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QUALITY CONTROL

ADD SECTION 01 45 00 QUALITY CONTROL

1.0 GENERAL

The Contractor shall provide a final product conforming to the Contract Documents and the intent of the Work. The Work is to be accurate to the dimensional and tolerance requirements of the Contract.

Quality Control (QC) by 1.0.1
Contractor

The MMCD (2019) definition of "Quality Control" is the process by which the Contractor checks specific materials, products, and workmanship to ensure strict conformance with the Contract Documents.

The Contractor is fully responsible for QC of the materials, production, and construction processes.

QC tests shall be performed by the Contractor, at their own expense, to ensure that products meet the Contract specifications.

Failure by the Contractor to conduct adequate QC testing during production and construction will negate the Contractor's ability to appeal the Quality Assurance (QA) tests used for acceptance/rejection of the Work.

Under no circumstances will QC test results produced after completion of the QA results be considered for appeal purposes.

Any changes in the Work with respect to the location, grade, or line shall be approved in advance by the Contract.

Administrator. Failure to notify the Contract Administrator of changes in writing may result in rejection of Work.

Inspection of Work, Quality Assurance, and Material Testing, by the Owner 1.0.2

The MMCD (2019) definition of "Quality Assurance" means the process by which the Owner evaluates if the Work is being constructed in accordance with the Contract Documents. This definition will be used for this Contract.

The Contract Administrator will provide construction review through spot inspections and spot materials testing for Quality Assurance.

Any materials testing results indicating a non-conformance to the Contract Documents will require construction corrective action by the Contractor.

QUALITY CONTROL

All subsequent testing to corrective action to verify conformance to the Contract Documents will be the full responsibility of the Contractor.

Inspection review by the Owner will not relieve the Contractor from providing a product.

- | | | |
|------------------------------------|-----|--|
| Inspection | 1.1 | Materials testing shall be as described in MMCD General Conditions, Section 4.12.

All testing covered under this item must be performed by a CSA certified laboratory and technicians with copies of all test results to be sent directly to the <u>Contract Administrator</u> . Re-testing resulting from failed first tests shall be at the <u>Contractors</u> expense. |
| <u>Contractor</u> Responsibilities | 1.2 | Furnish labour and facilities to:

1. Provide access to <u>Work</u> to be inspected.
2. Facilitate inspections and tests.
3. Make good <u>Work</u> disturbed by inspection and tests. |
| Access to <u>Work</u> | 1.3 | Allow inspection testing agencies safe access to the <u>Work</u> . |

END OF SECTION

MMCD SECTION 01 55 00 TRAFFIC CONTROL, VEHICLE ACCESS AND PARKING

1.0 GENERAL

1.0.7 Add New Specification:

The Contractor shall designate a Traffic Control Supervisor/Site Safety Officer responsible for site safety and traffic control with specific training as identified in the MoTT Traffic Control Manual and Work Safe BC. The Traffic Control Supervisor must review signage identified in the Contractor's Traffic Plan prior to construction and then on a daily basis.

1.0.8 Add New Specification:

Public relations related to the Works and Traffic Control Plan is the responsibility of the Contractor and is considered incidental to the Work.

1.0.9 Add New Specification:

The Contractor shall provide daily notification and coordination as required with all emergency and public services, including garbage collection, Canada Post, Public Transit, school buses and all impacted residents and businesses. The Contractor is required to provide 48 hours notification prior to any changes to the traffic control measures.

