



STANDARD SCHEDULE OF RATES FOR

BUILDING WORKS,

CIVIL ENGINEERING WORKS AND

ELECTRICAL WORKS

(JAN 2020 EDITION)



STANDARD SCHEDULE OF RATES

FOR

BUILDING WORKS

(JAN 2020 EDITION)

GENERAL PREAMBLES

Introduction

- 1.1 The clauses in the General Preambles shall apply to all work items contained in the Standard Schedule of Rates.
- 1.2 The Particular Preambles to each Trade shall be read in conjunction with the respective Trade in the Standard Schedule of Rates.
- 1.3 All rates include the allowances for complying with the General and Particular Preambles.
- 2 All rates contained in the Standard Schedule of Rates are fixed basic rates (in Singapore Currency) and no amendment whatsoever shall be made to such rates. The tenderers shall be deemed to have closely studied all rates contained herein and duly noted their implications.
- 3 All rates contained in this Standard Schedule of Rates are exclusive of any Goods and Services Tax. Any such Goods and Services Tax shall be borne by the HDB as and when the same becomes due and payable.
- 4 All work, materials and goods described in this Standard Schedule of Rates shall be of the respective kinds described in the Contract and in accordance with the instructions of the Superintending Officer or the Superintending Officer's Representative.
- 5 Headings to groups of items shall be read as part of the descriptions of the items to which the headings apply.
- 6 Where brand/trade names are given in the descriptions, they are solely intended for fixing the rates of the items. The products and materials to be used in the contract shall be governed by the specifications, Drawings and other documents forming the contract (and not this Schedule of Rates).

Description of Works and Inclusions

- 7 Unless specifically stated otherwise, the following shall be deemed to be included in the description of the item of work:-
 - a) Labour and all costs in connection therewith including the labour in fabricating, assembling, setting, fitting and fixing of materials and goods in position.

GENERAL PREAMBLES

Description of Works and Inclusions (Cont'd)

- b) Materials and goods including materials required for lapping, jointing and the like and all costs in connection therewith such as delivery, unloading, storing, returning of packings, handling, hoisting and lowering.
- c) Preparing surfaces to receive work.
- d) Protecting materials and work.
- e) Waste of materials.
- f) All cutting and waste.
- g) Use of construction equipment, tools, vehicles and all costs in connection therewith.
- h) Cleaning up on completion and making good all work disturbed.
- i) General requirements set out in the Specifications, Drawings and other documents forming the Contract.
- j) Establishment charges, overhead and profit.

8 Unless otherwise stated, all work shall be measured net as fixed in its place.

9 Where minimum deductions of voids are dealt with in this document they shall refer only to openings or voids which are within the boundaries of measured area. Openings or voids which are at the boundaries of measured area shall always be the subject of deductions irrespective of size.

Billing of Quantities

10.1 Where the unit of measurement is the linear metre, square metre and cubic metre, quantities shall be billed to the nearest whole unit. Fractions of the unit less than half shall be disregarded and all other fractions shall be regarded as a whole unit.

GENERAL PREAMBLES

Billing of Quantities (Cont'd)

- 10.2 Where the unit of measurement is the kilogramme, quantities shall be billed to the nearest whole unit. Fractions of a unit less than half shall be disregarded and all other fractions shall be regarded as a whole unit. Where the unit of billing is the tonne or litre, quantities shall be billed to the nearest two places of decimals.
- 10.3 Where the unit of measurement is the hour, fractions of the unit shall be billed to the nearest next half hour.
- 10.4 Where the application of clauses 10.1 and 10.2 would cause an entire item to be eliminated, such item shall be billed to the nearest two places of decimals.
- 11 Where rates with descriptions pertain to the same purpose are listed in more than one Standard Schedule of Rates incorporated in the Contract; the rate as listed in the following schedules (in the stated order of precedence) shall prevail:-
- | | | |
|----------------|---|--|
| 1st Precedence | - | Standard Schedule of Rates for Building Works |
| 2nd Precedence | - | Standard Schedule of Rates for Civil Engineering Works |
| 3rd Precedence | - | Standard Schedule of Rates for Electrical Works |
- 12 Unless otherwise stated, the term "as specified" means as specified in any of the documents forming part of the Contract.
- 13 The following abbreviations are used for the units:-
- | | | |
|----------------|---|--------------|
| m | - | Linear metre |
| m ² | - | Square metre |
| m ³ | - | Cubic metre |
| no | - | Number |
| kg | - | Kilogram |
| ton | - | Tonne |
| pr | - | Pair |
| sht | - | Sheet |
| ltr | - | Litre |
| hr | - | Hour |

PARTICULAR PREAMBLES TO VARIOUS TRADES

1.0 EXCAVATION

Definition of Ground

- 1.1 Ordinary ground:- includes spoil or rubbish of every description, rubbish tip material etc, sand gravel, decomposed granite, red or white earth, loamy or gravelly clay, gravelly laterite, mud, bog or any other formation of pick and shovel and at any depth.

Description

- 1.2 The description of each item of excavation shall be deemed to include excavating around foundation, piles and confined areas, getting out, removing of bakau piles, trimming, levelling and compacting bottoms of excavations, keeping sides plumb and planking and strutting.

Measurement

- 1.3.1 The measurement of all excavations and subsequent disposal shall be those before excavating. The increases in bulk and any extra excavation required for earthwork support, planking and strutting and formwork for concrete shall be deemed to be included in the rates.

- 1.3.2 No allowance for working space shall be made in the measurement of all excavation unless the method of construction requires workmen to operate from the outside of the structure. In such cases, a working space of 600mm shall be measured from the external face of the structure.

- 1.3.3 Filling shall be measured as equal to the void to be filled. Any thickness stated shall be deemed to be after compacting.

Rate

- 1.3.4 Rates for each item shall be held to include for keeping all excavation free from water and site dry, pumping or bailing if required and providing any temporary drains required.

1.4 Pre-Treatment of Soil against Subterranean Termites

Measurement

- 1.4.1 Soil treatment shall be measured flat on plan and the method of measurement shall be up to the perimeter of the building line (excluding the apron areas). Link buildings, linkways and other structures shall also be similarly measured.

- 1.4.2 No deduction shall be made in the measurement for plan areas occupied by the column stumps.

PARTICULAR PREAMBLES TO VARIOUS TRADES

1.0 EXCAVATION (CONT'D)

1.4.3 The rates indicated shall be inclusive of the provision of warranty and shall not in any way affect the provisions of Building Specifications on Pre-Treatment of Soil for Protection of Buildings Against Subterranean Termites which provisions remain applicable in every respect in relation to all situations where these rates are applied.

2.0 CONCRETE WORK

Rate

2.1 Rates for each item of concrete shall be held to include the following:-

- a) Forming, cutting grooves, chases, mortices, holes and making good any other sundry items of a like nature.
- b) Extra labour for laying to falls, or cambers and preparing surfaces to receive screeds or pavings also to be included.
- c) All tests on concrete, cement and aggregate etc, as required and compliance with the strengths as specified.
- d) Tamping and/or vibrating to give thorough compaction; working between and around reinforcements.
- e) Laying on any type of sub-base; preparing and leaving surfaces to receive screeds or paving.

Deduction

2.2 No deduction shall be made in the measurement of concrete work for:-

- a) Voids of 0.05 cubic metre or less.
- b) Volume of the reinforcement and steelwork.
- c) Openings in walls, floor, roof slabs and the like of 0.10 square metre or less.

Measurement

2.2.1 In the measurement of concrete for pile caps, the overall dimensions of the pile caps shall be taken. No deduction shall be made for the precast formwork panels.

PARTICULAR PREAMBLES TO VARIOUS TRADES

2.0 CONCRETE WORK (CONT'D)

2.3 Reinforcement

Description

2.3.1 The description of each item of reinforcement shall be deemed to include:-

- a) Allowances in the weight of reinforcement for rolling margins.
- b) All cleaning, cutting, bending, fabricating, placing, tying and the provision of all necessary distance blocks, tying wires, spacers or chairs, temporary fixings and supports.

Measurement

2.3.2 The conversion factor for the various steel reinforcement bars shall be as follows:

6mm diameter	-	0.222 kg/m
7mm diameter	-	0.302 kg/m
8mm diameter	-	0.394 kg/m
9mm diameter	-	0.499 kg/m
10mm diameter	-	0.616 kg/m
13mm diameter	-	1.042 kg/m
16mm diameter	-	1.579 kg/m
20mm diameter	-	2.466 kg/m
22mm diameter	-	2.984 kg/m
25mm diameter	-	3.854 kg/m
28mm diameter	-	4.834 kg/m
32mm diameter	-	6.313 kg/m

2.4 Fabric Reinforcement

Rate

2.4.1 Rates for each item of fabric reinforcement shall be held to include for extra material at laps, tying wires and all bending, cutting and notching around obstruction. Only the net area covered shall be measured and no deduction shall be made for opening less than 1.00 square metre.

PARTICULAR PREAMBLES TO VARIOUS TRADES

2.0 CONCRETE WORK (CONT'D)

2.5 Cage Reinforcement

Rate

2.5.1 Rates for each item of cage reinforcement shall be held to include for extra material at laps.

Measurement

2.5.2 The area of Beam Stirrup Cage Reinforcement shall be the product of the perimeter of stirrup multiplied by the length of the Cage.

2.5.3 The area of the Capping Link shall be the product of the perimeter of the Link multiplied by the length of the Cage.

2.5.4 The area for prefabricated pilecap mesh reinforcement shall be based on the bottom flat area of the mesh reinforcement without considering the upward projecting bars.

2.5.5 The area for dowel mesh reinforcement shall be the product of the length and breadth which includes the depth of the bend.

2.6 Formwork

Description

2.6.1 The description of each item of formwork shall be deemed to include:-

- a) All necessary boardings, supports, erecting, framing, cutting, perforations for pipes, angles, cleaning, wetting and treatment with mould oil, mould liquid or limewhite and the like.
- b) All splayed edges, notchings, allowance for overlaps and passings at angles, battens, strutting, bolting, wedging, easing, striking and removal.

Measurement

2.6.2 Formwork shall be measured to the surface of work sloping more than 15 degree from the horizontal.

Deduction

2.6.3 No deduction shall be made in measurement of formwork for:-

- a) Openings less than 1 square metre.
- b) Intersection of main and secondary beams.
- c) Intersection of beams and stanchion casing or columns.

PARTICULAR PREAMBLES TO VARIOUS TRADES

2.0 CONCRETE WORK (CONT'D)

2.7 Unless otherwise stated, rates for concrete, reinforcement and formwork shall be applicable to all work irrespective of locality, positions, shapes and height.

2.8 Precast Work

Description

- 2.8.1 a) All precast concrete components shall be grade 40 concrete as specified unless otherwise indicated.
- b) The description of each item of precast work shall be deemed to include concrete, reinforcement, formwork including the formation and filling of pockets, holes, chases and recesses for anchors, bolts and the like, grouting, pointing of joints, surface finishes, delivery, unloading, hoisting, erecting, fixing including all necessary temporary erection gear, bracing and working platforms.

2.9 Precast Concrete Vent

Measurement

2.9.1 The measurement of precast concrete vents shall be taken by volumes without deduction of voids.

2.10 Piling Work

2.10.1 Piling work shall be executed in accordance with the relevant Specifications and the instructions of Superintending Officer's Representative.

Description

2.10.2 The description of each type of piling work shall be deemed to include removal of underground obstructions together with all work in connection therewith unless specifically otherwise provided.

2.10.3 The description of each type of piling work shall be deemed to include extending piles, dollying and connections unless specifically otherwise provided.

2.10.4 Redriving or intermittent driving necessitated by lengthening or upheaving of piles or by the removal of obstructions under piles or other causes including moving and repositioning the piling frame shall be deemed to be included with the items of piling.

PARTICULAR PREAMBLES TO VARIOUS TRADES

2.0 CONCRETE WORK (CONT'D)

2.10 Piling Work (Cont'd)

Rate

2.10.5 The rate of each item of piling shall be deemed to include:-

- a) Handling, pitching, heading, pointing and bracing and providing protective wrought iron ring or helmet to pile.
- b) Cutting off surplus and heads of piles, preparing and integrating reinforcement into pile caps where applicable, extra excavation, backfilling and disposal of debris.
- c) Disposing of materials displaced arising out of driving the piles.

2.10.6 The rate of each item of treated timber piles includes the application of wood preservative to cut off surfaces of piles.

2.10.7 The rate of each item of reinforced concrete piles includes moulds, reinforcement, preparing heads and extra labour and materials to receive pile extensions.

2.10.8 The rate of each item of pile tests includes provision of all anchors, platforms, loading and unloading of materials, instruments and monitoring of the tests.

2.10.9 Movement of piling frames into position and about the site, any necessary excavation or filling required to place the frames, raising or lowering the frames and any staging, barges or the like required to support the frames, shall be deemed to be included with the item of piling.

Measurement

2.10.10 Payment for treated timber piles driven shall be the product of the relevant rate per metre run and the penetration depth (measured from tip to cut-off level).

2.10.11 The pay length of each reinforced concrete pile after it is driven into the ground is measured from the cut-off level of the pile to the end of pile shoe. Notwithstanding the provisions of Billing of Quantities contained in the General Preambles, the pay length of reinforced concrete piles shall be billed to the accuracy of nearest of 10mm.

PARTICULAR PREAMBLES TO VARIOUS TRADES

2.0 CONCRETE WORK (CONT'D)

2.11 Surface Water Channels

Rate

2.11.1 Rates for each item of surface water channels shall be held to include for all angles, intersections, ends, outlets and extra labour and material for forming grooves or rebates to sides.

Measurement

2.11.2 Where an item is described as "Add to last item for the increase in stages of 150mm deep", the difference of any depth less than 150mm shall be paid based on 150mm depth.

3.0 BRICKWORK AND BLOCKWORK

Rate

3.1 The rates for each item of block, brickwork shall be held to include for all special made blocks, bricks and in-situ concrete in lieu, all rough and fair cuttings, oversailing and receding courses, rough relieving and discharging arches, wedging and pining, raking out joints for and pointing flashings, bedding plates, bedding and pointing of frames, parging and coring flues, labour eaves filling, plumbing angles, forming square and rebated reveals, cut squints or birdsmouths, notches, forming, leaving or cutting chases, holes and mortices, cutting and pining and making good and any other sundry items of a like nature.

3.2 Rates for blockwork and brickwork shall be applicable to all work irrespective of positions, patterns, shapes and height.

Deduction

3.3 Deductions shall be measured the net sizes of the openings and recesses, including the extra width or rebated reveals. No deductions shall be made for openings of 0.50 square metre or less.

3.4 Deductions shall be made for strings, sills, lintols and the like only when exceeding 100mm in height.

PARTICULAR PREAMBLES TO VARIOUS TRADES

4.0 FLOOR FINISHES

Description

4.1 The description of each item of floor finishes shall be deemed to include all temporary rules, temporary grounds, temporary screeds and the like, cutting holes, notching and the like, all normal bedding and pointing materials, providing all necessary samples, cleaning down and making good around pipes, sanitary fixtures and the like, work in narrow widths and small quantities in areas interrupted by seatings, channels and the like, all internal angles, quirks, grooves, throats, drips, coves and rounded external angles not exceeding 25mm radius, angles, stops, intersections, fair ends junctions, wreathed corners and the like on cornices, mouldings, enrichments, coves, skirtings, gutters, channels, strings, kerbs and similar or other sundry items of a like nature.

4.2 The description of each item of floor finishes shall be deemed to include protecting surfaces from the weather or building operations.

Rate

4.3 Unless otherwise stated, rates in this section are applicable to works at horizontal surfaces exceeding 300mm wide.

4.4 The rates for skirtings, shall be applicable to the following:-

- (a) Drops, risers, sides of plinths and curbs and other vertical surfaces not exceeding 300mm high.
- (b) Treads, top of curbs and other horizontal surfaces not exceeding 300mm wide.

Deduction

4.5 No deduction shall be made for openings of 0.50 square metre or less.

Measurement

4.6 Where an item is described as "Add to (or deduct from) for each 5mm thickness over (or under)", the difference for any thickness less than 5mm shall be paid/deducted based on 5mm thick.

PARTICULAR PREAMBLES TO VARIOUS TRADES

5.0 ROOFING

Description

5.1 The description of each item of roofing shall be deemed to include:-

- a) All laps, straight, skew and circular cutting at eaves, verges, top edges, abutments, valleys and hips, cutting holes for pipes, nails, screws, clips, pellets, straps and the like.
- b) Chasing the structure for burning-in or tucking in edges of coverings, flashing and the like.
- c) Holes in coverings, underbeds and insulations for pipes, standards and the like and making good.

Deduction

5.2 No deduction shall be made for voids of 0.50 square metre or less.

5.3 Membranes System and Panel Roofing System

Rate

5.3.1 Rates for Waterproofing Membranes System and Panel Roofing System shall be held to include for narrow widths, small quantities, temporary rules, covering up, protecting after laying and cleaning on completion, all labour to form arrises, fair edges etc., all cuttings and working around pipes, dress down at eaves to form drips or carried up at abutments to walls, pipes, parapets, skirtings, concrete curbs etc. and the like.

5.4 Profiled Sheet Roofing

Description

5.4.1 The description of each item of profiled sheet roofing or cladding shall be deemed to include all cutting at square and raking abutments, top edges, bedding and pointing eaves fillers, verges, cutting and fitting and making good around outlets, pipes and any other sundry items of a like nature.

PARTICULAR PREAMBLES TO VARIOUS TRADES

6.0 CARPENTRY AND JOINERY

Description

6.1 The description of each item of carpentry work shall be deemed to include all cutting, notching, boring, sinking, pelleting, fitting, trimming, mitring, halving, morticing, tenoning, dovetailing, scarfing, wedging and all ends, splayed edges, short lengths and temporary supports and any other sundry of a like nature and also all labour in forming, drilling for bolts and fixing in position complete with nails, screws or adhesives.

6.2 The description of each item of joinery work shall be deemed to include all nailing, gluing, screwing, plugging, cutting, notching, holes, housing ends, mitring ends and shaped ends, angles, junctions, heading joints, short lengths, tongued angles, splayed or rounded edges, chamfers, rebates, grooves and any other sundry items of a like nature including stops and working cross-grain, fitting and hanging and the like.

6.3 Nominal sizes are stated for wrot timber and an allowance of 2.5mm is permitted for each wrot face.

6.4 Rates for windows and doors include hanging and fixing.

6.5 Where ironmongery is included in the description of doors, it shall be deemed to include hinges, floor springs, door gears, locks, latches, catches, bolts, closers, holders, padlocks, stoppers, push-bars and plates, pull bars and handles, kickplates, locking eyes and the like as specified.

7.0 IRONMONGERY

Rate

7.1 Rates for each item shall be held to include for supply, delivery to site and fixing complete with all matching screws of the same finish as ironmongery, nails, pins or brads, cutting sinking and boring and morticing as required, oiling and easing and adjusting all moving parts, taking off and refixing after painting where necessary and handing 3 keys properly labelled to the Superintending Officer or the Superintending Officer's Representative etc unless otherwise described.

PARTICULAR PREAMBLES TO VARIOUS TRADES

8.0 STRUCTURAL STEELWORK AND METALWORK

8.1 Description

The description of each item of work shall be deemed to include:-

- a) Allowances for rolling margins and the weight of welding materials.
- b) Shop and site fabrication including drilling, cutting (including holes and openings for other trades), notching, splicing, mitring, welding, riveting, bolting, machining ends and bearings, delivery, unloading, handling, assembling, hoisting, erecting, fitting and fixing in position, bedding, filling in solid, polishing and pointing including necessary lugs or other attachment.
- c) Provision of all necessary construction equipment, temporary bracing supports and the like required for erection, providing samples and tests required by the specification, the inspection of welds including the use of any special radio-graphic techniques.
- d) Protection such as wrapping finished work with paper, coating with grease or carrying out such other protective measures as may be required and removing and cleaning on completion.
- e) Nuts and any type of washer which may be required.
- f) Preparation of shop Drawings.

Deduction

8.2 No deduction shall be made for drillings, holes, notchings, splay cuts and the like.

Measurement

8.3 Weights stated shall be net theoretical weights.

8.4 Steel sections and plates in connections or fitted stiffeners, column cap and base plates, rigid frame bases and butt plates, purlins, girts, eaves, fascias and similar cleats or brackets attached to trusses, lattice girders and open web joists and plates, and similar items shall be weighted at net dimensions.

8.5 Irregular, including circular shaped plates shall be weighted at the smallest size rectangles from which they can be cut; regular and triangular shaped plates shall be weighted at net dimensions.

PARTICULAR PREAMBLES TO VARIOUS TRADES

8.0 STRUCTURAL STEELWORK AND METALWORK (CONT'D)

- 8.6 Half or other parts of steel sections in connections shall be weighted at half the weight of the section from which they have been cut when equal to or less than half the section and at the full weight of the section from which they have been cut when greater than half the section.

9.0 WALL AND CEILING FINISHES

Rate

- 9.1 Rates for each item shall be deemed to include the provision of keys to receive finishes, all temporary rules, temporary grounds, temporary screeds and the like, cramps, dowels, ties, special metal supporting brackets and the like, cutting holes, notching and the like, masking, labour to internal angles other than coved angles, making good around pipes, sanitary fixtures and the like, work in narrow widths and small quantities, joints between different types of work, joints between new and old work, internal angles, fair edges, rounded or chamfered edges or angles, quirks, grooves, V-joints, groin points and other intersections of curved surfaces, rounded coves and external angles not exceeding 25mm radius, necessary UPVC trimming pieces, mitres, stops and the like on cornices, mouldings, architraves, coves, skirtings, gutters, strings and all making good and any other sundry items of a like nature.

- 9.2 Rates for each item shall also be deemed to include protecting surfaces from the weather or building operations.

- 9.3 Rates for each item of wall tiling shall be held to include for narrow widths and small quantities, fittings around air bricks, pipes and the like and any other sundry items.

- 9.4 Rates for each item of terrazzo shall be held to include for narrow widths and small quantities, and for all temporary rules, internal angles, arises, joints between different types of terrazzo, quirks and all making good and any other sundry items of a like nature on in-situ terrazzo, fitting around air bricks, pipes and the like and any other sundry items of a like nature on precast terrazzo.

Deduction

- 9.5 No deduction shall be made for openings of 0.50 square metre or less.

Measurement

- 9.6 In the measurement of plastering, no deduction shall be made for casings for pipes under 300mm wide or angles which are finished in a different material if these do not exceed 100mm girth.

PARTICULAR PREAMBLES TO VARIOUS TRADES

9.0 WALL AND CEILING FINISHES (CONT'D)

- 9.7 Measurement of ceilings shall include sides and soffits of beams.
- 9.8 "Within the building" shall mean surfaces within the internal of buildings/flats, corridors, staircases and the like which normally do not entail scaffolding or mechanical cradles to carry out the works.
- 9.9 "External face of building" shall mean surfaces such as gable end walls, front/back external walls and any other surfaces which are constantly exposed to weather and/or which normally require the use of scaffolding or mechanical cradles to carry out the work.
- 9.10 Work shall be deemed to be executed when scaffolding has been provided during the course of construction. Should scaffolding be required separately just to execute the work, it would be paid as an extra item.

10.0 SANITARY, WATER AND GAS INSTALLATION

Description

- 10.1 The description of each item of pipework shall be deemed to include:-
- a) All short lengths, joints in the running lengths, joints to all branches, tees, sockets, sleeves, connectors, backnuts, nipples, standard pipe framings or supporting clips, saddles, fastening brackets, holderbats, straps and the like.
 - b) Giving notices.
 - c) Complying with all requirements of the relevant authorities, paying fees and the like in connection with the installations and preparing and submitting Drawings for approval if required.

Measurement

- 10.2 Where an item is described as "Add to last item for each additional 150mm depth", the difference of any depth less than 150mm shall be paid based on 150mm depth.

11.0 GLAZING

Rate

- 11.1 Rates for each item of glazier shall be held to include for cutting and rounded edges, fixing panel pins, clips, brass screws and cup, neoprene strips, silicone sealants and the like and leaving the glass clean on completion

PARTICULAR PREAMBLES TO VARIOUS TRADES

12.0 PAINTING AND DECORATING

Rate

12.1 Rates for each item of painting shall be held to include for all necessary preparation of surfaces including cleaning off, knotting, stopping and sandpapering woodwork, wirebrushing metal and leaving all surfaces free from dust, rust, grease and oil before painting, narrow widths, etc.

12.2 All items in this section shall be deemed to include for multi-coloured works.

Deduction

12.3 No deduction shall be made for openings of 0.50 m² or less.

12.4 Work shall be deemed to be executed when scaffolding has been provided during the course of construction. Should scaffolding be required separately just to execute the work, it would be paid as an extra item.

13.0 TURFING AND TREE-PLANTING & LANDSCAPING WORKS

Definition of Approved Soil Mixture

13.1 Approved soil mixture shall be three parts topsoil with one part of soil conditioner and 1 kg per m³ of granular fertilizer NPK (15:15:6.4) or 4:2:1 subsoil, unwashed sand and soil conditioner with 1 kg per m³ of granular fertilizer NPK (15:15:6.4).

Measurement

13.2 The measurement of girths of the trees shall be at a height of 1.0 metre above ground.

Rates

13.3 The rate for cutting down trees shall be deemed to include for grubbing up roots and filling of voids after removal of tree roots.

13.4 The rate of each item of turfing and planting shall be deemed to include for watering, weeding, fertilizing, cutting, settlement, re-seeding and maintenance during the "Maintenance Period" as specified.

PARTICULAR PREAMBLES TO VARIOUS TRADES

14.0 DAYWORK

Rate

14.1 Rates shall be applicable in respect of all work executed on a daywork basis. During the continuance of such work, the Contractor shall keep proper records of the names, occupations and working hours of all workmen employed for such work and the quantities and descriptions of all materials and construction equipment employed. Such records, receipts or vouchers must be verified by the Superintending Officer or the Superintending Officer's Representative before payment can be effected.

**HOUSING AND DEVELOPMENT BOARD
STANDARD SCHEDULE OF RATES FOR BUILDING WORKS (JAN 2020 EDITION)**

S/N	DESCRIPTION	UNIT	RATE(\$)	CODE
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EXCAVATION

Excavation oversite commencing from ground level in ordinary ground, including forming of surfaces and removal of surplus excavated materials within site, for the following average overall depth:

1	not exceeding 150mm deep.	m ²	\$2.70	SA001
2	exceeding 150mm but not exceeding 300mm deep.	m ²	\$4.70	SA002
3	exceeding 300mm deep.	m ³	\$14.10	SA003
4	Excavation in Embankment commencing from reduced level in ordinary ground including forming of surfaces and removal of surplus excavated materials within site.	m ³	\$16.20	SA007

Excavate to form Trenches for Columns, Pilecaps, Foundations, Beams, Basements, Pier Holes etc in ordinary ground including forming of bottom, necessary planking and strutting, part return, fill and ram, and remainder get out and deposit on site as directed in stages of the following depth:

5	not exceeding 2.00m deep.	m ³	\$26.60	SA008
6	exceeding 2.00m but not exceeding 4.00m deep.	m ³	\$28.40	SA009
7	exceeding 4.00m but not exceeding 6.00m deep.	m ³	\$32.10	SA010
8	exceeding 6.00m but not exceeding 8.00m deep.	m ³	\$36.00	SA042

Excavation for HARD GROUND where blasting will not be permitted HARD GROUND is defined as: cemented sand, shale, decomposed rock or other material with Standard Penetration Values not exceeding 70 blows per 30cm and bulk density not exceeding 2100kg/m³ and can be excavated by heavy machinery with a maximum breakout force of 13,000kg such as Caterpillar 977L or its equivalent:

9	not exceeding 2.00m deep.	m ³	\$41.30	SA012
10	exceeding 2.00m but not exceeding 4.00m deep.	m ³	\$46.50	SA013
11	exceeding 4.00m but not exceeding 6.00m deep.	m ³	\$54.50	SA014

**HOUSING AND DEVELOPMENT BOARD
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S/N	DESCRIPTION	UNIT	RATE(\$)	CODE
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EXCAVATION (CONT'D)

Excavate to form trenches for drain lines in ordinary ground including forming of bottom, necessary planking and strutting, get out and deposit on site as directed and backfill excavated trench with granite dust/fines in stages of the following depth:

12	not exceeding 2.00m deep.	m ³	\$44.60	SA034
13	exceeding 2.00m but not exceeding 4.00m deep.	m ³	\$45.50	SA035

Excavate to form trenches for service pipes, cable crossings, etc. in ordinary ground including forming bottom and get out, deposit on site as directed and backfill trench in stages of the following depths:

14	not exceeding 2.00m deep with granular materials.	m ³	\$40.70	SA038
15	exceeding 2.00m but not exceeding 4.00m deep with ditto.	m ³	\$40.50	SA039
16	not exceeding 2.00m deep with selected excavated material.	m ³	\$20.20	SA036
17	exceeding 2.00m but not exceeding 4.00m deep with ditto.	m ³	\$20.00	SA040
18	not exceeding 2.00m deep with selected imported earth.	m ³	\$31.10	SA037
19	exceeding 2.00m but not exceeding 4.00m deep with ditto.	m ³	\$30.80	SA041
20	CART AWAY excavated materials off site and deposit at the Contractor's own dumping ground.	m ³	\$14.40	SA016
21	Dry approved earth filling obtained from outside source and fill in layers of 300mm thick; including labour for spreading, trimming and consolidating to form earth mounds or to form levels outside buildings and/or under floor slabs, etc as specified.	m ³	\$16.80	SA017
22	Selected excavated material obtained within the site and used as filling to make up level including consolidation.	m ³	\$17.80	SA018

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S/N	DESCRIPTION	UNIT	RATE(\$)	CODE
<u>EXCAVATION (CONT'D)</u>				
23	80mm diameter (minimum) bakau piles as roller supports.	m	\$2.00	SA033
24	Unwashed sand including spreading, levelling and consolidating.	m ³	\$74.40	SA020
25	Hardcore in beds, comprising of clean broken bricks/concrete, deposit, spread, levelled, mechanically consolidated and including 25mm thick sand or granite dust blinding/topping.	m ³	\$31.60	SA024
26	Granite dust, spread, level and consolidate.	m ³	\$50.60	SA025
27	Pre-treatment of soil for the protection of building against subterranean termites with approved chemicals including a layer of black polythene sheets on top of the treated area (treated/untreated area shall be measured flat on plan up to the perimeter of the building line excluding apron areas - rate inclusive of the provision of a 5-year warranty).	m ²	\$11.70	SA027
28	Supply and delivery of Grade 43 steel sheet piles for use as temporary shoring to retain the sides of excavation in approved section and lengths.	ton	\$171.30	SA028
29	Driving Grade 43 steel sheet piles including the provision of all labour, Construction equipment (providing, assembling and subsequent dismantling of piling equipment measured separately), tools and everything necessary for the installation as specified.	ton	\$379.50	SA029
30	Extracting, recovering and stacking Grade 43 steel sheet piles including the provision of all labour, tools (providing, assembling and subsequent dismantling of piling equipment measured separately), and everything necessary for the execution as specified.	ton	\$253.00	SA030
31	Grade 43 steel sheet piles left in permanently including the provision of all labours, tools (providing, assembling and subsequent dismantling of piling equipment measured separately), and everything necessary for the installation as specified.	ton	\$1,847.50	SA031
32	Providing and assembling of necessary piling equipment to drive/extract Grade 43 steel sheet piles of any size including all necessary tools and appliances, subsequent dismantling and removal on completion of the work on site.	item	\$8,159.30	SA032
33	Approximately 16mm nominal internal diameter hollow UPVC pipe with a pre-laid 3mm diameter wire inside the UPVC pipe within each cast in-situ pile.	m	\$2.30	SA043

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CONCRETE WORK

Mass/lean concrete to underside of foundations, ground beams, floor slabs, apron slabs, etc irrespective of thickness as specified:

34	Concrete (1:3:6).	m ³	\$143.60	SB003
35	Concrete (1:2:4).	m ³	\$146.00	SB002

Reinforced Concrete in foundations, ground beams, column stumps, ground floor slabs, apron slabs etc including working around rod or fabric reinforcement below ground floor level as specified (reinforcement measured separately):

36	Grade 20.	m ³	\$151.60	SB004
37	Grade 25.	m ³	\$154.00	SB006
38	Grade 30.	m ³	\$156.40	SB008
39	Grade 35.	m ³	\$158.80	SB111
40	Grade 40.	m ³	\$162.40	SB113
41	Grade 45.	m ³	\$167.50	SB116
42	Grade 50.	m ³	\$173.90	SB118
43	Extra over grade 40 reinforced concrete for the provision of precast pilecap formwork panels including fabrication and all necessary tie bars and clamps.	m ²	\$52.40	SB367

Reinforced Concrete to suspended slabs, beams, columns, staircases, walls, etc including working around rod or fabric reinforcement above ground floor level as specified (reinforcement measured separately):

44	Grade 20.	m ³	\$160.50	SB005
45	Grade 25.	m ³	\$163.00	SB007
46	Grade 30.	m ³	\$165.40	SB009
47	Grade 35.	m ³	\$167.80	SB112

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CONCRETE WORK (CONT'D)

Reinforced Concrete to suspended slabs, beams, columns, staircases, walls, etc including working around rod or fabric reinforcement above ground floor level as specified (reinforcement measured separately) (Cont'd):

48	Grade 40.	m ³	\$171.40	SB114
49	Grade 45.	m ³	\$176.40	SB117
50	Grade 50.	m ³	\$182.90	SB119
51	Approved damp proof membrane Type B (felt fibre base) to underside of reinforced concrete slab including provision for laps and preparation of surface as specified.	m ²	\$12.00	SB011
52	Liquid-applied flexible cementitious or water-based Waterproofing Membrane to bath/wc/kitchen floors including upturns on pipes and walls as specified (Measured flat-on-plan and no adjustment to be made for voids occupied by pipes).	m ²	\$13.00	SB359

Mild Steel Rod Reinforcement, fabricated and laid in foundations, beds, suspended slab, walls, columns, beams, staircases etc, and including labour for forming stirrups, links etc:

53	6mm diameter.	kg	\$2.90	SB022
54	10mm diameter.	kg	\$2.50	SB023
55	13mm diameter.	kg	\$2.50	SB024
56	16mm diameter.	kg	\$2.40	SB025
57	20mm diameter.	kg	\$2.20	SB026
58	25mm diameter.	kg	\$2.20	SB028

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CONCRETE WORK (CONT'D)

Deformed High Tensile Steel Rod Reinforcement, fabricated and laid in foundations, beds, suspended slabs, walls, columns, beams, staircases etc, and including labour for forming stirrups, links etc:

59	8mm diameter.	kg	\$2.30	SB157
60	10mm diameter.	kg	\$2.10	SB031
61	13mm diameter.	kg	\$2.10	SB032
62	16mm diameter.	kg	\$2.10	SB033
63	20mm diameter.	kg	\$1.90	SB034
64	22mm diameter.	kg	\$1.90	SB035
65	25mm diameter.	kg	\$1.90	SB036
66	28mm diameter.	kg	\$1.90	SB037
67	32mm diameter.	kg	\$1.90	SB038
68	Extra over steel rod reinforcement for galvanising.	kg	\$0.70	SB039

Welded steel fabric reinforcement well lapped and tied at joints (measured nett):

69	WA6 Class A.	m ²	\$4.70	SB041
70	WA7 Class A.	m ²	\$6.30	SB042
71	WA8 Class A.	m ²	\$7.30	SB043
72	WA8 Class B.	m ²	\$8.50	SB385
73	WA10 Class A.	m ²	\$12.30	SB145
74	WA10 Class B.	m ²	\$12.90	SB386
75	WA12 Class A.	m ²	\$15.70	SB284
76	WA12 Class B.	m ²	\$24.10	SB387

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<u>CONCRETE WORK (CONT'D)</u>				
Welded steel fabric reinforcement well lapped and tied at joints (measured nett):				
77	WB6 Class A.	m ²	\$7.40	SB147
78	WB7 Class A.	m ²	\$8.60	SB148
79	WB8 Class A.	m ²	\$10.60	SB149
80	WB8 Class B.	m ²	\$12.50	SB388
81	WB9 Class A.	m ²	\$12.90	SB229
82	WB10 Class A.	m ²	\$14.10	SB150
83	WB10 Class B.	m ²	\$16.40	SB389
84	WB12 Class A.	m ²	\$19.00	SB151
85	WB12 Class B.	m ²	\$22.60	SB390
86	WB13 Class A.	m ²	\$23.20	SB350
87	WD6 Class A.	m ²	\$8.50	SB048
88	WD7 Class A.	m ²	\$11.50	SB049
89	WD8 Class A.	m ²	\$13.80	SB124
90	WD8 Class B.	m ²	\$16.30	SB391
91	WD9 Class A.	m ²	\$17.70	SB230
92	WD10 Class A.	m ²	\$21.10	SB231
93	WD10 Class B.	m ²	\$25.10	SB392
94	WD11 Class A.	m ²	\$27.00	SB347
95	WD12 Class A.	m ²	\$31.20	SB348
96	WD12 Class B.	m ²	\$36.10	SB393
97	WD13 Class A.	m ²	\$35.40	SB349
98	WD13 Class B.	m ²	\$41.20	SB394

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CONCRETE WORK (CONT'D)

Prefabricated pilecap mesh reinforcement:

99	Type WH1320 0840.	m ²	\$12.60	SB326
100	Type WH1310 1310.	m ²	\$33.70	SB324
101	Type 2WH1310 1320.	m ²	\$42.30	SB327
102	Type 2WH1315 1315.	m ²	\$34.40	SB331
103	Type 2WH1310 0840.	m ²	\$36.20	SB330
104	Type 2WH1315 0840.	m ²	\$25.80	SB355
105	Type 2WH1310 1310.	m ²	\$49.80	SB328

Prefabricated beam stirrup cage/column link cage reinforcement:

106	Reference no. WS10075.	m ²	\$21.40	SB280
107	Reference no. WS10100 / WH10100.	m ²	\$17.80	SB167
108	Reference no. WS10150 / WH10150.	m ²	\$14.20	SB168
109	Reference no. WS10200 / WH10200.	m ²	\$12.40	SB169
110	Reference no. WS13100 / WH13100.	m ²	\$25.30	SB281
111	Reference no. WS13075.	m ²	\$31.90	SB333
112	Reference no. WS13100D (twin wire).	m ²	\$43.20	SB334

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CONCRETE WORK (CONT'D)

Prefabricated wall mesh reinforcement:

113	Type WH1320 0820.	m ²	\$13.60	SB356
114	Type WH1310 0820.	m ²	\$19.40	SB357
115	Timber formwork to surfaces of concrete foundations, column stumps, ground beams, ground floor slabs, etc.	m ²	\$25.20	SB110
116	Timber formwork to surfaces of concrete columns, walls, suspended slabs, stairs, canopies, beams, lintols etc.	m ²	\$36.30	SB062
117	Timber formwork to produce a good off-form finish to surfaces of concrete columns, walls, slabs, beams, staircases, canopies, lintols etc. as specified.	m ²	\$43.50	SB274
118	Formwork of approved materials to produce a good off-form finish to curved surfaces of concrete columns, walls, slabs, beams, staircases, canopies, lintols, etc. as specified.	m ²	\$55.20	SB275

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<u>CONCRETE WORK (CONT'D)</u>				
PRECAST CONCRETE in sills, lintols, paving slabs, stiffeners including moulds, hoisting and fixing in position:				
119	Grade 25 with reinforcement.	m ³	\$640.30	SB158
120	Grade 25 without reinforcement.	m ³	\$351.90	SB159
121	Grade 30 with reinforcement.	m ³	\$642.70	SB161
122	Grade 30 without reinforcement.	m ³	\$354.30	SB162
123	Grade 40 with reinforcement.	m ³	\$648.70	SB339
124	Grade 40 without reinforcement.	m ³	\$360.40	SB340
125	Precast concrete Grade 40 in footing/stump including moulds, hoisting and placing in position (reinforcement measured separately).	m ³	\$333.60	SB380
126	Hacking through reinforced concrete floors or walls (any thickness) to form opening including making good and remove debris from site.	m ³	\$1,013.20	SB068
127	Breaking up existing reinforced concrete structures including removing debris off the site.	m ³	\$174.40	SB164
128	Breaking up of existing mass concrete structures including removing debris off the site.	m ³	\$141.10	SB165
129	One layer of approved epoxy concrete bonding agent to hacked concrete surfaces before concreting.	m ²	\$27.60	SB166
Concrete in small quantities not exceeding 0.15m³ including all necessary formwork:				
130	Grade 20.	m ³	\$440.20	SB069
131	Grade 25.	m ³	\$443.80	SB160
132	Grade 30.	m ³	\$447.40	SB163
133	Grade 40.	m ³	\$456.50	SB317

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<u>CONCRETE WORK (CONT'D)</u>				
Coring of holes through concrete structure including removal of debris off site:				
134	25 to 31mm diameter x 100 to 200mm depth.	no	\$57.50	SB190
135	25 to 31mm diameter x 201 to 300mm depth.	no	\$69.00	SB193
136	25 to 31mm to diameter x 301 to 400mm depth.	no	\$80.50	SB194
137	32 to 49mm diameter x 100 to 200mm depth.	no	\$54.60	SB300
138	32 to 49mm diameter x 201 to 300mm depth.	no	\$69.00	SB301
139	32 to 49mm diameter x 301 to 400mm depth.	no	\$80.50	SB302
140	50 to 74mm diameter x 100 to 200mm depth.	no	\$65.70	SB195
141	50 to 74mm diameter x 201 to 300mm depth.	no	\$81.20	SB198
142	50 to 74mm diameter x 301 to 400mm depth.	no	\$102.80	SB199
143	75 to 99mm diameter x 100 to 200mm depth.	no	\$74.30	SB200
144	75 to 99mm diameter x 201 to 300mm depth.	no	\$93.30	SB203
145	75 to 99mm diameter x 301 to 400mm depth.	no	\$113.30	SB204
146	100 to 149mm diameter x 100 to 200mm depth.	no	\$83.60	SB205
147	100 to 149mm diameter x 201 to 300mm depth.	no	\$112.20	SB208
148	100 to 149mm diameter x 301 to 400mm depth.	no	\$134.00	SB209
149	150 to 199mm diameter x 201 to 300mm depth.	no	\$151.80	SB213
150	150 to 199mm diameter x 301 to 400mm depth.	no	\$188.80	SB214
151	200 to 249mm diameter x 100 to 200mm depth.	no	\$154.70	SB215
152	200 to 249mm diameter x 201 to 300mm depth.	no	\$191.70	SB218
153	200 to 249mm diameter x 301 to 400mm depth.	no	\$244.10	SB219
154	250 to 299mm diameter x 100 to 200mm depth.	no	\$177.20	SB319
155	250 to 299mm diameter x 201 to 300mm depth.	no	\$236.90	SB320
156	250 to 299mm diameter x 301 to 400mm depth.	no	\$308.80	SB321

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<u>CONCRETE WORK (CONT'D)</u>				
Coring of holes through concrete structure including removal of debris off site (Cont'd):				
157	300mm diameter x 100 to 200mm depth.	no	\$212.80	SB220
158	300mm diameter x 201 to 300mm depth.	no	\$241.50	SB223
159	300mm diameter x 301 to 400mm depth.	no	\$319.80	SB224
Forming bituminous expansion joint in concrete floors including all necessary formwork and bituminous seal:				
160	13mm wide x 75mm deep.	m	\$5.00	SB316
161	25mm wide x 100mm deep.	m	\$10.40	SB096
162	Forming of 25mm wide expansion joint in cavity with foam plastic infill as specified.	m ²	\$2.90	SB120
163	Forming of surface channel 150mm wide x 50mm deep on concrete floor slab to fall.	m	\$3.40	SB360
225mm wide (internal) Reinforced Concrete SURFACE DRAIN constructed with 100mm thick sides, 100mm thick bottom and all exposed sides, bottom and arrises rendered smooth in cement mortar including all necessary excavation, formwork and lean concrete laid to fall as directed:				
164	Grade 25 not exceeding 400mm deep (average) to invert and reinforced with B6 WSF reinforcement.	m	\$128.00	SB099
165	Add to LAST ITEM for the increase in stages of 100mm deep.	m	\$25.20	SB100
166	Grade 40 not exceeding 400mm deep (average) to invert and reinforced with A7 WSF reinforcement.	m	\$127.90	SB314
167	Add to LAST ITEM for the increase in stages of 100mm deep.	m	\$25.20	SB315
168	Extra over 225mm wide reinforced concrete drain for PRECAST CONCRETE INVERT.	m	\$0.90	SB105

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<u>CONCRETE WORK (CONT'D)</u>				
169	225mm wide (internal) grade 40 precast concrete house drain not exceeding 400mm deep (average) to invert with 100mm thick sides and bottom complete with reinforcement and topping up sides with in-situ concrete including all necessary jointing, excavation, formwork and lean concrete and laid to falls as specified.	m	\$81.70	SB365
170	Add to LAST ITEM for the increase in stages of 100mm deep.	m	\$4.80	SB366
171	315mm diameter UPVC pipe conforming to SS272 for concealed drain outlet with Grade 30 concrete bed and reinforced with WSF B5 including formwork and lean concrete (excavation measured separately).	m	\$102.10	SB371
Precast concrete (Grade 40) components including all reinforcement, moulds, formwork stacking, hoisting, setting, labour and materials for jointing, testing accessories and protection, etc as specified:				
172	100mm thick normal weight partition wall.	m ²	\$104.90	SB130
173	90mm thick normal weight partition wall.	m ²	\$98.60	SB131
174	70-90mm thick prestressed plank.	m ²	\$79.10	SB381
175	70-90mm thick non-pretressed plank.	m ²	\$86.60	SB383
176	250mm thick gable end wall.	m ²	\$219.70	SB134
177	100-120mm facade wall without beam.	m ²	\$117.20	SB132
178	Precast beam.	m ³	\$970.00	SB372

