

Solicitation No.:
5P420-21-0019/B

Amendment No.:
00

Contracting Authority:
Andrea McGraw-Alcock

Client Reference No.:
PW-22-00992861

Title:
Line Painting and Pavement Marking Services – Jasper National Park, AB

Parks Canada Agency

Jasper National Park

LINE PAINTING AND PAVEMENT MARKING
SERVICES

5P420-21-0019
ANNEX A – STATEMENT OF WORK



STATEMENT OF WORK

SECTION 1 – GENERAL CONDITIONS

1. DESCRIPTION OF WORK

Work, under this Contract, comprises the furnishing of all labour, materials, equipment, tools, supervision and transportation necessary to provide pavement line painting and special markings (the 'Works') in Jasper National Park in **2022** and optionally, at Parks Canada's discretion, in **2023 and 2024**.

Roads, campgrounds, and parking lots (the 'Sites') covered in this Scope of Work are part of Jasper National Park (JNP), which is part of the Jasper Field Unit for Parks Canada Agency (PCA). The Sites are located at various locations throughout JNP as well as Jasper town site.

In general, the Works to be painted within this Contract are identified in Appendix A – Inventory. Parks Canada Representative (PCR) will formally allocate the annual Scope of Work, through Task Authorization, as guided by the actual priorities.

The Contractor is advised that on Highway 16, Highway 93, and all secondary roadways, only pavement markings (arrows, stop bars, cross walks, etc.) are included within this Contract (no roadway lines). Detailed locations of special markings requiring painting will be provided to the Contractor each year by PCR, through the issuance of Task Authorization, prior to commencement of Work.

General Scope of Work under this Contract includes the following, but is not limited to:

- Supply of **Specified Fast Dry Low VOC Solvent Based Traffic Paint** (Refer to Section 2 of this document) and glass beads
- Painting of lane division lines, edge lines, directional dividing lines and intersection lines on pavement surfaces
- Parking Lots Line Painting including RV parking stalls on pavement surfaces
- Special markings on pavement surfaces including stop lines, crosswalks, gore/hatch areas, arrows, handicap parking symbol, etc.

2. GENERAL REQUIREMENTS

2.1. COMPLETION OF WORKS

For each year of this Contract, all Work must be completed within a reasonable time frame as mutually agreed upon by PCR and Contractor at the time of Task Authorization and as stated on the completed Task Authorization form [PWGSC - TPSGC 572](#).

The Contractor is advised that there is one (1) Task Authorization per year of the Contract. Timing each year will be identified on the individual task authorizations and work will typically be completed between May 10 and June 25. With the exception of year 1, to be completed as soon as possible after contract award, other exceptions to the timing of the work may be weather, temperature, road construction, and/or other delays.



2.2. WORK RESTRICTIONS

2.2.1. HOURS OF OPERATION

Hours of Operation: 0700 – 1900, Monday to Sunday, during daylight working hours. No Work is permitted on Civic or Statutory Holidays, or long weekends including one day prior and one day post the long weekend. No work shall be allowed outside normal working hours unless prior written approval is granted by PCR. No approval will be granted for Work outside of daylight hours.

Contractor is cautioned that traffic volumes are usually higher on Friday, Saturday and Sunday.

2.2.2. USE OF THE WORK SITE

Work Sites will be made available by PCR to the Contractor for their non-exclusive use for the duration of the Work.

The Contractor must:

- Limit use of premises for Work, storage, and access, to allow PCA occupancy, as well as co-ordinate use of premises under direction of PCR.
- Keep Sites clean and free from accumulation of waste materials and rubbish regardless of source.
- Provide sanitary facilities for work force in accordance with governing regulations and the Environmental Procedures for this project.
- Provide traffic control, inclusive of pedestrian and vehicular traffic, for the duration of the Work as part of a Traffic Accommodation Strategy.
- Maintain, at a minimum, one-way traffic on all roadways with flag people during all operations. Lane closures must be detailed in the Traffic Accommodation Strategy and approved by PCR.
- Repair any damage to Sites caused by Contractors activities at the expense of the Contractor.
- Assume full responsibility for protection and safekeeping of Sites and products. Contractor must restore all Sites to equal, or better than, conditions than that which existed prior to commencement of Work following completion of operations.
- Follow all environmental conditions and mitigations measures identified.
- Give precedence to health and safety of the public, site personnel and protection of the environment over cost and schedule considerations for Work.

Contractor is to provide their own accommodation. Camping is not permitted on Sites. Potentially a Parks Canada Work Camp (WC), up to 5 spots, may be available for this Contract.

Contractor's potential use of WC:

- If available, Contractor can reserve use of individual WC spaces, at a cost of \$29.40 plus GST per space. Award of spaces is on a first come first served basis. Availability and allocation of spaces is to be determined after award of the Contract.
- Each WC space can accommodate up to a Class A motor home plus vehicles as per terms of use.



- The WC is located at the intersection of Sleepy Hollow Road and Connaught Drive in Jasper, AB.
- Coordinate use of WC under direction of PCR. Use of the WC is allowed until the Contract Termination, or earlier as directed by PCA.
- The WC must not be used for additional storage, preparation of Work, or as a Work area for operations under this Contract. No storage or use of equipment, construction materials or machinery is allowed.
- All Contractor's business and private vehicles are required to display a vehicle Work pass from PCA. These permits may be obtained free of charge from PCA Environmental Surveillance Officer or as directed by PCR.
- Use of the WC must conform to the requirements and conditions at the time of camping permit issuance.

2.2.3. PUBLIC AREAS

Construction operations must be conducted so as to cause minimal inconvenience to the public and to owners of adjoining property. Existing access to property must be maintained. If new access is required, Contractor must ensure new access is functional prior to the existing access being removed.

Steel tracked equipment with cleats will not be allowed on pavement designated for future use.

The Contractor must ensure that its vehicles and equipment do not cause nuisance in public areas. All vehicles and equipment leaving the Work Sites and entering public roadways must be cleaned of mud and dirt clinging to the body and wheels of the vehicle.

All vehicles transporting materials or equipment to Sites, must be (un)loaded in a manner which will prevent deposition of materials or debris on roadways. In instances where contents, or debris, may be blown off during transit, such loads must be covered by tarpaulins or other suitable covers. **All spills must be removed and cleaned immediately at Contractor's expense and to satisfaction of PCR as per Section 2.6.6.**

2.2.4. UTILITIES

The Contractor must become familiar with all utilities and services adjacent to the Work is responsible for any and all costs of repairs resulting from damage due to Contractors operations. It is the full responsibility of the Contractor to identify any conflicts or impacts with existing utilities and to provided mitigation as required at no additional cost to PCA.

The Contractor must establish and maintain direct and continuous contact with the owners of any utilities which may interfere with the Work. The Contractor must co-operate with utility owners at all times and in all places of Work. The Contractor must keep PCR informed of all communications with utility companies and authorities.

The Contractor must notify PCR and the utility companies at least seven days in advance of any activities which may interfere with the operation of such utilities.



The Contractor must immediately report any damages to utilities, caused by Contractor activities, to PCR and to the utility company or authority affected. Contractor must promptly undertake any and all remedial measures as necessary at no additional cost to the PCA.

2.2.5. RELICS AND ANTIQUITIES

Relics, antiquities and items of historical or scientific interest, such as cornerstones and contents, commemorative plaques, inscribed tablets, and similar objects found on Sites, remain property of the PCA. Protect items by noting locations and leaving items undisturbed. Request directives from PCR if items are identified within Work areas.

Notify PCR and stop Work in the affected area immediately if evidence of archaeological finds is encountered and await the PCR's written instructions prior to proceeding with Work in area.

2.3. MEASUREMENT AND PAYMENT

2.3.1. MEASUREMENT

For each unit price item, payment is based on measured field quantities provided by the Contractor and verified by PCR. PCR will validate payment based on quantities provided by Contractor and in comparison with estimated quantities identified in Task Authorization, tendered unit price and PCR's agreement of the determination and value of units of Work completed. Method of measurement to be used is listed herein and may be detailed in the section of the specification covering each Work item.

2.3.2. INVOICES

Submit invoices to PCR within 10 working days of completion of Work. Where the duration of Work identified is greater than 30 days, the Contractor may submit monthly progress claims, and shall be entitled to receive progress payments at monthly or other agreed upon intervals. Supply documentation to PCR in support of invoices including agreed on field book measurements and quantities.

2.3.3. AMENDMENTS

Immediately notify PCR of any irregularities encountered in the Work or discrepancies between quantities identified in Task Authorization and field measurements. Do not proceed with affected Work until authorized to do so by the issuance of an Amendment. Make no change in the Work unless an Amendment is issued or modification to Work is approved by PCR.

2.4. PROJECT MANAGING & COORDINATION

2.4.1. PROJECT MEETINGS

Attend pre-construction, seasonal shutdown, start-up, and any other milestone meetings as and when required to coordinate related or affected Work. Contractor to provide information, as determined by PCR.

2.4.2. CONSTRUCTION ORGANIZATION AND START-UP

At the issuance of each Task Authorization and within 14 days of mobilization to JNP, request a meeting with PCR to discuss and determine administrative procedures and responsibilities. Meeting to be chaired by PCR who will also record the minutes of the meeting.



Agenda to include following, but is not limited to:

- Schedule of Work, Schedule of Submittals, and progress scheduling
- Requirements for temporary facilities, offices, storage sheds, utilities, fences.
- Site safety and security.
- Proposed changes, amendments, procedures, approvals required, mark-up percentages permitted, time extensions, overtime, and other requirements.
- Monthly progress claims, administrative procedures photographs, and holdbacks.
- Close out procedures and submittals.
- Insurances and transcript of policies.
- Other business.