END OF SECTION

MMCD SECTION 01 57 01 ENVIRONMENTAL PROTECTION

1.0 GENERAL

1.4 Environmental

1.4.4 Add New Specification:

Construction Environmental Management Plan (CEMP):

- (1) The Contractor must prepare and submit a site-specific CEMP to the Contract Administrator for review and acceptance no later than 10 working days prior to the commencement of construction activities.
- (2) The CEMP shall include, but is not limited to:
 - Description of the project and construction activities.
 - Identification of potential environmental impacts (e.g., erosion, sedimentation, noise, dust, spills).
 - Mitigation measures and best management practices (BMPs).
 - Spill prevention and response plan.
 - Waste management and recycling procedures.
 - Noise and dust control measures.
 - Wildlife, including potential nesting birds, and vegetation protection strategies.
 - Monitoring and reporting protocols.
 - Emergency contacts and communication plan.
- (3) The Contractor will ensure that all personnel and Subcontractors are familiar with and comply with the CEMP.
- (4) The Contractor will maintain a copy of the approved CEMP on-site at all times and shall conduct regular inspections and monitoring as outlined in the CEMP and submit weekly environmental compliance reports to the Contract Administrator.
- (5) Failure to comply with the approved CEMP may result in Work stoppage, penalties, or other actions as deemed necessary by the Owner.

1.4.5 Add New Specification:

Consultation with the shíshálh Nation and/or Sk̓wx̓wú7mesh Úxwumixw (Squamish Nation) is necessary to facilitate fieldwork. If any Archeological material is discovered, the Contract Administrator and Owner are to be informed immediately, and Work halted until the First Nations have been consulted and direction have been given to resume Work.

END OF SECTION

PROJECT IDENTIFICATION

MMCD SECTION 01 58 01 PROJECT IDENTIFICATION

1.0 GENERAL

1.2 Temporary Project Signage

1.2.1(1) Delete:

Provide and erect, within 3 weeks of signing Contract, a project sign in a location designated by Contract Administrator.

Replace with:

Provide and erect, 14 days prior to project start date, a project sign in a location designated by Contract Administrator and approved by Owner.

1.2.1(6) Add New Specification:

A minimum of two (2) appropriate Work signs in accordance with the Traffic Management Plan (TMP), one (1) placed at each end of the project limits at approved locations by the Contract Administrator.

1.2.2(1) Delete:

Advise residents and/or other parties within the affected area of planned construction activities and schedule. Coordinate with and obtain Contract Administrator's approval before delivery or mailing of public notices.

Replace with:

Contractor to deliver to businesses and residents copies of letter, approved by the Owner, advising of intended construction activities. The Contractor shall deliver these letters no sooner than fourteen (14) Days and no later than seven (7) days before the start of construction in the affected area.

END OF SECTION

MMCD SECTION 03 30 20 CONCRETE WALKS, CURBS AND GUTTERS

1.0 GENERAL

1.4 Measurement and Payment 1.4.8 Delete:

Payment for adjustment of existing catch basins and other utilities covers required for installation of curb and gutter and walks will be made for each item to be adjusted. Relocation, if required, will be paid for as newly installed items.

Replace with:

No Payment for adjustment shall be made of existing catch basins and other utilities covers required for installation of curb and gutter and walks will be incidental to the Work. Adjustment shall include: removal of existing frame and cover, cleaning, re-set to meet new grade, profile and cross fall, replace grade rings.

END OF SECTION

MMCD SECTION 31 11 41 SHRUB AND TREE PRESERVATION

1.0 GENERAL

1.3 Measurement and Payment 1.3.1 Delete:

Payment for all shrub and tree preservation and grade changes items includes all applicable Work described in this Section and shall cover all area of shrubs or individual trees to be attended to as shown on Contract Drawings or as directed by Contract Administrator.

Replace with:

Payment for all shrub and tree preservation, including tree protection fencing, grading, exposing root zone and hand excavation, and Works deemed necessary by a certified arborist or the Contract Administrator, is applicable to all Work performed under this Section, and incidental to Payment for Work described in other Sections unless shown otherwise in the Schedule of Quantities and Prices.

END OF SECTION

DUST CONTROL

MMCD SECTION 31 15 60 DUST CONTROL

3.0 EXECUTION

3.1 Application

3.1.5 Add New Specification:

The Contract Administrator may request additional street cleaning which shall be at the Contractor's expense.

3.1.6 Add New Specification:

Aqueous chloride and magnesium cannot be used for Work areas within 100m of a watercourse, and Work areas that are draining to a watercourse.