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BRICKWORK AND BLOCKWORK

Brickwork in standard common bricks (size 215 x 102.5 x 65mm) laid in prepacked mortar as specified with 10mm joints raked 10mm deep or flush pointed as work proceeds:

179	Generally.	m ³	\$348.00	SC005
180	One brick thick wall.	m ²	\$88.40	SC006
181	Half brick thick wall reinforced with expanded metal brickwork reinforcement.	m ²	\$45.70	SC007
182	Half brick thick wall built honeycomb.	m ²	\$35.60	SC008

Common brickwall using modular bricks laid in prepacked mortar as specified with 10mm joints raked 10mm deep or flush pointed as the work proceeds:

183	90mm thick reinforced with expanded metal brickwork reinforcement.	m ²	\$40.00	SC016
184	190mm thick.	m ²	\$81.60	SC015
185	290mm thick.	m ²	\$111.10	SC044

Red facing brickwall using modular bricks laid in prepacked mortar as specified with 10mm joints raked 10mm deep or flush pointed as the work proceeds:

186	90mm thick reinforced with expanded metal brickwork reinforcement.	m ²	\$90.60	SC055
187	190mm thick.	m ²	\$173.20	SC062
188	Extra over common modular brickwork for using red facing bricks to one face of the brickwall (applicable to brickwall of thickness 190mm and above).	m ²	\$53.40	SC017

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BRICKWORK AND BLOCKWORK (CONT'D)

Solid block wall laid in prepacked mortar as specified:

189	70mm thick wall using 190 x 90 x 70mm solid blocks.	m ²	\$34.70	SC027
190	90mm thick wall using 190/290 x 90 x 90mm solid blocks.	m ²	\$35.80	SC028
191	190mm thick wall using 190 x 90 x 90mm solid blocks.	m ²	\$68.90	SC030
192	Breaking up blockwork or brickwork in cement mortar including plaster (measured in gross thickness) and removing debris off site.	m ³	\$59.30	SC031
193	Approved horizontal damp proof course Type B (felt fibre base) to brick/block walls bedded in prepacked mortar as specified.	m ²	\$17.60	SC035

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<u>FLOOR FINISHES</u>				
194	Hack existing concrete surface to form keys and wash clean to receive finishing.	m ²	\$4.00	SD001
195	Extra over concrete slab for trowelling surface of floor or roof slab.	m ²	\$1.40	SD002
196	Extra over concrete slab for compacting and trowelling smooth surface of reinforced concrete floor slab by power trowel.	m ²	\$3.60	SD003
197	Extra over concrete floor or screed for the application of approved non-metallic hardener with power trowelled finish as specified.	m ²	\$18.50	SD082
198	Extra over concrete ramp for the application of approved non-metallic hardener with power trowelled finish and forming ring indentations as specified (measured flat on plan).	m ²	\$26.00	SD083
Forming 10mm wide groove lines on surfaces of concrete ramp:				
199	At not more than 150mm apart.	m ²	\$9.70	SD104
200	Exceeding 150mm but not more than 300mm apart.	m ²	\$4.30	SD109
201	Matt finished polymer surface coating of approved colours over roof slab as specified. (rate inclusive of the provision of a 5-year warranty).	m ²	\$31.10	SD103
202	20-30mm thick non-shrink cement rendering to concrete surfaces trowelled to a smooth finish.	m ²	\$32.10	SD105
203	10mm thick prepacked waterproof screed for kitchen, bath and WC floors as specified.	m ²	\$9.30	SD110
204	ADD to (or deduct from) ITEM SD110 for each 5mm thickness over (or under) 10mm.	m ²	\$2.60	SD112
205	20mm thick prepacked screed to floor trowelled to a smooth finish.	m ²	\$14.10	SD004
206	ADD to (or deduct from) ITEM SD004 for each 5mm thickness over (or under) 20mm.	m ²	\$2.90	SD005

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FLOOR FINISHES (CONT'D)

20mm thick prepacked screed to skirting, treads, risers, curbs and returns etc and trowelled to a smooth finish including coved and rounded angles:

207	Not exceeding 150mm in height/width.	m	\$8.70	SD006
208	Exceeding 150mm but not exceeding 300mm in height/width.	m	\$13.50	SD007
209	ADD to (or deduct from) ITEM SD006 for each 5mm thickness over (or under) 20mm.	m	\$1.70	SD008
210	ADD to (or deduct from) ITEM SD007 for each 5mm thickness over (or under) 20mm.	m	\$2.70	SD009
211	20mm thick prepacked screed to receive floor finishes.	m ²	\$11.30	SD087
212	ADD to (or deduct from) ITEM SD087 for each 5mm thickness over (or under) 20mm.	m ²	\$2.30	SD088
213	25mm thick Concrete Screed (Grade 25) with 10mm maximum size aggregate to concrete floor surfaces finished with steel trowelling including all necessary labour and materials for preparation of substrate's surface to receive screed as specified.	m ²	\$13.30	SD010
214	ADD to (or deduct from) ITEM SD010 for each 5mm thickness over (or under) 25mm.	m ²	\$2.10	SD011

25mm thick Concrete Screed (Grade 25) with 10mm maximum size aggregate to skirting, treads, risers, curbs and return etc, trowelled to a smooth finish including coved and rounded angles and all necessary labour and materials for preparation of substrate's surface as specified:

215	Not exceeding 150mm in height/width.	m	\$10.70	SD012
216	Exceeding 150mm but not exceeding 300mm in height/width.	m	\$15.30	SD013
217	ADD to (or deduct from) ITEM SD012 for each 5mm thickness over (or under) 25mm .	m	\$1.60	SD014
218	ADD to (or deduct from) ITEM SD013 for each 5mm thickness over (or under) 25mm.	m	\$2.50	SD015

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S/N	DESCRIPTION	UNIT	RATE(\$)	CODE
<u>FLOOR FINISHES (CONT'D)</u>				
219	20mm thick granolithic paving consisting of cement, sand and granite chippings (1:1:2) to floor and trowelled to a smooth finish.	m ²	\$15.40	SD019
220	ADD to (or deduct from) ITEM SD019 for each 5mm thickness of granolithic layer over (or under) 20mm.	m ²	\$3.10	SD020
20mm thick granolithic consisting of cement, sand and granite chippings (1:1:2) to skirtings, treads, risers, curbs and returns etc and trowelled to a smooth surface including coved and rounded angles:				
221	Not exceeding 150mm in height/width.	m	\$9.40	SD021
222	Exceeding 150mm but not exceeding 300mm in height/width.	m	\$13.10	SD022
223	ADD to (or deduct from) ITEM SD021 for each 5mm thickness over (or under) 20mm.	m	\$1.70	SD023
224	ADD to (or deduct from) ITEM SD022 for each 5mm thickness over (or under) 20mm.	m	\$2.60	SD024
225	Extra over granolithic paving (irrespective of thickness) for exposed aggregate finish.	m ²	\$13.50	SD025
226	Extra over granolithic paving (irrespective of thickness) for exposed aggregate finish all as in ITEM SD025 but for skirting etc not exceeding 150mm in height/width.	m	\$3.50	SD026
227	Extra over granolithic paving (irrespective of thickness) for exposed aggregate finish all as in ITEM SD025 but for skirting etc exceeding 150mm but not exceeding 300mm in height/width.	m	\$6.10	SD027
228	50mm thick cement rendering to floor slab including 20mm thk granolithic paving consisting of cement, sand and granite chippings (1:1:1) with concrete hardener trowelled to a smooth finish.	m ²	\$37.30	SD116

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FLOOR FINISHES (CONT'D)

8mm thick quarry tiles laid and bedded on and including necessary prepacked base screed as specified:

229	100 x 100mm tiles.	m ²	\$58.30	SD043
230	200 x 100mm tiles.	m ²	\$55.00	SD044
231	Brick-on-edge paving using red facing modular bricks laid to approved pattern, jointed and pointed in prepacked mortar as specified (screed measured separately).	m ²	\$87.20	SD047
232	190mm wide brick-on-edge curb using M211 red facing modular bricks jointed and pointed in prepacked mortar as specified (screed measured separately).	m	\$27.00	SD054
233	190mm wide brick-on-edge curb/coping using M211 red facing bullnose/splayed edge bricks jointed and pointed in prepacked mortar as specified (screed measured separately).	m	\$23.70	SD070
234	Glazed ceramic floor tiles of approved colours, patterns and textures (nominal size 200 x 200 x 8mm thick), bedded on and including prepacked screed and pointing with approved coloured tile grouts as specified.	m ²	\$61.60	SD092

Glazed ceramic floor tiles of approved colours, patterns and textures (to match 200 x 200 x 8mm thick tiling) to skirtings, treads, risers, curbs, nosing and returns, bedded on and including prepacked screed and pointing with approved coloured tile grouts as specified:

235	Not exceeding 150mm in height/width.	m	\$14.60	SD093
236	Exceeding 150mm but not exceeding 300mm in height/width.	m	\$23.20	SD094

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S/N	DESCRIPTION	UNIT	RATE(\$)	CODE
<u>FLOOR FINISHES (CONT'D)</u>				
237	Glazed porcelain floor tiles of approved colours, patterns (nominal size 600 x 300 x 9mm thick), bedded on and including prepacked screed and pointing with approved coloured tile grouts as specified.	m ²	\$69.60	SD119
238	Glazed porcelain floor tiles of approved colours, patterns (nominal size 600 x 600 x 10mm thick), bedded on and including prepacked screed and pointing with approved coloured tile grouts as specified.	m ²	\$70.30	SD124
239	Polished porcelain floor tiles of approved colours, patterns (nominal size 600 x 600 x 10mm thick), bedded on and including prepacked screed and pointing with approved coloured tile grouts as specified.	m ²	\$74.00	SD120
240	Heavy duty unglazed ceramic floor tiles of approved colours, patterns and textures (nominal size 200 x 200 x 8mm thick), bedded on and including prepacked screed and pointing with approved coloured tile grouts as specified.	m ²	\$61.70	SD100
	Heavy duty unglazed ceramic floor tiles of approved colours, patterns and textures (to match 200 x 200 x 8mm thick tiling) to skirtings, treads, risers, curbs, nosing and returns, bedded on and including prepacked screed and pointing with approved coloured tile grouts as specified:			
241	Not exceeding 150mm in height/width.	m	\$14.60	SD101
242	Exceeding 150mm but not exceeding 300mm in height/width.	m	\$22.20	SD102

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S/N	DESCRIPTION	UNIT	RATE(\$)	CODE
<u>FLOOR FINISHES (CONT'D)</u>				
243	Glazed ceramic round edge skirting tile 400x80x8mm thick of approved colour and textures bedded on and including prepacked screed and pointing with approved coloured tile grouts as specified.	m	\$14.40	SD115
244	Heavy duty structured/textured ceramic floor tile (nominal size 300x300x9mm thick) bedded on and including prepacked screed and pointing with approved coloured tile grouts as specified.	m ²	\$67.90	SD114
245	Extra over ceramic floor tiles for prepacked waterproof screed in lieu of prepacked screed.	m ²	\$0.80	SD113
Coloured interlocking concrete paving blocks to approved pattern including 50mm thick compacted sand bed as specified:				
246	224 x 110.5 x 80mm thick.	m ²	\$48.30	SD077
247	225 x 111 x 100mm thick.	m ²	\$50.20	SD078
248	453 x 453 x 100mm thick.	m ²	\$51.30	SD079
249	600 x 600 x 50mm thick concrete paving slab of grade 25 concrete with 10mm max. aggregate jointed with prepacked mortar as specified.	m	\$17.60	SD080
250	20 x 25mm PVC "L" shaped Floor Strip laid to fall, secured to reinforced concrete floor slab with masonry nails at 500mm centre to centre and top of strip to be flushed with concrete screed as specified.	m	\$4.20	SD084
251	3.0m to 6.0m long x 75mm x 15mm thick UPVC laminated skirting including backing brackets as specified.	m	\$10.90	SD121
252	10mm x 3mm thick stainless steel dividing strip to edge of floor finish as specified.	m	\$13.80	SD122
253	10mm x 3mm thick brass dividing strip to edge of floor finish as specified.	m	\$19.00	SD123

**HOUSING AND DEVELOPMENT BOARD
STANDARD SCHEDULE OF RATES FOR BUILDING WORKS (JAN 2020 EDITION)**

S/N	DESCRIPTION	UNIT	RATE(\$)	CODE
<u>ROOFING</u>				
254	BRC 3315 to roof to support sisalation paper.	m ²	\$3.90	SE001
255	900 x 600 x 20mm thick ferrocement secondary roof slabs, reinforced with galvanised fine mesh to reinforced concrete flat roof including all necessary supporting concrete solid blocks, labour and materials for sealing up pipes etc as specified.	m ²	\$66.50	SE048
256	3mm thick acrylic polymer modified cementitious coating to roof surfaces and gutter as specified.	m ²	\$14.40	SE049
257	Panel Roofing System to roof surfaces consisting of 38mm thick waterproofing cement and sand panel (1:3), 50mm thick Styrofoam insulation board or other approved and 6 coats of waterproofing membranes, 1 layer of open woven glass membrane and a minimum of 20mm thick waterproofing cement and sand screed (1:3) laid to fall as specified and including all necessary materials for jointing (measured flat on plan - rate inclusive of the provision of a 10 year warranty).	m ²	\$76.20	SE008
258	One layer of "Parsec Thermo-brite II" double sided reflective roof heat insulation sheet including lapping with "Parsec Thermo-brite" tape and secured to roof structure by self-drilling fasteners complete with metal washers as specified and in accordance with Manufacturer's instructions.	m ²	\$10.90	SE034
259	One layer of "Super Sisalation" double sided reflective roof heat insulation sheet including lapping with PPC 493 reinforced aluminium foil tape and secured to roof structure by self-drilling fasteners complete with metal washers as specified and in accordance with Manufacturer's instructions.	m ²	\$9.70	SE035
260	One layer of "Super Brite" double sided reflective roof heat insulation sheet including lapping and secured to roof structure by self-drilling fasteners complete with metal washers as specified and in accordance with Manufacturer's instructions.	m ²	\$9.50	SE047

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S/N	DESCRIPTION	UNIT	RATE(\$)	CODE
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ROOFING (CONT'D)

Colourbond XRW metal roofing sheets including all necessary fixing accessories as specified (rate inclusive of the provision of a 10-year warranty):

261	0.47mm thick Lysaght Spandek.	m ²	\$32.90	SE014
262	0.47mm thick Lysaght Trimdek.	m ²	\$31.70	SE046
263	0.53mm thick Lysaght Kliplok.	m ²	\$37.00	SE015
264	0.65mm thick Lysaght Kliplok.	m ²	\$42.20	SE016

0.60mm thick custom made colourbond XRW flashings/cappings/trims to Kliplok/Spandek roofing including all necessary fixing accessories as specified (rate inclusive of the provision of a 10-year warranty):

265	not exceeding 100mm girth.	m	\$9.80	SE019
266	exceeding 100mm but not exceeding 200mm girth.	m	\$13.20	SE020
267	exceeding 200mm but not exceeding 300mm girth.	m	\$16.70	SE021
268	exceeding 300mm but not exceeding 400mm girth.	m	\$20.30	SE022
269	exceeding 600mm but not exceeding 800mm girth.	m	\$34.20	SE025

**HOUSING AND DEVELOPMENT BOARD
STANDARD SCHEDULE OF RATES FOR BUILDING WORKS (JAN 2020 EDITION)**

S/N	DESCRIPTION	UNIT	RATE(\$)	CODE
<u>CARPENTRY AND JOINERY</u>				
Approved calcium silicate board as ceiling board including corrosion resistant countersunk screws fixed to timber joists as specified (timber joists and painting measured separately):				
270	9mm thick.	m ²	\$19.10	SF128
271	12mm thick.	m ²	\$22.60	SF049
272	Ceiling duct for concealment of discharge pipes and fittings comprising of 9mm thick calcium silicate board with galvanised steel angle frames, including egg crate chrome plastic lighting diffuser with powder coated aluminium frames as specified. (measurement based on exposed surface area of duct and painting measured separately).	m ²	\$103.60	SF204
273	9mm thick calcium silicate board as box-up for concealment of gas pipes complete with 40 x 40 x 3mm thick galvanised steel angle frames/supports as specified (painting measured separately).	m ²	\$75.80	SF208
274	Approved calcium silicate board with 1-hour compartmentation as box-up for concealment of gas pipes complete with galvanised steel angle frames/supports as specified (painting measured separately).	m ²	\$101.60	SF209
275	Extra over items SF208 and SF209 for forming 15mm diameter ventilation holes at 300mm centres.	m	\$1.50	SF210
276	Sawn timber in wall plates, rafters, purlins, joists, collars and backing pieces.	m ³	\$1,819.00	SF004
277	Extra over structural timber for pressure impregnation treatment with approved wood preservative.	m ³	\$82.20	SF005
278	Wrot timber for BOARDS under 50mm thick and 100mm or more wide including all labour and materials for any necessary jointings.	m ³	\$1,661.80	SF006
279	Wrot timber for frame, head, mullion, transome or cill worked to the required shape.	m ³	\$1,976.00	SF007
280	Wrot timber for hand rails not exceeding 5,000 mm ² in sectional area.	m	\$27.40	SF010

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S/N	DESCRIPTION	UNIT	RATE(\$)	CODE
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CARPENTRY AND JOINERY (CONT'D)

Wrot timber for architraves, cover fillets, etc:

281	not exceeding 500 mm ² in sectional area.	m	\$2.50	SF008
282	exceeding 500 mm ² but not exceeding 1,000 mm ² in sectional area.	m	\$3.00	SF009

Wrot timber for louvre blades:

283	not exceeding 2,000 mm ² in sectional area.	m	\$5.10	SF011
284	exceeding 2,000 mm ² but not exceeding 4,000 mm ² in sectional area.	m	\$5.90	SF012

Boarding in shelving, partitions, panellings, etc screwed on:

285	19mm thick.	m ²	\$48.60	SF013
286	25mm thick.	m ²	\$55.40	SF014

45mm thick solid cored timber door comprising of 33mm thick tongued and grooved jointed boards fixed together with 3nos 10mm diameter bolts and filled in both faces with 6mm thick plywood lining as specified (door frame and ironmongery measured separately):

287	Single-leaf door Type DT2A or ST1 for opening of 1000 x 2190mm height.	no	\$435.30	SF096
288	Double leaf door Type DT2B or ST2 for opening of 1500 x 2190mm height.	no	\$650.00	SF094

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S/N	DESCRIPTION	UNIT	RATE(\$)	CODE
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CARPENTRY AND JOINERY (CONT'D)

38mm thick single-leaf semi-cored timber flush door with 6mm thick plywood lining on both faces as specified (door frame, calcium silicate panel and ironmongery measured separately):

289	Type DT1B/DF1B for opening 450 x 2190mm height.	no	\$201.20	SF164
290	Type DT1C/DF1C for opening 500 x 2190mm height.	no	\$209.60	SF165
291	Type HT/1 or HTF/1 for opening of 380 x 2190mm height.	no	\$180.00	SF192
292	Type HT/2 or HTF/2 for opening of 530 x 2190mm height.	no	\$180.00	SF193
293	Type HT/3 or HTF/3 for opening of 780 x 2190mm height.	no	\$193.80	SF194
294	Type HT/4 or HTF/4 for opening of 880 x 2190mm height.	no	\$205.30	SF195
295	12mm thick calcium silicate fixed panel to top of door complete with supporting frames as specified.	m ²	\$51.30	SF187
296	Laminated UPVC swing door with integrated architrave to bedroom complete with laminated door frame with integrated architrave, hinges, stainless steel finish door handles, door catch and recessed lockset as specified to opening size of 1000x2190mm.	no	\$470.60	SF225
297	Laminated UPVC folding toilet door with integrated architrave complete with laminated door frame with integrated architrave, integrated concealed central folding mechanism, hinges, stainless steel finish door handles, door catch and recessed lockset as specified to opening size of 1000x2190mm.	no	\$506.60	SF224

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S/N	DESCRIPTION	UNIT	RATE(\$)	CODE
<u>CARPENTRY AND JOINERY (CONT'D)</u>				
298	38mm thick single-leaf semi-solid timber bedroom door Type DM4, DM5 and DM6 with approved laminated finish on both sides as specified to opening size of 1000x2190mm height (door frame and ironmongery measured separately).	no	\$323.80	SF218
299	45mm thick solid timber main entrance door Type DM1 and DM2 with approved high pressured laminated finish on both sides and complete with mild steel door frame, approved ironmongery as specified to opening size of 1250x2190mm height.	no	\$970.40	SF216
300	45mm thick half-hour fire-rated solid timber main entrance door Type FDM1 and FDM2 with approved high pressured laminated finish on both sides and complete with mild steel door frame, approved ironmongery as specified to opening size of 1250x2190mm height.	no	\$1,036.30	SF215
45mm thick double-leaf half-hour fire rated timber surface finished composite door complete with 100 x 63mm timber door frame, all necessary ironmongery and accessories as specified:				
301	Type FDT2F for opening of 1500 x 2190mm height.	no	\$932.20	SF089
302	Type FST2 for opening of 1500 x 2190mm height.	no	\$940.40	SF202
45mm thick single-leaf half-hour fire rated timber surface finished composite door complete with 90 x 45mm timber door frame, all necessary ironmongery and accessories as specified (fire-rated removable panel measured separately) :				
303	Type FDT1B/FDF1B for opening of 450 x 2190mm height.	no	\$514.00	SF145
304	Type FDT1C/FDF1C for opening of 500 x 2190mm height.	no	\$519.20	SF146
305	Type FDT1E/FDF1E for opening of 650 x 2190mm height.	no	\$539.90	SF148

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S/N	DESCRIPTION	UNIT	RATE(\$)	CODE
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CARPENTRY AND JOINERY (CONT'D)

45mm thick single-leaf half-hour fire rated timber surface finished composite door complete with 90 x 45mm timber door frame, all necessary ironmongery and accessories as specified (fire-rated removable panel measured separately) :

306	Type FDT1F/FDF1F for opening of 750 x 2190mm height.	no	\$563.80	SF149
307	Type FDT1G/FDF1G for opening of 850 x 2190mm height.	no	\$588.80	SF150
308	Type FDT2H for opening of 1000 x 2190mm height.	no	\$624.40	SF091
309	Type FST1 for opening of 1000 x 2190mm height.	no	\$675.60	SF201
310	Type FDT2J for opening of 1000 x 2190mm height with clear glass observation panel size 150 x 600mm.	no	\$642.00	SF092
311	45mm thick half-hour fire rated removal timber panel with 3mm thick plywood finish on both sides and complete with 90x45mm thick timber frame to service duct above door panel.	m ²	\$277.00	SF207
312	One hour fire-rated internal drywall partition system comprising of track, stud, drywall panel, insulation material, joint application and all necessary accessories in accordance with the manufacturer's details and instructions.	m ²	\$94.50	SF223
313	Vinyl strip flooring of size 150-230mm width x 900-1300mm length, and 5mm thick in 4-sided tongue and groove clip system laid on screeded including divider strips and all necessary accessories as specified (cement screed measured separately).	m ²	\$53.80	SF222

Approved waterproofed plywood in panels for shelves, partitions and the like:

314	6mm thick .	m ²	\$22.10	SF033
315	9mm thick .	m ²	\$23.80	SF034
316	12mm thick.	m ²	\$25.70	SF035
317	18mm thick.	m ²	\$30.80	SF036
318	25mm thick.	m ²	\$33.60	SF037

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S/N	DESCRIPTION	UNIT	RATE(\$)	CODE
<u>IRONMONGERY</u>				
Brass lever action flush bolt in satin finish:				
319	200 x 20mm wide.	no	\$11.60	SG091
320	300 x 20mm wide.	no	\$13.70	SG092
Stainless steel shoot bolt:				
321	90 x 27mm barrel/square shoot bolt.	no	\$7.80	SG013
322	240 x 27mm barrel/square shoot bolt.	no	\$10.20	SG014
Stainless steel lever action flush bolt:				
323	225 x 25mm wide.	no	\$11.00	SG072
324	150 x 25mm wide.	no	\$9.40	SG073
Stainless steel lever action box type flush bolt in satin finish:				
325	200 x 20mm wide.	no	\$10.40	SG123
326	300 x 20mm wide.	no	\$11.50	SG124
Stainless steel butt hinges (grade 304):				
327	100 x 70 x 1.5/1.7/1.8mm (±0.2mm) thick.	no	\$5.60	SG141
328	102 x 76 x 2.0mm thick.	no	\$5.60	SG075
329	102 x 76 x 3mm thick satin finished solid brass hinges with flat button tip and ball bearing.	no	\$8.50	SG090
330	Nickel plated cabinet spring hinge.	no	\$3.00	SG137
Cabin hook and eye:				
331	80mm brass.	no	\$11.00	SG080
332	100mm stainless steel.	no	\$16.10	SG041
4mm thick stainless steel plate locking eyes for:				
333	Single leaf door.	set	\$17.20	SG096
334	Double leaf door.	set	\$18.80	SG093

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S/N	DESCRIPTION	UNIT	RATE(\$)	CODE
<u>IRONMONGERY (CONT'D)</u>				
335	18mm diameter (min) x approximate length 225mm stainless steel pull handle.	no	\$20.10	SG110
336	300 x 150 x 1.2mm thick stainless steel push plate.	no	\$27.40	SG111
337	Stainless steel magnetic door holder.	no	\$11.80	SG136
338	Stainless steel finish door viewer with privacy flap and separate external rim.	no	\$18.00	SG040
339	Slim line door closer with cushioned back checking action as specified.	no	\$47.50	SG142
340	Rebated 5 pin double cylinder mortice lockset complete with stainless steel handle as specified.	no	\$84.40	SG143
341	Stainless steel finished mortice lever on backplate lockset with 5 pin single cylinder thumb turn and solid stainless steel lever handles on both sides for entrance door as specified.	no	\$97.40	SG144
342	Cylinder mortice night latch with stainless steel finish including the provision of keys as specified.	no	\$97.20	SG145
343	Stainless steel finished lever handle lockset with 5-pin single cylinder and thumb turn (key on outside and thumb turn on inside) with lever handles on both sides for bedroom door as specified.	no	\$88.60	SG139
344	Privacy knobset with emergency release as specified.	no	\$27.50	SG146

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IRONMONGERY (CONT'D)

Padlock under master key as specified:

345	Union 3104-50mm.	no	\$15.50	SG061
346	Union 3142.	no	\$31.10	SG062
347	Union 3122/2 PL.	no	\$16.60	SG106
348	Yale 110.30.	no	\$12.90	SG063
349	Yale 110.50.	no	\$17.90	SG105
350	Yale 110.60.	no	\$25.00	SG064
351	Abloy 330C/25.	no	\$32.10	SG065
352	Abloy 320C/20.	no	\$32.10	SG127
353	Abloy 330C/25 under key alike series.	no	\$45.00	SG095
354	Stainless steel cup handle as specified.	no	\$14.80	SG148
355	Stainless steel cup handle passage latch with cup handles on both sides as specified.	no	\$32.30	SG149
356	Stainless steel rebated part for lockset.	no	\$10.40	SG094

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S/N	DESCRIPTION	UNIT	RATE(\$)	CODE
<u>STRUCTURAL STEELWORK & METALWORK</u>				
Galvanised steel Class 'A' pipe bent to shape and fixed as rails including necessary bends, tees, etc welded (masonry work measured separately):				
357	50mm diameter.	m	\$14.30	SH469
358	40mm diameter.	m	\$11.50	SH470
359	30mm diameter.	m	\$10.30	SH471
360	20mm diameter.	m	\$7.80	SH472
361	Galvanised wrought iron holdfast 25x230x3mm, one end screwed to door or window frames and the other end fishtailed and built into joints of brick or block walls, or cast into reinforced concrete walls/columns.	no	\$2.20	SH410
362	Heavy duty hot-dipped galvanised steel grating comprising of 65x9mm thick flats as framing, 65x9mm thick intermediate flats spaced at 30mm centres resting on 12mm diameter rods at 85mm centres and supporting on 75x75x9.4mm thick angle frame anchored to concrete structure with mild steel fish tail.	m ²	\$1,024.90	SH475
363	Heavy duty hot-dipped galvanised steel grating comprising of 65x9mm thick flats as framing, 50x9mm thick intermediate flats spaced at 30mm centres resting on 10mm diameter rods at 75mm centres and supporting on 75x75x9.4mm thick angle frame anchored to concrete structure with mild steel fish tail.	m ²	\$931.50	SH590
364	Heavy duty hot-dipped galvanised steel grating comprising of 65x10mm thick flats as framing, 55x10mm thick intermediate flats at 30mm centres resting on 10mm diameter bars at 75mm centres and supporting on 75x60x8mm thick angle frame anchored to concrete structure with mild steel fish tail.	m ²	\$864.10	SH714
365	300mm wide hot dipped galvanised steel grating over apron drain comprising of 50x8mm thick galvanised steel flats as framing infilled with 10 nos 25x6mm thick galvanised steel flats resting on 25x6mm thick galvanised steel flat supports at 200mm centres as specified.	m	\$102.20	SH658

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S/N	DESCRIPTION	UNIT	RATE(\$)	CODE
<u>STRUCTURAL STEELWORK & METALWORK (CONT'D)</u>				
366	300x600mm hot dipped galvanised steel hinged grating over apron drain comprising of 32x9mm thick galvanised steel flats as framing infilled with 9 nos 25x6mm thick galvanised steel flats resting on 2 nos 25x6mm thick galvanised steel flats and supported on 64x38x4.5mm thick galvanised steel angle frame anchored to concrete structure as specified.	no	\$85.50	SH659
367	300x600mm hot-dipped galvanised hinged grating complete with 3mm thick galvanised mild steel chequered plate over reinforced concrete apron drain as specified.	no	\$82.10	SH568
368	0.8mm thick galvanised steel motorised roller shutter (with ventilation holes) finished with colourbond silicone modified polyester coating complete with channel guide, shutter motor, angle bolts, bottom rail, auto-stop safety device, push-button switches in weatherproof control box with utility lock and all necessary components in accordance with Manufacturer's instructions to centralised refuse chamber with approximate overall size 3400mm (min) wide x 3800mm height to underside of motor casing.	no	\$3,780.00	SH411
369	0.5mm (minimum) thick zincalume steel motorised roller shutter (with ventilation holes) finished with colourbond silicone modified polyester coating complete with channel guide, shutter motor, angle bolts, bottom rail, auto-stop safety device, push-button switches in weatherproof control box with utility lock and all necessary components in accordance with Manufacturer's instructions to centralised refuse chamber with approximate overall size 3400mm (min) wide x 3800mm height to underside of motor casing.	no	\$3,507.50	SH489
370	Galvanised steel grille panel over parapet at staircase & common corridor comprising of 50x50x1.6mm thick hollow section frame filled in with 18x9mm thick flats spaced at not more than 100mm centres welded on to frame and the panel fixed to wall with 38x9mm fishtail holdfast.	m ²	\$193.90	SH707
371	Galvanised steel railing 900mm high at staircase comprising of 18x9mm thick flat baluster spaced at not more than 100mm centres and 25x25x1.6mm thick hollow section supports at not more than 1200mm centres, all welded to 43mm diameter x 1.6mm thick hollow section handrail and 38x9mm thick flat bottom rail and the support cast into concrete curb.	m	\$142.60	SH708

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S/N	DESCRIPTION	UNIT	RATE(\$)	CODE
<u>STRUCTURAL STEELWORK & METALWORK (CONT'D)</u>				
372	Galvanised steel grille panel comprising of 50x50x6mm thick hollow section framings filled in with 19x10x1.2mm thick hollow section members welded to the frame and panel fixed to wall with 25x25x2.2mm thick hollow section supports.	m ²	\$131.70	SH587
373	Mild steel Grade 43A for flats, angles, tees, channels, hollow sections, square sections, rivets and bolts, etc. of any size fabricated and fixed including welding or bolting, and painting with one coat of lead and chromate-free primer (for structural steel work only).	kg	\$8.10	SH018
374	Mild steel flats, angles, tees, channels, rivets and bolts, etc. of any size fabricated and fixed including welding or bolting (for non-structural steel work only).	kg	\$6.30	SH019
375	Extra over mild steel rods, flats, angles, tees, channels, hollow sections, rivets, bolts, etc for galvanising in lieu of painting one coat of lead and chromate-free primer.	kg	\$0.40	SH670
376	Extra over mild steel rods, flats, angles, tees, channels, hollow sections, rivets, bolts, etc for galvanising.	kg	\$0.70	SH584
377	13mm diameter mild steel fan hook to concrete surface of ceiling.	no	\$9.80	SH022
378	Ramset Nail No.2330 or equal and approved including use of gun and explosive charges.	no	\$0.90	SH023
379	Mild steel blast door BD4 for household shelter complete with mild steel door frames, hinges, locking device, stainless steel handles ventilation sleeve and plate units, etc including approved primer as specified.	no	\$1,042.20	SH671
380	Steel gate in 2 leaves constructed in accordance with the design, pattern and type as shown in the drawings, fixed to metal door frame of entrance door of opening size 1250x2240mm height complete with approved ironmongery and aluminium house number plate and painting system as specified.	no	\$789.10	SH720
381	Wrought iron steel gate in 3 leaves constructed in accordance with the design, pattern and type as shown in the drawings, fixed to metal door frame of entrance door of opening size 1250x2190mm height complete with approved ironmongery, wrought iron house number plate and painting as specified.	no	\$407.60	SH715

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STRUCTURAL STEELWORK & METALWORK (CONT'D)

Mild steel door frame fixed into door openings in accordance with Board's Standard Drawings including one coat of approved primer and all necessary fittings and hinges, all as specified:

382	90 x 45 x 1.6mm thick jamb to opening size 1000mm width x 2190mm height.	no	\$76.50	SH062
383	130 x 45 x 1.6mm thick jamb to opening size 1000mm width x 2190mm height.	no	\$80.50	SH073
384	70 x 60 x 1.6mm thick jamb to opening size 1250mm width x 2190mm height.	no	\$149.50	SH084

3.175mm B.G. x 50mm PVC coated mesh Chain Link Fencing of the following heights, to top of mesh with 3 nos. horizontal lines of double strand 2.517mm B.G. galvanised barbed wire above at 100mm centres, the chain link and barbed wires fixed to and including 50x50x6mm angle iron posts at 3m centres with top bent to form spurs and bottom cast in 300x300x450mm deep concrete (1:3:6) foundations including all necessary straining and tying wires and split pins and priming and painting posts with one coat aluminium paint:

385	1.20m high.	m	\$47.00	SH009
386	1.50m high.	m	\$51.20	SH011
387	1.80m high.	m	\$57.80	SH013
388	2.10m high.	m	\$62.80	SH015
389	2.40m high.	m	\$82.80	SH017
390	625mm high fluorocarbon coated aluminium sunbreaker comprising of 50.8mm diameter x 3mm thick aluminium CHS frames filled in with 3mm thick aluminium perforated sheets and fixed according to PE's recommendations as specified (rate inclusive of the provision of 10-year warranty).	m	\$157.30	SH672
391	0.7mm thick aluminium false ceiling comprising of 600 x 600mm double coated polyester stove enamelled colour aluminium tiles complete with all fixing accessories, suspension hangers, etc in accordance to Manufacturer's instructions.	m ²	\$100.60	SH585
392	3mm thick aluminium chequered plate cover to bulk meter sump complete with stainless steel handle, hinges and welded to and including galvanised steel frames.	m ²	\$311.50	SH709

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STRUCTURAL STEELWORK & METALWORK (CONT'D)

Natural anodised aluminium door comprising of 97 x 42 x 2.3mm thick natural anodised aluminium top rail and stiles, and 120x42x2.3mm thick middle and bottom rails filled in with 2.3mm thick natural anodised aluminium louvres complete with 2.3mm thick galvanised steel door frame and all necessary ironmongery and accessories as specified:

393	Single leaf door Type DT5 for opening of 900 x 2190mm height.	no	\$1,377.70	SH420
394	Double-leaf door Type D7A for opening of 1500 x 2190mm height.	no	\$2,254.00	SH479

Natural anodised aluminium door comprising of 40 x 30 x 3mm thick aluminium stiles, top, bottom and intermediate rails covered with 2mm thick aluminium flat sheet on both faces and fill in with rockwool (density: 60kg/m³) complete with 2.3mm thick aluminium door frame and all ironmongery and accessories as specified:

395	Single-leaf door Type DT2G/DT2J for opening of 1000 x 2190mm height.	no	\$1,461.70	SH599
396	Double-leaf door Type DT2E for opening of 1500 x 2190mm height.	no	\$2,357.50	SH597

Natural anodised aluminium door comprising of 100 x 42 x 2.3mm thick aluminium stiles, top, bottom and intermediate rails covered with 2mm thick aluminium flat sheet on both faces complete with 2.3mm thick aluminium door frame and all ironmongery and accessories as specified:

397	Single-leaf door Type STM1 for opening of 1000 x 2190mm height.	no	\$1,756.10	SH681
398	Double-leaf door Type STM2 for opening of 1500 x 2190mm height.	no	\$2,801.40	SH682

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STRUCTURAL STEELWORK & METALWORK (CONT'D)

Natural anodised aluminium door comprising of aluminium supports and bracings covered with 2mm thick aluminium flat sheet on both faces and filled in with rockwool complete with aluminium refuse hopper, fixed aluminium louvred vent and 2.3mm thick aluminium door frame and all ironmongery and accessories as specified:

399	Single leaf door Type DT6 for opening of 1000 x 2190mm height.	no	\$2,453.80	SH600
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400	Double-leaf door Type DT6B for opening of 1500 x 2190mm height.	no	\$3,711.90	SH602
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Heavy duty natural anodised aluminium louvred door for ESS comprising of 2.3mm thick aluminium louvres complete with 2mm thick aluminium door frame including ironmongery all as specified:

401	Double-leaf door Type ALD/1 for opening of 2700 x 2700mm height.	no	\$3,025.70	SH574
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402	Double-leaf door Type ALD/2 for opening of 1800 x 2900mm height.	no	\$2,354.10	SH579
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Heavy duty natural anodised aluminium flush door for ESS complete with 2mm thick aluminium door frame including ironmongery all as specified:

403	Single-leaf door Type AFD/3 for opening of 900 x 1500mm height.	no	\$1,483.50	SH711
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404	Double-leaf door Type AFD/4 for opening of 1800 x 1500mm height.	no	\$2,404.70	SH712
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405	Single-leaf door Type AFD/5 for opening of 900 x 2200mm height.	no	\$1,629.60	SH713
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Bronze anodised aluminium louvred vent at service duct complete with frame filled in with 2.3mm thick extruded aluminium louvred blades for:

406	Opening size 615 x 400mm height.	no	\$116.20	SH605
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407	Opening size 310 x 900mm height.	no	\$146.10	SH606
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S/N	DESCRIPTION	UNIT	RATE(\$)	CODE
<u>STRUCTURAL STEELWORK & METALWORK (CONT'D)</u>				
408	Three-way natural anodised aluminium letter box with anti-junk mail device in accordance with Board's Standard Drawings including master doors, locks and keys and engraving with house numbers, block numbers and street name to top frame of letter box (masonry work measured separately).	no	\$86.30	SH717
409	Block number numeral size 500mm high x 35mm deep made to profile, with 1.5mm thick bronze anodised aluminium sheet and fixed to wall with aluminium extruded sections as specified.	no	\$44.30	SH559
Anodised aluminium motorised roller shutter (with ventilation holes) with channel guide, shutter motor, angle bolts, bottom rail, auto-stop safety device, push-button switches in weatherproof control box with utility lock and all necessary components in accordance with Manufacturer's instructions:				
410	Approximate size 3400mm wide (min) x 3800mm height to underside of motor casing for centralised refuse chamber comprising of 1.6mm thick extruded aluminium curtain interlocking slats.	no	\$3,910.00	SH412
411	Approximate size 2100mm wide (min) x 2100mm height to underside of motor casing for utilities centre comprising of 1.6mm thick extruded aluminium curtain interlocking slats.	no	\$1,000.50	SH607
412	Aluminium alloy inspection door overall size 550 x 800mm comprising of 1.2mm thick aluminium sheets to both faces supported with aluminium "C" channel bracings complete with aluminium frames, 100mm stainless steel butt hinges and cam lock to manufacturer's details.	no	\$394.60	SH414

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<u>STRUCTURAL STEELWORK & METALWORK (CONT'D)</u>				
413	40mm thick inspection cover for refuse chute overall size 1140 x 1140mm to top of refuse chute comprising of 1.2mm thick anodised aluminium alloy sheets on both faces supported with 1.2mm thick galvanised steel "C" channel bracings and infilled with rockwool insulation complete with 5mm thick extruded aluminium section framings including stainless steel friction stay, hinges and hot dipped galvanised steel safety mesh supported on galvanised steel angle, etc to manufacturer's details.	no	\$434.00	SH413
414	Aluminium catladder approximately 355mm wide comprising of aluminium 'U' channel handle, 25mm diameter tubular aluminium rungs, complete with aluminium hooks, brackets, rubber cappings and all necessary fixing accessories as specified.	m	\$128.50	SH586
415	Aluminium retractable ladder overall 2900mm long comprising of aluminium 'C' channel, aluminium hooks, 25mm diameter aluminium rungs spaced at 305mm apart and complete with 2 sets of aluminium fixing brackets including all necessary fixing accessories as specified.	no	\$570.20	SH129
416	Aluminium retractable ladder overall 5700mm long comprising of aluminium 'C' channel, aluminium hooks, 25mm diameter aluminium rungs spaced at 305mm apart and complete with 5 sets of aluminium fixing brackets including all necessary fixing accessories as specified.	no	\$1,111.10	SH130
417	Aluminium cage guard comprising of 6 nos. of 32mm diameter (external) aluminium pipes spaced not more than 650mm apart with 38x6mm thick vertical aluminium flats rivetted to pipes and including all necessary fixing accessories as specified.	no	\$185.40	SH131
418	Purpose made aluminium handrails of overall 1000mm (approx) height to roof top access opening comprising of 32mm diameter (external) aluminium pipe bent to shape and welded with 10mm thick aluminium plates and including all necessary fixing accessories as	pr	\$339.70	SH132
419	Bronze anodised extruded aluminium framed adjustable louvred vents complete with aluminium 'U' clips/holders, 6mm thick obscure wired rough cast glass louvres and all necessary fixing and jointing materials and accessories as specified (measurement based on size of opening).	m ²	\$397.90	SH677

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<u>STRUCTURAL STEELWORK & METALWORK (CONT'D)</u>				
420	Bronze anodised extruded aluminium framed fixed louvred vent complete with 2.3mm thick extruded bronze anodised aluminium louvred blades, and all necessary fixing and jointing materials and accessories as specified (based on size of opening).	m ²	\$385.30	SH678
	Bronze anodised extruded aluminium framed window complete with 5mm thick green grey/grey tinted float glass and ironmongery and all necessary fixing and jointing materials and accessories as specified (measurement based on size of opening):			
421	Top hung casement window.	m ²	\$469.20	SH673
422	Top and side hung casement windows.	m ²	\$365.70	SH674
423	2-track sliding window with top hung casement.	m ²	\$303.60	SH675
424	3-track sliding window with top hung casement.	m ²	\$304.80	SH676
425	Bronze anodised extruded aluminium framed sliding door complete with 6mm thick green grey/grey tinted float glass, ironmongery and jointing materials and accessories as specified (measurement based on size of opening).	m ²	\$241.50	SH680
426	Bronze anodised extruded aluminium framed fixed louvred vent for ESS complete with 2.3mm thick extruded bronze anodised aluminium louvred blades and all necessary fixing and jointing materials and accessories as specified (measurement based on size of opening).	m ²	\$471.50	SH706

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STRUCTURAL STEELWORK & METALWORK (CONT'D)

2mm thick natural anodised aluminium sign plate with helvetica medium letters and figures/symbols engraved in black/red colour including fixing with stainless steel screws as specified:

427	200/220 x 25mm services duct signage.	no	\$13.90	SH480
428	300 x 300mm 'No Smoking' sign plate.	no	\$21.70	SH582
429	700mm to 1000mm long x 120mm high sign plates for services rooms.	no	\$37.00	SH468
430	700mm to 1000mm long x 120mm high warning sign plate for consumer switch room.	no	\$37.00	SH142

2mm thick natural anodised aluminium sign plate with folio caravelle bold letters and figures/symbols engraved in red colour including fixing with stainless steel screws as specified :

431	70mm height x width of door leaf (approximately 290mm to 790mm) with the wordings "Wet Rising Main Outlet", "Dry Rising Main Inlet", "Fire Hose Reel" or "Down Comer Outlet".	no	\$23.70	SH660
432	130mm height x width of door leaf (approximately 290mm to 790mm) with the wordings "Wet Rising Main Outlet", "Dry Rising Main Outlet", "Wet Rising Main Inlet", "Dry Rising Main Inlet" or "Down Comer Outlet".	no	\$26.00	SH661

Signplate to multi-storey carpark comprising of 2mm thick natural anodised aluminium plate with approved Engineer's grade reflective sheets with helvetica medium letters and figures/symbols fixed to wall as specified:

433	450 x 250mm.	no	\$28.80	SH704
434	450 x 450mm.	no	\$53.80	SH591
435	600 x 250mm.	no	\$37.30	SH705
436	600 x 450mm.	no	\$58.90	SH592

