

TENDER DOCUMENTS

SECTION 7B

STANDARD PAY ITEMS

Note to Contractor

To facilitate reading, the articles of this Section 7B *Standard Pay Items* are numbered the same as the corresponding articles of Section 6 *Standard Technical Conditions* (except for the first digit, which always refers to the number of the section concerned). Ex: 7.14 and 6.14.

However, Article 7.00 *General Requirements* has no corresponding article in Section 6.

The standard pay items of Section 7B that are relevant to this Contract are listed in Column 2 *Pay Items* of the Price Table.

The measurement units of the standard pay items of Section 7B that are relevant to this Contract are identified in Column 4 *Measurement Unit* of the Price Table.

Unless otherwise indicated, the pay items listed in Column 2 *Pay Items* of the Price Table refer to the standard pay items of this Section 7B that are relevant to this Contract and to the specific pay items described in Article 3.37 *Measurement for Payment* of Section 3 *Special Administrative Conditions*.

TABLE OF CONTENTS

	PAGE
SECTION 7B STANDARD PAY ITEMS	1
7.10 COMMON TECHNICAL CONDITIONS	3
7.11 GENERAL	3
7.12 HEALTH AND SAFETY AT WORK	3
7.13 ENVIRONMENTAL PROTECTION	3
7.14 TRAFFIC CONTROL AND TEMPORARY SIGNAGE	14
7.15 TEMPORARY STRUCTURES.....	25
7.20 DEMOLITION WORK AND REMOVAL	26
7.21 DEMOLITION AND REMOVAL	26
7.30 CONCRETE STRUCTURES	49
7.31 REINFORCING STEEL FOR CONCRETE.....	49
7.32 FORMWORK	52
7.33 CAST-IN-PLACE CONCRETE	54
7.34 SHOTCRETE	68
7.35 INJECTION	70
7.36 PRESTRESSING	72
7.37 MISCELLANEOUS PRODUCTS FOR CONCRETE WORK.....	77
7.38 STRENGTHENING OF STRUCTURAL COMPONENTS WITH CARBON FIBER REINFORCED POLYMER (CFRP)	81
7.39 PRECAST CONCRETE ELEMENTS	82
7.40 STEEL STRUCTURE.....	83
7.41 STEELWORK.....	83

7.42	PAINTING WORK	86
7.43	ALUMINUM WORK.....	88
7.44	SIGNAGE STRUCTURES	88
7.45	NOT APPLICABLE.....	96
7.50	ELECTRICAL WORK.....	96
7.51	CONDUIT, JUNCTION BOXES AND PULL BOXES.....	96
7.52	ELECTRICAL CABLES.....	102
7.53	POWER SUPPLY	104
7.54	ELECTRICAL POWER DISTRIBUTION.....	105
7.55	LIGHTING	105
7.56	TELECOMMUNICATION	111
7.57	INTELLIGENT TRANSPORTATION SYSTEMS (ITS)	117
7.60	SPECIFIC WORK FOR ENGINEERING STRUCTURES.....	122
7.61	BRIDGE JACKING.....	122
7.62	BRIDGE BEARINGS.....	124
7.63	DECK JOINTS	126
7.64	DECK WATERPROOFING MEMBRANE	127
7.70	PERMANENT SIGNAGE	130
7.71	OVERHEAD SIGNAGE.....	130
7.72	SMALL SIGNAGE	133
7.73	ROAD MARKING	134
7.80	EARTHWORKS AND INFRASTRUCTURES	141
7.81	BASE AND SUB-BASE.....	141
7.82	HOT-MIX PAVEMENT	142
7.83	CEMENT CONCRETE PAVEMENT	148

7.84	CONCRETE CURBS, GORES AND PROTECTIVE COVERS	151
7.85	SAFETY ELEMENTS.....	153
7.86	SEWERS AND DRAINAGE	168
7.87	EARTHWORKS	176
7.88	DIRECTIONAL DRILLING	180
7.89	LANDSCAPING	181
7.90	MAINTENANCE WORK.....	182
7.91	MANUAL AND MECHANICAL PATCHING WITH HOT-MIX ASPHALT	182
7.92	SEALING OF ASPHALT PAVEMENT CRACKS	183
7.93	ROAD SWEEPING AND CLEANING OF MANHOLES, CATCH BASINS AND CONSTRUCTION ELEMENTS.....	183
7.94	SNOW REMOVAL AND SPREADING AND SUPPLY OF DE-ICING AND ABRASIVES	183
7.95	LAWN MAINTENANCE.....	183
7.96	MAINTENANCE OF THE BARRIER EXTENSIONS AND ANTI-GLARE SCREENS	183

SECTION 7B STANDARD PAY ITEMS

7.00 GENERAL REQUIREMENTS

- 7.0.1 This Section 7B *Standard Pay Items* presents all standard pay items related to the work described in Section 6 *Standard Technical Conditions*. The standard pay items applicable to this Contract are specified in the Price Table. The specific pay items, if any, are specified in the Price Table and described in Section 3 *Special Administrative Conditions*.
- 7.0.2 The prices tendered for both the standard and the specific pay items of the Price Table shall include all the labour, equipment and materials needed to carry out the work in accordance with the drawings and specifications and as directed in writing by the Engineer, including, without however being limited to, the following:
- 7.0.2.1 the coordination and supervision of the construction work and of the technical and engineering work, including the inspection and survey work, as well as the necessary on-site adjustments and corrections, to ensure that the work is carried out in accordance with good practices and with the requirements of the drawings and specifications;
 - 7.0.2.2 the transportation of the personnel to and from the worksite;
 - 7.0.2.3 the coordination of the work with third parties, notably in accordance with Article 5.25 *Simultaneous Works by the Owner or Other Contractors* of these specifications;
 - 7.0.2.4 anything needed to complete the work in accordance with the drawings and specifications, whether or not the specific elements are mentioned in the specifications or shown on the drawings;
 - 7.0.2.5 all financing costs, including the interest on the contractual and security holdbacks;
 - 7.0.2.6 all administration fees as well as the profit;
 - 7.0.2.7 the contractual warranty;
 - 7.0.2.8 any special measures that must be taken by the Contractor for work in cold or hot weather that are not specifically included in the standard and specific pay items;
 - 7.0.2.9 where applicable, mark-ups applicable to reflect that the work is carried out over a number of years;
 - 7.0.2.10 in-plant or on-site quality control.

7.0.3 For the purposes of this Contract, the measurement unit applicable to the standard pay items for which multiple measurement units are provided is that shown in the Price Table.

7.0.4 In order to simplify the description of the various standard pay items, the following measurement unit symbols are therein used:

Measurement Unit	Designation	Symbol
length	metre	m
length	centimetre	cm
length	millimetre	mm
length	micrometre	µm
length	nanometre	nm
length	kilometre	km
area	square metre	m ²
area	square millimetre	mm ²
area	square centimetre	cm ²
area	hectare	ha
volume	cubic metre	m ³
volume	cubic centimetre	cm ³
volume	litre	L
volume	millilitre	mL
mass	gram	g
mass	kilogram	kg
mass	milligram	mg
mass	ton	t
surface mass	gram per square metre	g/m ²
density	kilogram per cubic metre	kg/m ³
electric current intensity	ampere	A
electric current intensity	microampere	µA
electric current intensity	milliampere	mA
luminous intensity	candela	cd
luminous intensity	millicandela	mcd
loudness	decibel	dB
loudness	decibel A	dB(A)
mitigation	decibels per kilometre	dB/km
electric potential difference	volt	V
electric potential difference	millivolt	mV
electric potential difference	kilovolt	kV
alternating current voltage	volt	Vca
direct current voltage	volt	Vcc
stress, pressure	pascal	Pa
stress, pressure	kilopascal	kPa
stress, pressure	megapascal	MPa
force	newton	N
force	kilonewton	kN
moment of a force	newton metre	N m
temperature	Celsius degree	°C
angle, plan	degree	°
angle, plan	radian	rad
power	watt	W

apparent power	volt-ampere	VA
luminous flux, luminous energy	lumen	lm
luminous efficiency	lumen per watt	lm/W
illuminance	lux	lx
electric inductance	microhenry	μH
electric resistance	ohm	Ω
electric resistance	megohm	MΩ
resistivity	ohm-centimetre	Ω cm
frequency	hertz	Hz
frequency	kilohertz	kHz
frequency	megahertz	MHz
frequency	gigahertz	GHz
energy, work, quantity of heat	joule	J
time	hour	h
time	minute	min
time	second	s
time	millisecond	ms
viscosity	millipascal-second	mPa s
speed	metre per second	m/s
speed	millimetre per second	mm/s
speed	kilometre per hour	km/h

7.0.5 In order to simplify the description of the various standard pay items, the term “engineer” refers to an individual who is either a member of the *Ordre des ingénieurs du Québec* (OIQ) or holds a permit therefrom.

7.10 COMMON TECHNICAL CONDITIONS

7.11 GENERAL

7.11.1 Subsection 6.11 is not the subject of any standard pay item.

7.12 HEALTH AND SAFETY AT WORK

7.12.1 Subsection 6.12 is not the subject of any standard pay item.

7.13 ENVIRONMENTAL PROTECTION

7.13.1 PAY ITEM 7.13.1 – TEMPORARY EMBANKMENT STABILIZATION

7.13.1.1 The temporary embankment stabilization is measured for payment per m² of embankment stabilized without any adjustments for the overlap and/or the adjustments shown on the drawings in accordance with the drawings and specifications and as directed in writing by the Engineer.

- 7.13.1.2 The price tendered for this pay item shall include, without however being limited to, the following:
 - 7.13.1.2.1 the supply of the specific materials in function of the method chosen for the temporary embankment stabilization;
 - 7.13.1.2.2 the installation and fastening works;
 - 7.13.1.2.3 the maintenance and reinstallation of the stabilization measures;
 - 7.13.1.2.4 the dismantling and disposal of the stabilization measures;
 - 7.13.1.2.5 the restoration of the site that is the subject of this pay item.

7.13.2 PAY ITEM 7.13.2 – STRAW BALE FILTERS

- 7.13.2.1 The straw bale filters are measured for payment per m of straw bale filter supplied and installed in accordance with the drawings and specifications and as directed in writing by the Engineer.
- 7.13.2.2 The price tendered for this pay item shall include, without however being limited to, the following:
 - 7.13.2.2.1 the supply of the specific materials, straw bale and stakes required for fastening thereof;
 - 7.13.2.2.2 the installation, including the excavation of the pit, placement of the bales and fastening thereof;
 - 7.13.2.2.3 the maintenance, including the removal, transportation and off-site disposal of the sediments;
 - 7.13.2.2.4 the dismantling of the filter, including the removal, transportation and off-site disposal of the sediments and other waste, including the straw;
 - 7.13.2.2.5 the restoration of the site that is the subject of this pay item.

7.13.3 PAY ITEM 7.13.3 – TEMPORARY SILT BARRIER MADE OF WOVEN FABRICS

- 7.13.3.1 The temporary silt barrier made of woven fabrics is measured for payment per m of barrier supplied and installed in accordance with the drawings and specifications and as directed in writing by the Engineer.
- 7.13.3.2 The price tendered for this pay item shall include, without however being limited to, the following:
 - 7.13.3.2.1 the supply of the specific woven geotextile fabrics;

- 7.13.3.2.2 the installation, including the trenching, installation of the barrier and backfilling of the trench;
- 7.13.3.2.3 the maintenance, including the removal, transportation and off-site disposal of the sediments, solidification and reinstallation of the barrier;
- 7.13.3.2.4 the dismantling the barrier and disposal of the materials;
- 7.13.3.2.5 the restoration of the site that is the subject of this pay item.

7.13.4 PAY ITEM 7.13.4 – TEMPORARY SILT BARRIER MADE OF NON-WOVEN FABRICS

7.13.4.1 The temporary silt barrier made of non-woven fabrics is measured for payment per m of barrier supplied and installed in accordance with the drawings and specifications and as directed in writing by the Engineer.

7.13.4.2 The price tendered for this pay item shall include, without however being limited to, the following:

- 7.13.4.2.1 the supply of the specific non-woven geotextile fabrics;
- 7.13.4.2.2 the installation, including the trenching, installation of the barrier and backfilling of the trench;
- 7.13.4.2.3 the maintenance, including the removal, transportation and off-site disposal of the sediments, solidification and reinstallation of the barrier;
- 7.13.4.2.4 the dismantling the fence and disposal of the materials;
- 7.13.4.2.5 the restoration of the site that is the subject of this pay item.

7.13.5 PAY ITEM 7.13.5 – SEDIMENT RETENTION FIBER ROLLS

7.13.5.1 The sediment retention fiber rolls are measured for payment per m of fiber roll supplied and installed in accordance with the drawings and specifications and as directed in writing by the Engineer.

7.13.5.2 The price tendered for this pay item shall include, without however being limited to, the following:

- 7.13.5.2.1 the supply of the fiber rolls and of the specific materials required for fastening thereof;
- 7.13.5.2.2 the installation, including the excavation of the pit, installation of the fiber rolls and fastening thereof;
- 7.13.5.2.3 the maintenance, including the removal, transportation and off-site disposal of the sediments;

7.13.5.2.4 the dismantling of the filter, including the removal, transportation and off-site disposal of the sediments and other waste, including the straw;

7.13.5.2.5 the restoration of the site that is the subject of this pay item.

7.13.6 PAY ITEM 7.13.6 – TEMPORARY SEDIMENT BERMS AND TRAPS

7.13.6.1 The temporary sediment berms and traps are measured for payment per unit of temporary sediment berm and trap supplied and installed in accordance with the drawings and specifications and as directed in writing by the Engineer.

7.13.6.2 The price tendered for this pay item shall include, without however being limited to, the following:

7.13.6.2.1 the supply of the berm, trap and geotextile membrane;

7.13.6.2.2 the installation of the berm and trap, including the excavation of the trap as well as the placement of the stones and of the geotextile membrane for the watertight berms;

7.13.6.2.3 the maintenance, including the removal, transportation and off-site disposal of the sediments, replacement of the stones and replacement of the geotextile membrane;

7.13.6.2.4 the dismantling of the berm and backfilling of the trap, including the removal, transportation and off-site disposal of the sediments, stones and other residues.

7.13.7 PAY ITEM 7.13.7 – TEMPORARY SEDIMENTATION AND FILTER TANK

7.13.7.1 The temporary sedimentation and filter tank is measured for payment per unit of temporary sedimentation and filter tank placed in accordance with the drawings and specifications and as directed in writing by the Engineer.

7.13.7.2 The price tendered for this pay item shall include, without however being limited to, the following:

7.13.7.2.1 the supply of a tank and/or construction of a temporary sedimentation and filter tank;

7.13.7.2.2 the excavation, including Class 1 or Class 2 excavations and topsoil;

7.13.7.2.3 the setting up of a deposition area, installation of a filtration equipment or placement of a geotextile filter bag;

7.13.7.2.4 the disposal of the Class 1 or Class 2 excavation waste found in the tank;

- 7.13.7.2.5 the supply of the specific materials, including the pump, generator, geotextile membrane and all other sedimentation and/or filtration measures;
- 7.13.7.2.6 the installation, including the construction of the pumping water inlet and outlet;
- 7.13.7.2.7 the maintenance, including the removal, transportation and off-site disposal of the sediments and, where applicable, the repairs;
- 7.13.7.2.8 the dismantling of the tank, including the removal, transportation and off-site disposal of the sediments or other matters found in the tank, including all materials used for the construction of the tank;
- 7.13.7.2.9 the restoration of the site that is the subject of this pay item.

7.13.8 PAY ITEM 7.13.8 – RUNOFF WATER DIVERSION

- 7.13.8.1 The runoff water diversion is measured for payment per m of ditch or dike executed for the purposes of diverting the runoff water in accordance with the drawings and specifications and as directed in writing by the Engineer.
- 7.13.8.2 The price tendered for this pay item shall include, without however being limited to, the following:
 - 7.13.8.2.1 the installation, including the excavation and execution of the ditch and/or dike;
 - 7.13.8.2.2 the provision of the mode for stabilizing the exposed soil in the diversion;
 - 7.13.8.2.3 the maintenance, including the removal, transportation and off-site disposal of the sediments and, where applicable, the repairs;
 - 7.13.8.2.4 the dismantling of the dike and/or backfilling of the ditch, including the removal, transportation and off-site disposal of the sediments, stones and other residues;
 - 7.13.8.2.5 restoration of the site that is the subject of this pay item.

7.13.9 PAY ITEM 7.13.9 – TURBIDITY CURTAIN

- 7.13.9.1 The turbidity curtain is measured for payment per m of turbidity curtain placed in accordance with the drawings and specifications and as directed in writing by the Engineer.

- 7.13.9.2 The price tendered for this pay item shall include, without however being limited to, the following:
- 7.13.9.2.1 the supply of the specific materials, including the watertight geotextile, ballasting and anchoring and flotation systems;
 - 7.13.9.2.2 the installation works;
 - 7.13.9.2.3 the monitoring and inspections;
 - 7.13.9.2.4 the maintenance, including the removal, transportation and off-site disposal of the sediments and, where applicable, the repairs and pumping;
 - 7.13.9.2.5 the maintenance in place of the curtain during the sediment settling prior to dismantling thereof;
 - 7.13.9.2.6 the dismantling of the curtain, including the removal of the entire structure, transportation and off-site disposal of the sediments and, where applicable, of the structure, as well as of the stones and other residues;
 - 7.13.9.2.7 the restoration of the site that is the subject of this pay item.
- 7.13.10 PAY ITEM 7.13.10 – CONCRETE MIXER CLEANING AREAS
- 7.13.10.1 The concrete mixer cleaning areas are measured for payment per unit of concrete mixer for which a cleaning area is constructed in accordance with the drawings and specifications and as directed in writing by the Engineer.
 - 7.13.10.2 The price tendered for this pay item shall include, without however being limited to, the following:
 - 7.13.10.2.1 the construction of a cleaning area or supply of a tight container that may, where applicable, contain water and residues;
 - 7.13.10.2.2 the supply and placement of the waterproof membrane;
 - 7.13.10.2.3 the maintenance of the area and relocation in function of the work location;
 - 7.13.10.2.4 the management and treatment of the water and sludge from the cleaning of the concrete mixer;
 - 7.13.10.2.5 the dismantling of the cleaning area, including the waterproof membrane;
 - 7.13.10.2.6 the off-site disposal of the materials and water in an authorized site;
 - 7.13.10.2.7 the restoration of the site that is the subject of this pay item.

7.13.11 PAY ITEM 7.13.11 – STOCKPILING FOR THE TEMPORARY STORAGE OF THE SOIL EXCAVATED FOR SAMPLING PURPOSES

7.13.11.1 The stockpiling for the temporary storage of the soil excavated for sampling purposes is measured for payment per m³ of soil excavated stockpiled for temporary storage in accordance with the drawings and specifications and as directed in writing by the Engineer.

7.13.11.2 The price tendered for this pay item shall include, without however being limited to, the following:

7.13.11.2.1 the excavation;

7.13.11.2.2 the loading of the materials in trucks;

7.13.11.2.3 the transportation;

7.13.11.2.4 the unloading of the truck;

7.13.11.2.5 the stockpiling;

7.13.11.2.6 the supply of a waterproof membrane including the ballasting equipment;

7.13.11.2.7 the covering of the stockpiles of materials with a waterproof membrane.

7.13.12 PAY ITEM 7.13.12 – OFF-SITE DISPOSAL OF <A SOIL FROM THE EXCAVATION SITE

7.13.12.1 The off-site disposal of <A soil from the excavation site is measured for payment per m³ of <A soil disposed of off-site from the excavation site in accordance with the drawings and specifications and as directed in writing by the Engineer.

7.13.12.2 The price tendered for this pay item shall include, without however being limited to, the following:

7.13.12.2.1 the excavation;

7.13.12.2.2 the loading of the materials in trucks;

7.13.12.2.3 the off-site transportation;

7.13.12.2.4 the off-site disposal of the contaminated soil in an authorized site;

7.13.12.2.5 the cleaning of the trucks prior to use thereof for another soil category.

7.13.13 PAY ITEM 7.13.13 – OFF-SITE DISPOSAL OF A-B SOIL FROM THE EXCAVATION SITE

7.13.13.1 The off-site disposal of A-B soil from the excavation site is measured for payment per m³ of A-B soil disposed of off-site from the excavation site in accordance with the drawings and specifications and as directed in writing by the Engineer.

7.13.13.2 The price tendered for this pay item shall include, without however being limited to, the following:

7.13.13.2.1 the excavation;

7.13.13.2.2 the loading of the materials in trucks;

7.13.13.2.3 the off-site transportation;

7.13.13.2.4 the off-site disposal of the contaminated soil in an authorized site;

7.13.13.2.5 the cleaning of the trucks prior to use thereof for another soil category.

7.13.14 PAY ITEM 7.13.14 – OFF-SITE DISPOSAL OF B-C SOIL FROM THE EXCAVATION SITE

7.13.14.1 The off-site disposal of B-C soil from the excavation site is measured for payment per m³ of B-C soil disposed of off-site from the excavation site in accordance with the drawings and specifications and as directed in writing by the Engineer.

7.13.14.2 The price tendered for this pay item shall include, without however being limited to, the following:

7.13.14.2.1 the excavation;

7.13.14.2.2 the loading of the materials in trucks;

7.13.14.2.3 the off-site transportation;

7.13.14.2.4 the off-site disposal of the contaminated soil in an authorized site;

7.13.14.2.5 the cleaning of the trucks prior to use thereof for another soil category.

7.13.15 PAY ITEM 7.13.15 – OFF-SITE DISPOSAL OF C-RBCS SOIL FROM THE EXCAVATION SITE

7.13.15.1 The off-site disposal of C-RBCS soil from the excavation site is measured for payment per m³ of C-RBCS soil disposed of off-site from the excavation site in accordance with the drawings and specifications and as directed in writing by the Engineer.

7.13.15.2 The price tendered for this pay item shall include, without however being limited to, the following:

7.13.15.2.1 the excavation;

7.13.15.2.2 the loading of the materials in trucks;

7.13.15.2.3 the off-site transportation;

7.13.15.2.4 the off-site disposal of the contaminated soil in an authorized site;

7.13.15.2.5 the cleaning of the trucks prior to use thereof for another category of soil.

7.13.16 PAY ITEM 7.13.16 – OFF-SITE DISPOSAL OF >RBCS SOIL FROM THE EXCAVATION SITE

7.13.16.1 The off-site disposal of >RBCS soil from the excavation site is measured for payment per m³ of >RBCS soil disposed of off-site from the excavation site in accordance with the drawings and specifications and as directed in writing by the Engineer.

7.13.16.2 The price tendered for this pay item shall include, without however being limited to, the following:

7.13.16.2.1 the excavation;

7.13.16.2.2 the loading of the materials in trucks;

7.13.16.2.3 the off-site transportation;

7.13.16.2.4 the off-site disposal of the contaminated soil in an authorized site;

7.13.16.2.5 the cleaning of the trucks prior to use thereof for another category of soil.

7.13.17 PAY ITEM 7.13.17 – OFF-SITE DISPOSAL OF <A SOIL FROM THE TEMPORARY STORAGE AREA

7.13.17.1 The off-site disposal of <A soil from the temporary storage area is measured for payment per m³ of <A soil disposed of off-site from the temporary storage area in accordance with the drawings and specifications and as directed in writing by the Engineer.

7.13.17.2 The price tendered for this pay item shall include, without however being limited to, the following:

7.13.17.2.1 the loading of the materials in trucks;

7.13.17.2.2 the transportation off the storage site;

- 7.13.17.2.3 the off-site disposal of the contaminated soil in an authorized site;
- 7.13.17.2.4 the cleaning of the trucks prior to use thereof for another category of soil.

7.13.18 PAY ITEM 7.13.18 – OFF-SITE DISPOSAL OF A-B SOIL FROM THE TEMPORARY STORAGE AREA

7.13.18.1 The off-site disposal of A-B soil from the temporary storage area is measured for payment per m³ of A-B soil disposed of off-site from the temporary storage area in accordance with the drawings and specifications and as directed in writing by the Engineer.

7.13.18.2 The price tendered for this pay item shall include, without however being limited to, the following:

- 7.13.18.2.1 the loading of the materials in trucks;
- 7.13.18.2.2 the transportation off the storage site;
- 7.13.18.2.3 the off-site disposal of the contaminated soil in an authorized site;
- 7.13.18.2.4 the cleaning of the trucks prior to use thereof for another soil category.

7.13.19 PAY ITEM 7.13.19 – OFF-SITE DISPOSAL OF B-C SOIL FROM THE TEMPORARY STORAGE AREA

7.13.19.1 The off-site disposal of B-C soil from the temporary storage area is measured for payment per m³ of B-C soil disposed of off-site from the temporary storage area in accordance with the drawings and specifications and as directed in writing by the Engineer.

7.13.19.2 The price tendered for this pay item shall include, without however being limited to, the following:

- 7.13.19.2.1 the loading of the materials in trucks;
- 7.13.19.2.2 the transportation off the storage site;
- 7.13.19.2.3 the off-site disposal of the contaminated soil in an authorized site;
- 7.13.19.2.4 the cleaning of the trucks prior to use thereof for another soil category.

7.13.20 PAY ITEM 7.13.20 – OFF-SITE DISPOSAL OF C-RBCS SOIL FROM THE TEMPORARY STORAGE AREA

7.13.20.1 The off-site disposal of C-RBCS soil from the temporary storage area is measured for payment per m³ of C-RBCS soil disposed of off-site from the temporary storage area in accordance with the drawings and specifications and as directed in writing by the Engineer.

7.13.20.2 The price tendered for this pay item shall include, without however being limited to, the following:

7.13.20.2.1 the loading of the materials in trucks;

7.13.20.2.2 the transportation off the storage site;

7.13.20.2.3 the off-site disposal of the contaminated soil in an authorized site;

7.13.20.2.4 the cleaning of the trucks prior to use thereof for another soil category.

7.13.21 PAY ITEM 7.13.21 – OFF-SITE DISPOSAL OF >RBCS SOIL FROM THE TEMPORARY STORAGE AREA

7.13.21.1 The off-site disposal of >RBCS soil from the temporary storage area is measured for payment per m³ of >RBCS soil disposed of off-site from the temporary storage area in accordance with the drawings and specifications and as directed in writing by the Engineer.

7.13.21.2 The price tendered for this pay item shall include, without however being limited to, the following:

7.13.21.2.1 the loading of the materials in trucks;

7.13.21.2.2 the transportation off the storage site;

7.13.21.2.3 the off-site disposal of the contaminated soil in an authorized site;

7.13.21.2.4 the cleaning of the trucks prior to use thereof for another soil category.

7.13.22 PAY ITEM 7.13.22 – CONTAMINATED WATER MANAGEMENT

7.13.22.1 The contaminated water management is measured for payment per L of contaminated water treated in accordance with the drawings and specifications and as directed in writing by the Engineer.

- 7.13.22.2 The price tendered for this pay item shall include, without however being limited to, the following:
- 7.13.22.2.1 the supply, installation and operation of a mobile unit for the treatment of contaminated water;
 - 7.13.22.2.2 the samplings and analyses of the contaminated water by a laboratory accredited by the *Ministère du Développement durable, de l'Environnement et de la Lutte contre les changements climatiques* (MDDELCC);
 - 7.13.22.2.3 the temporary storage of the contaminated water pending the discharge authorization by the Engineer;
 - 7.13.22.2.4 the off-site disposal of the contaminated water in an authorized site;
 - 7.13.22.2.5 the off-site treatment of the contaminated water in an authorized site.

7.14 TRAFFIC CONTROL AND TEMPORARY SIGNAGE

- 7.14.1 PAY ITEM 7.14.1 – CLOSURE OF A SHOULDER FOR A MAXIMUM PERIOD OF TWENTY-FOUR (24) HOURS
- 7.14.2 PAY ITEM 7.14.2 – CLOSURE OF ONE (1) TRAFFIC LANE FOR A MAXIMUM PERIOD OF TWENTY-FOUR (24) HOURS
- 7.14.3 PAY ITEM 7.14.3 – CLOSURE OF TWO (2) TRAFFIC LANES FOR A MAXIMUM PERIOD OF TWENTY-FOUR (24) HOURS
- 7.14.4 PAY ITEM 7.14.4 – CLOSURE OF AN ENTRANCE OR EXIT RAMP FOR A MAXIMUM PERIOD OF TWENTY-FOUR (24) HOURS
- 7.14.5 PAY ITEM 7.14.5 – CLOSURE OF A ROAD OR BOULEVARD (LOCAL NETWORK) FOR A MAXIMUM PERIOD OF TWENTY-FOUR (24) HOURS
- 7.14.6 PAY ITEM 7.14.6 – CLOSURE OF A HIGHWAY (2 TAPERS) FOR A MAXIMUM PERIOD OF TWENTY-FOUR (24) HOURS
- 7.14.7 PAY ITEM 7.14.7 – CLOSURE OF A HIGHWAY (3 TAPERS) FOR A MAXIMUM PERIOD OF TWENTY-FOUR (24) HOURS
- 7.14.7.1 The closure of the roadway elements specified in Pay Items 7.14.1 to 7.14.7 for a maximum period of twenty-four (24) hours is measured for payment per unit of closures carried out in accordance with the drawings and specifications and as directed in writing by the Engineer.

- 7.14.7.2 The price tendered for each of these pay items shall include, without however being limited to, the following:
- 7.14.7.2.1 the preparation of the Traffic Management and Control Plan and of the temporary signage drawings signed and sealed by an engineer;
 - 7.14.7.2.2 the temporary signage for the implementation of the closure and the performance of all traffic maintenance work in accordance with subsection 6.14 *Traffic Control and Temporary Signage*;
 - 7.14.7.2.3 the mobilization, demobilization and maintaining in place of the temporary signage for a maximum period of twenty-four (24) hours;
 - 7.14.7.2.4 the maintenance and replacement of the signage in case of breakage or vandalism;
 - 7.14.7.2.5 the activation or deactivation (masking-unmasking), where applicable;
 - 7.14.7.2.6 the movement and dismantling of all temporary traffic control devices and of all equipment required to carry out a closure for a period of twenty-four (24) hours;
 - 7.14.7.2.7 the setting up of a 200 m long work area for the beaconing (visual markers). Any excess length will be considered additional beaconing and shall be payable under Pay Item 7.14.15 *Additional Beaconing (Visual Markers) for Lane, Ramp, Shoulder, Road, Boulevard and Highway Closure(s)* of the Price Table;
 - 7.14.7.2.8 the provision of all personnel assigned to signage, including the person in charge of signage, as well as the machinery and vehicles needed for the temporary signage;
 - 7.14.7.2.9 the supply and operation of accompanying work vehicles for the carrying out of the closures;
 - 7.14.7.2.10 the supply and operation of truck mounted impact attenuators (TMA);
 - 7.14.7.2.11 the maintenance as well as masking and unmasking of the traffic signage panels, detour signage panels and, where applicable, optional routes during this twenty-four (24) hour period;
 - 7.14.7.2.12 all flagmen required for the closures, work and maintaining in place of the pedestrian and bicycle crossings, as applicable, including the required equipment, as well as the vests, flags and additional signage;
 - 7.14.7.2.13 the maintenance of the alternative roadway elements used by road users during the work period;

- 7.14.7.2.14 the safe entrances and exits of both the Contractor and of any stakeholder in the Contractor's work area;
- 7.14.7.2.15 all costs related to the application of the traffic hindrance minimization system in accordance with Article 6.14.12 *Traffic Hindrance Minimization System*.
- 7.14.8 PAY ITEM 7.14.8 – CLOSURE OF A SHOULDER BEYOND THE INITIAL PERIOD OF TWENTY-FOUR (24) HOURS
- 7.14.9 PAY ITEM 7.14.9 – CLOSURE OF ONE (1) TRAFFIC LANE BEYOND THE INITIAL PERIOD OF TWENTY-FOUR (24) HOURS
- 7.14.10 PAY ITEM 7.14.10 – CLOSURE OF TWO (2) TRAFFIC LANES BEYOND THE INITIAL PERIOD OF TWENTY-FOUR (24) HOURS
- 7.14.11 PAY ITEM 7.14.11 – CLOSURE OF AN ENTRANCE OR EXIT RAMP BEYOND THE INITIAL PERIOD OF TWENTY-FOUR (24) HOURS
- 7.14.12 PAY ITEM 7.14.12 – CLOSURE OF A ROAD OR BOULEVARD (LOCAL NETWORK) BEYOND THE INITIAL PERIOD OF TWENTY-FOUR (24) HOURS
- 7.14.13 PAY ITEM 7.14.13 – CLOSURE OF A HIGHWAY (2 TAPERS) BEYOND THE INITIAL PERIOD OF TWENTY-FOUR (24) HOURS
- 7.14.14 PAY ITEM 7.14.14 – CLOSURE OF A HIGHWAY (3 TAPERS) BEYOND THE INITIAL PERIOD OF TWENTY-FOUR (24) HOURS
- 7.14.14.1 The closure of the roadway elements specified in Pay Items 7.14.8 to 7.14.14 beyond the initial period of twenty-four (24) hours is measured for payment per unit of closures carried out in accordance with the drawings and specifications and as directed in writing by the Engineer.
- 7.14.14.2 The price tendered for each of these pay items shall include, without however being limited to, the following:
 - 7.14.14.2.1 the provision of all personnel assigned to signage in accordance with subsection 6.14 *Traffic Control and Temporary Signage*, as well as the machinery and vehicles needed for the temporary signage;
 - 7.14.14.2.2 the maintaining in place, repositioning, replacement and maintenance of all signage equipment beyond the initial period of twenty-four (24) hours;
 - 7.14.14.2.3 the maintenance, as well as masking and unmasking of the traffic signage panels, detour signage panels and, where applicable, optional routes beyond the initial period of twenty-four (24) hours;
 - 7.14.14.2.4 the maintenance of the alternative roadway elements used by road users during the work period;

7.14.14.2.5 the safe entrances and exits of both the Contractor and of any stakeholder in the Contractor's work area.

7.14.15 PAY ITEM 7.14.15 – ADDITIONAL BEACONING (VISUAL MARKERS) FOR LANE, RAMP, SHOULDER, ROAD, BOULEVARD AND HIGHWAY CLOSURE(S)

7.14.15.1 The additional beaconing (visual markers) for lane, ramp, shoulder, road, boulevard and highway closure(s) is measured for payment per m of beaconing supplied in accordance with the drawings and specifications and as directed in writing by the Engineer.

7.14.15.2 The additional beaconing for lane, ramp, shoulder, road, boulevard and highway closure(s) shall be the beaconing required for a work area longer than 200 m. The value E represents a value of 10 m.

7.14.15.2.1 Where the centre-to-centre spacing value E is other than 10 m, the length of the additional beaconing shall be calculated for payment purposes using the following method:

$$\text{length} = \frac{10 \text{ m} \times \text{length of the additional beaconing (m)}}{\text{Value of E (m)}}$$

7.14.15.3 The price tendered for this pay item shall include, without however being limited to, the following:

7.14.15.3.1 the supply, mobilization, demobilization and maintaining in place of the additional beaconing for a period of twenty-four (24) hours in accordance with subsection 6.14 *Traffic Control and Temporary Signage*;

7.14.15.3.2 the maintenance and replacement of the signage in case of breakage or vandalism;

7.14.15.3.3 the activation or deactivation (masking-unmasking), where applicable;

7.14.15.3.4 the movement and repositioning, where applicable;

7.14.15.3.5 the provision of all personnel assigned to signage, in accordance with subsection 6.14 *Traffic Control and Temporary Signage*, as well as the machinery and vehicles needed for the temporary signage.

7.14.16 PAY ITEM 7.14.16 – MAINTAINING IN PLACE OF THE ADDITIONAL BEACONING (VISUAL MARKERS) FOR LANE, RAMP, SHOULDER, ROAD, BOULEVARD AND HIGHWAY CLOSURE(S)

7.14.16.1 The maintaining in place of the additional beaconing (visual markers) for lane, ramp, shoulder, road, boulevard and highway closure(s) is measured for payment per metre-day of beaconing supplied beyond the initial period of twenty-four (24) hours in accordance with the drawings and specifications and as directed in writing by the Engineer.

- 7.14.16.2 The maintaining in place of the additional beaconing for lane, ramp, shoulder, road, boulevard and highway closure(s) shall be the beaconing required for a work area longer than 200 m. The value E represents a value of 10 m.
- 7.14.16.2.1 Where the centre-to-centre spacing value E is other than 10 m, the length shall be calculated for payment purposes using the following method:
- $$\text{length} = \frac{10 \text{ m} \times \text{length of the additional beaconing (m)}}{\text{Value of E (m)}}$$
- 7.14.16.3 The price tendered for this pay item shall include, without however being limited to, the following:
- 7.14.16.3.1 the maintaining in place of the beaconing beyond the initial period of twenty-four (24) hours in accordance with subsection 6.14 *Traffic Control and Temporary Signage*;
- 7.14.16.3.2 the maintenance and replacement of the signage in case of breakage or vandalism;
- 7.14.16.3.3 the activation or deactivation (masking-unmasking), where applicable;
- 7.14.16.3.4 the movement and repositioning, where applicable;
- 7.14.16.3.5 the provision of all personnel assigned to signage in accordance with subsection 6.14 *Traffic Control and Temporary Signage*, as well as the machinery and vehicles needed for the temporary signage.
- 7.14.17 PAY ITEM 7.14.17 – MOBILE VARIABLE MESSAGE SIGNS (VMS) (UNIT-DAY)
- 7.14.18 PAY ITEM 7.14.18 – MOBILE VARIABLE MESSAGE SIGNS (VMS) (UNIT-WEEK)
- 7.14.19 PAY ITEM 7.14.19 – MOBILE VARIABLE MESSAGE SIGNS (VMS) (UNIT-MONTH)
- 7.14.19.1 The mobile variable message signs (VMS) installed for the duration specified in Pay Items 7.14.17 to 7.14.19 are measured for payment per unit of mobile variable message signs (VMS) supplied and installed in accordance with the drawings and specifications and as directed in writing by the Engineer.
- 7.14.19.2 The price tendered for each of these pay items shall include, without however being limited to, the following:
- 7.14.19.2.1 the supply;
- 7.14.19.2.2 the transportation;
- 7.14.19.2.3 the mobilization;

- 7.14.19.2.4 the maintaining in place;
- 7.14.19.2.5 the maintenance;
- 7.14.19.2.6 the movements of the VMS that may be required during installation;
- 7.14.19.2.7 the replacement in case of breakage or vandalism;
- 7.14.19.2.8 the programming and operation;
- 7.14.19.2.9 the demobilization and pick-up at the end of the work.

7.14.20 PAY ITEM 7.14.20 – MOVEMENT OF MOBILE VARIABLE MESSAGE SIGNS (VMS)

- 7.14.20.1 The movement of mobile variable message signs (VMS) is measured for payment per unit of mobile VMS moved in accordance with the drawings and specifications and as directed in writing by the Engineer.
- 7.14.20.2 The price tendered for this pay item shall include, without however being limited to, the following:
 - 7.14.20.2.1 the pick-up of VMS;
 - 7.14.20.2.2 the transportation and installation at the new site.

7.14.21 PAY ITEM 7.14.21 – MOBILIZATION, DEMOBILIZATION AND MAINTAINING IN PLACE OF CONCRETE WORKSITE BARRIERS FOR A PERIOD OF TWENTY-FOUR (24) HOURS

- 7.14.21.1 The mobilization, demobilization and maintaining in place of the concrete worksite barriers for a period of twenty-four (24) hours are measured for payment per m of concrete barriers supplied and installed in accordance with the drawings and specifications and as directed in writing by the Engineer.
- 7.14.21.2 The price tendered for this pay item shall include, without however being limited to, the following:
 - 7.14.21.2.1 the supply;
 - 7.14.21.2.2 the transportation to the worksite;
 - 7.14.21.2.3 the unloading;
 - 7.14.21.2.4 the installation;
 - 7.14.21.2.5 the maintaining in place for a period of twenty-four (24) hours;
 - 7.14.21.2.6 the repositioning, if required;

- 7.14.21.2.7 the replacement of the damaged sections, where applicable;
- 7.14.21.2.8 the loading at the end of the work;
- 7.14.21.2.9 the transportation off-site;
- 7.14.21.2.10 the signage during such operations;
- 7.14.21.2.11 the supply and installation of mini beacons (T-RV-11) at every alternate safety barrier section, as well as maintenance and removal thereof.
- 7.14.21.3 The amount tendered for this pay item shall be payable as follows:
- 60% following the barriers mobilization;
 - 40% following the barriers demobilization.
- 7.14.22 PAY ITEM 7.14.22 – MAINTAINING IN PLACE OF CONCRETE WORKSITE BARRIERS BEYOND THE INITIAL PERIOD OF TWENTY-FOUR (24) HOURS
- 7.14.22.1 The maintaining in place of concrete worksite barriers beyond the initial period of twenty-four (24) hours is measured for payment per metre-day of concrete barriers maintained in place in accordance with the drawings and specifications and as directed in writing by the Engineer.
- 7.14.22.2 The price tendered for this pay item shall include, without however being limited to, the following:
- 7.14.22.2.1 the maintaining in place of the barriers beyond the initial period of twenty-four (24) hours;
- 7.14.22.2.2 the maintenance;
- 7.14.22.2.3 the repositioning, if required;
- 7.14.22.2.4 the replacement of the damaged sections, where applicable;
- 7.14.22.2.5 the signage required during the repositioning and replacement operations;
- 7.14.22.2.6 the maintenance of the mini beacons (T-RV-11).
- 7.14.23 PAY ITEM 7.14.23 – MOVEMENT OF CONCRETE WORKSITE BARRIERS
- 7.14.23.1 The movement of concrete worksite barriers is measured for payment per m of concrete barriers moved in accordance with the drawings and specifications and as directed in writing by the Engineer.