END OF SECTION

SITE GRADING

MMCD SECTION 31 22 01 SITE GRADING

1.0 GENERAL

1.4 Measurement and Payment

1.4.1

Delete:

Measurement for topsoil stripping including stockpiling for re-use will be made from before and after cross sections of stripped area as determined by Contract Administrator.

Replace with:

No separate Payment will be made for top-soil stripping, unless noted otherwise in the Schedule of Quantities and Prices, as Payment for this Work shall be included in rough site grading and common excavation.

END OF SECTION

MMCD SECTION 31 23 01 EXCAVATING, TRENCHING AND BACKFILLING

1.0 GENERAL

1.7 Disposal

1.7.2 Add New Specification:

The Contractor shall locate their own legal dump site for disposal of all soil, rock and other unsuitable or excess material that results from the completion of the Works.

1.7.3 Add New Specification:

The Contractor shall dispose of any asbestos concrete (AC) pipe in accordance with applicable regulations.

1.10 Measurement and Payment

1.10.3 Delete:

Payment for over-excavation including backfilling will only be made for over-excavation authorized by Contact Administrator. Payment will be based on before and after excavation cross-section areas at sufficient equal intervals over the length of over-excavation.

Replace with:

Payment for over-excavation including backfilling will only be made for over-excavation authorized by Contact Administrator. Payment will be based on length of pipe removed in the over-excavation.

1.10.4 Delete:

Payment for removal and disposal of disused pipes and headwalls encountered during trench excavation to specific disposal site will be in addition to trench Work with no deduction of Payment from such trench Work. No Payment will be made under this item for removal and disposal carried out as part of the operation for removal and disposal of excavated materials from the trenchwork.

Replace with:

Payment for removal and disposal of AC pipes authorized by Contact Administrator to specific disposal site will be in addition to trench Work. Payment for disposal of AC pipe will be made by per tonne bases as weigh slips. No Payment will

be made for removal and disposal of DI or PVC pipe and is considered incidental.

1.10.9 Add New Specification:

Payment will be made for temporary patching by linear metre of trenching in asphalt. No Payment will be made for re-patching of asphalt; this is considered inclusive of temporary patch.

1.11 Inspection and Testing

1.11.2 Add New Specification:

Procter test of backfill material must be provided to Contract Administrator prior to the start of construction.

1.11.3 Add New Specification:

Minimum trench compaction testing, per 50m of trench 1 per 0.5m of trench depth @ 95% and one in top 0.3 @ 100% SPD.

1.11.4 Add New Specification:

Granular Base Course testing 2 – Per 50m Trench, 100% SPD.

3.0 EXECUTION

3.6 Surface Restoration

3.6.6 Delete:

Temporary pavement patching:

- (1) Patch arterial and collector roads same day excavation made.
- (2) Patch all other roads within 24 h of closing trench.
- (3) Patching material to be hot-mix asphalt on all roads unless specified otherwise, cold-mix may be used only where directed by Contract Administrator.
- (4) Place temporary pavement to 50mm minimum thickness.
- (5) Maintain temporary patch to ensure safe and smooth conditions.

Replace with:

Temporary pavement patching:

- (1) As soon as any portion of the highway can be re-opened to traffic, a temporary asphalt patch must be applied. At minimum temporary pavement patches shall be completed no later than 5 PM each Friday or as directed by the Contract Administrator.
- (2) Excavations across entrances, whether private or commercial, must be backfilled and thoroughly compacted by the end of the current working day. The surface must be restored, whether paved or gravel, to its original condition within 48 hours. Affected property Owners must be notified at least 48 hours in advance before excavating a driveway.
- (3) No separate Payment for temporary pavement patching, considered incidental to Excavating, Trenching and Backfilling.
- (4) Place temporary pavement to 50mm minimum thickness.
- (5) Maintain temporary patch to ensure safe and smooth conditions.