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<u>STRUCTURAL STEELWORK & METALWORK (CONT'D)</u>				
437	Height limit signboard comprising of 600 x 600 x 2mm thick aluminium plate with approved Engineer's grade reflective sheets and letterings on one face mounted on and including 50 x 50 x 6mm thick mild steel hollow section with base plate set in concrete (1:2:4) foundation and all necessary excavation as specified.	no	\$217.60	SH593
438	External clothes drying racks consist of stainless steel clothes drying racks extrusion with 3 nos of fixed stainless steel poles (length of each pole is 1200mm to 2100mm), bend sections and all necessary components fixed to structure as specified,	set	\$447.80	SH112
439	Internal ceiling mounted retractable clothes drying racks consist of aluminium extrusion poles (length of each pole is 1200mm to 2000mm); brackets, links, fasteners and all necessary components fixed to structure as specified.	set	\$373.80	SH113
440	Complete set of clothes drying racks at recess area comprising of 2 nos aluminium racks and stainless steel railings of approximate size 2800 x 1250mm height as specified.	set	\$948.80	SH571
2mm thick grade 304 hair-line finish stainless steel plate signage with letterings and graphics engraved, all as specified:				
441	200 x 200mm signage for central refuse chute.	no	\$20.30	SH416
442	Foot-operated grade 304 stainless steel refuse chute hopper to centralised refuse chute complete with all necessary fixing accessories as specified.	no	\$862.50	SH476
443	Galvanised steel Dual Bicycle Rack System as specified and shown in drawings.	no	\$437.00	SH718
444	600mm x 400mm clear acrylic Dual Bicycle Rack System Information Panel including anti-theft stainless steel countersunk screws as specified and shown in drawings.	no	\$115.00	SH719

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STRUCTURAL STEELWORK & METALWORK (CONT'D)

Stainless steel pipe for railing purposes including all necessary cutting, welding, polishing, bending to shape and fixing on site.(Measurement based on length of stainless steel pipes):

445	19.1mm diameter x 1.0mm thick.	m	\$41.50	SH687
446	19.1mm diameter x 1.2mm thick.	m	\$41.90	SH688
447	25.4mm diameter x 1.0mm thick.	m	\$51.40	SH689
448	25.4mm diameter x 1.5mm thick.	m	\$53.10	SH690
449	31.8mm diameter x 1.5mm thick.	m	\$64.50	SH691
450	31.8mm diameter x 2.0mm thick.	m	\$66.90	SH692
451	38.1mm diameter x 1.5mm thick.	m	\$75.00	SH693
452	38.1mm diameter x 2.0mm thick.	m	\$77.90	SH694
453	50.8mm diameter x 1.5mm thick.	m	\$95.30	SH695
454	50.8mm diameter x 2.0mm thick.	m	\$99.40	SH696

Stainless steel square tube for railing purposes including all necessary cutting, welding, polishing, bending to shape and fixing on site. (Measurement based on length of stainless steel square tube):

455	19.1mm x 19.1mm x 1.2mm thick.	m	\$44.70	SH697
456	25.4mm x 25.4mm x 1.5mm thick.	m	\$56.40	SH698
457	31.8mm x 31.8mm x 1.5mm thick.	m	\$67.10	SH699
458	38.1mm x 38.1mm x 1.5mm thick.	m	\$78.60	SH700
459	40.0mm x 40.0mm x 2.0mm thick.	m	\$90.50	SH701
460	50.8mm x 50.8mm x 2.0mm thick.	m	\$104.90	SH702
461	Stainless steel flats, angles, plates, channels, bolts, etc including cutting, welding, polishing and fixing on site complete with other fixing accessories.	kg	\$32.10	SH703

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S/N	DESCRIPTION	UNIT	RATE(\$)	CODE
<u>STRUCTURAL STEELWORK & METALWORK (CONT'D)</u>				
Galvanised heavy duty expansion anchor bolt including stud anchor, nut and washer :				
462	8mm anchor diameter x 95mm long (Hilti HSL 3M8/20).	no	\$16.00	SH346
463	8mm anchor diameter x 115mm long (Hilti HSL 3M8/40).	no	\$17.30	SH347
464	10mm anchor diameter x 107mm long (Hilti HSL 3M10/20).	no	\$18.40	SH348
465	12mm anchor diameter x 120mm long (Hilti HSL 3M12/25).	no	\$24.90	SH349
466	12mm anchor diameter x 145mm long (Hilti HSL 3M12/50).	no	\$27.40	SH350
467	20mm anchor diameter x 183mm long (Hilti HSL 3M20/30).	no	\$62.90	SH351
468	24mm anchor diameter x 205mm long (Hilti HSL 3M24/30).	no	\$75.40	SH352
469	M10 x 108mm length (Ramset SA10108).	no	\$13.10	SH353
470	M10 x 128mm length (Ramset SA10128).	no	\$13.50	SH354
471	M12 x 98mm length (Ramset SA12098).	no	\$14.10	SH355
472	M12 x 124mm length (Ramset SA12124).	no	\$14.90	SH356
473	M12 x 153mm length (Ramset SA12153).	no	\$15.20	SH357
474	M16 x 149mm length (Ramset SA16149).	no	\$17.20	SH358
475	M16 x 167mm length (Ramset SA16167).	no	\$19.90	SH359
476	M20 x 189mm length (Ramset SA20189).	no	\$27.80	SH360
477	M20 x 219mm length (Ramset SA20219).	no	\$28.80	SH361
478	M24 x 197mm length (Ramset SA24197).	no	\$44.40	SH362
479	M24 x 236mm length (Ramset SA24236).	no	\$46.40	SH363

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<u>STRUCTURAL STEELWORK & METALWORK (CONT'D)</u>				
Galvanised medium duty expansion anchor bolt including stud anchor, nut and washer :				
480	6mm anchor diameter x 65mm long (Hilti HSA M6x65).	no	\$3.40	SH365
481	6mm anchor diameter x 100mm long (Hilti HSA M6x100).	no	\$6.00	SH366
482	8mm anchor diameter x 75mm long (Hilti HSA M8x75).	no	\$6.20	SH367
483	8mm anchor diameter x 115mm long (Hilti HSA M8x115).	no	\$6.50	SH368
484	10mm anchor diameter x 90mm long (Hilti HSA M10x90).	no	\$6.80	SH369
485	10mm anchor diameter x 120mm long (Hilti HSA M10x120).	no	\$7.90	SH370
486	12mm anchor diameter x 110mm long (Hilti HSA M12x110).	no	\$8.60	SH371
487	12mm anchor diameter x 180mm long (Hilti HSA M12x180).	no	\$11.80	SH372
488	16mm anchor diameter x 145mm long (Hilti HSA M16x145).	no	\$11.60	SH373
489	20mm anchor diameter x 170mm long (Hilti HSA M20x170).	no	\$16.90	SH374
490	6mm anchor diameter x 45mm long (Ramset Trubolt T6045).	no	\$2.60	SH375
491	6mm anchor diameter x 55mm long (Ramset Trubolt T6055).	no	\$2.80	SH376
492	6mm anchor diameter x 85mm long (Ramset Trubolt T6085).	no	\$5.50	SH377
493	8mm anchor diameter x 50mm long (Ramset Trubolt T8050).	no	\$3.00	SH378
494	8mm anchor diameter x 65mm long (Ramset Trubolt T8065).	no	\$2.80	SH379

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<u>STRUCTURAL STEELWORK & METALWORK (CONT'D)</u>				
Galvanised medium duty expansion anchor bolt including stud anchor, nut and washer (Cont'd):				
495	8mm anchor diameter x 90mm long (Ramset Trubolt T8090).	no	\$5.40	SH380
496	8mm anchor diameter x 130mm long (Ramset Trubolt T8130).	no	\$6.20	SH381
497	10mm anchor diameter x 60mm long (Ramset Trubolt T10060).	no	\$3.00	SH382
498	10mm anchor diameter x 75mm long (Ramset Trubolt T10075).	no	\$3.00	SH383
499	10mm anchor diameter x 90mm long (Ramset Trubolt T10090).	no	\$5.60	SH384
500	10mm anchor diameter x 120mm long (Ramset Trubolt T10120).	no	\$6.60	SH385
501	12mm anchor diameter x 80mm long (Ramset Trubolt T12080).	no	\$6.00	SH386
502	12mm anchor diameter x 100mm long (Ramset Trubolt T12100).	no	\$6.10	SH387
503	12mm anchor diameter x 140mm long (Ramset Trubolt T12140).	no	\$7.00	SH388
504	16mm anchor diameter x 100mm long (Ramset Trubolt T16100).	no	\$7.00	SH389
505	16mm anchor diameter x 125mm long (Ramset Trubolt T16125).	no	\$7.90	SH390
506	16mm anchor diameter x 175mm long (Ramset Trubolt T16175).	no	\$10.00	SH391
507	20mm anchor diameter x 120mm long (Ramset Trubolt T20120).	no	\$10.60	SH394
508	20mm anchor diameter x 160mm long (Ramset Trubolt T20160).	no	\$14.00	SH396
509	20mm anchor diameter x 215mm long (Ramset Trubolt T20215).	no	\$18.80	SH398

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<u>STRUCTURAL STEELWORK & METALWORK (CONT'D)</u>				
Chemical Adhesive Galvanised stud anchor including anchor rod, nut and washer :				
510	8mm anchor diameter x 110mm long with chemical capsules (Ramset M8110/CHEM8).	no	\$7.20	SH399
511	10mm anchor diameter x 130mm long with chemical capsules (Ramset M10130/CHEM10).	no	\$8.40	SH400
512	12mm anchor diameter x 160mm long with chemical capsules (Ramset M12160/CHEM12).	no	\$10.20	SH401
513	16mm anchor diameter x 190mm long with chemical capsules (Ramset M16190/CHEM16).	no	\$12.60	SH402
514	24mm anchor diameter x 300mm long with chemical capsules (Ramset M24300/CHEM24).	no	\$22.90	SH403
515	8mm anchor diameter x 80mm long with adhesive capsule (Hilti HAS M8 + HVU).	no	\$13.40	SH404
516	10mm anchor diameter x 90mm long with adhesive capsule (Hilti HAS M10 + HVU).	no	\$16.00	SH405
517	12mm anchor diameter x 110mm long with adhesive capsule (Hilti HAS M12 + HVU).	no	\$19.00	SH406
518	16mm anchor diameter x 125mm long with adhesive capsule (Hilti HAS M16 + HVU).	no	\$25.60	SH407
519	20mm anchor diameter x 170mm long with adhesive capsule (Hilti HAS M20 + HVU).	no	\$35.50	SH408
520	24mm anchor diameter x 210mm long with adhesive capsule (Hilti HAS M24 + HVU).	no	\$44.30	SH409
Chemical Capsule all to manufacturer's instructions:				
521	Hilti HVU M8.	no	\$8.50	SH553
522	Hilti HVU M10.	no	\$10.20	SH554
523	Hilti HVU M12.	no	\$11.70	SH555
524	Hilti HVU M16.	no	\$14.90	SH556
525	Hilti HVU M20.	no	\$18.50	SH557
526	Hilti HVU M24.	no	\$20.30	SH558

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<u>WALL AND CEILING FINISHES</u>				
527	Hack existing concrete surface to form keys and wash and clean to receive finishes.	m ²	\$6.10	SI001
Skim coat of approved skimming materials applied from within the building:				
528	To wall.	m ²	\$7.60	SI002
529	To ceiling.	m ²	\$8.20	SI004
Skim coat of approved skimming materials applied from the external face of the building:				
530	To wall.	m ²	\$9.20	SI003
531	To sides and soffit of beam and slab.	m ²	\$9.90	SI005
532	Skim coating to external RC surfaces in two coats to a maximum total thickness of 6mm using approved skimming materials as specified.	m ²	\$22.50	SI035
533	Two coats of polymer compound and cement (1:2) mixture (total thickness 2.5mm) to concrete blockwall.	m ²	\$8.70	SI029
534	18mm thk plastering with approved PREPACKED MORTAR MIX to RC surfaces, brickwalls and blockwalls etc., applied from within the building as specified.	m ²	\$26.50	SI037
535	18mm thk plastering with approved PREPACKED MORTAR MIX to RC surfaces, brickwalls and blockwalls etc., applied from the external face of the building as specified.	m ²	\$31.30	SI038
536	Extra over plastering for forming 20 x 15mm deep groove lines to walls, columns, beams, etc as specified.	m	\$5.10	SI032
537	Pattern coloured glazed ceramic wall tiles size 600mm x 300mm x 9mm thick of approved colours, patterns and texture to walls including prepacked mortar screed as specified.	m ²	\$73.60	SI041
538	Glazed porcelain wall tiles of approved colours, patterns and textures (nominal size 600 x 300 x 9mm) to wall surface including prepacked mortar screed as specified.	m ²	\$77.10	SI034

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S/N	DESCRIPTION	UNIT	RATE(\$)	CODE
<u>SANITARY, WATER AND GAS INSTALLATION</u>				
UPVC pipe for rainwater fixed to wall with collar brackets as specified:				
539	200mm diameter.	m	\$36.10	SJ324
Extra over UPVC rainwater downpipe for fittings:				
540	200mm diameter connector piece.	no	\$41.90	SJ329
541	200 x 50mm diameter junction.	no	\$40.70	SJ387
542	200mm diameter x 275 x 120 mm adaptor.	no	\$87.50	SJ326
UPVC fittings for rainwater downpipe :				
543	120 x 275mm rectangular elbow.	no	\$142.20	SJ327
544	Rectangular 'Y' branch junction.	no	\$142.70	SJ328
UPVC pipe for rainwater outlet embedded in concrete floor (concrete measured separately):				
545	200 x 80 x 5mm thick rectangular pipe.	m	\$34.00	SJ331
546	275 x 120 x 5mm thick rectangular pipe.	m	\$40.30	SJ330
547	UPVC screw-down domical grating to top of 200mm diameter pipe complete with 240 x 240mm square body.	no	\$45.00	SJ325
UPVC pipe for underground sewer with flexible joints laid on concrete bed in trench (trench and concrete bed measured separately) :				
548	100mm diameter.	m	\$14.50	SJ390
549	150mm diameter.	m	\$18.30	SJ391
550	200mm diameter.	m	\$30.30	SJ392
Extra over UPVC sewer pipe for fittings:				
551	100mm diameter bend (all angles).	no	\$9.70	SJ393

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S/N	DESCRIPTION	UNIT	RATE(\$)	CODE
<u>SANITARY, WATER AND GAS INSTALLATION (CONT'D)</u>				
Extra over UPVC sewer pipe for fittings (Cont'd):				
552	100mm diameter Y-junction.	no	\$19.70	SJ394
553	150mm diameter bend (all angles).	no	\$14.10	SJ395
554	150mm diameter Y-junction.	no	\$28.20	SJ396
555	200mm diameter bend (all angles).	no	\$62.10	SJ397
556	200mm diameter Y-junction.	no	\$45.20	SJ398
UPVC pipe Class D for soil, waste, ventilation, discharge stacks and down pipes fixed to wall or ceiling with collar brackets :				
557	80mm diameter.	m	\$23.00	SJ428
558	100mm diameter.	m	\$24.80	SJ399
559	150mm diameter.	m	\$37.20	SJ400
UPVC pipe for soil, waste, ventilation, discharge stacks and down pipes fixed to wall or ceiling with collar brackets :				
560	32mm diameter.	m	\$10.40	SJ401
561	50mm diameter.	m	\$11.60	SJ402
562	80mm diameter.	m	\$16.50	SJ403
563	100mm diameter.	m	\$20.50	SJ404
564	150mm diameter.	m	\$23.50	SJ405
Extra over UPVC soil, waste, ventilation, discharge stacks and down pipes for fittings:				
565	32mm diameter bend (all angles).	no	\$7.20	SJ406
566	50mm diameter bend (all angles) - with double-locking device.	no	\$7.80	SJ407
567	80mm diameter bend (all angles) - with double-locking device.	no	\$12.50	SJ408
568	80mm x 50mm diameter junction.	no	\$16.30	SJ409

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S/N	DESCRIPTION	UNIT	RATE(\$)	CODE
<u>SANITARY, WATER AND GAS INSTALLATION (CONT'D)</u>				
Extra over UPVC soil, waste, ventilation, discharge stacks and down pipes for fittings (cont'd) :				
569	100mm diameter bend (all angles) - with double-locking device.	no	\$12.00	SJ410
570	100mm diameter single junction - with double-locking device.	no	\$18.20	SJ411
571	100mm diameter double junction.	no	\$24.50	SJ412
572	100mm x 50mm diameter single junction - with double-locking device.	no	\$20.00	SJ413
573	100mm x 50mm diameter double junction - with double-locking device.	no	\$30.00	SJ414
574	100mm x 80mm diameter single junction.	no	\$16.40	SJ415
575	100mm x 80mm diameter double junction.	no	\$26.30	SJ416
576	150mm diameter bend (all angles).	no	\$15.10	SJ417
577	150mm diameter single junction.	no	\$29.80	SJ418
UPVC fittings for soil, waste, ventilation, discharge stacks and down pipes :				
578	80mm diameter adaptor.	no	\$13.70	SJ422
579	100mm diameter adaptor.	no	\$14.10	SJ423
580	150mm diameter adaptor.	no	\$14.70	SJ424
Extra over UPVC soil, waste, ventilation, discharge stacks and down pipes for fittings Class D :				
581	100mm x 80mm diameter level invert taper.	no	\$10.60	SJ425
582	150mm x 100mm diameter level invert taper.	no	\$13.00	SJ426
UPVC end cap to waste pipe :				
583	50mm diameter.	no	\$4.20	SJ296
584	100mm diameter.	no	\$5.40	SJ295
585	150mm diameter.	no	\$6.70	SJ294

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S/N	DESCRIPTION	UNIT	RATE(\$)	CODE
<u>SANITARY, WATER AND GAS INSTALLATION (CONT'D)</u>				
UPVC waste outlet to 50mm diameter waste pipe comprising of 110 x 110mm square base including jointing to pipe and setting on concrete floor:				
586	With dome-shaped screw-in grating cover.	no	\$12.50	SJ271
587	With flat round screw-in grating cover.	no	\$7.80	SJ333
UPVC downspout outlet with dome-shaped screw-in grating complete with all necessary accessories and setting in cement mortar as specified:				
588	With 150 x 150mm square base to 80mm diameter pipe.	no	\$15.00	SJ231
589	With 200 x 200mm square base to 100mm diameter pipe.	no	\$20.70	SJ232
590	150mm diameter UPVC gully trap complete with hopper and 150 x 150mm UPVC grating with screw-in round grating cover and filter including jointing to waste pipe and encasing in concrete.	no	\$105.90	SJ265
591	100mm diameter UPVC floor waste complete with hopper and 150 x 150mm UPVC grating with screw-in round grating cover and filter including jointing to waste pipe and encasing in concrete.	no	\$69.10	SJ268
592	130 x 130mm (min) stainless steel tile insert holder for concealed floor trap for bath/wc as specified.	no	\$32.20	SJ511
593	NEA approved PVC anti-mosquito device with strainer to floor and gully traps as specified.	no	\$11.50	SJ368

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S/N	DESCRIPTION	UNIT	RATE(\$)	CODE
<u>SANITARY, WATER AND GAS INSTALLATION (CONT'D)</u>				
100mm diameter UPVC floor trap complete with 150 x 150mm UPVC hinged grating with round grating cover including jointing to waste pipe:				
594	'S' trap - with double-locking device.	no	\$38.60	SJ264
595	'P' trap - with double-locking device.	no	\$36.10	SJ349
UPVC socket sleeve to reinforced concrete floor opening:				
596	100mm diameter.	no	\$6.40	SJ344
597	50mm diameter.	no	\$3.70	SJ346
UPVC vent cowl to top of pipe as specified:				
598	100mm diameter.	no	\$3.60	SJ229
599	150mm diameter.	no	\$6.20	SJ230
Ductile iron pipe with cement lining laid on concrete bed in trench (trench and concrete bed measured separately):				
600	100mm diameter.	m	\$40.60	SJ034
601	150mm diameter.	m	\$54.30	SJ035
Extra over ductile iron pipe for:				
602	100mm diameter bend (all angles).	no	\$38.40	SJ037
603	150mm diameter bend (all angles).	no	\$61.60	SJ038

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S/N	DESCRIPTION	UNIT	RATE(\$)	CODE
<u>SANITARY, WATER AND GAS INSTALLATION (CONT'D)</u>				
604	80mm diameter stainless steel washout connecting pipe 350mm long with stainless steel flange at one end and welded with and including 150mm diameter x 9mm thick stainless steel collar at mid-length and cast in reinforced concrete structure.	set	\$348.40	SJ027
605	28mm diameter stainless steel overflow warning connecting pipe 400mm long welded with and including stainless steel collar at mid-length and cast in reinforced concrete structure.	set	\$94.00	SJ028
606	15mm diameter stainless steel flexible connecting pipe 400mm long welded with and including stainless steel collar at mid-length and cast in reinforced concrete structure.	set	\$10.70	SJ261
Grade 30 concrete bed and haunching to drain pipe complete with 40mm thick lean concrete and all necessary formwork (drain pipes measured separately):				
607	400mm wide x overall 400mm thick to 100mm diameter pipe reinforced with A10 WSF reinforcement.	m	\$58.60	SJ347
608	400mm wide x overall 400mm thick to 100mm diameter pipe reinforced with B10 WSF reinforcement.	m	\$59.20	SJ334
609	400mm wide x overall 400mm thick to 100mm diameter pipe reinforced with B10 WSF reinforcement and 2 nos T13 reinforcement bars.	m	\$64.00	SJ029
610	450mm wide x overall 450mm thick to 150mm diameter pipe reinforced with A10 WSF reinforcement.	m	\$68.60	SJ348
611	450mm wide x overall 450mm thick to 150mm diameter pipe reinforced with B10 WSF reinforcement.	m	\$69.30	SJ335
612	450mm wide x overall 450mm thick to 150mm diameter pipe reinforced with B10 WSF reinforcement and 2 nos T13 reinforcement bars.	m	\$74.10	SJ030
613	500mm wide x overall 500mm thick to 200mm diameter pipe reinforced with A10 WSF reinforcement.	m	\$78.80	SJ386

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S/N	DESCRIPTION	UNIT	RATE(\$)	CODE
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SANITARY, WATER AND GAS INSTALLATION (CONT'D)

Reinforced Concrete Grade 30 inspection chamber/sump comprising of 150mm thick walls and bottom slab, 200mm thick top slab including necessary reinforcement and formwork complete with granolithic concrete benching, half round vitrified clay main and branch channels, cement plastering to internal walls, lean concrete base and excavation (inspection chamber/sump cover and frame measured separately):

614	Overall size 1200 x 1000 x 1070mm deep to invert.	no	\$1,001.70	SJ298
615	Add to last item for each additional 150mm depth.	no	\$100.80	SJ299
616	Overall size 1500 x 1000 x 1070mm deep to invert.	no	\$1,157.20	SJ300
617	Add to last item for each additional 150mm depth.	no	\$116.20	SJ301
618	Overall size 1800 x 1000 x 1070mm deep to invert.	no	\$1,326.20	SJ302
619	Add to last item for each additional 150mm depth.	no	\$131.50	SJ303
620	Overall size 2100 x 1000 x 1070mm deep to invert.	no	\$1,543.10	SJ304
621	Add to last item for each additional 150mm depth.	no	\$146.90	SJ305
622	Overall size 1650 x 1650 x 1070mm deep to invert.	no	\$1,735.20	SJ306
623	Add to last item for each additional 150mm depth.	no	\$158.40	SJ307
624	Overall size 900 x 900 x 600mm deep to invert.	no	\$482.20	SJ308
625	Add to last item for each additional 150mm depth.	no	\$55.40	SJ309
626	Overall size 1200 x 1000 x 750mm deep to invert.	no	\$746.90	SJ310
627	Add to last item for each additional 150mm depth.	no	\$100.80	SJ311

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S/N	DESCRIPTION	UNIT	RATE(\$)	CODE
<u>SANITARY, WATER AND GAS INSTALLATION (CONT'D)</u>				
628	Precast concrete inspection chamber size 900x700(internal)x1070mm deep to invert complete with reinforcement, granolithic concrete benching, channels, cast-in-situ concrete topping and excavation (structural beam supports, inspection chamber cover and frame measured separately).	no	\$684.90	SJ502
629	Add to last item for each additional 150mm depth.	no	\$44.10	SJ503
630	Precast concrete inspection chamber size 1200x700(internal)x1070mm deep to invert complete with reinforcement, granolithic concrete benching, channels, cast-in-situ concrete topping and excavation (structural beam supports, inspection chamber cover and frame measured separately).	no	\$816.80	SJ504
631	Add to last item for each additional 150mm depth.	no	\$49.90	SJ505
632	Precast concrete encasement for 150mm diameter main drainline including concrete haunching and jointing (excavation, drain pipe and structural supports measured separately).	m	\$137.80	SJ506
633	225mm thick (average) granolithic concrete (1:1:1) in benching and haunching to bottom of inspection chamber/sump finished to falls towards channels, including all necessary shaping of channels, bends etc as required.	m ²	\$53.40	SJ051
634	100mm diameter half round vitrified clay straight or curve main or branch channels to inspection chamber/sump including bedding and jointing in cement mortar (1:1).	m	\$12.70	SJ054
635	150mm diameter ditto.	m	\$15.90	SJ055
636	13mm thick cement and sand (1:2) rendering to internal/external surfaces of inspection chamber/sump.	m ²	\$15.30	SJ056
637	Light duty galvanised cast iron cover and frame size 600 x 450mm for inspection chamber/sump including setting frame in cement mortar and sealing cover in grease and fine sand.	no	\$84.30	SJ057

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S/N	DESCRIPTION	UNIT	RATE(\$)	CODE
<u>SANITARY, WATER AND GAS INSTALLATION (CONT'D)</u>				
638	Close-coupled dual flush low capacity coloured vitreous china pedestal w.c. suite complete with w.c bowl, seat and cover and cistern with a flushing capacity of 3.0-4.5 litres including all necessary fittings and accessories.	no	\$407.50	SJ257
639	Rectangular shaped wash basin in vitreous china 580-600 x 435-470 x 130-165mm complete with basin mixer, waste plug and chain, approved non-corrosive brackets, UPVC waste pipe, bottle trap and all necessary washers seals and nuts fixed to wall as specified.	no	\$189.00	SJ509
640	Rectangular shaped wash basin in vitreous china 470 x 400 x 155mm complete with basin mixer, waste plug and chain, approved non-corrosive brackets, UPVC waste pipe, bottle trap and all necessary washers seals and nuts fixed to wall as specified.	no	\$179.50	SJ510
641	Integrated vitreous china low capacity pedestal w.c. suite and cistern complete with integrated basin and chrome plated spout including all necessary fittings and accessories for fixing and jointing to pipework as specified.	no	\$386.30	SJ508

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S/N	DESCRIPTION	UNIT	RATE(\$)	CODE
<u>SANITARY, WATER AND GAS INSTALLATION (CONT'D)</u>				
642	15mm chromium plated brass pillar tap including all necessary accessories for fixing and jointing to pipeworks.	no	\$29.20	SJ106
643	15mm chromium plated brass pillar tap with swivel swan neck including all necessary accessories for fixing and jointing to pipeworks.	no	\$67.00	SJ107
644	Delay action tap including all necessary accessories for fixing and jointing to pipeworks.	no	\$167.00	SJ109
645	15mm chromium plated brass bib-tap including all necessary accessories for fixing and jointing to pipeworks.	no	\$26.20	SJ110
646	15mm chromium plated brass 2-way bib-tap including all necessary accessories for fixing and jointing to pipeworks.	no	\$36.50	SJ290
647	15mm chromium plated ceramic disc cartridge operated single lever basin mixer tap complete with pop-up waste including all necessary accessories for fixing and jointing to pipeworks.	no	\$67.40	SJ273
648	Chrome plated bath mixer tap with single lever control complete with adjustable jet shower head, 1.5m flexible shower hose and sliding bar and all necessary accessories as specified.	set	\$138.20	SJ361

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S/N	DESCRIPTION	UNIT	RATE(\$)	CODE
<u>SANITARY, WATER AND GAS INSTALLATION (CONT'D)</u>				
Food-grade silicone thimble in natural colour with 4 nos holes each 2.5mm diameter:				
649	Size 18.5mm diameter x 2.5mm thick at basin tap inlet.	no	\$0.20	SJ350
650	Size 21.0mm diameter x 2.5mm thick for tap mixer.	no	\$0.20	SJ351
651	15mm diameter constant flow regulator of 12 litres per minute for bib tap inlet at common areas.	no	\$5.80	SJ352
Stainless steel water supply pipe including connectors, elbows, bends, tees, reducers, etc and laid in trench including excavation:				
652	22mm diameter.	m	\$24.20	SJ220
653	28mm diameter.	m	\$27.90	SJ221
654	35mm diameter.	m	\$33.50	SJ222
655	42mm diameter.	m	\$39.00	SJ223
656	54mm diameter.	m	\$64.10	SJ224
Stainless steel water supply pipe including connectors, elbows, bends, tees, reducers, etc. and fixed to roof top with concrete supports:				
657	22mm diameter.	m	\$15.40	SJ215
658	28mm diameter.	m	\$19.10	SJ216
659	35mm diameter.	m	\$24.00	SJ217
660	42mm diameter.	m	\$29.50	SJ218
661	54mm diameter.	m	\$54.60	SJ219
Stainless steel water supply pipes including connectors, elbows, bends, tees, reducers, etc. and fixed to wall with stainless steel clips/holderbats:				
662	15mm diameter.	m	\$16.70	SJ239
663	22mm diameter.	m	\$21.40	SJ129

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SANITARY, WATER AND GAS INSTALLATION (CONT'D)

Stainless steel water supply pipes including connectors, elbows, bends, tees, reducers, etc. and fixed to wall with stainless steel clips/holderbats (cont'd):

664	28mm diameter.	m	\$26.80	SJ130
665	35mm diameter.	m	\$34.10	SJ131
666	42mm diameter.	m	\$41.20	SJ132
667	54mm diameter.	m	\$69.80	SJ225

Concealed copper pipes for cold/hot water supply complete with couplings, elbows, tees, etc fixed to walls, columns, beams including forming recesses, cutting grooves or chases in walls, columns etc and making good on completion as specified:

668	15mm diameter.	m	\$20.70	SJ362
669	22mm diameter.	m	\$25.30	SJ363
670	28mm diameter.	m	\$28.90	SJ364

Compression fitting caps for copper pipes:

671	15mm diameter.	no	\$4.00	SJ365
672	22mm diameter.	no	\$4.40	SJ366
673	28mm diameter.	no	\$7.80	SJ367

Ductile iron pipes with cement lining for water mains including spigot and socket joints, laid in trench including excavation:

674	100mm diameter and backfilling with selected earth.	m	\$56.50	SJ137
675	100mm diameter and backfilling with approved granular material.	m	\$110.90	SJ370

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SANITARY, WATER AND GAS INSTALLATION (CONT'D)

Ductile iron pipes with cement lining for water mains including flanged joints complete with bolts and nuts, laid on and including precast concrete support blocks:

676	100mm diameter.	m	\$60.10	SJ139
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Ductile iron pipes with cement lining for water mains including spigot and socket joints fixed to wall with holderbats:

677	100mm diameter.	m	\$43.90	SJ145
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Extra over 100mm diameter ductile iron cement lined pipes for water mains for fittings including flanged joints complete with bolts and nuts:

678	Bends.	no	\$97.10	SJ146
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679	Tees.	no	\$156.00	SJ147
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680	Collars.	no	\$116.40	SJ148
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681	Duckfoot bend.	no	\$44.80	SJ259
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682	100mm diameter ductile iron flange adaptor for distribution main complete with rubber gaskets, bolts and nuts all as specified.	no	\$128.10	SJ318
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Cast iron sluice/gate valve with flanged ends:

683	80mm diameter.	no	\$128.90	SJ151
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684	100mm diameter.	no	\$165.90	SJ152
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S/N	DESCRIPTION	UNIT	RATE(\$)	CODE
<u>SANITARY, WATER AND GAS INSTALLATION (CONT'D)</u>				
685	100mm diameter x 65mm ductile iron flanged flow nozzle.	no	\$122.00	SJ260
Bronze spring loaded lift check valve:				
686	35mm diameter.	no	\$26.40	SJ263
687	40mm diameter.	no	\$35.20	SJ205
Cast iron spring loaded lift check valve with flanged ends:				
688	80mm diameter.	no	\$354.80	SJ206
689	100mm diameter.	no	\$427.60	SJ207
Brass high pressure equilibrium ball valve with brass arm and copper float:				
690	50mm diameter.	no	\$537.20	SJ153
691	100mm diameter.	no	\$1,397.30	SJ154
Brass gate valve:				
692	40mm diameter.	no	\$35.70	SJ208
693	50mm diameter.	no	\$47.40	SJ209
Brass ball stop valve:				
694	20mm diameter.	no	\$20.40	SJ210
695	25mm diameter.	no	\$25.50	SJ211
696	40mm diameter.	no	\$46.40	SJ212
697	15mm diameter isolating ball stop valve.	no	\$8.60	SJ498
698	25mm diameter brass ball float valve.	no	\$55.00	SJ262
699	35mm diameter brass globe valve.	no	\$50.40	SJ213
700	40mm diameter solenoid valve for automatic time-controlled refuse chute flashing system.	no	\$282.10	SJ214
701	Labour only for boring holes in UPVC pipes for approximately 3.2m long at 50mm centre/centre for use as bin chute sparge pipe.	no	\$14.80	SJ173

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SANITARY, WATER AND GAS INSTALLATION (CONT'D)

Brass high pressure screw down stop or bib cocks:

702	15mm diameter.	no	\$14.40	SJ174
703	22mm diameter.	no	\$22.20	SJ175
704	28mm diameter.	no	\$39.20	SJ176
705	35mm diameter.	no	\$80.60	SJ177
706	42mm diameter.	no	\$99.30	SJ178
707	54mm diameter.	no	\$142.80	SJ179
708	82mm diameter x 68mm high x 1.2mm thick purpose-made galvanised steel casing as locking device for public tap. (padlock measured separately).	no	\$8.30	SJ270
709	Rolled steel joists for support to tanks including bolts, fixing and painting.	kg	\$1.40	SJ181
710	63mm diameter Polyethylene gas pipe sleeved in 80mm diameter UPVC pipe and laid in concrete channel including bituminous joints and filling up with cement mortar grout (concrete channel measured separately).	m	\$49.50	SJ491
711	63mm diameter Polyethylene gas pipe sleeved in 80mm diameter UPVC pipe and laid in trench including excavation.	m	\$36.70	SJ495
712	63mm x 50mm diameter galvanised steel Electrofusion Transition elbow to gas pipe.	no	\$48.30	SJ493
713	80mm diameter UPVC pipe sleeve for vertical gas pipe fixed to wall.	m	\$15.30	SJ492

Heavy duty galvanised steel gas pipe including sockets, connectors, elbows, tees, plugs, etc and fixed to wall or ceiling with collar brackets as specified:

714	40mm diameter.	m	\$21.60	SJ186
715	50mm diameter.	m	\$24.80	SJ187

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S/N	DESCRIPTION	UNIT	RATE(\$)	CODE
<u>SANITARY, WATER AND GAS INSTALLATION (CONT'D)</u>				
Full bore ball valve:				
716	15mm diameter.	no	\$17.00	SJ195
717	20mm diameter.	no	\$19.60	SJ196
718	25mm diameter.	no	\$23.90	SJ197
719	32mm diameter.	no	\$26.80	SJ198
720	40mm diameter.	no	\$31.00	SJ199
721	50mm diameter.	no	\$41.40	SJ200
722	80mm diameter.	no	\$134.60	SJ201
Copper gas pipe including connectors, elbows, bends, tees, etc and fixed to wall:				
723	15mm diameter.	m	\$17.60	SJ202
724	22mm diameter.	m	\$22.50	SJ203
725	UPVC Casing/Trunking for water and gas services including trunking cover with splayed edges, overall size 84 x 51mm as specified.	m	\$13.60	SJ228
Heavy duty galvanised steel pipe complying with API Standard 5L Grade B Schedule 40 with welded joints and fixed to wall or ceiling with pipe clips or mild steel brackets:				
726	40mm diameter.	m	\$27.50	SJ272
727	50mm diameter.	m	\$31.30	SJ269
Class "C" galvanised steel pipes fixed to duct wall as dry, wet or hose reel rising main including all necessary brackets, connectors, welded flanges, bolts, nuts and gaskets, etc and testing the installation as specified:				
728	50mm diameter.	m	\$20.50	SJ357
729	100mm diameter.	m	\$68.10	SJ242
730	150mm diameter.	m	\$91.20	SJ243

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SANITARY, WATER AND GAS INSTALLATION (CONT'D)

Class "C" galvanised steel pipes fixed to duct wall as dry, wet or hose reel rising main including all necessary brackets, connectors, welded flanges, bolts, nuts and gaskets, etc and testing the installation as specified (cont'd):

731	Extra over 50mm diameter pipe for bend or elbow.	no	\$10.80	SJ496
732	Extra over 50mm diameter pipe for tee.	no	\$11.70	SJ497
733	Extra over 100mm diameter pipe for bend.	no	\$53.90	SJ244
734	Extra over 150mm diameter pipe for bend.	no	\$98.60	SJ247

Rust proof electro galvanised steel box with glass front for breeching inlet complete with locks and master keys as specified (breeching inlet measured separately) :

735	2-way.	no	\$137.40	SJ250
736	4-way.	no	\$154.20	SJ251

Breeching inlet complete with 1 no. 25mm diameter drain valve including all necessary blank caps, chain, handwheel etc as specified:

737	100mm diameter 2-way.	no	\$156.60	SJ253
738	150mm diameter 4-way.	no	\$262.60	SJ254
739	Dry riser landing valve with instantaneous 63.5mm diameter female coupling complete with gunmetal bodies including anti-theft device consist of 3mm brass cap and ear knob, and carbon steel pipe, etc as specified.	no	\$107.10	SJ252
740	25mm automatic air release valve as specified.	no	\$28.00	SJ255
741	Approved canvas/nylon belt with key-alike padlocks for strap locking handwheels in closed position.	no	\$5.10	SJ256

**HOUSING AND DEVELOPMENT BOARD
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S/N	DESCRIPTION	UNIT	RATE(\$)	CODE
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SANITARY, WATER AND GAS INSTALLATION (CONT'D)

1.6mm thick electro-galvanised steel casing finished in baked red epoxy resin complete with all necessary accessories as specified for:

742	Fire hose-reel.	no	\$213.70	SJ292
743	2 kg fire extinguisher.	no	\$82.90	SJ342
744	4.5 kg fire extinguisher.	no	\$90.40	SJ359
745	Approved wall mounted double swivel and recessed type fire hose-reel complete with 30m long x 25mm diameter reinforced braided rubber hose, a jet or spray type shut-off nozzle, gun metal control valves, wall brackets and fittings including fixing to wall and painting.	no	\$360.70	SJ291

Dry powder portable fire extinguisher complete with horn, wall brackets and embossing extinguisher with 2 nos HDB logo as specified:

746	2 kg.	no	\$59.00	SJ338
747	4.5 kg.	no	\$75.30	SJ339
748	9 kg.	no	\$91.90	SJ340
749	5kg CO ₂ portable fire extinguisher complete with horn, wall brackets and embossing extinguisher with 2 nos HDB logo as specified.	no	\$177.30	SJ341

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GLAZING**Sheet/float glass in panes:**

750	4mm thick ordinary quality clear sheet/float glass.	m ²	\$29.80	SK001
751	5mm thick ditto.	m ²	\$35.60	SK002
752	6mm thick ditto.	m ²	\$38.90	SK003
753	5mm thick obscured glass.	m ²	\$44.20	SK004

Tinted float glass in panes:

754	5mm thick.	m ²	\$48.30	SK005
755	6mm thick.	m ²	\$52.10	SK006

Clear tempered float glass in panes:

756	6mm thick.	m ²	\$86.90	SK012
757	8mm thick.	m ²	\$117.20	SK013
758	10mm thick.	m ²	\$140.90	SK014
759	12mm thick.	m ²	\$161.40	SK015

Tinted tempered float glass in panes:

760	6mm thick.	m ²	\$99.30	SK016
761	8mm thick.	m ²	\$133.40	SK017
762	10mm thick.	m ²	\$154.00	SK018
763	12mm thick.	m ²	\$175.80	SK019

Tinted laminated safety float glass in panes:

764	10.38mm thick.	m ²	\$124.30	SK020
765	12.76mm thick.	m ²	\$163.50	SK021

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S/N	DESCRIPTION	UNIT	RATE(\$)	CODE
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GLAZING (CONT'D)

Glass in louvres - varying from 100mm to 200mm wide:

766	5mm thick ordinary clear sheet/float glass.	m ²	\$36.50	SK008
767	6mm thick ditto.	m ²	\$40.50	SK009
768	5mm thick obscured wired glass.	m ²	\$46.00	SK010
769	6mm thick rough cast obscured wired glass.	m ²	\$52.80	SK011

**HOUSING AND DEVELOPMENT BOARD
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S/N	DESCRIPTION	UNIT	RATE(\$)	CODE
<u>PAINTING AND DECORATING</u>				
<u>Concrete or Plastered Surfaces</u>				
770	One coat of approved acrylic emulsion paint (with 20% water dilution).	m ²	\$2.50	SL002
771	One priming coat (with 20% water dilution) and two upper coats (without water dilution) of approved acrylic synthetic emulsion paint.	m ²	\$6.10	SL003
772	One priming coat (with 20% water dilution) and one upper coat (without water dilution) of approved acrylic synthetic emulsion paint by spraying equipment, paint roller or other means including protecting door/window frames, or other surfaces from being tainted with paint.	m ²	\$4.30	SL037
773	One coat of water based sealer and two subsequent coats of approved water based Algae Resistant Emulsion Paint (all coats without dilution) Rate inclusive of the provision of a 6 year warranty.	m ²	\$8.20	SL041
774	One coat of water based sealer.	m ²	\$2.50	SL008
<u>Metal Surfaces</u>				
775	One coat of approved lead and chromate-free primer.	m ²	\$5.10	SL038
776	One coat of polyvinyl butyral etching primer.	m ²	\$4.60	SL039
777	One undercoat and one finishing coat of approved synthetic enamel paint.	m ²	\$7.90	SL009
778	One undercoat and one finishing coat of approved synthetic enamel paint on grilles or railing etc (rate inclusive of painting on both faces).	m ²	\$9.40	SL010
779	Two coats of approved synthetic enamel paint to mild steel sections or door frame not exceeding 300mm girth.	m	\$2.90	SL018

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S/N	DESCRIPTION	UNIT	RATE(\$)	CODE
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PAINTING AND DECORATING (CONT'D)

Pipe Surfaces

One coat of approved lead and chromate-free primer:

780	not exceeding 75mm diameter.	m	\$1.30	SL012
781	exceeding 75mm but not exceeding 150mm diameter.	m	\$2.60	SL013
782	exceeding 150mm but not exceeding 300mm diameter.	m	\$5.10	SL014

Two coats of approved lead and chromate-free primer:

783	exceeding 75mm but not exceeding 150mm diameter.	m	\$4.50	SL023
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One coat of polyvinyl butyral etching primer:

784	not exceeding 75mm diameter.	m	\$1.20	SL030
785	exceeding 75mm but not exceeding 150mm diameter.	m	\$2.30	SL031
786	exceeding 150mm but not exceeding 300mm diameter.	m	\$4.60	SL032

Two coats of approved synthetic enamel paint:

787	not exceeding 75mm diameter.	m	\$2.00	SL015
788	exceeding 75mm but not exceeding 150mm diameter.	m	\$4.00	SL016
789	exceeding 150mm but not exceeding 300mm diameter.	m	\$8.00	SL017

Timber Surfaces

790	One coat wood primer and two coats of approved synthetic enamel paint.	m ²	\$13.00	SL019
791	Two coats of wood stain/wood dye and three coats of clear varnish/lacquer in matt or gloss finish.	m ²	\$18.30	SL036
792	Two coats of wood preservative.	m ²	\$4.40	SL020
793	Two coats of polyurethane varnish.	m ²	\$8.40	SL022

**HOUSING AND DEVELOPMENT BOARD
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S/N	DESCRIPTION	UNIT	RATE(\$)	CODE
<u>TURFING, TREE PLANTING & LANDSCAPING WORKS</u>				
794	225x225mm spot turfing (with 25mm thick original top soil) at 450mm centre both directions with a layer of approved soil mixture 125mm thick including the maintenance of the turfing works during the "Maintenance Period" as specified.	m ²	\$8.30	SM002
795	Strip turfing (with 25mm thick original top soil) 450mm wide and spaced 600mm between strips at an angle of 45 degree on embankments with a layer of approved soil mixture 125mm thick including the maintenance of the turfing works during the "Maintenance Period" as specified.	m ²	\$12.00	SM004
Close turfing (with 25mm thick original top soil) with a layer of approved soil mixture 125mm thick including the maintenance of the turfing works during the "Maintenance Period" as specified:				
796	To slope embankment.	m ²	\$14.90	SM009
797	To flat level surface.	m ²	\$13.70	SM011
798	Excavate trench to form shrub/flower bed, including backfilling to level about 250mm above the adjacent ground level with approved soil mixture as specified (plants measured separately).	m ³	\$55.10	SM018
Excavate tree hole including backfill to a level 250mm above ground with approved soil mixture as specified (tree measured separately):				
799	1.50 x 1.50 x 1.00m deep.	no	\$119.90	SM078
800	1.00 x 1.00 x 1.00m deep.	no	\$53.30	SM077
801	0.50 x 0.50 x 0.50m deep.	no	\$7.60	SM079
Planting of instant tree including maintenance as specified (tree measured separately):				
802	Not exceeding 300mm girth.	no	\$5.60	SM080
803	Exceeding 300mm but not exceeding 500mm girth.	no	\$7.50	SM081

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S/N	DESCRIPTION	UNIT	RATE(\$)	CODE
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TURFING, TREE PLANTING & LANDSCAPING WORKS (CONT'D)

Planting of tree saplings/fruit trees/palms including maintenance as specified (tree measured separately):