- 7.14.23.2 The price tendered for this pay item shall include, without however being limited to, the following:
 - 7.14.23.2.1 the loading;
 - 7.14.23.2.2 the transportation within the worksite limits;
 - 7.14.23.2.3 the unloading;
 - 7.14.23.2.4 the replacement of the damaged sections, where applicable;
 - 7.14.23.2.5 the signage required during the movement and replacement operations, if required;
 - 7.14.23.2.6 the installation of the barriers at another location on the worksite;
 - 7.14.23.2.7 the installation of mini beacons (T-RV-11).
- 7.14.23.3 The expenses related to the movement of concrete worksite barriers for purposes other than traffic management shall be borne by the Contractor.
- 7.14.24 PAY ITEM 7.14.24 – MOBILIZATION AND DEMOBILIZATION OF A TL-2 WORKSITE IMPACT ATTENUATOR
- 7.14.25 PAY ITEM 7.14.25 – MOBILIZATION AND DEMOBILIZATION OF A TL-3 WORKSITE IMPACT ATTENUATOR
 - 7.14.25.1 The mobilization and demobilization of a TL-2 or TL-3 worksite impact attenuator are measured for payment per unit of site impact attenuator supplied and installed in accordance with the drawings and specifications and as directed in writing by the Engineer.
 - 7.14.25.2 The price tendered for each of these pay items shall include, without however being limited to, the following:
 - 7.14.25.2.1 the supply of the attenuator;
 - 7.14.25.2.2 the transportation to the worksite;
 - 7.14.25.2.3 the unloading off-site;
 - 7.14.25.2.4 the installation;
 - 7.14.25.2.5 the dismantling at the end of the work;
 - 7.14.25.2.6 the loading and transportation off-site;

- 7.14.25.2.7 the provision of the certificate of conformity signed by an engineer to the effect that the impact attenuator is installed in accordance with the manufacturer's recommendations;
- 7.14.25.2.8 the provision of the certificate of conformity and replacement of the internal fluid with a calcium chloride solution from a natural source during the period extending from October 15 to March 15.
- 7.14.26 PAY ITEM 7.14.26 – MAINTAINING IN PLACE OF A TL-2 WORKSITE IMPACT ATTENUATOR FOR A PERIOD OF TWENTY-FOUR (24) HOURS
- 7.14.27 PAY ITEM 7.14.27 – MAINTAINING IN PLACE OF A TL-2 WORKSITE IMPACT ATTENUATOR FOR A PERIOD OF ONE (1) WEEK
- 7.14.28 PAY ITEM 7.14.28 – MAINTAINING IN PLACE OF A TL-2 WORKSITE IMPACT ATTENUATOR FOR A PERIOD OF ONE (1) MONTH
- 7.14.29 PAY ITEM 7.14.29 – MAINTAINING IN PLACE OF A TL-3 WORKSITE IMPACT ATTENUATOR FOR A PERIOD OF TWENTY-FOUR (24) HOURS
- 7.14.30 PAY ITEM 7.14.30 – MAINTAINING IN PLACE OF A TL-3 WORKSITE IMPACT ATTENUATOR FOR A PERIOD OF ONE (1) WEEK
- 7.14.31 PAY ITEM 7.14.31 – MAINTAINING IN PLACE OF A TL-3 WORKSITE IMPACT ATTENUATOR FOR A PERIOD OF ONE (1) MONTH
- 7.14.31.1 The maintaining in place of a TL-2 or TL-3 worksite impact attenuator for the duration specified in Pay Items 7.14.26 to 7.14.31 is measured for payment per unit of impact attenuator maintained in place in accordance with the drawings and specifications and as directed in writing by the Engineer.
- 7.14.31.2 The price tendered for these pay items shall include, without however being limited to, the following:
 - 7.14.31.2.1 the maintenance and maintaining in place for a period of twenty-four (24) hours, one (1) week or one (1) month, whichever duration is most advantageous for the Owner ;
 - 7.14.31.2.2 the replacement of the internal fluid with a calcium chloride solution from a natural source during the period extending from October 15 to March 15.
- 7.14.32 PAY ITEM 7.14.32 – MOVEMENT OF A TL-2 WORKSITE IMPACT ATTENUATOR
- 7.14.33 PAY ITEM 7.14.33 – MOVEMENT OF A TL-3 WORKSITE IMPACT ATTENUATOR
- 7.14.33.1 The movement of a TL-2 or TL-3 worksite impact attenuator is measured for payment per unit of impact attenuator moved in accordance with the drawings and specifications and as directed in writing by the Engineer.

- 7.14.33.2 The price tendered for each of these pay items shall include, without however being limited to, the following:
- 7.14.33.2.1 the signage required for the movement of the attenuator;
 - 7.14.33.2.2 the dismantling;
 - 7.14.33.2.3 the loading and transportation of the elements;
 - 7.14.33.2.4 the temporary storage if the attenuator is not reused immediately;
 - 7.14.33.2.5 the installation in a new location;
 - 7.14.33.2.6 the provision of the certificate of conformity signed by an engineer to the effect that the impact attenuator moved is installed in accordance with the manufacturer's recommendations.
- 7.14.34 PAY ITEM 7.14.34 – REPLACEMENT OR RESTORATION OF A TL-2 WORKSITE IMPACT ATTENUATOR
- 7.14.35 PAY ITEM 7.14.35 – REPLACEMENT OR RESTORATION OF A TL-3 WORKSITE IMPACT ATTENUATOR
- 7.14.35.1 The replacement or restoration of a TL-2 or TL-3 worksite impact attenuator is measured for payment per unit of impact attenuator replaced or restored in accordance with the drawings and specifications and as directed in writing by the Engineer.
 - 7.14.35.2 The price tendered for each of these pay items shall include, without however being limited to, the following:
 - 7.14.35.2.1 the signage required for the replacement or restoration;
 - 7.14.35.2.2 the dismantling of the attenuator;
 - 7.14.35.2.3 the replacement thereof by a fully functional impact attenuator or restoration;
 - 7.14.35.2.4 the provision of the certificate of conformity signed by an engineer to the effect that the impact attenuator is restored and reinstalled in accordance with the manufacturer's recommendations.
 - 7.14.35.3 The replacement or restoration of an impact attenuator is payable only if the Contractor is able to demonstrate that there has been a hit and run and that the Contractor cannot be compensated in any way. The Contractor shall therefore report any collision to the Sûreté du Québec so that a police report is produced. The Contractor shall note the registration number of the vehicle that collided with the impact attenuator, if available.

7.14.36 PAY ITEM 7.14.36 – COMPLEMENTARY TRAFFIC SIGNAGE PANELS FOR THE DURATION OF THE WORK

7.14.36.1 The supply of complementary traffic signage panels for the duration of the work is measured for payment per m² of signage panels supplied and installed in accordance with the drawings and specifications and as directed in writing by the Engineer.

7.14.36.2 The price tendered for this pay item shall include, without however being limited to, the following:

7.14.36.2.1 the supply of the signage panels for the duration of the work;

7.14.36.2.2 the fabrication of the signage panels and fabrication drawings;

7.14.36.2.3 the installation;

7.14.36.2.4 the maintenance;

7.14.36.2.5 the masking and unmasking, if required;

7.14.36.2.6 the movement;

7.14.36.2.7 the dismantling.

7.14.37 PAY ITEM 7.14.37 – REMOVAL OF THE ROADWAY PAVEMENT MARKING

7.14.37.1 The removal of the roadway pavement marking is measured for payment per m of marking removed in accordance with the drawings and specifications and as directed in writing by the Engineer.

7.14.37.2 The price tendered for this pay item shall include, without however being limited to, the following:

7.14.37.2.1 the specific labour;

7.14.37.2.2 the specific equipment;

7.14.37.2.3 the removal work;

7.14.37.2.4 the sweep cleaning of the surfaces;

7.14.37.2.5 the supply and installation of delineators, where applicable.

- 7.14.37.3 Where the width of a line removed is greater or less than 120 mm, such as the stop lines and pedestrian crossings, the length payable shall be calculated using the following method:

$$W (m) = \frac{\text{true width (mm)} \times \text{length (m)}}{120 \text{ mm}}$$

7.14.38 PAY ITEM 7.14.38 – TEMPORARY PAVEMENT MARKING

- 7.14.38.1 The temporary pavement marking is measured for payment per m of temporary line drawn in accordance with the drawings and specifications and as directed in writing by the Engineer.

- 7.14.38.2 The price tendered for this pay item shall include, without however being limited to, the following:

- 7.14.38.2.1 the specific labour;
- 7.14.38.2.2 the specific equipment;
- 7.14.38.2.3 the marking drawings;
- 7.14.38.2.4 the sweep cleaning of the surfaces;
- 7.14.38.2.5 the pre-marking;
- 7.14.38.2.6 the supply and application of the paint and glass microbeads;
- 7.14.38.2.7 the supply and installation of temporary delineators, where applicable.

- 7.14.38.3 Where the width of a line drawn is greater or less than 120 mm, such as the stop lines and pedestrian crossings, the length payable shall be calculated using the following method:

$$W (m) = \frac{\text{true width (mm)} \times \text{length (m)}}{120 \text{ mm}}$$

7.15 TEMPORARY STRUCTURES

- 7.15.1 Subsection 6.15 is not the subject of any standard pay item.

7.20 DEMOLITION WORK AND REMOVAL

7.21 DEMOLITION AND REMOVAL

7.21.1 PAY ITEM 7.21.1 – COMPLETE DEMOLITION OF A SLAB ON GIRDERS

7.21.1.1 The complete demolition of a slab on girders is measured for payment per m² of slab demolished in accordance with the drawings and specifications and as directed in writing by the Engineer.

7.21.1.2 The price tendered for this pay item shall include, without however being limited to, the following:

7.21.1.2.1 the provision of the demolition drawings and procedure signed and sealed by an engineer;

7.21.1.2.2 the provision and implementation of the protective measures for debris and dust control;

7.21.1.2.3 the concrete demolition;

7.21.1.2.4 the loading and off-site removal of the demolition debris;

7.21.1.2.5 the disposal of the demolition debris in authorized sites in accordance with subsection 6.13 *Environmental Protection*.

7.21.2 PAY ITEM 7.21.2 – DEMOLITION OF A CONCRETE BARRIER ON SLAB

7.21.2.1 The demolition of a concrete barrier on slab is measured for payment per m of concrete safety barrier on slab demolished in accordance with the drawings and specifications and as directed in writing by the Engineer.

7.21.2.2 The price tendered for this pay item shall include, without however being limited to, the following:

7.21.2.2.1 the provision and implementation of the protective measures for debris and dust control;

7.21.2.2.2 the saw cuts throughout the full thickness of the barrier at the beginning and at the end of the section to be demolished;

7.21.2.2.3 the concrete demolition;

7.21.2.2.4 the leveling of the reinforcing bars at the slab;

7.21.2.2.5 the loading and off-site removal of the demolition debris;

7.21.2.2.6 the disposal of the demolition debris in authorized sites in accordance with subsection 6.13 *Environmental Protection*.

7.21.3 PAY ITEM 7.21.3 – DEMOLITION OF A SIDEWALK OR BICYCLE PATH WITH OVERLAY ON A SLAB

7.21.3.1 The demolition of a sidewalk or bicycle path with overlay on a slab is measured for payment per m² of sidewalk or bicycle path demolished in accordance with the drawings and specifications and as directed in writing by the Engineer.

7.21.3.2 The price tendered for this pay item shall include, without however being limited to, the following:

7.21.3.2.1 the provision and implementation of the protective measures for debris and dust control;

7.21.3.2.2 the saw cuts throughout the full thickness of the sidewalk or bicycle path at the beginning and at the end of the section to be demolished;

7.21.3.2.3 the sidewalk demolition;

7.21.3.2.4 the leveling of the reinforcing bars at the slab;

7.21.3.2.5 the loading and off-site transportation of the demolition debris;

7.21.3.2.6 the disposal of the demolition debris in authorized sites in accordance with subsection 6.13 *Environmental Protection*.

7.21.4 PAY ITEM 7.21.4 – PARTIAL DEMOLITION OF THE CONCRETE TO A DEPTH OF LESS THAN 25 mm

7.21.4.1 The partial demolition of the concrete to a depth of less than 25 mm is measured for payment per m² of concrete demolished in accordance with the drawings and specifications and as directed in writing by the Engineer.

7.21.4.2 The price tendered for this pay item shall include, without however being limited to, the following:

7.21.4.2.1 the surveying and marking of the concrete surfaces to be demolished;

7.21.4.2.2 the saw cuts at the perimeter of the concrete surfaces to be demolished;

7.21.4.2.3 the concrete demolition;

7.21.4.2.4 the abrasive blasting of the demolished concrete surfaces and exposed reinforcement steel;

7.21.4.2.5 the water blasting of the demolished concrete surfaces;

- 7.21.4.2.6 the loading and off-site removal of the demolition debris;
- 7.21.4.2.7 the disposal of the demolition debris in authorized sites in accordance with subsection 6.13 *Environmental Protection*.
- 7.21.5 PAY ITEM 7.21.5 – PARTIAL DEMOLITION OF THE CONCRETE TO A DEPTH RANGING FROM 25 mm TO 100 mm
 - 7.21.5.1 The partial demolition of the concrete to a depth ranging from 25 mm to 100 mm is measured for payment per m² of concrete demolished in accordance with the drawings and specifications and as directed in writing by the Engineer.
 - 7.21.5.2 The price tendered for this pay item shall include, without however being limited to, the following:
 - 7.21.5.2.1 the surveying and marking of the concrete surfaces to be demolished;
 - 7.21.5.2.2 the saw cuts at the perimeter of the concrete surfaces to be demolished;
 - 7.21.5.2.3 the concrete demolition;
 - 7.21.5.2.4 the clearance of any reinforcing bars deemed too corroded by the Engineer, if required;
 - 7.21.5.2.5 the abrasive blasting of the demolished concrete surfaces and exposed reinforcing bars to be preserved;
 - 7.21.5.2.6 the water blasting of the demolished concrete surfaces;
 - 7.21.5.2.7 the loading and off-site removal of the demolition debris;
 - 7.21.5.2.8 the disposal of the demolition debris in authorized sites in accordance with subsection 6.13 *Environmental Protection*.
- 7.21.6 PAY ITEM 7.21.6 – PARTIAL DEMOLITION OF THE CONCRETE TO A DEPTH EQUAL TO OR GREATER THAN 101 mm
 - 7.21.6.1 The partial demolition of the concrete to a depth equal to or greater than 101 mm is measured for payment per m² of concrete demolished in accordance with the drawings and specifications and as directed in writing by the Engineer.
 - 7.21.6.2 The price tendered for this pay item shall include, without however being limited to, the following:
 - 7.21.6.2.1 the surveying and marking of the concrete surfaces to be demolished;
 - 7.21.6.2.2 the saw cuts at the perimeter of the concrete surfaces to be demolished;

- 7.21.6.2.3 the concrete demolition;
 - 7.21.6.2.4 the clearance of the reinforcing bars exposed during demolition;
 - 7.21.6.2.5 the removal of any reinforcing bars deemed too corroded by the Engineer, if required;
 - 7.21.6.2.6 the abrasive blasting of the demolished concrete surfaces and exposed reinforcing bars to be preserved;
 - 7.21.6.2.7 the water blasting of the demolished concrete surfaces;
 - 7.21.6.2.8 the loading and off-site removal of the demolition debris;
 - 7.21.6.2.9 the disposal of the demolition debris in authorized sites in accordance with subsection 6.13 *Environmental Protection*.
- 7.21.7 PAY ITEM 7.21.7 – PARTIAL DEMOLITION OF THE CONCRETE THROUGHOUT THE THICKNESS OF THE SLAB
- 7.21.7.1 The partial demolition of the concrete throughout the thickness of the slab is measured for payment per m² of concrete demolished in accordance with the drawings and specifications and as directed in writing by the Engineer.
 - 7.21.7.2 The price tendered for this pay item shall include, without however being limited to, the following:
 - 7.21.7.2.1 the surveying and marking of the concrete surfaces to be demolished;
 - 7.21.7.2.2 the saw cuts at the perimeter of the concrete surfaces to be demolished;
 - 7.21.7.2.3 the demolition of the concrete throughout the thickness of the slab;
 - 7.21.7.2.4 the clearance of the reinforcing bars exposed during demolition;
 - 7.21.7.2.5 the demolition of the concrete located above the beams and braces and clearance of the reinforcing bars and of any bonding dowels;
 - 7.21.7.2.6 the removal of any reinforcing bars deemed too corroded by the Engineer, if required;
 - 7.21.7.2.7 the abrasive blasting of the concrete of the demolished concrete surface edges and exposed reinforcing bars to be preserved;
 - 7.21.7.2.8 the water blasting of the demolished concrete surfaces;
 - 7.21.7.2.9 the loading and off-site removal of the demolition debris;

7.21.7.2.10 the disposal of the demolition debris in authorized sites in accordance with subsection 6.13 *Environmental Protection*.

7.21.8 PAY ITEM 7.21.8 – DEMOLITION OF A DECK JOINT

7.21.8.1 The demolition of a deck joint is measured for payment per m of deck joint demolished in accordance with the drawings and specifications and as directed in writing by the Engineer.

7.21.8.2 The width of a deck joint shall be measured from the outer side of a shoulder to the outer side of the other shoulder. The sidewalks, edge barrier and median barrier located within this width shall be included in the demolition of the joint.

7.21.8.3 The price tendered for this pay item shall include, without however being limited to, the following:

7.21.8.3.1 the marking, together with the Engineer, of the surface to be demolished;

7.21.8.3.2 the saw cuts at the perimeter throughout the thickness of the surface to be demolished;

7.21.8.3.3 the demolition of the expansion joint;

7.21.8.3.4 the clearance of the reinforcing bars to be preserved;

7.21.8.3.5 the abrasive blasting of the demolished concrete edges and exposed reinforcing bars to be preserved;

7.21.8.3.6 the water blasting of the demolished concrete edges;

7.21.8.3.7 the loading and off-site removal of the demolition debris;

7.21.8.3.8 the disposal of the demolition debris in authorized sites in accordance with subsection 6.13 *Environmental Protection*.

7.21.9 PAY ITEM 7.21.9 – ROUGHENING OF THE CONCRETE SURFACES

7.21.9.1 The roughening of the concrete surfaces is measured for payment per m² of concrete surface roughened in accordance with the drawings and specifications and as directed in writing by the Engineer.

7.21.9.2 The price tendered for this pay item shall include, without however being limited to, the following:

7.21.9.2.1 the marking of the surface to be roughened;

7.21.9.2.2 the roughening of the concrete to a minimum depth of 10 mm;

- 7.21.9.2.3 the abrasive blasting of the roughened concrete surface;
 - 7.21.9.2.4 the water blasting of the roughened concrete surface;
 - 7.21.9.2.5 the loading and off-site removal of the roughening debris;
 - 7.21.9.2.6 the disposal of the roughening debris in an authorized site in accordance with subsection 6.13 *Environmental Protection*.
- 7.21.10 PAY ITEM 7.21.10 – UNDERWATER CONCRETE DEMOLITION
- 7.21.10.1 The underwater concrete demolition is measured for payment per m² of concrete surface demolished in accordance with the drawings and specifications and as directed in writing by the Engineer.
 - 7.21.10.2 The price tendered for this pay item shall include, without however being limited to, the following:
 - 7.21.10.2.1 the thorough cleaning of the surfaces to be demolished under water and in the drawdown zones of marine shoots, vegetation, mussels, limestone accumulations and other accumulations of materials;
 - 7.21.10.2.2 the examination and marking of the surfaces to be demolished;
 - 7.21.10.2.3 the survey and layout of the observed deteriorations, including the areas of scouring or ravelling;
 - 7.21.10.2.4 the video recording of the survey of the deteriorations observed;
 - 7.21.10.2.5 the submission to the Engineer, before the beginning of the demolition work, of the survey drawings and video recording;
 - 7.21.10.2.6 the saw cuts at the perimeter of the concrete surfaces to be demolished;
 - 7.21.10.2.7 the demolition of the concrete up to 25 mm behind the exposed reinforcing bars;
 - 7.21.10.2.8 the removal of any reinforcing bars deemed too corroded by the Engineer;
 - 7.21.10.2.9 the high-pressure water blasting of the demolished concrete surfaces and exposed reinforcing bars to be preserved;
 - 7.21.10.2.10 the recovery, loading and off-site removal of the cleaning and demolition debris;
 - 7.21.10.2.11 the disposal of the cleaning and demolition debris in authorized sites in accordance with subsection 6.13 *Environmental Protection*.

7.21.11 PAY ITEM 7.21.11 – COMPLETE REMOVAL OF AN ASPHALT PAVEMENT

7.21.11.1 The complete removal of an asphalt pavement is measured for payment per m² of asphalt pavement removed in accordance with the drawings and specifications and as directed in writing by the Engineer.

7.21.11.2 The price tendered for this pay item shall include, without however being limited to, the following:

7.21.11.2.1 the saw cuts at the perimeter over the full thickness of the asphalt pavement of the surface to be removed;

7.21.11.2.2 the asphalt pavement removal;

7.21.11.2.3 the loading and off-site transportation of the removal debris;

7.21.11.2.4 the disposal of the removal debris in authorized sites in accordance with subsection 6.13 *Environmental Protection*.

7.21.12 PAY ITEM 7.21.12 – SURFACE REMOVAL OF AN ASPHALT PAVEMENT

7.21.12.1 The surface removal of an asphalt pavement is measured for payment per m² of asphalt pavement removed through milling to a determined thickness in accordance with the drawings and specifications and as directed in writing by the Engineer.

7.21.12.2 The price tendered for this pay item shall include, without however being limited to, the following:

7.21.12.2.1 the saw cuts at the perimeter of the surface of the asphalt pavement to be removed;

7.21.12.2.2 the milling of the asphalt pavement to the thickness specified on the drawings;

7.21.12.2.3 the demolition, by means of a pneumatic hammer, of the asphalt pavement located in areas inaccessible to the leveler, along the vertical surfaces and obstacles;

7.21.12.2.4 the loading and off-site transportation of the removal debris;

7.21.12.2.5 the disposal of the removal debris in authorized sites in accordance with subsection 6.13 *Environmental Protection*.

7.21.13 PAY ITEM 7.21.13 – COMPLETE REMOVAL, THROUGH STRIPPING, OF THE ASPHALT PAVEMENT ON A BRIDGE DECK

7.21.13.1 The complete removal, through stripping, of the asphalt pavement on a bridge deck is measured for payment per m² of asphalt pavement removed through stripping in accordance with the drawings and specifications and as directed in writing by the Engineer.

7.21.13.2 The price tendered for this pay item shall include, without however being limited to, the following:

7.21.13.2.1 the saw cuts at the perimeter throughout the thickness of the asphalt pavement of the surface to be removed;

7.21.13.2.2 the asphalt pavement stripping;

7.21.13.2.3 the removal of the asphalt pavement, including the removal by means of hand tools of the asphalt pavement located in areas inaccessible to the mechanical equipment;

7.21.13.2.4 the basic cleaning of the stripped surfaces;

7.21.13.2.5 the water blasting of the stripped surfaces;

7.21.13.2.6 the wash water control in accordance with subsection 6.13 *Environmental Protection*;

7.21.13.2.7 the loading and off-site transportation of the removal debris;

7.21.13.2.8 the disposal of the removal debris in an authorized site in accordance with subsection 6.13 *Environmental Protection*.

7.21.14 PAY ITEM 7.21.14 – COMPLETE REMOVAL, THROUGH MILLING, OF THE ASPHALT PAVEMENT ON A BRIDGE DECK

7.21.14.1 The complete removal, through milling, of the asphalt pavement on a bridge deck is measured for payment per m² of asphalt pavement removed through milling in accordance with the drawings and specifications and as directed in writing by the Engineer.

7.21.14.2 The price tendered for this pay item shall include, without however being limited to, the following:

7.21.14.2.1 the saw cuts at the perimeter throughout the thickness of the asphalt pavement of the surface to be milled;

7.21.14.2.2 the asphalt pavement milling;

- 7.21.14.2.3 the removal of the asphalt pavement, including the removal by means of hand tools of the asphalt pavement located in areas inaccessible to the levelers;
 - 7.21.14.2.4 the basic cleaning of the milled surfaces;
 - 7.21.14.2.5 the water blasting of the milled surfaces;
 - 7.21.14.2.6 the wash water control in accordance with subsection 6.13 *Environmental Protection*;
 - 7.21.14.2.7 the loading and off-site transportation of the removal debris;
 - 7.21.14.2.8 the disposal of the removal debris in an authorized site in accordance with subsection 6.13 *Environmental Protection*.
- 7.21.15 PAY ITEM 7.21.15 – SURFACE REMOVAL, THROUGH MILLING, OF THE ASPHALT PAVEMENT ON A MEMBRANED BRIDGE DECK
- 7.21.15.1 The surface removal, through milling, of the asphalt pavement on a membraned bridge deck is measured for payment per m² of asphalt pavement removed through milling in accordance with the drawings and specifications and as directed in writing by the Engineer.
 - 7.21.15.2 The price tendered for this pay item shall include, without however being limited to, the following:
 - 7.21.15.2.1 the saw cuts at the perimeter throughout the thickness of the asphalt pavement of the surface to be milled;
 - 7.21.15.2.2 the milling of the asphalt pavement to the thickness to be removed specified on the drawings;
 - 7.21.15.2.3 the removal of the asphalt pavement, including the removal by means of hand tools of the asphalt pavement located in areas inaccessible to the leveling equipment;
 - 7.21.15.2.4 the air blasting of the milled surfaces;
 - 7.21.15.2.5 the loading and off-site transportation of the removal debris;
 - 7.21.15.2.6 the disposal of the removal debris in an authorized site in accordance with subsection 6.13 *Environmental Protection*.

7.21.16 PAY ITEM 7.21.16 – REMOVAL OF THE ASPHALT PAVEMENT ON THE DECK OF SECTIONS 5 AND 7 OF THE CHAMPLAIN BRIDGE

7.21.16.1 The removal of the asphalt pavement on the deck of sections 5 and 7 of the Champlain Bridge is measured for payment per m² of asphalt pavement removed in accordance with the drawings and specifications and as directed in writing by the Engineer.

7.21.16.2 The price tendered for this pay item shall include, without however being limited to, the following:

7.21.16.2.1 the saw cuts at the perimeter of the concrete surfaces to be stripped;

7.21.16.2.2 the asphalt pavement stripping;

7.21.16.2.3 the removal of the asphalt pavement, including the removal by means of hand tools of the asphalt pavement located in areas inaccessible to the mechanical equipment;

7.21.16.2.4 the basic cleaning of the stripped surfaces;

7.21.16.2.5 the water blasting of the stripped surfaces;

7.21.16.2.6 the additional cleaning of the stripped surfaces;

7.21.16.2.7 the abrasive blasting of the vertical surfaces to a height of 40 mm relative to the slab;

7.21.16.2.8 the wash water control and management in accordance with subsection 6.13 *Environmental Protection*;

7.21.16.2.9 the loading and off-site transportation of the removal debris;

7.21.16.2.10 the disposal of the removal debris in authorized sites in accordance with subsection 6.13 *Environmental Protection*.

7.21.17 PAY ITEM 7.21.17 – REMOVAL OF THE ASPHALT PAVEMENT ON THE DECK OF SECTION 6 OF THE CHAMPLAIN BRIDGE

7.21.17.1 The removal of the asphalt pavement on the deck of section 6 of the Champlain Bridge is measured for payment per m² of asphalt pavement removed in accordance with the drawings and specifications and as directed in writing by the Engineer.

7.21.17.2 The price tendered for this pay item shall include, without however being limited to, the following:

7.21.17.2.1 the provision of the removal method;

- 7.21.17.2.2 the construction of a trial section;
 - 7.21.17.2.3 the saw cuts at the perimeter of the concrete surfaces to be removed;
 - 7.21.17.2.4 the removal, through milling, of the asphalt pavement;
 - 7.21.17.2.5 the removal of the waterproofing membrane;
 - 7.21.17.2.6 the preparation of the steel surface by means of abrasive blasting;
 - 7.21.17.2.7 the repair of any damage caused to the deck during stripping;
 - 7.21.17.2.8 the loading and off-site transportation of the asphalt pavement removal debris;
 - 7.21.17.2.9 the disposal of the removal debris in authorized sites in accordance with subsection 6.13 *Environmental Protection*.
- 7.21.18 PAY ITEM 7.21.18 – MILLING OF THE ASPHALT PAVEMENT ON THE DECK OF SECTIONS 2 TO 8 OF THE JACQUES CARTIER BRIDGE
- 7.21.18.1 The milling of the asphalt pavement on the deck of sections 2 to 8 of the Jacques Cartier Bridge is measured for payment per m² of asphalt pavement milled in accordance with the drawings and specifications and as directed in writing by the Engineer.
 - 7.21.18.2 The price tendered for this pay item shall include, without however being limited to, the following:
 - 7.21.18.2.1 the saw cuts at the perimeter on the thickness of the asphalt pavement of the surface to be milled;
 - 7.21.18.2.2 the asphalt pavement milling;
 - 7.21.18.2.3 the removal of the asphalt pavement, including the removal by means of hand tools of the asphalt pavement located in areas inaccessible to the levelers;
 - 7.21.18.2.4 the cleaning of the milled surface;
 - 7.21.18.2.5 the abrasive blasting of the vertical surfaces to a height of 40 mm relative to the milled surface;
 - 7.21.18.2.6 the dust control and management in accordance with subsection 6.13 *Environmental Protection*;
 - 7.21.18.2.7 the loading and off-site transportation of the milling and cleaning debris;

7.21.18.2.8 the disposal of the milling and cleaning debris in authorized sites in accordance with subsection 6.13 *Environmental Protection*.

7.21.19 PAY ITEM 7.21.19 – MILLING OF THE ASPHALT PAVEMENT ON THE DECK OF SECTIONS 1 TO 4 OF THE HONORÉ MERCIER BRIDGE

7.21.19.1 The milling of the asphalt pavement on the deck of sections 1 to 4 of the Honoré Mercier Bridge is measured for payment per m² of asphalt pavement milled in accordance with the drawings and specifications and as directed in writing by the Engineer.

7.21.19.2 The price tendered for this pay item shall include, without however being limited to, the following:

7.21.19.2.1 the saw cuts at the perimeter on the thickness of the asphalt pavement of the surface to be milled;

7.21.19.2.2 the asphalt pavement milling;

7.21.19.2.3 the removal of the asphalt pavement, including the removal by means of hand tools of the asphalt pavement located in areas inaccessible to the levelers;

7.21.19.2.4 the cleaning of the milled surface;

7.21.19.2.5 the abrasive blasting of the vertical surfaces to a height of 40 mm relative to the milled surface;

7.21.19.2.6 the dust control and management in accordance with subsection 6.13 *Environmental Protection*;

7.21.19.2.7 the loading and off-site transportation of the milling and cleaning debris;

7.21.19.2.8 the disposal of the milling and cleaning debris in authorized sites in accordance with subsection 6.13 *Environmental Protection*.

7.21.20 PAY ITEM 7.21.20 – TRIAL SECTION

7.21.20.1 The trial section is measured for payment per unit of trial section constructed in accordance with the drawings and specifications and as directed in writing by the Engineer.

7.21.20.2 The price tendered for this pay item shall include, without however being limited to, the following:

7.21.20.2.1 the supply of the specific equipment and labour required to construct the trial section, which shall be the same as those required for the performance of the work of the present Contract;

- 7.21.20.2.2 the location of the trial section;
- 7.21.20.2.3 the dust control and management in accordance with subsection 6.13 *Environmental Protection*;
- 7.21.20.2.4 the milling of the trial section;
- 7.21.20.2.5 the cleaning of the trial section;
- 7.21.20.2.6 the loading and off-site transportation of the milling and cleaning debris;
- 7.21.20.2.7 the disposal of the milling and cleaning debris in an authorized site in accordance with subsection 6.13 *Environmental Protection*;
- 7.21.20.2.8 the supply and placement of the trial section asphalt pavement in accordance with subsection 6.82 *Hot-Mix Paving*;
- 7.21.20.2.9 the final cleaning of the work area.

7.21.21 PAY ITEM 7.21.21 – REMOVAL OF THE WATERPROOFING MEMBRANE

- 7.21.21.1 The removal of the waterproofing membrane is measured for payment per m² of membrane removed in accordance with the drawings and specifications and as directed in writing by the Engineer.
- 7.21.21.2 The price tendered for this pay item shall include, without however being limited to, the following:
 - 7.21.21.2.1 the marking of the surfaces from which the membrane shall be removed;
 - 7.21.21.2.2 the cutting of the membrane to be removed at the perimeter of the surfaces;
 - 7.21.21.2.3 the removal of the membrane by means of scrapers or a torch;
 - 7.21.21.2.4 the cleaning of residues;
 - 7.21.21.2.5 the loading and off-site transportation of the membrane debris;
 - 7.21.21.2.6 the disposal of the membrane debris in an authorized site in accordance with subsection 6.13 *Environmental Protection*.

7.21.22 PAY ITEM 7.21.22 – REMOVAL OF OVERHEAD SIGNAGE PANELS

- 7.21.22.1 The removal of overhead signage panels is measured for payment per unit of panels removed in accordance with the drawings and specifications and as directed in writing by the Engineer.

- 7.21.22.2 The price tendered for this pay item shall include, without however being limited to, the following:
- 7.21.22.2.1 the preparation of the drawings, dismantling procedure and lifting method signed and sealed by an engineer;
 - 7.21.22.2.2 the supply and installation of the lifting equipment;
 - 7.21.22.2.3 the removal of the panel;
 - 7.21.22.2.4 the loading of the panel on a truck;
 - 7.21.22.2.5 the transportation of the panel to the Jacques Cartier Bridge Maintenance Centre;
 - 7.21.22.2.6 the unloading of the panel at the location specified by the Engineer;
 - 7.21.22.2.7 the identification and numbering of the panel;
 - 7.21.22.2.8 the disposal of the removal debris in an authorized site in accordance with subsection 6.13 *Environmental Protection*.

7.21.23 PAY ITEM 7.21.23 – REMOVAL OF SMALL SIGNAGE PANELS

- 7.21.23.1 The removal of small signage panels is measured for payment per unit of small signage panels removed in accordance with the drawings and specifications and as directed in writing by the Engineer.
- 7.21.23.2 The price tendered for this pay item shall include, without however being limited to, the following:
- 7.21.23.2.1 the removal of the panel;
 - 7.21.23.2.2 the protection of the panel;
 - 7.21.23.2.3 the removal of the support elements of the panel;
 - 7.21.23.2.4 the transportation of the panel to the Jacques Cartier Bridge Maintenance Centre;
 - 7.21.23.2.5 the off-site removal of the debris from the panel removal;
 - 7.21.23.2.6 the disposal of the removal debris in an authorized site in accordance with subsection 6.13 *Environmental Protection*.

7.21.24 PAY ITEM 7.21.24 – REMOVAL OF SEMI-RIGID BARRIERS ON WOODEN POSTS

- 7.21.24.1 The removal of semi-rigid barriers on wooden posts is measured for payment per m of barrier removed in accordance with the drawings and specifications and as directed in writing by the Engineer.
- 7.21.24.2 The price tendered for this pay item shall include, without however being limited to, the following:
- 7.21.24.2.1 the identification of the elements to be preserved;
 - 7.21.24.2.2 the dismantling of the semi-rigid barriers;
 - 7.21.24.2.3 the removal of the posts;
 - 7.21.24.2.4 the recovery of the elements to be preserved;
 - 7.21.24.2.5 the transportation of the recovered elements to the Jacques Cartier Bridge Maintenance Centre;
 - 7.21.24.2.6 the unloading of the elements to be preserved;
 - 7.21.24.2.7 the replacement of any elements damaged during dismantling, transportation or unloading;
 - 7.21.24.2.8 the off-site removal of the damaged wooden posts and steel elements;
 - 7.21.24.2.9 the disposal of the damaged wooden posts and steel elements in an authorized site in accordance with subsection 6.13 *Environmental Protection*.

7.21.25 PAY ITEM 7.21.25 – REMOVAL OF PRECAST CONCRETE BARRIERS WITH OR WITHOUT AN ANTI-GLARE SCREEN

- 7.21.25.1 The removal of precast concrete barriers with or without an anti-glare screen is measured for payment per m of barriers removed in accordance with the drawings and specifications and as directed in writing by the Engineer.
- 7.21.25.2 The price tendered for this pay item shall include, without however being limited to, the following:
- 7.21.25.2.1 the removal of the precast concrete barriers;
 - 7.21.25.2.2 the loading and transportation of the barriers to the Jacques Cartier Bridge Maintenance Centre;
 - 7.21.25.2.3 the unloading of the barriers at the location specified by the Engineer;

7.21.25.2.4 the replacement of any barriers damaged during the removal or transportation.

7.21.26 PAY ITEM 7.21.26 – REMOVAL OF CONCRETE CATCH BASINS

7.21.26.1 The removal of concrete catch basins is measured for payment per unit of concrete catch basin removed in accordance with the drawings and specifications and as directed in writing by the Engineer.

7.21.26.2 The price tendered for this pay item shall include, without however being limited to, the following:

7.21.26.2.1 the removal of the concrete catch basin including, without limitation, the following: the bell, base, adjustment risers, concrete or cast iron frame and grid;

7.21.26.2.2 the sealing, with a tight concrete plug, of any sewer line remaining in function that was connected to the catch basin;

7.21.26.2.3 the loading and off-site transportation of the debris from the catch basin removal;

7.21.26.2.4 the disposal of the debris from the catch basin removal in an authorized site in accordance with subsection 6.13 *Environmental Protection*.

7.21.27 PAY ITEM 7.21.27 – REMOVAL OF CONCRETE MANHOLES

7.21.27.1 The removal of concrete manholes is measured for payment per unit of manholes removed in accordance with the drawings and specifications and as directed in writing by the Engineer.

7.21.27.2 The price tendered for this pay item shall include, without however being limited to, the following:

7.21.27.2.1 the removal of the concrete manhole including, without limitation, the following: base, adjustment risers, concrete or cast iron frame and cover;

7.21.27.2.2 the sealing, with a tight concrete plug, of any sewer line remaining in function that was connected to the manhole, where applicable;

7.21.27.2.3 the loading and off-site transportation of the debris from the manhole removal;

7.21.27.2.4 the disposal of the debris from the manhole removal in an authorized site in accordance with subsection 6.13 *Environmental Protection*.

7.21.28 PAY ITEM 7.21.28 – REMOVAL OF ANTI-GLARE SCREENS

7.21.28.1 The removal of anti-glare screens is measured for payment per m of anti-glare screen removed in accordance with the drawings and specifications and as directed in writing by the Engineer.

7.21.28.2 The price tendered for this pay item shall include, without however being limited to, the following:

7.21.28.2.1 the dismantling of the anti-glare screen elements;

7.21.28.2.2 the sawing of the steel posts, if required;

7.21.28.2.3 the loading and off-site transportation of the debris from the anti-glare screen removal;

7.21.28.2.4 the disposal of the debris from the anti-glare screen removal in an authorized site in accordance with subsection 6.13 *Environmental Protection*.

7.21.29 PAY ITEM 7.21.29 – DEMOLITION OF CONCRETE CURBS

7.21.29.1 The demolition of concrete curbs is measured for payment per m of concrete curbs demolished, regardless of the type, in accordance with the drawings and specifications and as directed in writing by the Engineer.