3.6.7 Delete:

Permanent pavement restoration:

- (1) Install permanent pavement within 30 days of placement of temporary patch or sooner where directed by Contract Administrator.
- (2) Remove broken or cracked pavement as well as any paved areas showing settlement and dispose off-site.
- (3) Remove underlying granular road base material as required to permit placement of specified thickness of permanent pavement. Ensure remaining base meets specified thickness. Material and placement of road base to Section 32 11 23 – Granular base.
- (4) Compact base to a minimum 95% Modified Proctor density.
- (5) Restore pavement as detailed on Standard Detail Drawing G5. If thickness of existing pavement permits, grind 35mm depth along edge of

pavement. Dry if necessary and paint clean, dry edge with asphalt emulsion (tack coat).

- (6) Place and compact hot-mic pavement material to minimum thickness as shown on Standard Detail Drawing G5.
- (7) Material and placement of hot-mix pavement to Section 32 12 16 - Hot-Mix Asphalt Concrete Paving.
- (8) Restore surface to smooth condition and match with grade of adjacent pavement.
- (9) Where shown on Contract Drawings place hot-mix overlay over restored trench section and adjacent pavement to Section 32 12 16 Hot-Mix Asphalt Concrete Paving.
- (10) Maintain restored pavements in complete repair during Maintenance Period. Effect repairs within 14 days from receipt of written notice from Contract Administrator or immediately if so directed by Contract Administrator if dangerous situation exists.

Replace with:

Permanent Pavement Restoration

- (1) Asphalt concrete must be restored to a minimum of 100mm thickness. Asphaltic concrete must meet ministry standards as set out in Section 502, Standard Specifications for Highway Construction.
- (2) Asphalt concrete is to be laid in 2 or more lifts or layers; Each lift is to be thoroughly compacted before successive lifts are applied.
- (3) Permanent pavement patch to must be to Ministry standards for one (1) year from the date of installation of patch.
- (4) Final permanent pavement shall be completed after the following Spring/Summer to allow for any settlement to occur.
- (5) Eradication of existing lane markings, placement of temporary markings and final line painting shall be the responsibility of the Contractor. All materials and procedures must comply with Ministry

specifications and Manual of Standard Traffic Signs & Pavement Markings.

- (6) The Contract Administrator shall arrange a final inspection of the installation with the Ministry upon completion. Any deficiencies identified during the inspection must be repaired by the Contractor within two (2) weeks (weather permitting).
- (7) Mill driving lane as shown in Contract Drawings to a depth of 50mm as shown in detail MOTI5.
- (8) Restore pavement as detailed on Supplemental Detail Drawing MOTI5. Pavement surface must be dry and clean, dry edge with asphalt emulsion (tack coat).
- (9) Place and compact hot-mix pavement material to minimum thickness as shown on MOTI5.
- (10) Material and placement of hot-mix pavement to Section 32 12 16 - Hot-Mix Asphalt Concrete Paving.
- (11) Restore surface to smooth condition and match with grade of adjacent pavement.
- (12) Where shown on Contract Drawings place hot-mix overlay over restored trench section and adjacent pavement to Section 32 12 16 Hot-Mix Asphalt Concrete Paving.
- (13) Maintain restored pavements in complete repair during Maintenance Period. Effect repairs within 14 days from receipt of written notice from Contract Administrator or immediately if so directed by Contract Administrator if dangerous situation exists.

3.6.8 Add New Specification:

Temporary Gravel Surface:

- (1) Ensure the temporary gravel surface is even and does not have irregularities exceeding 10mm when checked with a 3m straightedge placed in any direction.
- (2) Contractor shall be responsible for maintaining a smooth gravel surface to the motoring public at all times and at the Contractor's expense will respond

to any Contract Administrator requests to fix any potholes that may have developed.

- (3) No separate Payment for temporary gravel surface patching, considered incidental to Excavating, Trenching and Backfilling.