Contractor to:

- Designate foreman as a point of contact for PCR.
- Comply with PCRs allocation of site mobilization areas.
- Comply with instructions of PCR for use of temporary utilities and construction facilities
- Coordinate field engineering Work with PCR.
- **Submit daily Work reports at end of each day to PCR including measurements of completed Work**
- Allow sufficient time to take measurements for payments, to be verified by PCR at their own discretion and in coordination with the Contractor.
- Do not damage geodetic benchmarks unless authorized by PCR.
- All survey Work required by the Contractor to layout, monitor, and provide measurements for quantities is considered incidental to the completion of the Work.
- Coordinate use of site and facilities through PCR during construction.

2.4.3.ON-SITE DOCUMENTS

Maintain at job site, one copy each of the following:

- Contract Drawings part of Task Authorization and Tender.
- Business Licenses
- Specifications.
- Addenda.
- Amendments and other modifications to Contract.
- Traffic Management Plan.
- Safety Plan.
- WHMIS.
- Environmental Protection Plan.
- Field test reports.
- Copy of approved Work schedule and most recent updated schedule.
- Labor conditions and wage schedules.
- Applicable current editions of municipal regulations and by-laws.



2.4.4. PROJECT SCHEDULE

With each issuance of Task Authorization, the Contractor must prepare a Project Schedule formatted as a detailed bar chart or network diagram showing the proposed schedules of the components of the Work and manpower required to complete each aspect, which must be submitted to PCR one (1) week prior to commencement of any Work.

Project Schedule to include dates excluded from construction (i.e. Statutory of Civic Holidays and long weekend in accordance with Section 2.2.1). PCR will review and approve or return a revised schedule within 3 Working days. Contractor to revise schedule, if required, and resubmit within three (3) working days. Accepted Project Schedule will become Master Plan and be used as the baseline for progress updates.

2.4.5. SUBMITTAL SCHEDULE

With each issuance of Task Authorization, the Contractor must prepare a schedule of the required submissions and the date the submissions will be made. Include columns for Actual Date of Submission, Review Comments Received, Final Submission and Final Acceptance Received. Parks Canada will not be responsible for any construction delays resulting from delays in submission acceptance if the submittal dates shown in the Submittal Schedule are not achieved.

Submittal Schedule will include but not be limited to:

Pre-Mobilization Submittals

- A completed "Attestation and Proof of Compliance with Occupational Health and Safety (OHS)" form.
- Proof of applicable Parks Canada and Municipality of Jasper business licenses.
- **Project Schedule**
- List of key Contractor personnel, including names, position and telephone numbers.
- Work Plan describing the Contractor's intended methods of Work and projected number of equipment and personnel onsite.
- Laboratory sample results of the materials requiring approval by PCR.
- Quality Control Plan documenting the Contractor's procedures for maintaining the quality of Work as per these specifications. Plan must include night inspections to verify retro-reflectivity of lines.
- **Quality Control Inspection Program (QCIP)**
- Traffic Management Plan in accordance with this document
- Copy of Contractor's Health and Safety Plan,
- Emergency Response Protocol, documenting Contractors' procedures for handling emergencies.
- **Environmental Plan including Spill Response Plan**
- **Hazardous Materials Management Plan**

Project Submittals

- Quality Control Inspection Reports
- Daily Work Reports identifying quantities used under each Contract Unit Price Item. This report must be sent to PCR daily.
- Back up documentation for volume of glass beads and paint delivered to Work site



Project Completion Submittal

- Quality Control Records
- Summary Record of Works completed and date accepted by PCR

2.4.6. FIELD ENGINEERING

Maintain an accurate log of any changes in the field. Record offset of all unit pricing item Work completed for historical record of Work completed.

2.4.7. CONSTRUCTION PROGRESS MEETINGS

During course of Work prior to project completion, PCR will schedule progress meeting on an as and when required basis. Contractor, major Sub-contractors and PCR are to be in attendance. Meeting to be chaired by PCR who will record the minutes of the meeting.

Agenda to include following, but not be limited to:

- Review, approval of minutes of previous meeting.
- Review environmental issues.
- Review Traffic Control and Emergency Response Protocol issues.
- Review site safety and security issues.
- Review of progress since previous meeting.
- Discuss field observations, problems, and conflicts.
- Review submittal schedules: expedite as required.
- Corrective measures and procedures to regain projected schedule.
- Revisions to construction schedule.
- Review Progress schedule, during succeeding Work period.
- Review of quality reports since previous meeting.
- Review construction budget: payments, variances from Contract.
- Other business.

2.4.8. INSPECTIONS

All Work and materials covered by this Statement of Work are subject to inspection at any time by PCR. PCR shall conduct inspections on a regular basis or upon Contractor's request. The Contractor must accompany PCR during inspections to formalize agreement on completed and finalized Work, note deficiencies, discrepancies and any need to rectify Work.

2.4.9. CLOSEOUT PROCEDURES

Comply with PCR's instructions for correction of items of Work listed during inspections and notify PCR of completion of these items.



2.5. HEALTH & SAFETY REQUIREMENTS

2.5.1. COVID-19 PROCEDURES

All Workers on site must adhere to the mandatory public health measures put in place by the Government of Alberta: <https://www.alberta.ca/coronavirus-info-for-albertans.aspx>. This effort will be considered incidental to the Work.

2.5.2. SUBMITTALS

With each issuance of Task Authorization, the Contractor must submit a site specific Health and Safety Plan seven (7) days prior to commencement of Work. Health and Safety Plan must include:

- Results of site-specific hazard assessment related to the project and comply with the specified standards and regulations to ensure safe operations on site
- Results of safety and health risk or hazard analysis for Work.
- Copies of reports or directions issued by Federal, Provincial and Territorial health and safety inspectors.

PCR may respond in writing, where deficiencies or concerns are noted and may request re submission with correction of deficiencies or concerns. PCRs review of the Contractor's Health and Safety plan should not be construed as approval and does not reduce the Contractor's overall responsibility for Health and Safety during the Work.

Submit, and make available to all workers at each Site, the emergency numbers for police, fire and ambulance as well as the names and after-hours numbers for key site personal related to health, safety or security of the Site.

Notify Jasper Emergency Services (including EMS, Fire, and RCMP) prior to commencing Work.

2.5.3. MEETINGS

With each issuance of Task Authorization, a pre-construction meeting to include a Health and Safety meeting with PCR prior to the commencement of Work. The Contractor will also arrange for daily tailgate safety meetings and submit the reports to PCR on a weekly basis.

2.5.4. REQUIREMENTS

With each issuance of Task Authorization, Contractor to develop written site specific Health and Safety Plan based on hazard assessment prior to beginning site Work and continue to implement, maintain, and enforce plan until final demobilization from Site. Health and Safety Plan must address project specifications.

Contractor is responsible for health and safety of persons on site, safety and security of property on site, for protection of persons adjacent to site and the safety of surrounding environment to the extent that they may be affected by Contractor activities in completing the Work.

Contractor is responsible for complying with and enforcing compliance of employees with the safety requirements within the Contract Documents, applicable federal, provincial, and local statutes, regulations, and ordinances, and with site specific Health and Safety Plan. Ensure



applicable items, articles, notices and orders are posted in conspicuous location on site in accordance with Acts and Regulations of Province Alberta having jurisdiction, and in consultation with PCR.

Contractor to immediately address health and safety non-compliance issues identified by authority having jurisdiction or by PCR. Give precedence to safety and health of public and site personnel and protection of environment over cost and schedule considerations.

Provide PCR with written report of action taken to correct non-compliance of health and safety issues identified. PCR may stop Work if non-compliance of health and safety regulations is not corrected.

2.5.5. UNFORESEEN HAZARDS

When unforeseen or peculiar safety related factors, hazards, or conditions occur during performance of Work, follow procedures in place for Employee's Right to Refuse Work in accordance with Acts and Regulations of the Province Alberta and advise PCR verbally and in writing.

2.5.6. HEALTH & SAFETY COORDINATOR

With each issuance of Task Authorization, the Contractor is to employ and assign a competent and authorized representative to fulfill the role as Health and Safety Coordinator. The supervisor or foreman may satisfy the role of Health and Safety Coordinator.

Health and Safety Coordinator must:

- Have site related work experience and working knowledge of occupational safety and health regulations.
- Be responsible for completing Contractor's Health and Safety Training Sessions and ensuring that personnel not successfully in completing required training are not permitted to enter Site to perform Work.
- Be responsible for implementing, enforcing daily and monitoring Health and Safety Plan.
- Be on site during execution of Work and report directly to and be under direction of site supervisor.

2.6. ENVIRONMENTAL PROCEDURES

2.6.1. PAYMENTS

With each issuance of Task Authorization, the Contractor must describe environmental mitigation measures they will implement to ensure that all Work is in compliance with this Section. The cost of environmental and aesthetic protection is incidental to the Work.

2.6.2. CANADIAN ENVIRONMENTAL ASSESSMENT ACT (CEAA)

Execution of the Work is subject to the provisions within the Canadian Environmental Assessment Act (CEAA) Guidelines [latest edition], the Impact Assessment in Canada (IAA 2020) provisions, and any subsequent amendments.

Failure to comply with or observe environmental protection measures as identified in these specifications may result in the Work being suspended pending rectification of the problems.



