground to a depth not exceeding the detection capability of the equipment.

END OF SECTION

 <p>ADM(IE)/DGIEES/DCLSPD</p>	<p>Section No. 02-006 Digital Geophysical Mapping</p> <p>Task Authorization Contract for UXO Services on DND Sites and Legacy Sites</p>	<p>Effective Date: 07/21/2016 Revision: 1.2.7</p>
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1 SUMMARY

- 1.1 This section provides requirements for conducting digital geophysical mapping activities.

2 RELATED SECTIONS


Section 01-010 – Deliverables
Section 01-011 – Qualifications
Section 01-012 – Overall Quality Management
Section 01-013 – Health and Safety
Section 01-014 – Environment
Section 01-015 – Cultural
Section 02-001 – GIS and Data Products
Section 02-005 – Grid or Polygon Stakeout
Section 02-007 – Detector-aided Investigation
Section 02-008 – UXO Surface Clearance
Section 02-009 – UXO Sub-Surface Clearance

3 REFERENCE STANDARDS

- 3.1 DCC. Geophysical Standards For Munitions Response Projects, V3.0
3.2 DCC. Geospatial Data Standard, V1.07
3.3 DND. MEC Field Data Layering and Attribute Database, V2.3
3.4 DND. B-GL-381-003/TS-000 Range Clearance and UXO Activities Manual – (Interim, April 2011)

4 INTRODUCTION


- 4.1 All geophysical work must be conducted in accordance with reference to 3.1.
4.2 All geophysical data or results submitted to the DND Representative must meet the requirements described in Reference to 3.2 and 3.3.
4.3 Personnel conducting, recording or reporting geophysical work must be qualified in accordance with Section 01-011 *Qualifications*.

 <p>ADM(IE)/DGIEES/DCLSPD</p>	<p>Section No. 02-006 Digital Geophysical Mapping</p> <p>Task Authorization Contract for UXO Services on DND Sites and Legacy Sites</p>	<p>Effective Date: 07/21/2016</p> <p>Revision: 1.2.7</p>
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5 TECHNICAL REQUIREMENTS

- 5.1 The Contractor must include an overview of the DGM work as part of the MWP, in accordance with Section 01-010 *Deliverables*. The overview must describe technical requirements and include SOPs for all activities related to geophysical operations that rely on geophysical data.
- 5.2 For each call up the contractor must develop a site specific Geophysical Survey Plan (GSP), as part of the CU WP, in accordance with Section 01-010 *Deliverables*. The GSP must provide a clear, well-justified and detailed description of geophysical survey procedures. The GSP must include descriptions of specific survey areas and the geophysical system to be employed, (i.e., the sensor technology, positioning and navigation tools, deployment platforms, data processing and interpretation techniques).
- 5.3 A Geophysical SPO and a SPO Letter Report is required as per Reference 3.1 and in accordance with Section 01-010 *Deliverables* to establish the capabilities and parameters of the geophysical system prior to entering into production.
- 5.4 The Contractor must provide the digital geophysical mapping data products as detailed in Reference 3.1. All deliverables must be submitted in accordance with Section 01-010 *Deliverables*.
- 5.5 All digital EM equipment used in DGM survey work must produce a minimum of three (3) time gate channels to allow decay curve analysis or visualization. The time gate measuring times presented should be designed to minimize the influence of ground conductivity changes.
- 5.6 It is desirable that DGM survey work be performed with the following geophysical survey equipment, where feasible:
 - 5.6.1 Electromagnetic Induction (EM) array system (designed for munitions response work) that is vehicle-towed and collects a data swath of 3 m or more using a minimum of three identical EM sensors or receivers. The performance of the array system (i.e. detection depth of common munitions, signal to noise ratio, susceptibility to noise sources) must be equal to or better than the performance of the Geonics EM61-MK HP (High Power) system.

END OF SECTION

 <p>ADM(IE)/DGIEES/DCLSPD</p>	<p>Section No. 02-007 Detector Aided Investigations</p> <p>Task Authorization Contract for UXO Services on DND Sites and Legacy Sites</p>	<p>Effective Date: 07/21/2016</p> <p>Revision: 1.2.7</p>
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1 SUMMARY

- 1.1 This section provides requirements for conducting detector-aided investigations.