7.21.29.2 The price tendered for this pay item shall include, without however being limited to, the following:

7.21.29.2.1 the saw cuts at the perimeter over the full thickness of the curb to be demolished;

7.21.29.2.2 the curb demolition;

7.21.29.2.3 the loading and off-site transportation of the demolition debris;

7.21.29.2.4 the disposal of the demolition debris in an authorized site in accordance with subsection 6.13 *Environmental Protection*.

7.21.30 PAY ITEM 7.21.30 – DEMOLITION OF THE CONCRETE PROTECTION COATING

7.21.30.1 The demolition of the concrete protection coating is measured for payment per m² of concrete protection coating demolished in accordance with the drawings and specifications and as directed in writing by the Engineer.

7.21.30.2 The price tendered for this pay item shall include, without however being limited to, the following:

7.21.30.2.1 the saw cuts at the perimeter over the full thickness of the coating to be demolished;

7.21.30.2.2 the concrete coating demolition;

7.21.30.2.3 the loading and off-site transportation of the demolition debris;

7.21.30.2.4 the disposal of the demolition debris in an authorized site in accordance with subsection 6.13 *Environmental Protection*.

7.21.31 PAY ITEM 7.21.31 – DEMOLITION OF CONCRETE BULL NOSES

7.21.31.1 The demolition of concrete bull-noses is measured for payment per unit of bull nose demolished in accordance with the drawings and specifications and as directed in writing by the Engineer.

7.21.31.2 The price tendered for this pay item shall include, without however being limited to, the following:

7.21.31.2.1 the saw cuts at the perimeter over the full thickness of the bull-nose to be demolished;

7.21.31.2.2 the e concrete bull-nose demolition;

7.21.31.2.3 the loading and off-site transportation of the demolition debris;

7.21.31.2.4 the disposal of the demolition debris in an authorized site in accordance with subsection 6.13 *Environmental Protection*.

7.21.32 PAY ITEM 7.21.32 – DEMOLITION OF CONCRETE GUTTERS

7.21.32.1 The demolition of concrete gutters is measured for payment per m of gutters demolished in accordance with the drawings and specifications and as directed in writing by the Engineer.

7.21.32.2 The price tendered for this pay item shall include, without however being limited to, the following:

7.21.32.2.1 the saw cuts at the perimeter over the full thickness of the gutter to be demolished;

7.21.32.2.2 the concrete gutter demolition;

7.21.32.2.3 the loading and off-site transportation of the demolition debris;

7.21.32.2.4 the disposal of the demolition debris in an authorized site in accordance with subsection 6.13 *Environmental Protection*.

7.21.33 PAY ITEM 7.21.33 – DEMOLITION OF GROUND LEVEL CONCRETE LATERAL BARRIERS

7.21.33.1 The demolition of ground level concrete lateral barriers is measured for payment per m of concrete barriers demolished in accordance with the drawings and specifications and as directed in writing by the Engineer.

7.21.33.2 The price tendered for this pay item shall include, without however being limited to, the following:

7.21.33.2.1 the saw cuts at the perimeter over the full thickness of the barrier to be demolished;

7.21.33.2.2 the concrete barrier demolition;

7.21.33.2.3 the loading and off-site transportation of the demolition debris;

7.21.33.2.4 the disposal of the demolition debris in an authorized site in accordance with subsection 6.13 *Environmental Protection*.

7.21.34 PAY ITEM 7.21.34 – DEMOLITION OF GROUND LEVEL CONCRETE MEDIAN BARRIERS

7.21.34.1 The demolition of ground level concrete median barriers is measured for payment per m of concrete barriers demolished in accordance with the drawings and specifications and as directed in writing by the Engineer.

7.21.34.2 The price tendered for this pay item shall include, without however being limited to, the following:

7.21.34.2.1 the saw cuts at the perimeter over the full thickness of the barrier to be demolished;

7.21.34.2.2 the concrete barrier demolition;

7.21.34.2.3 the loading and off-site transportation of the demolition debris;

7.21.34.2.4 the disposal of the demolition debris in an authorized site in accordance with subsection 6.13 *Environmental Protection*.

7.21.35 PAY ITEM 7.21.35 – REMOVAL OF CONCRETE BASES FOR LAMP POST

7.21.35.1 The removal of concrete bases for lamp post is measured for payment per unit of bases removed in accordance with the drawings and specifications and as directed in writing by the Engineer.

7.21.35.2 The price tendered for this pay item shall include, without however being limited to, the following:

7.21.35.2.1 the disconnection of the electrical conduit;

7.21.35.2.2 the removal of the concrete base;

7.21.35.2.3 the loading and off-site transportation;

7.21.35.2.4 the disposal of the concrete base in an authorized site in accordance with subsection 6.13 *Environmental Protection*.

7.21.36 PAY ITEM 7.21.36 – REMOVAL OF “ X “ MM SEWER PIPES

7.21.36.1 The removal of sewer pipes whose different “X” mm diameters are specified in the Price Table is measured for payment per m of pipes removed in accordance with the drawings and specifications and as directed in writing by the Engineer.

7.21.36.2 The price tendered for this pay item shall include, without however being limited to, the following:

7.21.36.2.1 the cleaning of the pipe;

7.21.36.2.2 the removal of the sewer pipe sections;

7.21.36.2.3 the loading and off-site transportation of the removed sewer pipe sections;

7.21.36.2.4 the disposal of the sewer pipe sections in an authorized site in accordance with subsection 6.13 *Environmental Protection*.

7.21.37 PAY ITEM 7.21.37 – SEWER PIPES TO BE ABANDONED

7.21.37.1 The sewer pipes to be abandoned are measured for payment per m of pipes to be abandoned and filled with concrete in accordance with the drawings and specifications and as directed in writing by the Engineer.

7.21.37.2 The price tendered for this pay item shall include, without however being limited to, the following:

7.21.37.2.1 the cleaning of the pipe and, where applicable, of any manholes to be abandoned;

7.21.37.2.2 the installation of a tight concrete plug on the pipe to be abandoned at the location of any manhole to be preserved, where applicable;

7.21.37.2.3 the filling of the pipe and of any manholes present on the routing of the pipe;

- 7.21.37.2.4 the removal of the frame, cover and chimney sections of the manhole to a height of 1 m relative to the finished level, where applicable;
- 7.21.37.2.5 the loading and off-site transportation of the removal debris;
- 7.21.37.2.6 the disposal of the debris in an authorized site in accordance with subsection 6.13 *Environmental Protection*.

7.21.38 PAY ITEM 7.21.38 – REMOVAL OF A STEEL CHAIN LINK FENCE

- 7.21.38.1 The removal of a steel chain link fence is measured for payment per m of fence removed in accordance with the drawings and specifications and as directed in writing by the Engineer.
- 7.21.38.2 The price tendered for this pay item shall include, without however being limited to, the following:
 - 7.21.38.2.1 the dismantling of the chain link;
 - 7.21.38.2.2 the removal of the upper and lower railings and tensioning wires;
 - 7.21.38.2.3 the removal of the posts, including the anchoring concrete;
 - 7.21.38.2.4 the loading and off-site transportation of the removal debris;
 - 7.21.38.2.5 the disposal of the removal debris in an authorized site in accordance with subsection 6.13 *Environmental Protection*.

7.21.39 PAY ITEM 7.21.39 – REMOVAL OF LAMP POSTS NUMBER “ X “

- 7.21.39.1 The removal of lamp posts whose identification numbers “X” are specified in the Price Table is measured for payment per unit of lamp posts removed in accordance with the drawings and specifications and as directed in writing by the Engineer.
- 7.21.39.2 The price tendered for this pay item shall include, without however being limited to, the following:
 - 7.21.39.2.1 the lockout of the electrical panel;
 - 7.21.39.2.2 the disconnection at the base of the lamp post;
 - 7.21.39.2.3 the removal of the lamp post with adequate lifting equipment;
 - 7.21.39.2.4 the dismantling and recovery of the lamp post components including, without limitation, the safety housing, pole, brackets and luminaire;

- 7.21.39.2.5 the removal of the electrical wires between the luminaire and the lamp post base;
 - 7.21.39.2.6 the packing of the recovered luminaire;
 - 7.21.39.2.7 the wrapping on palett of the safety housings and of the boxes containing the luminaire;
 - 7.21.39.2.8 the loading and off-site transportation of the recovered components;
 - 7.21.39.2.9 the delivery of the recovered components to the Jacques Cartier Bridge Maintenance Centre;
 - 7.21.39.2.10 the disposal of the removal debris in an authorized site in accordance with subsection 6.13 *Environmental Protection*.
- 7.21.40 PAY ITEM 7.21.40 – DISMANTLING OF OVERHEAD SUPERSIGNAGE STRUCTURES NUMBER “X”
- 7.21.40.1 The dismantling of overhead supersignage structures whose identification numbers “X” are specified in the Price Table is measured for payment per unit of overhead supersignage structures dismantled in accordance with the drawings and specifications and as directed in writing by the Engineer.
 - 7.21.40.2 The price tendered for this pay item shall include, without however being limited to, the following:
 - 7.21.40.2.1 the provision of the drawings and procedure for the dismantling of the structure;
 - 7.21.40.2.2 the inspection of the structure prior to dismantling thereof;
 - 7.21.40.2.3 the supply of the adequate lifting equipment;
 - 7.21.40.2.4 the dismantling of the structure;
 - 7.21.40.2.5 the loading and off-site transportation of the structure components, including the assembly hardware;
 - 7.21.40.2.6 the delivery and unloading of the structure components, including the assembly hardware, to the Jacques Cartier Bridge Maintenance Centre;
 - 7.21.40.2.7 the disposal of the dismantling debris in an authorized site in accordance with subsection 6.13 *Environmental Protection*.

7.21.41 PAY ITEM 7.21.41 – LEVELING OF THE OVERHEAD SIGNAGE STRUCTURE FOUNDATION BLOCKS NUMBER “X”

7.21.41.1 The leveling of the foundation blocks of the overhead signage structures whose identification numbers “X” are specified in the Price Table is measured for payment per unit of foundation blocks leveled in accordance with the drawings and specifications and as directed in writing by the Engineer.

7.21.41.2 The price tendered for this pay item shall include, without however being limited to, the following:

7.21.41.2.1 the demolition of the concrete of the foundation block to the elevation specified on the drawings;

7.21.41.2.2 the cutting of the anchor bolts and reinforcing bars;

7.21.41.2.3 the loading and off-site transportation of the demolition debris;

7.21.41.2.4 the disposal of the demolition debris in an authorized site in accordance with subsection 6.13 *Environmental Protection*.

7.21.42 PAY ITEM 7.21.42 – DEMOLITION OF THE OVERHEAD SUPERSIGNAGE STRUCTURE FOUNDATION BLOCKS NUMBER “X”

7.21.42.1 The demolition of the foundation blocks of the overhead supersignage structures whose identification numbers “X” are specified in the Price Table is measured for payment per unit of foundation blocks completely demolished in accordance with the drawings and specifications and as directed in writing by the Engineer.

7.21.42.2 The price tendered for this pay item shall include, without however being limited to, the following:

7.21.42.2.1 the demolition of the foundation block including the footing;

7.21.42.2.2 the loading and off-site transportation of the demolition debris;

7.21.42.2.3 the disposal of the demolition debris in an authorized site in accordance with subsection 6.13 *Environmental Protection*.

7.21.43 PAY ITEM 7.21.43 – REMOVAL OF ELECTRICAL CONDUIT OF “X” mm

7.21.43.1 The removal of electrical conduit whose different “X” mm diameters are specified in the Price Table is measured for payment per m of conduit removed in accordance with the drawings and specifications and as directed in writing by the Engineer.

- 7.21.43.2 The price tendered for this pay item shall include, without however being limited to, the following:
- 7.21.43.2.1 the lockout of the electrical panel;
 - 7.21.43.2.2 the removal of the electrical conduit, including the cables, pull boxes and junction boxes;
 - 7.21.43.2.3 the disconnection of the electrical cables connected to the equipment that shall remain in place;
 - 7.21.43.2.4 the sealing of the holes in the equipment where the conduit were connected and that must remain in place;
 - 7.21.43.2.5 the loading and off-site transportation of the dismantling debris;
 - 7.21.43.2.6 the disposal of the dismantling debris in an authorized site in accordance with subsection 6.13 *Environmental Protection*.

7.30 CONCRETE STRUCTURES

7.31 REINFORCING STEEL FOR CONCRETE

7.31.1 PAY ITEM 7.31.1 – BLACK REINFORCING STEEL FOR CONCRETE

- 7.31.1.1 The black reinforcing steel for concrete is measured for payment per kg of black reinforcing steel supplied and placed in accordance with the drawings and specifications and as directed in writing by the Engineer.
- 7.31.1.2 The price tendered for this pay item shall include, without however being limited to, the following:
- 7.31.1.2.1 the provision of the shop drawings;
 - 7.31.1.2.2 the supply and shaping of the reinforcing bars;
 - 7.31.1.2.3 the delivery of the reinforcing bars to the worksite;
 - 7.31.1.2.4 the inspection of the stored reinforcing bars;
 - 7.31.1.2.5 the concrete drilling and supply and placement of the chemical resin or cementitious grout required for the installation of the anchors;
 - 7.31.1.2.6 the supply and installation of the accessories required for the placement of the reinforcing bars including, without limitation, the tie wire, anchors, chairs, spacers, support bars, couplers, sleeves, bar spacers, bar supports and other mechanical fasteners;
 - 7.31.1.2.7 the placement of the reinforcing bars;

- 7.31.1.2.8 the inspection of the placement, including anchor testing prior to concreting;
- 7.31.1.2.9 the supply and placement of additional reinforcement at the request of the Engineer.

7.31.2 PAY ITEM 7.31.2 – GALVANIZED REINFORCING STEEL FOR CONCRETE

- 7.31.2.1 The galvanized reinforcing steel for concrete is measured for payment per kg of galvanized reinforcing steel supplied and placed in accordance with the drawings and specifications and as directed in writing by the Engineer.
- 7.31.2.2 The price tendered for this pay item shall include, without however being limited to, the following:
 - 7.31.2.2.1 the provision of the shop drawings;
 - 7.31.2.2.2 the galvanizing;
 - 7.31.2.2.3 the touch-ups on the ends of the cut reinforcing bars and on the damaged galvanizing;
 - 7.31.2.2.4 the supply and shaping of the reinforcing bars;
 - 7.31.2.2.5 the touch-ups on the galvanizing after shaping;
 - 7.31.2.2.6 the delivery of the reinforcing bars to the worksite;
 - 7.31.2.2.7 the inspection of the stored reinforcing bars;
 - 7.31.2.2.8 the concrete drilling and supply and placement of the chemical resin or cementitious grout required for the installation of the anchors;
 - 7.31.2.2.9 the supply and installation of the accessories required for the placement of the reinforcing bars including, without limitation, the tie wire, anchors, chairs, spacers, support bars, couplers, sleeves, bar spacers, bar supports and other mechanical fasteners;
 - 7.31.2.2.10 the placement of the reinforcing bars;
 - 7.31.2.2.11 the inspection of the placement, including anchor testing prior to concreting;
 - 7.31.2.2.12 the supply and placement of additional reinforcement at the request of the Engineer.

7.31.3 PAY ITEM 7.31.3 – STAINLESS STEEL REINFORCEMENT FOR CONCRETE

7.31.3.1 The stainless steel reinforcement for concrete is measured for payment per kg of stainless steel reinforcement supplied and placed in accordance with the drawings and specifications and as directed in writing by the Engineer.

7.31.3.2 The price tendered for this pay item shall include, without however being limited to, the following:

7.31.3.2.1 the provision of the shop drawings;

7.31.3.2.2 the supply and shaping of the reinforcing bars;

7.31.3.2.3 the delivery of the reinforcing bars to the worksite;

7.31.3.2.4 the inspection of the stored reinforcing bars;

7.31.3.2.5 the concrete drilling and supply and placement of the chemical resin or cementitious grout required for the installation of the anchors;

7.31.3.2.6 the supply and installation of the accessories required for the placement of the reinforcing bars including, without limitation, the tie wire, anchors, chairs, spacers, support bars, couplers, sleeves, bar spacers, bar supports and other mechanical fasteners;

7.31.3.2.7 the placement of the reinforcing bars;

7.31.3.2.8 the inspection of the placement, including anchor testing prior to concreting;

7.31.3.2.9 the supply and placement of additional reinforcement at the request of the Engineer.

7.31.4 PAY ITEM 7.31.4 – WIRE MESH FOR CONCRETE

7.31.4.1 The wire mesh for concrete is measured for payment per m² of wire mesh for concrete supplied and placed in accordance with the drawings and specifications and as directed in writing by the Engineer.

7.31.4.2 The price tendered for this pay item shall include, without however being limited to, the following:

7.31.4.2.1 the supply of the wire mesh in flat sheets;

7.31.4.2.2 the cutting and shaping of the wire mesh;

7.31.4.2.3 the concrete drilling and installation of the anchors;

7.31.4.2.4 the placement of the wire mesh including the supply and installation of the placement accessories including, without limitation, the tie wire, chairs and support bars, to account for the overlaps.

7.32 FORMWORK

7.32.1 PAY ITEM 7.32.1 – WOODEN FORMWORK

- 7.32.1.1 The wooden formwork is measured for payment per m² of formwork that comes into contact with the fresh concrete, supplied and installed in accordance with the drawings and specifications and as directed in writing by the Engineer.
- 7.32.1.2 The price tendered for this pay item shall include, without however being limited to, the following:
- 7.32.1.2.1 the provision of the shop drawings of the formwork, shoring and falsework signed and sealed by the Contractor's design engineer;
 - 7.32.1.2.2 the supply of the specific materials to construct the formwork and carry out the shoring and the falsework;
 - 7.32.1.2.3 the erection of the falsework and/or shoring;
 - 7.32.1.2.4 the construction of the wooden formwork;
 - 7.32.1.2.5 the supply and installation of the formwork tie rods;
 - 7.32.1.2.6 the supply and installation of the formwork brackets;
 - 7.32.1.2.7 the supply and application of the formwork release agent or formwork release oil on the formwork;
 - 7.32.1.2.8 the cleaning of the formwork prior to concreting;
 - 7.32.1.2.9 the inspection, prior to concreting, of the formwork, falsework and/or shoring by the Contractor's design engineer, including the issuance of a certificate of conformity signed and sealed by the Contractor's design engineer;
 - 7.32.1.2.10 the form removal;
 - 7.32.1.2.11 the dismantling of the falsework;
 - 7.32.1.2.12 the removal of the shoring;
 - 7.32.1.2.13 the removal of the anchor cones;
 - 7.32.1.2.14 the cutting of the formwork tie rods and/or brackets and filling of the holes left by the removal of the anchor cones with mortar;
 - 7.32.1.2.15 the replacement of formwork panels and accessories at the request of the Engineer.

7.32.2 PAY ITEM 7.32.2 – STEEL FORMWORK

- 7.32.2.1 The steel formwork is measured for payment per m² of steel formwork that comes into contact with the fresh concrete, supplied and installed in accordance with the drawings and specifications and as directed in writing by the Engineer.

- 7.32.2.2 The price tendered for this pay item shall include, without however being limited to, the following:
- 7.32.2.2.1 the provision of the shop drawings of the formwork, shoring and falsework signed and sealed by the Contractor's design engineer;
 - 7.32.2.2.2 the fabrication of the steel formwork;
 - 7.32.2.2.3 the supply of the specific materials to fabricate the formwork and carry out the shoring and the falsework;
 - 7.32.2.2.4 the erection of the falsework and/or shoring;
 - 7.32.2.2.5 the installation of the steel formwork including the required hardware;
 - 7.32.2.2.6 the supply and installation of the formwork tie rods;
 - 7.32.2.2.7 the supply and installation of the formwork brackets;
 - 7.32.2.2.8 the supply and application of the formwork release agent to the formwork prior to concreting;
 - 7.32.2.2.9 the cleaning of the formwork prior to concreting;
 - 7.32.2.2.10 the inspection, prior to concreting, of the formwork, falsework and/or shoring by the Contractor's design engineer, including the issuance of a certificate of conformity signed and sealed by the Contractor's design engineer;
 - 7.32.2.2.11 the form removal;
 - 7.32.2.2.12 the dismantling of the falsework;
 - 7.32.2.2.13 the removal of the shoring;
 - 7.32.2.2.14 the removal of the anchor cones;
 - 7.32.2.2.15 the cutting of the formwork tie rods and/or brackets and filling of the holes left by the removal of the anchor cones with mortar approved by the Engineer;
 - 7.32.2.2.16 the replacement of formwork panels and accessories at the request of the Engineer.
- 7.32.3 PAY ITEM 7.32.3 – PERMANENT STEEL FORMWORK
- 7.32.3.1 The permanent steel formwork is measured for payment per m² of permanent steel formwork that comes into contact with the fresh concrete, supplied and installed in accordance with the drawings and specifications and as directed in writing by the Engineer.

- 7.32.3.2 The price tendered for this pay item shall include, without however being limited to, the following:
- 7.32.3.2.1 the design of the shoring and supports of the permanent formwork system by an engineer;
 - 7.32.3.2.2 the provision of the design notes signed and sealed by the Contractor's design engineer;
 - 7.32.3.2.3 the provision of the shop drawings of the permanent formwork system signed and sealed by the Contractor's design engineer;
 - 7.32.3.2.4 the fabrication and supply of the permanent formwork system components;
 - 7.32.3.2.5 the factory control of the fabrication of the permanent steel formwork;
 - 7.32.3.2.6 the galvanizing of the permanent formwork system components;
 - 7.32.3.2.7 the supply and installation of the anchors;
 - 7.32.3.2.8 the installation of the permanent formwork system components, including all required hardware;
 - 7.32.3.2.9 the inspection and approval, prior to concreting, of the installation of the permanent formwork by the **Contractor's** design engineer;
 - 7.32.3.2.10 the issuance of a compliance certificate for the installation of the permanent formwork system signed and sealed by the **Contractor's** design engineer.

7.33 CAST-IN-PLACE CONCRETE

7.33.1 PAY ITEM 7.33.1 – TYPE V CONCRETE

- 7.33.1.1 The Type V concrete is measured for payment per m³ of Type V concrete placed in accordance with the drawings and specifications and as directed in writing by the Engineer.
- 7.33.1.2 The price tendered for this pay item shall include, without however being limited to, the following:
- 7.33.1.2.1 the provision of the mix formula and of the results of both the tests on the materials used in the mix and on the mix durability;
 - 7.33.1.2.2 the manufacturing and delivery of the concrete to the worksite;
 - 7.33.1.2.3 the supply and installation of the concrete pump;
 - 7.33.1.2.4 the humidification of the demolished concrete surfaces and of the formwork;

- 7.33.1.2.5 the concrete placement;
- 7.33.1.2.6 the concrete consolidation;
- 7.33.1.2.7 the concrete finishing;
- 7.33.1.2.8 the curing of concrete;
- 7.33.1.2.9 the correction of any defects;
- 7.33.1.2.10 the cleaning of the surface.

7.33.2 PAY ITEM 7.33.2 – TYPE V-E CONCRETE

- 7.33.2.1 The Type V-E concrete is measured for payment per m³ of Type V-E concrete placed in accordance with the drawings and specifications and as directed in writing by the Engineer.
- 7.33.2.2 The price tendered for this pay item shall include, without however being limited to, the following:
 - 7.33.2.2.1 the provision of the mix formula and of the results of both the tests on the materials used in the mix and on the mix durability;
 - 7.33.2.2.2 the manufacturing and delivery of the concrete to the worksite;
 - 7.33.2.2.3 the supply and installation of the concrete pump;
 - 7.33.2.2.4 the humidification of the demolished concrete surfaces and of the formwork;
 - 7.33.2.2.5 the concrete placement;
 - 7.33.2.2.6 the concrete consolidation;
 - 7.33.2.2.7 the concrete finishing;
 - 7.33.2.2.8 the curing of concrete;
 - 7.33.2.2.9 the correction of any defects;
 - 7.33.2.2.10 the cleaning of the surface;
 - 7.33.2.2.11 the adhesion verification;
 - 7.33.2.2.12 the correction of any surfaces that did not adhere properly.

7.33.3 PAY ITEM 7.33.3 – TYPE V-S CONCRETE

7.33.3.1 The Type V-S concrete is measured for payment per m³ of Type V-S concrete placed in accordance with the drawings and specifications and as directed in writing by the Engineer.

7.33.3.2 The price tendered for this pay item shall include, without however being limited to, the following:

7.33.3.2.1 the provision of the mix formula and of the results of both the tests on the materials used in the mix and on the mix durability;

7.33.3.2.2 the manufacturing and delivery of the concrete to the worksite;

7.33.3.2.3 the supply and installation of the concrete pump;

7.33.3.2.4 the concrete placement;

7.33.3.2.5 the concrete consolidation;

7.33.3.2.6 the concrete finishing;

7.33.3.2.7 the curing of concrete;

7.33.3.2.8 the correction of any defects after form removal;

7.33.3.2.9 the cleaning of the surface.

7.33.4 PAY ITEM 7.33.4 – TYPE V-S DECK SLAB CONCRETE

7.33.4.1 The Type V-S deck slab concrete is measured for payment per m³ of Type V-S deck slab concrete placed in accordance with the drawings and specifications and as directed in writing by the Engineer.

7.33.4.2 The price tendered for this pay item shall include, without however being limited to, the following:

7.33.4.2.1 the provision of the mix formula and of the results of both the tests on the materials used in the mix and on the mix durability;

7.33.4.2.2 the construction of a protective bridging in accordance with Article 6.33.6.12.3 *Protective Bridging*;

7.33.4.2.3 the supply and installation of the concrete pump(s);

7.33.4.2.4 the supply and installation of a self-propelled concrete finisher, including the rails and mobile platforms needed for the finishing and curing of concrete;

- 7.33.4.2.5 the carrying out of a dry run to ensure the clearance of the reinforcing steel;
- 7.33.4.2.6 the correction of any defects to the reinforcing steel, formwork and self-propelled finisher;
- 7.33.4.2.7 the carrying out of an additional dry run following corrections, if required;
- 7.33.4.2.8 the concreting of the slab with the self-propelled finisher;
- 7.33.4.2.9 the concrete finishing;
- 7.33.4.2.10 the curing of the concrete surface;
- 7.33.4.2.11 the removal of the self-propelled finisher and working platforms;
- 7.33.4.2.12 the removal of the rails and rail supports;
- 7.33.4.2.13 the sealing, with cementitious mortar, of any holes left by the rail supports;
- 7.33.4.2.14 the correction of any defects;
- 7.33.4.2.15 the cleaning of the edge of the slab;
- 7.33.4.2.16 the dismantling of the protective bridging.

7.33.5 PAY ITEM 7.33.5 – TYPE XI CONCRETE

- 7.33.5.1 The Type XI concrete is measured for payment per m³ of Type XI concrete placed in accordance with the drawings and specifications and as directed in writing by the Engineer.
- 7.33.5.2 The price tendered for this pay item shall include, without however being limited to, the following:
 - 7.33.5.2.1 the provision of the mix formula and of the results of both the tests on the materials used in the mix and on the mix durability;
 - 7.33.5.2.2 the manufacturing and delivery of the concrete to the worksite;
 - 7.33.5.2.3 the supply and installation of the concrete pump(s);
 - 7.33.5.2.4 the concrete placement;
 - 7.33.5.2.5 the concrete consolidation;
 - 7.33.5.2.6 the concrete finishing;

- 7.33.5.2.7 the curing of concrete;
- 7.33.5.2.8 the correction of any defects;
- 7.33.5.2.9 the cleaning of the surface.
- 7.33.6 PAY ITEM 7.33.6 – TYPE XIII CONCRETE
- 7.33.6.1 Type XIII concrete is measured for payment per m³ of Type XIII concrete placed in accordance with the drawings and specifications and as directed in writing by the Engineer.
- 7.33.6.2 The price tendered for this pay item shall include, without however being limited to, the following:
 - 7.33.6.2.1 the provision of the mix formula and of the results of both the tests on the materials used in the mix and on the mix durability;
 - 7.33.6.2.2 the manufacturing and delivery of the concrete to the worksite;
 - 7.33.6.2.3 the supply and installation of the concrete pump(s);
 - 7.33.6.2.4 the concrete placement;
 - 7.33.6.2.5 the concrete consolidation;
 - 7.33.6.2.6 the concrete finishing;
 - 7.33.6.2.7 the curing of concrete;
 - 7.33.6.2.8 the correction of any defects;
 - 7.33.6.2.9 the cleaning of the surface.
- 7.33.7 PAY ITEM 7.33.7 – TYPE XIV-C CONCRETE
- 7.33.7.1 The Type XIV-C concrete is measured for payment per m³ of Type XIV-C concrete placed in accordance with the drawings and specifications and as directed in writing by the Engineer.
- 7.33.7.2 The price tendered for this pay item shall include, without however being limited to, the following:
 - 7.33.7.2.1 the provision of the mix formula and of the results of both the tests on the materials used in the mix and on the mix durability;
 - 7.33.7.2.2 the manufacturing and delivery of the concrete to the worksite;

- 7.33.7.2.3 the supply and installation of the concrete pump(s);
 - 7.33.7.2.4 the concrete placement;
 - 7.33.7.2.5 the concrete consolidation;
 - 7.33.7.2.6 the concrete finishing;
 - 7.33.7.2.7 the curing of concrete;
 - 7.33.7.2.8 the correction of any defects;
 - 7.33.7.2.9 the cleaning of the surface.
- 7.33.8 PAY ITEM 7.33.8 – TYPE XIV-R CONCRETE
- 7.33.8.1 The Type XIV-R concrete is measured for payment per m³ of Type XIV-R concrete placed in accordance with the drawings and specifications and as directed in writing by the Engineer.
 - 7.33.8.2 The price tendered for this pay item shall include, without however being limited to, the following:
 - 7.33.8.2.1 the provision of the mix formula and of the results of both the tests on the materials used in the mix and on the mix durability;
 - 7.33.8.2.2 the preparation of the concrete surfaces;
 - 7.33.8.2.3 the humidification of the demolished concrete surfaces and of the formwork;
 - 7.33.8.2.4 the supply and installation of the concrete pump(s);
 - 7.33.8.2.5 the manufacturing and delivery of the concrete to the worksite;
 - 7.33.8.2.6 the concrete placement;
 - 7.33.8.2.7 the concrete finishing;
 - 7.33.8.2.8 the curing of concrete;
 - 7.33.8.2.9 the correction of any defects after form removal;
 - 7.33.8.2.10 the repair adhesion verification;
 - 7.33.8.2.11 the correction of any surfaces that did not adhere properly;
 - 7.33.8.2.12 the cleaning of the surface;

7.33.8.2.13 the injection of any cracks.

7.33.9 PAY ITEM 7.33.9 – TYPE XIV-RE CONCRETE

7.33.9.1 The Type XIV-RE concrete is measured for payment per m³ of Type XIV-RE concrete placed in accordance with the drawings and specifications and as directed in writing by the Engineer.

7.33.9.2 The price tendered for this pay item shall include, without however being limited to, the following:

7.33.9.2.1 the provision of the mix formula and of the results of both the tests on the materials used in the mix and on the mix durability;

7.33.9.2.2 the preparation of the concrete surfaces;

7.33.9.2.3 the humidification of the demolished concrete surfaces and of the formwork;

7.33.9.2.4 the supply and installation of the concrete pump(s);

7.33.9.2.5 the manufacturing and delivery of the concrete to the worksite;

7.33.9.2.6 the concrete placement;

7.33.9.2.7 the concrete finishing;

7.33.9.2.8 the curing of concrete;

7.33.9.2.9 the correction of any defects after form removal;

7.33.9.2.10 the repair adhesion verification;

7.33.9.2.11 the correction of any surfaces that did not adhere properly;

7.33.9.2.12 the cleaning of the surface;

7.33.9.2.13 the injection of any cracks.

7.33.10 PAY ITEM 7.33.10 – TYPE XIV-S CONCRETE

7.33.10.1 The Type XIV-S concrete is measured for payment per m³ of Type XIV-S concrete placed in accordance with the drawings and specifications and as directed in writing by the Engineer.

- 7.33.10.2 The price tendered for this pay item shall include, without however being limited to, the following:
- 7.33.10.2.1 the provision of the technical data sheet;
 - 7.33.10.2.2 the delivery and storage of the bags at the worksite;
 - 7.33.10.2.3 the preparation of the concrete surfaces;
 - 7.33.10.2.4 the humidification of the demolished concrete surfaces and of the formwork;
 - 7.33.10.2.5 the proportioning and mixing of the concrete in accordance with the technical data sheet;
 - 7.33.10.2.6 the concrete placement;
 - 7.33.10.2.7 the concrete finishing;
 - 7.33.10.2.8 the curing of concrete;
 - 7.33.10.2.9 the correction of any defects after form removal;
 - 7.33.10.2.10 the repair adhesion verification;
 - 7.33.10.2.11 the correction of any surfaces that did not adhere properly;
 - 7.33.10.2.12 the cleaning of the surface;
 - 7.33.10.2.13 the injection of any cracks.

7.33.11 PAY ITEM 7.33.11 – TYPE XV CONCRETE

- 7.33.11.1 The Type XV concrete is measured for payment per m³ of Type XV concrete placed in accordance with the drawings and specifications and as directed in writing by the Engineer.
- 7.33.11.2 The price tendered for this pay item shall include, without however being limited to, the following:
- 7.33.11.2.1 the provision of the mix formula and of the results of both the tests on the materials used in the mix and on the mix durability;
 - 7.33.11.2.2 the supply and installation of the concrete pump(s);
 - 7.33.11.2.3 the manufacturing and delivery of the concrete to the worksite;
 - 7.33.11.2.4 the concrete placement;

- 7.33.11.2.5 the concrete consolidation;
- 7.33.11.2.6 the concrete finishing;
- 7.33.11.2.7 the curing of concrete;
- 7.33.11.2.8 the correction of any defects after form removal.

7.33.12 PAY ITEM 7.33.12 – TYPE XVI-5 CONCRETE

- 7.33.12.1 Type XVI-5 concrete is measured for payment per m³ of Type XVI-5 concrete placed in accordance with the drawings and specifications and as directed in writing by the Engineer.
- 7.33.12.2 The price tendered for this pay item shall include, without however being limited to, the following:
 - 7.33.12.2.1 the provision of the mix formula, of the technical data sheet for the latex and of the results of both the tests on the materials used in the mix and on the mix durability;
 - 7.33.12.2.2 the cleaning of the demolished concrete surfaces;
 - 7.33.12.2.3 the humidification of the demolished concrete surfaces;
 - 7.33.12.2.4 the proportioning, mixing and application of the bonding grout on the demolished concrete surfaces;
 - 7.33.12.2.5 the manufacturing and delivery of the concrete to the worksite in conventional of mobile concrete mixers;
 - 7.33.12.2.6 the concrete placement;
 - 7.33.12.2.7 the concrete consolidation;
 - 7.33.12.2.8 the concrete finishing;
 - 7.33.12.2.9 the curing of concrete;
 - 7.33.12.2.10 the concrete adhesion verification;
 - 7.33.12.2.11 the correction of any surfaces that did not adhere properly.

7.33.13 PAY ITEM 7.33.13 – TYPE XVI-15 CONCRETE

- 7.33.13.1 The Type XVI-15 concrete is measured for payment per m³ of Type XVI-15 concrete placed in accordance with the drawings and specifications and as directed in writing by the Engineer.
- 7.33.13.2 The price tendered for this pay item shall include, without however being limited to, the following:
- 7.33.13.2.1 the provision of the mix formula, of the technical data sheet for the latex and of the results of both the tests on the materials used in the mix and on the mix durability;
 - 7.33.13.2.2 the supply and installation of the equipment required for the concrete placement, including, without limitation, the concrete pump, self-propelled finisher and working platforms thereof, rails and vibrating screeds;
 - 7.33.13.2.3 the manufacturing and delivery of the concrete to the worksite in conventional of mobile concrete mixers;
 - 7.33.13.2.4 the cleaning of the demolished concrete surfaces;
 - 7.33.13.2.5 the humidification of the demolished concrete surfaces;
 - 7.33.13.2.6 the proportioning, mixing and application of the bonding grout on the hardened concrete surface;
 - 7.33.13.2.7 the concrete placement;
 - 7.33.13.2.8 the concrete consolidation;
 - 7.33.13.2.9 the implementation of construction joints, if required;
 - 7.33.13.2.10 the concrete finishing;
 - 7.33.13.2.11 the curing of concrete;
 - 7.33.13.2.12 the dismantling of the equipment used to place the concrete;
 - 7.33.13.2.13 the correction of any defects;
 - 7.33.13.2.14 the concrete adhesion verification;
 - 7.33.13.2.15 the correction of any surfaces that did not adhere properly;
 - 7.33.13.2.16 the conduct of a suitability test.

7.33.14 PAY ITEM 7.33.14 – TYPE XVII CONCRETE

- 7.33.14.1 The Type XVII concrete is measured for payment per m³ of Type XVII concrete placed in accordance with the drawings and specifications and as directed in writing by the Engineer.
- 7.33.14.2 The price tendered for this pay item shall include, without however being limited to, the following:
- 7.33.14.2.1 the provision of the mix formula and of the results of both the tests on the materials used in the mix and on the mix durability;
 - 7.33.14.2.2 the preparation of the demolished concrete surfaces;
 - 7.33.14.2.3 the humidification of the demolished concrete surfaces and of the formwork;
 - 7.33.14.2.4 the manufacturing and delivery of the concrete to the worksite;
 - 7.33.14.2.5 the concrete placement;
 - 7.33.14.2.6 the concrete finishing;
 - 7.33.14.2.7 the curing of concrete;
 - 7.33.14.2.8 the correction of any defects after form removal;
 - 7.33.14.2.9 the concrete adhesion verification;
 - 7.33.14.2.10 the correction of any surfaces that did not adhere properly.

7.33.15 PAY ITEM 7.33.15 – REPAIR WITH CEMENTITIOUS MORTAR

- 7.33.15.1 The repair with cementitious mortar is measured for payment per m² of surface repaired with cementitious mortar in accordance with the drawings and specifications and as directed in writing by the Engineer.
- 7.33.15.2 The price tendered for this pay item shall include, without however being limited to, the following:
- 7.33.15.2.1 the provision of the technical data sheet for the cementitious mortar;
 - 7.33.15.2.2 the delivery and storage of the cementitious mortar bags at the worksite;
 - 7.33.15.2.3 the proportioning, mixing and application of the cementitious mortar in accordance with the manufacturer's recommendations;
 - 7.33.15.2.4 the finishing of the cementitious mortar;

- 7.33.15.2.5 the curing of the cementitious mortar;
 - 7.33.15.2.6 the mortar adhesion verification;
 - 7.33.15.2.7 the correction of any surfaces that did not adhere properly.
- 7.33.16 PAY ITEM 7.33.16 – THREE (3)-HOUR RAPID SETTING CONCRETE
- 7.33.16.1 The three-hour (3) rapid setting concrete is measured for payment per m³ of three-hour (3) rapid setting concrete placed in accordance with the drawings and specifications and as directed in writing by the Engineer.
 - 7.33.16.2 The price tendered for this pay item shall include, without however being limited to, the following:
 - 7.33.16.2.1 the provision of the technical data sheet and of the results of both the tests on the materials used in the mix and on the mix durability;
 - 7.33.16.2.2 the preparation of the demolished concrete surfaces;
 - 7.33.16.2.3 the humidification of the demolished concrete surfaces;
 - 7.33.16.2.4 the manufacturing and delivery of the concrete to the worksite;
 - 7.33.16.2.5 the concrete placement;
 - 7.33.16.2.6 the concrete consolidation;
 - 7.33.16.2.7 the concrete finishing;
 - 7.33.16.2.8 the curing of concrete;
 - 7.33.16.2.9 the concrete adhesion verification;
 - 7.33.16.2.10 the correction of any surfaces that did not adhere properly.
- 7.33.17 PAY ITEM 7.33.17 – RAPID SETTING SELF-CONSOLIDATING CONCRETE
- 7.33.17.1 The rapid setting self-consolidating concrete is measured for payment per m³ of rapid setting self-consolidating concrete placed in accordance with the drawings and specifications and as directed in writing by the Engineer.
 - 7.33.17.2 The price tendered for this pay item shall include, without however being limited to, the following:
 - 7.33.17.2.1 the provision of the technical data sheet and of the results of both the tests on the materials used in the mix and on the mix durability;

- 7.33.17.2.2 the preparation of the demolished concrete surfaces;
 - 7.33.17.2.3 the humidification of the demolished concrete surfaces;
 - 7.33.17.2.4 the manufacturing and delivery of the concrete to the worksite;
 - 7.33.17.2.5 the concrete placement;
 - 7.33.17.2.6 the concrete consolidation;
 - 7.33.17.2.7 the concrete finishing;
 - 7.33.17.2.8 the curing of concrete;
 - 7.33.17.2.9 the concrete adhesion verification;
 - 7.33.17.2.10 the correction of any surfaces that did not adhere properly.
- 7.33.18 PAY ITEM 7.33.18 – TYPE 1 PROTECTION IN COLD WEATHER
- 7.33.18.1 The Type 1 protection in cold weather is measured for payment per m² of unformed concrete surface covered with Type 1 insulating material in accordance with the drawings and specifications and as directed in writing by the Engineer.
 - 7.33.18.2 The price tendered for this pay item shall include, without however being limited to, the following:
 - 7.33.18.2.1 the supply and placement of Type 1 insulating material on the new plastic concrete;
 - 7.33.18.2.2 the addition or removal of insulation layers, as directed by the Engineer;
 - 7.33.18.2.3 the removal of all insulation layers once the setting of concrete is completed and as directed by the Engineer.
- 7.33.19 PAY ITEM 7.33.19 – TYPE 2 PROTECTION IN COLD WEATHER
- 7.33.19.1 The Type 2 protection in cold weather is measured for payment per m² of new concrete that comes into contact with the ground, formwork, existing concrete of a cast joint indicated on the drawings or concrete to be preserved, in accordance with the drawings and specifications and as directed in writing by the Engineer. In the case of caisson piles and pipe-piles, this protection is measured for payment per m² of new concrete that comes into contact with the inner wall of the piles, to a depth of 2 m below the surrounding ground level in accordance with the drawings and specifications and as directed in writing by the Engineer.