2.6.3. STARTUP AND ENVIRONMENTAL BRIEFING

With each issuance of Task Authorization, all staff employed at the construction site will be subject to an approximately half hour briefing regarding their individual and collective responsibilities to ensure avoidable adverse environmental impacts do not arise from their activities and personal choices. Employees must attend this briefing before beginning their Work at the Site. It is recognized new employees may join the Contractors' Work force after the initial round of Environmental Briefing. In that case and as required, subsequent Environmental Briefings can be presented as numbers warrant, by arrangement with the ESO through the PCR. Also, some sub-trades may be present at the site for a short time, to perform once-only duties. In these cases, the Environmental Briefing will be replaced by the Contractor explaining the environmental sensitivity of the Work location to the sub-trade worker(s), and reviewing highlights of the personal conduct expected, with reference to a one-page briefing summary to be provided to the Contractor by the ESO. A copy of this summary will be provided to each sub-trade worker joining the work force at the site.

Parks Canada will have an ESO attending the site to monitor the construction activity for conformance with these specifications. The ESO or alternate designated Parks Canada staff member will present the Environmental Briefing. The ESO's main duties are to monitor the progress of the construction on an on-going basis to ensure compliance with environmental protection measures, and to provide guidance through PCR, in the event of unanticipated environmental problems. Although the ESO has authority to enforce National Parks Act violations, direction to the Contractor will be the duty of PCR.

2.6.4. CONSTRUCTION SITE ACCESS AND PARKING

With each issuance of Task Authorization, the Contractor must review both short and long term construction access requirements with PCR, both at start-up and on an ongoing basis. In consultation with PCR, the Contractor must formulate an agreement for worker transportation to and from the Sites and where workers must park their private vehicles.

Generally, personal vehicles must be parked at least 10 metres distance from any watercourse.

The Contractor must ensure that the environment beyond the Work limits is not negatively impacted or damaged by workers' vehicles or construction machinery and must instruct workers so that the "footprint" of the project is kept within defined boundaries.

Parking will only be allowed on the hardened, paved surfaces. No parking on the vegetated areas.

2.6.5. PROTECTION OF WORK LIMITS

The Contractor must ensure that workers and equipment do not trespass outside the project limits to the satisfaction of PCR and the ESO.

2.6.6. POLLUTION CONTROL

The Contractor must prevent any deleterious and objectionable materials from entering streams, rivers, wetlands, water bodies or watercourses that would result in damage to aquatic and riparian habitat. Generally, hazardous or toxic products must be stored no closer than one hundred (100) meters from water.



A Spill Response Plan will be prepared by the Contractor and must detail the containment and storage, security, handling, use and disposal of empty containers, surplus product or waste generated in the application of these products, to the satisfaction of the PCR and ESO and in accordance with all applicable federal and provincial legislation. The Plan must include a list of products and materials to be used or brought to the construction site that are considered or defined as hazardous or toxic to the environment.

The containment, storage, security, handling, use, unique spill response requirements and disposal of empty containers, surplus product or waste generated in the use of any hazardous or toxic products must be in accordance with all applicable federal and provincial legislation.

An impervious berm must be constructed around fuel tanks and any other potential spill area.

The berms must be capable of holding 110% of tank storage volumes and must be to the satisfaction of PCR and the ESO before start-up. Measures such as collection/drip trays and berms lined with occlusive material such as plastic and a layer of sand, and double-lined fuel tanks can prevent spills into the environment.

The Contractor must provide spill kits at re-fueling, lubrication, and repair locations that will be capable of dealing with 110% of the largest potential spill and must be maintained in good Working order on the construction site. The ESO and PCR prior to project start-up must approve these spill kits. The Contractor and site staff must be informed of the location of the spill response kit(s) and be trained in its use.

Timely and effective action must be taken to stop, contain and clean-up all spills as long as the site is safe to enter. PCR and the ESO must be notified immediately of any spill. In the event of a major spill, all other Work must be stopped, and all personnel devoted to spill containment and clean-up.

The costs involved in a spill incident (the control, clean up, disposal of contaminants and site remediation to pre-spill conditions), must be the responsibility of the Contractor. The site will be inspected to ensure completion to the expected standard and to the satisfaction of PCR and ESO.

2.6.7.EQUIPMENT MAINTENANCE, FUELING, AND OPERATION

With each issuance of Task Authorization, the Contractor must ensure that all soil, seeds and any debris attached to construction equipment to be used at the Sites must be removed (e.g. power washing) outside the National Parks before delivery to the Work site. All equipment must be inspected by ESO prior off-loading on site.

Equipment fueling sites will be identified by the Contractor and approved by PCR and the ESO. Any fueling closer than 50 metres from streams, wetlands, water bodies or waterways must require the authorization of PCR. Machinery and equipment, including chainsaws, must be stored, maintained, and fueled on a flat surface, outside of the dripline of trees.

Diesel and gasoline delivery vehicles, including bulk tankers must be parked more than 100 metres from streams, wetlands, water bodies or waterways. Gravity fed fuel systems is not allowed. Manual or electric pump delivery systems must be used. Fueling personnel must maintain presence at and immediate attention to the fueling operation.

Mobile fuel containers (e.g. slip tanks, small fuel carboys) must remain in the service vehicle at all times.



Equipment used on the project must be fueled with E10 and low Sulphur diesel fuels and must conform to local emission requirements. The Contractor is to ensure that unnecessary idling of vehicles is avoided.

Oil changes, lubricant changes, greasing and machinery repairs must be performed at locations approved by the ESO or PCR. Waste lubrication products (e.g. oil filters, used containers, used oil, etc.) must be secured in spill-proof containers and properly recycled or disposed of at an approved facility. No waste petroleum, lubricant products or related materials are to be discarded, buried or disposed of in borrow pits, turnouts, picnic areas, viewpoints, etc. anywhere within National Parks.

The Contractor must ensure that all equipment is inspected daily for fluid/fuel leaks and maintained in good Working order.

Fuel containers and lubricant products must be stored only in secure locations specified by PCR. Fuel tanks or other potentially deleterious substance containers must be secured to ensure they are tamperproof and cannot be drained by vandals when left overnight in National Parks. Alternatively, the Contractor may hire a security person employed to prevent vandalism. The Contractor is to ensure that workers are briefed on proper 'daisy-chain' use of locks to ensure no other Contractor or PCA is locked out.

2.6.8. OPERATION OF EQUIPMENT

Equipment movements must be restricted to the 'footprint' of the construction area identified for each year of Work. The Work limits must be identified by stake and ribbon or other methods approved by PCR. Unless authorized by PCR, activities beyond the Work limits are not permitted. No machinery will enter, Work in or cross over streams, rivers, wetlands, water bodies or watercourses, nor damage aquatic and riparian habitat or trees and plant communities. If some of the construction will require Working close to creeks and other watercourses or water bodies, the Contractor is to describe measures to be employed to ensure fugitive materials (e.g. rocks, soil, branches) and especially deleterious substances (e.g. chemicals) do not enter any watercourses, to the satisfaction of PCR and ESO.

The Contractor must instruct Workers to prevent pushing, placement, raveling, storage or stockpiling of any materials (e.g. slash, rock, fill or topsoil) in the vegetated areas bordering the right-of-way or into watercourses or water bodies.

When, in the opinion of Parks Canada, negligence on the part of the Contractor results in damage or destruction of vegetation, or other environmental or aesthetic features beyond the designated Work area, the Contractor will be responsible, at their expense, for complete restoration including the replacement of trees, shrubs, topsoil, grass, etc. to the satisfaction of PCR and ESO.

Restrict vehicle movements to Work limits. Workers private vehicles are to remain within the construction footprint.

2.6.9. FIRE PREVENTION AND CONTROL

At a minimum, a fire extinguisher must be carried and available for use on each machine in the event of fire.

Basic firefighting equipment recommended (e.g. a water truck; minimum 500 Imperial gallons with 500 feet of fire hose and a pump capable of producing 45 psi water pressure at the nozzle, three



shovels, two pulaskis and two five-gallon backpack pumps) to be maintained at the Sites in a location known and easily accessible to all the Contractors' staff.

A water truck may be necessary and will depend on the timing of the Contract (e.g. – not required during winter or snow covered conditions).

Construction equipment must be operated in a manner and with all original manufacturers' safety devices to prevent ignition of flammable materials in the area.

Care must be taken while smoking on Sites to ensure that the accidental ignition of any flammable material is prevented. Fires or burning of waste materials is not permitted.

In case of fire, the Contractor must take immediate action to extinguish the fire provided it is safe to do so. The ESO and PCR must be notified of any fire immediately.

2.6.10. WILDLIFE

During the Environmental Briefing all personnel will be instructed by the ESO on procedures to follow in the event of wildlife appearance near or within the Sites and any other wildlife concerns.

Avoid or terminate activities on Sites that attract or disturb wildlife and vacate the area and stay away from the immediate location if bears, cougars, wolves, elk or moose display aggressive behaviour or persistent intrusion. Extra care to control materials that might attract wildlife (e.g. lunches and food scraps) must be exercised at all times.

Notify the ESO and PCR immediately about dens, litters, nests, carcasses (road kills), bear activity or encounters on or around the Sites or crew accommodation. Other wildlife-related encounters are to be reported within 24 hours.

2.6.11. WASTE MATERIALS STORAGE AND REMOVAL

The Contractor shall dispose of hazardous wastes in conformance with the Environmental Contaminants Act and applicable provincial regulations while observing the Code of Good Practice for Management of Hazardous and Toxic Wastes at Federal Establishments.

All wastes originating from construction, trade, hazardous and domestic sources, shall not be mixed, but must be kept separate.