2 RELATED SECTIONS

Section 01-010 – Deliverables
Section 01-011 – Qualifications
Section 01-012 – Overall Quality Management
Section 01-013 – Health and Safety
Section 01-014 – Environment
Section 01-015 – Cultural
Section 02-001 – GIS and Data Products
Section 02-003 – Vegetation Removal
Section 02-004 – Grid or Polygon Stakeout
Section 02-005 – Geophysical Survey
Section 02-008 – UXO Surface Clearance
Section 02-009 – UXO Sub-Surface Clearance

3 REFERENCE STANDARDS


- 3.1 DCC. Geophysical Standards For Munitions Response Projects, V3.0
3.2 DCC. Geospatial Data Standard, V1.07
3.3 DND. MEC Field Data Layering and Attribute Database, V2.3
3.4 DND. B-GL-381-003/TS-000 Range Clearance and UXO Activities Manual. Interim, April 2011

4 INTRODUCTION

- 4.1 Detector-aided investigations (also commonly referred to as “mag and flag”) are systematic real-time searches using hand-held detectors for the purposes of locating surface or subsurface UXO. Typically, the goal of such operations is to reduce the immediate risk of unintentional interaction with UXO by the general public or to support additional project requirements.
- 4.2 Personnel conducting, recording or reporting the findings of detector-aided investigations must be qualified in accordance with Section 01-011 *Qualifications*.


5 TECHNICAL REQUIREMENTS

- 5.1 The Contractor must have in place a SOP for personnel conducting detector-aided investigations.

 <p>ADM(IE)/DGIEES/DCLSPD</p>	<p>Section No. 02-007 Detector Aided Investigations</p> <p>Task Authorization Contract for UXO Services on DND Sites and Legacy Sites</p>	<p>Effective Date: 07/21/2016 Revision: 1.2.7</p>
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- 5.2 A detailed description of detector-aided investigation procedures must be included in the TMP as part of the MWP, in accordance with Section 01-010 *Deliverables*.
- 5.3 Site-specific updates to the TMP must be completed within the TA WP, including specific investigation areas.
- 5.4 Detector-aided investigation activities will be conducted in general accordance with the procedures and personnel requirements described in Reference 3.4.
- 5.5 An investigation area will be established prior to project commencement. All anomalies that are detected within the investigation area will be investigated.
- 5.6 Reacquisition of anomalies should be completed using the same equipment as in the survey if practical.
- 5.7 Data recording of detector-aided investigation activities must meet the requirements of Section 02-001 *Geographical Information Systems*.
- 5.8 Detector-aided investigations may require vegetation removal before the operations can take place. Should this be the required, vegetation removal must be conducted in accordance with Section 02-004 *Vegetation Removal requirements*.

END OF SECTION

 <p>ADM(IE)/DGIEES/DCLSPD</p>	<p>Section No. 02-008 UXO Surface Clearance</p> <p>Task Authorization Contract for UXO Services on DND Sites and Legacy Sites</p>	<p>Effective Date: 07/21/2016 Revision: 1.2.7</p>
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1 SUMMARY

- 1.1 This Section provides requirements for conducting UXO surface clearance activities.

2 RELATED SECTIONS

Section 01-010 – Deliverables
Section 01-011 – Qualifications
Section 01-012 – Overall Quality Management
Section 01-013 – Health and Safety
Section 01-014 – Environment
Section 01-015 – Cultural
Section 02-001 – GIS and Data Products
Section 02-004 – Vegetation Removal
Section 02-005 – Grid or Polygon Stakeout
Section 02-007 – Detector-aided Investigation
Section 02-009 – UXO Sub-Surface Clearance

3 REFERENCE STANDARDS


- 3.1 DCC. Geospatial Data Standard, V1.07
3.2 DND. MEC Field Data Layering and Attribute Database, V2.3
3.3 DND. B-GL-381-003/TS-000 Range Clearance and UXO Activities Manual. Interim, April 2011

4 INTRODUCTION

- 4.1 Personnel conducting, recording or reporting the findings of UXO surface clearance activities must be qualified in accordance with Section 01-011 *Qualifications*.