804	Large size with minimum height 2.00m.	no	\$4.70	SM082
805	Medium size with minimum height 1.50m.	no	\$3.80	SM083
806	Small size with minimum height 1.00m.	no	\$2.80	SM084
807	Planting of shrubs of any size including maintenance as specified (shrub measured separately).	no	\$1.50	SM085

Cut down trees with girth measured at a point 1.0m above the ground, grub up roots and clear away from site:

808	Not exceeding 0.5m girth.	no	\$260.00	SM066
809	Exceeding 0.5m but not exceeding 1.0m girth.	no	\$322.80	SM067
810	Exceeding 1.0m but not exceeding 1.5m girth.	no	\$432.70	SM068
811	Exceeding 1.5m but not exceeding 2.0m girth.	no	\$648.00	SM069
812	Exceeding 2.0m but not exceeding 2.5m girth.	no	\$825.20	SM070
813	Exceeding 2.5m but not exceeding 3.0m girth.	no	\$1,080.40	SM071
814	Exceeding 3.0m but not exceeding 4.0m girth.	no	\$1,335.20	SM072
815	Exceeding 4.0m but not exceeding 5.0m girth.	no	\$1,703.40	SM073
816	Exceeding 5.0m but not exceeding 6.0m girth.	no	\$2,048.80	SM074
817	Bintangore pole as supporting stake to tree including ties as specified.	m	\$1.60	SM039
818	Tripod support with 3 nos. of bintangore poles including ties and gunny sack as specified.	no	\$14.60	SM040
819	Tree guard with 4 nos. bintangore poles 1.50m above ground and tied together with galvanised wire bracing as specified.	no	\$24.60	SM041
820	Tree guard with 4 nos. bintangore poles 0.30m above ground and tied together with galvanised wire bracing as specified.	no	\$9.70	SM042

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S/N	DESCRIPTION	UNIT	RATE(\$)	CODE
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TURFING, TREE PLANTING & LANDSCAPING WORKS (CONT'D)

Approved perforated UPVC sub-soil pipe with open end butt joints:

821	100mm diameter.	m	\$9.90	SM014
822	150mm diameter.	m	\$13.60	SM013
823	150mm diameter wrapped round with geotextile fabric (non-woven type).	m	\$15.40	SM076
824	19 to 25mm coarse aggregate wrapped round with ordinary grade geotextile fabric (non-woven type) to perforated UPVC pipe including all necessary excavation (pipe measured separately).	m ³	\$69.60	SM065
825	50mm diameter UPVC pipe as weephole not exceeding 300mm long.	no	\$3.00	SM075
826	Supply, fix and subsequent removal of temporary barricade fencing consisting of 50 x 50 x 1650mm long balau timber post spaced at 2400mm centre to centre, pointed at bottom and driven 450mm deep into the ground and with 10mm diameter nylon ropes running horizontally and diagonally across the top and bottom of barricade including extra timber strutting at corner and end post as specified.	m	\$5.30	SM015

Approved green nylon netting:

827	Single layer.	m ²	\$1.70	SM043
828	Double layer.	m ²	\$3.30	SM044

**HOUSING AND DEVELOPMENT BOARD
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S/N	DESCRIPTION	UNIT	RATE(\$)	CODE
<u>MISCELLANEOUS</u>				
829	Design, erection and subsequent removal of metal sheet protective hoarding with overhead timber shelter average 4.5m high and 1.70m wide with timber supports and timber floor boarding as shown in drawings.	m	\$485.00	SM064
830	200 x 50mm Electro-Galvanised Steel Trunking with removable cover for telephone cables fixed to wall or ceiling complete with slotted brackets and fixing accessories as specified.	m	\$24.60	SM035
831	200 x 75mm Electro-Galvanised Steel Trunking with removable cover for telephone cables fixed to wall or ceiling complete with slotted brackets and fixing accessories as specified.	m	\$25.80	SM036
832	155mm diameter Class `B' UPVC pipe for underground LT reticulation cables with concrete haunching and necessary fabric reinforcement at pipe joints including the provision of a nylon/polyethelane rope and testing of pipe on completion (Excavation and sand bed measured separately).	m	\$19.90	SM050
833	Extra over 155mm diameter UPVC pipe for Grade 20 concrete haunching throughout including all necessary formwork and A6 WSF reinforcement (Excavation measured separately).	m	\$7.60	SM051
834	UPVC plugs at pipe mouth of 155mm diameter UPVC pipe in draw pits.	no	\$8.40	SM058
835	110mm diameter UPVC lead-in pipe in trench including end cap (Trench measured separately).	m	\$6.70	SM063
836	172.4mm wide (nominal) x 2mm thick high impact UPVC cable cover plates with embossed letterings as specified.	m	\$3.40	SM052

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MISCELLANEOUS (CONT'D)

Drawpits for underground LT reticulation cables comprising of 100mm thick 'L' shaped pc slabs as walls, 100mm thick concrete base reinforced with A6 WSF reinforcement, the pit filled with sand bags and covered with 450x450x75mm thick precast concrete top cover slabs with UPVC plates for various shapes and types as specified (measured flat on plan - excavation measured separately):

837	Rectangular shaped.	m ²	\$186.10	SM053
838	'T' shaped.	m ²	\$149.70	SM054
839	'Y' shaped.	m ²	\$151.80	SM055
840	'X' shaped.	m ²	\$146.40	SM056
841	'L' shaped.	m ²	\$151.90	SM057
842	'R' shaped.	m ²	\$161.80	SM062
843	Vertical drawpit marker comprising of 75mm diameter heavy duty UPVC conduit pipe with purpose made capping cover as specified.	no	\$34.00	SM059

StarHub Telecommunication Cable Pipes and Manholes

110mm diameter UPVC pipes in trench including excavation and backfilling and completely surrounding pipe with grade 20 concrete bed and haunching and all necessary formwork :

844	1-way with concrete bed and haunching, 210mm wide x overall 210mm thick.	m	\$31.80	SJ371
845	2-way with concrete bed and haunching, 346mm wide x overall 210mm thick.	m	\$47.60	SJ372
846	3-way with concrete bed and haunching, 346mm wide x overall 346mm thick.	m	\$67.50	SJ373
847	4-way with concrete bed and haunching, 346mm wide x overall 346mm thick.	m	\$72.50	SJ374
848	6-way with concrete bed and haunching, 481mm wide x overall 346mm thick.	m	\$95.50	SJ375

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MISCELLANEOUS (CONT'D)

**StarHub Telecommunication Cable Pipes and
Manholes (Cont'd)**

110mm diameter UPVC pipes in trench including excavation and backfilling and completely surrounding pipe with grade 20 concrete bed and haunching and all necessary formwork (cont'd):

849	9-way with concrete bed and haunching, 481mm wide x overall 481mm thick.	m	\$127.10	SJ376
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850	12-way with concrete bed and haunching, 617mm wide x overall 481mm thick.	m	\$158.80	SJ377
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Reinforced concrete grade 30 manhole including necessary reinforcement and formwork with 20mm thick screeding trowelled smooth to fall at base, lean concrete, excavation, hardcore and the installation of channel bracket and anchor iron (cover and frame measured separately):

851	Type JX2 comprising of 120mm thick walls and bottom slab.	no	\$414.30	SJ378
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852	Type MX1 comprising of 150mm thick walls and bottom slab.	no	\$1,521.80	SJ379
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853	Type MX2 comprising of 150mm thick walls and bottom slab.	no	\$1,855.00	SJ380
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854	Type MX3 comprising of 230mm thick walls and bottom slab.	no	\$3,617.20	SJ381
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855	Type MX4 comprising of 230mm thick walls and bottom slab.	no	\$4,387.30	SJ382
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856	78mm thick grade 30 concrete top slab overall size approximately 1316 x 1202mm inclusive of the collection of manhole frame and cover from StarHub's warehouse and setting frame in cement mortar and sealing cover in grease and sand (manhole cover and frame supplied by StarHub).	no	\$80.80	SJ499
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**HOUSING AND DEVELOPMENT BOARD
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DAYWORK

Rates for the following items do not include establishment charges and profit:

857	Bricklayer.	hr	\$16.20	SN001
858	Blocklayer.	hr	\$16.20	SN002
859	Carpenter.	hr	\$18.20	SN003
860	Concretor.	hr	\$17.10	SN004
861	Construction Equipment Operator.	hr	\$23.00	SN019
862	Crane Driver.	hr	\$32.80	SN005
863	Drainlayer.	hr	\$16.70	SN006
864	Excavator.	hr	\$21.50	SN007
865	Fitter.	hr	\$19.50	SN008
866	Glazier.	hr	\$17.20	SN009
867	Ironmonger.	hr	\$17.50	SN010
868	Joiner.	hr	\$17.40	SN011
869	Labourer.	hr	\$11.70	SN012
870	Lorry Driver.	hr	\$17.10	SN013
871	Mason.	hr	\$16.20	SN014
872	Mechanic.	hr	\$20.20	SN015
873	Painter.	hr	\$16.00	SN016
874	Pavior.	hr	\$16.50	SN017
875	Piler.	hr	\$18.40	SN018
876	Plasterer.	hr	\$16.50	SN020
877	Plumber.	hr	\$17.40	SN021
878	Roller Driver.	hr	\$23.40	SN022

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DAYWORK (CONT'D)

Rates for the following items do not include establishment charges and profit (Cont'd):

879	Roofer.	hr	\$17.30	SN023
880	Scaffolder.	hr	\$17.30	SN024
881	Steel Bender & Fixer.	hr	\$17.20	SN025
882	Steel Worker.	hr	\$19.10	SN026
883	Tiler.	hr	\$16.50	SN027
884	Tractor Driver.	hr	\$23.00	SN028
885	Security Guard.	hr	\$14.50	SN029
886	Welder.	hr	\$15.40	SN030
887	Wireman.	hr	\$20.10	SN031
888	Air compressor with air delivery capacity not less than 4.5 cu m per minute including pneumatic and sharpening tools and power supply (operator measured separately).	hr	\$29.90	SN032
889	Concrete mixer 200/140 litres including fuel.	hr	\$18.90	SN033
890	Concrete mixer 300/200 litres including fuel.	hr	\$27.70	SN034
891	Crane (25 tonne lifting capacity) including fuel and driver.	hr	\$142.90	SN050
892	Diesel powered field welding machine with minimum 300 amp.	hr	\$18.60	SN036
893	Mechanical lawn mover with blade not exceeding 500mm and engine power not exceeding 150 cc.	hr	\$3.10	SN037
894	Motor crane including fuel and driver (3 tonne lifting capacity).	hr	\$51.30	SN038
895	Motor Crane including fuel and driver (8-13 tonne lifting capacity).	hr	\$91.60	SN051
896	Motor lorry 2.5 - 3 tonne size including fuel and driver.	hr	\$36.40	SN039

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STANDARD SCHEDULE OF RATES FOR BUILDING WORKS (JAN 2020 EDITION)**

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DAYWORK (CONT'D)

Rates for the following items do not include establishment charges and profit (Cont'd):

897	Motor lorry 5.5 - 7 tonne size including fuel and driver.	hr	\$58.80	SN040
898	Motor lorry 10 tonne size including fuel and driver.	hr	\$70.10	SN052
899	Power driven pump 50mm size including fuel and driver.	hr	\$26.10	SN041
900	Power driven pump 75mm size including fuel and driver.	hr	\$33.10	SN042
901	Power loader on rubber-tyred wheels 1.20 cu m bucket capacity (flywheel horsepower 60 kw range) including fuel and driver.	hr	\$84.30	SN043
902	Road roller 6 tonne capacity including fuel and driver.	hr	\$43.90	SN044
903	Road roller 8 to 10 tonne capacity including fuel and driver.	hr	\$50.90	SN045
904	Traxacavator 1.0 cu m capacity including fuel and driver.	hr	\$102.60	SN046
905	Traxacavator 1.5 cu m capacity including fuel and driver.	hr	\$110.60	SN047
906	Traxacavator 2.0 cu m capacity including fuel and driver.	hr	\$136.60	SN048
907	Wheel or crawler shovel or excavator loaders with back hoe bucket not exceeding 0.4 cu m or 1.3 cu m loader bucket capacity including fuel and driver.	hr	\$97.60	SN049



STANDARD SCHEDULE OF RATES

FOR

CIVIL ENGINEERING WORKS

(JAN 2020 EDITION)

HOUSING AND DEVELOPMENT BOARD
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CIVIL ENGINEERING WORKS (JAN 2020 EDITION)

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Introduction

- 1 The clauses in the General Preambles shall apply to all work items contained in the Standard Schedule of Rates.
- 2 The Particular Preambles to each Trade shall be read in conjunction with the respective Trade in the Standard Schedule of Rates.
- 3 All rates contained in the Standard Schedule of Rates are exclusive of any Goods and Services Tax. Any such Goods and Services Tax shall be borne by the HDB as and when the same becomes due and payable.
- 4 All rates include the allowances for complying with the General and Particular Preambles.
- 5 All rates contained in the Standard Schedule of Rates are fixed basic rates (in Singapore Currency) and no amendment whatsoever shall be made to such rates. The tenderers shall be deemed to have closely studied all rates contained herein and duly noted their implications.
- 6 Unless otherwise stated, the term "as specified" means as specified in any of the documents forming part of the Contract.
- 7 Where brand/trade names are given in the descriptions, they are solely intended for fixing the rates of the items. The products and materials to be used in the Contract shall be governed by the Specifications, Drawings and other documents forming the Contract (and not this Schedule of Rates).

Principles of Measurement

- 8 Unless otherwise stated, all work shall be measured nett as fixed in its place.
- 9 Unless otherwise stated, pipes are described by their internal diameters.
- 10 Where minimum deductions of voids are dealt with in this document they shall refer only to openings or voids which are within the boundaries of measured area. Openings or voids which are at the boundaries of measured area shall always be the subject of deductions irrespective of size.
- 11 Where an item is indicated as "Add to last item for each additional..... depth/height/cross sectional area/hour", the figure as indicated in the item shall be applied even though the difference for any depth/height/cross sectional area/hour is less than the figure indicated.

Description of Works and Inclusions

- 12 All work, materials and goods described in this Standard Schedule of Rates shall be of the respective kinds described in the Contract and in accordance with the instructions of the Superintending Officer or the Superintending Officer's Representative.
- 13 Headings to groups of items shall be read as part of the descriptions of the items to which the headings apply.

- 14 Unless specifically stated otherwise, the following shall be deemed to be included in the description of the item of work:
- a) Labour and all costs in connection therewith including the labour in fabricating, assembling, setting, fitting and fixing of materials and goods in position.
 - b) Materials and goods including materials required for lapping, jointing and the like and all costs in connection therewith such as delivery, unloading, storing, returning of packings, handling, hoisting and lowering.
 - c) Preparing surfaces to receive work.
 - d) Protecting materials and work.
 - e) Waste of materials.
 - f) All cutting and waste.
 - g) Use of construction equipment, tools, vehicles and all costs in connection therewith.
 - h) Cleaning up on completion and making good all work disturbed.
 - i) General requirements set out in the Specifications, Drawings and other documents forming the Contract.
 - j) Establishment charges, overhead and profit.

Billing of Quantities

- 15 Where the unit of measurement is the linear metre, square metre and cubic metre, quantities shall be billed to the nearest whole unit. Fractions of the unit less than half shall be disregarded and all other fractions shall be regarded as a whole unit.
- 16 Where the unit of measurement is the kilogramme, quantities shall be billed to the nearest whole unit. Fractions of a unit less than half shall be disregarded and all other fractions shall be regarded as a whole unit. Where the unit of billing is the tonne or litre, quantities shall be billed to the nearest two places of decimals.
- 17 Where the unit of measurement is the hour, fractions of the unit shall be billed to the nearest next half hour.
- 18 Where the application of clauses 15 and 16 would cause an entire item to be eliminated, such item shall be billed to the nearest two places of decimals.

Application of Rates

- 19 Where rates with descriptions pertain to the same purpose are listed in more than one Standard Schedule of Rates incorporated in the Contract; the rate as listed in the following schedules (in the stated order of precedence) shall prevail:

1st Precedence - Standard Schedule of Rates for Building Works

2nd Precedence - Standard Schedule of Rates for Civil Engineering Works

3rd Precedence - Standard Schedule of Rates for Electrical Works

Units of Measurement

20 The following abbreviations are used for the units:

m	-	Linear metre
m ²	-	Square metre
m ³	-	Cubic metre
no	-	Number
p/tree	-	Per Tree
job	-	Per Job
kg	-	Kilogram
ton	-	Tonne
pr	-	Pair
sht	-	Sheet
ltr	-	Litre
hr	-	Hour

PARTICULAR PREAMBLES TO VARIOUS TRADES

1.0 PILING WORK

Generally

- 1.1 Piling work shall be executed in accordance with the relevant Specifications and the instructions of Superintending Officer's Representative.

Rates

- 1.2 The rate of each type of piling work shall be deemed to include removal of underground obstructions together with all work in connection therewith unless specifically otherwise provided.
- 1.3 The rate of each type of piling work shall be deemed to include extending piles, dollying and connections unless specifically otherwise provided.
- 1.4 Redriving or intermittent driving necessitated by upheaving or lengthening of piles or by the removal of obstructions under piles or other causes including moving and repositioning the piling frame shall be deemed to be included with the items of piling.
- 1.5 The rate of each item of piling shall be deemed to include:
- a) Handling, pitching, heading, pointing and bracing and providing protective wrought iron ring or helmet to pile.
 - b) Cutting off surplus and heads of piles and preparing and integrating reinforcement into pile caps where applicable, extra excavation, backfilling and disposal of debris.
 - c) Disposing of materials displaced arising out of driving the piles.
- 1.6 The rate of each item of treated timber piles includes the application of wood preservative to cut off surfaces of piles.
- 1.7 The rate of each item of reinforced concrete piles includes moulds, reinforcement, preparing heads and extra labour and materials to receive pile extensions.
- 1.8 The rate of each item of pile tests includes provision of all anchors, platforms, loading and unloading of materials, instruments and monitoring of the tests.
- 1.9 The rate for providing and assembling the equipment on the site and the subsequent dismantling and removal shall be given separately as an item.
- 1.10 Movement of piling frames into position and about the site, any necessary excavation or filling required to place the frames, raising or lowering the frames and any staging, barges or the like required to support the frames, shall be deemed to be included with the item of piling.

PARTICULAR PREAMBLES TO VARIOUS TRADES

Measurement

- 1.11 Payment for treated timber piles driven shall be the product of the relevant rate per metre run and the penetration depth (measured from tip to cut-off level).
- 1.12 The pay length of each reinforced concrete pile after it is driven into the ground is measured from the cut-off level of the pile to the end of pile shoe. Notwithstanding the provisions of Billing of Quantities contained in the General Preambles, the pay length of reinforced concrete piles shall be billed to the accuracy of nearest of 10mm.

2.0 EXCAVATION

Generally

- 2.1 Excavation of ordinary ground includes spoil or rubbish of every description, rubbish tip material etc, sand gravel, decomposed granite, red or white earth, loamy or gravelly clay, gravelly laterite, mud, bog or any other formation by pick and shovel or machinery and at any depth.

Rates

- 2.2 The rate of each item of excavation shall be deemed to include excavating around foundation, piles and confined areas, getting out, removing of bakau piles, trimming, levelling and compacting bottoms of excavations and keeping sides plumb and planking and strutting (where stated).
- 2.3 Rates for each item shall be held to include for keeping all excavation free from water and site dry, pumping or bailing and cable/services detection if required and providing any temporary drains required.

Measurement

- 2.4 The measurement of all excavations and subsequent disposal shall be those before excavating. The increase in bulk and any extra excavation required for earthwork support, planking and strutting and formwork for concrete shall be deemed to be included in the rates.
- 2.5 No allowance for working space shall be made in the measurement of all excavation unless the method of construction requires workmen to operate from the outside of the structure. In such cases, a working space of 600mm shall be measured from the external face of the structure.
- 2.6 Filling shall be measured as equal to the void to be filled. Any thickness stated shall be deemed to be after compacting.

PARTICULAR PREAMBLES TO VARIOUS TRADES

2.0 EXCAVATION (CONT'D)

Timbering

Rates

- 2.7 The rate for each item of the timbering for the sewer trenches/manholes shall be deemed to include the design of the timbering by a Professional Engineer when the depth of the excavation/trenches exceeds 4.00 metres.

3.0 CONCRETE WORK

Generally

- 3.1 Unless otherwise stated, rates for concrete, reinforcement and formwork shall be applicable to all work irrespective of locality, positions, shapes and height.

Rates

- 3.2 The rate for each item of concrete shall be held to include the following:
- a) Forming, cutting grooves, chases, mortices, holes and making good any other sundry items of a like nature.
 - b) Extra labour for laying to falls, or cambers and preparing surfaces to receive screeds or pavings also to be included.
 - c) All tests on concrete, cement and aggregate etc, as required and compliance with the strengths as specified.
 - d) Tamping and/or vibrating to give thorough compaction; working between and around reinforcements.
 - e) Laying on any type of sub-base; preparing and leaving surfaces to receive screeds or paving.

Measurement

- 3.3 No deduction shall be made in the measurement of concrete work for:
- a) Voids of 0.05 cubic metre or less.
 - b) Volume of the reinforcement and steelwork.
 - c) Openings in walls, floor, roof slabs and the like of 0.10 square metre or less.

PARTICULAR PREAMBLES TO VARIOUS TRADES

3.0 CONCRETE WORK (CONT'D)

3.4 Reinforcement

Rates

3.4.1 The rate of each item of reinforcement shall be deemed to include:

- a) Allowances in the weight of reinforcement for rolling margins.
- b) All cleaning and wire-brushing bars to remove rust, dust, mill scale, dirt, oil and other deleterious matters.
- c) All bending, cutting and notching around obstructions.
- d) All hooks and tying wires at all joints and crossings.
- e) All non-designed spacers or chairs, distance blocks, temporary fixings and supports.

Measurement

3.4.2 The conversion factor for the various steel reinforcement bars shall be as follows:

6mm diameter	-	0.222 kg/m
7mm diameter	-	0.302 kg/m
8mm diameter	-	0.394 kg/m
9mm diameter	-	0.499 kg/m
10mm diameter	-	0.616 kg/m
13mm diameter	-	1.042 kg/m
16mm diameter	-	1.579 kg/m
20mm diameter	-	2.466 kg/m
22mm diameter	-	2.984 kg/m
25mm diameter	-	3.854 kg/m
28mm diameter	-	4.834 kg/m
32mm diameter	-	6.313 kg/m

3.5 Fabric Reinforcement

Rates

3.5.1 The rate for each item of fabric reinforcement shall be held to include for extra material at laps, tying wires and all bending, cutting and notching around obstruction.

Measurement

3.5.2 Only the nett area covered shall be measured and no deduction shall be made for opening less than 1.00 square metre.

PARTICULAR PREAMBLES TO VARIOUS TRADES

3.0 CONCRETE WORK (CONT'D)

3.6 Formwork

Rates

3.6.1 The rate of each item of formwork shall be deemed to include:

- a) All necessary boardings, supports, erecting, framing, cutting, perforations for pipes, angles, cleaning, wetting and treatment with mould oil, mould liquid or limewhite and the like.
- b) All splayed edges, notchings, allowance for overlaps and passings at angles, battens, strutting, bolting, wedging, easing, striking and removal.

Measurement

3.6.2 Formwork shall be measured to the surface of work sloping more than 15 degree from the horizontal.

3.6.3 No deduction shall be made in measurement of formwork for:

- a) Openings less than 1 square metre.
- b) Intersection of main and secondary beams.
- c) Intersection of beams and stanchion casing or columns.

3.7 Precast Work

Rates

3.7.1 The rate of each item of precast work shall be deemed to include concrete, reinforcement, formwork including the formation and filling of pockets, holes, chases and recesses for anchors, bolts and the like, grouting, pointing of joints, surface finishes, delivery, unloading, hoisting, erecting, fixing including all necessary temporary erection gear, bracing and working platforms.

4.0 BRICKWORK

Rates

4.1 The rate for each item of block, brickwork shall be held to include for all special made blocks, bricks and in-situ concrete in lieu, all holdfasts and bonding ties at abutments to concrete structures, all rough and fair cuttings, oversailing and receding courses, rough relieving and discharging arches, wedging and pining, raking out joints for and pointing flashings, bedding plates, parging and coring flues, labour eaves filling, plumbing angles, forming square and rebated reveals, cut squints or birdsmouths, notches, forming, leaving or cutting chases, holes and mortices, cutting and pining and making good and any other sundry items of a like nature.

PARTICULAR PREAMBLES TO VARIOUS TRADES

4.0 BRICKWORK (CONT'D)

Rates (Cont'd)

4.2 Rates for blockwork and brickwork shall be applicable to all work irrespective of positions, patterns, shapes and height.

Measurement

4.3 Deductions shall be measured the nett sizes of the openings and recesses, including the extra width or rebated reveals. No deductions shall be made for openings of 0.50 square metre or less.

4.4 Deductions shall be made for strings, sills, lintols and the like only when exceeding 100mm in height.

5.0 CARPENTRY AND JOINERY

Description

5.1 The description of each item of carpentry work shall be deemed to include all cutting, notching, boring, sinking, pelleting, fitting, trimming, mitring, halving, morticing, tenoning, dovetailing, scarfing, wedging and all ends, splayed edges, short lengths and temporary supports and any other sundry of a like nature and also all labour in forming, drilling for bolts and fixing in position complete with nails, screws or adhesives.

5.2 The description of each item of joinery work shall be deemed to include all nailing, gluing, screwing, plugging, cutting, notching, holes, housing ends, mitring ends and shaped ends, angles, junctions, heading joints, short lengths, tongued angles, splayed or rounded edges, chamfers, rebates, grooves and any other sundry items of a like nature including stops and working cross-grain, fitting and hanging and the like.

6.0 STRUCTURAL STEELWORK AND METALWORK

Description

6.1 The description of each item of work shall be deemed to include:-

- a) Allowances for rolling margins and the weight of welding materials.
- b) Shop and site fabrication including drilling, cutting (including holes and openings for other trades), notching, splicing, mitring, welding, riveting, bolting, machining ends and bearings, delivery, unloading, handling, assembling, hoisting, erecting, fitting and fixing in position, bedding, filling in solid, polishing and pointing including necessary lugs or other attachment.

PARTICULAR PREAMBLES TO VARIOUS TRADES

6.0 STRUCTURAL STEELWORK AND METALWORK (CONT'D)

- c) Provision of all necessary construction equipment, temporary bracing supports and the like required for erection, providing samples and tests required by the specification, the inspection of welds including the use of any special radio-graphic techniques.
- d) Protection such as wrapping finished work with paper, coating with grease or carrying out such other protective measures as may be required and removing and cleaning on completion.
- e) Nuts and any type of washer which may be required.
- f) Preparation of shop Drawings.

Deduction

- 6.2 No deduction shall be made for drillings, holes, notchings, splay cuts and the like.

Measurement

- 6.3 Weights stated shall be net theoretical weights.
- 6.4 Steel sections and plates in connections or fitted stiffeners, column cap and base plates, rigid frame bases and butt plates, purlins, girts, eaves, fascias and similar cleats or brackets attached to trusses, lattice girders and open web joists and plates, and similar items shall be weighted at net dimensions.
- 6.5 Irregular, including circular shaped plates shall be weighted at the smallest size rectangles from which they can be cut; regular and triangular shaped plates shall be weighted at net dimensions.
- 6.6 Half or other parts of steel sections in connections shall be weighted at half the weight of the section from which they have been cut when equal to or less than half the section and at the full weight of the section from which they have been cut when greater than half the section.

PARTICULAR PREAMBLES TO VARIOUS TRADES

7.0 WALL/FLOOR FINISHES

Rates

- 7.1 The rate for each item shall be deemed to include all temporary rules, temporary grounds, temporary screeds and the like, cramps, dowels, ties, special metal supporting brackets and the like, cutting holes, notching and the like, masking, labour to internal angles other than coved angles, making good around pipes and the like, work in narrow widths and small quantities, joints between different types of work, joints between new and old work, internal angles, fair edges, rounded or chamfered edges or angles, quirks, grooves, V-joints, groin points and other intersections of curved surfaces, rounded coves and external angles not exceeding 25mm radius, necessary UPVC trimming pieces, mitres, stops and the like, and all making good and any other sundry items of a like nature.
- 7.2 Rate for each item shall also be deemed to include protecting surfaces from the weather or building operations.

Measurement

- 7.3 No deduction shall be made for openings of 0.50 square metre or less.
- 7.4 In the measurement of plastering, no deduction shall be made for casings for pipes under 300mm wide or angles which are finished in a different material if these do not exceed 100mm girth.
- 7.5 Work shall be deemed to be executed when scaffolding has been provided during the course of construction. Should scaffolding be required separately just to execute the work, it would be paid as an extra item.
- 7.6 Where an item is described as "Add to (or deduct from).....for each 5mm thickness over (or under).....", the difference for any thickness less than 5mm shall be paid/deducted based on 5mm thick.

8.0 PAINTWORK

Rates

- 8.1 The rate for each item of painting shall be held to include for all necessary preparation of surfaces including cleaning off, knotting, stopping and sandpapering woodwork, wirebrushing metal and leaving all surfaces free from dust, rust, grease and oil before painting, narrow widths, etc.

Measurement

- 8.2 No deduction shall be made for openings of 0.50 m² or less.
- 8.3 Work shall be deemed to be executed when scaffolding has been provided during the course of construction. Should scaffolding be required separately just to execute the work, it would be paid as an extra item.

PARTICULAR PREAMBLES TO VARIOUS TRADES

9.0 DRAINAGE WORK

Measurement

- 9.1 Unless otherwise described, excavation, backfill and disposal of excavated material shall be measured separately.
- 9.2 Piling, hardcore, lean concrete, sand bed and concrete haunching to drains, sewers and culverts shall be measured separately.
- 9.3 The measurement of lengths of pipes shall be along their centre lines and lengths of pipes in backdrops, tumbling bays, etc., shall be measured separately.
- 9.4 The measurement of pipes in trenches shall include lengths occupied by fittings and valves.
- 9.5 Unless otherwise stated, pipes are described by their internal diameters.

Rates

- 9.6 The rate of each item of concrete haunching shall be deemed to include moulds, formwork, reinforcement, forming holes, rebates, notchings, mortices and recesses.
- 9.7 The rate of each item of pipes shall be deemed to include the following:
- a) Laying of pipes in trenches or open ground to required falls.
 - b) Labour and material for cutting and jointing pipework.
 - c) Accessories such as joints, sockets, connectors, elbows, etc.

10.0 ROADS AND PAVINGS

Measurement

- 10.1 The thickness of materials used for road pavement shall be measured nett, i.e. consolidated thickness after compaction.
- 10.2 No deductions shall be made in measurement of areas for manhole covers less than 1 square metre.

Rates

- 10.3 Unless otherwise stated, excavation, backfilling and the subsequent removal of surplus excavated material shall be measured separately.
- 10.4 The rate of each item of base course shall be deemed to include the supplying, depositing, spreading, levelling, compacting, ramming and consolidating to the finished thickness.

PARTICULAR PREAMBLES TO VARIOUS TRADES

10.0 ROADS AND PAVINGS (CONT'D)

Rates (Cont'd)

10.5 The rate of each item of premix bituminous surfacing shall be deemed to include the following:-

- a) Sweeping and brushing surface prior to applying tack coats or asphalt surfacing.
- b) Supplying and applying suitable tack coats wherever required.
- c) Supplying and unloading of asphalt mixes as directed.
- d) Supplying and laying by means of mechanical spreader/finisher, rolling and finishing of asphalt mixes.
- e) Providing the necessary construction equipment, equipment, tools, etc. and the subsequent removal upon completion.

10.6 The rate of each item of precast concrete kerbs, channels and drains shall be deemed to include all necessary moulds, formwork, reinforcement and joints and cutting, all angles, intersections, ends, outlets, etc.

10.7 The rate for each item of precast concrete kerbs shall include for laying in alignment and finishing fair on all exposed surfaces.

11.0 SIGNAGES

Measurement

11.1 The rate of each item of work for directional/traffic signs shall be deemed to include foundations, supporting posts, excavation, preparation of surfaces, disposal of excavated material, upholding sides of excavation, backfilling, concrete, formwork, reinforcement and joints, etc.

PARTICULAR PREAMBLES TO VARIOUS TRADES

12.0 GATES AND FENCING

Measurement

12.1 The measurement for lengths of fences shall exclude lengths occupied by gates.

Rates

12.2 The rate for each item for fences shall be deemed to include the following:

- a) Excavation, preparation of surfaces, disposal of excavated materials, upholding sides of excavation, backfilling, concrete, formwork and reinforcement.
- b) Posts, End Posts, Angle Posts, Intermediate Posts, Straining Posts and Gate Posts.
- c) Drilling and cranking top of posts.
- d) Trowelling top of concrete bases to a weathered finish.

13.0 SITE CLEARANCE, TURFING AND TREE-PLANTING

Definition of Approved Soil Mixture

13.1 Approved soil mixture shall be three parts topsoil with one part of soil conditioner and 1 kg per m³ of granular fertilizer NPK (15:15:6.4) or 4:2:1 subsoil, unwashed sand and soil conditioner with 1 kg per m³ of granular fertilizer NPK (15:15:6.4).

Measurement

13.2 The measurement of girths of the trees shall be at a height of 1.0 metre above ground.

Rates

13.3 The rate for cutting down trees shall be deemed to include for grubbing up roots and filling of voids after removal of tree roots.

13.4 The rate of each item of turfing and planting shall be deemed to include for watering, weeding, fertilizing, cutting, settlement, re-seeding and maintenance during the "Maintenance Period" as specified.

PARTICULAR PREAMBLES TO VARIOUS TRADES

14.0 REPAIR WORKS SECTION

- (a) Unless otherwise stated, the relevant particular preambles as hereinbefore described shall be applicable for the corresponding work items under this Section.
- (b) Notwithstanding (a) above, for excavation works carried out under Works Instructions, the rate for each item of excavation shall not include cable/services detection. The cable/services detection shall be paid separately under Repair Works by Works Instruction.

15.0 DAYWORKS

Rates

- 15.1 Rates shall be applicable in respect of all work executed on a daywork basis. During the continuance of such work, the Contractor shall keep proper records of the names, occupations and working hours of all workmen employed for such work and the quantities and descriptions of all materials and construction equipment employed. Such records, receipts or vouchers must be verified by the Superintending Officer or the Superintending Officer's Representative before payment can be effected.

HOUSING AND DEVELOPMENT BOARD
STANDARD SCHEDULE OF RATES FOR CIVIL ENGINEERING WORKS (JAN 2020 EDITION)

S/N	DESCRIPTION	UNIT	RATE (\$)	CODE
1. PILING				
(a) Reinforced Concrete Piles				
1.01	Providing and assembling of necessary piling equipment to drive any size of reinforced concrete piles including all necessary tools and appliances, subsequent dismantling and removal on completion of the work on site.	item	\$4,585.60	Q042
<p>Grade 40 precast reinforced concrete piles inclusive of tools (providing, assembling and subsequent dismantling and removal of piling equipment measured separately), materials and labour for the execution thereof in any ground. Splices are to be approved by the SO's Representative and painted with one coat of bitumen paint after welding. (The pay length is measured from the given cut off level of the piles to the pointed end of the cast iron shoe or concrete shoe):</p>				
1.02	150mm x 150mm (nominal working load of 20 tonne).	m	\$23.90	SB305
1.03	175mm x 175mm (nominal working load of 30 tonne).	m	\$30.50	SB089
1.04	200mm x 200mm (nominal working load of 40 tonne).	m	\$35.60	SB090
1.05	230mm x 230mm (nominal working load of 50 tonne).	m	\$42.70	SB091
1.06	260mm x 260mm (nominal working load of 65 tonne).	m	\$47.30	SB092
1.07	300mm x 300mm (nominal working load of 90 tonne).	m	\$61.80	SB313
(b) Timber Piles				
1.08	Providing and assembling of necessary piling equipment to drive any size of treated timber piles including all necessary tools and appliances, subsequent dismantling and removal on completion of the work on site.	item	\$1,499.00	Q043

HOUSING AND DEVELOPMENT BOARD

STANDARD SCHEDULE OF RATES FOR CIVIL ENGINEERING WORKS (JAN 2020 EDITION)

S/N	DESCRIPTION	UNIT	RATE (\$)	CODE
	<p>Tanalised timber vertical piles inclusive of tools (providing, assembling and subsequent dismantling and removal of piling equipment measured separately), materials and labour for the execution thereof in any ground. The pay length to be measured from the given cut-off level of the pile to the pointed end of the pile (price include mild steel box joint) for the following sizes:</p>			
1.09	100mm x 100mm.	m	\$10.70	Q004
1.10	125mm x 125mm (SWL 14T).	m	\$16.30	Q005
1.11	150mm x 150mm (SWL 20T).	m	\$22.70	Q006
1.12	175mm x 175mm (SWL 27T).	m	\$33.90	Q007
	(c) Steel Sheet Piles			
1.13	Providing and assembling of necessary piling equipment to drive/extract Grade 43 (BS 4360) steel sheet piles of any size including all necessary tools and appliances, subsequent dismantling and removal on completion of the work on site.	item	\$8,159.30	SA032
1.14	Supply and delivery of Grade 43 (BS 4360) steel sheet piles for use as temporary shoring to retain the sides of excavation in approved section and lengths.	ton	\$171.30	SA028
1.15	Driving Grade 43 (BS 4360) steel sheet piles including the provision of all labour, Construction equipment (providing, assembling and subsequent dismantling of piling equipment measured separately), tools and everything necessary for the installation as specified.	ton	\$379.50	SA029
1.16	Extracting, recovering and stacking Grade 43 (BS 4360) steel sheet piles including the provision of all labour, tools (providing, assembling and subsequent dismantling of piling equipment measured separately), and everything necessary for the execution as specified.	ton	\$253.00	SA030
1.17	Grade 43 (BS 4360) steel sheet piles left in permanently including the provision of all labours, tools (providing, assembling and subsequent dismantling of piling equipment measured separately), and everything necessary for the installation as specified.	ton	\$1,847.50	SA031

HOUSING AND DEVELOPMENT BOARD
STANDARD SCHEDULE OF RATES FOR CIVIL ENGINEERING WORKS (JAN 2020 EDITION)

S/N	DESCRIPTION	UNIT	RATE (\$)	CODE
(d) Bakau Piles				
1.18	Providing and assembling of necessary piling equipment to drive any size of bakau piles including all necessary tools and appliances, subsequent dismantling and removal on completion of the work on site.	item	\$980.40	Q045
Bakau piles minimum 80mm diameter at the larger end including cutting of piles (providing, assembling and subsequent dismantling of piling equipment measured separately):				
1.19	Not exceeding 2.00m long.	no	\$6.20	Q031
1.20	Exceeding 2.00m but not exceeding 4.00m long.	no	\$10.50	Q032
1.21	Exceeding 4.00m but not exceeding 6.00m long complete with mild steel pipe sleeves.	no	\$19.90	Q033
1.22	Exceeding 6.00m but not exceeding 8.00m long ditto.	no	\$25.50	Q034
Bakau piles minimum 80mm diameter at the larger end, by jacking method using excavator including cutting of piles (rate inclusive of excavator):				
1.23	Not exceeding 2.00m long.	no	\$6.60	CE01001
1.24	Exceeding 2.00m but not exceeding 4.00m long.	no	\$10.80	CE01002
1.25	Exceeding 4.00m but not exceeding 6.00m long complete with mild steel pipe sleeves.	no	\$20.20	CE01003
1.26	Exceeding 6.00m but not exceeding 8.00m long ditto.	no	\$25.80	CE01004
1.27	Bakau piles minimum 80mm diameter at the larger end as roller supports.	m	\$1.90	Q030
(e) UPVC Pipes for Bored Piles				
1.28	Approximately 16mm nominal internal diameter hollow UPVC pipe with a pre-laid 3mm diameter wire inside the UPVC pipe within each cast in-situ pile.	m	\$2.20	CE01005

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S/N	DESCRIPTION	UNIT	RATE (\$)	CODE
2. EXCAVATION				
(a) Excavation				
Excavation to formation level for roads, carpark, pavements, etc in ordinary ground including forming of surfaces and removing of surplus excavated materials within site, for the following average overall depth:				
2.01	Not exceeding 150mm deep.	m ²	\$2.40	SA001
2.02	Exceeding 150mm but not exceeding 300mm deep.	m ²	\$4.30	SA002
2.03	Exceeding 300mm deep.	m ³	\$12.80	SA003
2.04	Excavation only for the preparation of platform in ordinary ground.	m ³	\$1.60	CE02003
2.05	Excavation for the preparation of platform in ordinary ground including filling and compaction to required platform levels within site.	m ³	\$8.60	A094
2.06	Excavation in embankment commencing from reduce level in ordinary ground including forming of surfaces and removing of surplus excavated materials within site.	m ³	\$14.70	SA007
2.07	Excavate to form trial holes in ordinary ground not exceeding 2.00m deep and get out and return, fill in and ram.	m ³	\$42.70	A096
2.08	Excavate to form trenches for drains, etc. in ordinary ground not exceeding 1.00m deep including forming bottom and get out, deposit on site, backfilling working space of trench with granular material/selected excavated material and cart away surplus excavated material from site.	m ³	\$20.60	A095

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Excavate to form trenches for drains, etc. in ordinary ground including forming bottom and get out, deposit on site, planking and strutting, and backfilling working space of trench with granular material/selected excavated material and cart away surplus excavated material from site in stages of the following depths:

2.09	Not exceeding 2.00m deep.	m ³	\$27.90	A097
2.10	Exceeding 2.00m but not exceeding 4.00m deep.	m ³	\$33.10	A098
2.11	Exceeding 4.00m but not exceeding 6.00m deep.	m ³	\$36.90	A099

Excavate to form trenches for columns, pile caps, foundations, beams, basements, pier holes, etc. in ordinary ground including forming of bottom, planking and strutting, part return, fill in and ram, and remainder get out and deposit on site as directed in stages of the following depth:

2.12	Not exceeding 2.00m deep.	m ³	\$28.90	SA008A
2.13	Exceeding 2.00m but not exceeding 4.00m deep.	m ³	\$31.90	SA009A
2.14	Exceeding 4.00m but not exceeding 6.00m deep.	m ³	\$36.80	SA010A

Excavate to form trenches for sewer lines, manholes, etc. in ordinary ground including forming bottom and get out, backfilling trench with granular material and cart away excavated material from site in stages of the following depths (timbering measured separately):

2.15	Not exceeding 2.00m deep.	m ³	\$32.50	A100
2.16	Exceeding 2.00m deep but not exceeding 4.00m deep.	m ³	\$41.70	A101
2.17	Exceeding 4.00m deep but not exceeding 6.00m deep.	m ³	\$43.40	A102
2.18	Exceeding 6.00m deep but not exceeding 8.00m deep.	m ³	\$46.80	A103
2.19	Exceeding 8.00m deep.	m ³	\$53.60	A104

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Excavate to form trenches for service pipes, cable crossings, etc. in ordinary ground including forming bottom and get out in stages of the following depths:				
2.20	Not exceeding 2.00m deep and deposit on site.	m ³	\$12.50	A105
2.21	Not exceeding 2.00m deep and cart away excavated material from site.	m ³	\$19.10	A106
2.22	Exceeding 2.00m deep but not exceeding 4.00m deep and deposit on site.	m ³	\$13.90	CE02001
2.23	Exceeding 2.00m deep but not exceeding 4.00m deep and cart away excavated material from site.	m ³	\$20.50	CE02002
(b) Extra over excavation				
Extra over excavation for excavating/breaking up surfaces to any depth using pneumatic tools etc:				
2.24	Rock/reinforced concrete surfaces.	m ³	\$83.30	A006
2.25	Metalled road surfaces.	m ³	\$40.70	A007
2.26	Mass concrete surfaces.	m ³	\$77.70	A008
(c) Timbering				
Open timbering for sewer trenches and manholes measured as supporting faces of excavations using type (I) timbering in stages of the following depths as shown in drawings (measured nett from drawings):				
2.27	Not exceeding 2.00m deep.	m ²	\$12.10	A070
2.28	Exceeding 2.00m but not exceeding 4.00m deep.	m ²	\$12.40	A071
2.29	Exceeding 4.00m but not exceeding 6.00m deep.	m ²	\$13.80	A072
Open timbering for sewer trenches and manholes measured as supporting faces of excavations using type (II) timbering in stages of the following depths as shown in drawings (measured nett from drawings):				
2.30	Not exceeding 2.00m deep.	m ²	\$14.10	A073

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Open timbering for sewer trenches and manholes measured as supporting faces of excavations using type (II) timbering in stages of the following depths as shown in drawings (measured nett from drawings) (Cont'd):				
2.31	Exceeding 2.00m but not exceeding 4.00m deep.	m ²	\$13.80	A074
2.32	Exceeding 4.00m but not exceeding 6.00m deep.	m ²	\$15.30	A075
Open timbering for sewer trenches and manholes measured as supporting faces of excavations using type (III) timbering in stages of the following depths as shown in drawings (measured nett from drawings):				
2.33	Not exceeding 2.00m deep.	m ²	\$16.80	A076
2.34	Exceeding 2.00m but not exceeding 4.00m deep.	m ²	\$16.10	A077
2.35	Exceeding 4.00m but not exceeding 6.00m deep.	m ²	\$17.90	A078
Close boarded timbering for sewer trenches and manholes measured as supporting faces of excavations using type (IV) timbering in stages of the following depths as shown in drawings (measured nett from drawings):				
2.36	Not exceeding 2.00m deep.	m ²	\$24.00	A079
2.37	Exceeding 2.00m but not exceeding 4.00m deep.	m ²	\$18.50	A080
2.38	Exceeding 4.00m but not exceeding 6.00m deep.	m ²	\$20.60	A081
2.39	Exceeding 6.00m but not exceeding 8.00m deep.	m ²	\$22.60	A082
2.40	Exceeding 8.00m but not exceeding 10.00m deep.	m ²	\$24.70	A083
Close boarded timbering for sewer trenches and manholes measured as supporting faces of excavations using type (V) timbering in stages of the following depths as shown in drawings (measured nett from drawings):				
2.41	Not exceeding 2.00m deep.	m ²	\$42.50	A084
2.42	Exceeding 2.00m but not exceeding 4.00m deep.	m ²	\$24.80	A085