Construction, trade, hazardous waste and domestic waste materials shall not be burned, buried or discarded at the construction site or elsewhere in JNP. These wastes shall be contained and removed in a timely and approved manner by the Contractor and disposed of at an appropriate waste landfill sites located outside the park. Construction waste storage containers, provided by the Contractor, shall be emptied by the Contractor when 90% full.

Waste containers will have lids, and waste loads shall be covered while being transported.

A concerted effort shall be made by the Contractor to reduce, reuse and recycle materials.

All efforts to prevent wildlife from obtaining food, garbage or other domestic wastes shall be made by the Contractor while undertaking their Work in JNP. Such wildlife attractants shall not be stored at the Work site overnight. Lunches, coolers and food products, including waste food



products, shall be securely stored away from access by animals. Daily removal of food scraps, food wrappers, pop cans or other attractive products, to bear proof containers is mandatory. It is incumbent on the Contractor to notify PCA and make specific arrangements to have garbage collected by PCA when using existing PCA receptacles.

The Contractor shall immediately report any circumstances related to food/garbage (e.g. overflowing container or strong smell) and wildlife to the ESO or PCR.

Sanitary facilities, such as portable container toilets, shall be provided by the Contractor, as required, and maintained in a clean sanitary condition. These facilities must not be used for the disposal of anything but human body wastes.

2.6.12. NON-NATIVE VEGETATION

At each task authorization, upon mobilization to Jasper National Park, all equipment must be steam cleaned or pressure washed and inspected prior to entering the Park.

2.6.13. WATERWAYS

All components of the Work must be conducted without equipment entering into wetlands, water bodies, streams and rivers.

All waste materials from the Work must be contained and collected in a manner to prevent any contact with the river valleys and waterways. All collected waste materials must be disposed of in accordance with specifications.

2.6.14. MISCELLANEOUS SITE MANAGEMENT CONTINGENCIES

The Contractor must ensure trespass outside the project limits does not occur, to the satisfaction of PCR and ESO. No Camp will be allowed within JNP.

The National Park Act regulations prohibit anyone working within National Parks from using public campground and day use area facilities.

Pets must not be brought to or maintained at the construction site.

2.7. REGULATORY REQUIREMENTS

2.7.1. REFERENCES AND CODES

Perform Work in accordance with the codes, regulations, and standards listed below, Amendments issued up until the tender closing date and all other codes issued by provincial or local authority. In case of conflict or discrepancy, the more stringent requirement shall apply:

- Species at Risk Act
- Migratory Bird Convention Act
- Canadian Transportation Agency
- Alberta Transportation
- Alberta Infrastructure
- Alberta Energy
- Alberta Environment.



- Fisheries and Oceans Canada
- Navigation Protection Act
- Environment Canada
- Municipal Utilities.
- Occupational Health and Safety.

Meet or exceed requirements of:

- Contract documents.
- Specified standards, codes and referenced documents.

2.7.2.COMPLIANCE WITH REGULATIONS

Ascertain requirements and regulations listed above. Comply with all such requirements and regulations as applicable to the Work. Requirements set out in this section are for guidance and information, the list is not necessarily complete.

2.7.3.PERMITS

Each year of this Contract, obtain all required construction permits including but not limited to:

- Parks Canada Business License.
- Restricted Activity (Special Activity) Permit
- Municipality of Jasper Business license when Working in the Jasper Town site.

2.7.4.NATIONAL PARKS ACT

The Contractor must ensure that all Work is performed in accordance with the ordinances, laws, rules and regulations set out in the Canada National Parks Act and Regulations.

2.8. CONSTRUCTION FACILITIES

2.8.1.INSTALLATION AND REMOVAL

The Contractor shall be allowed to store equipment and materials used for this Contract and carry out minor maintenance Work at various locations throughout JNP. The list of available locations will be provided by PCR at the time of task authorization issuance.

Certain conditions may apply for the Contractor to use these facilities; therefore, prior to the start of Work each year, the Contractor must prepare a Site Plan indicating proposed location and dimensions of area to be fenced and used by Contractor, avenues of ingress/egress to fenced area and details of fence installation. Indicate use of supplemental or other staging area. Provide construction facilities in order to execute Work expeditiously and remove from Site all such Work after use. This plan must be submitted for approval by PCR. PCA is not responsible for any material or equipment stored on PCA property.

Each year of the Contract, the Contractor will be responsible for the timely and proper cleanup of waste or spilled material, and the timely and proper disposition of containers as directed by PCR.



2.8.2. SITE STORAGE / LOADING

Confine Work and operations of employees in accordance with Contract Documents. Do not unreasonably encumber premises with products. Do not load or permit to load any part of Work with weight or force that will endanger Work.

2.8.3. EQUIPMENT, TOOL, AND MATERIALS STORAGE

Provide and maintain, in clean and orderly condition, lockable weatherproof sheds for storage of tools, equipment and materials. Locate materials not required to be stored in weatherproof sheds on site in manner to cause least interference with Work activities.

2.9. CLEANING

2.9.1. PAYMENTS

All Work associated with this item is considered incidental to the Work and will not be reimbursed separately.

2.9.2. PROJECT CLEANLINESS

Maintain Work in tidy condition, free from accumulation of waste products and debris. Remove waste materials from Site at regular daily intervals. Make arrangements with and obtain permits from authorities having jurisdiction for disposal of all waste and debris outside of the JNP.

If the Contractor is negligent in maintaining cleanliness on Sites, site roads, access roads or public roads, or other areas where construction vehicles are travelling, PCR will arrange for cleaning to be completed at Contractor's expense. The costs will be subtracted from final payment.

Use only cleaning materials recommended by the manufacturer of the surface to be cleaned, and as recommended by cleaning the material manufacturer.

When Work is Substantially Complete remove surplus products, tools, construction machinery and equipment not required for performance of remaining Work. Remove waste products and debris other than that caused by others and leave Work clean and suitable for occupancy. Prior to final review remove surplus products, tools, construction machinery and equipment.

2.10. HAZARDOUS MATERIAL

2.10.1. PAYMENTS

This Work is incidental to the Contract and will not be measured for payment.

2.10.2. DEFINITIONS

Dangerous Goods: Product, substance, or organism that is specifically listed or meets the hazard criteria established in Transportation of Dangerous Goods Regulations.



Hazardous Material: Product, substance, or organism that is used for its original purpose; and that is either dangerous goods or a material that may cause adverse impact to the environment or adversely affect health of persons, animals, or plant life when released into the environment.

Hazardous Waste: Any hazardous material that is no longer used for its original purpose and that is intended for recycling, treatment or disposal.

Workplace Hazardous Materials Information System (WHMIS): A Canada-wide system designed to give employers and Workers information about hazardous materials used in the Workplace.

Under WHMIS, information on hazardous materials is to be provided on container labels, material safety data sheets (MSDS), and Worker education programs. WHMIS is put into effect by a combination of federal and provincial laws.

2.10.3. SUBMITTALS

Submit to PCR current Material Safety Data Sheet (MSDS) for each hazardous material required prior to bringing hazardous material on site.

Submit Hazardous Materials Management Plan to PCR that identifies all hazardous materials, their use, their location, personal protective equipment requirements, and disposal arrangements.

2.10.4. STORAGE AND HANDLING

Coordinate storage of hazardous materials with PCR and abide by internal requirements for labelling and storage of materials and wastes.

Store and handle hazardous materials and waste in accordance with applicable federal and provincial laws, regulations, codes, and guidelines.

Store and handle flammable and combustible materials in accordance with current National Fire Code of Canada requirements.

Observe smoking regulations at all times. Smoking is prohibited in any area where hazardous materials are stored, used, or handled.

Abide by the following storage requirements for quantities of hazardous materials and wastes in excess of 5 kg for solids, and 5 litres for liquids:

- Store hazardous materials and wastes in closed and sealed containers in good condition.
- Label containers of hazardous materials and wastes in accordance with WHMIS.
- Store hazardous materials and wastes in compatible containers.
- Segregate incompatible materials and wastes.
- Ensure that different hazardous materials or hazardous wastes are not mixed.
- Store hazardous materials and wastes in a secure storage area with controlled access.
- Maintain a clear egress from storage area.
- Store hazardous materials and wastes in a manner and location which will prevent them from spilling into the environment.
- Have appropriate emergency spill response equipment available near the storage area, including personal protective equipment.



- Maintain an inventory of hazardous materials and wastes, including product name, quantity, and date when storage began.
- Ensure personnel have been trained in accordance with Workplace Hazardous Materials Information System (WHMIS) requirements.
- Report spills or accidents immediately to PCR and follow requirements of Section 2.6.6.

2.10.5. TRANSPORTATION

Transport hazardous materials and wastes in accordance with federal Transportation of Dangerous Goods Act, Transportation of Dangerous Goods Regulations, and applicable provincial regulations.

2.10.6. MATERIALS

Only bring on site the quantity of hazardous materials required to perform Work. Maintain MSDS in proximity to where the materials are being used and available to all personnel who may have contact with hazardous materials.

2.10.7. DISPOSAL

Dispose of hazardous waste materials in accordance with applicable federal and provincial Acts, Regulations, and Guidelines. Recycle hazardous wastes for which there is an approved, cost effective recycling process available.

Send hazardous wastes only to authorized hazardous waste disposal or treatment facilities. Burning, diluting, or mixing hazardous wastes for purpose of disposal is prohibited. Disposal of hazardous materials in waterways, storm or sanitary sewers, or in municipal solid waste landfills is prohibited.