5 TECHNICAL REQUIREMENTS

- 5.1 Surface clearance operations are conducted to locate and remove or destroy UXO located at the ground surface, to remove MS or NMS and to remove hard targets.
- 5.2 A detector-aided, visual surface clearance describes an operation in which the ground cover to the soil surface is searched using detectors to aid in visual detection of metallic materials. This includes searching through grasses, leaves, mulch, dead falls, etc., down to the soil surface and the removal of all UXO and metal objects exposed at the soil surface level.
- 5.3 The Contractor must have in place a SOP for personnel conducting surface clearance operations.

 <p>ADM(IE)/DGIEES/DCLSPD</p>	<p>Section No. 02-008 UXO Surface Clearance</p> <p>Task Authorization Contract for UXO Services on DND Sites and Legacy Sites</p>	<p>Effective Date: 07/21/2016 Revision: 1.2.7</p>
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- 5.4 A detailed description of surface clearance procedures must be included in the TMP as part of the MWP, in accordance with Section 01-010 *Deliverables*.
- 5.5 Site-specific updates to the TMP must be completed within the Task Authorization Work, including specific clearance areas.
- 5.6 Surface clearance activities will be conducted in accordance with the procedures and personnel requirements described in Reference to 3.3.
- 5.7 The minimum UXO qualification for the members of the sweeping team, during surface clearances, is that of UXOT. A UXOT is qualified to make the determination whether an item is UXO, MS or NMS. If in doubt he or she must seek the advice of a more experienced tech or UXOTS or UXOFS. A UXOT is not qualified to positively identify UXO items as STM. That recognition must be done by a UXOTS or higher.
- 5.8 SAA must be picked up during the clearance and placed in a separate and dedicated container segregated from MS and NMS.
- 5.9 Data recording of surface clearance activities must meet the requirements of Section 02-001 *GIS and Data Product*

END OF SECTION

 <p>ADM(IE)/DGIEES/DCLSPD</p>	<p>Section No. 02-009 UXO Sub Surface Clearance</p> <p>Task Authorization Contract for UXO Services on DND Sites and Legacy Sites</p>	<p>Effective Date: 07/21/2016 Revision: 1.2.7</p>
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1 SUMMARY

- 1.1 This section provides requirements for conducting UXO sub-surface clearance activities.

2 RELATED SECTIONS

Section 01-010 – Deliverables
Section 01-011 – Qualifications
Section 01-012 – Overall Quality Management
Section 01-013 – Health and Safety
Section 01-014 – Environment
Section 01-015 – Cultural
Section 02-001 – GIS and Data Products
Section 02-004 – Vegetation Removal
Section 02-005 – Grid or Polygon Stakeout
Section 02-007 – Detector-aided Investigation
Section 02-008 – UXO Surface Clearance

3 REFERENCE STANDARDS


- 3.1 DCC. Geospatial Data Standard, V1.07
3.2 DND. MEC Field Data Layering and Attribute Database, V2.3
3.3 DND. B-GL-381-003/TS-000 Range Clearance and UXO Activities Manual – (Interim, April 2011)

4 INTRODUCTION

- 4.1 Personnel conducting, recording or reporting the findings of UXO sub-surface clearance activities must be qualified in accordance with Section 01-011 *Qualifications*.


5 TECHNICAL REQUIREMENTS

- 5.1 The aim of the sub-surface clearance is to remove the explosive hazard. Depending on the project requirements for the site, it may also be beneficial to remove buried MS, NMS and hard target material. In order to enhance detector performance for a sub-surface clearance, it may be beneficial to perform a surface clearance in areas where the soil has high levels of metal.
- 5.2 For a sub-surface clearance, the depth and extents of the clearance area are dependent on a combination of various factors as determined through the risk rating process for the particular site. The Depth of Clearance and clearance extents will be specified in each Task Authorization.

 <p>ADM(IE)/DGIEES/DCLSPD</p>	<p>Section No. 02-009 UXO Sub Surface Clearance</p> <p>Task Authorization Contract for UXO Services on DND Sites and Legacy Sites</p>	<p>Effective Date: 07/21/2016 Revision: 1.2.7</p>
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- 5.3 The Contractor must have in place a SOP for personnel conducting sub-surface clearance operations.
- 5.4 A detailed description of sub-surface clearance procedures must be included in the TMP as part of the MWP, in accordance with Section 01-010 *Deliverables*.
- 5.5 The TMP will be updated in the TA WP to include specific clearance areas, depth of Clearance and will reference the appropriate SOPs from the MWP.
- 5.6 Sub-surface clearance activities will be conducted in accordance with the procedures and personnel requirements described in Reference 3.3.
- 5.7 Data recording of sub-surface clearance activities must meet the requirements of Section 02-001 *GIS and Data Products*.
- 5.8 Sub-surface clearance activities may require vegetation removal before the operations can take place. Should this be the required, vegetation removal will be conducted in accordance with Section 02-004 *Vegetation Removal Requirements*.
- 5.9 Ensure appropriate safety distances commensurate with the assessed explosive risk for blast and fragmentation are adhered to prior to commencing any excavation or handling or movement UXO or potential UXO.
- 5.10 SAA must be picked up during the clearance and placed in a separate and dedicated container segregated from MS and NMS.