- 7.33.19.2 The price tendered for this pay item shall include, without however being limited to, the following:
- 7.33.19.2.1 the construction of a shelter enveloping the structure by means of tight and resistant covers to be secured in such a way as not to move during the protection period;
 - 7.33.19.2.2 the supply and maintenance of heating devices;
 - 7.33.19.2.3 the maintenance of a stream of hot air inside the shelter;
 - 7.33.19.2.4 the dismantling of the shelter after the curing of concrete or as directed by the Engineer.
- 7.33.20 PAY ITEM 7.33.20 – TYPE 3 PROTECTION IN COLD WEATHER
- 7.33.20.1 Type 3 protection in cold weather is measured for payment per m² of new concrete that comes into contact with formwork or with a beam in accordance with the drawings and specifications and as directed in writing by the Engineer.
- 7.33.20.2 The price tendered for this pay item shall include, without however being limited to, the following:
- 7.33.20.2.1 the construction of a shelter enveloping a deck underside by means of canvas or tarpaulins;
 - 7.33.20.2.2 the construction of a protective shelter on the outer sides of the deck, up to a height of 1.2 m above the slab;
 - 7.33.20.2.3 the supply and maintenance of heating devices.
- 7.33.20.3 The protection shall be carried out in accordance with paragraph 6.33.6.8.4.9.3 and the covering of the top of the slab with insulating material shall be payable under Pay Item 7.33.18 *Type 1 Protection in Cold Weather* of the Price Table.
- 7.33.21 PAY ITEM 7.33.21 – HEATING OF CONSTITUENTS
- 7.33.21.1 The heating of the constituents is measured for payment per m³ of concrete heated in accordance with the drawings and specifications and as directed in writing by the Engineer, and calculated according to the theoretical dimensions of the new concrete.
- 7.33.21.2 The price tendered for this pay item shall include, without however being limited to, the following:
- 7.33.21.2.1 the heating of the aggregate;
 - 7.33.21.2.2 the heating of the mixing water.

7.34 SHOTCRETE

7.34.1 PAY ITEM 7.34.1 – SHOTCRETE APPLIED BY DRY-MIX PROCESS

- 7.34.1.1 The shotcrete applied by dry-mix process is measured for payment per m³ of concrete surface demolished for the purposes of the shotcreting in accordance with the drawings and specifications and as directed in writing by the Engineer and calculated according to the average thickness of the demolished surface.
- 7.34.1.2 The price tendered for this pay item shall include, without however being limited to, the following:
- 7.34.1.2.1 the provision of either the mix formula or the technical data sheet for the concrete;
 - 7.34.1.2.2 the provision of the training and competency certificates of the nozzleman or nozzle-men;
 - 7.34.1.2.3 the provision of the quality control program;
 - 7.34.1.2.4 the provision of all specialized equipment and personnel required for shotcreting;
 - 7.34.1.2.5 the supply of the concrete and admixtures required for placement thereof;
 - 7.34.1.2.6 the conduct of the suitability tests;
 - 7.34.1.2.7 the protection of adjacent surfaces;
 - 7.34.1.2.8 the protection of the electrical and mechanical installations adjacent to the work;
 - 7.34.1.2.9 the measurement of the repair thickness in the presence of the Engineer;
 - 7.34.1.2.10 the cleaning and preparation of the surfaces to be concreted;
 - 7.34.1.2.11 the installation of tensioned wires;
 - 7.34.1.2.12 the protection in hot or cold weather;
 - 7.34.1.2.13 the shotcreting;
 - 7.34.1.2.14 the leveling and finishing of the concrete;
 - 7.34.1.2.15 the preparation of the construction joints;
 - 7.34.1.2.16 the curing of concrete;
 - 7.34.1.2.17 the cleaning of adjacent surfaces;
 - 7.34.1.2.18 the cleaning and off-site disposal of rebound materials;
 - 7.34.1.2.19 the correction of any defects.

7.34.2 PAY ITEM 7.34.2 – SHOTCRETE APPLIED BY WET-MIX PROCESS

- 7.34.2.1 The shotcrete applied by wet-mix process is measured for payment per m² of concrete surface demolished for the purposes of shotcreting in accordance with the drawings and specifications and as directed in writing by the Engineer and in accordance with the average repair thickness indicated on the drawings.
- 7.34.2.2 The price tendered for this pay item shall include, without however being limited to, the following:
- 7.34.2.2.1 the provision of either the mix formula or the technical data sheet for the concrete;
 - 7.34.2.2.2 the provision of training and competency certificates of the nozzleman or nozzle men;
 - 7.34.2.2.3 the provision of the quality control program;
 - 7.34.2.2.4 the provision of all specialized equipment and personnel required for shotcreting;
 - 7.34.2.2.5 the supply of the concrete and admixtures required for placement thereof;
 - 7.34.2.2.6 the conduct of the suitability tests;
 - 7.34.2.2.7 the protection of adjacent surfaces;
 - 7.34.2.2.8 the protection of the electrical and mechanical installations adjacent to the work;
 - 7.34.2.2.9 the cleaning and preparation of the surfaces to be concreted;
 - 7.34.2.2.10 the installation of tensioned wires;
 - 7.34.2.2.11 the protection in hot or cold weather;
 - 7.34.2.2.12 the shotcreting;
 - 7.34.2.2.13 the leveling and finishing of the concrete;
 - 7.34.2.2.14 the preparation of the construction joints;
 - 7.34.2.2.15 the curing of concrete;
 - 7.34.2.2.16 the cleaning of adjacent surfaces;
 - 7.34.2.2.17 the cleaning and off-site disposal of rebound materials;
 - 7.34.2.2.18 the correction of any defects.

7.35 INJECTION

7.35.1 PAY ITEM 7.35.1 – SEALING FOR EPOXY RESIN CRACK INJECTION

7.35.1.1 The sealing for the epoxy resin crack injection is measured for payment per m of sealing carried out to allow for the injection in accordance with the drawings and specifications and as directed in writing by the Engineer.

7.35.1.2 The price tendered for this pay item shall include, without however being limited to, the following:

7.35.1.2.1 the preparation of the concrete on the edge of the crack;

7.35.1.2.2 the cleaning of the concrete on the edge of the crack;

7.35.1.2.3 the supply, mixing and application of the epoxy adhesive used for sealing;

7.35.1.2.4 the correction of any defects and/or resumption of any defective sealing following the airtightness tests, where applicable.

7.35.2 PAY ITEM 7.35.2 – EPOXY RESIN CRACK INJECTION

7.35.2.1 The epoxy resin crack injection is measured for payment per L of epoxy resin injected into the cracks in accordance with the drawings and specifications and as directed in writing by the Engineer.

7.35.2.2 The price tendered for this pay item shall include, without however being limited to, the following:

7.35.2.2.1 the provision of the comprehensive work plan for the injection work covered by the present pay item;

7.35.2.2.2 the supply and installation of the mechanical and/or surface plugs, including the drilling required for the installation of the mechanical plugs;

7.35.2.2.3 the conduct of the flow, pressure and airtightness tests;

7.35.2.2.4 the cleaning of the cracks with a phosphoric acid-based liquid, where applicable;

7.35.2.2.5 the supply and installation of the injection equipment;

7.35.2.2.6 the supply of the epoxy resin;

7.35.2.2.7 the injection of the crack in accordance with the **Contractor's** work plan method;

- 7.35.2.2.8 the correction of any defects;
- 7.35.2.2.9 the submission of the injection report to the Engineer.
- 7.35.3 PAY ITEM 7.35.3 – POLYURETHANE RESIN CRACK INJECTION
- 7.35.3.1 The polyurethane resin crack injection is measured for payment per L of polyurethane resin injected into the cracks in accordance with the drawings and specifications and as directed in writing by the Engineer.
- 7.35.3.2 The price tendered for this pay item shall include, without however being limited to, the following:
 - 7.35.3.2.1 the provision of the comprehensive work plan for the injection work covered by the present pay item;
 - 7.35.3.2.2 the supply and installation of the mechanical plugs, including the concrete drilling;
 - 7.35.3.2.3 the conduct of the flow and pressure tests;
 - 7.35.3.2.4 the preparation of the cracks by water injection;
 - 7.35.3.2.5 the supply and installation of the injection equipment in accordance with the resin manufacturer’s recommendations;
 - 7.35.3.2.6 the supply of the polyurethane resin;
 - 7.35.3.2.7 the injection of the cracks in accordance with the **Contractor’s** work plan method;
 - 7.35.3.2.8 the correction of any defects;
 - 7.35.3.2.9 the submission of the injection report to the Engineer.
- 7.35.4 PAY ITEM 7.35.4 – SEALING FOR CEMENTITIOUS GROUT CRACK AND/OR VOID INJECTION
- 7.35.4.1 The sealing for the cementitious grout crack and/or void injection is measured for payment per m of crack and/or void sealed to allow for the injection in accordance with the drawings and specifications and as directed in writing by the Engineer.
- 7.35.4.2 The price tendered for this pay item shall include, without however being limited to, the following:
 - 7.35.4.2.1 the preparation of the concrete on the edge of the cracks and/or voids;
 - 7.35.4.2.2 the cleaning of the concrete on the edge of the cracks and/or voids;

- 7.35.4.2.3 the priming of the concrete, if recommended by the sealant manufacturer, on the edge of the cracks and/or voids;
- 7.35.4.2.4 the supply, mixing and application of the cementitious grout used for sealing;
- 7.35.4.2.5 the correction of any defects and/or resumption of any defective sealing.
- 7.35.5 PAY ITEM 7.35.5 – CEMENTITIOUS GROUT CRACK AND/OR VOID INJECTION
- 7.35.5.1 The cementitious grout crack and/or void injection is measured for payment per L of cementitious grout injected into the cracks and/or voids in accordance with the drawings and specifications and as directed in writing by the Engineer.
- 7.35.5.2 The price tendered for this pay item shall include, without however being limited to, the following:
 - 7.35.5.2.1 the provision of the comprehensive work plan for the injection work covered by the present pay item;
 - 7.35.5.2.2 the supply and installation of the mechanical plugs, including concrete drilling;
 - 7.35.5.2.3 the conduct of the flow and pressure tests;
 - 7.35.5.2.4 the preparation of the cracks and/or voids;
 - 7.35.5.2.5 the supply and installation of the mixing and injection equipment;
 - 7.35.5.2.6 the supply of the cementitious grout;
 - 7.35.5.2.7 the mixing and injection of the cementitious grout in accordance with the Contractor's work plan method;
 - 7.35.5.2.8 the correction of any defects;
 - 7.35.5.2.9 the submission of the injection report.

7.36 PRESTRESSING

- 7.36.1 PAY ITEM 7.36.1 – PRESTRESSED CONCRETE GIRDERS
- 7.36.1.1 The prestressed concrete girders are measured for payment per unit of girders installed in accordance with the drawings and specifications and as directed in writing by the Engineer.

- 7.36.1.2 The price tendered for this pay item shall include, without however being limited to, the following:
- 7.36.1.2.1 the provision of the shop drawings;
 - 7.36.1.2.2 the provision of both the concrete and the grout mix formulas;
 - 7.36.1.2.3 the construction of the formwork;
 - 7.36.1.2.4 the supply and placement of the reinforcing steel;
 - 7.36.1.2.5 the supply and placement of the strands;
 - 7.36.1.2.6 the tensioning of the strands prior to concreting;
 - 7.36.1.2.7 the concrete manufacturing and placement;
 - 7.36.1.2.8 the concrete finishing;
 - 7.36.1.2.9 the formwork removal;
 - 7.36.1.2.10 the leveling of the prestressing reinforcement and sealing;
 - 7.36.1.2.11 the curing of concrete;
 - 7.36.1.2.12 the waterproofing of the girder;
 - 7.36.1.2.13 the provision of the girder handling and transportation program;
 - 7.36.1.2.14 the handling and storage of the girder;
 - 7.36.1.2.15 the tensioning of the girder during extended storage, where applicable;
 - 7.36.1.2.16 the transportation of the girder to the worksite;
 - 7.36.1.2.17 the installation of the girder, including all required equipment;
 - 7.36.1.2.18 the supply and installation of the temporary bracing after the installation of the girder.

7.36.2 PAY ITEM 7.36.2 – STRENGTHENING OF PRESTRESSED CONCRETE GIRDERS

- 7.36.2.1 The strengthening of prestressed concrete girders is measured for payment per unit of prestressed concrete girders strengthened by adding external post-tensioning in accordance with the drawings and specifications and as directed in writing by the Engineer.

- 7.36.2.2 The price tendered for this pay item shall include, without however being limited to, the following:
- 7.36.2.2.1 the provision of the technical data sheets for the different materials used for post-tensioning;
 - 7.36.2.2.2 the provision of samples;
 - 7.36.2.2.3 the provision of the test certificates;
 - 7.36.2.2.4 the provision of the shop drawings;
 - 7.36.2.2.5 the provision of the strengthening procedure and of the details of the system used to apply the post-tensioning;
 - 7.36.2.2.6 the provision of the girder's existing passive and prestressing reinforcement survey;
 - 7.36.2.2.7 the execution of exploratory openings in the girder concrete;
 - 7.36.2.2.8 the drilling of the girder;
 - 7.36.2.2.9 the construction of the anchor blocks;
 - 7.36.2.2.10 the supply and installation of the cable supports;
 - 7.36.2.2.11 the supply and installation of the sheaths;
 - 7.36.2.2.12 the supply and installation of the cables;
 - 7.36.2.2.13 the supply and installation of the anchor heads and cones and of the insulation casing;
 - 7.36.2.2.14 the tensioning of the cables;
 - 7.36.2.2.15 the preparation of the cementitious grout;
 - 7.36.2.2.16 the cementitious grout injection;
 - 7.36.2.2.17 the leveling of the surplus strands;
 - 7.36.2.2.18 the filling of the insulation casing with grease;
 - 7.36.2.2.19 the supply and placement of the sealing concrete;
 - 7.36.2.2.20 the supply and placement of a waterproofing coating on the surface of the anchor blocks.

7.36.3 PAY ITEM 7.36.3 – STRENGTHENING OF THE PIER CAPS

7.36.3.1 The strengthening of the pier caps is measured for payment per unit of pier cap strengthened by adding external post-tensioning in accordance with the drawings and specifications and as directed in writing by the Engineer.

7.36.3.2 The price tendered for this pay item shall include, without however being limited to, the following:

7.36.3.2.1 the provision of the external post-tensioning installation and tensioning procedure;

7.36.3.2.2 the provision of the technical data sheets for the different materials used for post-tensioning and of the results of the tests thereon conducted;

7.36.3.2.3 the provision of the shop drawings;

7.36.3.2.4 the manufacturing of the sheath supports;

7.36.3.2.5 the galvanizing of the different elements;

7.36.3.2.6 the concrete drilling;

7.36.3.2.7 the installation of the sheath supports;

7.36.3.2.8 the supply and installation of the sheaths;

7.36.3.2.9 the supply and storage of the high-strength steel bars;

7.36.3.2.10 the placement of the high-strength steel bars, including the welded sleeves, conical nuts, washers and other accessories;

7.36.3.2.11 the tensioning of the high-strength steel bars;

7.36.3.2.12 the preparation and injection of the cementitious grout;

7.36.3.2.13 the leveling of the steel bars by grinding;

7.36.3.2.14 the touch-ups on galvanizing.

7.36.4 PAY ITEM 7.36.4 – STRENGTHENING OF THE UPPER PORTION OF THE PIERS

7.36.4.1 The strengthening of the upper portion of the piers is measured for payment per unit of pier strengthened by adding external post-tensioning in accordance with the drawings and specifications and as directed in writing by the Engineer.

- 7.36.4.2 The price tendered for this pay item shall include, without however being limited to, the following:
- 7.36.4.2.1 the provision of the shop drawings;
 - 7.36.4.2.2 the provision of the grout mix formula;
 - 7.36.4.2.3 the provision of the technical data sheets for the different materials used for post-tensioning;
 - 7.36.4.2.4 the provision of the steel bar placement and tensioning procedure;
 - 7.36.4.2.5 the provision of the concrete drilling procedure;
 - 7.36.4.2.6 the movement of all pieces of equipment fixed to the girders;
 - 7.36.4.2.7 the demolition of the niche concrete;
 - 7.36.4.2.8 the concrete drilling;
 - 7.36.4.2.9 the mixing and placement of the leveling grout in the niches;
 - 7.36.4.2.10 the delivery of the high-strength steel bars and tensioning accessories to the worksite and storage of the bars and accessories thereon;
 - 7.36.4.2.11 the placement of the high-strength steel bars and tensioning accessories;
 - 7.36.4.2.12 the tensioning of the high-strength steel bars;
 - 7.36.4.2.13 the mixing and placement of the injection grout;
 - 7.36.4.2.14 the mixing and placement of the filler concrete.

7.36.5 PAY ITEM 7.36.5 – PRESTRESSING BY POST-TENSIONING OF THE DECK SLABS

- 7.36.5.1 The prestressing by post-tensioning of the deck slabs is measured for payment per m² of deck slabs prestressed by one-way or two-way post-tensioning in accordance with the drawings and specifications and as directed in writing by the Engineer.
- 7.36.5.2 The price tendered for this pay item shall include, without however being limited to, the following:
- 7.36.5.2.1 the provision of the technical data sheets for the different materials used for post-tensioning;
 - 7.36.5.2.2 the provision of the samples;

- 7.36.5.2.3 the provision of the test certificates;
- 7.36.5.2.4 the provision of the post-tensioning installation and tensioning procedure;
- 7.36.5.2.5 the supply of all specific materials required and storage thereof on the worksite;
- 7.36.5.2.6 the installation of the sheaths and anchoring devices prior to concreting of the deck slab;
- 7.36.5.2.7 the placement of the strands;
- 7.36.5.2.8 the tensioning of the strands;
- 7.36.5.2.9 the mixing and injection of the grout;
- 7.36.5.2.10 the leveling of the strands;
- 7.36.5.2.11 the preparation and placement of the sealing concrete.

7.37 MISCELLANEOUS PRODUCTS FOR CONCRETE WORK

7.37.1 PAY ITEM 7.37.1 – GALVANIC ANODES

- 7.37.1.1 The galvanic anodes are measured for payment per unit of galvanic anode supplied and installed prior to concreting in accordance with the drawings and specifications and as directed in writing by the Engineer.
- 7.37.1.2 The price tendered for this pay item shall include, without however being limited to, the following:
 - 7.37.1.2.1 the provision of the technical data sheets for the galvanic anode as well as the procedure for installation thereof;
 - 7.37.1.2.2 the supply and storage of the galvanic anode;
 - 7.37.1.2.3 the cleaning and preparation of the reinforcing bars;
 - 7.37.1.2.4 the installation of the galvanic anode;
 - 7.37.1.2.5 the electrical continuity verifications before, during and after installation;
 - 7.37.1.2.6 the keeping of an installation record during the work and submission to the Engineer upon request.

7.37.2 PAY ITEM 7.37.2 – FORMWORK LINING

7.37.2.1 The formwork lining is measured for payment per m² of lining that comes into contact with the formwork, in accordance with the drawings and specifications and as directed in writing by the Engineer.

7.37.2.2 The price tendered for this pay item shall include, without however being limited to, the following:

7.37.2.2.1 the provision of the technical data sheet for the formwork lining;

7.37.2.2.2 the delivery of the lining and installation thereof on the formwork;

7.37.2.2.3 the removal of the formwork lining;

7.37.2.2.4 the disposal, at the end of the work, of the formwork lining in an authorized site in accordance with subsection 6.13 *Environmental Protection*.

7.37.3 PAY ITEM 7.37.3 – CONCRETE WATERPROOFER

7.37.3.1 The concrete waterproofer is measured for payment per m² of waterproofer applied on the concrete in accordance with the drawings and specifications and as directed in writing by the Engineer.

7.37.3.2 The price tendered for this pay item shall include, without however being limited to, the following:

7.37.3.2.1 the provision of the technical data sheet for the waterproofer;

7.37.3.2.2 the delivery of the waterproofer to the worksite and storage thereon;

7.37.3.2.3 the surface preparation by means of abrasive blasting or high-pressure water blasting as indicated on the drawings;

7.37.3.2.4 the application of the waterproofer in accordance with the manufacturer's recommendations;

7.37.3.2.5 the protection of treated surfaces.

7.37.4 PAY ITEM 7.37.4 – JOINT SEALANT

7.37.4.1 The joint sealant is measured for payment per m of joint sealed in accordance with the drawings and specifications and as directed in writing by the Engineer.

7.37.4.2 The price tendered for this pay item shall include, without however being limited to, the following:

- 7.37.4.2.1 the provision of the technical data sheet for the sealant product;
- 7.37.4.2.2 the delivery of the sealant product to the worksite and storage thereon;
- 7.37.4.2.3 the preparation of the edges of the joint in accordance with the sealant manufacturer's recommendations;
- 7.37.4.2.4 the priming of the joint by the sealant manufacturer, where applicable;
- 7.37.4.2.5 the application of the sealant;
- 7.37.4.2.6 the protection of the joints during the curing of the sealant.

7.37.5 PAY ITEM 7.37.5 – PREFORMED BITUMINOUS BACKER ROD

7.37.5.1 The preformed bituminous backer rod is measured for payment per m of preformed bituminous backer rod placed in accordance with the drawings and specifications and as directed in writing by the Engineer.

7.37.5.2 The price tendered for this pay item shall include, without however being limited to, the following:

- 7.37.5.2.1 the provision of the technical data sheet for the backer rod;
- 7.37.5.2.2 the delivery of the backer rod to the worksite and storage thereon;
- 7.37.5.2.3 the placement of the backer rod in the locations indicated on the drawings and in accordance with the manufacturer's recommendations.

7.37.6 PAY ITEM 7.37.6 – PREFORMED FOAM BACKER ROD

7.37.6.1 The preformed foam backer rod is measured for payment per m of preformed foam backer rod placed in accordance with the drawings and specifications and as directed in writing by the Engineer.

7.37.6.2 The price tendered for this pay item shall include, without however being limited to, the following:

- 7.37.6.2.1 the provision of the technical data sheet for the backer rod;
- 7.37.6.2.2 the delivery of the backer rod to the worksite and storage thereon;
- 7.37.6.2.3 the placement of the backer rod in the locations indicated on the drawings and in accordance with the manufacturer's recommendations.

7.37.7 PAY ITEM 7.37.7 – CYLINDRICAL FOAM BACKER ROD

7.37.7.1 The cylindrical foam backer rod is measured for payment per m of cylindrical foam backer rod placed in accordance with the drawings and specifications and as directed in writing by the Engineer.

7.37.7.2 The price tendered for this pay item shall include, without however being limited to, the following:

7.37.7.2.1 the provision of the technical data sheet for the backer rod;

7.37.7.2.2 the delivery of the backer rod to the worksite and storage thereon;

7.37.7.2.3 the placement of the backer rod in the locations indicated on the drawings and in accordance with the manufacturer's recommendations.

7.37.8 PAY ITEM 7.37.8 – WATERSTOP

7.37.8.1 The waterstop is measured for payment per m of waterstop placed in accordance with the drawings and specifications and as directed in writing by the Engineer.

7.37.8.2 The price tendered for this pay item shall include, without however being limited to, the following:

7.37.8.2.1 the provision of the technical data sheet for and of a sample of the waterstop;

7.37.8.2.2 the delivery of the waterstop to the worksite and storage thereon;

7.37.8.2.3 the placement of the waterstop, including any welds;

7.37.8.2.4 the cleaning of the waterstop after the first pour.

7.37.9 PAY ITEM 7.37.9 – WATERPROOFING COATING

7.37.9.1 The waterproofing coating is measured for payment per m² of waterproofing coating placed on the concrete in accordance with the drawings and specifications and as directed in writing by the Engineer.

7.37.9.2 The price tendered for this pay item shall include, without however being limited to, the following:

7.37.9.2.1 the provision of the technical data sheet for the waterproofing coating components, including the primer, the base coat and the top coat;

7.37.9.2.2 the delivery of the waterproofing coating components to the worksite and storage thereon;

- 7.37.9.2.3 the surface preparation in accordance with the manufacturer's recommendations;
- 7.37.9.2.4 the written confirmation that the concrete moisture content complies with the manufacturer's recommendations;
- 7.37.9.2.5 the placement of the waterproofing coating;
- 7.37.9.2.6 the protection of the coating during curing thereof;
- 7.37.9.2.7 the correction of any defects.

7.38 STRENGTHENING OF STRUCTURAL COMPONENTS WITH CARBON FIBER REINFORCED POLYMER (CFRP)

7.38.1 PAY ITEM 7.38.1 – STRENGTHENING WITH CARBON FIBER REINFORCED POLYMER (CFRP)

- 7.38.1.1 The strengthening with carbon fiber reinforced polymer (CFRP) is measured for payment per m² of carbon fiber fabric placed in accordance with the drawings and specifications and as directed in writing by the Engineer.
- 7.38.1.2 The price tendered for this pay item shall include, without however being limited to, the following:
 - 7.38.1.2.1 the provision of the work procedure for the placement of the CFRP products;
 - 7.38.1.2.2 the provision of the Contractor's CFRP specialized engineer's curriculum vitae;
 - 7.38.1.2.3 the provision of samples of the proposed strengthening system;
 - 7.38.1.2.4 the provision of the technical data sheets for the proposed strengthening system;
 - 7.38.1.2.5 the provision of the Contractor's strengthening design engineer's curriculum vitae;
 - 7.38.1.2.6 the provision of the complete design note of the proposed strengthening system;
 - 7.38.1.2.7 the provision of all other documents required in the specifications;
 - 7.38.1.2.8 the delivery of all products used for strengthening with CFRP to the worksite and storage thereon;
 - 7.38.1.2.9 the inspection and approval of the surfaces by the Contractor's CFRP specialized engineer;

- 7.38.1.2.10 the removal and reinstallation of the girder instrumentation elements after completion of the work;
- 7.38.1.2.11 the cleaning and preparation of the surfaces;
- 7.38.1.2.12 the preparation of the products in accordance with the manufacturer's recommendations;
- 7.38.1.2.13 the placement of the strengthening products;
- 7.38.1.2.14 the curing of the strengthening products;
- 7.38.1.2.15 the verification of the concrete adhesion strength resistance of the strengthening system;
- 7.38.1.2.16 the correction of any defects;
- 7.38.1.2.17 the supply and placement of any UV protective product authorized by the Contractor's CFRP specialized engineer;
- 7.38.1.2.18 the supply and application of a protective paint on the edge girders and including the soffit;
- 7.38.1.2.19 the cleaning after completion of the strengthening work;
- 7.38.1.2.20 the keeping of a CFRP placement record during the work and submission to the Engineer after completion of the strengthening work.
- 7.38.1.3 The repair to the girder and diaphragm concrete shall be payable under Pay Items 7.33 *Cast-in-Place Concrete* of the Price Table.
- 7.38.1.4 The protection in cold weather required for the performance of the strengthening work shall be payable under Pay Items 7.33 *Cast-in-Place Concrete* of the Price Table.

7.39 PRECAST CONCRETE ELEMENTS

- 7.39.1 Subsection 6.39 is not the subject of any standard pay item.

7.40 STEEL STRUCTURE

7.41 STEELWORK

7.41.1 PAY ITEM 7.41.1 – GENERAL STEEL WORK WITH ADDED COMPONENTS

7.41.1.1 The general steel work with added components is measured for payment per kg of steel components fabricated and installed in accordance with the drawings and specifications and as directed in writing by the Engineer.

7.41.1.2 The price tendered for this pay item shall include, without however being limited to, the following:

7.41.1.2.1 the detailed survey of the parts to be added;

7.41.1.2.2 the provision of the shop drawings and detailed design notes of the steel parts to be added, signed and sealed by an engineer;

7.41.1.2.3 the provision of all documents required on the drawings and in the specifications concerning the source and fabrication of the steel;

7.41.1.2.4 the provision of the results of the tests conducted on the steel;

7.41.1.2.5 the supply, shaping and factory welding of the steel parts;

7.41.1.2.6 the galvanizing of the parts indicated on the drawings;

7.41.1.2.7 the delivery of the parts to the worksite and storage thereon;

7.41.1.2.8 the supply of the hardware necessary for the installation of the steel parts;

7.41.1.2.9 the supply and installation of any temporary reinforcement members;

7.41.1.2.10 the surface preparation before the installation of the steel parts;

7.41.1.2.11 the removal of any rivets;

7.41.1.2.12 the installation of the steel parts;

7.41.1.2.13 the repair of the galvanizing or paint, if required.

7.41.2 PAY ITEM 7.41.2 – GENERAL STEEL WORK FOR THE REPLACEMENT OF EXISTING COMPONENTS

7.41.2.1 The general steel work for the replacement of existing components is measured for payment per kg of steel components fabricated and installed in accordance with the drawings and specifications and as directed in writing by the Engineer.

- 7.41.2.2 The price tendered for this pay item shall include, without however being limited to, the following:
- 7.41.2.2.1 the detailed survey of the parts to be replaced;
 - 7.41.2.2.2 the provision of the shop drawings and detailed design notes of the steel parts to be replaced, signed and sealed by an engineer;
 - 7.41.2.2.3 the provision of all documents required on the drawings and in the specifications concerning the source and fabrication of the steel;
 - 7.41.2.2.4 the provision of the results of the tests conducted on the steel;
 - 7.41.2.2.5 the supply, shaping and factory welding of the steel parts;
 - 7.41.2.2.6 the galvanizing of the parts indicated on the drawings;
 - 7.41.2.2.7 the delivery of the parts to the worksite and storage thereon;
 - 7.41.2.2.8 the supply of the hardware necessary for the replacement of the steel parts;
 - 7.41.2.2.9 the supply and installation of any temporary reinforcement members;
 - 7.41.2.2.10 the removal of the components to be replaced;
 - 7.41.2.2.11 the surface preparation before the installation of the steel parts;
 - 7.41.2.2.12 the removal of any rivets;
 - 7.41.2.2.13 the installation of the steel parts;
 - 7.41.2.2.14 the repair of the galvanizing or paint, if required.
- 7.41.3 PAY ITEM 7.41.3 – STRENGTHENING OF THE GIRDERS BY THE ADDITION OF HIGH-STRENGTH STEEL BARS
- 7.41.3.1 The strengthening of the girders by the addition of high-strength steel bar is measured for payment per unit of high-strength steel bars placed in accordance with the drawings and specifications and as directed in writing by the Engineer.
 - 7.41.3.2 The price tendered for this pay item shall include, without however being limited to, the following:
 - 7.41.3.2.1 the on-site measurement;

- 7.41.3.2.2 the provision of the shop drawings, tensioning procedure and detailed design notes of the high-strength steel bars and accessories required for placement thereof, signed and sealed by an engineer;
- 7.41.3.2.3 the provision of the technical data sheets;
- 7.41.3.2.4 the provision of the proof of competency of the installers;
- 7.41.3.2.5 the supply of the high-strength steel bar, including the placement accessories;
- 7.41.3.2.6 the delivery of the high-strength steel bar and placement accessories to the worksite and storage thereon;
- 7.41.3.2.7 the placement of the high-strength steel bar;
- 7.41.3.2.8 the tensioning of the high-strength steel bar;
- 7.41.3.2.9 the supervision of the work by the Contractor's engineer;
- 7.41.3.2.10 the provision of the tensioning report signed by the Contractor's engineer.
- 7.41.3.3 All steel parts required for the placement of the high-strength steels bars other than the placement accessories shall be payable under Pay Item 7.41.1 *General Steel Work with Added Components* of the Price Table.
- 7.41.4 PAY ITEM 7.41.4 – STEEL GIRDERS FOR A NEW DECK
- 7.41.4.1 The steel girders for a new deck are measured for payment per unit of steel girder installed in accordance with the drawings and specifications and as directed in writing by the Engineer.
- 7.41.4.2 The price tendered for this pay item shall include, without however being limited to, the following:
 - 7.41.4.2.1 the on-site surveys;
 - 7.41.4.2.2 the provision of both the shop and the assembly drawings signed and sealed by the Contractor's engineer;
 - 7.41.4.2.3 the provision of the assembly process design notes signed and sealed by the Contractor's engineer;
 - 7.41.4.2.4 the factory welding process;
 - 7.41.4.2.5 the on-site bolting procedure;

- 7.41.4.2.6 the provision of all documents required on the drawings and in the specifications concerning the source and fabrication of the steel;
- 7.41.4.2.7 the provision of the results of the tests conducted on the steel;
- 7.41.4.2.8 the provision of the documents relating to the transportation of the girder;
- 7.41.4.2.9 the supply, shaping and drilling of the steel;
- 7.41.4.2.10 the welding fabrication of the girder;
- 7.41.4.2.11 the supply and installation of the studs;
- 7.41.4.2.12 the factory pre-assembly of the girder;
- 7.41.4.2.13 the delivery of the girder sections to the worksite and storage thereon;
- 7.41.4.2.14 the supply of the hardware required for the bolting assembly and assembly of the girder;
- 7.41.4.2.15 the on-site assembly of the girder;
- 7.41.4.2.16 the lifting and installation of the girder;
- 7.41.4.2.17 the supply and installation of the bracing elements.

7.42 PAINTING WORK

7.42.1 PAY ITEM 7.42.1 – WORKSITE PAINTING

- 7.42.1.1 The worksite painting is measured for payment per m² of surfaces painted on worksite in accordance with the drawings and specifications and as directed in writing by the Engineer.
- 7.42.1.2 The price tendered for this pay item shall include, without however being limited to, the following:
 - 7.42.1.2.1 the provision of the shop drawings and design notes of the temporary installations and enclosures signed and sealed by an engineer;
 - 7.42.1.2.2 the construction of the temporary installations and enclosures;
 - 7.42.1.2.3 the provision of the technical data sheets and material safety data sheets for the abrasives, solvents, thinners and paint;
 - 7.42.1.2.4 the delivery and storage of the abrasives, solvents, thinners and paint;

- 7.42.1.2.5 the supply and installation of a ventilation system for the enclosures;
- 7.42.1.2.6 the supply and installation of an air dehumidification system inside the enclosures;
- 7.42.1.2.7 the supply and installation of a fixed network of breathable air ducts inside the enclosures;
- 7.42.1.2.8 the supply of breathable air lines and respirators for the workers and the Engineer;
- 7.42.1.2.9 the supply of compressors;
- 7.42.1.2.10 the protection of the existing equipment;
- 7.42.1.2.11 the surface preparation;
- 7.42.1.2.12 the cleaning of the surfaces by means of abrasive blasting;
- 7.42.1.2.13 the final cleaning of the surfaces by means of compressed air;
- 7.42.1.2.14 the application of the paint system;
- 7.42.1.2.15 the heating of the enclosures, where applicable;
- 7.42.1.2.16 the sealing of joints, where applicable;
- 7.42.1.2.17 the brush painting of the bolts;
- 7.42.1.2.18 the paint touch-ups;
- 7.42.1.2.19 the worksite removal of the cleaning and paint residues;
- 7.42.1.2.20 the disposal of the cleaning and paint residues in an authorized site in accordance with subsection 6.13 *Environmental Protection*;
- 7.42.1.2.21 the correction of any defects;
- 7.42.1.2.22 the dismantling of the temporary devices and enclosures.

7.42.2 PAY ITEM 7.42.2 – FACTORY PAINTING

- 7.42.2.1 The factory painting is measured for payment per m² of surfaces painted at the factory in accordance with the drawings and specifications and as directed in writing by the Engineer.

- 7.42.2.2 The price tendered for this pay item shall include, without however being limited to, the following:
- 7.42.2.2.1 the provision of the technical data sheets and Material Safety Data Sheets for the abrasives, solvents, thinners and paint;
 - 7.42.2.2.2 the cleaning of the steel parts by means of abrasive blasting;
 - 7.42.2.2.3 the final cleaning by means of dry air;
 - 7.42.2.2.4 the marking of the parts to be assembled;
 - 7.42.2.2.5 the application of the paint system;
 - 7.42.2.2.6 the drying of the paint;
 - 7.42.2.2.7 the on-site or factory touch-ups after installation, where applicable;
 - 7.42.2.2.8 the correction of any defects;
 - 7.42.2.2.9 the disposal of the cleaning and paint residues in an authorized site in accordance with subsection 6.13 *Environmental Protection*.

7.43 ALUMINUM WORK

- 7.43.1 Subsection 6.43 is not the subject of any standard pay item.

7.44 SIGNAGE STRUCTURES

7.44.1 PAY ITEM 7.44.1 – STEEL OVERHEAD STRUCTURES

- 7.44.1.1 The steel overhead structures are measured for payment per unit of steel overhead structure fabricated and installed in accordance with the drawings and specifications and as directed in writing by the Engineer.
- 7.44.1.2 The price tendered for this pay item shall include, without however being limited to, the following:
- 7.44.1.2.1 the survey of the dimensions and clearances on the site;
 - 7.44.1.2.2 the design of the structure;
 - 7.44.1.2.3 the provision of the design documents signed and sealed by an engineer;
 - 7.44.1.2.4 the supply, shaping and welding assembly of the steel components constituting the structure's modules;

- 7.44.1.2.5 the factory pre-assembly of the trusses or monotubular girders with connecting flanges, as applicable;
- 7.44.1.2.6 the supply and installation of the identification plates;
- 7.44.1.2.7 the loading and transportation of the structure's modules to the worksite;
- 7.44.1.2.8 the unloading of the structure's modules using a crane;
- 7.44.1.2.9 the safe storage of the structure's modules;
- 7.44.1.2.10 the installation of the structure's modules, using one or more cranes;
- 7.44.1.2.11 the supply and installation of any temporary signage panels;
- 7.44.1.2.12 the supply and installation of an antivibration device;
- 7.44.1.2.13 the bolt tightening in accordance with Appendix 6.44-I *Requirements for Bolt Tightening* of subsection 6.44 *Signage Structures*.

7.44.2 PAY ITEM 7.44.2 – ALUMINUM OVERHEAD STRUCTURES

- 7.44.2.1 The aluminum overhead structures are measured for payment per unit of aluminum overhead structure fabricated and installed in accordance with the drawings and specifications and as directed in writing by the Engineer.
- 7.44.2.2 The price tendered for this pay item shall include, without however being limited to, the following:
 - 7.44.2.2.1 the survey of the dimensions and clearances on the site;
 - 7.44.2.2.2 the design of the structure;
 - 7.44.2.2.3 the provision of the design documents signed and sealed by an engineer;
 - 7.44.2.2.4 the supply, shaping and welding assembly of the aluminum components constituting the structure's modules;
 - 7.44.2.2.5 the factory pre-assembly of the trusses or monotubular girders with connecting flanges, as applicable;
 - 7.44.2.2.6 the supply and installation of the identification plates;
 - 7.44.2.2.7 the loading and transportation of the structure's modules to the worksite;
 - 7.44.2.2.8 the unloading of the structure's modules using a crane;

- 7.44.2.2.9 the safe storage of the structure's modules;
- 7.44.2.2.10 the installation of the structure's modules, using one or more cranes;
- 7.44.2.2.11 the supply and installation of any temporary signage panels, if required;
- 7.44.2.2.12 the supply and installation of an antivibration device;
- 7.44.2.2.13 the bolt tightening in accordance with Appendix 6.44-I *Requirements for Bolt Tightening* of subsection 6.44 *Signage Structures*.