2.11. CLOSEOUT PROCEDURES AND SUBMITTALS

2.11.1. PAYMENTS

All Work associated with this item is considered incidental to the Work.

2.11.2. ADMINISTRATIVE REQUIREMENTS

Acceptance of Work Procedures are as follows:

- Coordinate inspections, identifying deficiencies and defects, and verifying that corrections have been made.
- Verify quantities with PCR upon task completion, mutually agreed upon by both parties.

2.11.3. CLOSEOUT SUBMITTALS

Maintain, in addition to requirements in General Conditions, the Contractor must maintain at site for PCR one record copy of:

- Contract Drawings (if provided)
- Specifications



- Addenda
- Amendments and other modifications to Contract
- Inspection certificates
- Manufacturer's certificates, if applicable

Store record documents and samples on site apart from documents used for construction.

Maintain record documents in clean, dry and legible condition. Do not use record documents for construction purposes.

Keep record documents and samples available for inspection by PCR.

2.11.4. RECORDING INFORMATION ON PROJECT RECORD DOCUMENTS

The following list of records must be submitted to the PCR as indicated for each Task Authorization. Additional documentation may be requested.

Table 3.12.

Time of Submission	Document Description
Before onsite Work at beginning of Contract, or if conditions change	A completed "Attestation and Proof of Compliance with Occupational Health and Safety (OHS)" form.
Before onsite Work of each Task Authorization	Proof of applicable Parks Canada and Municipality of Jasper business licenses.
Before onsite Work of each Task Authorization	Project Schedule – The Contractor shall provide PCR with a detailed schedule of the Workdays and manpower required to complete each phase of the project.
Before onsite Work of each Task Authorization	The Contractor shall submit a list of key Contractor personnel, including names, position and telephone numbers.
Before onsite Work of each Task Authorization	Work Plan – The Contractor shall submit a Work Plan describing the Contractor's intended methods of Work and projected number of equipment and personnel on site.
Before onsite Work of each Task Authorization	Laboratory sample results of the materials shall be submitted to PCR for approval.
Before onsite Work of each Task Authorization	Quality Control Plan documenting Contractors procedures for maintaining the quality of Work as per these specifications. Plan must include night inspections to verify retro-reflectivity of lines.
Before onsite Work of each Task Authorization	Traffic Management Plan in accordance with these Specifications.
Before onsite Work of each Task Authorization	Copy of Contractor's Health and Safety Plan including Site Specific Hazard Assessments
Before onsite Work of each Task Authorization	List of all materials including Material Safety Data Sheets (MSDS) intended for use within the Park.



Before onsite Work of each Task Authorization	An Emergency Response Protocol, documenting Contractors' procedures for handling emergencies.
Daily, during the duration of a Task Authorization	Daily Work Reports identifying quantities used under each Contract Unit Price Item. This report must be sent to PCR daily.
As required and/or completed during a Task Authorization	Back up documentation for volume of glass beads and paint delivered to Work site.
As required and/or completed during a Task Authorization	Daily, Weekly and Monthly Safety Inspections and Audits
As required and/or completed during a Task Authorization	Incidents and Accident Reports
As required and/or completed during a Task Authorization	Quality Control Records including notes from inspections with deficiencies and corrected by dates.
As required and/or completed during a Task Authorization	Supplier waybills, quality documents, for materials used in this Contract.
As required and/or completed during a Task Authorization	Field book containing quantity control records including detailed and trackable counts of pay units
As required and/or completed during a Task Authorization	Edited and raw survey data, where applicable.
Daily, during the duration of a Task Authorization	Digital record of Daily Site Photos of Work being executed with GPS and time stamps



SECTION 2 – PAVEMENT MARKING SPECIFICATIONS

3. LINE PAINTING SPECIFICATIONS

3.1. MOBILIZATION AND DEMOBILIZATION

3.1.1. General

The Work consists of the mobilization and demobilization of the Contractor's forces and equipment necessary for performing the Work required under the Contract. Mobilization will not be considered as Work in fulfilling the Contract requirements for commencement of Work.

Mobilization includes but is not limited to all activities and associated costs for transportation of Contractor's personnel, equipment, and operating supplies to the site; establishment of offices, buildings, and other necessary general facilities for the Contractor's operations at the site.

Demobilization includes all activities and costs for transportation of personnel, equipment, and supplies not required or included in the Contract from the Sites; including the disassembly, removal, and site cleanup of offices, buildings, and other facilities assembled on the Sites specifically for this Contract.

3.1.2. Measurement and Payment

Mobilization and demobilization costs will be included in unit prices for each item of **Annex B – Basis of Payment** and no additional or separate payment will be made.

3.2. PEDESTRIAN AND TRAFFIC CONTROL

All Traffic Accommodation costs including but not limited to preparation of an acceptable plan, supplying and installation of all necessary devices including signs, traffic delineators, barrels, etc. will be considered incidental to the Work. No additional or separate payment will be made for any cost associated with Traffic Accommodation.

3.2.1. GENERAL

All references in the following section to Traffic are to be considered to include both Pedestrian and Vehicular Traffic.

The Contractor shall prepare a Traffic Accommodation Strategy (TAS) detailing their proposed methods for accommodating traffic throughout the Work area for each Task Authorization issued to the Contractor. The minimum requirements are specified in Alberta Transportation (AT) manual entitled Traffic Accommodation in Work Zones Manual, latest edition and can be found on their website at <https://manuals.transportation.alberta.ca/tas/Pages/Home.aspx>.

Unless otherwise specified, the Contractor shall submit the TAS to the PCR a minimum of 3 days prior to the pre-construction meeting for each Task Authorization. The PCR will review the TAS and communicate any concerns to the Contractor at the pre-construction meeting or earlier. Any issues or concerns regarding the Contractor's proposed TAS must be addressed to the mutual satisfaction of the Contractor and the PCR prior to the commencement of the Work.



3.2.2.REQUIREMENTS FOR TRAFFIC ACCOMMODATION AND TEMPORARY SIGNING

The Contractor must accommodate Public traffic through the Work Zone on a 24-hour per day basis using any means at the Contractor's discretion, subject to the minimum requirements of the AT Traffic Accommodation in Work Zones manual and the following:

The Contractor must, at a minimum, include:

- Make suitable provisions, including the use of detours, to accommodate all traffic safely and with a minimum inconvenience through or around the Work.
- Provide, install, maintain and protect traffic control devices such as signs, barriers, fences and lights at his own expense.
- Provide the required number of flag persons, during all periods of active equipment operations which may affect normal traffic operations.
- Control his operations to ensure normal school bus operations are not interfered with.
- Traffic delays must be limited to a maximum of Ten (10) minutes.
- Ensure uninterrupted access to developments along the Project.
- Obtain approval from the PCR prior to changing or disrupting existing accesses and road crossings.
- Carry out construction operations in one continuous operation at road crossings, intersections and entrances for each phase of the Work.
- Provide and use such other methods or equipment necessary to accommodate traffic safely through the Work site.
- Include provision in TAS for Double Fines when Passing Workers in the active Work area (AT Standard Drawing TCS-B-8.1). The Contractor is advised that the signing sequence shown on this drawing is provided as general guidance only. The Contractor must adjust TAS and construction zone signing as required based on site conditions.

If the Contractor's operations are such that the active Work area exceeds 5 km in length, the Contractor must install interim "speed limit", "no passing" and "speed fines double" signs at the approximate mid-point of the active Work area.

If the Contractor maintains separate active Work areas where the cumulative length of the active Work area plus any gaps exceeds 5 km, the Contractor must sign each active Work area separately.

The Contractor must remove or cover all traffic control devices when not essential for the safe accommodation of traffic, in order to eliminate unnecessary inconvenience to the traffic.

3.2.3.TEMPORARY CONSTRUCTION SIGNING

The Contractor must supply all signing materials including signposts, weighted stands, brackets and any required mounting hardware and miscellaneous materials required for the erection of temporary construction signs.

All signs, barricades and other traffic control devices must conform to the requirements for shape, colour and size specified in Section V and Appendix C of the AT Traffic Accommodation in Work Zones (latest edition) manual.



The orange portion of all signs, barricades and other traffic control devices must be fully reflectorized using high brightness, retro-reflective, non-metallized, prismatic sheeting material which incorporates durable, transparent, fluorescent pigment and meets the brightness requirements as specified in ASTM D4956 for Type VIII sheeting. All other colours of sheeting material must be Type III or Type IV high-intensity retro-reflective sheeting meeting or exceeding the minimum requirements as specified in ASTM-D4956.

Larger construction signs or oversized signs may be used where conditions require greater visibility in order to be effective. They must be used in special circumstances where more than average attention value is required from the sign.

The Contractor must supply all equipment required to complete the Work.

Work must not commence until all necessary temporary construction signs and all other traffic control devices, as proposed in the TAS, are in place.

Portable and non-portable signs must be placed on the shoulder of the road such that the face of the sign is fully visible to oncoming traffic and the bottom of the sign is not less than **0.3 m above the road surface for short duration projects, and no less than 1.5 m for long duration projects as specified in Traffic Accommodation in Work Zones manual**. Portable stands must be securely weighted and erected to ensure against being blown over by prevailing winds or gusts from passing vehicles. Acceptable signage stands will be the WindMaster® Sign Stands or an approved dual-spring base equivalent.

All traffic and warning signs must be either bilingual or of a symbolic or pictorial type.

PCR must be notified when road lane or partial parking lot closures are required for construction activity. Traffic Control plans must be submitted for all Work undertaken that restrict the flow of traffic.