END OF SECTION

 <p>ADM(IE)/DGIEES/DCLSPD</p>	<p>Section No. 02-010 UXO or Explosives Storage</p> <p>Task Authorization Contract for UXO Services on DND Sites and Legacy Sites</p>	<p>Effective Date: 07/21/2016 Revision: 1.2.7</p>
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1 SUMMARY

- 1.1 This Section describes requirements for storage of explosives (for use in destruction) and UXO at a destruction or storage site.

2 RELATED SECTIONS

Section 01-007 – Security
Section 01-010 – Deliverables
Section 01-012 – Overall Quality Management
Section 01-013 – Health and Safety

3 REFERENCE STANDARDS


- 3.1 Explosives Act (R.S.C., 1985, c. E-17) and Explosives Regulations (C.R.C., c. 599)
- 3.2 Natural Resources Canada . Blasting Explosives and Initiation Systems – Storage, Possession, Transportation, Destruction and Sale. Natural Resources Canada, Explosives Regulatory Division, March 2008.
- 3.3 DND. C-09-005-002/TS-000. Ammunition and Explosives Safety Manual Vol. 2 Storage and Facility Operations.
- 3.4 National Resources Canada. Letter #61. National Resources Canada, Explosives Regulatory Division, July 2009.

4 GENERAL REQUIREMENTS

- 4.1 The Contractor must acquire all licenses required for the proper storage of donor explosives and STM UXO.
- 4.2 The Contractor must obtain the appropriate magazine license(s) for the type, quantity of explosives and UXO being stored from DND.

5 EXPLOSIVES STORAGE PLANNING

- 5.1 A detailed description of explosives storage procedures must be included in the TMP as part of the Master Work Plan, in accordance with Section 01-010 *Deliverables*.
- 5.2 Site-specific updates to the TMP must be completed within the TA WP. The Contractor must submit details on how it plans to store UXO (as required) and donor explosives as a sub-section to the UXO Destruction and Explosives Siting Plan as part of the Contractor’s TA WP. This must include, at a minimum:


 <p>ADM(IE)/DGIEES/DCLSPD</p>	<p>Section No. 02-010 UXO or Explosives Storage</p> <p>Task Authorization Contract for UXO Services on DND Sites and Legacy Sites</p>	<p>Effective Date: 07/21/2016 Revision: 1.2.7</p>
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- 5.2.1 Timelines and steps to obtain required storage licenses;
- 5.2.2 Explosive storage and inventory process;
- 5.2.3 Required consultations with other parties (municipalities, local emergency response, etc.); and,
- 5.2.4 All UXO and donor explosives storage locations must be indicated on the site plan, including all Quantity-Distance and Exposed Sites (ES), both internal and external.

6 SECURITY

- 6.1 The Contractor must provide the appropriate security while UXO or explosives are stored at the storage site, in accordance with Reference 3.4 of this Section.

END OF SECTION

 <p>ADM(IE)/DGIEES/DCLSPD</p>	<p>Section No. 02-011 UXO Destruction</p> <p>Task Authorization Contract for UXO Services on DND Sites and Legacy Sites</p>	<p>Effective Date: 07/21/2016 Revision: 1.2.7</p>
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1 SUMMARY

1.1 This Section provides technical requirements for the planned destruction of STM UXO.

2 RELATED SECTIONS

Section 01-007 – Security
Section 01-010 – Deliverables
Section 01-012 – Overall Quality Management
Section 01-013 – Health and Safety