7.44.3 PAY ITEM 7.44.3 – STEEL CANTILEVER STRUCTURES

- 7.44.3.1 The steel cantilever structures are measured for payment per unit of steel cantilever structure fabricated and installed in accordance with the drawings and specifications and as directed in writing by the Engineer.
- 7.44.3.2 The price tendered for this pay item shall include, without however being limited to, the following:
 - 7.44.3.2.1 the survey of the dimensions and clearances on the site;
 - 7.44.3.2.2 the design of the structure;
 - 7.44.3.2.3 the provision of the design documents signed and sealed by an engineer;
 - 7.44.3.2.4 the supply, shaping and welding assembly of the steel components constituting the structure's modules;
 - 7.44.3.2.5 the supply and installation of the identification plates;
 - 7.44.3.2.6 the loading and transportation of the structure's modules to the worksite;
 - 7.44.3.2.7 the unloading of the structure's modules using a crane;
 - 7.44.3.2.8 the safe storage of the structure's modules;
 - 7.44.3.2.9 the installation of the structure's modules, using one or more cranes;
 - 7.44.3.2.10 the bolt tightening in accordance with Appendix 6.44-I *Requirements for Bolt Tightening* of subsection 6.44 *Signage Structures*.

7.44.4 PAY ITEM 7.44.4 – ALUMINUM CANTILEVER STRUCTURES

- 7.44.4.1 The aluminum cantilever structures are measured for payment per unit of aluminum cantilever structure fabricated and installed in accordance with the drawings and specifications and as directed in writing by the Engineer.

- 7.44.4.2 The price tendered for this pay item shall include, without however being limited to, the following:
- 7.44.4.2.1 the survey of the dimensions and clearances on the site;
 - 7.44.4.2.2 the design of the structure;
 - 7.44.4.2.3 the provision of the design documents signed and sealed by an engineer;
 - 7.44.4.2.4 the supply, shaping and welding assembly of the aluminum components constituting the structure's modules;
 - 7.44.4.2.5 the supply and installation of the identification plates;
 - 7.44.4.2.6 the loading and transportation of the structure's modules to the worksite;
 - 7.44.4.2.7 the unloading of the structure's modules using a crane;
 - 7.44.4.2.8 the safe storage of the structure's modules;
 - 7.44.4.2.9 the installation of the structure's modules, using one or more cranes;
 - 7.44.4.2.10 the bolt tightening in accordance with Appendix 6.44-I *Requirements for Bolt Tightening* of subsection 6.44 *Signage Structures*.

7.44.5 PAY ITEM 7.44.5 – STEEL LATERAL STRUCTURES

- 7.44.5.1 The steel lateral structures are measured for payment per unit of steel lateral structure fabricated and installed in accordance with the drawings and specifications and as directed in writing by the Engineer.
- 7.44.5.2 The price tendered for this pay item shall include, without however being limited to, the following:
- 7.44.5.2.1 the survey of the dimensions and clearances on the site;
 - 7.44.5.2.2 the design of the structure;
 - 7.44.5.2.3 the provision of the design documents signed and sealed by an engineer;
 - 7.44.5.2.4 the supply of the steel components required for the shaping and welding assembly of the posts;
 - 7.44.5.2.5 the supply and installation of the identification plates;
 - 7.44.5.2.6 the loading and transportation of the steel posts to the worksite;

- 7.44.5.2.7 the unloading of the steel posts;
- 7.44.5.2.8 the safe storage of the steel posts;
- 7.44.5.2.9 the installation of the steel posts using an adequate lifting equipment;
- 7.44.5.2.10 the supply and installation of any temporary signage panels;
- 7.44.5.2.11 the supply and installation of an antivibration device;
- 7.44.5.2.12 the bolt tightening in accordance with Appendix 6.44-I *Requirements for Bolt Tightening* of subsection 6.44 *Signage Structures*.

7.44.6 PAY ITEM 7.44.6 – STEEL BREAKAWAY LATERAL STRUCTURES

- 7.44.6.1 The steel breakaway lateral structures are measured for payment per unit of steel breakaway lateral structure fabricated and installed in accordance with the drawings and specifications and as directed in writing by the Engineer.
- 7.44.6.2 The price tendered for this pay item shall include, without however being limited to, the following:
 - 7.44.6.2.1 the survey of the dimensions and clearances on the site;
 - 7.44.6.2.2 the design of the structure;
 - 7.44.6.2.3 the provision of the design documents signed and sealed by an engineer;
 - 7.44.6.2.4 the supply of the steel components required for the shaping and welding assembly of the posts, including the breakaway bases and the flexible joints;
 - 7.44.6.2.5 the supply and installation of the identification plates;
 - 7.44.6.2.6 the loading and transportation of the steel posts to the worksite;
 - 7.44.6.2.7 the unloading of the steel posts;
 - 7.44.6.2.8 the safe storage of the steel posts;
 - 7.44.6.2.9 the installation of the steel posts using an adequate lifting equipment;
 - 7.44.6.2.10 the supply and installation of any temporary signage panels;
 - 7.44.6.2.11 the supply and installation of an antivibration device;
 - 7.44.6.2.12 the bolt tightening in accordance with Appendix 6.44-I *Requirements for Bolt Tightening* of subsection 6.44 *Signage Structures*.

7.44.7 PAY ITEM 7.44.7 – ALUMINUM LATERAL STRUCTURES

7.44.7.1 The aluminum lateral structures are measured for payment per unit of aluminum lateral structure fabricated and installed in accordance with the drawings and specifications and as directed in writing by the Engineer.

7.44.7.2 The price tendered for this pay item shall include, without however being limited to, the following:

7.44.7.2.1 the survey of the dimensions and clearances on the site;

7.44.7.2.2 the design of the structure;

7.44.7.2.3 the provision of the design documents signed and sealed by an engineer;

7.44.7.2.4 the supply of the aluminum components required for the shaping and welding assembly of the posts;

7.44.7.2.5 the supply and installation of the identification plates;

7.44.7.2.6 the loading and transportation of the aluminum posts to the worksite;

7.44.7.2.7 the unloading of the aluminum posts;

7.44.7.2.8 the safe storage of the aluminum posts;

7.44.7.2.9 the installation of the aluminum posts using an adequate lifting equipment;

7.44.7.2.10 the supply and installation of any temporary signage panels;

7.44.7.2.11 the supply and installation of an antivibration device;

7.44.7.2.12 the bolt tightening in accordance with Appendix 6.44-I *Requirements for Bolt Tightening* of subsection 6.44 *Signage Structures*.

7.44.8 PAY ITEM 7.44.8 – ALUMINUM BREAKWAY LATERAL STRUCTURES

7.44.8.1 The aluminum breakaway lateral structures are measured for payment per unit of aluminum breakaway lateral structure fabricated and installed in accordance with the drawings and specifications and as directed in writing by the Engineer.

7.44.8.2 The price tendered for this pay item shall include, without however being limited to, the following:

7.44.8.2.1 the survey of the dimensions and clearances on the site;

7.44.8.2.2 the design of the structure;

- 7.44.8.2.3 the provision of the design documents signed and sealed by an engineer;
- 7.44.8.2.4 the supply of the aluminum components required for the shaping and welding assembly of the posts;
- 7.44.8.2.5 the supply and installation of the identification plates;
- 7.44.8.2.6 the loading and transportation of the aluminum posts to the worksite;
- 7.44.8.2.7 the unloading of the aluminum posts;
- 7.44.8.2.8 the safe storage of the aluminum posts;
- 7.44.8.2.9 the supply and installation of a breakaway base;
- 7.44.8.2.10 the installation of the aluminum posts on the breakaway bases using an adequate equipment;
- 7.44.8.2.11 the supply and installation of any temporary signage panels;
- 7.44.8.2.12 the supply and installation of an antivibration device;
- 7.44.8.2.13 the bolt tightening in accordance with Appendix 6.44-I *Requirements for Bolt Tightening* of subsection 6.44 *Signage Structures*.

7.44.9 PAY ITEM 7.44.9 – CAST-IN-PLACE FOUNDATION BLOCK

- 7.44.9.1 The cast-in-place foundation block is measured for payment per unit of cast-in-place foundation block manufactured for the purposes of installing signage structures in accordance with the drawings and specifications and as directed in writing by the Engineer.
- 7.44.9.2 The price tendered for this pay item shall include, without however being limited to, the following:
 - 7.44.9.2.1 the measurement and localization of the foundation block on the worksite;
 - 7.44.9.2.2 the excavation;
 - 7.44.9.2.3 the preparation of the bottom of the excavation;
 - 7.44.9.2.4 the provision of the shop drawings of the reinforcement;
 - 7.44.9.2.5 the supply, shaping and placement of the reinforcing bars;
 - 7.44.9.2.6 the supply and installation of the formwork;

- 7.44.9.2.7 the supply and installation of the anchor bolts;
- 7.44.9.2.8 the supply, placement, finishing and curing of the concrete;
- 7.44.9.2.9 the form removal;
- 7.44.9.2.10 the backfilling;
- 7.44.9.2.11 the surface leveling or sodding along the perimeter of the block, where applicable.

7.44.10 PAY ITEM 7.44.10 – PRECAST FOUNDATION BLOCK

- 7.44.10.1 The precast foundation block is measured for payment per unit of precast foundation block manufactured and placed for the purposes of installing signage structures in accordance with the drawings and specifications and as directed in writing by the Engineer.
- 7.44.10.2 The price tendered for this pay item shall include, without however being limited to, the following:
 - 7.44.10.2.1 the measurement and localization of the foundation block on the worksite;
 - 7.44.10.2.2 the excavation;
 - 7.44.10.2.3 the preparation of the bottom of the excavation;
 - 7.44.10.2.4 the provision of the shop drawings of the foundation block;
 - 7.44.10.2.5 the factory manufacturing of the foundation block;
 - 7.44.10.2.6 the transportation of the foundation block to the worksite;
 - 7.44.10.2.7 the storage of the foundation block on the worksite;
 - 7.44.10.2.8 the placement of the foundation block using an adequate lifting equipment;
 - 7.44.10.2.9 the backfilling;
 - 7.44.10.2.10 the surface leveling or sodding along the perimeter of the block, where applicable.

7.44.11 PAY ITEM 7.44.11 – TUMULUS

- 7.44.11.1 The tumulus is measured for payment per unit of tumulus constructed for the installation of signage structures in accordance with the drawings and specifications and as directed in writing by the Engineer.

7.44.11.2 The price tendered for this pay item shall include, without however being limited to, the following:

7.44.11.2.1 the supply of the specific backfilling material;

7.44.11.2.2 the placement of the backfill material according to the geometry indicated on the drawings;

7.44.11.2.3 the sodding on the embankment of the tumulus, where applicable.

7.45 NOT APPLICABLE

7.50 ELECTRICAL WORK

7.51 CONDUIT, JUNCTION BOXES AND PULL BOXES

7.51.1 PAY ITEM 7.51.1 – RIGID METAL CONDUIT, “X” mm

7.51.1.1 The rigid metal conduit whose different “X” mm diameters are specified in the Price Table are measured for payment per m of rigid metal conduit supplied and installed in accordance with the drawings and specifications and as directed in writing by the Engineer.

7.51.1.2 The price tendered for this pay item shall include, without however being limited to, the following:

7.51.1.2.1 the provision of the shop drawings;

7.51.1.2.2 the supply and delivery of the conduit, fittings, accessories and mounting brackets to the worksite and storage of these elements thereon;

7.51.1.2.3 the installation of the conduit, including, without limitation, the fittings, accessories and mounting brackets;

7.51.1.2.4 the connections at the ends;

7.51.1.2.5 the identification of the conduit;

7.51.1.2.6 the installation of the pull rope.

7.51.2 PAY ITEM 7.51.2 – PVC-COATED STEEL ELECTRICAL CONDUIT, “X” mm

7.51.2.1 The PVC-coated steel electrical conduit whose different “X” mm diameters are specified in the Price Table are measured for payment per m of PVC-coated steel electrical conduit supplied and installed in accordance with the drawings and specifications and as directed in writing by the Engineer.

7.51.2.2 The price tendered for this pay item shall include, without however being limited to, the following:

7.51.2.2.1 the provision of the shop drawings;

7.51.2.2.2 the supply and delivery of the conduit, fittings, accessories and mounting brackets to the worksite and storage of these elements thereon;

7.51.2.2.3 the installation of the conduit, including, without limitation, the fittings, accessories and mounting brackets;

7.51.2.2.4 the installation of the expansion joints;

7.51.2.2.5 the connections at the ends;

7.51.2.2.6 the test mandrel balls and mandrelling;

7.51.2.2.7 the installation of the pull rope;

7.51.2.2.8 the identification of the conduit.

7.51.3 PAY ITEM 7.51.3 – FLEXIBLE METAL CONDUIT, “X” mm

7.51.3.1 The flexible metal conduit whose different “X” mm diameters are specified in the Price Table are measured for payment per m of flexible metal conduit supplied and installed in accordance with the drawings and specifications and as directed in writing by the Engineer.

7.51.3.2 The price tendered for this pay item shall include, without however being limited to, the following:

7.51.3.2.1 the provision of the shop drawings;

7.51.3.2.2 the supply and delivery of the conduit, fittings, accessories and mounting brackets to the worksite and storage of these elements thereon;

7.51.3.2.3 the installation of the conduit, including, without limitation, the anchors, fittings, accessories and mounting brackets;

7.51.3.2.4 the connections at the ends;

- 7.51.3.2.5 the identification of the conduits;
- 7.51.3.2.6 the installation of the pull rope.
- 7.51.4 PAY ITEM 7.51.4 – BURIED RIGID PVC CONDUIT, “X” mm
- 7.51.4.1 The buried rigid PVC conduit whose different “X” mm diameters are specified in the Price Table are measured for payment per m of buried rigid PVC conduit supplied and installed in accordance with the drawings and specifications and as directed in writing by the Engineer.
- 7.51.4.2 The price tendered for this pay item shall include, without however being limited to, the following:
 - 7.51.4.2.1 the provision of the shop drawings;
 - 7.51.4.2.2 the supply and delivery of the conduit, fittings, accessories, mounting brackets, spacers, primer and solvent cement to the worksite and storage of these elements thereon;
 - 7.51.4.2.3 the installation of the conduit, including, without limitation, the fittings, accessories, mounting brackets and spacers;
 - 7.51.4.2.4 the connection of the conduit, including the primer and the solvent cement;
 - 7.51.4.2.5 the connections at the ends;
 - 7.51.4.2.6 the test mandrel balls and mandrelling;
 - 7.51.4.2.7 the identification of the conduit;
 - 7.51.4.2.8 the installation of the pull rope;
 - 7.51.4.2.9 the installation of the marking tape.
- 7.51.4.3 The excavation and backfilling shall be payable under Pay Item 7.87 *Earthworks* of the Price Table.
- 7.51.5 PAY ITEM 7.51.5 – CONNECTION OF A NEW CONDUIT TO AN EXISTING BURIED CONDUIT
- 7.51.5.1 The connection of a new conduit to an existing buried conduit is measured for payment per unit of new conduit supplied and connected to an existing conduit in accordance with the drawings and specifications and as directed in writing by the Engineer.

7.51.5.2 The price tendered for this pay item shall include, without however being limited to, the following:

7.51.5.2.1 the removal of existing conductors;

7.51.5.2.2 the exploratory excavations, cutting of the existing conduit and cleaning;

7.51.5.2.3 the fittings, primer and solvent cement;

7.51.5.2.4 the supply and connection of the new conduit to the existing conduit;

7.51.5.2.5 the test mandrel balls and mandrelling;

7.51.5.2.6 the installation of the pull rope;

7.51.5.2.7 the re-running of the cables.

7.51.6 PAY ITEM 7.51.6 – STAINLESS STEEL JUNCTION BOXES OR PULL BOXES, “X” DIMENSIONS

7.51.6.1 The stainless steel junction boxes or pull boxes whose different “X” dimensions are specified in the Price Table are measured for payment per unit of stainless steel junction box or pull box supplied and installed in accordance with the drawings and specifications and as directed in writing by the Engineer.

7.51.6.2 The price tendered for this pay item shall include, without however being limited to, the following:

7.51.6.2.1 the provision of the shop drawings;

7.51.6.2.2 the supply and delivery of the junction box or pull box, anchors, fittings, accessories and mounting brackets to the worksite and storage of these elements thereon;

7.51.6.2.3 the installation of the junction box or pull box, including, without limitation, the anchors, fittings, accessories and mounting brackets;

7.51.6.2.4 the identification of the junction box or pull box;

7.51.6.2.5 the commissioning.

7.51.7 PAY ITEM 7.51.7 – FACTORY-PAINTED STEEL JUNCTION BOXES OR PULL BOXES, “X” DIMENSIONS

7.51.7.1 The factory-painted steel junction boxes or pull boxes whose different “X” dimensions are specified in the Price Table are measured for payment per unit of factory-painted steel junction box or pull box supplied and installed in accordance with the drawings and specifications and as directed in writing by the Engineer.

- 7.51.7.2 The price tendered for this pay item shall include, without however being limited to, the following:
- 7.51.7.2.1 the provision of the shop drawings;
 - 7.51.7.2.2 the supply and delivery of the junction box or pull box, anchors, fittings, accessories and mounting brackets to the worksite and storage of these elements thereon;
 - 7.51.7.2.3 the installation of the junction box or pull box, including, without limitation, the anchors, fittings, accessories and mounting brackets;
 - 7.51.7.2.4 the identification of the junction box or pull box;
 - 7.51.7.2.5 the commissioning.
- 7.51.8 PAY ITEM 7.51.8 – PVC-COATED HOT-DIP GALVANIZED STEEL JUNCTION BOXES OR PULL BOXES, “X” DIMENSIONS
- 7.51.8.1 The PVC-coated hot-dip galvanized steel junction boxes or pull boxes whose different “X” dimensions are specified in the Price Table are measured for payment per unit of PVC-coated hot-dip galvanized steel junction box or pull box supplied and installed in accordance with the drawings and specifications and as directed in writing by the Engineer.
 - 7.51.8.2 The price tendered for this pay item shall include, without however being limited to, the following:
 - 7.51.8.2.1 the provision of the shop drawings;
 - 7.51.8.2.2 the supply and delivery of the junction box or pull box, anchors, fittings, accessories and mounting brackets to the worksite and storage of these elements thereon;
 - 7.51.8.2.3 the installation of the junction box or pull box, including, without limitation, the anchors, fittings, accessories and mounting brackets;
 - 7.51.8.2.4 the identification of the junction box or pull box;
 - 7.51.8.2.5 the commissioning.
- 7.51.9 PAY ITEM 7.51.9 – JUNCTION BOXES FOR LANE CONTROL SIGNALS, “X” DIMENSIONS
- 7.51.9.1 The junction boxes for lane control signals whose different “X” dimensions are specified in the Price Table are measured for payment per unit of junction box for lane control signals supplied and installed in accordance with the drawings and specifications and as directed in writing by the Engineer.

- 7.51.9.2 The price tendered for this pay item shall include, without however being limited to, the following:
- 7.51.9.2.1 the provision of the shop drawings;
 - 7.51.9.2.2 the supply and delivery of the junction box, angles, brackets, fittings, accessories and mounting brackets to the worksite and storage of these elements thereon;
 - 7.51.9.2.3 the installation of the junction box including, without limitation, the angles, brackets, fittings, accessories and mounting brackets;
 - 7.51.9.2.4 the identification of the junction box;
 - 7.51.9.2.5 the commissioning.
- 7.51.10 PAY ITEM 7.51.10 – HIGH-DENSITY POLYMER CONCRETE PULL BOXES TO BE DIRECTLY BURIED, “X” DIMENSIONS
- 7.51.10.1 The high-density polymer concrete pull boxes to be directly buried whose different “X” dimensions are specified in the Price Table are measured for payment per unit of pull box supplied and installed in accordance with the drawings and specifications and as directed in writing by the Engineer.
 - 7.51.10.2 The price tendered for this pay item shall include, without however being limited to, the following:
 - 7.51.10.2.1 the provision of the shop drawings;
 - 7.51.10.2.2 the supply and delivery of the junction box to the worksite and storage thereon;
 - 7.51.10.2.3 the preparation of the foundation and support cushion;
 - 7.51.10.2.4 the installation, including, without limitation, connections of the conduit;
 - 7.51.10.2.5 the identification of the pull box.
 - 7.51.10.3 The excavation and backfilling shall be payable under Pay Item 7.87 *Earthworks* of the Price Table.

7.52 ELECTRICAL CABLES

7.52.1 PAY ITEM 7.52.1 – AWG ELECTRICAL CABLES TO BE INSTALLED INTO CONDUIT, “X” GAUGE

7.52.1.1 The electrical cables to be installed into conduit whose different “X” gauges are specified in the Price Table are measured for payment per m of electrical cables to be installed into conduit supplied and installed in accordance with the drawings and specifications and as directed in writing by the Engineer.

7.52.1.2 The price tendered for this pay item shall include, without however being limited to, the following:

7.52.1.2.1 the provision of the technical data sheet for the electrical cables, the connectors and the supports;

7.52.1.2.2 the provision of the procedure for installing the cables into conduit including, without limitation, the technical data sheet for the cable tensioning apparatus;

7.52.1.2.3 the mandrelling and cleaning of the conduit;

7.52.1.2.4 the lubrication of the cables during the pulling operations;

7.52.1.2.5 the supply and installation of a nylon pull rope in the conduit;

7.52.1.2.6 the supply and installation of the supports and connectors;

7.52.1.2.7 the electrical verifications, tests and measurements.

7.52.2 PAY ITEM 7.52.2 – TECK TWO (2) AWG CONDUCTOR ELECTRICAL CABLES, “X” GAUGE

7.52.2.1 The TECK two-conductor electrical cables whose different “X” gauges are specified in the Price Table are measured for payment per m of TECK electrical cables supplied and installed in accordance with the drawings and specifications and as directed in writing by the Engineer.

7.52.2.2 The price tendered for this pay item shall include, without however being limited to, the following:

7.52.2.2.1 the provision of the technical data sheet for the TECK electrical cables, the ties and the connectors;

7.52.2.2.2 the supply and installation of the TECK cables including, without limitation, the ties;

7.52.2.2.3 the connection of the conductors;

7.52.2.2.4 the supply and installation of the connectors;

- 7.52.2.2.5 the identification of the connectors;
- 7.52.2.2.6 the electrical verifications, tests and measurements.
- 7.52.3 PAY ITEM 7.52.3 – TECK THREE (3) AWG CONDUCTOR ELECTRICAL CABLES, “X” GAUGE
- 7.52.3.1 The TECK three-conductor electrical cables whose different “X” gauges are specified in the Price Table are measured for payment per m of TECK electrical cables supplied and installed in accordance with the drawings and specifications and as directed in writing by the Engineer.
- 7.52.3.2 The price tendered for this pay item shall include, without however being limited to, the following:
 - 7.52.3.2.1 the provision of the technical data sheet for the TECK electrical cables, the ties and the connectors;
 - 7.52.3.2.2 the supply and installation of the TECK cables including, without limitation, the ties;
 - 7.52.3.2.3 the connection of the conductors;
 - 7.52.3.2.4 the supply and installation of the connectors;
 - 7.52.3.2.5 the identification of the connectors;
 - 7.52.3.2.6 the electrical verifications, tests and measurements.
- 7.52.4 PAY ITEM 7.52.4 – FLEXIBLE ELECTRICAL CABLES FOR LANE CONTROL SIGNALS
- 7.52.4.1 The flexible electrical cables for lane control signals are measured for payment per m of flexible electrical cables for lane control signals supplied and installed in accordance with the drawings and specifications and as directed in writing by the Engineer.
- 7.52.4.2 The price tendered for this pay item shall include, without however being limited to, the following:
 - 7.52.4.2.1 the provision of the technical data sheet for the flexible electrical cables, the ties and the connectors;
 - 7.52.4.2.2 the supply and installation of the cables into conduit and on the surface;
 - 7.52.4.2.3 the supply and installation of the connectors and ties;
 - 7.52.4.2.4 the identification of the conductors;

- 7.52.4.2.5 the connection of the conductors;
- 7.52.4.2.6 the electrical verifications, tests and measurements.

7.52.5 PAY ITEM 7.52.5 – BELDEN SIGNAL CABLES

- 7.52.5.1 The Belden signal cables are measured for payment per m of Belden signal cables supplied and installed in accordance with the drawings and specifications and as directed in writing by the Engineer.
- 7.52.5.2 The price tendered for this pay item shall include, without however being limited to, the following:
 - 7.52.5.2.1 the provision of the technical data sheet for the cables, the ties and the connectors;
 - 7.52.5.2.2 the supply and installation of the cables, connectors and ties;
 - 7.52.5.2.3 the identification of the conductors;
 - 7.52.5.2.4 the connection of the conductors;
 - 7.52.5.2.5 the electrical verifications, tests and measurements.

7.53 POWER SUPPLY

7.53.1 PAY ITEM 7.53.1 – POWER SUPPLY CABINET

- 7.53.1.1 The power supply cabinet is measured for payment per unit of power supply cabinet supplied and installed in accordance with the drawings and specifications and as directed in writing by the Engineer.
- 7.53.1.2 The price tendered for this pay item shall include, without however being limited to, the following:
 - 7.53.1.2.1 the design of the cabinet;
 - 7.53.1.2.2 the provision of both the shop drawings and the layout drawings of the equipment;
 - 7.53.1.2.3 the fabrication of the cabinet;
 - 7.53.1.2.4 the delivery of the cabinet to the worksite and storage thereon;
 - 7.53.1.2.5 the installation of the cabinet, including all required hardware.

7.54 ELECTRICAL POWER DISTRIBUTION

7.54.1 Subsection 6.54 is not the subject of any standard pay item.

7.55 LIGHTING

7.55.1 PAY ITEM 7.55.1 – 12 m SINGLE LAMP POST

7.55.1.1 The 12 m single lamp post is measured for payment per unit of 12 m single lamp post supplied and installed in accordance with the drawings and specifications and as directed in writing by the Engineer.

7.55.1.2 The price tendered for this pay item shall include, without however being limited to, the following:

7.55.1.2.1 the provision of the shop drawings of all components of the lamp post;

7.55.1.2.2 the supply and installation of the pole and identification plate thereof, bracket, luminaire, lamp, fuses, fuse-holder, return conductors from the splices at the base, accessories and splices;

7.55.1.2.3 the commissioning of the lamp post;

7.55.1.2.4 the photometric testing and measurements.

7.55.2 PAY ITEM 7.55.2 – 15 m SINGLE LAMP POST

7.55.2.1 The 15 m single lamp post is measured for payment per unit of 15 m single lamp post supplied and installed in accordance with the drawings and specifications and as directed in writing by the Engineer.

7.55.2.2 The price tendered for this pay item shall include, without however being limited to, the following:

7.55.2.2.1 the provision of the shop drawings of all components of the lamp post;

7.55.2.2.2 the supply and installation of the pole and identification plate thereof, bracket, luminaire, lamp, fuses, fuse-holder, return conductors from the splices at the base, accessories and splices;

7.55.2.2.3 the commissioning of the lamp post;

7.55.2.2.4 the photometric testing and measurements.

7.55.3 PAY ITEM 7.55.3 – 12 m DUAL LAMP POST

7.55.3.1 The 12 m dual lamp post is measured for payment per unit of 12 m dual lamp post supplied and installed in accordance with the drawings and specifications and as directed in writing by the Engineer.

7.55.3.2 The price tendered for this pay item shall include, without however being limited to, the following:

7.55.3.2.1 the provision of the shop drawings of all components of the lamp post;

7.55.3.2.2 the supply and installation of the pole and identification plate thereof, bracket, luminaire, lamp, fuses, fuse-holder, return conductors from the splices at the base, accessories and splices;

7.55.3.2.3 the commissioning of the lamp post;

7.55.3.2.4 the photometric testing and measurements.

7.55.4 PAY ITEM 7.55.4 – 15 m DUAL LAMP POST

7.55.4.1 The 15 m dual lamp post is measured for payment per unit of 15 m dual lamp post supplied and installed in accordance with the drawings and specifications and as directed in writing by the Engineer.

7.55.4.2 The price tendered for this pay item shall include, without however being limited to, the following:

7.55.4.2.1 the provision of the shop drawings of all components of the lamp post;

7.55.4.2.2 the supply and installation of the pole and identification plate thereof, bracket, luminaire, lamp, fuses, fuse-holder, return conductors from the splices at the base, accessories and splices;

7.55.4.2.3 the commissioning of the lamp post;

7.55.4.2.4 the photometric testing and measurements.

7.55.5 PAY ITEM 7.55.5 – (3) THREE-LUMINAIRE HIGH MAST LAMP POST

7.55.5.1 The (3) three-luminaire high mast lamp post is measured for payment per unit of (3) three-luminaire high mast lamp post supplied and installed in accordance with the drawings and specifications and as directed in writing by the Engineer.

7.55.5.2 The price tendered for this pay item shall include, without however being limited to, the following:

7.55.5.2.1 the provision of the shop drawings of all components of the high mast lamp post including the lifting mechanism;

7.55.5.2.2 the supply and installation of the pole and identification plate thereof, mobile crown, lifting mechanism, luminaires, lamps, fuses, fuse-holder, return conductors from the splices, rodent protection cage, accessories, lifting cables, lifting bar, lifting hook, safety chains and straps, drum, crown brackets, pulleys, cable guards, locking mechanism and splices;

7.55.5.2.3 the commissioning of the high mast lamp post.

7.55.6 PAY ITEM 7.55.6 – (4) FOUR-LUMINAIRE HIGH MAST LAMP POST

7.55.6.1 The (4) four-luminaire high mast lamp post is measured for payment per unit of (4) four-luminaire high mast lamp post supplied and installed in accordance with the drawings and specifications and as directed in writing by the Engineer.

7.55.6.2 The price tendered for this pay item shall include, without however being limited to, the following:

7.55.6.2.1 the provision of the shop drawings of all components of the high mast lamp post including the lifting mechanism;

7.55.6.2.2 the supply and installation of the pole and identification plate thereof, mobile crown, lifting mechanism, luminaires, lamps, fuses, fuse-holder, return conductors from the splices, rodent protection cage, accessories, lifting cables, lifting bar, lifting hook, safety chains and straps, drum, crown brackets, pulleys, cable guards, locking mechanism and splices;

7.55.6.2.3 the commissioning of the high mast lamp post.

7.55.7 PAY ITEM 7.55.7 – (6) SIX-LUMINAIRE HIGH MAST LAMP POST

7.55.7.1 The (6) six-luminaire high mast lamp post is measured for payment per unit of (6) six-luminaire high mast lamp post supplied and installed in accordance with the drawings and specifications and as directed in writing by the Engineer.

7.55.7.2 The price tendered for this pay item shall include, without however being limited to, the following:

7.55.7.2.1 the provision of the shop drawings of all components of the high mast lamp post including the lifting mechanism;

- 7.55.7.2.2 the supply and installation of the pole and identification plate thereof, mobile crown, lifting mechanism, luminaires, lamps, fuses, fuse-holder, return conductors from the splices, rodent protection cage, accessories, lifting cables, lifting bar, lifting hook, safety chains and straps, drum, crown brackets, pulleys, cable guards, locking mechanism and splices;
- 7.55.7.2.3 the commissioning of the high mast lamp post.
- 7.55.8 PAY ITEM 7.55.8 – (8) EIGHT-LUMINAIRE HIGH MAST LAMP POST
- 7.55.8.1 The (8) eight-luminaire high mast lamp post is measured for payment per unit of (8) eight-luminaire high mast lamp post supplied and installed in accordance with the drawings and specifications and as directed in writing by the Engineer.
- 7.55.8.2 The price tendered for this pay item shall include, without however being limited to, the following:
- 7.55.8.2.1 the provision of the shop drawings of all components of the high mast lamp post including the lifting mechanism;
- 7.55.8.2.2 the supply and installation of the pole and identification plate thereof, mobile crown, lifting mechanism, luminaires, lamps, fuses, fuse-holder, return conductors from the splices, rodent protection cage, accessories, lifting cables, lifting bar, lifting hook, safety chains and straps, drum, crown brackets, pulleys, cable guards, locking mechanism and splices;
- 7.55.8.2.3 the commissioning of the high mast lamp post.
- 7.55.9 PAY ITEM 7.55.9 – LOW HEIGHT MOUNT SINGLE LAMP POST
- 7.55.9.1 The low height mount single lamp post is measured for payment per unit of low height mount single lamp post supplied and installed in accordance with the drawings and specifications and as directed in writing by the Engineer.
- 7.55.9.2 The price tendered for this pay item shall include, without however being limited to, the following:
- 7.55.9.2.1 the provision of the shop drawings of all components of the lamp post;
- 7.55.9.2.2 the supply and installation of the pole and identification plate thereof, mounting plate, luminaire, lamp, fuses, fuse-holder, return conductors from the splices, accessories and splices;
- 7.55.9.2.3 the commissioning of the lamp post.

7.55.10 PAY ITEM 7.55.10 – LOW HEIGHT MOUNT DUAL LAMP POST

7.55.10.1 The low height mount dual lamp post is measured for payment per unit of low height mount dual lamp post supplied and installed in accordance with the drawings and specifications and as directed in writing by the Engineer.

7.55.10.2 The price tendered for this pay item shall include, without however being limited to, the following:

7.55.10.2.1 the provision of the shop drawings of all components of the lamp post;

7.55.10.2.2 the supply and installation of the pole and identification plate thereof, mounting plate, luminaire, lamp, fuses, fuse-holder, return conductors from the splices, accessories and splices;

7.55.10.2.3 the commissioning of the lamp post.

7.55.11 PAY ITEM 7.55.11 – RELOCATION OF EXISTING SINGLE LAMP POST

7.55.11.1 The relocation of an existing single lamp post is measured for payment per unit of existing single lamp post relocated in accordance with the drawings and specifications and as directed in writing by the Engineer.

7.55.11.2 The price tendered for this pay item shall include, without however being limited to, the following:

7.55.11.2.1 the removal, recovery and storage of the existing lamp post;

7.55.11.2.2 the removal and disposal of the return conductors;

7.55.11.2.3 the installation of the lamp post on a new foundation block;

7.55.11.2.4 the cleaning of the optical system;

7.55.11.2.5 the replacement of the lamp;

7.55.11.2.6 the replacement of the fuses;

7.55.11.2.7 the replacement of the fuse-holder;

7.55.11.2.8 the replacement of the return conductors from the splices;

7.55.11.2.9 the commissioning of the lamp post;

7.55.11.2.10 the photometric testing and measurements.

7.55.12 PAY ITEM 7.55.12 – RELOCATION OF EXISTING DUAL LAMP POST

7.55.12.1 The relocation of an existing dual lamp post is measured for payment per unit of existing dual lamp post relocated in accordance with the drawings and specifications and as directed in writing by the Engineer.

7.55.12.2 The price tendered for this pay item shall include, without however being limited to, the following:

7.55.12.2.1 the removal, recovery and storage of the existing lamp post;

7.55.12.2.2 the removal and disposal of the return conductors;

7.55.12.2.3 the installation of the lamp post on a new foundation block;

7.55.12.2.4 the cleaning of the optical systems;

7.55.12.2.5 the replacement of the lamps;

7.55.12.2.6 the replacement of the fuses;

7.55.12.2.7 the replacement of the fuse-holder;

7.55.12.2.8 the replacement of the return conductors from the splices;

7.55.12.2.9 the commissioning of the lamp post;

7.55.12.2.10 the photometric testing and measurements.

7.55.13 PAY ITEM 7.55.13 – SURFACE MOUNT LUMINAIRE

7.55.13.1 The surface mount luminaire is measured for payment per unit of luminaire supplied and installed in accordance with the drawings and specifications and as directed in writing by the Engineer.

7.55.13.2 The price tendered for this pay item shall include, without however being limited to, the following:

7.55.13.2.1 the provision of the shop drawings of all components of the lamp post;

7.55.13.2.2 the supply and installation of the surface mount luminaire, including the accessories and hardware;

7.55.13.2.3 the supply and installation of the lamp;

7.55.13.2.4 the connection of the luminaire;

- 7.55.13.2.5 the commissioning of the luminaire;
- 7.55.13.2.6 the photometric testing and measurements.

7.56 TELECOMMUNICATION

7.56.1 PAY ITEM 7.56.1 – FIBRE OPTIC CONNECTION BOX, FUSION ENCLOSURE, FUSION PLATES AND CONNECTORS

- 7.56.1.1 The fibre optic connection box, fusion enclosure, fusion plates and connectors are measured for payment per unit of fibre optic connection box, fusion enclosure, fusion plates and connectors supplied and installed in accordance with the drawings and specifications and as directed in writing by the Engineer.
- 7.56.1.2 The price tendered for this pay item shall include, without however being limited to, the following:
 - 7.56.1.2.1 the provision of the shop drawings of all components of the fibre optic connection box, fusion enclosure, fusion plates and connectors;
 - 7.56.1.2.2 the supply and installation of the fibre optic connection box, fusion enclosure, fusion plates and connectors;
 - 7.56.1.2.3 the supply and installation of the mounting brackets for the box, lead-in cables and fusions;
 - 7.56.1.2.4 the identification of the boxes;
 - 7.56.1.2.5 the connections inside the boxes;
 - 7.56.1.2.6 the arrangement of the fusion plates inside the box;
 - 7.56.1.2.7 the verifications and tests.

7.56.2 PAY ITEM 7.56.2 – SERVER CABINET, “X” DIMENSIONS

- 7.56.2.1 The server cabinets whose different “X” dimensions are specified in the Price Table are measured for payment per unit of server cabinet supplied and installed in accordance with the drawings and specifications and as directed in writing by the Engineer.
- 7.56.2.2 The price tendered for this pay item shall include, without however being limited to, the following:
 - 7.56.2.2.1 the provision of the shop drawings;
 - 7.56.2.2.2 the supply and delivery of the server cabinet, accessories and mounting brackets to the worksite and storage of these elements thereon;

7.56.2.2.3 the installation of the server cabinet, including the accessories and mounting brackets;

7.56.2.2.4 the commissioning.

7.56.3 PAY ITEM 7.56.3 – FIBRE OPTIC CABLE

7.56.3.1 The fibre optic cable is measured for payment per m of fibre optic cables supplied and installed in accordance with the drawings and specifications and as directed in writing by the Engineer.

7.56.3.2 The price tendered for this pay item shall include, without however being limited to, the following:

7.56.3.2.1 the measurement of the cable by means of a reflectometer;

7.56.3.2.2 the supply and installation of the cables;

7.56.3.2.3 the termination at each end of a same cable;

7.56.3.2.4 the tests conducted with a reflectometer and an optical power meter.

7.56.4 PAY ITEM 7.56.4 – TRACER WIRE

7.56.4.1 The tracer wire is measured for payment per m of tracer wire supplied and installed in accordance with the drawings and specifications and as directed in writing by the Engineer.

7.56.4.2 The price tendered for this pay item shall include, without however being limited to, the following:

7.56.4.2.1 the supply of the tracer wire;

7.56.4.2.2 the installation of the tracer wire inside the conduit.

7.56.5 PAY ITEM 7.56.5 – FIBRE OPTIC PATCH CABLES

7.56.5.1 The fibre optic patch cables are measured for payment per unit of fibre optic patch cable supplied and installed in accordance with the drawings and specifications and as directed in writing by the Engineer.

7.56.5.2 The price tendered for this pay item shall include, without however being limited to, the following:

7.56.5.2.1 the supply of the fibre optic patch cable;

7.56.5.2.2 the installation of the cable;

- 7.56.5.2.3 the identification of the cable;
- 7.56.5.2.4 the supply and installation of the brackets to hold the cable in place.

7.56.6 PAY ITEM 7.56.6 –PRIMARY ROUTER SWITCH

- 7.56.6.1 The primary router switch is measured for payment per unit of primary router switch supplied and installed in accordance with the drawings and specifications and as directed in writing by the Engineer.
- 7.56.6.2 The price tendered for this pay item shall include, without however being limited to, the following:
 - 7.56.6.2.1 the provision of the shop drawings;
 - 7.56.6.2.2 the configuration of the switch;
 - 7.56.6.2.3 the supply and installation of the switch mounting brackets;
 - 7.56.6.2.4 the supply of the primary router switch;
 - 7.56.6.2.5 the installation of the primary router switch;
 - 7.56.6.2.6 the verifications and tests.