END OF SECTION

Rock Removal

MMCD SECTION 31 23 17 ROCK REMOVAL

1.0 GENERAL

1.7 Disposal

1.7 Delete:

“1.7.1 Contract Administrator will arrange for assessment of adjacent buildings and structures to determine existing conditions and will provide building and structure owners with proposed blasting procedures and copies of assessment report and seismic recording operations.

1.7.2 Cost of the seismic survey and monitoring reports will be paid by the Owner.”

Replace with:

“1.7.1 The Contractor shall include a Pre-Blast and Post-Blast Survey as part of the Blasting Plan for all blasting operations. The survey shall document the existing condition of all structures, utilities, wells, retaining walls, or other potentially affected improvements within the influence zone of the proposed blasting area. The survey shall include dated photographic records and written descriptions sufficient to establish baseline conditions.

1.7.2 The Blasting Plan shall include the survey, vibration-control methods, and shall identify the proposed locations for seismograph monitoring. Both the Blasting Plan and the Pre-Blast Survey shall be submitted to the Contract Administrator for review and acceptance prior to commencement of any blasting activities. No blasting may proceed until written acceptance has been issued.

1.7.3 The Contractor shall engage a qualified subcontractor to conduct the surveys and vibration monitoring, and shall provide copies of all reports, seismograph records, and photographic documentation to the Contract Administrator within five (5) working days of each blasting event or sequence.

1.7.4 All costs associated with preparation, survey, monitoring, and reporting under this section shall be included in the unit price for “Trench Rock – Blasting

Rock Removal

Permitted" as listed in the Schedule of Quantities and Prices.
No separate payment will be made for these works."

END OF SECTION

COLD MILLING

MMCD SECTION 32 01 16.7 COLD MILLING

1.0 GENERAL

1.5 Measurement and Payment 1.5.1

Delete:

Payment for cold milling includes cost of mobilization, demobilization, demonstration milling test section and disposal of off-site or delivery to another location as specified.

Replace with:

Payment for cold milling includes cost of mobilization, demobilization, demonstration milling test section and disposal of off-site or delivery to another location as specified and is considered included under Permanent Pavement Restoration.

1.5.3

Delete:

Payment for cold milling and re-spread milled material as based, or subbase includes cost of mobilization, demobilization and demonstration milling test sections, compaction and disposal surplus materials off-site of delivery to another location as specified.

Replace with:

Payment for cold milling and re-spread milled material as based, or subbase includes cost of mobilization, demobilization and demonstration milling test sections, compaction and disposal surplus materials off-site of delivery to another location as specified by Contract Administrator. Reusing milled material onsite shall also include stockpiling and double handling, spreading, grading and compacting milled material. Payment will be made by square metres with a minimum depth of 50mm of compacted millings.

1.5.4

Add New Specification:

Payment for supply, installation and removal of temporary asphalt slope around manholes, valve covers, and utility covers is incidental to the milling Work.

COLD MILLING

3.0 EXECUTION

3.2 Preparation

3.2.4 Add New Specification:

All manhole rims, valve covers, and utility cover lids must have an asphalt slope from the top of the lid to milled surface of sufficient length to prevent damage to vehicular traffic. These slopes are to be completely removed immediately prior to final paving. These appurtenances must be monitored until final paving. Use of temporary sloped collar will also be acceptable for a period of less than seven (7) days.

3.4 Placing

3.4.6 Add New Specification:

Unless otherwise specified in writing by Contract Administrator, the milling of the existing asphalt shall be followed by repaving within five (5) Days of the commencing of the milling. The milled asphalt surface shall be graded, monitored, signed and maintained at no additional cost to the Owner.

END OF SECTION

HOT MIX ASPHALT CONCRETE PAVING

MMCD SECTION 32 12 16 HOT MIX ASPHALT CONCRETE PAVING

1.0 GENERAL

1.5 Measurement and Payment 1.5.1

Delete:

Payment for asphaltic concrete paving includes all construction joint preparation, supply and placing of the asphaltic concrete, compaction, adjusting and cleaning frames, covers and lids of all castings affected and taped temporary pavement markings.