3 REFERENCE STANDARDS


- 3.1 DND. C-09-008-002/FP-000, Ammunition and Explosives Procedural Manual, Destruction of DUD and Misfired Ammunition of CF Ranges and Training Areas. 2011-09-01.
- 3.2 DND. A&EI 34, Approved Misfire Procedure for Electrically Initiated Disposal Operations (28 October, 2011)
- 3.3 DND. A&EI #14: Mitigation of Blast and Fragmentation Effect Utilizing Sandbags; 16 Dec 2008
- 3.4 DND. B-GL-381-003/TS-000: Range Clearance and UXO Activities Manual (Interim, 12 April, 2011)
- 3.5 DND. C-09-008-001/FP-000: Destruction of Surplus, Obsolete and Deteriorated Ammunition (29 October, 1993)
- 3.6 DND. C-09-008-003/FP-000, EOD Disposal of Stray Ammunition. 2003-05-21.
- 3.7 Explosives Act (R.S.C., 1985, c. E-17) and Explosives Regulations (C.R.C., c. 599)

4 GENERAL REQUIREMENTS

4.1 For the purposes of this contract, destruction is the deliberate act of destroying UXO using authorized methods per Reference 3.4 and secondary references contained therein.

5 RESPONSIBILITIES

- 5.1 The minimum level of qualifications for the person in charge and responsible for personnel and destruction operations is the Contractor's UXOFS.
- 5.2 Every person employed in the destruction of ammunition or explosives must be qualified for his or her given tasks, must have participated in the mandatory annual refresher training and must be acquainted and comply with the regulations and procedures cited in this specification.

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- 5.3 Safety must be the primary consideration during the destruction of ammunition and explosives.
- 5.4 When dealing with explosive material, only the absolute minimum number of personnel will be in the Danger and Exclusion Zone. All other personnel and equipment not directly required for the disposal must remain outside the Danger Zone. The UXOSO must monitor and enforce personnel limits and safety exclusion zones for explosives related operations.
- 5.5 The Contractor is responsible for NOTAMs and NOTMAR for demolition operations.

6 UXO SELECTION AND CONTROL OF DESTRUCTION SITE

- 6.1 The Contractor must give due consideration to secondary hazards not limited to only the surface but to include subsurface and aerial hazards (e.g., subsurface gas or oil pipelines and overhead electrical cables) in selection of the destruction site.
- 6.2 Destruction operations must occur in an area that has controlled access and is signed and monitored by the Contractor in accordance with the requirements in Reference 3.3.

7 DESTRUCTION METHODS AND PLANNING


- 7.1 All demolition activities must be conducted as part of a planned operation
- 7.2 The Contractor must have in place a SOP for all destruction operations in compliance with requirements of Reference 3.3 and Reference 3.4, Part 1, Paragraph 32, which must be submitted as part of the Contractor’s MWP, in accordance with Section 01-010 Deliverables. Only those procedures in the DND accepted MWP will be used.
- 7.3 The destruction SOPs must describe the step-by-step procedures for destruction by detonation operations, personnel, equipment, and precautions to be taken during destruction operations.
- 7.4 Site-specific updates to the UXO Destruction and Explosive Siting Plan must be completed within the TA Work Plan. The UXO Destruction and Siting Plan component of the relevant TA Work Plan must include a detailed site plan (site sketch). At a minimum, the demolition site plan must include:
 - 7.4.1 The Control Point (CP);
 - 7.4.2 The Destruction Point (DP);
 - 7.4.3 All safety templates;
 - 7.4.4 The Material Awaiting Disposal storage area (equivalent to Stores Awaiting Destruction Point in Reference 3.4);

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- 7.4.5 Location of the storage magazine;
- 7.4.6 The location of sentries and signage;
- 7.4.7 Location of donor charge magazines (as applicable);
- 7.4.8 All other Exposed Sites, both internal and external;
- 7.5 As a minimum, prior to destruction operations, Contractor personnel must:
 - 7.5.1 Be briefed prior to the operation to the extent of their duties;
 - 7.5.2 Fully understand the purpose for explosive action on potential materials;
 - 7.5.3 Fully understand the nature of the ordnance hazards;
 - 7.5.4 Know the limitations and boundaries of the demolition area and safety templates;
 - 7.5.5 Know the expected results of the detonation;
 - 7.5.6 Be proficient in the operation of the equipment to be used;
 - 7.5.7 Know the proper technique for donor explosive placement;
 - 7.5.8 Know the actions to be taken in the event of a misfire;
 - 7.5.9 Know the actions to be taken in the event of an emergency;
 - 7.5.10 Be equipped with proper communications and be in contact with the demolition officer; and,
 - 7.5.11 Know the actions to be taken should hazards be encountered during preparations or after the demolition shot.