7.56.7 PAY ITEM 7.56.7 – INDOOR SECONDARY SWITCH

- 7.56.7.1 The indoor secondary switch is measured for payment per unit of indoor secondary switch supplied and installed in accordance with the drawings and specifications and as directed in writing by the Engineer.
- 7.56.7.2 The price tendered for this pay item shall include, without however being limited to, the following:
 - 7.56.7.2.1 the provision of the shop drawings;
 - 7.56.7.2.2 the configuration of the switch;
 - 7.56.7.2.3 the supply and installation of the switch mounting brackets;
 - 7.56.7.2.4 the supply of the indoor secondary switch;
 - 7.56.7.2.5 the installation of the indoor secondary switch;
 - 7.56.7.2.6 the verifications and tests.

7.56.8 PAY ITEM 7.56.8 – OUTDOOR SECONDARY SWITCH

7.56.8.1 The outdoor secondary switch is measured for payment per unit of outdoor secondary switch supplied and installed in accordance with the drawings and specifications and as directed in writing by the Engineer.

7.56.8.2 The price tendered for this pay item shall include, without however being limited to, the following:

7.56.8.2.1 the provision of the shop drawings;

7.56.8.2.2 the configuration of the switch;

7.56.8.2.3 the supply and installation of the switch mounting brackets;

7.56.8.2.4 the supply of the outdoor secondary switch;

7.56.8.2.5 the installation of the outdoor secondary switch;

7.56.8.2.6 the verifications and tests.

7.56.9 PAY ITEM 7.56.9 – 1-GIGABIT SFP MODULE

7.56.9.1 The 1-gigabit SFP module is measured for payment per unit of 1-gigabit SFP module supplied and installed in accordance with the drawings and specifications and as directed in writing by the Engineer.

7.56.9.2 The price tendered for this pay item shall include, without however being limited to, the following:

7.56.9.2.1 the provision of the shop drawings;

7.56.9.2.2 the supply of the 1-gigabit SFP module;

7.56.9.2.3 the installation of the 1-gigabit SFP module;

7.56.9.2.4 the verifications and tests.

7.56.10 PAY ITEM 7.56.10 – 10-GIGABIT SFP MODULE

7.56.10.1 The 10-gigabit SFP module is measured for payment per unit of 10-gigabit SFP module supplied and installed in accordance with the drawings and specifications and as directed in writing by the Engineer.

7.56.10.2 The price tendered for this pay item shall include, without however being limited to, the following:

7.56.10.2.1 the provision of the shop drawings;

7.56.10.2.2 the supply of the 10-gigabit SFP module;

7.56.10.2.3 the installation of the 10-gigabit SFP module;

7.56.10.2.4 the verifications and tests.

7.56.11 PAY ITEM 7.56.11 – EIA RS-422/RS-485 CONTROL CABLE

7.56.11.1 The EIA RS-422/RS-485 control cable is measured for payment per unit of control cable supplied and installed in accordance with the drawings and specifications and as directed in writing by the Engineer.

7.56.11.2 The price tendered for this pay item shall include, without however being limited to, the following:

7.56.11.2.1 the supply and installation of the control cable;

7.56.11.2.2 the supply and installation of the connections;

7.56.11.2.3 the identification of the cable;

7.56.11.2.4 the mounting brackets;

7.56.11.2.5 the verifications and tests.

7.56.12 PAY ITEM 7.56.12 – COAXIAL CABLE FOR VIDEO SURVEILLANCE

7.56.12.1 The coaxial cable for video surveillance is measured for payment per m of coaxial cable for video surveillance supplied and installed in accordance with the drawings and specifications and as directed in writing by the Engineer.

7.56.12.2 The price tendered for this pay item shall include, without however being limited to, the following:

7.56.12.2.1 the supply and installation of the coaxial cable;

7.56.12.2.2 the supply and installation of the connectors;

7.56.12.2.3 the supply and installation of the connections;

7.56.12.2.4 the identification of the cable;

7.56.12.2.5 the mounting brackets;

7.56.12.2.6 the verifications and tests.

7.56.13 PAY ITEM 7.56.13 – ETHERNET CABLE FOR OUTDOOR INSTALLATION

7.56.13.1 The Ethernet cable for outdoor installation is measured for payment per m of Ethernet cable supplied and installed in accordance with the drawings and specifications and as directed in writing by the Engineer.

7.56.13.2 The price tendered for this pay item shall include, without however being limited to, the following:

7.56.13.2.1 the supply and installation of the Ethernet cable;

7.56.13.2.2 the supply and installation of the connectors;

7.56.13.2.3 the supply and installation of the connections;

7.56.13.2.4 the identification of the cable;

7.56.13.2.5 the mounting brackets;

7.56.13.2.6 the verifications and tests.

7.56.14 PAY ITEM 7.56.14 – ETHERNET CABLE FOR INDOOR INSTALLATION

7.56.14.1 The Ethernet cable for indoor installation is measured for payment per m of Ethernet cable supplied and installed in accordance with the drawings and specifications and as directed in writing by the Engineer.

7.56.14.2 The price tendered for this pay item shall include, without however being limited to, the following:

7.56.14.2.1 the supply and installation of the Ethernet cable;

7.56.14.2.2 the supply and installation of the connectors;

7.56.14.2.3 the supply and installation of the connections;

7.56.14.2.4 the identification of the cable;

7.56.14.2.5 the mounting brackets;

7.56.14.2.6 the verifications and tests.

7.56.15 PAY ITEM 7.56.15 – ETHERNET PATCH CABLES

7.56.15.1 The Ethernet patch cables are measured for payment per unit of Ethernet patch cable supplied and installed in accordance with the drawings and specifications and as directed in writing by the Engineer.

7.56.15.2 The price tendered for this pay item shall include, without however being limited to, the following:

7.56.15.2.1 the supply and installation of the patch cable;

7.56.15.2.2 the supply and installation of the connections;

7.56.15.2.3 the identification of the cable;

7.56.15.2.4 the mounting brackets.

7.56.16 PAY ITEM 7.56.16 – ETHERNET CABLE CONNECTOR

7.56.16.1 The Ethernet cable connector is measured for payment per unit of Ethernet cable connector supplied and installed in accordance with the drawings and specifications and as directed in writing by the Engineer.

7.56.16.2 The price tendered for this pay item shall include, without however being limited to, the following:

7.56.16.2.1 the supply of the Ethernet cable connector;

7.56.16.2.2 the stripping of the CAT6 cable;

7.56.16.2.3 the installation on the CAT6 cable;

7.56.16.2.4 the identification of the cable;

7.56.16.2.5 the testing and certification.

7.57 INTELLIGENT TRANSPORTATION SYSTEMS (ITS)

7.57.1 PAY ITEM 7.57.1 – COUNTING SYSTEM (PEDESTRIANS AND BICYCLES)

7.57.1.1 The counting system (pedestrians and bicycles) is measured for payment per unit of counting system (pedestrians and bicycles) manufactured and installed in accordance with the drawings and specifications and as directed in writing by the Engineer.

- 7.57.1.2 The price tendered for this pay item shall include, without however being limited to, the following:
- 7.57.1.2.1 the provision of the shop drawings of all components of the counting system (pedestrians and bicycles);
 - 7.57.1.2.2 the provision of all components constituting the counting system;
 - 7.57.1.2.3 the assembly of the counting system components;
 - 7.57.1.2.4 the provision of a testing program;
 - 7.57.1.2.5 the provision of the sequence of execution of the installation work;
 - 7.57.1.2.6 the delivery of the counting system to the worksite and storage thereon;
 - 7.57.1.2.7 the provision of the shop drawings of the brackets and related hardware for the installation of the counting system;
 - 7.57.1.2.8 the provision of the drawings regarding the erection of the counting system, signed and sealed by an engineer;
 - 7.57.1.2.9 the supply of the materials and manufacturing of the brackets for the counting system;
 - 7.57.1.2.10 the installation of the counting system;
 - 7.57.1.2.11 the supply, installation and connection of all junction boxes and pull boxes necessary for the installation of the counting system;
 - 7.57.1.2.12 the commissioning of the counting system including the conduct of the various tests required.

7.57.2 PAY ITEM 7.57.2 –VEHICLE DETECTION LOOP (COUNTING) SYSTEM

- 7.57.2.1 The vehicle detection loop (counting) system is measured for payment per unit of vehicle detection loop (counting) system manufactured and installed in accordance with the drawings and specifications and as directed in writing by the Engineer.
- 7.57.2.2 The price tendered for this pay item shall include, without however being limited to, the following:
- 7.57.2.2.1 the provision of the shop drawings of all components of the vehicle detection loop (counting) system;
 - 7.57.2.2.2 the provision of all components constituting the vehicle detection loop system;

- 7.57.2.2.3 the assembly of the vehicle detection loop system components;
- 7.57.2.2.4 the provision of a testing program to the Engineer;
- 7.57.2.2.5 the provision of the sequence of execution of the installation work;
- 7.57.2.2.6 the delivery of the vehicle detection loop system to the worksite and storage thereon;
- 7.57.2.2.7 the provision of the shop drawings of the brackets and related hardware;
- 7.57.2.2.8 the provision of the drawings regarding the erection of the vehicle detection loop system on the structure, signed and sealed by an engineer;
- 7.57.2.2.9 the supply of the materials and manufacturing of the brackets for the vehicle detection loop system;
- 7.57.2.2.10 the installation of the vehicle detection loop system, including sawing of the surface where the loops are to be installed, as well as sealing of the grooves after installation;
- 7.57.2.2.11 the supply, installation and connection of all junction boxes and pull boxes necessary for the installation of the vehicle detection loop system;
- 7.57.2.2.12 the commissioning of the vehicle detection loop system including the conduct of the various tests required.

7.57.3 PAY ITEM 7.57.3 – RADAR VEHICLE DETECTION SYSTEM

- 7.57.3.1 The radar vehicle detection system is measured for payment per unit of radar vehicle detection system manufactured and installed in accordance with the drawings and specifications and as directed in writing by the Engineer.
- 7.57.3.2 The price tendered for this pay item shall include, without however being limited to, the following:
 - 7.57.3.2.1 the provision of the shop drawings of all components of the radar vehicle detection system;
 - 7.57.3.2.2 the provision of all components constituting the radar vehicle detection system;
 - 7.57.3.2.3 the assembly of the radar vehicle detection system components;
 - 7.57.3.2.4 the provision of a testing program to the Engineer;
 - 7.57.3.2.5 the provision of the sequence of execution of the installation work;

- 7.57.3.2.6 the delivery of the radar vehicle detection system to the worksite and storage thereon;
 - 7.57.3.2.7 the provision of the shop drawings of the brackets and related hardware;
 - 7.57.3.2.8 the provision of the drawings regarding the erection of the radar vehicle detection system on the structure, signed and sealed by an engineer;
 - 7.57.3.2.9 the supply of the materials and manufacturing of the brackets for the radar vehicle detection system;
 - 7.57.3.2.10 the installation of the radar vehicle detection system;
 - 7.57.3.2.11 the supply, installation and connection of all junction boxes and pull boxes necessary for the installation of the radar vehicle detection system;
 - 7.57.3.2.12 the commissioning of the radar vehicle detection system including the conduct of the various tests required.
- 7.57.4 PAY ITEM 7.57.4 – VARIABLE MESSAGE SIGNS (VMS)
- 7.57.4.1 The VMS are measured for payment per unit of VMS manufactured and installed in accordance with the drawings and specifications and as directed in writing by the Engineer.
 - 7.57.4.2 The price tendered for this pay item shall include, without however being limited to, the following:
 - 7.57.4.2.1 the provision of the shop drawings of all components of the VMS;
 - 7.57.4.2.2 the provision of all components constituting the VMS;
 - 7.57.4.2.3 the factory assembly of the VMS components;
 - 7.57.4.2.4 the provision of a testing program to the Engineer;
 - 7.57.4.2.5 the provision of the sequence of execution of the installation work;
 - 7.57.4.2.6 the factory performance tests on the VMS;
 - 7.57.4.2.7 the delivery of the VMS to the worksite and storage thereon;
 - 7.57.4.2.8 the provision of the shop drawings of the brackets and related hardware;
 - 7.57.4.2.9 the provision of the drawings regarding the erection of the VMS, signed and sealed by an engineer;

- 7.57.4.2.10 the supply of the materials and manufacturing of the brackets for the VMS;
- 7.57.4.2.11 the installation of the VMS;
- 7.57.4.2.12 the supply, installation and connection of all junction boxes and pull boxes necessary for the installation of the VMS;
- 7.57.4.2.13 the commissioning of the VMS including the conduct of the various tests required.
- 7.57.4.3 The price tendered for the present pay item does not include the programming of the variable message sign in the Owner's video control systems.
- 7.57.5 PAY ITEM 7.57.5 – LANE CONTROL SIGNALS
- 7.57.5.1 The lane control signals are measured for payment per unit of lane control signal manufactured and installed in accordance with the drawings and specifications and as directed in writing by the Engineer.
- 7.57.5.2 The price tendered for this pay item shall include, without however being limited to, the following:
 - 7.57.5.2.1 the provision of the shop drawings of all components of the lane control signal;
 - 7.57.5.2.2 the provision of all components constituting the lane control signal;
 - 7.57.5.2.3 the factory assembly of the lane control signal components;
 - 7.57.5.2.4 the provision of a testing program to the Engineer;
 - 7.57.5.2.5 the provision of the sequence of execution of the installation work;
 - 7.57.5.2.6 the factory performance tests on the lane control signal;
 - 7.57.5.2.7 the delivery of the lane control signal to the worksite and storage thereon;
 - 7.57.5.2.8 the provision of the shop drawings of the brackets and related hardware;
 - 7.57.5.2.9 the provision of the drawings regarding the erection of the lane control signal on the structure, signed and sealed by an engineer;
 - 7.57.5.2.10 the supply of the materials and manufacturing of the brackets for the lane control signal;
 - 7.57.5.2.11 the installation of the lane control signal;

7.57.5.2.12 the supply, installation and connection of all junction boxes and pull boxes necessary for the installation of the lane control signal;

7.57.5.2.13 the commissioning of the lane control signal including the conduct of the various tests required.

7.57.5.3 The price tendered for the present pay item does not include the programming of the lane control signal in the Owner's video control systems.

7.57.6 PAY ITEM 7.57.6 – CAMERA

7.57.6.1 The camera is measured for payment per unit of camera supplied and installed in accordance with the drawings and specifications and as directed in writing by the Engineer.

7.57.6.2 The price tendered for this pay item shall include, without however being limited to, the following:

7.57.6.2.1 the provision of the technical data sheets for the camera and the washer system;

7.57.6.2.2 the supply of the camera and washer system;

7.57.6.2.3 the provision of a testing program to the Engineer;

7.57.6.2.4 the provision of the sequence of execution of the installation work;

7.57.6.2.5 the installation of the camera, as well as any required on-site adjustments;

7.57.6.2.6 the connection of the camera to the Owner's video control and display system;

7.57.6.2.7 the commissioning of the camera, including the conduct of the various tests required.

7.60 SPECIFIC WORK FOR ENGINEERING STRUCTURES

7.61 BRIDGE JACKING

7.61.1 PAY ITEM 7.61.1 – BRIDGE JACKING

7.61.1.1 The bridge jacking is measured for payment per unit of jack used for jacking a bridge deck and reinstalling it in accordance with the drawings and specifications and as directed in writing by the Engineer.

- 7.61.1.2 The price tendered for this pay item shall include, without however being limited to, the following:
- 7.61.1.2.1 the design, by the Contractor's design engineer, of the deck jacking, blocking and lateral restraint systems;
 - 7.61.1.2.2 the preparation of the drawings for the deck jacking, blocking and lateral restraint systems signed and sealed by the Contractor's design engineer;
 - 7.61.1.2.3 the provision of the technical data sheets for the jacking equipment and tools provided including, without limitation, the hydraulic pumps, jacks and valves;
 - 7.61.1.2.4 the provision of the design notes and drawings of any temporary structures required for the deck jacking, where required;
 - 7.61.1.2.5 the recovery of any jacking system elements provided by the Owner;
 - 7.61.1.2.6 the construction of the temporary structures;
 - 7.61.1.2.7 the supply and installation of the jacking system, including, without limitation, the shims, cribs, saddles, hydraulic pumps, jacks and valves;
 - 7.61.1.2.8 the presence of the Contractor's design engineer who designed the jacking system, during the jacking of the deck and reinstallation thereof;
 - 7.61.1.2.9 the bridge deck jacking;
 - 7.61.1.2.10 the installation and removal of the blocking and lateral restraint of the bridge deck;
 - 7.61.1.2.11 the reinstallation of the bridge deck;
 - 7.61.1.2.12 the return of the jacking system elements provided by the Owner at the location indicated thereby;
 - 7.61.1.2.13 the provision to the Engineer of the jacking operation monitoring record, once the jacking operation is completed.

7.62 BRIDGE BEARINGS

7.62.1 PAY ITEM 7.62.1 – LAMINATED ELASTOMERIC BRIDGE BEARINGS

- 7.62.1.1 The laminated elastomeric bridge bearings are measured for payment per unit of laminated elastomeric bridge bearing supplied and installed in accordance with the drawings and specifications and as directed in writing by the Engineer.
- 7.62.1.2 The price tendered for this pay item shall include, without however being limited to, the following:
- 7.62.1.2.1 the on-site verification of the bridge bearing installation or replacement conditions, including measurements;
 - 7.62.1.2.2 the design of the bridge bearing;
 - 7.62.1.2.3 the provision of the shop drawings signed and sealed by the manufacturer's engineer and provision of the technical data sheets;
 - 7.62.1.2.4 the manufacturing and supply of the bridge bearing;
 - 7.62.1.2.5 the removal of the existing bridge bearing, where applicable;
 - 7.62.1.2.6 the cleaning and preparation of the surfaces;
 - 7.62.1.2.7 the installation of the bridge bearing, including, without limitation, the supply and placement of the galvanized base plates;
 - 7.62.1.2.8 the provision of a certificate of conformity of the installation of the bridge bearing signed and sealed by the bridge bearing manufacturer's engineer.

7.62.2 PAY ITEM 7.62.2 – REPLACEABLE CONFINED ELASTOMERIC BRIDGE BEARINGS

- 7.62.2.1 The replaceable confined elastomeric bridge bearings are measured for payment per unit of replaceable confined elastomeric bridge bearing supplied and installed in accordance with the drawings and specifications and as directed in writing by the Engineer.
- 7.62.2.2 The price tendered for this pay item shall include, without however being limited to, the following:
- 7.62.2.2.1 the on-site verification of the bridge bearing installation or replacement conditions, including measurements;
 - 7.62.2.2.2 the design of the bridge bearing;
 - 7.62.2.2.3 the provision of the shop drawings signed and sealed by the manufacturer's engineer and provision of the technical data sheets;
 - 7.62.2.2.4 the manufacturing of the bridge bearing;

- 7.62.2.2.5 the galvanizing of the exposed steel components of the bridge bearing;
- 7.62.2.2.6 the removal of the existing bridge bearing, where applicable;
- 7.62.2.2.7 the cleaning and preparation of the surfaces;
- 7.62.2.2.8 the installation of the bridge bearing, including, without limitation, the supply and placement of the anchor bolts;
- 7.62.2.2.9 the adjustment of the bridge bearing after installation;
- 7.62.2.2.10 the provision of a certificate of conformity of the installation of the bridge bearing signed and sealed by the bridge bearing manufacturer's engineer.

7.62.3 PAY ITEM 7.62.3 – SELF-LUBRICATING BRONZE SPHERICAL MOBILE BRIDGE BEARINGS

- 7.62.3.1 The self-lubricating bronze spherical bridge bearings are measured for payment per unit of self-lubricating bronze spherical bridge bearing supplied and installed in accordance with the drawings and specifications and as directed in writing by the Engineer.
- 7.62.3.2 The price tendered for this pay item shall include, without however being limited to, the following:
 - 7.62.3.2.1 the on-site verification of the replacement conditions, including measurements;
 - 7.62.3.2.2 the design of the bridge bearing;
 - 7.62.3.2.3 the provision of the shop drawings signed and sealed by the manufacturer's engineer and provision of the technical data sheets;
 - 7.62.3.2.4 the manufacturing of the bridge bearing;
 - 7.62.3.2.5 the metallization of the exposed steel components of the bridge bearing;
 - 7.62.3.2.6 the fabrication of a steel pedestal and of the steel transition and adjustment plates, where applicable;
 - 7.62.3.2.7 the galvanizing of the pedestal and steel transition and adjustment plates, where applicable;
 - 7.62.3.2.8 the removal of the existing bridge bearing to be replaced, where applicable;
 - 7.62.3.2.9 the cleaning and preparation of the surfaces;
 - 7.62.3.2.10 the factory control of the manufacturing of the bridge bearing of the pedestal;
 - 7.62.3.2.11 the installation of the bridge bearing including, without limitation, the supply and placement of the anchor bolts, the pedestal and the transition and adjustment plates;

- 7.62.3.2.12 the adjustment of the bridge bearing after installation;
- 7.62.3.2.13 the provision of a certificate of conformity of the installation of the bridge bearing signed and sealed by the bridge bearing manufacturer's engineer.

7.63 DECK JOINTS

7.63.1 PAY ITEM 7.63.1 – SINGLE SEAL DECK JOINTS

- 7.63.1.1 The single seal deck joints are measured for payment per m of single seal deck joint supplied and installed in accordance with the drawings and specifications and as directed in writing by the Engineer. The length payable shall be measured in function of the horizontal projection of the deck joint.
- 7.63.1.2 The price tendered for this pay item shall include, without however being limited to, the following:
 - 7.63.1.2.1 the on-site measurements;
 - 7.63.1.2.2 the design of the deck joint;
 - 7.63.1.2.3 the provision of the shop drawings signed and sealed by an engineer and provision of the technical data sheets;
 - 7.63.1.2.4 the manufacturing of the deck joint;
 - 7.63.1.2.5 the galvanizing of the deck joint;
 - 7.63.1.2.6 the installation of the deck joint;
 - 7.63.1.2.7 the concreting of the deck joint. The concrete to be included in the price tendered for the present pay item is the concrete comprised between the formwork bottom shoulder angles and the top of the shoulder;
 - 7.63.1.2.8 the curing of the shoulder concrete;
 - 7.63.1.2.9 the welds required on site to assemble and seal the joint sections;
 - 7.63.1.2.10 the injection of epoxy into the piping system provided for this purpose;
 - 7.63.1.2.11 the placement of the joint seal in a single piece;
 - 7.63.1.2.12 the leak tests on the joint seal and shoulders.

7.63.2 PAY ITEM 7.63.2 – MULTIPLE SEAL DECK JOINTS

- 7.63.2.1 The multiple seal deck joints are measured for payment per m of multiple seal deck joint supplied and installed in accordance with the drawings and specifications and as directed in writing by the Engineer. The length payable shall be measured in function of the horizontal projection of the deck joint.

- 7.63.2.2 The price tendered for this pay item shall include, without however being limited to, the following:
- 7.63.2.2.1 the on-site measurements;
 - 7.63.2.2.2 the design of the deck joint;
 - 7.63.2.2.3 the provision of the shop drawings signed and sealed by an engineer and provision of the technical data sheets;
 - 7.63.2.2.4 the manufacturing and supply of the deck joint components;
 - 7.63.2.2.5 the galvanizing of the deck joint;
 - 7.63.2.2.6 the supply and installation of the deck joint including the required hardware and welding;
 - 7.63.2.2.7 the concreting of the deck joint. The concrete to be included in the price tendered for the present pay item is the concrete comprised between the formwork bottom shoulder angles and the top of the shoulder;
 - 7.63.2.2.8 the curing of the shoulder concrete;
 - 7.63.2.2.9 the welds required on site to assemble and seal the joint sections;
 - 7.63.2.2.10 the placement of the joint seals in a single piece;
 - 7.63.2.2.11 the leak tests on the joint seals and shoulders.

7.64 DECK WATERPROOFING MEMBRANE

7.64.1 PAY ITEM 7.64.1 – RUBBERIZED ASPHALT MEMBRANE

- 7.64.1.1 The rubberized asphalt membrane is measured for payment per m² of rubberized asphalt membrane supplied and placed in accordance with the drawings and specifications and as directed in writing by the Engineer.
- 7.64.1.2 The price tendered for this pay item shall include, without however being limited to, the following:
- 7.64.1.2.1 the provision of the shop drawings and samples of each of the materials constituting the membrane as well as provision of the technical data sheets therefor;
 - 7.64.1.2.2 the supply, delivery and storage of the membrane components on worksite;
 - 7.64.1.2.3 the correction, preparation and cleaning of the surface;
 - 7.64.1.2.4 the provision of a certificate of acceptance of the surface signed by the membrane manufacturer;

- 7.64.1.2.5 the placement of the membrane components;
- 7.64.1.2.6 the correction of the membrane defects before and during asphalt mix placement.
- 7.64.2 PAY ITEM 7.64.2 – PREFABRICATED MEMBRANE
- 7.64.2.1 The prefabricated membrane is measured for payment per m² of prefabricated membrane supplied and placed in accordance with the drawings and specifications and as directed in writing by the Engineer.
- 7.64.2.2 The price tendered for this pay item shall include, without however being limited to, the following:
 - 7.64.2.2.1 the provision of the shop drawings and samples of each of the materials constituting the membrane as well as provision of the technical data sheets therefor;
 - 7.64.2.2.2 the supply, delivery and storage of the membrane components on worksite;
 - 7.64.2.2.3 the correction, preparation and cleaning of the surface;
 - 7.64.2.2.4 the provision of a certificate of acceptance of the surface signed by the membrane manufacturer;
 - 7.64.2.2.5 the placement of the membrane components;
 - 7.64.2.2.6 the correction of the membrane defects before and during asphalt mix placement.
- 7.64.3 PAY ITEM 7.64.3 – METHYL METHACRYLATE-BASED ELASTOMERIC MEMBRANE
- 7.64.3.1 The methyl methacrylate-based elastomeric membrane is measured for payment per m² of methyl methacrylate-based elastomeric membrane supplied and placed in accordance with the drawings and specifications and as directed in writing by the Engineer.
- 7.64.3.2 The price tendered for this pay item shall include, without however being limited to, the following:
 - 7.64.3.2.1 the provision of the shop drawings and samples of each of the materials constituting the membrane as well as provision of the technical data sheets therefor;
 - 7.64.3.2.2 the supply, delivery and storage of the membrane components on worksite;
 - 7.64.3.2.3 the correction, preparation and cleaning of the surface;

- 7.64.3.2.4 the provision of a certificate of acceptance of the surface signed by the membrane manufacturer;
- 7.64.3.2.5 the placement of the membrane components;
- 7.64.3.2.6 the correction of the membrane defects before and during asphalt mix placement.

- 7.64.4 PAY ITEM 7.64.4 – REPAIR OF THE RUBBERIZED ASPHALT MEMBRANE
- 7.64.4.1 The repair of the rubberized asphalt membrane is measured for payment per m² of rubberized asphalt membrane repaired in accordance with the drawings and specifications and as directed in writing by the Engineer.
- 7.64.4.2 The price tendered for this pay item shall include, without however being limited to, the following:
 - 7.64.4.2.1 the provision of the shop drawings and samples of each of the materials constituting the membrane as well as provision of the technical data sheets therefor;
 - 7.64.4.2.2 the supply, delivery and storage of the membrane components on worksite;
 - 7.64.4.2.3 the correction, preparation and cleaning of the surface;
 - 7.64.4.2.4 the provision of a certificate of acceptance of the surface signed by the membrane manufacturer;
 - 7.64.4.2.5 the torch heating of the existing membrane edges;
 - 7.64.4.2.6 the placement of the membrane;
 - 7.64.4.2.7 the correction of the membrane defects before and during asphalt mix placement.
- 7.64.4.3 The removal of the asphalt and existing membrane shall be payable under Pay Item 7.21 *Demolition and Removal* of the Price Table.

- 7.64.5 PAY ITEM 7.64.5 – POLYMER MODIFIED BITUMEN-BASED SEALING STRIP
- 7.64.5.1 The polymer modified bitumen-based sealing strip is measured for payment per m² of polymer modified bitumen-based sealing strip supplied and placed in accordance with the drawings and specifications and as directed in writing by the Engineer.

- 7.64.5.2 The price tendered for this pay item shall include, without however being limited to, the following:
- 7.64.5.2.1 the provision of the shop drawings and samples of each sealing material as well as provision of the technical data sheets therefor;
 - 7.64.5.2.2 the supply, delivery and storage of the materials on worksite;
 - 7.64.5.2.3 the preparation and cleaning of the surface;
 - 7.64.5.2.4 the provision of a certificate of acceptance of the surface signed by the manufacturer;
 - 7.64.5.2.5 the application of the primer;
 - 7.64.5.2.6 the placement of the sealing strip;
 - 7.64.5.2.7 the correction of any sealing strip defects before and during asphalt mix placement;
 - 7.64.5.2.8 the final inspection of the joint after asphalt mix placement.

7.70 PERMANENT SIGNAGE

7.71 OVERHEAD SIGNAGE

7.71.1 PAY ITEM 7.71.1 – OVERHEAD SIGNAGE PANELS

- 7.71.1.1 The overhead signage panels are measured for payment per m² of overhead signage panel surface area assembled and delivered to the worksite or to the storage area in accordance with the drawings and specifications and as directed in writing by the Engineer.
- 7.71.1.2 The price tendered for this pay item shall include, without however being limited to, the following:
- 7.71.1.2.1 the provision of both the shop drawings and the assembly drawings;
 - 7.71.1.2.2 the provision of the design notes;
 - 7.71.1.2.3 the fabrication of the aluminum signage panel elements;
 - 7.71.1.2.4 the assembly of the signage panel;
 - 7.71.1.2.5 the supply of the retroreflective film, identification plate, fasteners and reinforcing bars;

- 7.71.1.2.6 the placement of the retroreflective film;
- 7.71.1.2.7 the supply of all hardware necessary for the installation of the signage panel;
- 7.71.1.2.8 the transportation and unloading of the signage panel and installation hardware thereof to the worksite or other storage location, as applicable.
- 7.71.2 PAY ITEM 7.71.2 – INSTALLATION OF OVERHEAD SIGNAGE PANELS ON AN OVERHEAD STRUCTURE
- 7.71.2.1 The installation of overhead signage panels on an overhead structure is measured for payment per unit of overhead signage panel installed on a new or existing overhead structure in accordance with the drawings and specifications and as directed in writing by the Engineer.
- 7.71.2.2 The price tendered for this pay item shall include, without however being limited to, the following:
 - 7.71.2.2.1 the provision of the signage panel mounting drawing and installation method;
 - 7.71.2.2.2 the supply of the specific equipment necessary for the installation of the signage panel;
 - 7.71.2.2.3 the retrieval of the signage panel at the factory or at the storage site, as applicable, the loading and transportation to the signage panel installation location;
 - 7.71.2.2.4 the lifting, installation and adjustment of the signage panel, including, without limitation, the fasteners, reinforcing bars and hardware.
- 7.71.3 PAY ITEM 7.71.3 – INSTALLATION OF OVERHEAD SIGNAGE PANELS ON A LATERAL STRUCTURE
- 7.71.3.1 The installation of overhead signage panels on a lateral structure is measured for payment per unit of overhead signage panel installed on a new or existing lateral structure in accordance with the drawings and specifications and as directed in writing by the Engineer.
- 7.71.3.2 The price tendered for this pay item shall include, without however being limited to, the following:
 - 7.71.3.2.1 the provision of the signage panel mounting drawing and installation method;
 - 7.71.3.2.2 the supply of the specific equipment necessary for the installation of the signage panel;

- 7.71.3.2.3 the retrieval of the signage panel at the factory or at the storage site, as applicable, the loading and transportation to the signage panel installation location;
- 7.71.3.2.4 the lifting, installation and adjustment of the signage panel, including, without limitation, the fasteners, reinforcing bars and hardware.
- 7.71.4 PAY ITEM 7.71.4 – DISMANTLING OF OVERHEAD SIGNAGE PANELS ON AN OVERHEAD STRUCTURE
- 7.71.4.1 The dismantling of overhead signage panels on an overhead structure is measured for payment per unit of overhead signage panel dismantled on an overhead structure in accordance with the drawings and specifications and as directed in writing by the Engineer.
- 7.71.4.2 The price tendered for this pay item shall include, without however being limited to, the following:
 - 7.71.4.2.1 the provision of the drawing and method for dismantling the signage panel;
 - 7.71.4.2.2 the supply of the specific equipment necessary for dismantling the signage panel;
 - 7.71.4.2.3 the dismantling of the signage panel;
 - 7.71.4.2.4 the retrieval of the existing signage panel including, without limitation, the fasteners, reinforcing bars and hardware, for disposal;
 - 7.71.4.2.5 the transportation and unloading at the disposal site.
- 7.71.5 PAY ITEM 7.71.5 – DISMANTLING OF OVERHEAD SIGNAGE PANELS ON A LATERAL STRUCTURE
- 7.71.5.1 The dismantling of overhead signage panels on a lateral structure is measured for payment per unit of overhead signage panel dismantled on a lateral structure in accordance with the drawings and specifications and as directed in writing by the Engineer.
- 7.71.5.2 The price tendered for this pay item shall include, without however being limited to, the following:
 - 7.71.5.2.1 the provision of the drawing and method for dismantling the signage panel;
 - 7.71.5.2.2 the supply of the specific equipment necessary for dismantling the signage panel;
 - 7.71.5.2.3 the dismantling of the signage panel;

7.71.5.2.4 the retrieval of the existing signage panel including, without limitation, the fasteners, reinforcing bars and hardware, for disposal;

7.71.5.2.5 the transportation and unloading at the disposal site.

7.72 SMALL SIGNAGE

7.72.1 PAY ITEM 7.72.1 – SMALL SIGNAGE PANELS

7.72.1.1 Small signage panels are measured for payment per m² of small signage panel surface area supplied and delivered to the worksite in accordance with the drawings and specifications and as directed in writing by the Engineer.

7.72.1.2 The price tendered for this pay item shall include, without however being limited to, the following:

7.72.1.2.1 the provision of the shop drawings;

7.72.1.2.2 the fabrication of the signage panel;

7.72.1.2.3 the cleaning of the signage panel;

7.72.1.2.4 the supply of the retroreflective film, fasteners and posts, and supply of all hardware necessary for the installation of the panel;

7.72.1.2.5 the placement of the retroreflective film;

7.72.1.2.6 the transportation of the signage panel and installation hardware thereof to the worksite or storage site, as applicable, and unloading at such location.

7.72.2 PAY ITEM 7.72.2 – INSTALLATION OF SMALL SIGNAGE PANELS

7.72.2.1 The installation of small signage panels is measured for payment per unit of small signage panel installed in accordance with the drawings and specifications and as directed in writing by the Engineer.

7.72.2.2 The price tendered for this pay item shall include, without however being limited to, the following:

7.72.2.2.1 the provision of the signage panel mounting drawing and installation method;

7.72.2.2.2 the supply of the specific equipment necessary for the installation of the signage panel;

7.72.2.2.3 the retrieval at the factory or at the storage site, as applicable, the loading and transportation to the signage panel installation location;

7.72.2.2.4 the installation of the signage panel, including, without limitation, the fasteners, posts and hardware.

7.72.3 PAY ITEM 7.72.3 – DISMANTLING OF SMALL SIGNAGE PANELS

7.72.3.1 The dismantling of small signage panels is measured for payment per unit of small signage panel dismantled in accordance with the drawings and specifications and as directed in writing by the Engineer.

7.72.3.2 The price tendered for this pay item shall include, without however being limited to, the following:

7.72.3.2.1 the provision of the drawing and method for dismantling the signage panel;

7.72.3.2.2 the supply of the specific equipment necessary for dismantling the signage panel;

7.72.3.2.3 the dismantling of the signage panel;

7.72.3.2.4 the retrieval of the existing signage panel including, without limitation, the fasteners, posts and hardware, for disposal;

7.72.3.2.5 the transportation to and unloading at the disposal site.

7.73 ROAD MARKING

7.73.1 PAY ITEM 7.73.1 – ERASING OF THE 100 TO 150 mm WIDE MARKING LINES

7.73.1.1 The erasing of the 100 to 150 mm wide marking lines is measured for payment per m of marking lines removed in accordance with the drawings and specifications and as directed in writing by the Engineer.

7.73.1.2 The price tendered for this pay item shall include, without however being limited to, the following:

7.73.1.2.1 the equipment specific to the marking erasing;

7.73.1.2.2 the erasing of the marking lines;

7.73.1.2.3 the cleaning of the surface;

7.73.1.2.4 the disposal of the erasing and cleaning debris in authorized sites in accordance with subsection 6.13 *Environmental Protection*.

- 7.73.2 PAY ITEM 7.73.2 – ERASING OF THE 300 TO 600 mm WIDE MARKING LINES
- 7.73.2.1 The erasing of the 300 to 600 mm wide marking lines is measured for payment per m of marking lines removed in accordance with the drawings and specifications and as directed in writing by the Engineer.
- 7.73.2.2 The price tendered for this pay item shall include, without however being limited to, the following:
- 7.73.2.2.1 the equipment specific to the marking erasing;
- 7.73.2.2.2 the erasing of the marking lines;
- 7.73.2.2.3 the cleaning of the surface;
- 7.73.2.2.4 the disposal of the erasing and cleaning debris in authorized sites in accordance with subsection 6.13 *Environmental Protection*.
- 7.73.3 PAY ITEM 7.73.3 – ERASING OF THE SPOT MARKING OF ARROWS, LOZENGES AND OTHER SPOT MARKS
- 7.73.3.1 The erasing of the spot marking of arrows, lozenges and other spot marks is measured for payment per unit of mark erased in accordance with the drawings and specifications and as directed in writing by the Engineer.
- 7.73.3.2 The price tendered for this pay item shall include, without however being limited to, the following:
- 7.73.3.2.1 the equipment specific to the marking erasing;
- 7.73.3.2.2 the erasing of a spot mark;
- 7.73.3.2.3 the cleaning of the surface;
- 7.73.3.2.4 the disposal of the erasing and cleaning debris in authorized sites in accordance with subsection 6.13 *Environmental Protection*.
- 7.73.4 PAY ITEM 7.73.4 – SHORT-PERFORMANCE MARKING OF 125 mm WIDE CONTINUOUS LINES
- 7.73.4.1 The short-performance marking of 125 mm wide continuous lines is measured for payment per m of 125 mm wide short-performance continuous line painted with water-based paint in accordance with the drawings and specifications and as directed in writing by the Engineer.

- 7.73.4.2 The price tendered for this pay item shall include, without however being limited to, the following:
- 7.73.4.2.1 the provision of the technical data sheets;
 - 7.73.4.2.2 the pre-marking of the road by means of reflective disks;
 - 7.73.4.2.3 the equipment specific to the marking works;
 - 7.73.4.2.4 the cleaning of the surface;
 - 7.73.4.2.5 the measurement required for the implementation of the lines;
 - 7.73.4.2.6 the supply and application of the marking product including, without limitation, the paint and glass microbeads;
 - 7.73.4.2.7 the protection of the marking during the drying period.
- 7.73.5 PAY ITEM 7.73.5 – MEDIUM-PERFORMANCE MARKING OF 125 mm WIDE CONTINUOUS LINES
- 7.73.5.1 The medium-performance marking of 125 mm wide continuous lines is measured for payment per m of 125 mm wide medium-performance continuous line painted with epoxy paint in accordance with the drawings and specifications and as directed in writing by the Engineer.
 - 7.73.5.2 The price tendered for this pay item shall include, without however being limited to, the following:
 - 7.73.5.2.1 the provision of the technical data sheets;
 - 7.73.5.2.2 the pre-marking of the road by means of reflective disks;
 - 7.73.5.2.3 the equipment specific to the marking works;
 - 7.73.5.2.4 the cleaning of the surface;
 - 7.73.5.2.5 the measurement required for the implementation of the lines;
 - 7.73.5.2.6 the supply and application of the marking product including, without limitation, the paint and glass microbeads;
 - 7.73.5.2.7 the protection of the marking during the drying period;
 - 7.73.5.2.8 the warranties specific to the marking work.

7.73.6 PAY ITEM 7.73.6 – MEDIUM-PERFORMANCE MARKING OF 400 mm HATCHING

7.73.6.1 The medium-performance marking of 400 mm hatching is measured for payment per m of line painted with epoxy paint in accordance with the drawings and specifications and as directed in writing by the Engineer.