The Contractor is responsible for the supply and proper placement of temporary construction signs. However, in the case of potential danger to traffic or other circumstances where PCR determines that signing is inadequate, PCR may direct that changes to the Contractor's operations be implemented to remedy the situation. These changes may involve the use of different types and/or sizes of signs, modifying the number or locations of signs, and/or any other modifications or additions required to protect traffic.

3.2.4. FLAGPERSONS

Whenever construction operations or Work Zone conditions cause interruption, delay or hazard to the traffic and necessitates the use of flag persons; the Contractor must provide and equip responsible flag persons for the direction and control of traffic.

The Contractor must ensure that flag persons are instructed in and use proper traffic control procedures appropriate for the prevailing conditions. Flag persons must have proof of certification from a recognized training program on traffic control procedures through construction zones.

Flag persons' apparel must be in compliance AT Traffic Accommodation in Work Zones Manual



3.2.5. COMPLIANCE

The Contractor must promptly make any modifications to the traffic accommodation operations deemed necessary by PCR. Where, in the opinion of PCR, the Contractor fails to adequately provide for the safety of the public, has recurring safety infractions and/ or when the Contractor fails to comply with orders issued by PCR regarding traffic accommodation operations, the PCR may suspend Work. The shutdown will remain in effect until direction to resume Work operations is given by the PCR.

In cases where the Contractor is not in compliance with the Specification requirements and, in the opinion of the PCR, there is imminent danger to traffic the PCR has the authority to order the immediate suspension of Work. Such orders, when issued, will be made in writing.

3.2.6. MEASUREMENT AND PAYMENT

All Traffic Accommodation costs including but not limited to preparation of an acceptable plan, supplying and installation of all necessary devices including signs, traffic delineators and barrels, etc. will be considered incidental to the work and included in each unit prices identified in **Annex B – Basis of Payment**. No additional or separate payment will be made for any cost associated with Traffic Accommodation.

3.3. SUPPLY OF GLASS BEADS

Glass beads must be free of foreign matter, transparent, in accordance with the following specifications and in accordance with AT's paint striping equipment.

3.3.1. COLOUR

The glass beads must be colourless to the extent that they do not impart a noticeable daytime hue to white paint.

3.3.2. IMPERFECTIONS

At least 75% by weight must be true spherical shape as determined with a Roundness Tester in accordance with the latest edition of ASTM D1155 with the exception that the 80 µm (metric sieve size) portion will not be tested nor considered as part of the sample.

The beads must be smooth and lustrous and must be free of air inclusions, dark specks, milkiness, incipient fractures, surface films, scratches, or other undesirable features, based on microscopic count.

The total of reflective beads, as measured by microscopic count, plus round beads, as measured by the Roundness Test, must exceed 70% by weight of original sample.

3.3.3. INDEX OF REFRACTION

The spheres, when tested by the liquid immersion method at 25°C must exhibit an index of refraction of not less than 1.50.



3.3.4. SILICA CONTENT

The silica (SiO₂) content must not be less than 60%.

3.3.5. SIEVE ANALYSIS

The spheres must conform to the following gradation requirements as shown in the following table.

3.3.6. MOISTURE RESISTANCE OF GLASS SPHERES

The beads must also pass the following test for water repellency and free flow:

Place a 300 gram portion of the air-dry sample in a 300 ml Erlenmeyer flask; add 5 drops of water from a pipette calibrated to produce 20 drops per ml (+ 1 drop); stopper the flask immediately and shake the flask and its contents vigorously for at least one minutes; remove the stopper and connect the flask mouth-to-mouth to another air-dry flask of the same size in hour-glass fashion, by means of stoppers joined by a short glass tube having an inside diameter of 3/8"; invert the assembly and observe the flow qualities of the beads. The beads shall then flow continuously into the lower flask until the upper flask is emptied. The flask may be gently tapped to initially start the flow of beads, after which the beads shall flow continuously without further agitation. If, after three trials the beads fail to flow continuously, the sample shall be reported as not having acceptable flow qualities. A small quantity of beads sticking to the sides of the flask shall not be cause for rejection.

GLASS BEADS REQUIREMENTS											
Requirement	Colour	Imperfections		Index of Refraction (%)	Silica Content (SiO ₂) (%)	Sieve Analysis (% Passing)					Moisture Resistance
		Roundness (%)	Reflective (%)			7.1.5					
Test Method	7.1.1	ASTM D1155	7.1.2	7.1.3	7.1.4	800	630	315	160	80	
Standard Alberta Local Bead	PASS	Min. 75	Min. 70	1.5	60%	100	90-100	16-38	0-10	0-3	PASS
Dual Silane Coated Bead	PASS	Min. 75	Min. 70	1.5	60%	100	75-95	15-35	0-5		PASS

3.3.7. CONTAMINANTS

The maximum concentration of contaminants, as indicated below, in the glass beads is:

- Arsenic, 50mg/kg (50ppm)
- Lead, 90mg/kg (90ppm)
- Antimony, 75 mg/kg (75ppm)

3.3.8. QUALITY CONTROL SUBMITTALS

The Contractor must ensure quality control testing is completed and submitted for review prior to application of the product in the field. This will include but not limited to the manufacturers testing as well as applicable field tests as directed by PCR.



3.3.9. MEASUREMENT AND PAYMENT

No separate or additional payment will be made for supplying, delivering, storing, handling, quality management, labour, equipment tools, and/or any other item regarding glass beads necessary to complete the Work. Glass beads will be considered incidental to pricing for Items 1-8 of Tables A, B, and C of Annex B – Basis of Payment.

Each year, backup documentation (invoices, shipping documents etc.) must be provided to PCR for volumes purchased for use in the Contract.

3.4. PAINTED ROADWAY LINES

3.4.1. GENERAL

The Work consists of supplying paint and painting lines on pavement surfaces in campgrounds, larger parking lots, day use areas and other points of interests. The various configurations of roadway lines, matching existing or as directed by PCR, as per the figures in Appendix B, or otherwise shown in the “Alberta Highway Pavement Marking Guide” manual and directed in the Task Authorization.

3.4.2. MATERIALS

At the issuance of each Task Authorization, the Contractor must provide PCR with the following information prior to commencing the Work:

- Names and mailing addresses of the suppliers and manufacturers.
- Paint formulation to be supplied.
- Written confirmation from the manufacturer that the materials to be supplied meet all specified requirements.

The Contractor must advise PCR of any change in paint formulation.

The Contractor must verify that all materials delivered and used in the Work are as specified.

No paint formulation is to be diluted or mixed with a different formulation or with any other material without the prior approval of PCR.

The Contractor must prevent contamination of the materials and paint must be protected from freezing.

3.4.2.1. *Paint*

The Contractor must supply **ENNIS 986061** (white, **fast dry low VOC solvent based traffic paint**) and **ENNIS 986063** (yellow, **fast dry low VOC solvent based traffic paint**) or request in writing to PCR an approved equivalent paint material from the AT Recognized Products list. The Contractor is responsible for ensuring that the quality of the paint supplied meets the requirements specified. The maximum VOC limit for any paint product used is 150 g/L.



3.4.2.2. *Glass Beads*

The Contractor must supply glass bead materials that meets the requirements in Section 3.3 Glass Beads or equivalent from the AT Recognized Products list. The Contractor is responsible for ensuring that the quality of the beads supplied meets the requirements specified.

3.4.3. EQUIPMENT

The Contractor must supply all equipment necessary to complete the Work and all ancillary equipment such as fork lifts, hoists, pumps and transport vehicles required to load, unload and transport the paint and glass beads.

3.4.3.1. *Painting Truck*

A painting truck, if used, must be self-propelled and equipped to meet or exceed the following requirements:

- Two paint tanks each having a minimum capacity of 270 litres feeding three lines for a simultaneous two-colour application (two yellow directional dividing lines and one white edge line).
- Painting controls capable of adjusting the paint application for the length of dashed line required.
- Each spray gun must have independent controls and adjustment mechanisms and must be operated from the operator's compartment.
- The compressors must have a minimum rated capacity of 4.25 cubic metres per minute.
- Bead dispensers must be electrically controlled, air operated, gravity fed with controls to adjust the bead flow. The bead dispensers must be fed from tanks capable of holding a minimum of 45 kilograms of beads.
- A television vehicle guidance or a vehicle guidance system mounted on a retractable A-frame with a guide wheel and pointer system, to assist the operator in maintaining alignment on the existing lines.
- A minimum of five spray guns and bead dispensers mounted in the following configuration:
 - Three spray guns and three bead dispensers mounted on an independently controlled boom located on the left side of the truck to paint the directional dividing lines. The outer two spray guns and bead dispensers must be in a configuration that will produce two lines of equal width with the distance between the two lines equal to the width of one line (100 mm). The inner spray gun and bead dispenser must operate independently and must be used to apply the directional dividing line where only a single directional dividing line is required. When a 200 mm wide line is required, 2 adjacent guns must be used simultaneously.
 - Two spray guns and two bead dispensers mounted on an independently controlled boom on the right side of the truck to apply the right edge line. When a 200 mm wide line is required 2 adjacent guns must be used simultaneously.
- Equipped to apply white or yellow paint from the three spray guns mounted on the left-hand side of the paint truck and to switch from one colour to the other during operation.
- Control of both independent booms, all spray guns, bead dispensers and painting controls from the operator's compartment(s).



PCR may allow the use of alternate equipment, provided the Contractor demonstrates that such equipment capable of achieving the desired end product.