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Close boarded timbering for sewer trenches and manholes measured as supporting faces of excavations using type (V) timbering in stages of the following depths as shown in drawings (measured nett from drawings) Cont'd):

2.43	Exceeding 4.00m but not exceeding 6.00m deep.	m ²	\$27.60	A086
2.44	Exceeding 6.00m but not exceeding 8.00m deep.	m ²	\$30.40	A087
2.45	Exceeding 8.00m but not exceeding 10.00m deep.	m ²	\$33.10	A088

Close boarded timbering for sewer trenches and manholes measured as supporting faces of excavations using type (VI) timbering in stages of the following depths as shown in drawings (measured nett from drawings):

2.46	Not exceeding 2.00m deep.	m ²	\$56.60	A089
2.47	Exceeding 2.00m but not exceeding 4.00m deep.	m ²	\$35.00	A090
2.48	Exceeding 4.00m but not exceeding 6.00m deep.	m ²	\$39.00	A091
2.49	Exceeding 6.00m but not exceeding 8.00m deep.	m ²	\$42.90	A092
2.50	Exceeding 8.00m but not exceeding 10.00m deep.	m ²	\$46.80	A093
2.51	Extra over timbering for timber left in excavation as directed including cutting runner below ground level all as required by the S.O.'s Rep. (Price to include for wedges, cleats, etc, measurements shall be taken from ground level to bottom of excavation. *Open/close timbering to be measured separately. This rate includes the omission of the extraction of timber left in).	m ³	\$259.50	A020

(d) Backfilling

Backfill excavated trench for service pipes, cable crossings, etc including consolidation with:

2.52	Granular material.	m ³	\$34.70	A107
2.53	Selected excavated material.	m ³	\$10.80	A110
2.54	Imported earth.	m ³	\$16.90	A109

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(e) Hardcore and Blinding**Filling including consolidation as directed:**

2.55	Hardcore.	m ³	\$30.90	I005
2.56	Granite dust.	m ³	\$64.70	A108
2.57	Granite chippings.	m ³	\$58.20	I008
2.58	Unwashed sand bed.	m ³	\$63.40	SA020

(f) Disposal

2.59	Cart away surplus excavated material from site of the work including transport and all charges.	m ³	\$13.10	SA016
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3. CONCRETE WORK**(a) Concrete**

3.01	Grade 15 concrete to underside of foundations, bases, slabs, etc.	m ³	\$135.90	I016
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Concrete benching to base of drain finished to falls towards precast inverts including trowelling all as specified:

3.02	Grade 20.	m ³	\$165.10	CE03029
3.03	Grade 25.	m ³	\$167.50	CE03030
3.04	Grade 30.	m ³	\$169.90	CE03011

Concrete in foundations, bases, walls, backdrops, tumbling bays, etc:

3.05	Grade 20.	m ³	\$138.30	I017
3.06	Grade 25.	m ³	\$140.70	I018
3.07	Grade 30.	m ³	\$143.20	I019
3.08	Grade 35.	m ³	\$145.60	I045
3.09	Grade 40.	m ³	\$149.20	I044

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(b) Reinforcement

Mild steel rod reinforcement including all bending, cutting and waste and fixing:

3.10	6mm diameter.	kg	\$2.70	SB022
3.11	8mm diameter.	kg	\$2.70	SB154
3.12	10mm diameter.	kg	\$2.40	SB023A
3.13	13mm diameter.	kg	\$2.40	SB024A
3.14	16mm diameter.	kg	\$2.30	SB025A
3.15	20mm diameter.	kg	\$2.10	SB026A
3.16	25mm diameter.	kg	\$2.10	SB028A

Deformed high tensile steel rod reinforcement including all bending cutting and waste and fixing:

3.17	10mm diameter.	kg	\$2.30	CE03016
3.18	13mm diameter.	kg	\$2.30	CE03017
3.19	16mm diameter.	kg	\$2.20	CE03018
3.20	20mm diameter.	kg	\$1.90	CE03019
3.21	22mm diameter.	kg	\$2.00	CE03020
3.22	25mm diameter.	kg	\$1.90	CE03021
3.23	28mm diameter.	kg	\$2.00	CE03022
3.24	32mm diameter.	kg	\$1.90	CE03023
3.25	Extra over steel rod reinforcement for galvanising.	kg	\$0.80	SB039A

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S/N	DESCRIPTION	UNIT	RATE (\$)	CODE
Welded steel fabric reinforcement (Class A) well lapped and tied at joints (measured nett):				
3.26	WA8.	m ²	\$7.10	SB043
3.27	WA9.	m ²	\$8.90	CE03001
3.28	WA10.	m ²	\$11.70	SB145A
3.29	WB8.	m ²	\$10.40	SB149A
3.30	WB9.	m ²	\$12.70	SB229
3.31	WB10.	m ²	\$13.90	SB150
3.32	WB11.	m ²	\$17.30	CE03010
3.33	WB12.	m ²	\$18.80	SB151
3.34	WB13.	m ²	\$22.80	CE03002
3.35	WD8.	m ²	\$13.60	SB124
3.36	WD9.	m ²	\$17.40	SB230A
3.37	WD10.	m ²	\$20.80	SB231
3.38	WD11.	m ²	\$26.60	CE03007
3.39	WD12.	m ²	\$30.80	CE03008
3.40	WD13.	m ²	\$34.90	CE03009
3.41	Galvanised finemesh (grid size 25mm x 25mm x 1.5mm thick).	m ²	\$7.90	CE03028

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S/N	DESCRIPTION	UNIT	RATE (\$)	CODE
Double wire welded steel fabric reinforcement well lapped and tied at joints (measured nett):				
3.42	W10101020	m ²	\$26.90	CE03024
3.43	W13101020	m ²	\$40.20	CE03025
3.44	W10151020	m ²	\$21.50	CE03026
3.45	W13151020	m ²	\$30.60	CE03027
(c) Formwork				
3.46	Shuttering to sides and soffits of concrete.	m ²	\$32.40	G005
4. BRICKWORKS				
(a) Brickwork				
Brickwork in standard common bricks (size 215mm x 102.5mm x 65mm) laid in cement and sand mortar (1:3) with 10mm joints raked 10mm deep or flush pointed as work proceeds:				
4.01	Mass brickwork generally.	m ³	\$273.60	L005
4.02	One and half thick wall.	m ²	\$147.30	G011
4.03	One brick thick wall to chambers, access shaft, etc.	m ²	\$98.20	G010
4.04	One brick thick wall.	m ²	\$74.80	L006
4.05	Half brick thick wall reinforced with expanded metal brickwork reinforcement.	m ²	\$39.80	L007
Common brickwall using M211 modular bricks size 190x90x90mm laid in masonry cement and sand (1:3) mortar as specified with 10mm joints raked 10mm deep or flush pointed as the work proceeds:				
4.06	190mm thick.	m ²	\$70.80	SC015A
4.07	290mm thick.	m ²	\$95.20	SC044A
4.08	190mm wide Brick-on-edge red bull-nosed brick kerb using 190x90x90mm thick red facing modular bricks jointed and pointed in cement and sand mortar (1:3) as specified (screed measured separately).	m	\$25.40	SD054A

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(b) Rubble Walls				
4.09	Sledge granite set in cement and sand mortar (1:3) in abutments, retaining walls, to drains, rivers etc.	m ³	\$117.90	L001
4.10	Ditto but in walling, fair-faced and pointed in plain or coloured cement.	m ³	\$134.90	L002
5. CARPENTRY AND JOINERY				
Supply only approved well seasoned timber in constructional members, scantlings, railings, deckings, etc cut to the forms and sizes required:				
5.01	Kapoh or Balau (wrot timber).	m ³	\$932.30	N015
5.02	Keruing (sawn timber).	m ³	\$619.90	N016
5.03	Kempas (sawn timber).	m ³	\$789.40	N017
5.04	Extra over timber for tanalising.	m ³	\$202.40	N018
5.05	Extra over timber only for fixing.	m ³	\$545.10	N019
6. STRUCTURAL STEELWORK AND METALWORK				
(a) Steelwork				
Mild steel flats, angles, tees, channels, hollow sections, square sections, rivets and bolts, etc. of any size fabricated and fixed including welding or bolting, and painting with one coat of primer:				
6.01	Grade 43A for structural steelwork only.	kg	\$7.90	SH018A
6.02	For non-structural steelwork only.	kg	\$6.50	SH019A
(b) Railings/Vehicular Impact Guard Rails				
6.03	Aluminium alloy railing Type 'A' of 1000mm height with 25mm diameter jail bars at 120mm centres and 75x75mm barrier post at 1500mm centres embedded in and including concrete footing as shown in drawings.	m	\$284.60	CE07007

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S/N	DESCRIPTION	UNIT	RATE (\$)	CODE
6.04	Aluminium alloy railing Type 'B' of 1000mm height with 20mm diameter jail bars at 120mm centres and 54x54mm barrier post at 1500mm centres embedded in and including concrete footing as shown in drawings.	m	\$215.10	CE07008
6.05	Aluminium alloy railing Type 'C' of 700mm height with 20mm diameter jail bars at 300mm centres and 54x54mm barrier post at 1500mm centres embedded in and including concrete footing as shown in drawings.	m	\$139.20	CE07009
6.06	Aluminium alloy railing Type 'D' of 1200mm height with 20mm diameter jail bars at 120mm centres and 54x54mm barrier post at 1500mm centres embedded in and including concrete footing as shown in drawings.	m	\$227.70	CE07010
6.07	Extra over aluminium alloy railing (all types) for fixing to concrete structures complete with aluminium base plate/case and stainless steel bolts as shown in drawings.	m	\$38.00	CE07011
6.08	40mm diameter nominal bore carbon steel standard safety railing with 12mm square bars at 150mm centre to centre including galvanising, Grade 20 concrete footing and painting as shown in drawings.	m	\$125.90	M046
6.09	Hot-dipped galvanised vehicular impact guard rail complying with the requirements of AASHTO Designation:M 180 including 150mm x 110mm x 18mm x 4.3mm thick galvanised 'C' channel posts spaced at 4.0 metre centres to centres with concrete surround to details as shown in drawings.	m	\$99.30	M019
6.10	Ditto including 150mm x 150mm x 6mm SHS steel posts spaced at 2.0 metre centre to centre and to details as shown in drawings.	m	\$297.60	M020
(c) Gratings				
6.11	3mm thick hot-dipped galvanised mild steel chequer plate including all necessary cutting and welding to mild steel works.	m ²	\$89.60	M040

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S/N	DESCRIPTION	UNIT	RATE (\$)	CODE
6.12	Hot-dipped galvanised mild steel hinged grating overall 41mm thick fabricated with 4.5mm x 25mm intermediate flats welded with 3mm thick galvanised mild steel CHEQUER PLATE on top resting on 2 nos. of 10mm diameter cross bar and supported on 64mm x 45.5mm x 4.5mm galvanised mild steel flat bend angle plate anchored to structure with fish tail as shown in drawings (for roadside and outlet drains).	m ²	\$403.50	M027
6.13	Hot-dipped galvanised mild steel hinged grating overall 47mm thick fabricated with 6mm x 32mm intermediate flats spaced at approximately 95mm centres with 3mm thick galvanised mild steel CHEQUER PLATE on top and resting on 5 nos. of 12mm diameter m.s. bar supports and 75mm x 50mm x 7mm m.s. angle frame anchored to structure with fishtails to details as shown in drawings (for 2m to 4m wide outlet drain).	m ²	\$304.80	M045
6.14	Hot-dipped galvanised m.s. hinged vehicular grating overall 65mm thick fabricated with 12mm dia. m.s. bars spaced at 85mm centres, 9mm x 65mm m.s. flats at 30mm centres and support on 75mm x 75mm x 9mm m.s. angle frame anchored to structure with fishtails to details as shown in drawings.	m ²	\$838.40	M030
6.15	Ditto but with 12mm dia m.s. bars spaced at 120mm centres and 9mm x 65mm m.s. flats at 35mm centres and to details as shown in drawings.	m ²	\$705.50	M031
6.16	3-piece hot-dipped galvanised mild steel hinged vehicular grating overall 32mm thick fabricated with 9mm x 32mm thick intermediate m.s. flats with 10mm diameter m.s. bar supports on 64mm x 38mm x 4.5mm thick m.s. angle frame to details as shown in drawings (for carparks/service roads).	m ²	\$491.70	M032
6.17	3-piece hot-dipped galvanised mild steel hinged vehicular grating overall 35mm thick fabricated with 9mm x 32mm thick intermediate m.s. flats and 3mm thick CHEQUERED PLATE welded to top of centre piece and 10mm diameter m.s. bar supports and 64mm x 38mm x 4.5mm thick m.s. angle frame to details as shown in drawings (for carparks/service roads).	m ²	\$516.90	M050

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S/N	DESCRIPTION	UNIT	RATE (\$)	CODE
6.18	2-piece hot-dipped galvanised mild steel hinged vehicular grating overall 32mm thick fabricated with 9mm x 32mm thick intermediate m.s. flats with 10mm diameter m.s. bar supports on 38mm x 38mm x 6mm thick m.s. angle frame to details as shown in drawings (for service roads).	m ²	\$448.50	CE07005
6.19	Mild steel grating to manhole of storm water pipe conduit overall size 836mm x 676mm fabricated with 26mm x 6mm thick and 32mm x 6mm thick flats with 2nos 13mm diameter mild steel rods all welded together and 38mm x 38mm x 6mm thick angle frame with lugs cast into concrete to details as shown in drawings.	no	\$232.50	CE07001
(d) Raised Platform				
6.20	Raised steel platform wash-bay, overall size 9000mm x 3500mm wide consisting of rolled steel joists supports as framing to receive used sheet pile sections all welded together to details as shown in drawings (concrete pavement and water pump measured separately).	no	\$1,557.20	CE07002
(e) Bollards				
6.21	90mm diameter x 3.2mm thick hollow section hot-dipped galvanised mild steel detachable pipe bollard, 900mm high above ground with concrete footing and secure to m.s. fish-tail attached to the footing with a padlock including necessary painting and excavation as shown in drawings.	no	\$130.80	CE07006
6.22	100mm diameter mild steel detachable pipe bollard 900mm high above ground with footing including necessary painting and excavation as shown in drawings.	no	\$67.80	M039
6.23	230mm diameter R.C. bollard 1050mm high above ground with footing and m.s. reinforcements including necessary excavation as shown in drawings.	no	\$77.70	M023
6.24	150mm diameter x 150mm high precast concrete bollard with 1no of T20mm diameter (200mm long) steel bar including bedding in cement mortar 1:3 and painting surfaces with two coats of approved yellow fluorescent paint.	no	\$13.90	CE11025
6.25	6mm diameter galvanised electrically welded steel link chains polished and self coloured.	m	\$4.50	M024
6.26	Supply of 60mm Yale padlock complete with keys or other approved equivalent.	no	\$25.00	M052

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7. WALL/FLOOR FINISHES				
7.01	One coat of approved 'Protective Coating' to inner wall surface of box culvert.	m ²	\$6.30	CE08001
7.02	Extra over concrete slab for trowelling floor surface.	m ²	\$2.00	SD002A
7.03	20mm thick cement and sand (1:3) rendering to brickwork or concrete trowelled smooth with steel trowel.	m ²	\$20.80	L008
7.04	ADD to (or deduct from) LAST ITEM for each 5mm thickness over (or under) 20mm.	m ²	\$1.80	L009
7.05	20mm thick cement and sand (1:2) rendering to inverts and benchings. (Measured on plan).	m ²	\$14.30	G014
7.06	ADD to (or deduct from) LAST ITEM for each 5mm thickness over (or under) 20mm (Measured on plan).	m ²	\$2.20	G065
7.07	20mm thick granolithic paving consisting of cement, sand and granite chippings (1:1:2) to floor and trowelled to a smooth finish.	m ²	\$14.20	SD019A
7.08	ADD to (or deduct from) LAST ITEM for each 5mm thickness over (or under) 20mm.	m ²	\$2.80	SD020A
8. PAINTWORK				
(a) Concrete and Plastered Surfaces				
8.01	One coat of approved synthetic gloss enamel paint to kerbs, dividers, bollards.	m ²	\$9.60	O065
8.02	One coat of primer sealer and one coat of approved synthetic gloss enamel paint to kerbs, dividers and concrete bollards.	m ²	\$10.20	CE09020
8.03	One coat of approved emulsion paint to concrete surfaces, parapet walls, etc.	m ²	\$1.90	O066
(b) Timber Surfaces				
8.04	Two coats of approved wood preservative on wood work.	m ²	\$4.30	N025
8.05	Stop, knot with spirit knotting varnish, prime with one coat wood primer and paint two coats of approved synthetic enamel paint on woodwork.	m ²	\$11.80	N026

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(c) Metal Surfaces				
8.06	Brush with steel wire brush to remove all rust, prepare and apply one coat of lead and chromate free primer or zinc chromate primer and two coats of approved synthetic enamel paint on steel and iron-work (girth measurement).	m ²	\$9.30	N022
8.07	Brush with steel wire brush to remove all rust, prepare and apply one coat of lead and chromate free primer or zinc chromate primer and two coats aluminium paint on steel and iron-work (girth measurement).	m ²	\$8.50	N023
8.08	Brush with steel wire brush to remove all rust, prepare and apply one coat of lead and chromate free primer or zinc chromate primer and two coats red lead oxide paint on steel and iron-work, one coat before and the other after erection (girth measurement).	m ²	\$8.40	N024
(d) Road Markings				
<p>Thermoplastic paint 1.5mm thick for longitudinal road markings to the following widths and spacings as shown in drawings or as directed including cleaning and preparation of road surface, setting out and aligning road markings, apply primer coat at the rate of 220 gm per m² apply drop on ballotini glass beads at the rate of 300 ± 50 gm/m² for surface reflectorization, and everything else as described in the Specifications:</p>				
8.09	100mm wide lines.	m	\$4.60	O014
8.10	150mm wide lines.	m	\$6.00	O016
8.11	200mm wide lines.	m	\$9.00	O017
8.12	300mm wide lines.	m	\$10.40	O018
8.13	Other road markings exceeding 300mm wide.	m ²	\$33.70	O019
8.14	100mm wide zig-zag lines (measured straight along the edge of road/kerb).	m	\$5.80	CE09008

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S/N	DESCRIPTION	UNIT	RATE (\$)	CODE
	<p>Thermoplastic paint 2mm thick for road markings to the following widths and spacings as shown in drawings or as directed including cleaning and preparation of road surface, setting out and aligning road markings, apply primer coat at the rate of 220 gm per m² apply drop on ballotini glass beads at the rate of 300 ± 50 gm/m² for surface reflectorization, and everything else as described in the Specifications:</p>			
8.15	1800mm wide road hump with 150mm wide transverse yellow lines spaced at 200mm apart.	m	\$39.10	CE09002
8.16	4000mm wide road hump with ditto.	m	\$82.50	CE09003
	<p>Thermoplastic paint 3mm thick for longitudinal road markings to the following widths and spacings as shown in drawings or as directed including cleaning and preparation of road surface, setting out and aligning road markings, apply primer coat at the rate of 220 gm per m² apply drop on ballotini glass beads at the rate of 300 ± 50 gm/m² for surface reflectorization, and everything else as described in the Specifications:</p>			
8.17	200mm wide lines.	m	\$9.40	O025
8.18	300mm wide lines.	m	\$14.50	O026
8.19	455mm wide lines	m	\$22.30	O035
8.20	Single traffic arrows.	no	\$70.50	O027
8.21	Double traffic arrows.	no	\$88.10	O028
8.22	Triple traffic arrows.	no	\$107.60	O029
8.23	Merging traffic arrows.	no	\$121.10	CE09007
8.24	Standard letterings/markings 2520mm height.	no	\$37.40	CE09012
8.25	Standard letterings/markings 310mm height.	no	\$18.40	CE09014
8.26	Standard alphanumeric characters 180mm height.	no	\$15.90	CE09016
8.27	Road markings exceeding 455mm wide.	m ²	\$49.10	O038
8.28	Thermoplastic paint 8mm thick x 300mm wide for forming regulating strips as shown in drawings or as directed on site including cleaning and preparation of road surface, setting out and aligning road markings, apply primer coat at the rate of 220gm per m ² apply drop on ballotini glass beads at the rate of 300 ± 50 gm/m ² for surface reflectorization, and everything else as described in the Specifications and other related documents of the Contract.	m	\$42.60	CE09001

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S/N	DESCRIPTION	UNIT	RATE (\$)	CODE
One coat of white colour water-based acrylic approved road line paint with mechanical means on:				
8.29	Pedestrian or zebra crossings and other road markings exceeding 300mm wide.	m ²	\$18.30	O054
8.30	100mm wide lines.	m	\$1.80	O055
8.31	150mm wide lines.	m	\$2.70	O056
8.32	200mm wide lines.	m	\$3.70	O057
8.33	300mm wide lines.	m	\$5.50	O058
8.34	Single traffic arrows.	no	\$31.10	CE09023
8.35	Double traffic arrows.	no	\$42.90	CE09024
8.36	Triple traffic arrows.	no	\$53.70	CE09025
8.37	Merging traffic arrows.	no	\$36.40	CE09022
8.38	Standard letterings/markings 2520mm height.	no	\$57.50	CE09009
8.39	Standard letterings/markings 1000mm height.	no	\$33.40	CE09019
8.40	Standard letterings/markings 310mm height.	no	\$18.50	CE09010
8.41	Standard alphanumeric characters 180mm height.	no	\$6.60	CE09011
8.42	One coat of white colour road marking water-based acrylic paint for handicap logo with the word 'RESERVED' painted in red on concrete paved parking lot.	no	\$37.90	O070
8.43	Extra over items S/N 8.29 to 8.42 for using yellow, red or black colour water-based acrylic road marking paint.	per centum	8.40%	O080

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S/N	DESCRIPTION	UNIT	RATE (\$)	CODE
9. DRAINAGE WORKS				
9.1 SEWERS				
(a) Blinding to Manhole Base				
9.01	75mm thick unwashed sand bed/granite dust or fines as sealing coat to bottom of manhole base as shown in drawings.	m ²	\$3.90	A048
9.02	75mm thick Grade 15 concrete blinding to bottom of manhole base including necessary formwork as shown in drawings.	m ²	\$10.20	A068
(b) Type "A" Section Granular Material				
Type "A" section approved granular material bed to sewer line as per details shown in drawings:				
9.03	225mm diameter sewer line.	m	\$4.20	B002
9.04	300mm diameter sewer line.	m	\$5.30	B003
9.05	375mm diameter sewer line.	m	\$5.80	B004
9.06	450mm diameter sewer line.	m	\$6.40	B005
9.07	525mm diameter sewer line.	m	\$7.50	B006
9.08	600mm diameter sewer line.	m	\$8.10	B007
9.09	675mm diameter sewer line.	m	\$9.40	B008
9.10	750mm diameter sewer line.	m	\$10.10	B009
9.11	825mm diameter sewer line.	m	\$11.40	B010
9.12	900mm diameter sewer line.	m	\$12.10	B011
9.13	975mm diameter sewer line.	m	\$19.80	B012
9.14	1.050m diameter sewer line.	m	\$20.90	B013
9.15	1.125m diameter sewer line.	m	\$22.50	B014
9.16	1.200m diameter sewer line.	m	\$23.60	B015
9.17	1.350m diameter sewer line.	m	\$34.90	B016
9.18	1.500m diameter sewer line.	m	\$38.70	B017

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Type "A" section approved granular material bed to sewer line as per details shown in drawings (Cont'd):

9.19	1.650m diameter sewer line.	m	\$42.80	B018
9.20	1.800m diameter sewer line.	m	\$46.90	B019

(c) Type "B" Section Concrete (Without Piling Base)

Grade 30 concrete bed and haunching of Type "B" section to sewer line complete with 75mm thick Grade 15 concrete blinding and all necessary formwork as per details shown in drawings :

9.21	225mm diameter sewer line.	m	\$38.20	C002
9.22	300mm diameter sewer line.	m	\$49.60	C003
9.23	375mm diameter sewer line.	m	\$52.90	C004
9.24	450mm diameter sewer line.	m	\$56.20	C005
9.25	525mm diameter sewer line.	m	\$65.40	C006
9.26	600mm diameter sewer line.	m	\$69.10	C007
9.27	675mm diameter sewer line.	m	\$78.60	C008
9.28	750mm diameter sewer line.	m	\$82.60	C009
9.29	825mm diameter sewer line.	m	\$89.40	C010
9.30	900mm diameter sewer line.	m	\$93.70	C011
9.31	975mm diameter sewer line.	m	\$138.10	C012
9.32	1.050m diameter sewer line.	m	\$143.50	C013
9.33	1.125m diameter sewer line.	m	\$154.50	C014
9.34	1.200m diameter sewer line.	m	\$160.20	C015
9.35	1.350m diameter sewer line.	m	\$211.10	C016
9.36	1.500m diameter sewer line.	m	\$239.10	C017
9.37	1.650m diameter sewer line.	m	\$266.20	C018
9.38	1.800m diameter sewer line.	m	\$293.90	C019

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(d) Type "B" Section Concrete (With Piling Base)

Grade 30 concrete bed and haunching of Type "B" section to sewer line complete with 75mm thick unwashed sand bed including steel/fabric reinforcement and all necessary formwork as per details shown in drawings where piling is required (Piling measured separately):

9.39	225mm diameter sewer line.	m	\$74.20	C021
9.40	300mm diameter sewer line.	m	\$90.10	C022
9.41	375mm diameter sewer line.	m	\$95.50	C023
9.42	450mm diameter sewer line.	m	\$101.00	C024
9.43	525mm diameter sewer line.	m	\$114.70	C025
9.44	600mm diameter sewer line.	m	\$120.40	C026
9.45	675mm diameter sewer line.	m	\$134.50	C027
9.46	750mm diameter sewer line.	m	\$140.70	C028
9.47	825mm diameter sewer line.	m	\$149.70	C029
9.48	900mm diameter sewer line.	m	\$158.40	C030
9.49	975mm diameter sewer line.	m	\$211.60	C031
9.50	1.050m diameter sewer line.	m	\$219.10	C032
9.51	1.125m diameter sewer line.	m	\$234.60	C033
9.52	1.200m diameter sewer line.	m	\$242.50	C034
9.53	1.350m diameter sewer line.	m	\$305.80	C035
9.54	1.500m diameter sewer line.	m	\$338.90	C036
9.55	1.650m diameter sewer line.	m	\$372.70	C037
9.56	1.800m diameter sewer line.	m	\$407.00	C038

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(e) Type "C" Section Concrete (Without Piling Base)

Grade 30 concrete bed and haunching of Type "C" section to sewer line complete with 75mm thick Grade 15 concrete blinding and all necessary formwork as per details shown in drawings :

9.57	225mm diameter sewer line.	m	\$47.70	D002
9.58	300mm diameter sewer line.	m	\$67.60	D003
9.59	375mm diameter sewer line.	m	\$70.50	D004
9.60	450mm diameter sewer line.	m	\$73.10	D005
9.61	525mm diameter sewer line.	m	\$94.60	D006
9.62	600mm diameter sewer line.	m	\$97.10	D007
9.63	675mm diameter sewer line.	m	\$113.20	D008
9.64	750mm diameter sewer line.	m	\$115.30	D009
9.65	825mm diameter sewer line.	m	\$132.00	D010
9.66	900mm diameter sewer line.	m	\$133.70	D011
9.67	975mm diameter sewer line.	m	\$200.50	D012
9.68	1.050m diameter sewer line.	m	\$203.70	D013
9.69	1.125m diameter sewer line.	m	\$228.10	D014
9.70	1.200m diameter sewer line.	m	\$231.10	D015
9.71	1.350m diameter sewer line.	m	\$308.50	D016
9.72	1.500m diameter sewer line.	m	\$349.40	D017
9.73	1.650m diameter sewer line.	m	\$390.50	D018
9.74	1.800m diameter sewer line.	m	\$432.80	D019

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(f) Type "C" Section Concrete (With Piling Base)

Grade 30 concrete bed and haunching of Type "C" section to sewer line complete with 75mm thick unwashed sand bed including steel/fabric reinforcement and all necessary formwork as per details shown in drawings where piling is required (Piling measured separately):

9.75	225mm diameter sewer line.	m	\$84.10	D021
9.76	300mm diameter sewer line.	m	\$108.50	D022
9.77	375mm diameter sewer line.	m	\$113.50	D023
9.78	450mm diameter sewer line.	m	\$118.40	D024
9.79	525mm diameter sewer line.	m	\$144.50	D025
9.80	600mm diameter sewer line.	m	\$149.10	D026
9.81	675mm diameter sewer line.	m	\$169.80	D027
9.82	750mm diameter sewer line.	m	\$174.10	D028
9.83	825mm diameter sewer line.	m	\$192.80	D029
9.84	900mm diameter sewer line.	m	\$199.20	D030
9.85	975mm diameter sewer line.	m	\$274.90	D031
9.86	1.050m diameter sewer line.	m	\$280.20	D032
9.87	1.125m diameter sewer line.	m	\$309.20	D033
9.88	1.200m diameter sewer line.	m	\$314.40	D034
9.89	1.350m diameter sewer line.	m	\$404.30	D035
9.90	1.500m diameter sewer line.	m	\$450.50	D036
9.91	1.650m diameter sewer line.	m	\$498.30	D037
9.92	1.800m diameter sewer line.	m	\$547.30	D038

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(g) Type 'D' Section Concrete (Without Piling Base)

Grade 30 concrete bed and haunching of Type "D" section to sewer line complete with 75mm thick Grade 15 concrete blinding and all necessary formwork as per details shown in drawings :

9.93	225mm diameter sewer line.	m	\$70.30	E002
9.94	300mm diameter sewer line.	m	\$91.90	E003
9.95	375mm diameter sewer line.	m	\$96.40	E004
9.96	450mm diameter sewer line.	m	\$100.70	E005
9.97	525mm diameter sewer line.	m	\$136.70	E006
9.98	600mm diameter sewer line.	m	\$141.40	E007
9.99	675mm diameter sewer line.	m	\$166.60	E008
9.100	750mm diameter sewer line.	m	\$171.20	E009
9.101	825mm diameter sewer line.	m	\$197.80	E010
9.102	900mm diameter sewer line.	m	\$202.20	E011
9.103	975mm diameter sewer line.	m	\$285.20	E012
9.104	1.050m diameter sewer line.	m	\$291.30	E013
9.105	1.125m diameter sewer line.	m	\$324.50	E014
9.106	1.200m diameter sewer line.	m	\$330.60	E015
9.107	1.350m diameter sewer line.	m	\$463.90	E016
9.108	1.500m diameter sewer line.	m	\$512.20	E017
9.109	1.650m diameter sewer line.	m	\$562.10	E018
9.110	1.800m diameter sewer line.	m	\$613.20	E019

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S/N	DESCRIPTION	UNIT	RATE (\$)	CODE
(h) Type "D" Section Concrete (With Piling Base)				
Grade 30 concrete bed and haunching of Type "D" section to sewer line complete with 75mm thick unwashed sand bed including steel/fabric reinforcement and all necessary formwork as per details shown in drawings where piling is required (Piling measured separately):				
9.111	225mm diameter sewer line.	m	\$106.70	E021
9.112	300mm diameter sewer line.	m	\$132.80	E022
9.113	375mm diameter sewer line.	m	\$137.90	E023
9.114	450mm diameter sewer line.	m	\$146.00	E024
9.115	525mm diameter sewer line.	m	\$186.60	E025
9.116	600mm diameter sewer line.	m	\$193.30	E026
9.117	675mm diameter sewer line.	m	\$223.10	E027
9.118	750mm diameter sewer line.	m	\$230.00	E028
9.119	825mm diameter sewer line.	m	\$258.70	E029
9.120	900mm diameter sewer line.	m	\$267.70	E030
9.121	975mm diameter sewer line.	m	\$359.60	E031
9.122	1.050m diameter sewer line.	m	\$367.70	E032
9.123	1.125m diameter sewer line.	m	\$405.50	E033
9.124	1.200m diameter sewer line.	m	\$413.90	E034
9.125	1.350m diameter sewer line.	m	\$558.30	E035
9.126	1.500m diameter sewer line.	m	\$613.20	E036
9.127	1.650m diameter sewer line.	m	\$669.90	E037
9.128	1.800m diameter sewer line.	m	\$727.80	E038

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S/N	DESCRIPTION	UNIT	RATE (\$)	CODE
(i) Vitrified Clay Pipes				
Vitrified clay pipes with flexible joints including rubber rings etc all as per Specifications:				
9.129	200mm diameter.	m	\$56.70	CE10032
9.130	225mm diameter.	m	\$62.60	F002
9.131	300mm diameter.	m	\$129.00	F003
(j) UPVC Pipes				
UPVC pipes to SS272 with flexible joints including rubber ring etc all as per Specifications:				
9.132	250mm diameter.	m	\$42.60	CE10028
(k) RC Pipes Class `H'				
R.C. pipes Class `H' in ordinary portland cement with spigot and socket and rubber ring joints:				
9.133	300mm diameter.	m	\$126.20	F005
9.134	375mm diameter.	m	\$154.60	F007
9.135	450mm diameter.	m	\$186.20	F009
9.136	525mm diameter.	m	\$213.40	F011
9.137	600mm diameter.	m	\$266.20	F013
9.138	675mm diameter.	m	\$301.60	F015
9.139	750mm diameter.	m	\$360.30	F017
9.140	825mm diameter.	m	\$381.00	F019
R.C. pipes Class `H' lined with PVC or HDPE blanket (spigot and socket or butt ended pipes with loose collars):				
9.141	900mm diameter.	m	\$483.20	F021
9.142	975mm diameter.	m	\$534.80	F023
9.143	1.050m diameter.	m	\$568.80	F025
9.144	1.125m diameter.	m	\$597.70	F027

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R.C. pipes Class `H' lined with PVC or HDPE blanket (spigot and socket or butt ended pipes with loose collars) (Cont'd):				
9.145	1.200m diameter.	m	\$612.90	F029
9.146	1.350m diameter.	m	\$746.40	F031
9.147	1.500m diameter.	m	\$856.10	F033
9.148	1.725m diameter.	m	\$1,047.40	F035
9.149	1.800m diameter.	m	\$1,157.20	F037
(I) Reinforced Concrete Pipes Class `M'				
R.C. pipes Class `M' in ordinary portland cement with spigot and socket and with rubber ring joints:				
9.150	375mm diameter.	m	\$138.40	F006
9.151	450mm diameter.	m	\$156.60	F008
9.152	525mm diameter.	m	\$179.70	F010
9.153	600mm diameter.	m	\$232.00	F012
9.154	675mm diameter.	m	\$261.60	F014
9.155	750mm diameter.	m	\$299.00	F016
9.156	825mm diameter.	m	\$328.30	F018
(m) Cast Iron Pipes				
Heavy duty cast iron pipe with flexible joint as specified:				
9.157	225mm diameter.	m	\$93.80	G047
9.158	300mm diameter.	m	\$110.00	G048
9.159	100mm diameter cast iron spigot and socket vent pipe fixed complete including all fittings, etc as specified.	m	\$46.30	G049

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(n) Pipes in BackDrops/Tumbling Bays

Vitrified clay pipes or concrete pipes in backdrops, tumbling bays, raised junction connections, etc including cutting to required length:

9.160	200mm diameter.	m	\$45.10	CE10033
9.161	225mm diameter.	m	\$75.00	F042
9.162	300mm diameter.	m	\$149.40	F045

Extra over 200mm diameter vitrified clay pipes or concrete pipes for:

9.163	Bend.	no	\$181.70	CE10034
9.164	Junction.	no	\$312.80	CE10035

Extra over 225mm diameter vitrified clay pipes or concrete pipes for:

9.165	Bend.	no	\$66.30	F043
9.166	Junction.	no	\$195.50	F044

Extra over 300mm diameter vitrified clay pipes or concrete pipes for:

9.167	Bend.	no	\$40.90	F046
9.168	Junction.	no	\$253.30	F047

(o) Concrete Rings and Surround to Manhole

Precast reinforced concrete wall in tubes as manhole chamber including supply and lay 150mm thick Grade 30 concrete surround and necessary formwork as shown in drawings :

9.169	1.050m diameter.	m	\$740.30	G054
9.170	1.200m diameter.	m	\$868.70	G055

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Precast reinforced concrete wall in tubes as manhole chamber including supply and lay 150mm thick Grade 30 concrete surround and necessary formwork as shown in drawings (Cont'd):

9.171	1.350m diameter.	m	\$972.60	G056
9.172	1.500m diameter.	m	\$1,106.80	G057
9.173	1.800m diameter.	m	\$1,448.00	G058

(p) Concrete Cover Slabs & PC Unit for Manhole

Precast or cast-in-situ concrete cover slab, underside to be PVC lined, to brick/cast-in-situ concrete access shaft all as shown in drawings :

9.174	150mm thick to access shaft with 600mm x 600mm square opening.	no	\$391.90	G026
9.175	225mm thick to access shaft with 750mm x 750mm square opening.	no	\$496.30	G027

200mm thick precast concrete slab to tube chamber, underside to be PVC lined, including concrete surround and formwork all as shown in drawings :

9.176	1.050m diameter.	no	\$647.80	G028
9.177	1.200m diameter.	no	\$909.10	G029
9.178	1.350m diameter.	no	\$1,177.60	G030
9.179	1.500m diameter.	no	\$1,370.20	G031
9.180	1.800m diameter.	no	\$1,819.20	G032

200mm thick precast concrete intermediate slab to tube chamber, underside to be PVC lined, including concrete surround and formwork all as shown in drawings :

9.181	1.500 m diameter.	no	\$1,545.80	G033
9.182	1.800m diameter.	no	\$1,819.20	G034

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S/N	DESCRIPTION	UNIT	RATE (\$)	CODE
Precast reinforced concrete unit for manhole, overall size 800 x 800 comprising of 100mm thick wall including bedding in cement mortar (1:3) and Grade 30 concrete surround to details as shown in drawings :				
9.183	100mm high.	no	\$65.40	CE10020
9.184	200mm high.	no	\$84.50	CE10021
(q) Manhole Cover and Frame, Ladder, Railings, etc.				
Double triangular manhole cover and frame including bedding frame in cement and sand mortar (1:3) and Grade 30 concrete surround to details as shown in drawings :				
9.185	Overall dimensions 800mm x 800mm x 140mm heavy duty cover.	no	\$227.20	G035
9.186	Overall dimensions 750mm x 750mm x 90mm medium duty cover.	no	\$120.50	G036
9.187	Aluminium ladder 450mm wide including stringers, rungs to details as shown in drawings.	m	\$65.40	G038
9.188	Aluminium ladder holder bracket and shoe to details as shown in drawings (For 1 no. of ladder).	set	\$57.40	G039
9.189	44mm (external) diameter x 1000mm high aluminium alloy handrailing including screwed bends, junctions, flanged bottom to details as shown in drawings.	m	\$90.00	G040
9.190	Aluminium alloy safety link chain including hooks and end rings to details as shown in drawings.	no	\$23.90	G041
Stainless steel safety chain including stainless steel plate, hook and eye and shackle to details as shown in drawings for:				
9.191	750mm to 825mm diameter sewer.	set	\$141.90	G042
9.192	900mm to 1050mm diameter sewer.	set	\$154.00	G043
9.193	1200mm diameter sewer and above.	set	\$166.10	G044

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S/N	DESCRIPTION	UNIT	RATE (\$)	CODE
	16mm diameter multi-strand poly-propylene nylon rope as safety chain including stainless steel plate, hook and eye and shackle to details as shown in drawings for:			
9.194	750mm to 825mm diameter sewer.	set	\$27.00	CE10005
9.195	900mm to 1050mm diameter sewer.	set	\$27.40	CE10006
9.196	1200mm diameter sewer and above.	set	\$27.70	CE10007
9.197	Malleable cast iron step all in accordance with BS 1247.	kg	\$23.50	G045
9.198	Ductile cast iron manhole cover and frame overall dimensions 850mm x 850mm x 100mm including bedding frame as shown in drawings.	no	\$236.10	M036
9.199	Supply of 6mm diameter 'T-shape' galvanised mild steel lifting key (for opening of drain grating/cover slab) as shown in drawings.	no	\$2.90	CE10025
	(r) Other Works			
9.200	Provide hole through existing manhole wall for sewer inlet or outlet not exceeding 300mm diameter and make good after fixing (cost of pipe etc to be included).	no	\$31.80	CE10036
9.201	200mm diameter vitrified clay pipe inlet to manhole for house sewer connection including jointing and plugging with stopper (Cost of pipes etc included).	no	\$30.30	CE10037

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S/N	DESCRIPTION	UNIT	RATE (\$)	CODE
9.202	Raise or lower level of manhole cover not exceeding 300mm including breaking concrete, brickwork, re-concreting, re-fixing manhole cover and frame and making good after completion (Supply and installation of precast tube, if any, shall be measured separately).	no	\$540.00	G053
9.203	Painting and greasing of manhole frame and cover including preparation of surface by scraping and removing of rust, mill scale concrete waste, etc.	no	\$29.70	G059
Tunnel with proper timber strutting, supply, lay and join flexible joint vitrified clay pipe with spigot and socket rubber ring joint and concrete surround all as specified:				
9.204	225mm diameter.	m	\$1,079.20	H002
Tunnel with proper timber strutting, supply, lay and join Class "M" concrete pipe with spigot and socket rubber ring joint and concrete surround all as specified:				
9.205	300mm diameter.	m	\$1,326.80	H003
9.206	450mm diameter.	m	\$1,561.80	H004
9.207	600mm diameter.	m	\$1,853.20	H005
Pipe Jacking of vitrified clay pipes all as specified:				
9.208	200mm diameter.	m	\$621.00	CE10011
9.209	225mm diameter.	m	\$655.50	CE10027
9.210	250mm diameter.	m	\$678.50	CE10012
9.211	300mm diameter.	m	\$736.00	CE10013
9.212	400mm diameter.	m	\$793.50	CE10014
Pipe Jacking of Class "H" concrete pipe all as specified:				
9.213	225mm diameter.	m	\$690.00	H011
9.214	300mm diameter.	m	\$770.50	H012
9.215	375mm diameter.	m	\$805.00	H015
9.216	450mm diameter.	m	\$862.50	H013
9.217	525mm diameter.	m	\$920.00	H016
9.218	600mm diameter.	m	\$977.50	H014

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9.2 DRAINS

(a) Half Round and Composite Drain Channels and Block Drains

Half-round precast concrete drain channels true to line and level as shown in drawings:

9.219	150mm diameter (Type C1).	m	\$9.80	J001
9.220	230mm diameter (Type C2).	m	\$10.60	J002
9.221	305mm diameter (Type C3).	m	\$12.20	J003
9.222	380mm diameter (Type C4).	m	\$12.90	J004
9.223	455mm diameter (Type C5).	m	\$14.70	J005
9.224	535mm diameter (Type C6).	m	\$15.90	J006

Precast concrete composite drain channels as specified true to line and level as shown in drawings (Excavation, sand bed and bakau roller measured separately):

9.225	300mm (Type C7).	m	\$31.20	J008
9.226	300mm (Type C7A).	m	\$31.20	J070
9.227	300mm (Type C7B).	m	\$31.20	J072
9.228	380mm (Type C8A).	m	\$39.60	J009
9.229	455mm (Type C8B).	m	\$62.40	J010

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S/N	DESCRIPTION	UNIT	RATE (\$)	CODE
	Standard precast concrete block drain as specified, true to line and level as shown in drawings (Excavation, sand bed and bakau rollers measured separately):			
9.230	305mm (Type B1).	m	\$30.90	J016
9.231	380mm (Type B2).	m	\$35.30	J017
9.232	600mm (Type B3).	m	\$70.20	J018
	(b) Drain Opening Cover Slabs, Catch-Basin and Others			
9.233	3-piece precast concrete Grade 40 drain opening cover slab each size 277mm x 569mm x 25mm thick reinforced with a layer of 25mm x 25mm x 1.5mm thick fine mesh laid on and including 3mm thick galvanised mild steel flat plate and 64mm x 38mm x 4.5 mm thick galvanised mild steel angle frame to details as shown in drawings.	no	\$66.20	CE10029
9.234	Precast concrete Grade 40 drain opening cover slab overall size 277mm x 569mm x 25mm thick reinforced with a layer of 25mm x 25mm x 1.5mm thick fine mesh laid on and including 3mm thick galvanised mild steel flat plate to details as shown in drawings.	no	\$16.30	CE10030
9.235	Extra over for forming 1 no keyhole in precast concrete drain opening cover slab.	no	\$1.00	CE10031
9.236	Catch-basin overall size 780mm x 500mm x 575mm (for bus bay) including precast reinforced concrete slab cover, galvanised mild steel angle frame, base plate and aluminium vertical grating all as shown in drawings.	no	\$167.80	J074
9.237	Non-slip aluminium rungs 300mm wide, made out of 25mm diameter aluminium ribbed rung type rods as shown in drawings.	no	\$25.40	J062
	(c) Sub-soil Pipes and Scupper Drains			
	Perforated UPVC sub-soil pipe to SS141 Class "B" with flexible joints:			
9.238	80mm diameter.	m	\$9.70	CE10002
9.239	100mm diameter.	m	\$9.70	K052
9.240	150mm diameter.	m	\$13.40	K053