8 SAFE DISTANCES AND EXCLUSION ZONES

- 8.1 When conducting Demolition operations, the safe distance to apply from the disposal point must be in accordance with Reference 3.5. Should the Contractor not be capable of meeting these distances, authorized mitigating measures should be applied in accordance with referenced standards (Reference 3.3).
- 8.2 When applying the MSD table, the nature of the munitions to be considered must always be in relation to the anticipated single item containing the largest NEQ. Distances between projectiles must be respected if destroying more than 1 item at a time: a 4m distance is required between each item, or the MSD must be multiplied by a safety factor of 1.5.

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8.3 If the MSD in accordance with Reference 3.5 is not achievable, then Reference 3.3 will apply. Should the site configuration or conditions prevent safe disposal in accordance with requirements, then the DND PM must be contacted for the development of an alternate disposal plan.

9 ACTIONS ON POST-DETONATION

9.1 As per Reference 3.3, upon completion of a detonation and after a minimum of a 2 minute waiting period, the UXOFS must proceed alone to the disposal area. The UXOFS must then confirm that all items were destroyed in the detonation.

9.2 Once the UXOFS has completed a 100% inspection of the disposal area, he or she must then warn the remaining personnel indicating all clear or partial detonation via communications. Once a verbal all clear has been given other operations may resume within the safety template.

10 ACTIONS ON MISFIRE

10.1 A misfire will be assumed to have occurred if there is no audible or visual indication of detonation.

10.2 Electrical and non-electrical misfires are to be handled in accordance with References 3.1 and 3.2.

11 ACTIONS ON PARTIAL DETONATION

11.1 A partial or incomplete detonation is determined once the UXOFS inspects the disposal point. Upon inspection the UXOFS will see that the ordnance in question has not completely detonated, and that there are still signs of explosive material.


11.2 The UXOFS must determine the state of the ordnance and once again place a demolition charge without moving the ordnance as it may be unstable due to the forces applied from the detonation as per References 3.1 and 3.5.

12 ACTIONS ON KICK-OUTS FROM DESTRUCTION OPERATIONS

12.1 Upon inspection by the UXOFS at the disposal point, he or she may notice that the ground has not been “damaged” in relation to the amount of NEQ placed for that explosion. The UXOFS will then do a visual check around the disposal area to attempt to locate and determine the state of any kicked out ordnance.

12.2 The kicked out ordnance is not to be touched and must be destroyed in situ (BIP’ed), due to the excessive force and shock the piece of ordnance has just sustained. All safety distances must be adhered to, and mitigation measures may be needed.

13 TESTING ELECTRIC BLASTING CAPS

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13.1 All electric blasting caps must be checked for continuity in accordance with Reference 3.5.

14 AUTHORIZED EXPLOSIVE CHARGES

14.1 The explosives charges selected by the Contractor for use (i.e., boosters, granular explosives, etc.) must be authorized by NRCan for use in Canada.


14.2 If “Just in Time” delivery of explosives is planned by the contractor, the TA WP must include a statement that those explosives will be available the first day of destruction phase of the project.

15 USE OF PLASTIC COATED TAPE DURING DESTRUCTION OPERATIONS

15.1 The use of plastic electrical tape and generic duct tape in conjunction with electrically initiated detonators and devices is prohibited in accordance with Reference 3.1.

15.2 Only a polyethylene coated cloth tape, using a natural rubber based adhesive, having a total thickness of 10 to 12 mils is to be used.

END OF SECTION

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1 SUMMARY

- 1.1 This Section provides technical requirements for the screening, packaging, and transportation of MS to a CAF facility.