7.73.6.2 The price tendered for this pay item shall include, without however being limited to, the following:

7.73.6.2.1 the provision of the technical data sheets;

7.73.6.2.2 the equipment specific to the marking works;

7.73.6.2.3 the cleaning of the surface;

7.73.6.2.4 the measurement required for the implementation of the hatching;

7.73.6.2.5 the supply and application of the marking product including, without limitation, the paint and glass microbeads;

7.73.6.2.6 the protection of the marking during the drying period;

7.73.6.2.7 the warranties specific to the marking work.

7.73.7 PAY ITEM 7.73.7 – MEDIUM-PERFORMANCE MARKING OF ARROWS

7.73.7.1 The medium-performance marking of arrows is measured for payment per unit of arrow painted with epoxy paint in accordance with the drawings and specifications and as directed in writing by the Engineer.

7.73.7.2 The price tendered for this pay item shall include, without however being limited to, the following:

7.73.7.2.1 the provision of the technical data sheets;

7.73.7.2.2 the equipment specific to the marking works;

7.73.7.2.3 the cleaning of the surface;

7.73.7.2.4 the measurement required for the implementation of the arrow;

7.73.7.2.5 the supply and application of the marking product including, without limitation, the paint and glass microbeads;

7.73.7.2.6 the protection of the marking during the drying period;

7.73.7.2.7 the warranties specific to the marking work.

7.73.8 PAY ITEM 7.73.8 – MEDIUM-PERFORMANCE MARKING OF THE LOZENGES FOR RESERVED LANE

7.73.8.1 The medium-performance marking of the lozenges for reserved lane is measured for payment per unit of lozenge for reserved lane painted with epoxy paint in accordance with the drawings and specifications and as directed in writing by the Engineer.

7.73.8.2 The price tendered for this pay item shall include, without however being limited to, the following:

7.73.8.2.1 the provision of the technical data sheets;

7.73.8.2.2 the equipment specific to the marking works;

7.73.8.2.3 the cleaning of the surface;

7.73.8.2.4 the measurement required for the implementation of the lozenge;

7.73.8.2.5 the supply and application of the marking product including, without limitation, the paint and glass microbeads;

7.73.8.2.6 the protection of the marking during the drying period;

7.73.8.2.7 the warranties specific to the marking work.

7.73.9 PAY ITEM 7.73.9 – MEDIUM-PERFORMANCE MARKING OF 600 mm WIDE STOP LINES

7.73.9.1 The medium-performance marking of 600 mm wide stop lines is measured for payment per m of 600 mm wide stop lines painted with epoxy paint in accordance with the drawings and specifications and as directed in writing by the Engineer.

7.73.9.2 The price tendered for this pay item shall include, without however being limited to, the following:

7.73.9.2.1 the provision of the technical data sheets;

7.73.9.2.2 the equipment specific to the marking works;

7.73.9.2.3 the cleaning of the surface;

7.73.9.2.4 the measurement required for the implementation of the stop lines;

7.73.9.2.5 the supply and application of the marking product including, without limitation, the paint and glass microbeads;

7.73.9.2.6 the protection of the marking during the drying period;

7.73.9.2.7 the warranties specific to the marking work.

7.73.10 PAY ITEM 7.73.10 – MEDIUM-PERFORMANCE MARKING OF 100 mm WIDE CONTINUOUS LINES FOR THE BICYCLE PATH

7.73.10.1 The medium-performance marking of 100 mm wide continuous lines for the bicycle path is measured for payment per m of 100 mm wide continuous lines painted with epoxy paint in accordance with the drawings and specifications and as directed in writing by the Engineer.

7.73.10.2 The price tendered for this pay item shall include, without however being limited to, the following:

7.73.10.2.1 the provision of the technical data sheets;

7.73.10.2.2 the pre-marking of the road by means of reflective disks;

7.73.10.2.3 the equipment specific to the marking works;

7.73.10.2.4 the cleaning of the surface;

7.73.10.2.5 the measurement required for the implementation of the lines;

7.73.10.2.6 the supply and application of the marking product including, without limitation, the paint and glass microbeads;

7.73.10.2.7 the protection of the marking during the drying period;

7.73.10.2.8 the warranties specific to the marking work.

7.73.11 PAY ITEM 7.73.11 – LONG-PERFORMANCE INLAID MARKING OF 125 mm WIDE CONTINUOUS LINES

7.73.11.1 The long-performance inlaid marking of 125 mm wide continuous lines is measured for payment per m of 125 mm wide continuous lines painted with epoxy paint in accordance with the drawings and specifications and as directed in writing by the Engineer.

7.73.11.2 The price tendered for this pay item shall include, without however being limited to, the following:

7.73.11.2.1 the provision of the technical data sheets;

7.73.11.2.2 the pre-marking of the road by means of reflective disks;

7.73.11.2.3 the equipment specific to the marking works;

- 7.73.11.2.4 the implementation of the making inlay trench;
 - 7.73.11.2.5 the cleaning of the surface;
 - 7.73.11.2.6 the measurement required for the implementation of the lines;
 - 7.73.11.2.7 the supply and application of the marking product including, without limitation, the paint and glass microbeads;
 - 7.73.11.2.8 the protection of the marking during the drying period;
 - 7.73.11.2.9 the warranties specific to the marking work.
- 7.73.12 PAY ITEM 7.73.12 – LONG-PERFORMANCE INLAID MARKING OF 240 mm WIDE CONTINUOUS LINES USING BLACK EPOXY RESIN AND BLACK AGGREGATES
- 7.73.12.1 The long-performance inlaid marking of 240 mm wide continuous lines using epoxy resin and black aggregate is measured for payment per m of lines painted with epoxy paint in accordance with the drawings and specifications and as directed in writing by the Engineer.
 - 7.73.12.2 The price tendered for this pay item shall include, without however being limited to, the following:
 - 7.73.12.2.1 the provision of the technical data sheets;
 - 7.73.12.2.2 the pre-marking of the road by means of reflective disks;
 - 7.73.12.2.3 the equipment specific to the marking works;
 - 7.73.12.2.4 the implementation of the making inlay trench;
 - 7.73.12.2.5 the cleaning of the surface;
 - 7.73.12.2.6 the measurement required for the implementation of the lines;
 - 7.73.12.2.7 the supply and application of the marking product including, without limitation, the paint and glass microbeads;
 - 7.73.12.2.8 the protection of the marking during the drying period;
 - 7.73.12.2.9 the warranties specific to the marking work.

7.80 EARTHWORKS AND INFRASTRUCTURES

7.81 BASE AND SUB-BASE

7.81.1 PAY ITEM 7.81.1 – MG-112 SUB-BASE GRANULAR MATERIALS

7.81.1.1 The MG-112 sub-base granular materials are measured for payment per m³ of MG-112 granular materials placed in accordance with the drawings and specifications and as directed in writing by the Engineer. The volume shall be calculated by the average end area method in accordance with the theoretical dimensions of the sub-base layer.

7.81.1.2 The price tendered for this pay item shall include, without however being limited to, the following:

7.81.1.2.1 the manufacturing and supply of the granular materials;

7.81.1.2.2 the drilling, blasting, crushing, stockpiling and grading correction;

7.81.1.2.3 the loading, weighing, transportation and unloading;

7.81.1.2.4 the spreading;

7.81.1.2.5 the preparation of the trial sections;

7.81.1.2.6 the implementation;

7.81.1.2.7 the compaction;

7.81.1.2.8 the quality control both at the quarry and on the worksite.

7.81.2 PAY ITEM 7.81.2 – MG-20 BASE GRANULAR MATERIALS

7.81.2.1 The MG-20 base granular materials are measured for payment per m³ of MG-20 granular materials placed in accordance with the drawings and specifications and as directed in writing by the Engineer. The volume shall be calculated by the average end area method in accordance with the theoretical dimensions of the base layer.

7.81.2.2 The price tendered for this pay item shall include, without however being limited to, the following:

7.81.2.2.1 the manufacturing and supply of the granular materials;

7.81.2.2.2 the drilling, blasting, crushing, stockpiling and grading correction;

- 7.81.2.2.3 the loading, weighing, transportation and unloading;
- 7.81.2.2.4 the spreading;
- 7.81.2.2.5 the preparation of the trial sections;
- 7.81.2.2.6 the implementation;
- 7.81.2.2.7 the compaction;
- 7.81.2.2.8 the quality control both at the quarry and on the worksite.

7.82 HOT-MIX PAVEMENT

7.82.1 PAY ITEM 7.82.1 – SURFACE CORRECTION

- 7.82.1.1 The surface correction is measured for payment per t of aggregate placed to correct the surface prior to asphalt placement in accordance with the drawings and specifications and as directed in writing by the Engineer.
- 7.82.1.2 The price tendered for this pay item shall include, without however being limited to, the following:
 - 7.82.1.2.1 the manufacturing and supply of the aggregate;
 - 7.82.1.2.2 the loading, weighing and transportation of the aggregate;
 - 7.82.1.2.3 the placement and compaction of the aggregate.

7.82.2 PAY ITEM 7.82.2 – TACK COAT APPLIED AT THE RATE OF 0.20 L/m²

- 7.82.2.1 The tack coat applied at the rate of 0.20 L/m² is measured for payment per m² of tack coat applied in accordance with the drawings and specifications and as directed in writing by the Engineer.
- 7.82.2.2 The price tendered for this pay item shall include, without however being limited to, the following:
 - 7.82.2.2.1 the cleaning of the surfaces;
 - 7.82.2.2.2 the supply, transportation and application of the tack coat on the surfaces to be covered with asphalt mix;
 - 7.82.2.2.3 the heating of the tack coat, where applicable;
 - 7.82.2.2.4 the brush application of the vertical contact surfaces.

7.82.3 PAY ITEM 7.82.3 – TACK COAT APPLIED AT THE RATE OF 0.25 L/m²

7.82.3.1 The tack coat applied at the rate of 0.25 L/m² is measured for payment per m² of tack coat applied in accordance with the drawings and specifications and as directed in writing by the Engineer.

7.82.3.2 The price tendered for this pay item shall include, without however being limited to, the following:

7.82.3.2.1 the cleaning of the surfaces;

7.82.3.2.2 the supply, transportation and application of the tack coat on the surfaces to be covered with asphalt mix;

7.82.3.2.3 the heating of the tack coat, where applicable;

7.82.3.2.4 the brush application of the vertical contact surfaces.

7.82.4 PAY ITEM 7.82.4 – TACK COAT APPLIED AT THE RATE OF 0.30 L/m²

7.82.4.1 The tack coat applied at the rate of 0.30 L/m² is measured for payment per m² of tack coat applied in accordance with the drawings and specifications and as directed in writing by the Engineer.

7.82.4.2 The price tendered for this pay item shall include, without however being limited to, the following:

7.82.4.2.1 the cleaning of the surfaces;

7.82.4.2.2 the supply, transportation and application of the tack coat on the surfaces to be covered with asphalt mix;

7.82.4.2.3 the heating of the tack coat, where applicable;

7.82.4.2.4 the brush application of the vertical contact surfaces.

7.82.5 PAY ITEM 7.82.5 – GB-20 ASPHALT MIX PREPARED WITH PG 64-28 BITUMEN AND HOT ROLLED

7.82.5.1 The GB-20 asphalt mix prepared with PG 64-28 bitumen and hot rolled is measured for payment per t of asphalt mix prepared and hot rolled in accordance with the drawings and specifications and as directed in writing by the Engineer.

7.82.5.2 The price tendered for this pay item shall include, without however being limited to, the following:

7.82.5.2.1 the technical data sheets;

- 7.82.5.2.2 the supply and transportation of all specific materials required for the manufacturing of the asphalt mix;
 - 7.82.5.2.3 the manufacturing of the asphalt mix;
 - 7.82.5.2.4 the transportation of the asphalt mix from the asphalt mix plant to the worksite;
 - 7.82.5.2.5 the supply of all the specific equipment required for the placement of the asphalt mix;
 - 7.82.5.2.6 the placement and compaction of the asphalt mix;
 - 7.82.5.2.7 the execution and removal of the temporary connections;
 - 7.82.5.2.8 the tack coat for the brush application of the joints.
- 7.82.6 PAY ITEM 7.82.6 – ESG-14 ASPHALT MIX PREPARED WITH PG 70-28 BITUMEN AND HOT ROLLED
- 7.82.6.1 The ESG-14 asphalt mix prepared with PG 70-28 bitumen and hot rolled is measured for payment per t of asphalt mix prepared and hot rolled in accordance with the drawings and specifications and as directed in writing by the Engineer.
 - 7.82.6.2 The price tendered for this pay item shall include, without however being limited to, the following:
 - 7.82.6.2.1 the technical data sheets;
 - 7.82.6.2.2 the supply and transportation of all specific materials required for the manufacturing of the asphalt mix;
 - 7.82.6.2.3 the manufacturing of the asphalt mix;
 - 7.82.6.2.4 the transportation of the asphalt mix from the asphalt mix plant to the worksite;
 - 7.82.6.2.5 the supply of all the specific equipment required for the placement of the asphalt mix;
 - 7.82.6.2.6 the placement and compaction of the asphalt mix;
 - 7.82.6.2.7 the execution and removal of the temporary connections;
 - 7.82.6.2.8 the tack coat for the brush application of the joints.

7.82.7 PAY ITEM 7.82.7 – ESG-14 ASPHALT MIX PREPARED WITH PG 58-28 BITUMEN AND HOT ROLLED

7.82.7.1 The ESG-14 asphalt mix prepared with PG 58-28 bitumen and hot rolled is measured for payment per t of asphalt mix prepared and hot rolled in accordance with the drawings and specifications and as directed in writing by the Engineer.

7.82.7.2 The price tendered for this pay item shall include, without however being limited to, the following:

7.82.7.2.1 the technical data sheets;

7.82.7.2.2 the supply and transportation of all specific materials required for the manufacturing of the asphalt mix;

7.82.7.2.3 the manufacturing of the asphalt mix;

7.82.7.2.4 the transportation of the asphalt mix from the asphalt mix plant to the worksite;

7.82.7.2.5 the supply of all the specific equipment required for the placement of the asphalt mix;

7.82.7.2.6 the placement and compaction of the asphalt mix;

7.82.7.2.7 the execution and removal of the temporary connections;

7.82.7.2.8 the tack coat for the brush application of the joints.

7.82.8 PAY ITEM 7.82.8 – ESG-10 ASPHALT MIX PREPARED WITH PG 70-28 BITUMEN AND HOT ROLLED

7.82.8.1 The ESG-10 asphalt mix prepared with PG 70-28 bitumen and hot rolled is measured for payment per t of asphalt mix prepared and hot rolled in accordance with the drawings and specifications and as directed in writing by the Engineer.

7.82.8.2 The price tendered for this pay item shall include, without however being limited to, the following:

7.82.8.2.1 the technical data sheets;

7.82.8.2.2 the supply and transportation of all specific materials required for the manufacturing of the asphalt mix;

7.82.8.2.3 the manufacturing of the asphalt mix;

7.82.8.2.4 the transportation of the asphalt mix from the asphalt mix plant to the worksite;

- 7.82.8.2.5 the supply of all the specific equipment required for the placement of the asphalt mix;
 - 7.82.8.2.6 the placement and compaction of the asphalt mix;
 - 7.82.8.2.7 the execution and removal of the temporary connections;
 - 7.82.8.2.8 the tack coat for the brush application of the joints.
- 7.82.9 PAY ITEM 7.82.9 – ESG-10 ASPHALT MIX FOR BICYCLE PATHS PREPARED WITH PG 58-28 BITUMEN AND HOT ROLLED
- 7.82.9.1 The ESG-10 asphalt mix for bicycle paths prepared with PG 58-28 bitumen and hot rolled is measured for payment per t of asphalt mix prepared and hot rolled in accordance with the drawings and specifications and as directed in writing by the Engineer.
 - 7.82.9.2 The price tendered for this pay item shall include, without however being limited to, the following:
 - 7.82.9.2.1 the technical data sheets;
 - 7.82.9.2.2 the supply and transportation of all specific materials required for the manufacturing of the asphalt mix;
 - 7.82.9.2.3 the manufacturing of the asphalt mix;
 - 7.82.9.2.4 the transportation of the asphalt mix from the asphalt mix plant to the worksite;
 - 7.82.9.2.5 the supply of all the specific equipment required for the placement of the asphalt mix;
 - 7.82.9.2.6 the placement and compaction of the asphalt mix;
 - 7.82.9.2.7 the execution and removal of the temporary connections;
 - 7.82.9.2.8 the tack coat for the brush application of the joints.
- 7.82.10 PAY ITEM 7.82.10 – EG-10 ASPHALT MIX PREPARED WITH PG 70-28 BITUMEN AND HOT ROLLED
- 7.82.10.1 The EG-10 asphalt mix prepared with PG 70-28 bitumen and hot rolled is measured for payment per t of asphalt mix prepared and hot rolled in accordance with the drawings and specifications and as directed in writing by the Engineer.

- 7.82.10.2 The price tendered for this pay item shall include, without however being limited to, the following:
- 7.82.10.2.1 the technical data sheets;
 - 7.82.10.2.2 the supply and transportation of all specific materials required for the manufacturing of the asphalt mix;
 - 7.82.10.2.3 the manufacturing of the asphalt mix;
 - 7.82.10.2.4 the transportation of the asphalt mix from the asphalt mix plant to the worksite;
 - 7.82.10.2.5 the supply of all the specific equipment required for the placement of the asphalt mix;
 - 7.82.10.2.6 the placement and compaction of the asphalt mix;
 - 7.82.10.2.7 the execution and removal of the temporary connections;
 - 7.82.10.2.8 the tack coat for the brush application of the joints.

7.82.11 PAY ITEM 7.82.11 – EC-10 ASPHALT MIX PREPARED WITH PG 70-28 BITUMEN AND HOT ROLLED

- 7.82.11.1 The EC-10 asphalt mix prepared with PG 70-28 bitumen and hot rolled is measured for payment per t of asphalt mix prepared and hot rolled in accordance with the drawings and specifications and as directed in writing by the Engineer.
- 7.82.11.2 The price tendered for this pay item shall include, without however being limited to, the following:
- 7.82.11.2.1 the technical data sheets;
 - 7.82.11.2.2 the supply and transportation of all specific materials required for the manufacturing of the asphalt mix;
 - 7.82.11.2.3 the manufacturing of the asphalt mix;
 - 7.82.11.2.4 the transportation of the asphalt mix from the asphalt mix plant to the worksite;
 - 7.82.11.2.5 the supply of all the specific equipment required for the placement of the asphalt mix;
 - 7.82.11.2.6 the placement and compaction of the asphalt mix;
 - 7.82.11.2.7 the execution and removal of the temporary connections;

7.82.11.2.8 the tack coat for the brush application of the joints.

7.82.12 PAY ITEM 7.82.12 – APPLICATION OF AN ADHESIVE PRODUCT FOR COLD JOINT

7.82.12.1 The application of an adhesive product for cold joint is measured for payment per m of adhesive product applied in accordance with the drawings and specifications and as directed in writing by the Engineer.

7.82.12.2 The price tendered for this pay item shall include, without however being limited to, the following:

7.82.12.2.1 the technical data sheets;

7.82.12.2.2 the supply and transportation of the adhesive product;

7.82.12.2.3 the supply of the specific equipment required for the application of the adhesive product;

7.82.12.2.4 the heating and application of the adhesive product.

7.83 CEMENT CONCRETE PAVEMENT

7.83.1 PAY ITEM 7.83.1 – CONCRETE PAVEMENT

7.83.1.1 The concrete pavement is measured for payment per m² of pavement constructed in accordance with the drawings and specifications and as directed in writing by the Engineer.

7.83.1.2 The price tendered for this pay item shall include, without however being limited to, the following:

7.83.1.2.1 the provision of the shop drawings and technical data sheets;

7.83.1.2.2 the manufacturing and supply of all specific materials;

7.83.1.2.3 the loading, weighing, transportation and unloading of the materials;

7.83.1.2.4 the preparation of the granular surface;

7.83.1.2.5 the installation and removal of the formwork;

7.83.1.2.6 the installation and removal of the guide ropes;

7.83.1.2.7 the installation of the tie rods, studs and asphaltic boards;

7.83.1.2.8 the installation of reinforcing steel around the catch basins, manholes and manholes-catch basins, where applicable;

- 7.83.1.2.9 the placement, consolidation, texturing, finishing, curing and protection of the concrete;
- 7.83.1.2.10 the execution of the various joints;
- 7.83.1.2.11 the identification and sawing of crack initiation.
- 7.83.1.3 The losses related to the work start and stop at the beginning and at the end of work shifts shall be included in the unit price tendered for this pay item.
- 7.83.2 PAY ITEM 7.83.2 – TREATMENT OF TRANSVERSAL JOINTS BY MEANS OF A PREFORMED PRODUCT
- 7.83.2.1 The treatment of the transversal joints by means of a preformed product is measured for payment per m of transversal joint treated by means of a preformed product in accordance with the drawings and specifications and as directed in writing by the Engineer.
- 7.83.2.2 The price tendered for this pay item shall include, without however being limited to, the following:
 - 7.83.2.2.1 the provision of the technical data sheets;
 - 7.83.2.2.2 the supply and delivery of the preformed product to the worksite and storage thereon;
 - 7.83.2.2.3 the sawing of the joints;
 - 7.83.2.2.4 the water blasting of the sealing cavity;
 - 7.83.2.2.5 the wet abrasive blasting of the sealing cavity vertical walls;
 - 7.83.2.2.6 the roadway cleaning;
 - 7.83.2.2.7 the final cleaning by means of dry air blasting of the sealing cavity walls;
 - 7.83.2.2.8 the lubrication of the preformed product;
 - 7.83.2.2.9 the placement of the preformed product.
- 7.83.3 PAY ITEM 7.83.3 – TREATMENT OF ALL JOINTS OTHER THAN TRANSVERSAL JOINTS BY MEANS OF A HOT-APPLIED SEALANT
- 7.83.3.1 The treatment of all joints other than transversal joints by means of a hot-applied sealing product is measured for payment per m of joint treated by means of a hot-applied sealing product in accordance with the drawings and specifications and as directed in writing by the Engineer.

- 7.83.3.2 The price tendered for this pay item shall include, without however being limited to, the following:
- 7.83.3.2.1 the provision of the technical data sheets;
 - 7.83.3.2.2 the supply and delivery of the sealing product to the worksite and storage thereon;
 - 7.83.3.2.3 the sawing of the joints;
 - 7.83.3.2.4 the water blasting of the sealing cavity;
 - 7.83.3.2.5 the wet abrasive blasting of the sealing cavity vertical walls;
 - 7.83.3.2.6 the roadway cleaning;
 - 7.83.3.2.7 the final cleaning by means of dry air blasting of the sealing cavity walls;
 - 7.83.3.2.8 the supply and installation of a backer rod;
 - 7.83.3.2.9 the filling of the cavity with the hot-applied sealant.

7.83.4 PAY ITEM 7.83.4 –IN-DEPTH PAVEMENT REPAIR

- 7.83.4.1 The in-depth pavement repair is measured for payment per m² of repair carried out in accordance with the drawings and specifications and as directed in writing by the Engineer.
- 7.83.4.2 The price tendered for this pay item shall include, without however being limited to, the following:
- 7.83.4.2.1 the provision of the shop drawings and technical data sheets;
 - 7.83.4.2.2 the repair of the granular base;
 - 7.83.4.2.3 the drilling of holes and installation of the studs and tie rods;
 - 7.83.4.2.4 the installation of a wire mesh;
 - 7.83.4.2.5 the abrasive blasting of the concrete surfaces;
 - 7.83.4.2.6 the application of a primer on the concrete surfaces;
 - 7.83.4.2.7 the installation of a compressible insert;
 - 7.83.4.2.8 the placement, consolidation, finishing, texturing and curing of the concrete;

7.83.4.2.9 the sealing of the joints.

7.84 CONCRETE CURBS, GORES AND PROTECTIVE COVERS

7.84.1 PAY ITEM 7.84.1 – MOLDED OR CAST CONCRETE CURBS

7.84.1.1 The molded or cast concrete curbs are measured for payment per m of curb molded or cast in accordance with the drawings and specifications and as directed in writing by the Engineer.

7.84.1.2 The price tendered for this pay item shall include, without however being limited to, the following:

7.84.1.2.1 the supply of the specific materials;

7.84.1.2.2 the excavation;

7.84.1.2.3 the supply, preparation and compaction of the MG-20 stone cushion;

7.84.1.2.4 the provision of concrete, formwork, asphaltic boards, connections to the existing curbs, transitions between the different types of curbs and the curing of the concrete;

7.84.1.2.5 the backfilling and leveling;

7.84.1.2.6 the saw cuts for the crack initiation.

7.84.1.3 The quantity provided in the Price Table for the present pay item does not distinguish between the straight, raised, dropped, mountable or transition curbs.

7.84.1.4 The present pay item also covers the curbs cast in place along the rigidity transitions.

7.84.2 PAY ITEM 7.84.2 – CONCRETE PROTECTIVE COVER BETWEEN CURBS OR RIGID BARRIERS

7.84.2.1 The concrete protective cover between curbs or rigid barriers is measured for payment per m² of protective cover cast in accordance with the drawings and specifications and as directed in writing by the Engineer.

7.84.2.2 The price tendered for this pay item shall include, without however being limited to, the following:

7.84.2.2.1 the supply of the specific materials;

7.84.2.2.2 the excavation;

7.84.2.2.3 the supply, preparation and compaction of the MG-20 stone cushion;

7.84.2.2.4 the provision of concrete, formwork, asphaltic boards, wire mesh, connections and the curing of the concrete;

7.84.2.2.5 the backfilling and leveling;

7.84.2.2.6 the saw cuts for the crack initiation.

7.84.3 PAY ITEM 7.84.3 – 500 mm RADIUS CAST-IN-PLACE CONCRETE GORES

7.84.3.1 The 500 mm radius cast-in-place concrete gores are measured for payment per unit of concrete gore cast-in-place in accordance with the drawings and specifications and as directed in writing by the Engineer.

7.84.3.2 The price tendered for this pay item shall include, without however being limited to, the following:

7.84.3.2.1 the supply of the specific materials;

7.84.3.2.2 the excavation;

7.84.3.2.3 the supply, preparation and compaction of the MG-20 stone cushion;

7.84.3.2.4 the provision of concrete, formwork, asphaltic boards, connections and the curing of the concrete;

7.84.3.2.5 the backfilling and leveling.

7.84.4 PAY ITEM 7.84.4 – 1,000 mm RADIUS CAST-IN PLACE CONCRETE GORES

7.84.4.1 The 1,000 mm radius cast-in-place concrete gores are measured for payment per unit of concrete gore cast-in-place in accordance with the drawings and specifications and as directed in writing by the Engineer.

7.84.4.2 The price tendered for this pay item shall include, without however being limited to, the following:

7.84.4.2.1 the supply of the specific materials;

7.84.4.2.2 the excavation;

7.84.4.2.3 the supply, preparation and compaction of the MG-20 stone cushion;

7.84.4.2.4 the provision of concrete, formwork, asphaltic boards, connections and the curing of the concrete;

7.84.4.2.5 the backfilling and leveling.

7.85 SAFETY ELEMENTS

7.85.1 PAY ITEM 7.85.1 – 810 mm HIGH MEDIAN RIGID BARRIER WITH A 600 mm BASE

7.85.1.1 The 810 mm high median rigid barrier with a 600 mm base is measured for payment per m of barrier installed in accordance with the drawings and specifications and as directed in writing by the Engineer.

7.85.1.2 The length measured for payment purposes does not include the lamp post and overhead signage bases or any other item payable under another pay item.

7.85.1.3 The price tendered for this pay item shall include, without however being limited to, the following:

7.85.1.3.1 the excavation;

7.85.1.3.2 the supply, preparation and compaction of the MG-20 stone cushion;

7.85.1.3.3 the connections;

7.85.1.3.4 the provision of formwork, tie rods and asphaltic boards;

7.85.1.3.5 the provision of concrete and placement thereof;

7.85.1.3.6 the implementation of expansion and construction joints;

7.85.1.3.7 the saw cuts for crack initiation;

7.85.1.3.8 the curing of concrete.

7.85.2 PAY ITEM 7.85.2 – 1,070 mm HIGH MEDIAN RIGID BARRIER L WITH A 725 mm BASE

7.85.2.1 The 1,070 mm high median rigid barrier with a 725 mm base is measured for payment per m of barrier installed in accordance with the drawings and specifications and as directed in writing by the Engineer.

7.85.2.2 The length measured for payment purposes does not include the lamp post and overhead signage bases or any other item payable under another pay item.

7.85.2.3 The price tendered for this pay item shall include, without however being limited to, the following:

7.85.2.3.1 the excavation;

7.85.2.3.2 the supply, preparation and compaction of the MG-20 stone cushion;

7.85.2.3.3 the connections;

- 7.85.2.3.4 the provision of formwork, tie rods and asphaltic boards;
- 7.85.2.3.5 the provision of concrete and placement thereof;
- 7.85.2.3.6 the implementation of expansion and construction joints;
- 7.85.2.3.7 the saw cuts for crack initiation;
- 7.85.2.3.8 the curing of concrete.

7.85.3 PAY ITEM 7.85.3 – 810 mm HIGH LATERAL RIGID BARRIER WITH A 450 mm BASE

- 7.85.3.1 The 810 mm high lateral rigid barrier with a 450 mm base is measured for payment per m of barrier installed in accordance with the drawings and specifications and as directed in writing by the Engineer.
- 7.85.3.2 The length measured for payment purposes does not include the lamp post and overhead signage bases or any other item payable under another pay item.
- 7.85.3.3 The price tendered for this pay item shall include, without however being limited to, the following:
 - 7.85.3.3.1 the excavation;
 - 7.85.3.3.2 the supply, preparation and compaction of the MG-20 stone cushion;
 - 7.85.3.3.3 the connections;
 - 7.85.3.3.4 the provision of formwork, tie rods and asphaltic boards;
 - 7.85.3.3.5 the provision of concrete and placement thereof;
 - 7.85.3.3.6 the implementation of expansion and construction joints;
 - 7.85.3.3.7 the saw cuts for crack initiation;
 - 7.85.3.3.8 the curing of concrete.

7.85.4 PAY ITEM 7.85.4 – WIDTH, HEIGHT AND SHAPE TRANSITION BETWEEN RIGID BARRIERS

- 7.85.4.1 The width, height and shape transition between rigid barriers is measured for payment per m of transition carried out in accordance with the drawings and specifications and as directed in writing by the Engineer.

7.85.4.2 The price tendered for this pay item shall include, without however being limited to, the following:

7.85.4.2.1 the excavation;

7.85.4.2.2 the supply, preparation and compaction of the MG-20 stone cushion;

7.85.4.2.3 the connections;

7.85.4.2.4 the provision of formwork, tie rods and asphaltic boards;

7.85.4.2.5 the provision of concrete and placement thereof;

7.85.4.2.6 the implementation of expansion and construction joints;

7.85.4.2.7 the saw cuts for crack initiation;

7.85.4.2.8 the curing of concrete.

7.85.5 PAY ITEM 7.85.5 – PERMANENT WORKSITE CONCRETE BARRIER

7.85.5.1 The permanent worksite concrete barrier is measured for payment per m of barrier installed in accordance with the drawings and specifications and as directed in writing by the Engineer.

7.85.5.2 The price tendered for this pay item shall include, without however being limited to, the following:

7.85.5.2.1 the supply, transportation and installation of the permanent worksite concrete barrier in new condition;

7.85.5.2.2 the “I” connectors and connections to the barriers.

7.85.6 PAY ITEM 7.85.6 – PERMANENT ATTACHABLE PAVEMENT-ANCHORED WORKSITE CONCRETE BARRIER

7.85.6.1 The permanent attachable pavement-anchored worksite concrete barrier is measured for payment per m of barrier installed and anchored in accordance with the drawings and specifications and as directed in writing by the Engineer.

7.85.6.2 The price tendered for this pay item shall include, without however being limited to, the following:

7.85.6.2.1 the supply, transportation and installation of the attachable worksite barrier in new condition;

7.85.6.2.2 the “I” connectors and connections to the barriers;

- 7.85.6.2.3 the boring or drilling of the holes in the asphalt or concrete pavement;
- 7.85.6.2.4 the supply and installation of the anchor rods in the asphalt or concrete pavement with the anchoring product.
- 7.85.7 PAY ITEM 7.85.7 – 810 mm HIGH MEDIAN RIGID BARRIERS REINFORCED EXTREMITIES
 - 7.85.7.1 The 810 mm high median rigid barriers reinforced extremities are measured for payment per unit of barrier installed in accordance with the drawings and specifications and as directed in writing by the Engineer.
 - 7.85.7.2 The price tendered for this pay item shall include, without however being limited to, the following:
 - 7.85.7.2.1 the excavation;
 - 7.85.7.2.2 the supply, preparation and compaction of the MG-20 stone cushion;
 - 7.85.7.2.3 the connections;
 - 7.85.7.2.4 the formwork and tie rods;
 - 7.85.7.2.5 the concrete and placement thereof;
 - 7.85.7.2.6 the galvanized reinforcements steel;
 - 7.85.7.2.7 the asphaltic boards;
 - 7.85.7.2.8 the curing of concrete.
- 7.85.8 PAY ITEM 7.85.8 – 1,070 mm HIGH MEDIAN RIGID BARRIERS REINFORCED EXTREMITIES
 - 7.85.8.1 The 1,070 mm high median rigid barriers reinforced extremities are measured for payment per unit of barrier installed in accordance with the drawings and specifications and as directed in writing by the Engineer.
 - 7.85.8.2 The price tendered for this pay item shall include, without however being limited to, the following:
 - 7.85.8.2.1 the excavation;
 - 7.85.8.2.2 the supply, preparation and compaction of the MG-20 stone cushion;
 - 7.85.8.2.3 the connections;
 - 7.85.8.2.4 the formwork and tie rods;

- 7.85.8.2.5 the concrete and placement thereof;
 - 7.85.8.2.6 the galvanized reinforcements steel;
 - 7.85.8.2.7 the asphaltic boards;
 - 7.85.8.2.8 the curing of concrete.
- 7.85.9 PAY ITEM 7.85.9 – CONSTRUCTION OF THE EXTREMITY OF AN 810 mm HIGH MEDIAN RIGID BARRIER WITH A 600 mm BASE
- 7.85.9.1 The construction of the extremity of an 810 mm high median rigid barrier with a 600 mm base is measured for payment per unit of extremity constructed in accordance with the drawings and specifications and as directed in writing by the Engineer.
 - 7.85.9.2 The price tendered for this pay item shall include, without however being limited to, the following:
 - 7.85.9.2.1 the excavation;
 - 7.85.9.2.2 the supply, preparation and compaction of the MG-20 stone cushion;
 - 7.85.9.2.3 the connections;
 - 7.85.9.2.4 the formwork and tie rods;
 - 7.85.9.2.5 the concrete and placement thereof;
 - 7.85.9.2.6 the galvanized reinforcements steel;
 - 7.85.9.2.7 the asphaltic boards;
 - 7.85.9.2.8 the curing of concrete.
- 7.85.10 PAY ITEM 7.85.10 – CONSTRUCTION OF THE EXTREMITY OF A 1,070 mm HIGH MEDIAN RIGID BARRIER WITH A 725 mm BASE
- 7.85.10.1 The construction of the extremity of a 1,070 mm high median rigid barrier with a 725 mm base is measured for payment per unit of extremity constructed in accordance with the drawings and specifications and as directed in writing by the Engineer.
 - 7.85.10.2 The price tendered for this pay item shall include, without however being limited to, the following:
 - 7.85.10.2.1 the excavation;

- 7.85.10.2.2 the supply, preparation and compaction of the MG-20 stone cushion;
 - 7.85.10.2.3 the connections;
 - 7.85.10.2.4 the formwork and tie rods;
 - 7.85.10.2.5 the concrete and placement thereof;
 - 7.85.10.2.6 the galvanized reinforcing steel;
 - 7.85.10.2.7 the asphaltic boards;
 - 7.85.10.2.8 the curing of concrete.
- 7.85.11 PAY ITEM 7.85.11 – CONSTRUCTION OF THE EXTREMITY OF AN 810 mm HIGH LATERAL RIGID BARRIER WITH A 450 mm BASE
- 7.85.11.1 The construction of the extremity of an 810 mm high lateral rigid barrier with a 450 mm base is measured for payment per unit of extremity constructed in accordance with the drawings and specifications and as directed in writing by the Engineer.
 - 7.85.11.2 The price tendered for this pay item shall include, without however being limited to, the following:
 - 7.85.11.2.1 the excavation;
 - 7.85.11.2.2 the supply, preparation and compaction of the MG-20 stone cushion;
 - 7.85.11.2.3 the connections;
 - 7.85.11.2.4 the formwork and tie rods;
 - 7.85.11.2.5 the concrete and placement thereof;
 - 7.85.11.2.6 the galvanized reinforcements steel;
 - 7.85.11.2.7 the asphaltic boards;
 - 7.85.11.2.8 the curing of concrete.
- 7.85.12 PAY ITEM 7.85.12 – BACKFILL CONCRETE BETWEEN RIGID BARRIERS
- 7.85.12.1 The backfill concrete between rigid barriers is measured for payment per m³ of concrete in accordance with the drawings and specifications and as directed in writing by the Engineer.

- 7.85.12.2 The price tendered for this pay item shall include, without however being limited to, the following:
- 7.85.12.2.1 the supply of the concrete;
 - 7.85.12.2.2 the loading and transportation of the concrete;
 - 7.85.12.2.3 the placement and finishing of the concrete.
- 7.85.13 PAY ITEM 7.85.13 – SEMI-RIGID BARRIER WITH SECTION ON STEEL POSTS SPACED AT A DISTANCE OF 1.9 m C/C
- 7.85.13.1 The semi-rigid barrier with section on steel posts spaced at a distance of 1.9 m c/c is measured for payment per m of semi-rigid barrier installed in accordance with the drawings and specifications and as directed in writing by the Engineer.
- 7.85.13.2 The price tendered for this pay item shall include, without however being limited to, the following:
- 7.85.13.2.1 the supply of the posts, spacer blocks, double wave steel sections, accessories and all bolts;
 - 7.85.13.2.2 the excavation, backfilling and leveling;
 - 7.85.13.2.3 the loading and off-site transportation of the excavation materials;
 - 7.85.13.2.4 the disposal of the excavation materials in an authorized site in accordance with subsection 6.13 *Environmental Protection*;
 - 7.85.13.2.5 the supply of a temporary round end and of the retroreflective plates and films;
 - 7.85.13.2.6 the connection to the existing semi-rigid barriers;
 - 7.85.13.2.7 the implementation of the barrier;
 - 7.85.13.2.8 the supply and installation, on the semi-rigid barriers, of the 1.5 m long flexible plastic beacons without anchor screws.
- 7.85.14 PAY ITEM 7.85.14 – SEMI-RIGID BARRIER WITH SECTION ON WOODEN POSTS SPACED AT A DISTANCE OF 1.9 m C/C
- 7.85.14.1 The semi-rigid barrier with section on wooden posts spaced at a distance of 1.9 m c/c is measured for payment per m of semi-rigid barrier installed in accordance with the drawings and specifications and as directed in writing by the Engineer.

- 7.85.14.2 The price tendered for this pay item shall include, without however being limited to, the following:
- 7.85.14.2.1 the supply of the posts, spacer blocks, double wave steel sections, accessories and all bolts;
 - 7.85.14.2.2 the excavation, backfilling and leveling;
 - 7.85.14.2.3 the loading and off-site transportation of the excavation materials;
 - 7.85.14.2.4 the disposal of the excavation materials in an authorized site in accordance with subsection 6.13 *Environmental Protection*;
 - 7.85.14.2.5 the supply of a temporary round end and of the retroreflective plates and films;
 - 7.85.14.2.6 the connection to the existing semi-rigid barriers;
 - 7.85.14.2.7 the implementation of the barrier;
 - 7.85.14.2.8 the supply and installation, on the semi-rigid barriers, of the 1.5 m long flexible plastic beacons without anchor screws.

7.85.15 PAY ITEM 7.85.15 – SEMI-RIGID BARRIER WITH SECTION ON STEEL POSTS SPACED AT A DISTANCE OF 0.95 m C/C

- 7.85.15.1 The semi-rigid barrier with sections on steel posts spaced at a distance of 0.95 m c/c is measured for payment per m of semi-rigid barrier installed in accordance with the drawings and specifications and as directed in writing by the Engineer.
- 7.85.15.2 The price tendered for this pay item shall include, without however being limited to, the following:
- 7.85.15.2.1 the supply of the posts, spacer blocks, double wave steel sections, accessories and all bolts;
 - 7.85.15.2.2 the excavation, backfilling and leveling;
 - 7.85.15.2.3 the loading and off-site transportation of the excavation materials;
 - 7.85.15.2.4 the disposal of the excavation materials in an authorized site in accordance with subsection 6.13 *Environmental Protection*;
 - 7.85.15.2.5 the supply of a temporary round end and of the retroreflective plates and films;
 - 7.85.15.2.6 the connection to the existing semi-rigid barriers;
 - 7.85.15.2.7 the implementation of the barrier;

7.85.15.2.8 the supply and installation, on the semi-rigid barriers, of the 1.5 m long flexible plastic beacons without anchor screws.