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S/N	DESCRIPTION	UNIT	RATE (\$)	CODE
High density polyethylene (HDPE) part-perforated corrugated sub-soil pipe with plug-in connection:				
9.241	DN 80 (80mm diameter).	m	\$8.80	CE10016
9.242	DN 100 (100mm diameter).	m	\$9.60	CE10017
9.243	DN 150 (150mm diameter).	m	\$15.60	CE10018
9.244	DN 200 (200mm diameter).	m	\$28.70	CE10019
9.245	250mm external diameter UPVC drain pipe to SS272 (minimum wall thickness 6.1mm) with maximum one joint and Grade 30 reinforced concrete surround and haunching to pipe laid on a layer of 100mm thick granite fine bed as shown in drawings.	m	\$72.90	K066
Provide hole through drain wall for UPVC pipe outlet, etc and make good after fixing for (UPVC pipe measured separately):				
9.246	100mm or 150mm diameter pipe outlet.	no	\$4.00	K044
9.247	250mm diameter pipe outlet.	no	\$6.60	K045
9.248	230mm wide x 450mm deep standard precast concrete open scupper drain channel (Type S1) true to line and levels as shown in drawings (Excavation, sand bed and bakau rollers measured separately).	m	\$28.40	CE10026
9.249	Provide scupper opening (varies from 225mm to 250mm in width and 50mm to 75mm in height respectively) through drain wall using metal formwork.	no	\$7.20	CE10004
9.250	Precast concrete wall overall size 400mm x 300mm x 150mm thick with 250mm wide x 75mm high scupper opening (with 4nos 10mm diameter mild steel bar).	no	\$24.40	CE11041
9.251	Precast concrete drop-inlet chamber 980mm x 475mm x 425mm deep including hot-dipped galvanised mild steel hinged grating to details as shown in drawings.	no	\$141.90	K057

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S/N	DESCRIPTION	UNIT	RATE (\$)	CODE
9.252	300mm x 300mm x 350mm deep (internal size) precast concrete sump comprising of 100mm thick sides and bottom reinforced with WSF B6 and B5, T13mm diameter steel bars including 380mm x 380mm x 75mm precast concrete cover slab reinforced with WSF A5 as shown in drawings.	no	\$59.00	K067
9.253	Precast concrete scupper mouth unit.	no	\$17.30	K058
9.254	Precast concrete catch basin mouth unit, overall size 1100mm x 250mm x 100mm thick (for bus bay) as shown in drawings.	no	\$21.10	CE10024
9.255	Crusher run sub-drains 300 mm wide x 375mm deep wrapped with synthetic membrane (geotextiles with a minimum flow rate of 150l/s/m ² (10cm head) and a tensile strength of 400N/5cm) under footpaths or below road formation including necessary excavation.	m	\$19.10	L003
9.256	Add to last item for each additional 100mm increase in depth.	m	\$4.70	L020
(d) Weepholes				
UPVC pipe to SS213:1979 as weephole not exceeding 300mm long:				
9.257	50mm diameter.	no	\$2.80	M009
9.258	65mm diameter.	no	\$3.00	M042
9.259	80mm diameter.	no	\$4.60	M010
9.260	100mm diameter.	no	\$7.40	M011
9.261	300mm x 300mm Geotextile membrane to side of drain wall at weepholes all as specified.	no	\$2.00	CE10003
9.262	225mm x 225mm loose rubble packing to sides of drains, retaining walls etc behind weepholes including necessary excavation.	m	\$6.20	L004
9.263	500mm wide synthetic membrane (geotextiles with a minimum flow rate of 150l/s/m ² (10cm head) and a tensile strength of 400N/5cm) strip to side of retaining wall, etc (excavation measured separately).	m	\$2.90	L021

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(e) Silt Traps, Water Trough & Vibration Access

Reinforced Concrete temporary silt trap for drains, including unwashed sand bed to details as shown in drawings (excavation measured separately):

9.264	Overall size 1920mm x 2430mm x 1645mm depth (Type A).	no	\$1,971.50	CE10008
9.265	Overall size 2800mm x 4050mm x 2400mm depth, complete with 1200mm high timber fencing surround with one coat of enamel paint, set in and including concrete footings, "DANGER-KEEP OUT" warning signboards (Type B).	no	\$5,234.30	CE10009
9.266	Water trough, overall size 21200mm x 3500mm wide comprising of 200mm thick reinforced concrete base slab and 9000mm x 3500mm wide steel platform made out of roll steel joists supports as framings to receive steel angle sections all welded together with and including concrete lining to details as shown in drawings (excavation and earth drain measured separately).	no	\$5,535.50	CE10022
9.267	Vibration access, overall size 6000mm x 3500mm wide comprising of 200mm thick reinforced concrete base slab and 2 nos of 6000mm x 1000mm wide steel platform made out of mild steel angle sections as framings/supports all welded together with and including hardcore bed to details as shown in drawings (excavation and precast channel drain measured separately).	no	\$1,376.10	CE10023

10. ROADS AND PAVINGS

10.1 Roads

(a) Road Base

10.01	Class 'A' synthetic geotextile membrane on road formation.	m ²	\$3.20	CE11018
10.02	50mm thick ash or unwashed sand bed on consolidated road formation.	m ²	\$4.60	J054
10.03	Coarse granite aggregate (crusher run) road base blinded with 20mm aggregate all as specified, deposited, spread, levelled, rolled and mechanically consolidated true to level and camber.	m ³	\$74.80	J073

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S/N	DESCRIPTION	UNIT	RATE (\$)	CODE
10.04	Consolidation of road base with a powered roller.	m ²	\$2.10	J059
10.05	Plant Mixed Crushed Granite Aggregate (max. size 50mm & below), deposited, spread, levelled, rolled and mechanically consolidated true to level and camber.	m ³	\$53.20	J060
10.06	Sub-base materials (quarry/premix waste) deposited and compacted to level and camber.	m ³	\$49.90	CE11017
(b) Bituminous Premix				
Premix bituminous surfacing including rolling with light and heavy rollers successively as specified (including bituminous emulsion tack coat):				
10.07	Type "B1" to a consolidated thickness of 75mm.	m ²	\$19.10	CE11004
10.08	Type "B1" to a consolidated thickness of 90mm.	m ²	\$22.30	CE11005
10.09	Type "B1" to a consolidated thickness of 120mm.	m ²	\$29.90	CE11006
10.10	Type "W3" to a consolidated thickness of 25mm.	m ²	\$6.00	CE11007
10.11	Type "W3" to a consolidated thickness of 40mm.	m ²	\$9.30	CE11008
10.12	Type "W3B" to a consolidated thickness of 25mm.	m ²	\$6.00	CE11009
10.13	Type "W3B" to a consolidated thickness of 50mm.	m ²	\$12.50	CE11010
10.14	Extra over for forming 1800mm wide hump with Type "W3B" premix including painting as shown in drawings.	m	\$72.80	CE11011
10.15	Extra over for forming 4000mm wide hump with Type "W3B" premix including painting as shown in drawings.	m	\$187.50	CE11012
10.16	Extra over for forming 5800 mm wide raised zebra crossing with Type "W3B" premix including painting as shown in drawings.	m	\$236.40	CE11027

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S/N	DESCRIPTION	UNIT	RATE (\$)	CODE
The rate for mobilisation of plant and equipment under this sub-heading is applicable for the laying of asphalt premix instructed by way of works instructions or works order given by the SO Rep.				
10.17	Mobilisation of mechanical spreader for the laying of asphalt premix including all necessary fuel and driver.	item	\$805.00	CE15036
10.18	Mobilisation of milling machine for the laying of asphalt premix including all necessary fuel and driver.	item	\$2,501.30	CE15037
10.19	Mobilisation of mechanical sweeper for the laying of asphalt premix including all necessary fuel and driver.	item	\$862.50	CE15038
10.20	Mobilisation of pneumatic type roller for the laying of asphalt premix including all necessary fuel and driver.	item	\$805.00	CE15039
10.21	Mobilisation of static 10-tonne roller for the laying of asphalt premix including all necessary fuel and driver.	item	\$805.00	CE15040
10.22	Mobilisation of vibratory roller for the laying of asphalt premix including all necessary fuel and driver.	item	\$805.00	CE15041
10.2 PAVINGS				
(a) Concrete Paving Slabs				
Concrete paving slab including 50mm granite fines or unwashed sand bed and jointing in cement mortar (1:3):				
10.23	50mm thick.	m ²	\$33.30	K012
10.24	75mm thick.	m ²	\$54.20	K011
10.25	100mm thick Grade 30 cast-in-situ concrete paving slab reinforced with WSF A10 reinforcement with patterned voids at 200mm centre to centre formed by expanded polystyrene formers as carpark lots, on 40mm thick granite fines including necessary formwork and providing approved soil mixture to voids and close turf with cow grass as shown in drawings.	m ²	\$58.90	K078
10.26	150mm thick Grade 30 cast-in-situ concrete paving slab reinforced with 2 layers of WSF A10 reinforcement with patterned voids at 200mm centre to centre formed by expanded polystyrene formers as lorry parking lots, on 40mm thick granite fines including necessary formwork and providing approved soil mixture to voids and close turf with cow grass as shown in drawings.	m ²	\$79.40	K079

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S/N	DESCRIPTION	UNIT	RATE (\$)	CODE
(b) BG Slabs				
10.27	600mm x 400mm x 120mm "B.G. Slabs" on 50mm sand bed, topping up all voids with approved soil mixture and turfing including trimming and excavation to formation as shown in drawings.	no	\$13.30	K015
(c) Aeration Slabs				
10.28	600mm x 600mm x 75mm thick precast concrete aeration slab reinforced with T9mm diameter steel bars on 40mm thick granite fines to carpark or tree planting area including topping up all voids with approved soil mixture and close turf with cow grass.	no	\$20.20	K019
10.29	75mm thick grade 30 concrete reinforcing tee overall size 175mm x 175mm for corners of precast concrete aeration slabs reinforced with galvanised weldmesh 228.	no	\$4.40	B020
(d) Interlocking Concrete Paving Blocks				
10.30	Interlocking paving slabs for carparking lots to approved pattern comprising of 456mm x 456mm x 100mm thick natural grey coloured perforated interlocking concrete slabs, 228mm x 114mm x 100mm thick coloured interlocking concrete paving blocks with combination of white coloured paving blocks for demarcation lines, including 30mm thick compacted sand bed and topping up voids with approved soil mixture and close turfing with cow grass and filling all joints with joint-filling sand as shown in drawings.	m ²	\$52.40	CE11033
10.31	Coloured interlocking concrete paving blocks for handicapped and motor-cycle parking lots comprising of 228mm x 114mm x 100mm thick blocks laid to approved pattern and with combination of white coloured paving blocks for demarcation lines, including 30mm thick compacted sand bed and filling all joints with joint-filling sand as shown in drawings.	m ²	\$48.30	CE11034
10.32	Coloured interlocking concrete paving blocks comprising of 228mm x 114mm x 100mm thick blocks laid to approved pattern including 30mm thick compacted sand bed and filling all joints with joint-filling sand as specified.	m ²	\$45.10	CE11043
10.33	Extra over 228mm x 114mm x 100mm interlocking concrete paving blocks for forming raised hump at linkway service roads.	m ²	\$11.30	CE11036

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S/N	DESCRIPTION	UNIT	RATE (\$)	CODE
10.34	Extra over 228mm x 114mm x 100mm interlocking concrete paving blocks for forming 1800mm wide road hump across interlocking paving driveways.	m	\$14.80	CE11037
10.35	Extra over 228mm x 114mm x 100mm coloured interlocking concrete paving blocks for forming handicap logo with white coloured paving blocks.	no	\$63.10	CE11035
Coloured interlocking concrete paving blocks to approved pattern including 50mm thick compacted sand bed and filling all joints with joint-filling sand as specified:				
10.36	Size 225mm x 112.5mm x 80mm thick.	m ²	\$46.10	SD077A
10.37	Size 225mm x 112.5mm x 100mm thick.	m ²	\$48.00	SD078A
10.38	Extra over 225mm x 112.5mm x 80mm thick interlocking concrete paving blocks for forming raised hump at linkway service roads comprising of plant mixed crushed granite aggregate.	m ²	\$11.80	CE11024
10.39	Extra over 225mm x 112.5mm x 80mm thick interlocking concrete paving blocks for forming 1800mm wide road hump across interlocking paving driveways as shown in drawings.	m	\$11.30	CE11001
(e) Expansion Joints				
10.40	12mm wide x 25mm deep expansion joint filled with 40/50 bitumen to cast-in-situ footpath and cycle track.	m	\$4.10	K024
10.41	15mm x 200mm deep self expanding cork with 25mm diameter mild steel bar 600mm long half the length treated with bituminous paint and its end covered with a metal cap bedded across the joint at 450mm centres and to details shown in drawings.	m	\$19.20	K074
10.42	13mm x 200mm compressed foam plastic strip.	m	\$2.80	K026
10.43	25mm x 20mm x 2mm/5mm thick 'L' shaped UPVC plastic strip laid to cast-in-situ drain top slab/concrete pavement/kerb foundation as expansion joint as shown in drawings.	m	\$6.50	K070
10.44	Longitudinal joint of heavy duty sealant with T13mm diameter bars x 800mm long spaced at 600mm centres to detail shown in drawings.	m	\$14.40	K076

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S/N	DESCRIPTION	UNIT	RATE (\$)	CODE
10.45	25mm wide x 200mm deep expansion joint with FLEXCELL fibre board filler.	m	\$12.30	CE11044
10.46	175mm wide x 3mm thick lead bearing plate.	m	\$20.00	CE11045
	(f) Kerbs, Dividers, etc.			
10.47	125mm x 125mm precast concrete kerb including jointing in cement mortar to details as shown in drawings.	m	\$11.90	K036
10.48	125mm x 300mm precast concrete kerb including jointing in cement mortar to details as shown in drawings.	m	\$16.90	K032
10.49	Extra over 125mm x 125mm precast concrete kerb for using 125mm x 125mm x 300mm high precast concrete kerb at sharp corners.	m	\$17.50	CE11042
	Precast concrete kerb including jointing in cement mortar to details as shown in drawings :			
10.50	125mm x 280mm (with 20mm diameter mild steel bar).	m	\$17.50	CE11014
10.51	125mm x 280mm x R350mm precast concrete kerb (with 2 nos 20mm diameter mild steel bars, each 150mm long).	no	\$16.10	CE11038
10.52	Extra over 125mm x 280mm precast concrete kerb for using 125mm x 105mm - 160mm (overall plan size) x 280mm high precast concrete kerb (with 20mm diameter mild steel bar) for turning radius not exceeding 1.0m.	m	\$36.80	CE11031
10.53	Extra over 125mm x 280mm precast concrete kerb for using 125mm x 260mm - 300mm (overall plan size) x 280mm high precast concrete kerb (with 20mm diameter mild steel bar) for turning radius exceeding 1.0m but not exceeding 2.0m.	m	\$15.50	CE11032
10.54	Extra over 125mm x 280mm precast concrete kerb for using 125mm x 290mm - 300mm (overall plan size) x 280mm high precast concrete kerb (with 20mm diameter mild steel bar) for turning radius exceeding 2.0m but not exceeding 6.0m.	m	\$16.40	CE11039

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S/N	DESCRIPTION	UNIT	RATE (\$)	CODE
10.55	Extra over 125mm x 280mm precast concrete kerb for using 125mm x 300mm (overall plan size) x 280mm high precast concrete kerb (with 20mm diameter mild steel bar) for turning radius exceeding 2.0m but not exceeding 6.0m.	m	\$15.50	CE11040
	Precast concrete divider kerb specially cast solid including jointing in cement mortar to details as shown in drawings:			
10.56	300mm x 150mm.	m	\$26.70	K037
10.57	380mm x 200mm.	m	\$34.60	K038
10.58	190mm x 90mm red bull-nose brick kerb laid in cement mortar (1:3) all as shown in drawings.	m	\$18.30	K072
10.59	225mm x 150mm x 150mm precast concrete road lane divider with 2 nos of 51mm diameter reflector disc secured to concrete surface and including painting, concrete foundation and excavation.	no	\$31.20	CE11046
10.60	Flexible reflective road lane divider including Grade 30 concrete footing as shown in drawings.	no	\$87.70	CE11016
	(g) Pipe Crossings			
	UPVC pipe to SS141 Class `B' for crossing with 3mm diameter nylon rope (minimum protruded length 1000mm) including sand bed for car park/street lighting:			
10.61	80mm diameter.	m	\$4.80	CE11019
10.62	100mm diameter.	m	\$6.00	CE11020
10.63	150mm diameter.	m	\$10.70	CE11021
	Class 'B' galvanised iron pipes for crossing with 3mm diameter nylon rope (minimum protruded length 1000mm) including sand bed for car park/street lighting:			
10.64	80mm diameter.	m	\$18.20	CE11022
10.65	100mm diameter.	m	\$24.20	CE11023

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11. SIGNAGES				
(a) Directional Signs				
11.01	80mm diameter Galvanised Iron Pipe Supports to directional signboard welded with 200mm x 200mm x 12mm thick mild steel plate and embedded in 400mm x 400mm x 800mm depth Grade 20 concrete foundation including excavation as specified in drawings.	no	\$116.80	O067
125mm x 125mm x 6mm SHS Supports to directional signboard painted with one coat of red lead primer and two coats of approved quality paint, welded with 300mm x 300mm x 12mm mild steel plate and embedded in Grade 30 concrete foundation including excavation as specified in drawings:				
11.02	Supports with 600mm x 600mm x 1375mm deep concrete foundation.	pair	\$510.80	O068
11.03	Supports with 800mm x 800mm x 1375mm deep concrete foundation.	pair	\$638.50	O081
11.04	Supports with 900mm x 900mm x 1375mm deep concrete foundation.	pair	\$711.30	O082
Illuminated plastic signboard size 1500mm x 900mm comprising of 100mm x 23mm U-channel elephant grey powder coated finish main frame filled in on both faces with 5mm thick clear polycarbonate plastic sheet with green translucent sticker on the reverse side complete with all letterings, graphics/logos, hinges, masterkeyed locksets, fluorescent tubes, flexible electric cables and weather proof termination box and the signboard mounted onto and including 2nos 3mm thick x 110mm diameter semi-circular natural anodised aluminium post and all necessary Grade 20 concrete foundation and excavation as specified in drawings for:				
11.05	Directional signboard for Apartment/Industrial Blocks.	no	\$1,416.40	CE12042
11.06	Multi-storey carpark.	no	\$1,416.40	CE12009

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S/N	DESCRIPTION	UNIT	RATE (\$)	CODE
	<p>`Curve Alignment Marker' sign comprising of 1 no 2.03mm (14SWG) thick aluminium base plate with diamond grade retro-reflective sheetings with graphics on one face to LTA's requirements as shown in drawings and fixed to hot-dipped galvanised SHS posts for sign, set in and including concrete footings, excavation and disposal of excavated materials from site.</p>			
11.07	Size 600mm x 750mm (for Arterial Road).	no	\$276.80	CE12044
11.08	Size 750mm x 900mm (for Expressway).	no	\$394.90	CE12053
	<p>`Object Marker' sign comprising of 1 no 2.03mm (14SWG) thick aluminium base plate with micro prismatic reflective grade sheetings with graphics on one face to LTA's requirements as shown in drawings and fixed to hot-dipped galvanised SHS posts for sign, set in and including concrete footings, excavation and disposal of excavated materials from site.</p>			
11.09	Size 600mm x 600mm.	no	\$229.60	CE12054
11.10	Size 340mm x 900mm.	no	\$201.20	CE12055
11.11	Size 900mm x 900mm.	no	\$465.80	CE12056
11.12	<p>`Barrier' sign size 1520mm x 400mm comprising of 1no 2.03mm (14SWG) thick aluminium base plate with diamond grade retro-reflective sheetings with graphics on one face to LTA's requirements as shown in drawings and fixed to hot-dipped galvanised SHS posts, set in and including concrete footings, excavation and disposal of excavated materials from site.</p>	no	\$423.40	CE12011

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S/N	DESCRIPTION	UNIT	RATE (\$)	CODE
	<p>Block Directional Signboard comprising of 2 nos. aluminium framed 16 SWG aluminium sign plates, with diamond grade retro-reflective sheetings with numerals, alphabets and arrows mounted to both sides, fixed to and including 2 nos of 50.8mm x 50.8mm x 4mm galvanised SHS supports (2700mm high from ground level) welded with 200mm x 200mm x 6mm thick mild steel plate and embedded in 350mm x 350mm x 500mm deep Grade 20 concrete foundation including painting and excavation as shown in drawings:</p>			
11.13	Size 1350mm x 750mm.	no	\$1,167.20	CE12045
11.14	Size 1350mm x 550mm.	no	\$883.70	CE12046
	<p>Road directional, confirmatory signboard and neighbourhood maps mounted on and including all necessary mild steel framing supports and painting (post and footing measured separately):</p>			
11.15	Comprising 1 no 14SWG aluminium base plate with diamond grade retro-reflective sheeting, letterings, numerals and figures on one face.	m ²	\$689.40	CE12051
11.16	Comprising 2 nos 14SWG aluminium base plates with diamond grade retro-reflective sheeting, letterings, numerals and figures on exposed faces.	m ²	\$815.90	CE12052
	<p>200mm high Street Name plate not exceeding 1.50m length made out of aluminium 'I' extrusion with diamond grade retro-reflective sheeting (white) and vinyl film non reflective alphabets and numerals printed on both faces as shown in drawings:</p>			
11.17	5mm thick aluminium sign plate overall size 100mm x 75/50mm with letterings for services crossing at driveways including hacking of kerb and plastering sign plate with cement mortar onto concrete kerb/drain kerb as shown in drawings.	no	\$14.80	CE12006

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(b) Traffic Signs

Traffic Signs comprising of 2.03mm (14SWG) thick Aluminium base plate with micro prismatic grade reflective sheetings with letterings and graphics on one face to LTA's requirements as shown in drawings (Irrespective of letterings and graphics):

11.18	600mm x 150mm and fixed to hot-dipped galvanised SHS post set in and including precast concrete footing, excavation and disposal of excavated materials from site.	no	\$87.80	P030
11.19	600mm x 400mm and fixed to ditto.	no	\$166.60	CE12001
11.20	600mm x 450mm and fixed to ditto.	no	\$182.30	P031
11.21	600mm x 600mm and fixed to ditto.	no	\$229.60	P032
11.22	600mm x 900mm and fixed to ditto.	no	\$324.10	CE12002

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Traffic Signs comprising of 2.03mm (14SWG) thick Aluminium base plate with diamond grade retro-reflective sheetings with letterings and graphics on one face to LTA's requirements as shown in drawings (Irrespective of letterings and graphics) (Cont'd):				
11.23	2 nos. of 600mm x 600mm and fixed to hot-dipped galvanised SHS post set in and including precast concrete footing, excavation and disposal of excavated materials from site.	no	\$418.60	CE12003
11.24	2 nos. of 600mm x 600mm and 2 nos. arrow signs each 600mm x 150mm and fixed to ditto.	no	\$513.00	CE12008
11.25	1 no. of 600mm x 900mm and 1 no. of 600mm x 450mm and fixed to ditto.	no	\$465.80	CE12031
11.26	900mm x 900mm and fixed to ditto.	no	\$465.80	CE12032
11.27	2 nos. of 900mm x 900mm and fixed to ditto.	no	\$891.00	CE12033
11.28	900mm x 1200mm and fixed to ditto.	no	\$607.50	CE12034
11.29	600mm x 150mm and fixed to 6mm thick aluminium sign holder secured to lamp post by 19mm wide stainless steel band with buckle.	no	\$79.20	CE12015
11.30	600mm x 400mm and fixed to ditto.	no	\$158.00	CE12016
11.31	600mm x 450mm and fixed to ditto.	no	\$173.70	CE12017
11.32	600mm x 600mm and fixed to ditto.	no	\$220.90	CE12018
11.33	600mm x 900mm and fixed to ditto.	no	\$315.40	CE12019
11.34	2 nos. of 600mm x 600mm and fixed to ditto.	no	\$435.80	CE12020
11.35	2 nos. of 600mm x 600mm and 2 nos. arrow signs each 600mm x 150mm and fixed to ditto.	no	\$588.10	CE12021
11.36	1 no. of 600mm x 900mm and 1 no. of 600mm x 450mm and fixed to ditto.	no	\$483.00	CE12035
11.37	900mm x 900mm and fixed to ditto.	no	\$457.20	CE12037
11.38	2 nos. of 900mm x 900mm and fixed to ditto.	no	\$908.20	CE12038
11.39	600mm x 1200mm and fixed to ditto.	no	\$409.90	CE12036
11.40	900mm x 1200mm and fixed to ditto.	no	\$598.90	CE12039

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	"Exit" sign comprising of 2.03mm (14SWG) thick aluminium base plate with diamond grade retro-reflective sheetings with alphabets and arrows as shown in drawings:			
11.41	Alternative `A' (Single Face) with 50.8mm x 50.8mm x 4mm thick galvanised SHS post set in and including concrete footing, excavation and disposal of excavated materials from site.	no	\$229.60	CE12047
11.42	Alternative `B' (Single Face) with ditto.	no	\$238.80	CE12048
11.43	Alternative `A' (Double Face) with 40mm diameter galvanised iron class `A' post set in and including concrete footing, excavation and disposal of excavated materials from site.	no	\$418.60	CE12049
11.44	Alternative `B' (Double Face) with ditto.	no	\$427.80	CE12050
11.45	Alternative `A' (Single Face) and fixed to 6mm thick aluminium sign holder secured to lamp post by 19mm wide stainless steel band with buckle.	no	\$220.90	CE12022
11.46	Alternative `B' (Single Face) and fixed to ditto.	no	\$216.70	CE12023
11.47	Alternative `A' (Double Face) and fixed to 6mm thick aluminium sign holder secured to lamp post by 19mm wide stainless steel band with buckle.	no	\$435.80	CE12024
11.48	Alternative `B' (Double Face) and fixed to ditto.	no	\$427.40	CE12025
11.49	"Handicap Logo" sign plate size 650mm x 650mm cum "Unauthorized Vehicles Fine \$400" plate size 650mm x 450mm comprising of 2.03mm (14SWG) thick aluminium base plate with diamond grade retro-reflective sheetings with letterings and graphics on one face, hot dipped galvanised SHS post for sign, set in and including concrete footing; excavation and disposal of excavated materials from site.	no	\$422.00	CE12013

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S/N	DESCRIPTION	UNIT	RATE (\$)	CODE
11.50	"NO ENTRY" sign plate size 600mm x 600mm cum "EXCEPT FIRE ENGINE" plate size 600mm x 400mm comprising of 2.03mm (14SWG) thick aluminium base plate with diamond grade retro-reflective sheetings with letterings and graphics on one face and fixed to hot dipped galvanised SHS post, set in and including precast concrete footing, excavation and disposal of excavated materials from site as shown in drawings.	no	\$355.60	CE12029
11.51	"Raised Zebra Crossing Ahead" sign plate, overall size 600mm x 1200mm, comprising of 2.03mm (14SWG) thick aluminium base plate with diamond grade retro-reflective sheetings with letterings and graphics on one face and fixed to hot-dipped galvanised SHS post set in and including precast concrete footing, excavation and disposal of excavated materials from site as shown in drawings. "Pedestrian Alert" sign plate, overall size 450mm x 450mm comprising of 2.03mm (14SWG) thick aluminium base plate with diamond grade retro-reflective sheetings with letterings and graphics on one face as shown in drawings:	no	\$418.60	CE12030
11.52	Fixed to hot-dipped galvanised SHS post including concrete foundation and excavation.	no	\$146.90	CE12043
11.53	Fixed to 6mm thick aluminium sign holder secured to lamp post by 19mm wide stainless steel band with buckle. 230mm diameter fibre glass deviation bollard, 1000mm high above floor level complete with 300mm high with diamond grade retro-reflective sheetings directional sign and with foot of bollard bolted to and including 205mm diameter x 6mm thick mild steel pipe welded on to 300mm x 300mm x 5.4mm thick mild steel base plate all as shown in drawings:	no	\$138.30	CE12057
11.54	Deviation bollard on grass verge including all necessary concrete foundation.	no	\$285.10	CE12005
11.55	Deviation bollard on concrete footpath.	no	\$285.10	CE12005

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S/N	DESCRIPTION	UNIT	RATE (\$)	CODE
11.56	Hollow plastic reflector post, size 100mm x 120mm x 1130mm, consisting of high density polyethylene in white colour with a black welded day-light marker and fitted with two round reflectors with foot fixed to 4.5mm thick hot-dipped galvanised hollow section and cast into concrete as shown in drawings.	no	\$57.60	CE12007
(c) Signboards				
11.57	"DANGER-KEEP OUT" or other warning signboards consisting of 20mm thick timber board, complete with painted background and wordings or signs by stencil printing in colour in one or more languages of sizes 600mm x 900mm and above but less than 1.0 sqm screwed to m.s. brackets and supported by 30mm sq m.s. hollow section, elevated not less than 1.5m above ground level, complete with a concrete footing of 300mm x 300mm x 600mm depth as approved by the S.O.'s representative.	no	\$40.00	Q021
11.58	Temporary sewer manhole sign comprising of 2.3mm (14 SWG) thick aluminium base plate with engineering grade reflective sheet with graphics and letterings in red, white and black on one face and bolted onto a 40mm diameter galvanised steel pipe 2400mm long all as specified.	no	\$81.40	Q049
11.59	Temporary carpark sign plate size 900mm x 500mm comprising of 2.3mm (14 SWG) thick aluminium base plate with engineering grade reflective sheet with graphics and letterings on one face and bolted onto a hot-dipped galvanised post set in and including precast concrete footing all as shown in drawings .	no	\$97.10	CE12041
11.60	Project Signboard comprising of 12mm thick plywood (2400mm x 1200mm) with enamel painted background and letterings, mounted on 50.8mm x 50.8mm x 6.4mm thick galvanised SHS frame with 25mm x 25mm x 2mm galvanised SHS stiffeners fixed to 2nos 76.2mm x 76.2mm x 6.4mm thick galvanised SHS supports (3075mm high from ground level) welded with 200mm x 200mm x 6mm thick mild steel base plate embedded in 400mm x 400mm x 600mm deep Grade 20 concrete foundation including painting and excavation as specified in drawings.	no	\$912.00	O074
11.61	800mm diameter convex mirror, fixed to and supported by 1 no 75mm diameter galvanised iron pipe and embedded in 400 x 400 x 500mm deep Grade 25 concrete foundation and all necessary excavation.	no	\$285.20	CE12012

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12. GATES AND FENCING				
(a) Gates				
12.01	Double leaf gate consisting of 50mm diameter galvanised iron tubular framing filled in with 50mm x 50mm weldmesh, 75mm diameter galvanised iron tubular gate posts with bottom end encased in 450mm x 450mm x 600mm Grade 20 concrete foundation, the gates hung on 2 Nos. pairs approved hooks and ride hinges and fitted with approved locking bolt including all necessary welding and painting. (Nett area of leaf measured).	m ²	\$68.00	N001
12.02	Standard metal collapsible gates of approved manufacture including all necessary fixing lugs, guide rails, rollers and gate locks etc.	m ²	\$156.20	N002
(b) Chain Link Fencing				
3.175mm thick gauge x 50mm mesh PVC chain link fencing of the following height to top of mesh with 3 Nos. horizontal lines of double strand 2.517mm BG galvanised barbed wires of 2- ply 4 point above at 100 mm centres, the chain link and barbed wires fixed to and including 50mm x 50mm x 6mm angle iron posts at 3m centres with top bent to form spurs and bottom cast into 300mm x 300mm x 450mm deep Grade 20 concrete foundations including all necessary straining wires and split pins and priming and painting posts with two coats aluminium paint:				
12.03	1.20m high.	m	\$43.50	N003
12.04	1.50m high.	m	\$48.30	N004
12.05	1.80m high.	m	\$54.50	N005
12.06	2.10m high.	m	\$67.40	N006
12.07	2.40m high.	m	\$76.70	N007
(c) Temporary Fencing				
12.08	Temporary fencing 1.20m high consisting of 6 Nos longitudinal lines of galvanised double strand 2.517mm BG barbed wire stapled 150mm and 225mm apart, as shown in drawings and including 80mm diameter bakau posts with pointed bottom and driven 450mm deep into ground at 3.0m centres.	m	\$15.90	N009

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S/N	DESCRIPTION	UNIT	RATE (\$)	CODE
12.09	Temporary fencing 1.20m high consisting of 3 Nos horizontal lines of galvanised doubled strand 2.517mm BG barbed wire stapled 300mm apart to and including 100 mm diameter bintangore posts with pointed bottom and driven 450mm deep into ground at 2.40m centres.	m	\$9.90	N010
12.10	Temporary fencing 1.20m high consisting of 6 Nos horizontal lines of galvanised doubled strand 2.517mm BG barbed wire stapled 150mm apart to and including 100 mm diameter bintangore posts with pointed bottom and driven 1.0m deep into ground at 2.50m centres.	m	\$15.70	N027
12.11	Dismantling and removing chain link fencing 1.5m high including breaking up of foundation etc.	m	\$15.30	N011
12.12	Add to last item for each additional 300mm height.	m	\$2.40	N012
12.13	20mm thick temporary wooden fence vertically spaced alternately with 100mm x 100mm vertical standard at 2.5m centres to centres spaces with 2 Nos. of 100mm x 50mm horizontal guides to a height 1.500m, using sawn timber with wood preservative.	m	\$35.90	N013
13. SITE CLEARANCE, TURFING AND TREE-PLANTING				
(a) Site Clearance				
13.01	To clear and cart away debris from site to approved ENV dumping ground.	ton	\$98.20	L010
13.02	Clearing and disposal of bush, belukar, holes and any other undergrowth etc from site including removing from site and dumping at approved dumping ground.	m ²	\$4.30	L011
Cut down trees with girth measured at a point 1.0m above the ground, grub up roots and clear away from site:				
13.03	Not exceeding 0.5m girth.	no	\$237.10	CE14001
13.04	Exceeding 0.5m but not exceeding 1.0m girth.	no	\$294.10	L012
13.05	Exceeding 1.0m but not exceeding 1.5m girth.	no	\$393.80	L013

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S/N	DESCRIPTION	UNIT	RATE (\$)	CODE
Cut down trees with girth measured at a point 1.0m above the ground, grub up roots and clear away from site (Cont'd):				
13.06	Exceeding 1.5m but not exceeding 2.0m girth.	no	\$589.20	L014
13.07	Exceeding 2.0m but not exceeding 2.5m girth.	no	\$749.90	L015
13.08	Exceeding 2.5m but not exceeding 3.0m girth.	no	\$981.50	L016
13.09	Exceeding 3.0m but not exceeding 4.0m girth.	no	\$1,223.60	L017
13.10	Exceeding 4.0m but not exceeding 5.0m girth.	no	\$1,546.80	L018
13.11	Exceeding 5.0m but not exceeding 6.0m girth.	no	\$1,860.00	L019
(b) Turfing				
13.12	Labour for trimming and forming embankments.	m ²	\$2.70	M002
13.13	225x225mm spot turfing (with 25mm thick original top soil) at 450mm centre both directions with a layer of approved soil mixture 125mm thick including the maintenance of the turfing works during the "Maintenance Period" as specified.	m ²	\$7.80	SM002A
13.14	Strip turfing (with 25mm thick original top soil) 450mm wide and spaced 600mm between strips at an angle of 45 degree on embankments with a layer of approved soil mixture 125mm thick including the maintenance of the turfing works during the "Maintenance Period" as specified.	m ²	\$11.50	SM004A
Close turfing (with 25mm thick original top soil) including the maintenance of the turfing works during the "Maintenance Period" as specified:				
13.15	To slope embankment with a layer of 125mm thick approved soil mixture.	m ²	\$14.20	SM009A
13.16	To flat level surfaces with a layer of 125mm thick approved soil mixture.	m ²	\$13.10	SM011
13.17	To slope embankment with a layer of 225mm thick approved soil mixture.	m ²	\$15.80	CE14002
13.18	To flat level surfaces with a layer of 225mm thick approved soil mixture.	m ²	\$14.70	CE14003
13.19	Grass cutting at aeration slabs including weeding, sweep and remove cut grass off site. (Includes area occupied by aeration slabs but exclude concrete lining).	m ²	\$0.30	M038

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S/N	DESCRIPTION	UNIT	RATE (\$)	CODE
13.20	Grass cutting including weeding on level ground or slope embankments, sweep and remove cut grass off site and trimming edges at drain kerbs and roadsides, etc.	m ²	\$0.20	M053
(c) Tree Pruning				
Trimming of tree branches terminals and clearing of cut branches, debris etc from site. (The height of tree measured from tree base to the highest growing point of tree before pruning):				
13.21	Tree height not exceeding 2m.	p/tree	\$7.50	CE14004
13.22	Tree height exceeding 2m but not exceeding 3m.	p/tree	\$19.50	CE14005
13.23	Tree height exceeding 3m but not exceeding 6m.	p/tree	\$55.20	CE14006
13.24	Tree height exceeding 6m but not exceeding 9m (truck mounted hydraulic platform measured separately).	p/tree	\$74.50	CE14007
13.25	Tree height exceeding 9m but not exceeding 12m (truck mounted hydraulic platform measured separately).	p/tree	\$111.20	CE14008
13.26	Tree height exceeding 12m but not exceeding 15m (truck mounted hydraulic platform measured separately).	p/tree	\$171.20	CE14009
13.27	Tree height exceeding 15m (truck mounted hydraulic platform measured separately).	p/tree	\$230.30	CE14010
(d) Tree Planting				
13.28	Excavate trench to form shrub/flower bed, including backfilling to level about 250mm above the adjacent ground level with approved soil mixture as specified (plants measured separately).	m ³	\$51.00	SM018A
Excavate tree hole including backfill to a level 250mm above ground with approved soil mixture as specified (tree measured separately):				
13.29	1.50 x 1.50 x 1.00m deep.	no	\$113.60	SM078
13.30	1.00 x 1.00 x 1.00m deep.	no	\$50.50	SM077
13.31	0.50 x 0.50 x 0.50m deep.	no	\$7.20	SM079

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S/N	DESCRIPTION	UNIT	RATE (\$)	CODE
Planting of instant tree including maintenance as specified (tree measured separately):				
13.32	Not exceeding 300mm girth.	no	\$5.10	SM080
13.33	Exceeding 300mm but not exceeding 500mm girth.	no	\$6.80	SM081
Planting of tree saplings/fruit trees/palms including maintenance as specified (tree measured separately):				
13.34	Large size with minimum height 2.00m.	no	\$4.30	SM082
13.35	Medium size with minimum height 1.50m.	no	\$3.40	SM083
13.36	Small size with minimum height 1.00m.	no	\$2.60	SM084
13.37	Planting of shrubs of any size including maintenance as specified (shrub measured separately).	no	\$1.40	SM085
13.38	Approved good quality top soil (From contractor's own source).	m ³	\$28.80	Q016
13.39	Tree guard with minimum 50mm diameter Bintangore poles tied together with galvanised wire bracing as shown in drawings.	no	\$23.60	SM041
Approved green plastic netting surrounding all the sides of tree guard to a height of 200mm above the ground:				
13.40	Single layer.	m ²	\$1.60	SM043
13.41	Double layer.	m ²	\$3.20	SM044
13.42	Loamy soil to planting strip as shown in drawings.	m ³	\$44.50	Q018
13.43	Trough of uniform 20mm aggregate wrapped with synthetic fabric membrane all round as shown in drawings.	m ³	\$51.70	Q019
13.44	100mm diameter x 650mm long UPVC perforated pipe to SS141 with PVC perforated cover and galvanised steel clearing plate as shown in drawings.	no	\$12.10	Q020

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14. REPAIR WORKS SECTION				
(a) Break-up and replacement				
Break up and remove from site existing surface obstruction consisting of the following materials:				
14.01	Bituminous surfacing including granite sub-base.	m ³	\$58.50	J065
14.02	Reinforced concrete.	m ³	\$158.20	J066
14.03	Mass concrete.	m ³	\$127.90	J067
14.04	Brickwork and blockwork.	m ³	\$85.10	J068
14.05	Scarify existing road surfacing 75mm deep and remove all scarified materials and brush clean road base to receive new surfacing.	m ²	\$7.90	J047
14.06	Cutting of concrete slab/bituminous premix pavement with diamond cutter to a depth not exceeding 25mm.	m	\$5.00	CE15009
14.07	Cutting of concrete slab/bituminous premix pavement with diamond cutter to each additional depth of 25mm	m	\$4.00	CE15010
Cold mill existing road surfacing and remove all milled materials and brush clean road base to receive new surfacing:				
14.08	Not exceeding 25mm deep.	m ²	\$4.60	J069
14.09	Exceeding 25mm but not exceeding 50mm deep.	m ²	\$5.60	J063
14.10	Exceeding 50mm but not exceeding 75mm deep.	m ²	\$7.40	J064
14.11	Break up existing roadside kerb size 125mm x 300mm including concrete foundation and remove debris from site.	m	\$25.10	A011
14.12	Add to (or deduct) from last item for each size over or below 0.01 m ² cross sectional area of kerb.	m	\$4.80	A012
14.13	Take out precast concrete paving / revetment slabs (thickness not exceeding 200mm) and stack up for re-use.	m ²	\$10.40	J012
14.14	Select from stack and lay precast concrete paving/revetment slabs (thickness not exceeding 200mm) including the provision of 50mm bed of granite dust or unwashed sand.	m ²	\$9.90	J013
14.15	Take up precast concrete paving slabs (thickness not exceeding 200mm) to footpaths and replace on completion including laying a layer of 50mm sand bed.	m ²	\$17.40	A009

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S/N	DESCRIPTION	UNIT	RATE (\$)	CODE
14.16	Take out precast aeration / perforated interlocking concrete turf paving slabs (thickness not exceeding 200mm) including removal of earth and turf and stack up for re-use.	m ²	\$11.00	K021
14.17	Take out precast aeration / perforated interlocking concrete turf paving slabs (thickness not exceeding 200mm) including removal of earth and turf and cart away from site.	m ²	\$5.00	CE15028
14.18	Select from stack and lay precast aeration / perforated interlocking concrete turf paving slabs (thickness not exceeding 200mm) including 40mm thick bed of granite fines and filling all voids with approved soil mixture and turf.	m ²	\$26.80	K022
14.19	Take out interlocking concrete paving blocks (thickness not exceeding 200mm) and cart away materials from site.	m ²	\$6.20	CE15029
14.20	Removal of encrusted top soil and earth (average thickness not exceeding 200mm) from slots and gaps between aeration slabs and replace with approved soil mixture and turf (measured as area of aeration slabs).	m ²	\$9.70	K023
14.21	Take up concrete revetment slabs (thickness not exceeding 200mm) and inverts to surface water drains and reinstating to the satisfaction of the S.O.'s representative on completion. Allow for dealing with all water in the drains by pumping or by diversion.	m	\$32.80	A010
14.22	Take out precast concrete composite drain channel (size not exceeding 500mm wide) and stack up for re-use.	m	\$14.70	J014
14.23	Select from stack and lay precast concrete composite drain channel (size not exceeding 500mm wide) including jointing in cement mortar (1:3).	m	\$16.50	J015
(b) Refixing handrailings				
Materials and labour for re-fixing of handrailing (2 rows) including foundation, cutting of pipes etc and 3 coats of approved paint (Rate excludes cost of handrailing).				
14.24	40mm diameter handrailing.	m	\$26.60	M048
14.25	50mm diameter handrailing.	m	\$27.20	M025
14.26	65mm diameter handrailing.	m	\$28.20	M049

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(c) Erasing road line and markings				
Erase off existing road lines and markings in the cold state with a road line erasing machine including sweeping all shavings off the road:				
14.27	100mm wide line.	m	\$3.50	O039
14.28	Single 100mm wide zig-zag line (measured straight along the edge of road/kerb).	m	\$1.40	CE15033
14.29	Double 100mm wide zig-zag line (measured straight along the edge of road/kerb).	m	\$2.80	CE15034
14.30	150mm wide line.	m	\$5.00	O040
14.31	200mm wide line.	m	\$8.70	O041
14.32	300mm wide line.	m	\$14.10	O042
14.33	455mm wide line.	m	\$21.70	CE15035
14.34	Single traffic arrow / Merging arrow.	no	\$87.40	O043
14.35	Double traffic arrow.	no	\$102.00	O044
14.36	Triple traffic arrow.	no	\$120.80	O045
14.37	Standard letterings/markings 2520mm height.	no	\$72.80	CE15030
14.38	Standard letterings/markings 1000mm height.	no	\$23.80	CE15053
14.39	Standard letterings/markings 310mm height.	no	\$16.10	CE15031
14.40	Standard numerals 180mm height.	no	\$9.60	CE15032
14.41	Pedestrian crossings and other road markings exceeding 455mm wide.	m ²	\$38.30	O048

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15. DAYWORKS				
Provide the undermentioned labour and Construction Equipment (operator and fuel included) and materials as may be ordered in writing by the S.O.'s Representative.				
(a) Labour(excluding profit & overhead)				
15.01	Bricklayer.	hr	\$14.70	SN001
15.02	Carpenter.	hr	\$16.50	SN003
15.03	Concretor.	hr	\$15.50	SN004
15.04	Drainlayer.	hr	\$15.20	SN006
15.05	Fitter.	hr	\$17.70	SN008
15.06	Labourer.	hr	\$10.60	SN012
15.07	Mason.	hr	\$14.70	SN014
15.08	Painter.	hr	\$14.50	SN016
15.09	Pavior.	hr	\$15.00	SN017
15.10	Roller Driver.	hr	\$21.30	SN022
15.11	Steel Bender & Fixer.	hr	\$15.60	SN025
15.12	Watchman.	hr	\$13.20	SN029
15.13	Welder.	hr	\$14.00	SN030

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STANDARD SCHEDULE OF RATES FOR CIVIL ENGINEERING WORKS (JAN 2020 EDITION)