2 RELATED SECTIONS


Section 01-010 – Deliverables
Section 01-012 – Qualifications
Section 01-013 – Health and Safety
Section 02-014 – Ammunition and Explosives Accidents and Incidents

3 REFERENCE STANDARDS

- 3.1 DND. A&EI #15, Recognized Civilian Qualifications Applicable to Ammunitions and Explosives Employment Change 2
- 3.2 DND. B-GL-381-003/TS-000: Range Clearance and UXO Activities Manual (Interim, 12 April, 2011).
- 3.3 DND. C-09-005-003/TS-000, Ammunition and Explosives Safety Manual – Volume 3, Transportation (2013-02-01).
- 3.4 DND. Explosives Act (R.S.C., 1985, c. E-17), Explosives Regulations (C.R.C., c. 599)
- 3.5 DND. C-09-005-002/TS-000 Ammunition and Explosives Safety Manual – Volume 2, Storage and Facility Operations (2013-02-01).
- 3.6 DND. UXO-SOP-11151 Shipping of Munition Scrap.

4 MUNITIONS SCRAP – GENERAL CONSIDERATIONS

- 4.1 All recoverable solid by-products, including empty projectile remnants, fragments and pieces of fuse, resulting from the normal functioning of ammunition and explosives, other than those generated at the firing point (DTSB). Note: Munition scrap may contain energetic residue.
- 4.2 The number of personnel within a danger and exclusion zone should always be the minimum required to conduct the work safely. For health and safety reasons, no one involved in the screening operations will work alone. The UXOSO must monitor and enforce personnel limits and safety exclusion zones for explosives related operations.
- 4.3 On UXO contracted projects, the Contractor remains responsible for the MS until it is returned to DND.

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5 SCREENING OF MUNITIONS SCRAP


- 5.1 The screening of MS must be conducted in accordance with References 3.1 and 3.2.
- 5.2 Each piece of MS must be subjected to three different levels of screening by three different qualified people prior to being recognized as being safe for transportation on public roads. Each level of screening is a concurrence of the previous one and is conducted by a more experienced and qualified technician at all times.
- 5.2.1 Level One Scrap Screening - point of discovery by the UXOT (minimum qualification level);
- 5.2.2 Level Two Scrap Screening - verification by the UXOTS and inspected before transporting off the grid to a holding or inspection point. The Level Two screening must never be done by the same person having done the Level One screening; and,
- 5.2.3 Level Three Scrap Screening - a detailed visual inspection of materials removed from the work area. This operation is generally performed by a UXOFS or higher or by UXOT holding the qualifications required by DND or DAER. The Level Three screening must never be done by the same person having conducted either the Level One or Level Two screening.
- 5.3 All munitions and ordnance-related items are considered to be potential UXO until they are subjected to three levels of inspections. At any time during the screening process, if an item is determined or potential to contain energetic material, it must be categorized as either: UXO, DMM or Munitions Constituent, and disposed of accordingly.

6 MUNITIONS SCRAP SCREENING PROCESS AREA

- 6.1 The site for the level three screening of MS must be chosen while taking into consideration the maximum credible event (MCE) for the project and the Q-D table for Hazard Division 1.2, from the DND storage regulations. The site must be part of the overall destruction site plan and include the associated safety templates referring to other UXO-related activities and to external Exposed Sites. The Level Three screening area will be on a site that is known to be clean of subsurface anomalies.

7 STORAGE OF MUNITIONS SCRAP

- 7.1 MS that have been Level Two or Level Three screened do not need to be stored in a licensed storage site; however, security measures must be in place to prevent the loads of screened MS from being tampered with. Containers used to store screened MS must be sealed to prevent possible tampering. The contents of any containers storing Level Three screened MS, for which the seals will have been broken without the consent of the person holding the responsibility for


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custody for the MS, must be reported to DND through the DND PM as an Ammunition or Explosives Incident and must be 100% re-inspected prior to the shipment being offered for transportation on public roads. A chain-of-custody form must be associated with the screened MS. MS screened to different levels must be stored in separate securable approved sites or containers to ensure safety and accountability of the items.

8 PACKAGING AND TRANSPORTATION OF MUNITIONS SCRAP

- 8.1 The packaging and transportation of MS on public roads, by commercial vehicles is regulated by Reference 3.3, including Part 7, Section 2 under an exemption given to the MND by Transport Canada. That exemption is conditional to the packaging requirements listed in the same publication.
- 8.2 The Contractor must inform the DND of their intention to ship MS, providing information per Reference 3.6, requiring completion of form UXO-FM-11150 at least 72 hours in advance of shipment date.
- 8.3 MS not screened to Level Three will not be transported on public roads.
- 8.4 The Contractor will be responsible for accountability, tracking and chain-of-custody documentation for items from point of recovery until the shipment has been signed for at the designated DND facility by the DND facility representative authorized to accept the load. Broken seals on containers that occur prior to acceptance at the designated DND facility are the responsibility of the Contractor, and will require the material to be rescreened and re-shipped at no expense to the Crown.
- 8.5 MS and NMS must be transported in separate vehicles.
- 8.6 For the purpose of transferring MS to DND, no contractor will contact CANOSCOM or other DND organizations directly unless directed to do so specifically by the DND Representative.