7.85.16 PAY ITEM 7.85.16 – SEMI-RIGID BARRIER WITH SECTION ON WOODEN POSTS SPACED AT A DISTANCE OF 0.95 m C/C

7.85.16.1 The semi-rigid barrier with section on wooden posts spaced at a distance of 0.95 m c/c is measured for payment per m of semi-rigid barrier installed in accordance with the drawings and specifications and as directed in writing by the Engineer.

7.85.16.2 The price tendered for this pay item shall include, without however being limited to, the following:

7.85.16.2.1 the supply of the posts, spacer blocks, double wave steel sections, accessories and all bolts;

7.85.16.2.2 the excavation, backfilling and leveling;

7.85.16.2.3 the loading and off-site transportation of the excavation materials;

7.85.16.2.4 the disposal of the excavation materials in an authorized site in accordance with subsection 6.13 *Environmental Protection*;

7.85.16.2.5 the supply of a temporary round end and of the retroreflective plates and films;

7.85.16.2.6 the connection to the existing semi-rigid barriers;

7.85.16.2.7 the implementation of the barrier;

7.85.16.2.8 the supply and installation, on the semi-rigid barriers, of the 1.5 m long flexible plastic beacons without anchor screws.

7.85.17 PAY ITEM 7.85.17 – SEMI-RIGID BARRIER END DEVICES WITH LATERAL DEFLECTION (TYPE L-W/B-1)

7.85.17.1 The semi-rigid barrier end devices with lateral deflection (Type L-W/B-1) are measured for payment per unit of device installed in accordance with the drawings and specifications and as directed in writing by the Engineer.

7.85.17.2 The price tendered for this pay item shall include, without however being limited to, the following:

7.85.17.2.1 the supply of the posts, spacer blocks, double wave steel sections, impact head, anchoring parts, accessories and all bolts;

7.85.17.2.2 the excavation, backfilling and leveling;

7.85.17.2.3 the loading and off-site transportation of the excavation materials;

- 7.85.17.2.4 the disposal of the excavation materials in an authorized site in accordance with subsection 6.13 *Environmental Protection*;
 - 7.85.17.2.5 the supply of a temporary round end and of the retroreflective plates and films;
 - 7.85.17.2.6 the connection to the existing semi-rigid barriers;
 - 7.85.17.2.7 the implementation of the semi-rigid barrier end device.
- 7.85.18 PAY ITEM 7.85.18 – SEMI-RIGID BARRIER END DEVICES WITHOUT LATERAL DEFLECTION (TYPE L-W/B-2)
- 7.85.18.1 The semi-rigid barrier end devices without lateral deflection (Type L-W/B-2) are measured for payment per unit of device installed in accordance with the drawings and specifications and as directed in writing by the Engineer.
 - 7.85.18.2 The price tendered for this pay item shall include, without however being limited to, the following:
 - 7.85.18.2.1 the supply of the posts, spacer blocks, double wave steel sections, impact head, anchoring parts, accessories and all bolts;
 - 7.85.18.2.2 the excavation, backfilling and leveling;
 - 7.85.18.2.3 the loading and off-site transportation of the excavation materials;
 - 7.85.18.2.4 the disposal of the excavation materials in an authorized site in accordance with subsection 6.13 *Environmental Protection*;
 - 7.85.18.2.5 the supply of a temporary round end and of the retroreflective plates and films;
 - 7.85.18.2.6 the connection to the existing semi-rigid barriers;
 - 7.85.18.2.7 the implementation of the semi-rigid barrier end device.
- 7.85.19 PAY ITEM 7.85.19 – SEMI-RIGID BARRIER MEDIAN END DEVICE
- 7.85.19.1 The semi-rigid barrier median end device is measured for payment per unit of device installed in accordance with the drawings and specifications and as directed in writing by the Engineer.
 - 7.85.19.2 The price tendered for this pay item shall include, without however being limited to, the following:
 - 7.85.19.2.1 the supply of the posts, spacer blocks, double wave steel sections, impact head, anchoring parts, accessories and all bolts;

- 7.85.19.2.2 the excavation, backfilling and leveling;
 - 7.85.19.2.3 the loading and off-site transportation of the excavation materials;
 - 7.85.19.2.4 the disposal of the excavation materials in an authorized site in accordance with subsection 6.13 *Environmental Protection*;
 - 7.85.19.2.5 the supply of a temporary round end and of the retroreflective plates and films;
 - 7.85.19.2.6 the connection to the existing semi-rigid barriers;
 - 7.85.19.2.7 the implementation of the median end device.
- 7.85.20 PAY ITEM 7.85.20 – TL-2 OR TL-3 SEMI-RIGID BARRIER STIFFNESS TRANSITIONS
- 7.85.20.1 The TL-2 or TL-3 semi-rigid barrier stiffness transitions are measured for payment per unit of transition installed in accordance with the drawings and specifications and as directed in writing by the Engineer.
 - 7.85.20.2 The price tendered for this pay item shall include, without however being limited to, the following:
 - 7.85.20.2.1 the supply of the posts, wooden and steel posts, spacer blocks, double wave steel sections, flat end, rigid safety barrier and bridge railing connection system, as well as bolts;
 - 7.85.20.2.2 the excavation, backfilling and leveling;
 - 7.85.20.2.3 the loading and off-site transportation of the excavation materials;
 - 7.85.20.2.4 the disposal of the excavation materials in an authorized site in accordance with subsection 6.13 *Environmental Protection*;
 - 7.85.20.2.5 the supply of a temporary round end and of the retroreflective plates and films;
 - 7.85.20.2.6 the implementation of the stiffness transition.
- 7.85.21 PAY ITEM 7.85.21 – SEMI-RIGID BARRIER TAPERED END AND ANCHORING SYSTEM
- 7.85.21.1 The semi-rigid barrier tapered end and anchoring system are measured for payment per unit of semi-rigid barrier tapered end and anchoring system supplied and installed in accordance with the drawings and specifications and as directed in writing by the Engineer.

- 7.85.21.2 The price tendered for this pay item shall include, without however being limited to, the following:
- 7.85.21.2.1 the supply of a tapered end, two (2) posts, anchoring device elements, bumper plates and double wave sections, as well as all bolts;
 - 7.85.21.2.2 the excavation, backfilling and leveling;
 - 7.85.21.2.3 the loading and off-site transportation of the excavation materials;
 - 7.85.21.2.4 the disposal of the excavation materials in an authorized site in accordance with subsection 6.13 *Environmental Protection*;
 - 7.85.21.2.5 the supply of a temporary round end and of the retroreflective plates and films;
 - 7.85.21.2.6 the implementation of the tapered end.
- 7.85.22 PAY ITEM 7.85.22 – SEMI-RIGID BARRIER FLAT END WITH CONNECTION SYSTEM
- 7.85.22.1 The semi-rigid barrier flat end with connection system is measured for payment per unit of semi-rigid barrier flat end with connection system installed in accordance with the drawings and specifications and as directed in writing by the Engineer.
 - 7.85.22.2 The price tendered for this pay item shall include, without however being limited to, the following:
 - 7.85.22.2.1 the supply of a flat end, connecting plate, reinforcement plates, fastening elements, shims, bracing, collapsible tubes and all bolts required for the connection;
 - 7.85.22.2.2 the implementation of the flat end.
 - 7.85.22.3 When such connection requires overlapping of the double wave section on a concrete rigid barrier and bridge concrete barrier, such overlap shall be included in the price of the semi-rigid barrier flat end with connection system.
- 7.85.23 PAY ITEM 7.85.23 – CONNECTION BETWEEN A SEMI-RIGID BARRIER AND A RIGID BARRIER WITH CONSTRUCTION OF THE END PIECE
- 7.85.23.1 The connection between a semi-rigid barrier and a rigid barrier with construction of the end piece is measured for payment per unit of connection between a semi-rigid barrier and a rigid barrier with construction of the end piece performed in accordance with the drawings and specifications and as directed in writing by the Engineer.

7.85.23.2 The price tendered for this pay item shall include, without however being limited to, the following:

7.85.23.2.1 the supply of the specific materials, notably the flat end, connecting and reinforcement plates, fastening elements, shims, braces, collapsible tubes and all bolts required for the connection;

7.85.23.2.2 the implementation of the connection.

7.85.24 PAY ITEM 7.85.24 – CONNECTION BETWEEN A SEMI-RIGID BARRIER AND A BRIDGE RAILING

7.85.24.1 The connection between a semi-rigid barrier and a bridge railing is measured for payment per unit of connection between a semi-rigid barrier and a bridge railing performed in accordance with the drawings and specifications and as directed in writing by the Engineer.

7.85.24.2 The price tendered for this pay item shall include, without however being limited to, the following:

7.85.24.2.1 the supply of the specific materials, notably the flat end, double wave sections for the overlapping of the connecting and reinforcement plates, fastening elements, shims, braces, spacer blocks and all bolts required for the connection;

7.85.24.2.2 the implementation of the connection.

7.85.25 PAY ITEM 7.85.25 – TL-2 IMPACT ATTENUATORS

7.85.25.1 The TL-2 impact attenuators are measured for payment per unit of impact attenuator installed in accordance with the drawings and specifications and as directed in writing by the Engineer.

7.85.25.2 The price tendered for this pay item shall include, without however being limited to, the following:

7.85.25.2.1 the construction of the reinforced concrete slab with or without a stop, when required according to the attenuator model;

7.85.25.2.2 the preparation and revisions of a plan for the layout of the impact attenuator showing the existing installation conditions;

7.85.25.2.3 the supply of the impact attenuator and of all specific materials, including, without limitation, the transition pieces and the pieces required for the connection to the rigid or semi-rigid barrier with double wave section, as well as the ground anchors and canvases;

7.85.25.2.4 the implementation of the impact attenuator;

7.85.25.2.5 the certification by the Contractor's engineer that the impact attenuator is installed in accordance with the manufacturer's recommendations.

7.85.26 PAY ITEM 7.85.26 – TL-3 IMPACT ATTENUATORS

7.85.26.1 The TL-3 impact attenuators are measured for payment per unit of impact attenuator installed in accordance with the drawings and specifications and as directed in writing by the Engineer.

7.85.26.2 The price tendered for this pay item shall include, without however being limited to, the following:

7.85.26.2.1 the construction of the reinforced concrete slab with or without a stop, when required according to the attenuator model;

7.85.26.2.2 the preparation and revisions of a plan for the layout of the impact attenuator showing the existing installation conditions;

7.85.26.2.3 the supply of the impact attenuator and of all specific materials, including, without limitation, the transition pieces and the pieces required for the connection to the rigid or semi-rigid barrier with double wave section, as well as the ground anchors and canvases;

7.85.26.2.4 the implementation of the impact attenuator;

7.85.26.2.5 the certification by the Contractor's engineer that the impact attenuator is installed in accordance with the manufacturer's recommendations.

7.85.27 PAY ITEM 7.85.27 – 1.8 m HIGH ANTI-CLIMB STEEL CHAIN LINK FENCE

7.85.27.1 The 1.8 m high anti-climb steel chain link fence is measured for payment per m of fence installed in accordance with the drawings and specifications and as directed in writing by the Engineer.

7.85.27.2 The price tendered for this pay item shall include, without however being limited to, the following:

7.85.27.2.1 the excavation and grubbing over a width of 3 m;

7.85.27.2.2 the supply of all components as well as transportation and implementation thereof;

7.85.27.2.3 the connections to the fences or other existing elements;

7.85.27.2.4 the backfilling and leveling of the finished ground around the fences.

7.85.28 PAY ITEM 7.85.28 – 2.4 m HIGH ANTI-CLIMB STEEL CHAIN LINK FENCE

7.85.28.1 The 2.4 m high anti-climb steel chain link fence is measured for payment per m of fence installed in accordance with the drawings and specifications and as directed in writing by the Engineer.

7.85.28.2 The price tendered for this pay item shall include, without however being limited to, the following:

7.85.28.2.1 the excavation and grubbing over a width of 3 m;

7.85.28.2.2 the supply of all components as well as transportation and implementation thereof;

7.85.28.2.3 the connections to the fences or other existing elements;

7.85.28.2.4 the backfilling and leveling of the finished ground around the fences.

7.85.29 PAY ITEM 7.85.29 – CHAIN LINK BARRIERS

7.85.29.1 The chain link barriers are measured for payment per unit of barrier installed in accordance with the drawings and specifications and as directed in writing by the Engineer.

7.85.29.2 The price tendered for this pay item shall include, without however being limited to, the following:

7.85.29.2.1 the supply and installation of the barrier, posts and anchors;

7.85.29.2.2 the supply and installation of the latch to lock the barrier;

7.85.29.2.3 the supply of all components as well as transportation and implementation thereof.

7.85.30 PAY ITEM 7.85.30 – 1.4 m HIGH TREATED WOOD RAILING FOR BICYCLE PATH

7.85.30.1 The 1.4 m high treated wood railing for bicycle path is measured for payment per m of railing installed in accordance with the drawings and specifications and as directed in writing by the Engineer.

7.85.30.2 The price tendered for this pay item shall include, without however being limited to, the following:

7.85.30.2.1 the supply of all the railing components and transportation on-site thereof;

7.85.30.2.2 the implementation of the railing including the excavation, grubbing, backfilling and leveling of the finished ground.

7.86 SEWERS AND DRAINAGE

7.86.1 PAY ITEM 7.86.1 – 150 mm PERFORATED DRAIN AND GEOTEXTILE

- 7.86.1.1 The 150 mm perforated drain and geotextile are measured for payment per m of 150 mm drain and geotextile installed in accordance with the drawings and specifications and as directed in writing by the Engineer.
- 7.86.1.2 The price tendered for this pay item shall include, without however being limited to, the following:
- 7.86.1.2.1 the supply of the 150 mm perforated drain and geotextile;
 - 7.86.1.2.2 the excavation;
 - 7.86.1.2.3 the preparation of the base and support cushion;
 - 7.86.1.2.4 the installation of the perforated drain, connections, couplings and connections to catch basins or manholes;
 - 7.86.1.2.5 the tests;
 - 7.86.1.2.6 the backfilling of the trench with filter materials to the subgrade level and backfilling of the other layers of materials to reach the same level as that existing before the drain excavation.

7.86.2 PAY ITEM 7.86.2 – 300 mm DIAMETER HDPE CORRUGATED CATCH BASINS

- 7.86.2.1 The 300 mm diameter HDPE corrugated catch basins are measured for payment per unit of HDPE corrugated catch basin installed in accordance with the drawings and specifications and as directed in writing by the Engineer.
- 7.86.2.2 The price tendered for this pay item shall include, without however being limited to, the following:
- 7.86.2.2.1 the supply of the HDPE corrugated catch basin;
 - 7.86.2.2.2 the excavation;
 - 7.86.2.2.3 the loading and off-site transportation of the excavation surplus;
 - 7.86.2.2.4 the disposal of the excavation surplus in an authorized site in accordance with subsection 6.13 *Environmental Protection*;
 - 7.86.2.2.5 the preparation and supply of the support cushion;
 - 7.86.2.2.6 the supply and installation of all catch basin components;

- 7.86.2.2.7 the temporary support and water pumping;
- 7.86.2.2.8 the backfilling of the excavation to the subgrade level or to the finished ground.
- 7.86.3 PAY ITEM 7.86.3 – 450 mm DIAMETER HDPE PIPE
 - 7.86.3.1 The 450 mm diameter HDPE pipe is measured for payment per m of 450 mm diameter HDPE pipe installed in accordance with the drawings and specifications and as directed in writing by the Engineer.
 - 7.86.3.2 The price tendered for this pay item shall include, without however being limited to, the following:
 - 7.86.3.2.1 the supply of the HDPE pipe;
 - 7.86.3.2.2 the excavation;
 - 7.86.3.2.3 the loading and off-site transportation of the excavation surplus;
 - 7.86.3.2.4 the disposal of the excavation surplus in an authorized site in accordance with subsection 6.13 *Environmental Protection*;
 - 7.86.3.2.5 the preparation and supply of the support cushion;
 - 7.86.3.2.6 the supply and installation of all components of the pipe, including, without limitation, the beveled pieces;
 - 7.86.3.2.7 the temporary support and water pumping;
 - 7.86.3.2.8 the backfilling of the excavation to the subgrade level or to the finished ground.
- 7.86.4 PAY ITEM 7.86.4 – 600 mm DIAMETER PRECAST CONCRETE CATCH BASINS
 - 7.86.4.1 The 600 mm diameter precast concrete catch basins are measured for payment per unit of 600 mm diameter precast concrete catch basin installed in accordance with the drawings and specifications and as directed in writing by the Engineer.
 - 7.86.4.2 The price tendered for this pay item shall include, without however being limited to, the following:
 - 7.86.4.2.1 the supply of the precast concrete catch basin;
 - 7.86.4.2.2 the excavation;
 - 7.86.4.2.3 the loading and off-site transportation of the excavation surplus;

- 7.86.4.2.4 the disposal of the excavation surplus in an authorized site in accordance with subsection 6.13 *Environmental Protection*;
 - 7.86.4.2.5 the preparation and supply of the support cushion;
 - 7.86.4.2.6 the supply and installation of all catch basin components, including, without limitation, the waterproof seals, geotextile membrane, frame and rectangular grid, head and cast iron bell;
 - 7.86.4.2.7 the adjustments and all connections;
 - 7.86.4.2.8 the temporary support and water pumping;
 - 7.86.4.2.9 the backfilling of the excavation with MG-20 stone including, without limitation, the granular backfill of the element, to the finished level.
- 7.86.5 PAY ITEM 7.86.5 – 900 mm DIAMETER PRECAST CONCRETE CATCH BASINS
- 7.86.5.1 The 900 mm diameter precast concrete catch basins are measured for payment per unit of 900 mm diameter precast concrete catch basin installed in accordance with the drawings and specifications and as directed in writing by the Engineer.
 - 7.86.5.2 The price tendered for this pay item shall include, without however being limited to, the following:
 - 7.86.5.2.1 the supply of the precast concrete catch basin;
 - 7.86.5.2.2 the excavation;
 - 7.86.5.2.3 the loading and off-site transportation of the excavation surplus;
 - 7.86.5.2.4 the disposal of the excavation surplus in an authorized site in accordance with subsection 6.13 *Environmental Protection*;
 - 7.86.5.2.5 the preparation and supply of the support cushion;
 - 7.86.5.2.6 the supply and installation of all catch basin components, including, without limitation, the waterproof seals, geotextile membrane, frame and rectangular grid, head and cast iron bell;
 - 7.86.5.2.7 the adjustments and all connections;
 - 7.86.5.2.8 the temporary support and water pumping;
 - 7.86.5.2.9 the backfilling of the excavation with MG-20 stone including, without limitation, the granular backfill of the element, to the finished level.

7.86.6 PAY ITEM 7.86.6 – PRECAST CONCRETE MANHOLES

7.86.6.1 The precast concrete manholes whose different “X” mm diameters are specified in the Price Table are measured for payment per unit of manhole installed in accordance with the drawings and specifications and as directed in writing by the Engineer.

7.86.6.2 The price tendered for this pay item shall include, without however being limited to, the following:

7.86.6.2.1 the supply of the precast concrete manhole;

7.86.6.2.2 the excavation;

7.86.6.2.3 the loading and off-site transportation of the excavation surplus;

7.86.6.2.4 the disposal of the excavation surplus in an authorized site in accordance with subsection 6.13 *Environmental Protection*;

7.86.6.2.5 the preparation and supply of the support cushion;

7.86.6.2.6 the supply and installation of all manhole components, including, without limitation, the safety stops, granite plate at the bottom of the manhole, waterproof seals, deflectors, geotextile membrane, frame and 775 mm diameter circular cover;

7.86.6.2.7 the adjustments and all connections;

7.86.6.2.8 the temporary support and water pumping;

7.86.6.2.9 the backfilling of the excavation with MG-20 stone including, without limitation, the granular backfill of the element, to the finished level.

7.86.7 PAY ITEM 7.86.7 – PRECAST CONCRETE MANHOLES-CATCH BASINS “X” mm

7.86.7.1 The precast concrete manholes-catch basins whose different “X” mm diameters are specified in the Price Table are measured for payment per unit of manhole-catch basin installed in accordance with the drawings and specifications and as directed in writing by the Engineer.

7.86.7.2 The price tendered for this pay item shall include, without however being limited to, the following:

7.86.7.2.1 the supply of the precast concrete manhole-catch basin;

7.86.7.2.2 the excavation;

7.86.7.2.3 the loading and off-site transportation of the excavation surplus;

- 7.86.7.2.4 the disposal of the excavation surplus in an authorized site in accordance with subsection 6.13 *Environmental Protection*;
- 7.86.7.2.5 the preparation and supply of the support cushion;
- 7.86.7.2.6 the supply and installation of all manhole-catch basin components, including, without limitation, the waterproof seals, geotextile membrane, frame and 775 mm diameter circular grid, iron cast bell, safety stops, granite plate at the bottom of the manhole, deflectors;
- 7.86.7.2.7 the adjustments and all connections;
- 7.86.7.2.8 the temporary support and water pumping;
- 7.86.7.2.9 the backfilling of the excavation with MG-20 stone including, without limitation, the granular backfill of the element, to the finished level.
- 7.86.8 PAY ITEM 7.86.8 – DR 35 PVC PIPE “X” mm
- 7.86.8.1 The DR 35 PVC pipe whose different “X” mm diameters are specified in the Price Table is measured for payment per m of PVC pipe installed in accordance with the drawings and specifications and as directed in writing by the Engineer.
- 7.86.8.2 The price tendered for this pay item shall include, without however being limited to, the following:
 - 7.86.8.2.1 the supply of the pipes;
 - 7.86.8.2.2 the excavation;
 - 7.86.8.2.3 the preparation of the base, support cushion and backfill;
 - 7.86.8.2.4 all connections;
 - 7.86.8.2.5 the temporary support and water pumping;
 - 7.86.8.2.6 the backfilling of the excavation to the subgrade level or to the finished ground.
- 7.86.8.3 The measurement for payment shall be performed continuously from the central axis of the pipes to the center of the manholes, catch basins and other pipes to which they are connected or, if they are not connected, to the ends of the pipes. When the ends of a pipe are beveled, the measurement shall be taken from the bottom of the pipe.
- 7.86.9 PAY ITEM 7.86.9 – CLASS III RCP “X” mm
- 7.86.10 PAY ITEM 7.86.10 – CLASS IV RCP “X” mm

7.86.11 PAY ITEM 7.86.11 – CLASS V RCP “X” mm

7.86.11.1 The Classes III, IV and V reinforced concrete pipes (RCP) whose different “X” mm diameters are indicated in the Price Table are measured for payment per m of pipe installed in accordance with the drawings and specifications and as directed in writing by the Engineer.

7.86.11.2 The price tendered for this pay item shall include, without however being limited to, the following:

7.86.11.2.1 the supply of the pipes;

7.86.11.2.2 the excavation;

7.86.11.2.3 the temporary support and water pumping;

7.86.11.2.4 the preparation of the base, support cushion and backfill;

7.86.11.2.5 the placement of the RCP pipe;

7.86.11.2.6 all connections;

7.86.11.2.7 the supply and placement of the geotextile membrane around the joints between the sections of a pipe;

7.86.11.2.8 the backfilling of the excavations to the subgrade or to the finished level.

7.86.11.3 The measurement for payment shall be performed continuously from the central axis of the pipes to the center of the manholes, manholes-catch basins, catch basins and other pipes to which they are connected or, if they are not connected, to the ends of the pipes. When the ends of a pipe are beveled, the measurement shall be taken from the bottom of the pipe.

7.86.12 PAY ITEM 7.86.12 – CONCRETE BEVELED END PIECES FOR RCP “X” mm

7.86.12.1 The concrete beveled end pieces for RCP whose different “X” mm diameters are specified in the Price Table are measured for payment per unit of beveled end pieces installed in accordance with the drawings and specifications and as directed in writing by the Engineer.

7.86.12.2 The price tendered for this pay item shall include, without however being limited to, the following:

7.86.12.2.1 the supply of the precast concrete beveled end piece;

7.86.12.2.2 the excavation;

7.86.12.2.3 the temporary support and water pumping;

- 7.86.12.2.4 the preparation of the base and support cushion;
- 7.86.12.2.5 the placement of the beveled end pieces;
- 7.86.12.2.6 all connections;
- 7.86.12.2.7 the backfilling of the excavations to the subgrade or to the finished level.

7.86.13 PAY ITEM 7.86.13 – REINFORCED CONCRETE CUT-OFF WALL

- 7.86.13.1 The reinforced concrete cut-off wall is measured for payment per m³ of concrete cut-off wall cast in accordance with the drawings and specifications and as directed in writing by the Engineer.
- 7.86.13.2 The price tendered for this pay item shall include, without however being limited to, the following:
 - 7.86.13.2.1 the supply and placement of both the concrete and the reinforcement;
 - 7.86.13.2.2 the excavation;
 - 7.86.13.2.3 the temporary support and water pumping;
 - 7.86.13.2.4 the preparation of the base and support cushion;
 - 7.86.13.2.5 the backfilling of the excavations to the subgrade or to the finished level.

7.86.14 PAY ITEM 7.86.14 – 100-200 mm RIPRAP TREATMENT

- 7.86.14.1 The 100-200 mm riprap treatment is measured for payment per m of riprap treatment supplied and placed in accordance with the drawings and specifications and as directed in writing by the Engineer.
- 7.86.14.2 The price tendered for this pay item shall include, without however being limited to, the following:
 - 7.86.14.2.1 the excavation;
 - 7.86.14.2.2 the preparation of the base;
 - 7.86.14.2.3 the supply and placement of the 100-200 mm riprap treatment and geotextile membrane.

7.86.15 PAY ITEM 7.86.15 – CAST-IN-PLACE JOINT BLOCKS FOR EXISTING PIPE

7.86.15.1 The cast-in-place joint blocks for existing pipe are measured for payment per unit of joint block installed in accordance with the drawings and specifications and as directed in writing by the Engineer.

7.86.15.2 The price tendered for this pay item shall include, without however being limited to, the following:

7.86.15.2.1 the sawing of the pipes in order for the surfaces to be parallel and in contact;

7.86.15.2.2 the supply and placement of the seal and installation of the formwork;

7.86.15.2.3 the cleaning of the surfaces;

7.86.15.2.4 the preparation of the base and support cushion;

7.86.15.2.5 the supply and placement of the concrete;

7.86.15.2.6 the curing of concrete;

7.86.15.2.7 the formwork removal;

7.86.15.2.8 the backfilling of the excavations to the subgrade or to the finished level.

7.86.16 PAY ITEM 7.86.16 – CAST-IN-PLACE JOINT BLOCKS FOR EXISTING MANHOLE

7.86.16.1 The cast-in-place joint blocks for existing manhole are measured for payment per unit of joint block installed in accordance with the drawings and specifications and as directed in writing by the Engineer.

7.86.16.2 The price tendered for this pay item shall include, without however being limited to, the following:

7.86.16.2.1 the execution of the opening in the existing manhole by means of sawing or drilling;

7.86.16.2.2 the supply and placement of the seal and of the non-shrink mortar to ensure the tightness of the connection, as well as installation of the formwork;

7.86.16.2.3 the cleaning of the surfaces;

7.86.16.2.4 the preparation of the base and support cushion;

7.86.16.2.5 the supply and placement of the concrete;

7.86.16.2.6 the curing of concrete;

- 7.86.16.2.7 the formwork removal;
- 7.86.16.2.8 the backfilling of the excavations to the subgrade or to the finished level.

7.87 EARTHWORKS

7.87.1 PAY ITEM 7.87.1 – CLASS 1 EXCAVATION

- 7.87.1.1 The Class 1 excavation is measured for payment per m³ of Class 1 excavation carried out in accordance with the drawings and specifications and as directed in writing by the Engineer.
- 7.87.1.2 The excavation volume shall be established in advance by the average end area method, taking as a basis the sound rock survey and the theoretical lines of the earthworks. The original position of the sound rock shall be determined before the beginning of the Class 1 excavation.
- 7.87.1.3 The price tendered for this pay item shall include, without however being limited to, the following:
 - 7.87.1.3.1 the excavation of the Class 1 materials;
 - 7.87.1.3.2 the loading, transportation and sorting of the excavated materials;
 - 7.87.1.3.3 the implementation in the embankments;
 - 7.87.1.3.4 the compaction of the natural soil and bottom course;
 - 7.87.1.3.5 the disposal of the excavation materials in an authorized site or stockpiling in accordance with subsection 6.13 *Environmental Protection*;
 - 7.87.1.3.6 the broken rock left in place as sub-base material, profiling and compaction.
- 7.87.1.4 The rocks larger than one (1) m³, fragmented to the dimensions required for use thereof and payable as Class 1 excavation shall be measured before fragmentation as follows: height x width x length x 2/3.
- 7.87.1.5 No Class 1 excavations shall be payable outside the lines indicated on the drawings. However, if the Engineer decides to add extra width or depth to the excavations, the quantities of Class 1 excavations shall be established from measurements taken on site.

7.87.2 PAY ITEM 7.87.2 – CLASS 2 EXCAVATION

- 7.87.2.1 The Class 2 excavation is measured for payment per m³ of Class 2 excavation carried out in accordance with the drawings and specifications and as directed in writing by the Engineer.

- 7.87.2.2 The excavation volume shall be established in advance by the average end area method, taking as a basis the natural ground and the theoretical lines of the earthworks. The original position of the natural ground shall be determined before the removal of the stumps, and the volume thereof shall not be measured. Inside the excavations, the demolition or excavation volumes payable under other pay items shall be subtracted from the Class 2 excavation volume.
- 7.87.2.3 The price tendered for this pay item shall include, without however being limited to, the following:
- 7.87.2.3.1 the temporary support;
 - 7.87.2.3.2 the water pumping;
 - 7.87.2.3.3 the implementation and excavation of the materials;
 - 7.87.2.3.4 the loading, transportation, sorting and stockpiling of the closure materials of the top of the required backfills;
 - 7.87.2.3.5 the implementation in the backfills;
 - 7.87.2.3.6 the compaction of the natural soil and bottom course;
 - 7.87.2.3.7 the stump removal;
 - 7.87.2.3.8 the disposal of the excavation materials in an authorized site or stockpiling in accordance with subsection 6.13 *Environmental Protection*.
- 7.87.2.4 No Class 2 excavations shall be payable outside the lines indicated on the drawings and in the specifications. However, if the Engineer decides to add extra width or depth to the excavations, the quantities of Class 2 excavations shall be established from measurements taken on site.
- 7.87.3 PAY ITEM 7.87.3 – GEOGRID
- 7.87.3.1 The geogrid is measured for payment per m² of geogrid placed in accordance with the drawings and specifications and as directed in writing by the Engineer.
- 7.87.3.2 The price tendered for this pay item shall include, without however being limited to, the following:
- 7.87.3.2.1 the supply and placement of the geogrid according to the actual surface covered, without addition for overlaps;
 - 7.87.3.2.2 the storage, handling and transportation;
 - 7.87.3.2.3 the layers assembly;

- 7.87.3.2.4 the fixing rods, if required;
- 7.87.3.2.5 the placement and cutting of the geogrid at the elements in conflict therewith;
- 7.87.3.2.6 the cleaning and leveling.

7.87.4 PAY ITEM 7.87.4 – GEOTEXTILE

- 7.87.4.1 The geotextile is measured for payment per m² of geotextile placed in accordance with the drawings and specifications and as directed in writing by the Engineer.
- 7.87.4.2 The price tendered for this pay item shall include, without however being limited to, the following:
 - 7.87.4.2.1 the supply and placement of the geotextile according to the actual surface covered, without addition for overlaps;
 - 7.87.4.2.2 the storage, handling and transportation;
 - 7.87.4.2.3 the layers assembly;
 - 7.87.4.2.4 the fixing rods, if required;
 - 7.87.4.2.5 the cleaning and leveling.

7.87.5 PAY ITEM 7.87.5 – WATERPROOF MEMBRANE

- 7.87.5.1 The waterproof membrane is measured for payment per m² of membrane placed in accordance with the drawings and specifications and as directed in writing by the Engineer.
- 7.87.5.2 The price tendered for this pay item shall include, without however being limited to, the following:
 - 7.87.5.2.1 the supply and placement of the membrane;
 - 7.87.5.2.2 the storage, handling and transportation;
 - 7.87.5.2.3 the assembly and fusion between the layers to make them perfectly waterproof;
 - 7.87.5.2.4 the connection to the culvert ends, which is indicated on the drawings;
 - 7.87.5.2.5 all work and materials required to carry out the required connection to the culvert ends, when required;
 - 7.87.5.2.6 the in-situ leak tests;

7.87.5.2.7 the cleaning and leveling.

7.87.6 PAY ITEM 7.87.6 – 50-150 mm STONE PROTECTIVE COVER WITH GEOTEXTILE

7.87.6.1 The 50-150 mm stone protective cover with geotextile is measured for payment per m² of surface covered with geotextile and stones in accordance with the drawings and specifications and as directed in writing by the Engineer.

7.87.6.2 The price tendered for this pay item shall include, without however being limited to, the following:

7.87.6.2.1 the excavation;

7.87.6.2.2 the preparation of the surface to be covered;

7.87.6.2.3 the supply and placement of the Type V geotextile membrane and stone protective cover.

7.87.7 PAY ITEM 7.87.7 – 100-200 mm STONE PROTECTIVE COVER WITH GEOTEXTILE

7.87.7.1 The 100-200 mm stone protective cover with geotextile is measured for payment per m² of surface covered with geotextile and stones in accordance with the drawings and specifications and as directed in writing by the Engineer.

7.87.7.2 The price tendered for this pay item shall include, without however being limited to, the following:

7.87.7.2.1 the excavation;

7.87.7.2.2 the preparation of the surface to be covered;

7.87.7.2.3 the supply and placement of the Type V geotextile membrane and stone protective cover.

7.87.8 PAY ITEM 7.87.8 – 200-300 mm STONE PROTECTIVE COVER WITH GEOTEXTILE

7.87.8.1 The 200-300 mm stone protective cover with geotextile is measured for payment per m² of surface covered with geotextile and stones in accordance with the drawings and specifications and as directed in writing by the Engineer.

7.87.8.2 The price tendered for this pay item shall include, without however being limited to, the following:

7.87.8.2.1 the excavation;

7.87.8.2.2 the preparation of the surface to be covered;

7.87.8.2.3 the supply and placement of the Type V geotextile membrane and stone protective cover.

7.87.9 PAY ITEM 7.87.9 – 300-500 mm STONE PROTECTIVE COVER WITH GEOTEXTILE

7.87.9.1 The 300-500 mm stone protective cover with geotextile is measured for payment per m² of surface covered with geotextile and stones in accordance with the drawings and specifications and as directed in writing by the Engineer.

7.87.9.2 The price tendered for this pay item shall include, without however being limited to, the following:

7.87.9.2.1 the excavation;

7.87.9.2.2 the preparation of the surface to be covered;

7.87.9.2.3 the supply and placement of the Type V geotextile membrane and stone protective cover.

7.88 DIRECTIONAL DRILLING

7.88.1 PAY ITEM 7.88.1 – DIRECTIONAL DRILLING

7.88.1.1 The directional drilling is measured for payment per m of drilling carried out in accordance with the drawings and specifications and as directed in writing by the Engineer.

7.88.1.2 The price tendered for this pay item shall include, without however being limited to, the following:

7.88.1.2.1 the study of the geotechnical report;

7.88.1.2.2 the provision of a report describing the working method;

7.88.1.2.3 the site inspection before the commencement of the work;

7.88.1.2.4 the localization of the public utilities and of the Owner's services;

7.88.1.2.5 the supply of the pipes;

7.88.1.2.6 the supply of the specific equipment, products and tools required to carry out the drilling;

7.88.1.2.7 the drilling and installation of the pipe, including the welding and connections;

7.88.1.2.8 the loading and off-site transportation of the drilling mud;

7.88.1.2.9 the disposal of the drilling mud in an authorized site in accordance with subsection 6.13 *Environmental Protection*.

7.88.1.3 The excavation and backfilling shall be payable under Pay Item 7.87 *Earthworks* of the Price Table.

7.89 LANDSCAPING

7.89.1 PAY ITEM 7.89.1 – TYPE 1 TOPSOIL (THICKNESS OF 100 mm)

7.89.1.1 The Type 1 topsoil (thickness of 100 mm) is measured for payment per m² of Type 1 topsoil supplied and layed in accordance with the drawings and specifications and as directed in writing by the Engineer.

7.89.1.2 The price tendered for this pay item shall include, without however being limited to, the following:

7.89.1.2.1 the supply and laying of the topsoil based on the slopes of the terrain;

7.89.1.2.2 the loading, transportation, spreading and leveling;

7.89.1.2.3 the removal of stones, woody debris and waste.

7.89.2 PAY ITEM 7.89.2 – HYDROSEEDING

7.89.2.1 The hydroseeding is measured for payment per m² of surface seeded in accordance with the drawings and specifications and as directed in writing by the Engineer.

7.89.2.2 The price tendered for this pay item shall include, without however being limited to, the following:

7.89.2.2.1 the supply and laying of the specific material to be used based on the slopes of the terrain;

7.89.2.2.2 the loading, transportation and spreading;

7.89.2.2.3 the implementation and resumption of sodding on the surface sections covered with less than 75% of shoots with a height of 150 mm and less;

7.89.2.2.4 the maintenance of the seeded surfaces.

7.89.3 PAY ITEM 7.89.3 – ANCHORED ROLL-OUT TURF

7.89.3.1 The anchored roll-out turf is measured for payment per m² of anchored roll-out turf in accordance with the drawings and specifications and as directed in writing by the Engineer.

- 7.89.3.2 The price tendered for this pay item shall include, without however being limited to, the following:
- 7.89.3.2.1 the supply and laying of the specific material to be used based on the slopes of the terrain;
 - 7.89.3.2.2 the loading, transportation and unloading;
 - 7.89.3.2.3 the compaction of the topsoil, uniform spreading of fertilizer, compaction of the grass roll-out turf and watering;
 - 7.89.3.2.4 the ground anchoring of the grass roll-out turf with five (5) stakes per m²;
 - 7.89.3.2.5 the resumption of sodding on the surface sections covered with less than 75% of shoots with a height of 150 mm and less;
 - 7.89.3.2.6 the maintenance of the turfed surfaces.

7.89.4 PAY ITEM 7.89.4 – ROLL-OUT TURF

- 7.89.4.1 The roll-out turf is measured for payment per m² of roll-out turf in accordance with the drawings and specifications and as directed in writing by the Engineer.
- 7.89.4.2 The price tendered for this pay item shall include, without however being limited to, the following:
- 7.89.4.2.1 the supply and laying of the specific material to be used based on the slopes of the terrain;
 - 7.89.4.2.2 the loading, transportation and unloading;
 - 7.89.4.2.3 the compaction of the topsoil, uniform spreading of fertilizer, compaction of the grass roll-out turf and watering;
 - 7.89.4.2.4 the resumption of sodding on the surface sections covered with less than 75% of shoots with a height of 150 mm and less;
 - 7.89.4.2.5 the maintenance of the turfed surfaces.

7.90 MAINTENANCE WORK

7.91 MANUAL AND MECHANICAL PATCHING WITH HOT-MIX ASPHALT

- 7.91.1 Subsection 6.91 is not the subject of any standard pay item.

7.92 SEALING OF ASPHALT PAVEMENT CRACKS

7.92.1 Subsection 6.92 is not the subject of any standard pay item.

7.93 ROAD SWEEPING AND CLEANING OF MANHOLES, CATCH BASINS AND CONSTRUCTION ELEMENTS

7.93.1 Subsection 6.93 is not the subject of any standard pay item.

7.94 SNOW REMOVAL AND SPREADING AND SUPPLY OF DE-ICING AND ABRASIVES

7.94.1 Subsection 6.94 is not the subject of any standard pay item.

7.95 LAWN MAINTENANCE

7.95.1 Subsection 6.95 is not the subject of any standard pay item.

7.96 MAINTENANCE OF THE BARRIER EXTENSIONS AND ANTI-GLARE SCREENS

7.96.1 Subsection 6.96 is not the subject of any standard pay item.

END OF SECTION