S/N	DESCRIPTION	UNIT	RATE (\$)	CODE
(b) Construction equipment (excluding profit & overhead)				
15.14	Air blower - 300mm diameter, 230V complete with 5m duct (including generator and multi-gas monitor).	hr	\$76.90	SN082
15.15	Air compressor with air deliver of 4.5 cu m/ per minute and working pressure of 7 kg/cm ² including pneumatic tools, fuel and tool sharpening (no labour).	hr	\$27.20	SN032
15.16	Concrete mixer - 200/140 litres capacity including fuel.	hr	\$17.20	SN033
15.17	Concrete mixer - 300/200 litres capacity including fuel.	hr	\$25.20	SN034
15.18	Crane (25 tonne lifting capacity) including fuel and driver.	hr	\$129.90	SN050
15.19	Crawler excavator with back hoe or dragline 0.85 m ³ bucket including fuel and driver.	hr	\$111.80	SN063
15.20	Crawler mounted crane 25 tonne lifting capacity including fuel and driver.	hr	\$117.30	SN079
15.21	Diamond cutter including fuel and driver.	hr	\$25.90	SN061
15.22	Diesel dumper not exceeding 0.75 cu m capacity including fuel and driver.	hr	\$36.00	SN058
15.23	Diesel powered field welding machine with minimum capacity 300 amp.	hr	\$16.90	SN036
15.24	Lorry crane (up to 3 tonne) including fuel and driver.	hr	\$48.00	SN067
15.25	Lorry crane (5.5 to 7 tonne) including fuel and driver.	hr	\$63.80	SN068
15.26	Lorry crane (up to 10 tonne) including fuel and driver.	hr	\$89.60	SN069
15.27	Mechanical rammer with impact force not exceeding 4000 kg per blow.	hr	\$22.20	SN080
15.28	Mechanical road sweeper with a minimum rating of 44 hp including fuel and driver.	hr	\$98.00	SN060

HOUSING AND DEVELOPMENT BOARD
STANDARD SCHEDULE OF RATES FOR CIVIL ENGINEERING WORKS (JAN 2020 EDITION)

S/N	DESCRIPTION	UNIT	RATE (\$)	CODE
15.29	Mini-backhoe excavator (not exceeding 0.2 cu m) including fuel and driver.	hr	\$45.90	SN062
15.30	Motor crane (5 ton lifting capacity) including fuel and driver.	hr	\$65.90	SN078
15.31	Motor crane (8 - 13 tonne lifting capacity) including fuel and driver.	hr	\$83.30	SN051
15.32	Motor grader - 3650mm blade (101 kw range) including fuel and driver.	hr	\$98.50	SN070
15.33	Motor grader - 4270mm blade (134 kw range) including fuel and driver.	hr	\$105.80	SN071
15.34	Motor grader - 4880mm blade (186 kw range) including fuel and driver.	hr	\$122.50	SN072
15.35	Motor lorry (pick-up) 1.50 tonne size including fuel and driver.	hr	\$30.10	SN053
15.36	Motor lorry 2.5 - 3 tonne size including fuel and driver.	hr	\$33.10	SN039
15.37	Motor lorry or Tipper 5.5 - 7.0 tonne size including fuel and driver.	hr	\$53.40	SN040
15.38	Motor lorry or Tipper 10 tonne size including fuel and driver.	hr	\$63.70	SN052
15.39	Oxy-acetylene cutter including welder.	hr	\$52.70	SN081
15.40	Power driven pump - 50mm size including fuel.	hr	\$23.70	SN041
15.41	Power driven pump - 75mm size including fuel.	hr	\$30.10	SN042
15.42	Power driven pump - 100mm size including fuel.	hr	\$30.50	SN054
15.43	Power driven pump - 150mm size including fuel.	hr	\$33.10	SN055
15.44	Power wheel loader of 1.5 cu m bucket capacity including fuel and driver. Flywheel horsepower 100HP (range).	hr	\$89.60	SN065
15.45	Ditto but exceeding 1.5 cu m bucket capacity but not exceeding 2.5 cu m capacity including ditto. Flywheel horsepower 130HP (range).	hr	\$94.80	SN066
15.46	Road roller 8 to 10 tonne capacity including fuel and driver.	hr	\$46.30	SN045
15.47	Road roller vibrating 10 to 20 tonne capacity including fuel and driver.	hr	\$47.30	SN083
15.48	Tandem roller 1 tonne capacity including fuel and driver.	hr	\$22.20	SN059

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STANDARD SCHEDULE OF RATES FOR CIVIL ENGINEERING WORKS (JAN 2020 EDITION)

S/N	DESCRIPTION	UNIT	RATE (\$)	CODE
15.49	To provide collision attenuator or truck mounted attenuator (TMA) attached/fitted/mounted onto an appropriate shadow vehicle complete with signboards, blinkers, lights, cones, etc and all necessary equipment for traffic control and road safety all in accordance with LTA's Code of Practice on Temporary Traffic Control. (Rate is only applicable by way of works instruction or works order given by SO Rep).	Per day	\$450.00	SN084
15.50	Track type tractors as bulldozer or ripper Flywheel Horsepower (67 kw range) including fuel and driver.	hr	\$96.50	SN073
15.51	Track type tractors as bulldozer or ripper Flywheel Horsepower (104 kw range) including fuel and driver.	hr	\$112.40	SN074
15.52	Track type tractors as bulldozer or ripper Flywheel Horsepower (149 kw range) including fuel and driver.	hr	\$122.50	SN075
15.53	Track type tractors as bulldozer or ripper Flywheel Horsepower (224 kw range) including fuel and driver.	hr	\$183.80	SN076
15.54	Track type tractors as bulldozer or ripper Flywheel Horsepower (306 kw range) including fuel and driver.	hr	\$197.60	SN077
15.55	Traxacavator - 1.0 cu m bucket capacity range including fuel and driver.	hr	\$93.30	SN046
15.56	Traxacavator - 1.5 cu m bucket capacity range including fuel and driver.	hr	\$100.50	SN047
15.57	Traxacavator - 2.0 cu m bucket capacity range including fuel and driver.	hr	\$124.20	SN048
15.58	Traxacavator - 3.6 cu m bucket capacity range including fuel and driver.	hr	\$155.40	SN064
15.59	Wheel or crawler shovel or excavator loaders with back hoe bucket not exceeding 0.4 cu m or 1.30 cu m loader buckets capacity including fuel and driver.	hr	\$88.70	SN049

HOUSING AND DEVELOPMENT BOARD
STANDARD SCHEDULE OF RATES FOR CIVIL ENGINEERING WORKS (JAN 2020 EDITION)

S/N	DESCRIPTION	UNIT	RATE (\$)	CODE
16. LTA ROAD WORKS SECTION				
(a) Directional Signs				
Street name signs on vertical post/traffic light post/lamp post comprising of high micro prismatic reflective sheeting, aluminium box, intrusion members and cappings to LTA's Standard. (Supports, holders, brackets measured separately)				
16.01	230mm high single-sided.	m	\$457.00	
16.02	230mm high double-sided.	m	\$427.00	
16.03	280mm high single-sided.	m	\$505.00	
16.04	280mm high double-sided.	m	\$467.00	
16.05	Vertical aluminium support post assembly with cappings (length varies from 3300mm to 3500mm) in accordance with LTA's Standard.	no	\$275.00	
16.06	Cast aluminium base plate and cappings complete with 4 nos. built-in expansion stainless steel bolts M12 x 100mm and levelling the pavement surface with non shrink grout if it is installed on sloping ground in accordance with LTA's Standard.	no	\$145.00	
16.07	Aluminium brackets and stainless steel M8 bolts and lock nuts to cantilever street name on vertical support post as in accordance with LTA's Standard.	pair	\$51.00	
Single-face directional signs comprising aluminium sheeting 14SWG laminated with approved reflective sheeting including all the required size of letters, numbers, logo(s) and all necessary backings, welding and other types of connections to LTA's Standard. (Supports to be measured separately).				
16.08	Micro Prismatic Reflective Grade.	m ²	\$1,061.40	
Supports including foundation, excavation and disposal to LTA's Standard.				
16.09	75mm diameter cantilever supports (Type A).	no	\$478.50	
16.10	A pair of 100 x 100 x 6mm SHS supports (Type B).	no	\$2,940.00	
16.11	A pair of 120 x 120 x 8mm SHS supports (Type C).	no	\$3,980.60	
16.12	A pair of 150 x 150 x 6mm SHS supports (Type D).	no	\$4,331.80	

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STANDARD SCHEDULE OF RATES FOR CIVIL ENGINEERING WORKS (JAN 2020 EDITION)

S/N	DESCRIPTION	UNIT	RATE (\$)	CODE
	Single-faced silk screen traffic signs as regulatory signs, warning signs and informative signs comprising 2mm thick aluminium sheets, approved Micro Prismatic Grade reflective sheetings including appropriate diagrams, alphabets and numerals to LTA's Standard. (Supports to be measured separately)			
16.13	600 x 450mm.	no	\$169.70	
16.14	600 x 600mm.	no	\$208.90	
16.15	900 x 900mm.	no	\$316.40	
16.16	Other sizes.	m ²	\$727.50	
16.17	50 x 50 x 2.3mm thick galvanised square hollow section vertical supports of traffic signs to all details as LTA Standard including excavation, if any, and disposal of excavated materials from site, fixing and fastening of maximum three traffic signs on any one face per support, using 400 x 400 x 400mm concrete foundation with built in expansion bolts.	no	\$90.00	
	(b) Bus Shelter			
16.18	Fibre glass Type A bus shelter (3000mm long unit) including foundation, floor slab with granolithic finishes (exclude safety bollard) to LTA's Standard.	unit	\$2,000.00	
16.19	Remove damaged roof cover and replace with new fibre glass cover for Type A bus shelter to LTA's Standard (3000mm long unit).	unit	\$566.00	
16.20	Remove damaged seat of Type A fibre glass bus shelter and replace with new seat including making good the surrounding to match with existing conditions to LTA's Standard (3 nos. per unit).			
16.21	Include seats, plates, post and concrete foundation.	unit	\$259.90	
16.22	Exclude plates, post and concrete foundation.	unit	\$98.20	
16.23	Demolish and remove Type A fibre glass bus shelter including making good the surrounding to match with existing conditions to LTA's Standard.	unit	\$352.30	
16.24	Tempered glass back panel 1500 x 2150mm high complete with notice panel including supports and accessories.	no	\$3,825.40	

HOUSING AND DEVELOPMENT BOARD

STANDARD SCHEDULE OF RATES FOR CIVIL ENGINEERING WORKS (JAN 2020 EDITION)

S/N	DESCRIPTION	UNIT	RATE (\$)	CODE
(c) Safety Bollards				
16.25	Safety bollards with reinforced concrete foundation including excavation, fixing reinforcements, welding, concreting, curing, painting, reflective sheeting to LTA's Standard for 70 kph roads.	no	\$820.70	
16.26	Safety bollards with reinforced concrete foundation including excavation, fixing reinforcements, welding, concreting, curing, painting, reflective sheeting to LTA's Standard for 60 kph roads.	no	\$761.90	
16.27	Safety bollards including hacking, drilling, injecting resin, inserting bolts, welding, painting, reflective sheeting and reinstatement works to LTA's Standard for 70 kph roads.	no	\$750.80	
16.28	Safety bollards including hacking, drilling, injecting resin, inserting bolts, welding, painting, reflective sheeting and reinstatement works to LTA's Standard for 60 kph roads.	no	\$589.60	
16.29	Micro prismatic reflective sheeting to steel bollard including removal of existing damaged reflective sheeting.	no	\$120.80	
(d) Road Markings				
1.5mm thick thermoplastic paint on road pavement to LTA's Standard.				
16.30	100mm wide line.	m	\$3.50	
16.31	150mm wide line.	m	\$4.60	
16.32	200mm wide line.	m	\$7.00	
16.33	300mm wide line.	m	\$9.50	
16.34	exceeding 300mm wide line.	m ²	\$36.00	

HOUSING AND DEVELOPMENT BOARD
STANDARD SCHEDULE OF RATES FOR CIVIL ENGINEERING WORKS (JAN 2020 EDITION)

S/N	DESCRIPTION	UNIT	RATE (\$)	CODE
3.0mm thick thermoplastic paint on road pavement to LTA's Standard.				
16.35	200mm wide line.	m	\$23.00	
16.36	300mm wide line.	m	\$34.00	
16.37	400mm wide line.	m	\$54.50	
16.38	450mm wide line.	m	\$54.50	
16.39	exceeding 455mm wide line.	m ²	\$124.30	
16.40	go-straight arrow.	no	\$227.50	
16.41	go-straight with right/left turn arrow.	no	\$247.00	
16.42	right/left turn arrow.	no	\$152.10	
16.43	merge arrow.	no	\$152.10	
16.44	triple-head arrow	no	\$210.60	
16.45	Erase existing thermoplastic road lines and markings including clearing all shavings and making good.	m ²	\$20.00	
White chlorinated rubber based paint for road markings to the following widths and spacings as shown in drawings or as directed including cleaning and preparation of road surface, setting out and alignment road markings as specified.				
16.46	100mm wide lines.	m	\$1.10	
16.47	150mm wide lines.	m	\$1.80	
16.48	200mm wide lines.	m	\$2.20	
16.49	300mm wide lines.	m	\$3.30	
16.50	450mm wide lines.	m	\$4.40	
16.51	Exceeding 450mm wide.	m ²	\$11.00	
16.52	Single traffic arrow.	no	\$20.00	
16.53	Double traffic arrow.	no	\$22.00	
16.54	Triple traffic arrow.	no	\$24.00	
16.55	Numerals 250mm high.	no	\$5.50	
16.56	Standard letterings 2520mm height.	no	\$20.00	

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STANDARD SCHEDULE OF RATES FOR CIVIL ENGINEERING WORKS (JAN 2020 EDITION)

S/N	DESCRIPTION	UNIT	RATE (\$)	CODE
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Yellow chlorinated rubber based paint for road markings to the following widths and spacings as shown in drawings or as directed including cleaning and preparation of road surface, setting out and alignment road markings as specified.

16.57	100mm wide line.	m	\$1.20	
16.58	150mm wide line.	m	\$1.90	
16.59	200mm wide line.	m	\$2.30	
16.60	300mm wide line.	m	\$3.40	

(e) Vehicular Impact Guardrail

Hot dip galvanised vehicular impact guardrail fixed to steel channel post (post and support measured separately) including bolt and nut to LTA's Standard.

16.61	W-Beam 311 x 83 x 3mm.	m	\$100.10	
16.62	Turned-down anchorage Type A – (4.05m long) with post and concrete.	no	\$686.60	

Post and spacer block with galvanised bolt and nut including concrete foundation, all necessary excavation, and disposal of excavated material to LTA's Standard.

16.63	150 x 110 x 18 x 4.3mm hot dip galvanised channel post cast in concrete foundation.	no	\$150.50	
16.64	150 x 110 x 18 x 4.3mm hot dip galvanised channel post mounted on concrete structure including slip base plate.	no	\$277.90	
16.65	150 x 150 x 6mm SHS hot dip galvanised brace support (on one side) including post, spacer, brace with mild steel plates welded, set in and including concrete foundation, all necessary excavation, disposal of excavated material to LTA's Standard.	no	\$453.40	

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STANDARD SCHEDULE OF RATES FOR CIVIL ENGINEERING WORKS (JAN 2020 EDITION)

S/N	DESCRIPTION	UNIT	RATE (\$)	CODE
	Design, supply and install end terminal complete with end terminal, post, support, foundation, cable-anchor assembly, W-beam and all necessary fixings to LTA's Standard.			
16.66	Type B - 10.1m long cable anchored terminal.	no	\$11,143.10	
16.67	Thrie-Beam Transition consisting of thrie-beam transition section, thrie-beam and end piece.	no	\$6,611.10	
16.68	Design, supply and install crash cushion in compliance with NCHRP 350 Test complete with end terminal, post, support, foundation, W-beam and all necessary fixings to LTA's Standard.	no	\$46,161.00	
	(f) Gratings			
16.69	Mild steel grating in panels consisting of 80 x 38 x 4.6mm galvanised steel angle frame, with 35 x 9mm galvanised mild steel flat all round, in filled with 25 x 5mm galvanised mild steel flat, all joints and intersections whole welded, drilled and including painting with one coat of inhibitive primer before delivery and built into concrete surround including 3mm thick galvanised chequer plate cover to LTA's Standard. (Pedestrian grating)	m ²	\$413.40	
16.70	Mild steel grating in panels consisting of 100 x 75 x 9.4mm thick galvanised angle frame with 65 x 9mm fish-tailed mild steel flat welded at 30mm centres and infilled with 12mm diameter mild steel bars at 85mm centres, all joints and intersections whole welded, drilled and including painting with one coat of inhibitive primer before delivery, built into concrete surround to LTA's Standard. (Vehicular grating for drain)	m ²	\$1,284.40	
16.71	Mild steel grating in panels consisting of 100 x 100 x 10mm thick galvanised mild steel angle frame with fish-tail mild steel flat welded and infilled with 25 x 6 mild steel flat at 30mm centres and 90 x 22mm mild steel flat at 85mm centres. The complete assembly except fishtails are to be hot-dipped galvanised. All the flats and angles are to be fillet welded throughout and drilled before delivery, built into concrete surround to LTA's Standard. (Manhole grating)	m ²	\$1,256.60	

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STANDARD SCHEDULE OF RATES FOR CIVIL ENGINEERING WORKS (JAN 2020 EDITION)

S/N	DESCRIPTION	UNIT	RATE (\$)	CODE
(g) Pipe Culverts				
Precast concrete pipe culverts Class 'L' complying with SS 183 butt jointed with cement and sand (1:1) mortar.				
16.72	300mm diameter.	m	\$68.10	
16.73	450mm diameter.	m	\$100.00	
16.74	600mm diameter.	m	\$146.20	
16.75	750mm diameter.	m	\$224.10	
16.76	900mm diameter.	m	\$294.10	
16.77	1050mm diameter.	m	\$338.40	
16.78	1200mm diameter.	m	\$406.60	
16.79	1350mm diameter.	m	\$460.50	
16.80	1500mm diameter.	m	\$577.20	
(i) Others				
16.81	Road base course using Recycled Concrete Aggregate (maximum size 50mm & below), deposited, spread, levelled, rolled and mechanically consolidated true to level and camber.	m ³	\$50.00	
16.82	Grade 25 precast concrete foundation 500 x 500 x 600mm including breaking and excavation for foundation to LTA's Standard.	no	\$76.00	
16.83	Single-faced raised reflected pavement markers (yellow or red markers) to LTA's Standard.	no	\$23.30	
16.84	Double-faced raised reflected pavement markers (yellow or red markers) to LTA's Standard.	no	\$26.50	
16.85	300 x 300 x 17mm thick (include protrusion) homogenous tactile tile at footpath/ramp to LTA's Standard.	m ²	\$130.00	
16.86	Mobilisation and demobilisation of Electronic Variable Message Sign (VMS).	no	\$260.40	
16.87	Electronic Variable Message (full matrix) Sign (VMS) of size 2500 x 1800mm (minimum) including programming of messages and relocation within the site as directed.	per day	\$115.50	

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STANDARD SCHEDULE OF RATES FOR CIVIL ENGINEERING WORKS (JAN 2020 EDITION)

S/N	DESCRIPTION	UNIT	RATE (\$)	CODE
	Aluminium alloy railing in powder coating finish consisting of tubular or square hollow section set in and including concrete foundation, all necessary excavation and disposal of excavated material from site to LTA's Standard.			
16.88	Type E.	m	\$120.00	
16.89	Type F.	m	\$120.00	
16.90	Coloured high strength fibre reinforced polymer cement coating including all necessary equipment for the cleaning, grinding and vacuuming of concrete surface and remove any contaminants.	m ²	\$27.30	
	Pipe crossing for street lighting complete with pilot fish wire including excavation for concrete foundation, disposal of excavated materials from site. (concrete foundation and long bend shall be measured separately).			
16.91	75mm diameter medium duty galvanised iron pipe.	m	\$40.70	
16.92	75mm diameter heavy duty galvanised iron pipe.	m	\$46.20	
16.93	75mm diameter Class AW heavy duty PVC pipe.	m	\$15.70	
16.94	75mm diameter Class B heavy duty PVC pipe.	m	\$11.20	
16.95	100mm diameter medium duty galvanised iron pipe.	m	\$54.20	
16.96	100mm diameter heavy duty galvanised iron pipe.	m	\$59.50	
16.97	100mm diameter Class AW heavy duty PVC pipe.	m	\$23.40	
16.98	100mm diameter Class B heavy duty PVC pipe.	m	\$12.00	



STANDARD SCHEDULE OF RATES

FOR

ELECTRICAL WORKS

(JAN 2020 EDITION)

HOUSING AND DEVELOPMENT BOARD
STANDARD SCHEDULE OF RATES
FOR
ELECTRICAL WORKS (JAN 2020 EDITION)

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GENERAL PREAMBLES

1 Introduction

1.1 The clauses in the General Preambles shall apply to all work items contained in the Standard Schedule of Rates.

1.2 All rates include the allowances for complying with the General Preambles.

2 All rates contained in the Standard Schedule of Rates are fixed basic rates (in Singapore Currency) and no amendment whatsoever shall be made to such rates. The tenderers shall be deemed to have closely studied all rates contained herein and duly noted their implications.

3 All rates contained in the Standard Schedule of Rates are exclusive of any Goods and Services Tax. Any such Goods and Services Tax shall be borne by the HDB as and when the same becomes due and payable.

4 All work, materials and goods described in this Standard Schedule of Rates shall be of the respective kinds described in the Contract and in accordance with the instructions of the Superintending Officer or the Superintending Officer's Representative.

5 Headings to groups of items shall be read as part of the descriptions of the items to which the headings apply.

6 Where brand/trade names are given in the descriptions, they are solely intended for fixing the rates of the items. The products and materials to be used in the contract shall be governed by the specifications, drawings and other documents forming the contract (and not this Schedule of Rates).

7 Description of Works and Inclusions

Unless specifically stated otherwise, the following shall be deemed to be included in the description of the item of work:-

- a) Labour and all costs in connection therewith including the labour in fabricating, assembling, setting, fitting and fixing of materials and goods in position.
- b) Materials and goods including materials required for lapping, jointing and the like and all costs in connection therewith such as conveyance, delivery, unloading, storing, returning of packings, handling, hoisting and lowering.

GENERAL PREAMBLES

- 7 **Description of Works and Inclusions (Cont'd)**
- c) Preparing surfaces to receive work.
 - d) Protecting materials and work.
 - e) Waste of materials.
 - f) All cutting and waste.
 - g) Use of construction equipment, tools, vehicles and all costs in connection therewith.
 - h) Cleaning up on completion and making good all work disturbed.
 - i) General requirements set out in the Specifications, Drawings and other documents forming the Contract.
 - j) Establishment charges, overhead and profit.
- 8 The description of each item of work shall be deemed to include all screws, nails, bolts, nuts, nipples, fixing or supporting clips, saddles, brackets, straps, rivets, plugs and the like and all incidental accessories, chases, holes, mortises, cutting away plugging and making good of walls, ceilings and other structural features where necessary.
- 9 All metal conduits shall be deemed to include socket joints.
- 10 Unless otherwise stated, all work shall be measured nett as fixed in its place.
- 11 Unless otherwise stated, pipes are described by their internal diameters.
- 12 Where minimum deductions of voids are dealt with in this document they shall refer only to openings or voids which are within the boundaries of measured area. Openings or voids which are at the boundaries of area shall always be the subject of deductions irrespective of size.
- 13 **Billing of Quantities**
- 13.1 Where the unit of measurement is the linear metre, square metre and cubic metre, quantities shall be billed to the nearest whole unit. Fractions of the unit less than half shall be disregarded and all other fractions shall be regarded as a whole unit.

GENERAL PREAMBLES

13 **Billing of Quantities (Cont'd)**

13.2 Where the unit of measurement is the kilogramme, quantities shall be billed to the nearest whole unit. Fractions of a unit less than half shall be disregarded and all other fractions shall be regarded as a whole unit. Where the unit of billing is the tonne or litre, quantities shall be billed to the nearest two places of decimals.

13.3 Where the unit of measurement is the hour, fractions of the unit shall be billed to the nearest next half hour.

13.4 Where the application of clauses 13.1 and 13.2 would cause an entire item to be eliminated, such item shall be billed to the nearest two places of decimals.

14 Where rates with descriptions pertain to the same purpose are listed in more than one Standard Schedule of Rates incorporated in the Contract; the rate as listed in the following schedules (in the stated order of precedence) shall prevail:-

1st Precedence	Standard Schedule of Rates for Building Works
2nd Precedence	Standard Schedule of Rates for Civil Engineering Works
3rd Precedence	Standard Schedule of Rates for Electrical Works

15 Unless otherwise stated, the term "as specified" means as specified in any of the documents forming part of the Contract.

16 The following abbreviations are used for the units:-

m	-	Linear metre
m ²	-	Square metre
m ³	-	Cubic metre
no	-	Number
kg	-	Kilogram
ton	-	Tonne
pr	-	Pair
sht	-	Sheet
ltr	-	Litre
hr	-	Hour

HOUSING AND DEVELOPMENT BOARD
STANDARD SCHEDULE OF RATES FOR ELECTRICAL WORKS (JAN 2020 EDITION)

S/N	DESCRIPTION	UNIT	RATE(\$)	CODE
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ELECTRICAL INSTALLATION

A POINT WIRING

Wiring In PVC Trunking

Surface wiring in 2x1.5mm² PVC cable and 1.5mm² earth cable in PVC trunking including accessories but excluding fittings, fan regulators and fans:

1	One lighting or fan point controlled by one switch (to a distance not exceeding 12m).	no	\$68.20	SZ001
2	Each additional point to item SZ001 (to a distance not exceeding 5m).	no	\$30.60	SZ002
3	Each additional point to item SZ001 (to a distance exceeding 5m but not exceeding 10m).	no	\$50.10	SZ003
4	One lighting point controlled by two 2-way switches (to a distance not exceeding 12m).	no	\$86.90	SZ004

Surface wiring in 2x1.5mm² PVC/PVC cable and 1.5mm² earth cable in PVC trunking including accessories but excluding light fittings, fan regulators and fans:

5	One lighting or fan point controlled by one switch (to a distance not exceeding 12m).	no	\$73.50	SZ005
6	Each additional point to item SZ005 (to a distance not exceeding 5m).	no	\$32.80	SZ006
7	Each additional point to item SZ005 (to a distance exceeding 5m but not exceeding 10m).	no	\$54.60	SZ007
8	One lighting point controlled by two 2-way switches (to a distance not exceeding 12m).	no	\$94.10	SZ008

Wiring in Metal Conduit

Surface wiring in 2x1.5mm² PVC cable and 1.5mm² earth cable in 20mm diameter metal conduit including accessories but excluding light fittings, fan regulators and fans:

9	One lighting or fan point controlled by one switch (to a distance not exceeding 12m).	no	\$122.80	SZ009
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HOUSING AND DEVELOPMENT BOARD
STANDARD SCHEDULE OF RATES FOR ELECTRICAL WORKS (JAN 2020 EDITION)

S/N	DESCRIPTION	UNIT	RATE(\$)	CODE
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A POINT WIRING (CONT'D)

Wiring in Metal Conduit (Cont'd)

Surface wiring in 2x1.5mm² PVC cable and 1.5mm² earth cable in 20mm diameter metal conduit including accessories but excluding light fittings, fan regulators and fans (Cont'd):

10	Each additional point to item SZ009 (to a distance not exceeding 5m).	no	\$48.60	SZ010
11	Each additional point to item SZ009 (to a distance exceeding 5m but not exceeding 10m).	no	\$92.40	SZ011
12	One lighting point controlled by two 2-way switches (to a distance not exceeding 12m).	no	\$145.90	SZ012

Surface wiring in 2x1.5mm² PVC/PVC cable and 1.5mm² earth cable in 20mm metal conduit including accessories but excluding light fittings, fan regulators and fans:

13	One lighting or fan point controlled by one switch (to a distance not exceeding 12m).	no	\$128.20	SZ013
14	Each additional point to item SZ013 (to a distance not exceeding 5m).	no	\$53.90	SZ014
15	Each additional point to item SZ013 (to a distance exceeding 5m but not exceeding 10m).	no	\$96.90	SZ015
16	One lighting point controlled by two 2-way switches (to a distance not exceeding 12m).	no	\$153.00	SZ016

Concealed Wiring In PVC Pipe Conduit

Concealed wiring in 2x1.5mm² PVC cable and 1.5mm² earth cable, drawn through and including 20mm diameter PVC pipes cast/embedded in slab/wall complete with all necessary tees, connectors, outlet junction box and accessories but excluding fittings, fan regulators and fan:

17	One lighting or fan point controlled by one switch (to a distance not exceeding 12m).	no	\$69.90	SZ909
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A POINT WIRING (CONT'D)

Concealed Wiring In PVC Pipe Conduit

Concealed wiring in 2x1.5mm² PVC cable and 1.5mm² earth cable, drawn through and including 20mm diameter PVC pipes cast/embedded in slab/wall complete with all necessary tees, connectors, outlet junction box and accessories but excluding fittings, fan regulators and fan (Cont'd):

18	Each additional point to item SZ909 (to a distance not exceeding 5m).	no	\$29.80	SZ910
19	Each additional point to item SZ909 (to a distance exceeding 5m but not exceeding 10m).	no	\$50.40	SZ911
20	One lighting point controlled by two 2-way switches (to a distance not exceeding 12m).	no	\$92.80	SZ912

Concealed wiring in 2x1.5mm² PVC cable and 1.5mm² earth cable, drawn through and including 25mm diameter PVC pipes cast/embedded in slab/wall complete with all necessary tees, connectors, outlet junction box and accessories but excluding fittings, fan regulators and fan:

21	One lighting or fan point controlled by one switch (to a distance not exceeding 12m).	no	\$72.40	SZ913
22	Each additional point to item SZ913 (to a distance not exceeding 5m).	no	\$30.80	SZ914
23	Each additional point to item SZ913 (to a distance exceeding 5m but not exceeding 10m).	no	\$52.50	SZ915
24	One lighting point controlled by two 2-way switches (to a distance not exceeding 12m).	no	\$96.90	SZ916
25	Bell point complete with concealed wiring in 2x1.5mm ² PVC cable and 1.5mm ² PVC earth cable drawn through and including 20mm diameter PVC pipes embedded in slab/wall complete with all necessary tees, connectors, outlet junction and accessories but excluding bell (to a distance not exceeding 12m).	no	\$70.50	SZ960

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B POWER/HEATER POINT

Wiring In PVC Trunking

13 amp 1-gang white switch socket-outlet complete with mounting box in 60x20mm PVC multi-compartment trunking including accessories:

26	Surface wiring in 2x2.5mm ² PVC cable and 2.5mm ² earth cable (to a distance not exceeding 12m).	no	\$78.70	SZ017
27	Each additional point to item SZ017 (to a distance not exceeding 5m).	no	\$39.40	SZ310
28	Each additional point to item SZ017 (to a distance exceeding 5m but not exceeding 10m).	no	\$63.50	SZ311
29	Surface wiring in 2x2.5mm ² PVC/PVC cable and 2.5mm ² earth cable (to a distance not exceeding 12m).	no	\$84.00	SZ018
30	Each additional point to item SZ018 (to a distance not exceeding 5m).	no	\$41.60	SZ312
31	Each additional point to item SZ018 (to a distance exceeding 5m but not exceeding 10m).	no	\$68.00	SZ313

13 amp 2-gang white switch socket-outlet complete with mounting box in 60x20mm PVC multi-compartment trunking including accessories:

32	Surface wiring in 2x2.5mm ² PVC cable and 2.5mm ² earth cable (to a distance not exceeding 12m).	no	\$83.80	SZ470
33	Each additional point to item SZ470 (to a distance not exceeding 5m).	no	\$44.50	SZ471
34	Each additional point to item SZ470 (to a distance exceeding 5m but not exceeding 10m).	no	\$68.60	SZ472
35	Surface wiring in 2x2.5mm ² PVC/PVC cable and 2.5mm ² earth cable (to a distance not exceeding 12m).	no	\$89.10	SZ473

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B POWER/HEATER POINT (CONT'D)

Wiring In PVC Trunking (Cont'd)

13 amp 2-gang white switch socket-outlet complete with mounting box in 60x20mm PVC multi-compartment trunking including accessories (Cont'd):

36	Each additional point to item SZ473 (to a distance not exceeding 5m).	no	\$46.70	SZ474
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37	Each additional point to item SZ473 (to a distance exceeding 5m but not exceeding 10m).	no	\$73.10	SZ475
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15 amp switch socket-outlet complete with mounting box in 60x20mm PVC multi-compartment trunking including accessories (to a distance not exceeding 12m):

38	Surface wiring in 2x2.5mm ² PVC cable and 2.5mm ² PVC earth cable.	no	\$86.70	SZ021
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39	Surface wiring in 2x2.5mm ² PVC/PVC cable and 2.5mm ² PVC earth cable.	no	\$92.10	SZ022
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Wiring in Metal Conduit

13 amp 1-gang metal-clad switch socket-outlet complete with mounting box in 20mm diameter metal conduit including socket joints and other accessories:

40	Surface wiring in 2x2.5mm ² PVC cable and 2.5mm ² earth cable (to a distance not exceeding 12m).	no	\$125.60	SZ019
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41	Each additional point to item SZ019 (to a distance not exceeding 5m).	no	\$61.30	SZ314
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42	Each additional point to item SZ019 (to a distance exceeding 5m but not exceeding 10m).	no	\$106.90	SZ315
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43	Surface wiring in 2x2.5mm ² PVC/PVC cable and 2.5mm ² earth cable (to a distance not exceeding 12m).	no	\$131.00	SZ020
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B POWER/HEATER POINT (CONT'D)

Wiring in Metal Conduit (Cont'd)

13 amp 1-gang metal-clad switch socket-outlet complete with mounting box in 20mm diameter metal conduit including socket joints and other accessories (Cont'd):

44	Each additional point to item SZ020 (to a distance not exceeding 5m).	no	\$63.50	SZ316
45	Each additional point to item SZ020 (to a distance exceeding 5m but not exceeding 10m).	no	\$111.40	SZ317

13 amp 2-gang metal-clad switch socket-outlet complete with mounting box in 20mm diameter metal conduit including socket joints and other accessories:

46	Surface wiring in 2x2.5mm ² PVC cable and 2.5mm ² earth cable (to a distance not exceeding 12m).	no	\$172.00	SZ476
47	Each additional point to item SZ476 (to a distance not exceeding 5m).	no	\$84.80	SZ477
48	Each additional point to item SZ476 (to a distance exceeding 5m but not exceeding 10m).	no	\$146.80	SZ478
49	Surface wiring in 2x2.5mm ² PVC/PVC cable and 2.5mm ² earth cable (to a distance not exceeding 12m).	no	\$177.30	SZ479
50	Each additional point to item SZ479 (to a distance not exceeding 5m).	no	\$87.00	SZ480
51	Each additional point to item SZ479 (to a distance exceeding 5m but not exceeding 10m).	no	\$151.20	SZ481

15 amp metal-clad switch socket-outlet complete with mounting box in 20mm diameter metal conduit including socket joints and other accessories (to a distance not exceeding 12m):

52	Surface wiring in 2x2.5mm ² PVC cable and 2.5mm ² PVC earth cable.	no	\$131.70	SZ023
53	Surface wiring in 2x2.5mm ² PVC/PVC cable and 2.5mm ² PVC earth cable.	no	\$137.00	SZ024

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B POWER/HEATER POINT (CONT'D)

Concealed Wiring In PVC Pipe Conduit

13 amp 1-gang white plate switch socket-outlet point with mounting box comprising of cables drawn through and including 20mm diameter PVC pipes cast/embedded in slab/wall complete with tees, connectors and other accessories:

54	Concealed wiring in 2x2.5mm ² PVC cable and 2.5mm ² earth cable (to a distance not exceeding 12m).	no	\$73.40	SZ917
55	Each additional point to item SZ917 (to a distance not exceeding 5m).	no	\$36.00	SZ918
56	Each additional point to item SZ917 (to a distance exceeding 5m but not exceeding 10m).	no	\$58.40	SZ919

13 amp 1-gang white plate switch socket-outlet point with mounting box comprising of cables drawn through and including 25mm diameter PVC pipes cast/embedded in slab/wall complete with tees, connectors and other accessories:

57	Concealed wiring in 2x2.5mm ² PVC cable and 2.5mm ² earth cable (to a distance not exceeding 12m).	no	\$75.80	SZ920
58	Each additional point to item SZ920 (to a distance not exceeding 5m).	no	\$37.00	SZ921
59	Each additional point to item SZ920 (to a distance exceeding 5m but not exceeding 10m).	no	\$60.50	SZ922
60	Extra over the items SZ917 to SZ919 and SZ920 to SZ922 for 13-amp 2-gang white plate switch socket-outlet point complete with mounting box.	no	\$10.20	SZ923
61	Extra over the items SZ917 to SZ919 and SZ920 to SZ922 for 15-amp 1-gang white plate switch socket-outlet point complete with mounting box.	no	\$14.70	SZ924

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B POWER/HEATER POINT (CONT'D)

Concealed Wiring In PVC Pipe Conduit (Cont'd)

20-Amp heater point complete with heater connection unit and heater indication switch comprising of cables drawn through and including 20mm diameter PVC pipes cast/embedded in slab/wall complete with tees, connectors and other accessories:

62	Concealed wiring in 2x2.5mm ² PVC cable and 2.5mm ² earth cable (to a distance not exceeding 12m).	no	\$102.40	SZ958
63	Each additional point to item SZ958 (to a distance not exceeding 5m).	no	\$50.30	SZ959

C CIRCUIT WIRING

Earthing Conductors

Earth wiring including all fixings and connections (cable trunking/tray and conduits to be measured separately):-

64	25x3mm copper tape.	m	\$18.00	SZ207
65	300mm ² PVC earth cable.	m	\$38.50	SZ949
66	240mm ² PVC earth cable.	m	\$31.00	SZ712
67	185mm ² PVC earth cable.	m	\$23.60	SZ713
68	150mm ² PVC earth cable.	m	\$18.80	SZ714
69	120mm ² PVC earth cable.	m	\$15.60	SZ715
70	95mm ² PVC earth cable.	m	\$12.10	SZ716
71	70mm ² PVC earth cable.	m	\$8.90	SZ717
72	50mm ² PVC earth cable.	m	\$8.20	SZ718
73	35mm ² PVC earth cable.	m	\$6.50	SZ719
74	25mm ² PVC earth cable.	m	\$4.20	SZ720
75	16mm ² PVC earth cable.	m	\$2.80	SZ721
76	10mm ² PVC earth cable.	m	\$2.00	SZ722

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C CIRCUIT WIRING(CONT'D)

Earthing Conductors (Cont'd)

Earth wiring including all fixings and connections (cable trunking/tray and conduits to be measured separately) (Cont'd):-

77	6mm ² PVC earth cable.	m	\$1.40	SZ723
78	4mm ² PVC earth cable.	m	\$1.20	SZ724
79	2.5mm ² PVC earth cable.	m	\$0.90	SZ725
80	1.5mm ² PVC earth cable.	m	\$0.80	SZ726

PVC/PVC cable

Circuit wiring including all fixings and connections (earthing conductors, cable trunking/tray and conduits to be measured separately):

81	4x185mm ² PVC/PVC cable.	m	\$106.50	SZ025
82	4x150mm ² PVC/PVC cable.	m	\$113.30	SZ701
83	4x120mm ² PVC/PVC cable.	m	\$71.60	SZ026
84	4x95mm ² PVC/PVC cable.	m	\$55.00	SZ027
85	4x70mm ² PVC/PVC cable.	m	\$41.30	SZ028
86	4x50mm ² PVC/PVC cable.	m	\$30.60	SZ029
87	4x35mm ² PVC/PVC cable.	m	\$24.10	SZ030
88	4x25mm ² PVC/PVC cable.	m	\$17.90	SZ031
89	4x16mm ² PVC/PVC cable.	m	\$12.70	SZ699
90	4x10mm ² PVC/PVC cable.	m	\$9.50	SZ700
91	4x6mm ² PVC/PVC cable.	m	\$7.20	SZ283
92	2x50mm ² PVC/PVC cable.	m	\$15.80	SZ032
93	2x35mm ² PVC/PVC cable.	m	\$12.50	SZ033
94	2x25mm ² PVC/PVC cable.	m	\$9.40	SZ034

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<u>C CIRCUIT WIRING (CONT'D)</u>				
<u>PVC/PVC cable (Cont'd)</u>				
Circuit wiring including all fixings and connections (earthing conductors, cable trunking/tray and conduits to be measured separately) (Cont'd):				
95	2x16mm ² PVC/PVC cable.	m	\$6.80	SZ035
96	2x10mm ² PVC/PVC cable.	m	\$5.20	SZ036
97	2x6mm ² PVC/PVC cable.	m	\$4.10	SZ037
98	2x4mm ² PVC/PVC cable.	m	\$3.50	SZ038
99	2x2.5mm ² PVC/PVC cable.	m	\$3.00	SZ039
100	2x1.5mm ² PVC/PVC cable.	m	\$2.80	SZ040
<u>PVC cable</u>				
Circuit wiring including drawing cables through concealed pipe conduits complete with all necessary fixings and connections (conduits measured separately):				
101	2x1.5mm ² PVC cable & 1.5mm ² PVC earth cable.	m	\$2.70	SZ928
102	2x2.5mm ² PVC cable & 2.5mm ² PVC earth cable.	m	\$3.10	SZ929
103	2x6mm ² PVC cable & 6mm ² PVC earth cable.	m	\$4.70	SZ930
104	2x10mm ² PVC cable & 10mm ² PVC earth cable.	m	\$6.30	SZ931
Circuit wiring including all fixings and connections (earthing conductors, cable trunking/tray and conduits to be measured separately):				
105	4x240mm ² PVC cable.	m	\$124.70	SZ306
106	4x185mm ² PVC cable.	m	\$95.00	SZ320
107	4x150mm ² PVC cable.	m	\$75.80	SZ307
108	4x120mm ² PVC cable.	m	\$63.00	SZ321
109	4x95mm ² PVC cable.	m	\$48.90	SZ322
110	4x70mm ² PVC cable.	m	\$36.20	SZ323
111	4x50mm ² PVC cable.	m	\$33.20	SZ702

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C CIRCUIT WIRING (CONT'D)

PVC Cable (Cont'd)

112	4x35mm ² PVC cable.	m	\$26.40	SZ703
113	4x25mm ² PVC cable.	m	\$17.20	SZ308
114	4x16mm ² PVC cable.	m	\$11.60	SZ488
115	4x10mm ² PVC cable.	m	\$8.50	SZ309
116	2x50mm ² PVC cable.	m	\$17.10	SZ704
117	2x35mm ² PVC cable.	m	\$13.70	SZ705
118	2x25mm ² PVC cable.	m	\$9.10	SZ041
119	2x16mm ² PVC cable.	m	\$6.30	SZ042
120	2x10mm ² PVC cable.	m	\$4.70	SZ043
121	2x6mm ² PVC cable.	m	\$3.60	SZ044
122	2x4mm ² PVC cable.	m	\$3.10	SZ045
123	2x2.5mm ² PVC cable.	m	\$2.60	SZ046
124	2x1.5mm ² PVC cable.	m	\$2.30	SZ047

XLPE/PVC Cable

Circuit wiring including all fixings and connections (earthing conductors, cable trunking/tray and conduits to be measured separately):

125	4x300mm ² XLPE/PVC cable.	m	\$160.40	SZ954
126	4x240mm ² XLPE/PVC cable.	m	\$129.60	SZ482
127	4x185mm ² XLPE/PVC cable.	m	\$98.80	SZ483
128	4x150mm ² XLPE/PVC cable.	m	\$79.90	SZ484
129	4x120mm ² XLPE/PVC cable.	m	\$66.10	SZ485
130	4x95mm ² XLPE/PVC cable.	m	\$51.80	SZ486
131	4x70mm ² XLPE/PVC cable.	m	\$39.10	SZ487

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C CIRCUIT WIRING (CONT'D)

Fire resistant cable

Circuit wiring including all fixings and connections (earthing conductors, cable trunking/tray and conduit to be measured separately):

132	4x150mm ² fire resistant cable.	m	\$94.20	SZ706
133	4x120mm ² fire resistant cable.	m	\$79.30	SZ707
134	4x95mm ² fire resistant cable.	m	\$66.00	SZ708
135	4x70mm ² fire resistant cable.	m	\$51.00	SZ684
136	4x50mm ² fire resistant cable.	m	\$39.70	SZ048
137	4x35mm ² fire resistant cable.	m	\$32.50	SZ049
138	4x25mm ² fire resistant cable.	m	\$25.00	SZ050
139	4x16mm ² fire resistant cable.	m	\$19.30	SZ051
140	4x10mm ² fire resistant cable.	m	\$16.20	SZ709
141	4x6mm ² fire resistant cable.	m	\$13.20	SZ710
142	4x4mm ² fire resistant cable.	m	\$11.60	SZ711
143	2x10mm ² fire resistant cable.	m	\$8.10	Z0222
144	2x6mm ² fire resistant cable.	m	\$6.60	Z0221
145	2x4mm ² fire resistant cable.	m	\$5.90	Z0220
146	2x2.5mm ² fire resistant cable.	m	\$5.30	SZ301
147	2x1.5mm ² fire resistant cable.	m	\$4.90	SZ300