END OF SECTION

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1 SUMMARY

1.1 This section provides requirements for the investigation of ammunition or explosives accidents and incidents.

2 RELATED SECTIONS

Section 01-013 – Health and Safety

3 REFERENCE STANDARDS

- 3.1 DND. B-GL-381-003/TS-000: Range Clearance and UXO Activities Manual (Interim, 12 April, 2011)
- 3.2 DND. A-GG-040-006/AG-002 DND Ammunition Accident /Defect/Malfunction Reporting 2008-05-05
- 3.3 Explosives Act (R.S.C., 1985, c. E-17), Explosives Regulations (C.R.C., c. 599)


4 GENERAL REQUIREMENTS

4.1 Definitions


- 4.1.1 Ammunition or Explosives Accident: An ammunition or explosives accident means any undesired event involving the premature or unintended detonation or initiation of ammunition or explosives that result in personal injury, death, or material losses.
- 4.1.2 Ammunition or Explosives Incident: An ammunition or explosives incident means any undesired event involving ammunition or explosives that could, but does not, result in personal injury or death, or material losses. This includes theft of ammunition or explosives.

4.2 In order to assist with the determination of whether a hazardous occurrence should be treated as an Ammunition or Explosives Incident, the following (list is not comprehensive) must all be reported as Ammunition or Explosives Incidents:

- 4.2.1 Any event involving the unintentional or premature detonation, initiation or ignition of ammunition or explosives, not resulting in personal injury, death or material loss;
- 4.2.2 Any unauthorized use or unapproved method of use of ammunition or explosives not resulting in personal injury, death or material loss;
- 4.2.3 Any event involving the theft or loss of ammunition or explosives under the control of a contracted company;

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- 4.2.4 Unauthorized use or storage of non-CF ammunition, explosives or energetic materials on DND property or on DND Legacy Sites; and,
- 4.2.5 Unauthorized transportation of non-CF ammunition, explosives or energetic materials using DND or CF equipment or personnel.
- 4.3 Ammunition and Explosive Accidents and Incidents must be investigated in accordance with provincial Occupational & Safety requirements.
- 4.4 In all Ammunition and Explosive Accidents and Incidents cases occurring on UXO Legacy Sites, whether DND SME support is requested or not, a preliminary report of occurrence must be made to the DND PM Representative and CoE within the first eight (8) hours using the fastest means possible (Email, cell phone etc.), via the DND Representative, for final reporting to DAER who records and actions all DND and CF AE accidents and incidents.
- 4.5 Follow Up Actions on Post-Accident or Incident on a Legacy Site: When an Ammunition or Explosives Accident or Incident occurs on a Legacy Site, as a minimum, the following actions must take place:
 - 4.5.1 Make the area explosively safe for the first responders (i.e. Police, Ambulance, Fire Services);
 - 4.5.2 First Aid to all personnel injured and Emergency Plan to be deployed concurrently;
 - 4.5.3 Once the casualties are in proper medical care, suspend the activity pending positive determination of the cause and absolute assurance that all contributing factors have been mitigated;
 - 4.5.4 Ensure that related equipment and remaining ammunition or explosives involved are impounded, are not used, and are not tested until direction is received from the DND through the DND Representative to continue with UXO contracted activities;
 - 4.5.5 Provincial Health and Safety department must be contacted soonest after the steps above have been completed.
 - 4.5.6 The DND Representative will impound any DND and CF and Contractors publications, or any other orders, regulations and instructions (ex. WP, EO Management Plan), local technical or training manuals, local SOPs, being used as an authority to conduct the activity at the accident or incident site; and
 - 4.5.7 Protect all evidence.

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4.5.8 Depending on the results of the investigation, DND may recommend to the Contracting Authority to terminate the contract.

END OF SECTION

END OF APPENDIX A