3.4.3.2. *Companion Vehicles*

The painting vehicle must be immediately followed by a crash attenuator vehicle consisting of a five-ton truck equipped with a crash attenuator which meets National Cooperative Highway Research Program, Report 350 Test Criteria, Test Level 3 for 100 km/hour Work zones. The weight of the crash attenuator vehicle including ballast, flashing arrow board and truck mounted crash attenuator must be 6,300 to 12,000 kg.

The crash attenuator vehicle must be followed by a ½ ton or larger truck acting as a pilot vehicle.

3.4.3.3. *Safety Equipment*

The painting truck and both companion vehicles must be equipped with the following:

- A two-way radio for voice communication.
- An overhead revolving beacon with an amber lens a minimum of 180 mm high and 180 mm wide. The beacon must be mounted on the top of the vehicle fully visible to traffic approaching from both front and rear.
- A sequential arrow board meeting the following specifications:
 - Minimum size 0.75 metres x 1.52 metres
 - Minimum 25 amber sealed beam, hooded lamps
 - Fully adjustable light intensity on all arrow board lights
 - Operating modes which include:
 - sequential left arrow or chevron
 - sequential right arrow or chevron
 - sequential double arrow or chevron
 - horizontal bar
- All four lamps in the extreme corners of the panel flashing simultaneously at 35-50 flashes per minute with the flashing light lit 50% of the time
- The arrow board must be controlled from a console located in the vehicle cab.
- The arrow board display must be visible to traffic approaching the rear of the trucks.
- A "slow moving vehicle" sign. The sign must be mounted at the rear of the vehicle and be visible to the public only when the painting truck is applying paint.
- A warning sign, mounted at the rear of the equipment, stating "wet paint keep off". The sign must have standard warning colours with letters having a minimum height of 150 mm and must be visible to the public only when the equipment is applying paint.

3.4.4. PROCEDURE

3.4.4.1. *General*

Line painting on roadways with high traffic volumes must be performed between Monday and Thursday inclusive, if so directed by PCR.

Operation of the painting truck against the flow of traffic is not permitted.

Materials loading is not permitted on the travel lanes of a roadway surface.



3.4.4.2. *Operation of Companion Vehicles*

The Contractor must operate both companion vehicles in conjunction with the painting truck during the painting of all longitudinal lines. Companion vehicle operators must not attempt to control traffic from inside the vehicle.

The actual operating parameters of the companion vehicles will be determined by the Contractor to safely accommodate traffic and will be based on site specific conditions such as sight distances, highway geometrics and traffic patterns and volumes.

3.4.4.3. *Crash Attenuator Vehicle*

The crash attenuator vehicle must follow behind the painting truck at a distance of 50 to 400 metres. On 2 Lane roadways, traffic should still be encouraged to pass both vehicles in one pass, however actual conditions may dictate that the crash attenuator vehicle give way to allow safe passing.

On Single Lane Roads the crash attenuator vehicle must be driven in the travel lane to keep traffic from passing the painting truck.

3.4.4.4. *Pilot Vehicle*

On single lane and two Lane Highways the pilot vehicle must be operated as follows:

- (i) On a single lane road, the pilot truck must be driven in the same travel lane as the paint machine, following it at a constant distance of approximately two kilometres.
- (ii) On a 2-lane road with a minimum 3 metre shoulder, the pilot truck must be driven along the right shoulder, not straddling the right edge line and following the painting truck at a constant distance of approximately two kilometres.
- (iii) On a 2-lane road with less than a 3 metre shoulder, the pilot truck must travel from approach road to approach road and stop until the paint machine has cleared the next approach road. Approach road in this context includes local roads, pullouts, field entrances, etc. The pilot truck, when stopped in an approach road, must sit parallel to the highway in order that the signs and arrow board are fully visible to traffic approaching from the rear.

3.4.4.5. *Arrowboard Message*

The crash attenuator vehicle, pilot truck and the painting truck must display the same message at all times. The message must be one of the following:

On 2 lane road - a bar (6 horizontal lights flashing) is preferred but if a bar cannot be shown on the type of arrow board used, the 4 corner lights flashing is an acceptable alternative.

On a Single Lane Road - four flashing corner lights or a bar.

3.4.4.6. *Areas to be Painted*

As stated within the Task Authorization, the Contractor shall perform the following tasks if identified: paint lane lines, continuity lines, edge lines and directional dividing lines on the parking lots, rest areas, campgrounds roadways and points of interest. At minor intersections for pullouts



and approaches, the Contractor must only paint the shoulder lines on the primary road to a point corresponding to the edge of the intersecting shoulder line or as directed by PCR.

The Contractor must ensure that painted lines match the existing lines exactly unless otherwise directed by PCR. When painting is required in areas where there are no existing lines or where revisions to the existing lines are required, these areas will be identified by PCR and laid out or spotted by the Contractor.

3.4.4.7. Pavement Surface and Atmospheric Conditions

In addition to the general restrictions painting must not be performed during the following conditions:

- When the temperature is below 0°C.
- When wind conditions cause over spray.
- During periods of rainfall.

The Contractor must sweep, clean, and ensure areas to be painted are dry prior to the application of paint. The areas must be inspected by the Contractor to ensure they are free of sand and debris, and suitable for painting.

The Contractor must immediately notify PCR of any areas that, in their opinion, are unsuitable for painting.

3.4.4.8. Paint and Bead Application

Paint must be uniformly applied to 15 mil wet thickness. Except for “wide lines” as designated, all painted lines must be 100 mm wide. Glass beads must be applied immediately following the paint application at a uniform application rate of 850 g/litre of paint on the road and 450 g/litre of paint in parking lots and pullouts (when applicable).

3.4.4.9. Removal of Incorrectly Painted Lines

All lines that are incorrectly painted by the Contractor or painted where no lines are specified must be removed by the Contractor at his own expense and to the satisfaction of PCR. The method and equipment used by the Contractor to remove incorrectly painted lines will be subject to the approval of PCR.

3.4.5. SAMPLING AND TESTING

The Contractor must develop and submit in writing to the Consultant a Quality Control Inspection Program (QCIP) that addresses all the elements which will affect the quality of the line painting including but not limited to:

- Paint Application Rates
- Glass Bead Application Rates
- Pavement Surface and Atmospheric Conditions
- Line Widths, Line Lengths and Space Lengths



The Contractor must maintain records of QCIP data, complaints from the public, and other details relevant to the Work and provide these records to PCR daily.

All materials will be subject to further inspection, sampling and testing by the PCR at their discretion and the Contractor must provide safe, convenient access, acceptable to PCR, for inspection and sampling of the materials, and must cooperate in the inspection and sampling process when requested to do so.

3.4.6. ACCEPTANCE CRITERIA

The Work will be considered acceptable under the following conditions:

- Painted lines do not exceed a dimensional width of 110 mm for specified 100 mm wide line. No tolerance below 100 mm is allowed for the specified 100 mm wide line.
- Painted lines do not exceed a dimensional width of 210 mm for specified 200 mm wide line. No tolerance below 200 mm is allowed for the specified 200 mm wide line.
- Painted direction dividing, lane dividing, or continuity lines do not exceed a maximum dimensional length deviation of + / - 100 mm for specified 3.0 m length of line.
- No spaces between painted direction dividing, lane dividing, or continuity lines exceed a maximum dimensional length deviation of + / - 100 mm for specified 6.0 m or 3.0 m length of space.
- All painted lines are uniform in thickness and free of tire tracking, with no splatter, excessive overspray or other defects.
- All paint and glass beads have been applied at the proper locations and in accordance with the typical drawings or as directed by PCR.
- Any incorrectly painted lines or lines painted at improper locations have been removed to the satisfaction of PCR.
- Lines should retain 350 millicandela for white and 250 millicandela for yellow after 10 days
- dry thickness should average 8-9 mil
- Glass beads have been uniformly applied at the specified application rate.

3.4.7. MEASUREMENT AND PAYMENT

3.4.7.1. *Painting Roadway Lines*

Measurement will be made in linear metres of the length of line painted. One measurement will be made regardless of colour of paint used. The space between “dashed lines” will not be measured for payment.

Payment will be made at the applicable unit price per linear-kilometre for **Items A.1, B.1, and C.1 "Supplying Paint and Painting - Directional Dividing, Lane Dividing and Edge"** of **Annex B – Basis of Payment** regardless of the specified width. These payments will be full compensation for mobilization, demobilization, traffic accommodation, inspecting the areas to be painted, supplying and applying the paint and glass beads and all labour, equipment, tools and incidentals necessary to complete the Work.

No payment will be made for any roadway lines painted in which the Acceptance Criteria has not been achieved.



3.4.7.2. *Supply of Paint and Glass Beads*

Payment for supply of paint will be included in the applicable unit price for the roadway lines painted. This will include supplying, storing, and handling the paint and all labour, equipment tools and incidentals necessary to complete the Work.

The supply and application of paint and glass beads is considered incidental to the work and no separate payment will be made.

3.4.7.3. *Sweeping*

Measurement and payment for sweeping will be included in the unit pricing for the applicable line painting item and considered incidental to the Work. No separate payment will be made for sweeping.

3.5. PAINTED PAVEMENT MARKINGS

3.5.1. GENERAL

The Work consists of supplying paint, glass beads and painting markings on pavement surfaces pavement surfaces in campgrounds, larger parking lots, day use areas and other points of interests. The various configurations of pavement markings, matching existing or as directed by PCR, as per the figures in Appendix B, or otherwise shown in the “Alberta Highway Pavement Marking Guide” manual and directed in the Task Authorization.