Measurement by asphaltic concrete paving for the specified design mixes for lower and upper courses will be for asphalt concrete mixes for lower and upper courses will be for asphalt concrete actually incorporated into Work based on weigh tickets provided to Contract Administrator as loads are delivered.

Replace with:

Payment for asphaltic concrete paving includes all construction joint preparation, supply and placing of the asphaltic concrete, compaction, adjusting and cleaning frames, covers and lids of all castings affected and taped temporary pavement markings.

Measurement by asphaltic concrete paving for the specified design mixes for lower and upper courses will be for asphalt concrete actually incorporated into Work based on weigh tickets provided to Contract Administrator as loads are delivered or by square meters as shown in the Schedule of Quantities and Prices.

1.5.2.3 Add New Specification:

Asphalt Infill Strip Permanent Patch is incidental to pavement restoration. Patch area shall be done in two (2) lifts, one (1) at 65mm and 35mm Overlay.

1.5.2.4 Add New Specification:

Asphalt Permanent patch, one (1) Core for every 150m to determine pavement thickness and Density. Core to be taken within the Trench Patch to determine overall thickness is met.

HOT MIX ASPHALT CONCRETE PAVING

1.5.2.5 Add New Specification:
Asphalt Marshall Density 1-Per 400 tonnes, Minimum one (1) Per Day.

1.5.2.6 Add New Specification:
Asphalt Density Testing (Nuclear Density Gauge) 1 Per 20m.

1.5.7 Delete:
Payment for saw cutting asphaltic concrete of Portland cement concrete pavement will only be made for permanent reinstatement and other specific Work shown on Contract Drawings or as directed by Contract Administrator and will not include saw cutting prior to trench excavation for pipe laying Work.

Replace with:

Payment for saw cutting asphaltic concrete or Portland cement concrete pavement will be considered included under Permanent Pavement Restoration. Saw cutting must meet all MMCD and MoTT requirements and Standards.

3.0 EXECUTION

3.3 Preparation 3.3.3 Delete:
Adjust existing castings to new elevations and protect from asphaltic mix.

Replace with:

Adjust existing castings to new elevations and protect from asphaltic mix. Contractor will inform utility agencies with sufficient notice in regard to the affected utility covers. The Contractor shall loosen the utility covers and make adjustments. Adjustment will be completed by the Contractor. Adjustment shall be completed at least one (1) day prior to paving.

3.7 Joints 3.7.4 Delete:
Construct feather joints so that thinner portion of joint contains fine graded material obtained by changed mix design or by raking out coarse aggregate in mix. Place and

HOT MIX ASPHALT CONCRETE PAVING

compact joint so that joint is smooth and without visible breaks in grade. Location of feather joint as specified.

Replace with:

Feather joints are not permitted. Butt joints only.

END OF SECTION

MMCD SECTION 33 01 30.1 CCTV INSPECTION OF PIPELINES

2.0 PRODUCTS

2.2 Materials

2.2.3

Delete:

Digital report data storage to be CD-R.

Replace with:

Digital report data and videos to be stored on a USB memory stick or web-based server and provided to the Contract Administrator.

END OF SECTION

WATERWORKS

MMCD SECTION 33 11 01 WATERWORKS

1.0 GENERAL

- 1.7 Scheduling of Work 1.7.4 Delete:
- Do not interrupt water service for more than 3 h and confine this period between 09:00 and 16:00 h unless otherwise authorized.
- Replace with:
- A minimum of 48 hours prior provide written notification, pre-approved by the Owner, Emergency Services, and to affected residents of impending water service interruption. Affected consumers to be identified in conjunction with the Owner. No services shall be interrupted for more than eight (8) hours in any one (1) day. If necessary, then temporary service must be provided.

3.0 EXECUTION

- 3.10 Service Connection 3.10.13 Add New Specification:
Installation
- Tie-in to existing service connection to be witnessed by Owner representative or as directed by Contract Administrator.

END OF SECTION