3.5.2. MATERIALS

At the issuance of each Task Authorization, the Contractor must provide PCR with the following information prior to commencing the Work:

- Names and mailing addresses of the suppliers and manufacturers.
- Paint formulation to be supplied.
- Written confirmation from the manufacturer that the materials to be supplied meet all specified requirements.

The Contractor must advise PCR of any change in paint formulation.

The Contractor must verify that all materials delivered and used in the Work are as specified.

No paint formulation must be diluted or mixed with a different formulation or with any other material without the prior approval of PCR.

The Contractor must prevent contamination of the materials. Paint must be protected from freezing.

3.5.2.1. *Paint*

The Contractor must supply **ENNIS 986061** (white, **fast dry low VOC solvent based traffic paint**) and **ENNIS 986063** (yellow, **fast dry low VOC solvent based traffic paint**) or request in writing to PCR an approved equivalent paint material from the AT Recognized Products list. The



Contractor is responsible for ensuring that the quality of the paint supplied meets the requirements specified. The maximum VOC limit for any paint product used is 150 g/L.

Accessible Parking Stall symbol must be painted with white symbol over blue (color code PMS 293C, UN Blue, or US Government Fed Std 595C 15090) per the International Symbol of Access.

3.5.2.2. *Glass Beads*

The Contractor must supply glass bead materials that meets the requirements in Section 3.3, Glass Beads or equivalent from the AT Recognized Products list. The Contractor is responsible for ensuring that the quality of the beads supplied meets the requirements specified.

3.5.3. PROCEDURE

3.5.3.1. *Pavement Marking Dimensions*

When previous markings are visible, the Contractor must follow the same dimensions and lengths unless otherwise directed by PCR.

Where no markings exist, painting must be performed using a template or other method that will achieve the dimensions shown in the applicable typical drawings, without over spray.

Pavement messages must conform with typical drawings in Appendix B. The dimensions shown are in millimetres unless otherwise indicated.

Typical parking lot line lengths are as follows unless otherwise directed by PCR;

- Car stall – 6 m long, 2.6-3.0m wide
- RV stall – 12 m long, 2.8-3.0m wide

3.5.3.2. *Work Item Notes*

The Contractor must ensure that painted lines match the existing lines exactly unless otherwise directed by PCR. When painting is required in areas where there are no existing lines or where revisions to the existing lines are required, these areas will be identified by PCR and laid out or spotted by the Contractor.

3.5.3.3. *Pavement Surface and Atmospheric Conditions*

In addition to the general restrictions painting must not be performed during the following conditions:

- When the temperature is below 0°C.
- When wind conditions cause over spray.
- During periods of rainfall.

The Contractor must sweep, clean, and ensure areas to be painted are dry prior to the application of paint. The areas must be inspected by the Contractor to ensure they are free of sand and debris, and suitable for painting.



3.5.3.4. *Paint and Bead Application*

All paint must be uniform in thickness with no splatter, excessive overspray or other defects.

Messages must be painted using the templates. Each message must be painted once unless otherwise specified or directed by PCR. Paint must be applied at the rate of 0.4 l/m² of actual painted area. Glass beads must be applied immediately following the paint application of pavement messages at a uniform application rate of 600 g/l of paint.

Paint initially applied at less than the specified rate, as determined by PCR, must be repainted at the expense of the Contractor.

Traffic must be kept off painted areas until the paint has dried and will not track under traffic.

3.5.4.ACCEPTANCE CRITERIA

Evaluation of the Work will be based on a visual inspection by PCR. To be acceptable, markings must be correctly applied regarding application rates, location, colour, size, alignment (within 2°metres measured from the painted centreline), must not have "tracked" under traffic, and must have a uniform appearance for colour and reflectivity.

Paint applied at incorrect locations, must be completely removed at the Contractor's expense. The method used to remove an incorrect marking must be subject to the approval of PCR.

3.5.5.MEASUREMENT AND PAYMENT

3.5.5.1. Parking Lots - Supplying Paint and Painting

Parking Lots – includes supplying paint and painting all required dividing stall and delineation lines. Parallel, perpendicular and angled or skewed stall lines are included under this pricing item. Measurement for painted lines in parking lots, pullouts, or other areas not designated as a road line, will be by linear metre of painted length for each marking.

Payment will be made at the unit price per linear metre for as identified in **Items A.2, B.2, and C.2 "Parking Lots - Supplying Paint and Painting"** of Annex B – Basis of Payment. This payment will be full compensation for mobilization, demobilization, traffic accommodation and inspecting the areas to be painted, sweeping and cleaning the pavement surface, supplying templates, spotting, supplying and applying the paint, and all labour, materials, equipment, tools and incidentals necessary to complete the Work.

3.5.5.2. Painted pavement messages

Painted Pavement Message – Gore/Hatched Works must include all perimeter and interior pavement markings as required to replace existing or install new gore or hatched areas, payable by measured total linear metres of 100 mm thick line painted (Unit Price doubled for 200 mm line, tripled for 300 mm line etc.). Payment will be made at the unit price per message for **Items A.4, B.4, and C.4 "Painted Pavement Message - Gore/Hatched Area"** of Annex B – Basis of Payment. This payment will be full compensation for mobilization, demobilization, traffic accommodation, inspecting the areas to be painted, sweeping and cleaning the pavement surface, supplying templates, supplying and applying the paint and glass beads, and all labour, materials, equipment, tools and incidentals necessary to complete the Work.



Painted Pavement Message – Cross Walk Works are payable by width of roadway in linear metres. This Work item includes various types of pedestrian ‘zebra’ cross walks with typical width of 4-metre-wide across single to four traffic lanes. Cross walk painting must extend across roadway shoulders to the edge of asphalt unless otherwise directed by PCR. Payment will be made at the unit price per message for **Items A.7, B.7, and C.7 “Painted Pavement Message – Zebra Crosswalk”** of Annex B – Basis of Payment. This payment will be full compensation for mobilization, demobilization, traffic accommodation, inspecting the areas to be painted, sweeping and cleaning the pavement surface, supplying templates, supplying and applying the paint and glass beads, and all labour, materials, equipment, tools and incidentals necessary to complete the Work.

Painted Pavement Message – Accessible Parking Symbol or other Special Marking i.e. (Arrows and Stop Bars) must include all required pavement markings for replacement of existing markings or the installation of a new stall markings. Payment will be made at the unit price per message for **Items A.5, B.5, C.5 “Painted Pavement Message – Arrow (Single, Double, Merge)”**, **Items A.6, B.6, and C.6 “Painted Pavement Message - Stop Bar”**, **Items A.8, B.8, and C.8 “Painted Pavement Message - Accessible Parking Symbol or other Special Marking”** of Annex B – Basis of Payment. This payment will be full compensation for mobilization, demobilization, traffic accommodation, inspecting the areas to be painted, sweeping and cleaning the pavement surface, supplying templates, supplying and applying the paint and glass beads, and all labour, materials, equipment, tools and incidentals necessary to complete the Work.

3.6. PAINTING OF CONCRETE CURB

3.6.1. GENERAL

The Work consists of supplying paint and painting concrete curbs at campground kiosks, parking lots and gates at Park entrances. This includes the exposed vertical face and horizontal top face of the curbs.

3.6.2. MATERIALS

At the issuance of each Task Authorization, the Contractor must provide PCR with the following information prior to commencing the Work:

- Names and mailing addresses of the suppliers and manufacturers.
- Paint formulation to be supplied.
- Written confirmation from the manufacturer that the materials to be supplied meet all specified requirements.

The Contractor must advise PCR of any change in paint formulation.

The Contractor must verify that all materials delivered and used in the Work are as specified.

No paint formulation must be diluted or mixed with a different formulation or with any other material without the prior approval of PCR.

The Contractor must prevent contamination of the materials. Paint must be protected from freezing.



3.6.2.1. *Paint*

The Contractor must supply **ENNIS 986063** (yellow, **fast dry low VOC solvent based traffic paint**) or request in writing to PCR an approved equivalent paint material from the AT Recognized Products list. The Contractor is responsible for ensuring that the quality of the paint supplied meets the requirements specified. The maximum VOC limit for any paint product used is 150 g/L.

3.6.3. PROCEDURE

3.6.3.1. *Concrete Surface and Atmospheric Conditions*

Painting must not be performed during the following conditions:

- When the temperature is below 0°C.
- When wind conditions cause over spray.
- During periods of rainfall.

The Contractor must sweep, clean, and ensure areas to be painted are dry prior to the application of paint. The areas must be inspected by the Contractor to ensure they are free of sand and debris, and suitable for painting.

3.6.3.2. *Paint Application*

All curbs are to be painted by use of hand wand or roller or brush and be uniform in thickness with no splatter, excessive overspray or other defects.

Once dry, PCR will inspect and ensure the paint is evenly coated and coverage of the curb is uniform. Areas with insufficient paint, as determined by PCR, must be repainted at the expense of the Contractor.

Traffic must be kept away from painted areas with delineators or cones until the paint has dried.

3.6.4. MEASUREMENT AND PAYMENT

Measurement for Painting of Concrete Curbs will be by linear metre of painted length for each marking.

Payment will be made at the unit price per linear metre for **Items A.3, B.3, C.3 "Painting of Concrete Curbs"** of **Annex B – Basis of Payment**. This payment will be full compensation for mobilization, demobilization, traffic accommodation, inspecting the areas to be painted, cleaning the pavement surface, supplying and applying the paint, and all labour, materials, equipment, tools and incidentals necessary to complete the Work.



Appendix A – Inventory



Appendix B – Typical Figures