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<u>C CIRCUIT WIRING (CONT'D)</u>				
<u>XLPE/SWA/PVC cable</u>				
XLPE/SWA/PVC underground armoured cable laid in trench (terminations and excavation of trench to be measured separately):				
148	2.5mm ² 2-core cable.	m	\$4.20	SZ950
149	6mm ² 2-core cable.	m	\$5.60	SZ058
150	10mm ² 2-core cable.	m	\$8.50	SZ059
151	16mm ² 2-core cable.	m	\$10.70	SZ060
152	25mm ² 2-core cable.	m	\$14.10	SZ061
153	6mm ² 3-core cable.	m	\$8.00	SZ489
154	10mm ² 3-core cable.	m	\$10.60	SZ490
155	16mm ² 3-core cable.	m	\$14.00	SZ491
156	25mm ² 3-core cable.	m	\$19.40	SZ492
157	6mm ² 4-core cable.	m	\$9.20	SZ727
158	10mm ² 4-core cable.	m	\$11.30	SZ062
159	16mm ² 4-core cable.	m	\$15.60	SZ063
160	25mm ² 4-core cable.	m	\$21.60	SZ064
161	35mm ² 4-core cable.	m	\$28.50	SZ065
162	50mm ² 4-core cable.	m	\$36.70	SZ066
163	70mm ² 4-core cable.	m	\$59.10	SZ728
164	95mm ² 4-core cable.	m	\$76.20	SZ729
165	120mm ² 4-core cable.	m	\$97.80	SZ730
166	150mm ² 4-core cable.	m	\$117.30	SZ731
167	185mm ² 4-core cable.	m	\$142.90	SZ732
168	240mm ² 4-core cable.	m	\$186.30	SZ733
169	300mm ² 4-core cable.	m	\$231.10	SZ933
170	2.5mm ² 12-core cable.	m	\$15.70	SZ951

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<u>C CIRCUIT WIRING (CONT'D)</u>				
Terminations for XLPE/SWA/PVC cable including sealing assembly and cable gland:				
171	2.5mm ² 2- core cable.	no	\$10.00	Z0223
172	6mm ² 2- core cable.	no	\$13.30	SZ067
173	10mm ² 2- core cable.	no	\$14.30	SZ068
174	16mm ² 2- core cable.	no	\$16.10	SZ069
175	25mm ² 2- core cable.	no	\$17.40	SZ070
176	6mm ² 3- core cable.	no	\$13.80	SZ493
177	10mm ² 3- core cable.	no	\$13.80	SZ494
178	16mm ² 3- core cable.	no	\$14.40	SZ495
179	25mm ² 3- core cable.	no	\$15.40	SZ496
180	10mm ² 4- core cable.	no	\$24.10	SZ071
181	16mm ² 4- core cable.	no	\$25.90	SZ072
182	25mm ² 4- core cable.	no	\$27.70	SZ073
183	35mm ² 4- core cable.	no	\$28.30	SZ074
184	50mm ² 4- core cable.	no	\$29.50	SZ075
185	70mm ² 4- core cable.	no	\$38.40	SZ691
186	95mm ² 4- core cable.	no	\$40.80	SZ692
187	120mm ² 4- core cable.	no	\$46.40	SZ693
188	150mm ² 4- core cable.	no	\$61.50	SZ694
189	185mm ² 4- core cable.	no	\$61.50	SZ695
190	240mm ² 4- core cable.	no	\$67.50	SZ906
191	300mm ² 4- core cable.	no	\$77.10	SZ934

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C CIRCUIT WIRING (CONT'D)

Pipe Crossings/Cover Plates

**UPVC pipes Class 'B' laid in trench for crossings
(trench measured separately):**

192	80mm diameter UPVC pipe.	m	\$9.70	SZ081
193	100mm diameter UPVC pipe.	m	\$17.30	SZ082

UPVC high impact resistant cable cover plates:

194	150mm wide x 2mm thick flat cable cover plate.	m	\$5.80	SZ260
195	150mm wide x 2mm thick angled cable cover plate.	m	\$5.80	SZ261

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D CABLE SUPPORT SYSTEMS

PVC trunking

PVC trunking complete with accessories including fixing to wall or ceiling:

196	60mm x 20mm three compartment.	m	\$9.20	Z0224
197	80mm x 32mm twin compartment.	m	\$10.30	SZ084
198	60mm x 20mm twin compartment.	m	\$8.10	SZ085
199	40mm x 20mm single compartment.	m	\$7.30	SZ086
200	40mm x 16mm single compartment.	m	\$5.50	SZ087
201	32mm x 16mm single compartment.	m	\$5.20	SZ088
202	25mm x 12.5mm single compartment.	m	\$5.10	SZ089

Metal conduit

Galvanised steel conduit fixed to wall or ceiling complete with spacer bar saddles:

203	20mm diameter.	m	\$22.40	SZ090
204	25mm diameter.	m	\$24.10	SZ091
205	32mm diameter.	m	\$30.70	SZ092
206	20mm diameter inspection tee.	no	\$3.90	SZ093
207	25mm diameter ditto.	no	\$5.50	SZ094
208	32mm diameter ditto.	no	\$7.40	SZ095
209	20mm diameter inspection bend.	no	\$3.10	SZ096
210	25mm diameter ditto.	no	\$5.50	SZ097
211	32mm diameter ditto.	no	\$9.00	SZ098
212	20mm diameter inspection elbow.	no	\$3.80	SZ099
213	25mm diameter ditto.	no	\$4.30	SZ100
214	32mm diameter ditto.	no	\$9.10	SZ101

HOUSING AND DEVELOPMENT BOARD
STANDARD SCHEDULE OF RATES FOR ELECTRICAL WORKS (JAN 2020 EDITION)

S/N	DESCRIPTION	UNIT	RATE(\$)	CODE
<u>D CABLE SUPPORT SYSTEMS (CONT'D)</u>				
<u>Metal conduit (Cont'd)</u>				
Galvanised steel conduit fixed to wall or ceiling complete with spacer bar saddles (Cont'd):				
215	Circular through box with cover for 20mm diameter.	no	\$3.00	SZ937
216	Circular T-junction box with cover for 20mm diameter.	no	\$3.00	SZ944
<u>PVC conduit</u>				
High impact PVC conduit fixed to wall or ceiling complete with spacer bar saddles:				
217	20mm diameter.	m	\$5.90	SZ102
218	25mm diameter.	m	\$6.30	SZ103
219	32mm diameter.	m	\$8.20	SZ104
220	20mm diameter inspection tee.	no	\$3.30	SZ105
221	25mm diameter ditto.	no	\$4.00	SZ106
222	32mm diameter inspection tee.	no	\$6.90	SZ107
223	Circular junction box with lid for 20mm diameter.	no	\$4.60	SZ108
224	Ditto for 25mm diameter.	no	\$4.70	SZ109
Flexible PVC conduit fixed to wall or ceiling complete with spacer bar saddles or suspension brackets, etc:				
225	20mm diameter.	m	\$5.30	SZ497
226	25mm diameter.	m	\$5.50	SZ498
<u>PVC concealed pipe conduit</u>				
PVC pipe conduit cast/embedded in slab/wall complete with tees, connectors and other accessories:				
227	20mm diameter.	m	\$3.10	SZ925
228	25mm diameter.	m	\$3.50	SZ926
229	32mm diameter.	m	\$4.90	SZ927

HOUSING AND DEVELOPMENT BOARD
STANDARD SCHEDULE OF RATES FOR ELECTRICAL WORKS (JAN 2020 EDITION)

S/N	DESCRIPTION	UNIT	RATE(\$)	CODE
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D CABLE SUPPORT SYSTEMS (CONT'D)

Metal trunking

Electro-galvanised/phosphate-dipped steel trunking with epoxy powder paint fixed to wall or ceiling complete with standard joint accessories and cover:

230	50mm x 50mm.	m	\$14.90	SZ110
231	75mm x 75mm.	m	\$17.20	SZ936
232	100mm x 50mm.	m	\$17.40	SZ111
233	150mm x 50mm.	m	\$20.50	SZ112
234	150mm x 75mm.	m	\$21.50	SZ962
235	200mm x 50mm.	m	\$24.10	SZ113
236	200mm x 100mm.	m	\$26.70	SZ948
237	250mm x 50mm.	m	\$26.80	SZ114
238	300mm x 50mm.	m	\$29.90	SZ115
239	300mm x 75mm.	m	\$31.40	SZ685

Cable tray

Hot-dipped galvanised hot rolled perforated mild steel cable trays fixed to wall or ceiling complete with hangers and fixing accessories:

240	100mm width.	m	\$26.70	SZ116
241	150mm width.	m	\$28.50	SZ117
242	225mm width.	m	\$35.10	SZ118
243	300mm width.	m	\$46.60	SZ119
244	450mm width.	m	\$71.30	SZ120
245	600mm width.	m	\$88.00	SZ121

HOUSING AND DEVELOPMENT BOARD
STANDARD SCHEDULE OF RATES FOR ELECTRICAL WORKS (JAN 2020 EDITION)

S/N	DESCRIPTION	UNIT	RATE(\$)	CODE
<u>E ELECTRICAL ACCESSORIES</u>				
<u>Consumer control unit</u>				
Insulated consumer control unit complete with 63A DP isolator switch, 40A RCCB, DP 20KA DIN rail mounted plug-in surge protector and:				
246	6x6A-20A 6KA MCB.	no	\$220.70	Z0225
247	12x6A-30A 6KA MCB.	no	\$255.90	Z0226
248	Insulated consumer control unit complete with 63A DP isolator switch, DP 20KA DIN rail mounted plug-in surge protector and 6x6A-20A 6KA MCB.	no	\$184.40	Z0227
249	Insulated consumer control unit complete with 40A/63A DP M6 MCB with contact position indicator, 40A/63A RCCB, DP 20KA DIN rail mounted plug-in surge protector and 8x5A-32A 6KA MCB.	no	\$281.70	Z0228
Split load insulated consumer control unit complete with 40A/63A DP M6 MCB with contact position indicator, 63A DP isolator, 40A/63A RCCB, DP 20KA DIN rail mounted plug-in surge protector and:				
250	9x6A-32A 6KA MCB.	no	\$286.40	Z0229
251	10x6A-32A 6KA MCB.	no	\$291.10	Z0230
252	12x6A-32A 6KA MCB.	no	\$300.40	Z0231
Metal-clad consumer control unit complete with 63A DP isolator switch and 40A RCCB:				
253	6x6A-20A 6KA MCB.	no	\$191.40	SZ128
254	12x6A-30A 6KA MCB.	no	\$288.00	SZ131
255	Metal-clad consumer control unit complete with 63A DP isolator switch and 6x6A-20A 6KA MCB.	no	\$170.70	SZ134
256	Split load metal-clad consumer control unit complete with 63A DP isolator switch, 40A RCCB and 6x5A-20A 6KA MCB.	no	\$202.70	SZ136

HOUSING AND DEVELOPMENT BOARD
STANDARD SCHEDULE OF RATES FOR ELECTRICAL WORKS (JAN 2020 EDITION)

S/N	DESCRIPTION	UNIT	RATE(\$)	CODE
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E ELECTRICAL ACCESSORIES (CONT'D)

30mA trip RCCB complete with mounting box:

257	40A DP.	no	\$113.20	SZ138
258	63A DP.	no	\$140.70	SZ139
259	40A 4P.	no	\$125.60	SZ503
260	63A 4P.	no	\$170.30	SZ504

Switch fuse

Metal clad switch fuse complete with HRC fuse:

261	20A DP.	no	\$87.50	SZ141
262	32A DP.	no	\$116.20	SZ142
263	63A DP.	no	\$253.20	SZ143
264	100A DP.	no	\$372.70	SZ144
265	20A TPN.	no	\$87.50	SZ145
266	32A TPN.	no	\$116.20	SZ146
267	63A TPN.	no	\$214.00	SZ147
268	100A TPN.	no	\$372.70	SZ148

Miniature Circuit Breakers:

269	5A-20A SP 6KA.	no	\$19.80	SZ140
270	40A DP M6.	no	\$41.50	SZ466
271	63A DP M6.	no	\$33.40	SZ324

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STANDARD SCHEDULE OF RATES FOR ELECTRICAL WORKS (JAN 2020 EDITION)

S/N	DESCRIPTION	UNIT	RATE(\$)	CODE
<u>E ELECTRICAL ACCESSORIES (CONT'D)</u>				
<u>Isolator switch</u>				
Metal clad isolator switch:				
272	10A TPN.	no	\$109.00	SZ282
273	32A TPN.	no	\$123.90	SZ151
274	63A TPN.	no	\$146.00	SZ152
275	100A TPN.	no	\$305.80	SZ153
276	200A TPN.	no	\$598.50	SZ967
Weatherproof PVC isolator switch:				
277	10A TPN.	no	\$42.10	SZ505
278	20A TPN.	no	\$47.40	SZ953
279	32A TPN.	no	\$57.30	SZ509
280	63A TPN.	no	\$73.70	Z0184
281	100A TPN.	no	\$423.30	Z0185
<u>Switchgears</u>				
282	Electrical meter box size approximately 530 x 300 x 180mm complete with all necessary ironmongery (other accessories measured separately).	no	\$311.10	SZ158
283	Lighting distribution board complete with 4x20A HRC fuse, 6KA 20A/30A MCB, contactor, time switch, bypass switch.	no	\$1,151.00	SZ159
Moulded case circuit breaker (MCCB):				
284	25KA 415V TP 15A-100A.	no	\$183.60	SZ161
285	25KA 415V TP 125A-225A.	no	\$345.00	SZ162
286	36KA 415V TP 125A-225A.	no	\$391.30	SZ163
287	36KA 415V TP 250A-400A.	no	\$555.10	SZ164
288	50KA 415V TP 450A-600A.	no	\$1,189.20	SZ512
289	50KA 415V TP 700A-800A.	no	\$1,495.60	SZ513

HOUSING AND DEVELOPMENT BOARD
STANDARD SCHEDULE OF RATES FOR ELECTRICAL WORKS (JAN 2020 EDITION)

S/N	DESCRIPTION	UNIT	RATE(\$)	CODE
<u>E ELECTRICAL ACCESSORIES (CONT'D)</u>				
<u>Switchboard's accessories</u>				
Contactor:				
290	30A DP.	no	\$76.30	SZ165
291	60A DP.	no	\$219.30	SZ166
292	30A 4P.	no	\$132.40	SZ167
293	60A 4P.	no	\$284.20	SZ168
294	Ripple control receiver.	no	\$407.60	Z0187
295	Time switch of programmable logic relay module complete with RS323C interface, built in timer and at least four output points.	no	\$156.40	Z0242
296	Metal enclosure box overall size approximately 200x320x130mm to house ripple control receiver.	no	\$43.80	SZ318
<u>Main switchboard's accessories or instruments</u>				
297	Ammeter - current transformer operated (0 - 1600A).	no	\$45.60	SZ262
298	Voltmeter - rotary wafer type (0 - 500V).	no	\$47.90	SZ263
299	Ammeter or Voltmeter selector switch.	no	\$24.90	SZ264
300	Maximum demand Ammeter.	no	\$172.10	SZ265
301	Indicating light complete with built-in transformer.	no	\$23.90	SZ266
302	Earth Fault Relay with built-in timer.	no	\$176.70	SZ267
303	Hour Run Meter.	no	\$103.10	SZ281
304	Earth Leakage Relay with built-in timer.	no	\$202.40	Z0186
305	Over-current Relay with built-in timer.	no	\$300.90	SZ268
306	Over-current Relay of IDMTL (Inverse Definite Minimum Time Lag) with 3/10 characteristics.	no	\$1,898.70	SZ325
307	Digital Protection Relay for IDMTL and earth fault protection, complete with measuring capability for ampere, voltage, maximum demand, frequency, etc. and remote monitoring features.	no	\$2,893.40	Z0232

HOUSING AND DEVELOPMENT BOARD
STANDARD SCHEDULE OF RATES FOR ELECTRICAL WORKS (JAN 2020 EDITION)

S/N	DESCRIPTION	UNIT	RATE(\$)	CODE
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E ELECTRICAL ACCESSORIES (CONT'D)

Protective Transformer:

308	CT ratio 100/5 (5P10, 20VA).	no	\$241.10	SZ514
309	CT ratio 200/5 (5P10, 20VA).	no	\$135.30	SZ269
310	CT ratio 300/5 (5P10, 20VA).	no	\$121.50	SZ270
311	CT ratio 400/5 (5P10, 20VA).	no	\$107.70	SZ271
312	CT ratio 600/5 (5P10, 20VA).	no	\$87.00	SZ272
313	CT ratio 1200/5 (5P10, 20VA).	no	\$105.40	SZ273
314	CT ratio 1600/5 (5P10, 20VA).	no	\$103.10	SZ274

Metering Current Transformer:

315	CT ratio 100/5 (Class 15VA).	no	\$45.10	SZ515
316	CT ratio 200/5 (Class 15VA).	no	\$29.50	SZ275
317	CT ratio 300/5 (Class 15VA).	no	\$53.40	SZ276
318	CT ratio 400/5 (Class 15VA).	no	\$54.60	SZ277
319	CT ratio 600/5 (Class 15VA).	no	\$67.20	SZ278
320	CT ratio 1200/5 (Class 15VA).	no	\$76.40	SZ279
321	CT ratio 1600/5 (Class 15VA).	no	\$77.30	SZ280

Connectors

BI Connector:

322	60A.	no	\$7.70	SZ170
323	100A.	no	\$7.70	SZ171
324	200A.	no	\$42.20	SZ172
325	20A DP heater connection unit.	no	\$14.80	SZ516
326	10A polarised plug and socket connector.	no	\$5.10	SZ173
327	5A white moulded batten lamp holder.	no	\$7.00	SZ174
328	5A white moulded ceiling rose.	no	\$9.60	SZ175

HOUSING AND DEVELOPMENT BOARD
STANDARD SCHEDULE OF RATES FOR ELECTRICAL WORKS (JAN 2020 EDITION)

S/N	DESCRIPTION	UNIT	RATE(\$)	CODE
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E ELECTRICAL ACCESSORIES (CONT'D)

Switches

6A White rocker plate switch complete with box for surface mounting:

329	1-way 1-gang.	no	\$14.10	SZ176
330	2-way 1-gang.	no	\$15.50	SZ998
331	2-gang.	no	\$16.50	SZ177
332	3-gang.	no	\$20.90	SZ178
333	20A DP heater switch complete with box for surface mounting.	no	\$24.00	SZ517

6A Ultra thin plate switch complete with box for flush mounting:

334	1-way 1-gang.	no	\$20.10	SZ988
335	2-way 1-gang.	no	\$20.90	SZ999
336	2-gang.	no	\$27.70	SZ989
337	3-gang.	no	\$40.30	SZ990
338	20A Ultra thin DP heater switch complete with box for flush mounting.	no	\$45.60	SZ992
339	White rocker plate bell push complete.	no	\$15.40	SZ518

6A metal clad rocker switch complete with mounting box:

340	1-way 1-gang.	no	\$19.00	Z0218
341	2-way 1-gang.	no	\$20.20	SZ180
342	2-gang.	no	\$23.80	SZ181
343	3-gang.	no	\$27.90	SZ182

HOUSING AND DEVELOPMENT BOARD
STANDARD SCHEDULE OF RATES FOR ELECTRICAL WORKS (JAN 2020 EDITION)

S/N	DESCRIPTION	UNIT	RATE(\$)	CODE
<u>E ELECTRICAL ACCESSORIES (CONT'D)</u>				
<u>Switch socket outlets</u>				
Plate switch socket outlet complete with box for surface mounting:				
344	13A 1-gang.	no	\$15.20	SZ184
345	13A 2-gang.	no	\$20.30	SZ185
346	15A 1-gang.	no	\$23.30	SZ188
Ultra thin switch socket outlet complete with box for flush mounting:				
347	13A 1-gang.	no	\$22.10	SZ985
348	13A 2-gang.	no	\$32.90	SZ986
349	15A 1-gang.	no	\$36.80	SZ987
Metal clad switch socket outlet complete with mounting box:				
350	13A 1-gang.	no	\$21.10	SZ186
351	13A 2-gang.	no	\$28.20	SZ187
352	15A 1-gang.	no	\$27.20	SZ189
PVC weatherproof switch socket outlet complete with screw cap:				
353	13A.	no	\$43.80	SZ190
354	15A.	no	\$72.50	SZ191
Metal type weatherproof switch socket outlet complete with screw cap:				
355	13A.	no	\$53.60	SZ520
356	15A.	no	\$81.60	SZ521
Plate switch socket outlet complete with USB:				
357	13A 1-gang	no	\$31.60	Z3362
358	13A 2-gang	no	\$58.60	Z3364
359	Metal enclosure size 210x180x140mm to house switch socket outlet complete with hinged door and cam lock.	no	\$20.50	SZ194

HOUSING AND DEVELOPMENT BOARD
STANDARD SCHEDULE OF RATES FOR ELECTRICAL WORKS (JAN 2020 EDITION)

S/N	DESCRIPTION	UNIT	RATE(\$)	CODE
<u>F LUMINAIRES</u>				
360	AgilLiteS SL11-ES 2 feet 1100lm, 4000K IP54 luminaire, dimmable with emergency battery pack.	no	\$180.40	Z2243
361	AgilLiteS SL11-EM 2 feet 1100lm, 4000K IP54 luminaire, dimmable with wireless networked HF motion sensor, emergency battery pack.	no	\$242.50	Z2244
362	AgilLiteS SL11-E 2 feet 1100lm, 4000K IP54 luminaire, dimmable with wireless networked PIR motion sensor, emergency battery pack.	no	\$237.90	Z2245
363	AgilLiteS SL11-M 2 feet 1100lm, 4000K IP54 luminaire, dimmable with wireless networked HF motion sensor.	no	\$179.30	Z2246
364	AgilLiteS SL22-M 4 feet 2200lm, 4000K IP54 luminaire, dimmable with wireless networked HF motion sensor.	no	\$220.70	Z2252
365	AgilLiteS SL22-ES 4 feet 2200lm, 4000K IP54 luminaire, dimmable with emergency battery pack.	no	\$221.80	Z2253
366	AgilLiteS SL22-EM 4 feet 2200lm, 4000K IP54 luminaire, dimmable with wireless networked HF motion sensor, emergency battery pack.	no	\$283.90	Z2254
367	AgilLiteS SL08-E 2 feet 800lm, 4000K IP54 luminaire, dimmable with wireless networked PIR motion sensor, emergency battery pack.	no	\$228.70	Z2255
368	AgilLiteS SL08-EM 2 feet 800lm, 4000K IP54 luminaire, dimmable with wireless networked HF motion sensor, emergency battery pack.	no	\$233.30	Z2256
369	AgilLiteS SL08-ES 2 feet 800lm, 4000K IP54 luminaire dimmable with emergency battery pack.	no	\$171.20	Z2257
370	AgilLiteS SL16-E 4 feet 1600lm, 4000K IP54 luminaire, dimmable with wireless networked PIR motion sensor, emergency battery pack.	no	\$270.10	Z2258
371	AgilLiteS SL16-EM 4 feet 1600lm, 4000K IP54 luminaire, dimmable with wireless networked HF motion sensor, emergency battery pack.	no	\$274.70	Z2259
372	AgilLiteS SL16-ES 4 feet 1600lm, 4000K IP54 luminaire, dimmable with emergency battery pack.	no	\$212.60	Z2260
373	AgilLiteS SL22-E 4 feet 2200lm, 4000K IP54 luminaire, dimmable with wireless networked PIR motion sensor, emergency battery pack.	no	\$279.30	Z2261

HOUSING AND DEVELOPMENT BOARD
STANDARD SCHEDULE OF RATES FOR ELECTRICAL WORKS (JAN 2020 EDITION)

S/N	DESCRIPTION	UNIT	RATE(\$)	CODE
<u>F LUMINAIRES (CONT'D)</u>				
374	AgilLiteS SL11 2 feet 1100lm, 4000K IP54 luminaire, dimmable with wireless networked PIR motion sensor.	no	\$174.70	Z2238
375	AgilLiteS SL08 2 feet 800lm, 4000K IP54 luminaire, dimmable with wireless networked PIR motion sensor.	no	\$165.50	Z2239
376	AgilLiteS SL11-S 2 feet 1100lm, 4000K IP54 luminaire, dimmable.	no	\$117.20	Z2240
377	AgilLiteS SL08-S 2 feet 800lm, 4000K IP54 luminaire, dimmable.	no	\$112.60	Z2241
378	AgilLiteS SL08-M 2 feet 800lm, 4000K IP54 luminaire, dimmable with wireless networked HF motion sensor.	no	\$170.10	Z2242
379	AgilLiteS SL22 4 feet 2200lm, 4000K IP54 luminaire, dimmable with wireless networked PIR motion sensor.	no	\$216.10	Z2247
380	AgilLiteS SL16 4 feet 1600lm, 4000K IP54 luminaire, dimmable with wireless networked PIR motion sensor.	no	\$206.90	Z2248
381	AgilLiteS SL22-S 4 feet 2200lm, 4000K IP54 luminaire, dimmable.	no	\$158.60	Z2249
382	AgilLiteS SL16-S 4 feet 1100lm, 4000K IP54 luminaire, dimmable.	no	\$149.40	Z2250
383	AgilLiteS SL16-M 4 feet 1600lm, 4000K IP54 luminaire, dimmable with wireless networked HF motion sensor.	no	\$211.50	Z2251
384	Optiled LE 240-HX - 2 feet LED luminaire complete with lamp.	no	\$139.00	Z2228
385	Optiled LE 265-HX - 2 feet LED luminaire complete with high Lumens lamp for MSCP.	no	\$139.00	Z2229
386	Optiled LE 240E-HX - 2 feet LED luminaire complete with emergency battery pack.	no	\$225.30	Z2230

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STANDARD SCHEDULE OF RATES FOR ELECTRICAL WORKS (JAN 2020 EDITION)

S/N	DESCRIPTION	UNIT	RATE(\$)	CODE
<u>F LUMINAIRES (CONT'D)</u>				
387	Optiled LE 265E-HX - 2 feet LED luminaire complete with high Lumens lamp and emergency battery pack for MSCP.	no	\$225.30	Z2231
388	Optiled LE 440-HX - 4 feet LED luminaire complete with lamp.	no	\$225.30	Z2224
389	Optiled LE 465-HX - 4 feet LED luminaire complete with high Lumens lamp for MSCP.	no	\$225.30	Z2225
390	Optiled LE 440E-HX - 4 feet LED luminaire complete with emergency battery pack.	no	\$381.70	Z2226
391	Optiled LE 465E-HX - 4 feet LED luminaire complete with high Lumens lamp and emergency battery pack for MSCP.	no	\$381.70	Z2227
392	Optiled LE 240 - 2 feet luminaire standard natural white 4000K.	no	\$96.50	Z2078
393	Optiled - LE 265 2 feet luminaire standard daylight 6500K.	no	\$96.50	Z2079
394	Optiled LE 240M - 2 feet luminaire with motion sensor natural white 4000K.	no	\$122.90	Z2080
395	Optiled LE 265M - 2 feet luminaire with motion sensor daylight 6500K.	no	\$122.90	Z2081
396	Optiled LE 440 - 4 feet luminaire standard natural white 4000K.	no	\$170.10	Z2082
397	Optiled LE 465 - 4 feet luminaire standard daylight 6500K.	no	\$170.10	Z2083
398	Optiled LE 440M - 4 feet luminaire with motion sensor natural white 4000K.	no	\$193.10	Z2084
399	Optiled LE 465M - 4 feet luminaire with motion sensor daylight 6500K.	no	\$193.10	Z2085
400	Optiled LE 240E - 2 feet luminaire standard natural white 4000K with emergency battery pack.	no	\$165.50	Z2179
401	Optiled - LE 265E 2 feet luminaire standard daylight 6500K with emergency battery pack.	no	\$165.50	Z2180
402	Optiled LE 240ME - 2 feet luminaire with motion sensor natural white 4000K with emergency battery pack.	no	\$183.90	Z2181
403	Optiled LE 265ME - 2 feet luminaire with motion sensor daylight 6500K with emergency battery pack.	no	\$183.90	Z2182

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STANDARD SCHEDULE OF RATES FOR ELECTRICAL WORKS (JAN 2020 EDITION)

S/N	DESCRIPTION	UNIT	RATE(\$)	CODE
<u>F LUMINAIRES (CONT'D)</u>				
404	Optiled LE 440E - 4 feet luminaire standard natural white 4000K with emergency battery pack.	no	\$295.40	Z2183
405	Optiled LE 465E - 4 feet luminaire standard daylight 6500K with emergency battery pack.	no	\$295.40	Z2184
406	Optiled LE 440ME - 4 feet luminaire with motion sensor natural white 4000K with emergency battery pack.	no	\$319.60	Z2185
407	Optiled LE 465ME - 4 feet luminaire with motion sensor daylight 6500K with emergency battery pack.	no	\$319.60	Z2186
408	Optiled 20B0400011 (LE240) 2 feet luminaire standard natural white 4000K.	no	\$96.50	Z3348
409	Optiled 20B0650011 (LE 265) 2 feet luminaire standard daylight 6500K.	no	\$96.50	Z3349
410	Optiled 20B3400011-EB (LE240E) 2 feet luminaire standard natural white 4000K with emergency battery pack.	no	\$165.50	Z3350
411	Optiled 20B3650011-EB (LE 265E) 2 feet luminaire standard daylight 6500K with emergency battery pack.	no	\$165.50	Z3351
412	Optiled 20B4400012-EB (LE 440E) 4 feet luminaire standard natural white 4000K with emergency battery pack.	no	\$295.40	Z3352
413	Optiled 20B4650012-EB (LE 465E) 4 feet luminaire standard daylight 6500K with emergency battery pack.	no	\$295.40	Z3353
414	Optiled 20B2400012 (LE 440) 4 feet luminaire standard natural white 4000K.	no	\$170.10	Z3354
415	Optiled 20B2650012 (LE 465) 4 feet luminaire standard daylight 6500K.	no	\$170.10	Z3355

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S/N	DESCRIPTION	UNIT	RATE(\$)	CODE
<u>G LIGHTNING CONDUCTORS AND EARTH RODS</u>				
416	Aluminium 25mm x 3mm tape with aluminium clip and base properly secured onto wall or roof for lightning conductors.	m	\$6.20	SZ205
417	Copper 25mm x 3mm tape with brass/bronze clip and base properly secured onto wall or roof for lightning conductors.	m	\$18.00	SZ207
418	50mm ² stranded bare copper conductors with brass/bronze clip and base properly secured onto wall or roof for lightning conductors.	m	\$16.00	SZ208
419	70mm ² stranded bare copper conductors with brass/bronze clip and base properly secured onto wall or roof for lightning conductors.	m	\$17.90	SZ209
420	Air terminal 16mm diameter 300mm length aluminium complete with cast aluminium alloy base.		\$26.30	SZ210
421	Air terminal 16mm diameter 300mm length copper complete with leaded gunmetal base.	no	\$32.80	SZ211
422	Bi-metallic aluminium-copper connector for 25mm x 3mm tape.	no	\$23.40	SZ212
423	Aluminium square tape clamp suitable for 25 x 3mm tape.	no	\$15.30	SZ213
424	Copper square tape clamp suitable for 25 x 3mm tape.	no	\$17.50	SZ968

HOUSING AND DEVELOPMENT BOARD
STANDARD SCHEDULE OF RATES FOR ELECTRICAL WORKS (JAN 2020 EDITION)

S/N	DESCRIPTION	UNIT	RATE(\$)	CODE
<u>G LIGHTNING CONDUCTORS AND EARTH RODS</u>				
<u>(CONT'D)</u>				
425	Leaded gunmetal square tape clamp suitable for 25mm x 3mm tape.	no	\$21.30	SZ214
426	Leaded gunmetal round test clamp.	no	\$31.90	SZ215
427	Leaded gunmetal 'B' bond for bonding copper tape to steel surface.	no	\$17.90	SZ216
428	Aluminium 'B' bond for bonding aluminium tape to steel surface.	no	\$16.20	SZ217
429	Exothermic welded joint.	no	\$39.60	SZ218
430	Earth rod 16mm diameter 1.8m long copper-weld, mild steel rod driven in ground.	no	\$45.00	SZ221
431	Interconnecting buried 25mm x 3mm copper tape.	m	\$13.70	SZ222
432	Leaded gunmetal/naval brass earth rod clamp.	no	\$18.30	SZ223
433	Aluminium/silicon/phosphor bronze earth rod coupling.	no	\$7.90	SZ224
434	Clamp for earthing and bonding to pipe diameter 12mm - 75mm.	no	\$3.20	SZ225
435	250mm x 250mm x 3mm thick hot-dipped hinged-lid inspection pit complete with plastic moulded pot.	no	\$27.40	SZ226

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STANDARD SCHEDULE OF RATES FOR ELECTRICAL WORKS (JAN 2020 EDITION)

S/N	DESCRIPTION	UNIT	RATE(\$)	CODE
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H EXTERNAL LIGHTING

Lighting Columns

Hot dipped galvanised planted type lighting column including excavation of pit, concrete footing, bitumen coating of planted section, painting of identification numbers, cutout complete with 5A-20A HRC fuse, connecting accessories, (but excluding cable glands) and backfilling and reinstatement of ground surfaces as detailed in the drawings:

436	8m lighting column with single arm bracket.	no	\$768.20	SZ227
437	10m lighting column with double arm bracket.	no	\$966.40	Z0165
438	3m post top lighting column.	no	\$393.60	SZ230
439	3.5m post top lighting column.	no	\$422.80	SZ932
440	4m post top lighting column.	no	\$441.40	SZ462
441	4.5m post top lighting column.	no	\$459.80	Z0164
442	5m post top lighting column.	no	\$536.20	SZ463
443	6m post top lighting column.	no	\$649.80	SZ907
444	8m post top lighting column.	no	\$787.80	SZ231
445	10m post top lighting column.	no	\$976.20	SZ232

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S/N	DESCRIPTION	UNIT	RATE(\$)	CODE
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H EXTERNAL LIGHTING (CONT'D)

Lighting Columns (Cont'd)

Hot dipped galvanised flanged mounted type lighting column including painting of identification numbers, cutout complete with 5A-20A HRC fuse and connecting accessories (but excluding cable glands) as detailed in the drawings:

446	3m post top lighting column.	no	\$540.50	Z0166
447	3.5m post top lighting column.	no	\$573.80	Z0167
448	4m post top lighting column.	no	\$607.70	Z0168
449	4.5m post top lighting column.	no	\$641.10	Z0169
450	5m post top lighting column.	no	\$675.00	Z0170
451	6m post top lighting column.	no	\$788.00	Z3368
452	8m post top lighting column.	no	\$949.00	Z3367
453	8m post top lighting column with 2m single arm.	no	\$891.50	Z3365
454	8m post top lighting column with 2m double arm.	no	\$949.00	Z3366

Accessories for lighting columns

455	Pole cap.	no	\$69.30	Z0171
456	Banner bracket.	no	\$86.00	Z0172
457	Centre ring 90mm diameter (OD).	no	\$57.80	Z0173
458	Shoulder cover (Type 1) 76mm / 140mm diameter.	no	\$159.00	Z0174
459	Shoulder cover (Type 1A) 100mm / 140mm diameter.	no	\$164.20	Z0175
460	Shoulder cover (Type 2) 76mm / 140mm diameter.	no	\$136.60	Z0176
461	Shoulder cover (Type 2A) 100mm /140mm diameter.	no	\$141.70	Z0177

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STANDARD SCHEDULE OF RATES FOR ELECTRICAL WORKS (JAN 2020 EDITION)

S/N	DESCRIPTION	UNIT	RATE(\$)	CODE
<u>H EXTERNAL LIGHTING (CONT'D)</u>				
<u>Lighting Columns (Cont'd)</u>				
<u>Painting of lighting columns</u>				
One coat of lead and chromate free primer and two coats of polyurethane paint on the external surface of lighting column:				
462	3m-3.5m high column.	no	\$11.60	Z0235
463	4m high column.	no	\$13.90	Z0236
464	4.5m high column.	no	\$15.40	Z0237
465	5m high column.	no	\$16.90	Z0238
466	6m high column.	no	\$22.60	Z0239
467	8m high column.	no	\$31.40	Z0240
468	10m high column.	no	\$39.10	Z0241
Polyester powder coating in standard RAL colour onto the external surface of lighting column including all necessary labour & transport.				
469	3m high column.	no	\$90.30	Z0178
470	3.5m high column.	no	\$102.00	Z0179
471	4m high column.	no	\$114.40	Z0180
472	4.5m high column.	no	\$126.10	Z0181
473	5m high column.	no	\$138.50	Z0182
474	6m high column.	no	\$150.20	Z0183
475	8m high column.	no	\$185.40	Z3371
476	8m high column including 2m single arm..	no	\$185.40	Z3369
477	8m high column including 2m double arm.	no	\$222.50	Z3370

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S/N	DESCRIPTION	UNIT	RATE(\$)	CODE
<u>H EXTERNAL LIGHTING (CONT'D)</u>				
<u>Lighting Luminaires</u>				
478	Supply and install of Category A Lighting Luminaires complete with integral control gears and other accessories for Driveway and Service Road.	no	\$475.00	Z3000
479	Supply and install of Category B Lighting Luminaires complete with integral control gears and other accessories for Hardcourt.	no	\$325.00	Z3001
480	Supply and install of Category C1 Lighting Luminaires complete with integral control gears and other accessories for ambience lighting at Landscape and Playground.	no	\$676.00	Z3002
481	Supply and install of Category C2 Lighting Luminaires complete with integral control gears and other accessories for functional lighting at Landscape and Playground.	no	\$425.00	Z3003
482	Supply and install of Category D Lighting Luminaires complete with integral control gears and other accessories for wall lighting at Linkway and Linkbuilding.	no	\$125.00	Z3004
483	Supply and install of Category E Lighting Luminaires complete with integral control gears and other accessories for Flood Lightings.	no	\$325.00	Z3005
<u>Aviation Obstruction Light</u>				
484	Twin units aviation obstruction light (lightmast, control box, cables, cable trunking/tray and conduits measured separately).	no	\$876.10	SZ961
485	Twin units aviation obstruction light complete with lighting control box and lightmast (cables, cable trunking/tray and conduits measured separately).	no	\$945.10	SZ905

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S/N	DESCRIPTION	UNIT	RATE(\$)	CODE
<u>I EMERGENCY/EMERGENCY EXIT SIGN LUMINAIRES</u>				
486	PowerCraft EX-LED-M-RS-S,SR,SL,S-RM,SR-RM,SL-RM quick fit recessed ceiling mounted single sided with or without arrow maintained emergency exit or running man sign complete with 1.2W ultra bright LED module, fire retardant UL94 housing, with high temperature NiCd batteries rated 3 hours emergency duration.	no	\$116.00	Z2290
487	PowerCraft EX-LED-M-RS-D,DR,DL,D-RM,DR-RM,DL-RM quick fit recessed ceiling mounted double sided with or without arrow maintained emergency exit or running man sign complete with 1.2W ultra bright LED module, fire retardant UL94 housing, with high temperature NiCd batteries rated 3 hours emergency duration.	no	\$116.00	Z2291
488	PowerCraft EX-LED-M-QF-S,SR,SL,S-RM,SR-RM,SL-RM quick fit suspended/surface mounted single sided with or without arrow maintained emergency exit or running man sign complete with 1.2W ultra bright LED module, fire retardant UL94 housing, with high temperature NiCd batteries rated 3 hours emergency duration.	no	\$105.70	Z2292
489	PowerCraft EX-LED-M-QF-D,DR,DL,D-RM,DR-RM,DL-RM quick fit suspended/surface mounted double sided with or without arrow maintained emergency exit or running man sign complete with 1.2W ultra bright LED module, fire retardant UL94 housing, with high temperature NiCd batteries rated 3 hours emergency duration.	no	\$105.70	Z2293
490	PowerCraft EX-LED-M-S,SR,SL,S-RM,SR-RM,SL-RM slimline suspended/surface mounted single sided with or without arrow maintained emergency exit or running man sign complete with 1.2W ultra bright LED module, with high temperature NiCd batteries rated 3 hours emergency duration.	no	\$105.70	Z2294

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S/N	DESCRIPTION	UNIT	RATE(\$)	CODE
<u>I EMERGENCY/EMERGENCY EXIT SIGN LUMINAIRES</u>				
<u>(CONT'D)</u>				
491	PowerCraft EX-LED-M-D,DR,DL,D-RM,DR-RM,DL-RM slimline suspended/surface mounted double sided with or without arrow maintained emergency exit or running man sign complete with 1.2W ultra bright LED module, with high temperature NiCd batteries rated 3 hours emergency duration.	no	\$105.70	Z2295
492	PowerCraft EXB-LED-M box type suspended/surface mounted single sided with or without arrow maintained emergency exit or running man sign complete 1.2W ultra bright LED module and high temperature NiCd batteries rated 3 hours emergency duration.	no	\$105.70	Z3324
493	PowerCraft EXB-LED-M-WP weather proof box type semi - recessed/surface mounted single sided with or without arrow maintained emergency exit or running man sign complete 1.2W ultra bright LED module and high temperature NiCd batteries rated 3 hours emergency duration.	no	\$142.50	Z3325
494	PowerCraft EL-LED2NM non-maintained emergency bulkhead complete with 2x3W LED module and high temperature NiCd batteries rated 2 hours emergency duration.	no	\$89.60	Z3326

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S/N	DESCRIPTION	UNIT	RATE(\$)	CODE
<u>I EMERGENCY/EMERGENCY EXIT SIGN LUMINAIRES</u>				
<u>(CONT'D)</u>				
495	PowerCraft REL50NM-LED-CY non-maintained surface cylinder emergency light complete with 10W white LED module and high temperature NiCd batteries rated 2 hours emergency duration.	no	\$200.00	Z3328
496	PowerCraft REL20NM-LED non-maintained recessed emergency light complete with 60mm/120mm reflector, 3W white LED module and high temperature NiCd batteries rated 3 hours emergency duration.	no	\$82.70	Z3329
497	PowerCraft TED10NM non-maintained twin spot emergency light complete with 2x3W white LED module and high temperature NiCd batteries rated 2 hours emergency duration.	no	\$82.70	Z3330
498	PowerCraft REL10NM-LED-CU non-maintained recessed emergency light complete with 3W white LED module and high temperature NiCd batteries rated 3 hours emergency duration.	no	\$80.40	Z3336
499	PowerCraft REL10NM-LED-CY non-maintained surface emergency light complete with 3W white LED module and high temperature NiCd batteries rated 3 hours emergency duration.	no	\$89.60	Z3337
500	PowerCraft REL50NM-LED non-maintained recessed emergency light complete with 10W white LED module and high temperature NiCd batteries rated 2 hours emergency duration.	no	\$246.00	Z3338

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STANDARD SCHEDULE OF RATES FOR ELECTRICAL WORKS (JAN 2020 EDITION)

S/N	DESCRIPTION	UNIT	RATE(\$)	CODE
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I EMERGENCY/EMERGENCY EXIT SIGN LUMINAIRES
(CONT'D)

501	PNE/TEJ600 LED exit sign.	no	\$87.30	Z2100
502	PNE TEX300 LED exit sign.	no	\$87.30	Z2150
503	PNE TEX300 RA LED exit sign, single sided right arrow.	no	\$87.30	Z2151
504	PNE TEX300 LA LED exit sign, single sided left arrow.	no	\$87.30	Z2152
505	PNE TEX300 DWA LED exit sign, double sided with arrow.	no	\$87.30	Z2153
506	PNE TEX300 RM LED exit sign, running man.	no	\$87.30	Z2154
507	PNE TEX300 RM LA LED exit sign, running man with left arrow.	no	\$87.30	Z2155
508	PNE TEX300 RM DWA LED exit sign, running man double sided with arrow.	no	\$87.30	Z2156
509	PNE TEX300 RM RA LED exit sign, running man with right arrow.	no	\$87.30	Z2196

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STANDARD SCHEDULE OF RATES FOR ELECTRICAL WORKS (JAN 2020 EDITION)

S/N	DESCRIPTION	UNIT	RATE(\$)	CODE
<u>I EMERGENCY/EMERGENCY EXIT SIGN LUMINAIRES</u>				
<u>(CONT'D)</u>				
510	Denko BLEX W2001M - 1x1W high flux LED lamp box type emergency exit light complete with single sided without arrow and nickel cadium battery.	no	\$89.60	Z2003
511	Denko BLEX W2001M-E & T - 1x1W high flux LED lamp box type emergency exit light complete with single sided with arrow left and right and nickel cadium battery.	no	\$89.60	Z2004
512	Denko SLED W1201M - 2W high flux LED lamp emergency exit sign and nickel cadium battery.	no	\$89.60	Z2200
513	Denko SLED W1201M-E - 2W high flux LED lamp emergency exit sign, arrow left sign and nickel cadium battery.	no	\$89.60	Z2201
514	Denko SLED W1201M-T - 2W high flux LED emergency exit sign, right arrow sign and nickel cadium battery.	no	\$89.60	Z2202
515	Denko SLED W1201M-D - 2W high flux LED emergency exit sign, double-sided and nickel cadium battery.	no	\$89.60	Z2203
516	Denko SLED W1201RM - 2W high flux LED emergency running man sign and nickel cadium battery.	no	\$89.60	Z2204
517	Denko SLED W1201RM-E - 2W high flux LED emergency running man sign, left arrow and nickel cadium battery.	no	\$89.60	Z2205
518	Denko SLED W1201RM-T - 2W high flux LED emergency running man sign, right arrow and nickel cadium battery.	no	\$89.60	Z2206

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STANDARD SCHEDULE OF RATES FOR ELECTRICAL WORKS (JAN 2020 EDITION)

S/N	DESCRIPTION	UNIT	RATE(\$)	CODE
<u>I EMERGENCY/EMERGENCY EXIT SIGN LUMINAIRES</u>				
<u>(CONT'D)</u>				
519	Denko SLED W1201RM-D - 2W high flux LED emergency running man sign, double sided and nickel cadium battery.	no	\$89.60	Z2207
520	Denko WLEX100M - 2W high flux LED emergency exit sign, weatherproof IP65 and nickel cadium battery.	no	\$106.80	Z2212
521	Denko WLEX100RM - 2W high flux LED emergency running man sign, weatherproof IP65 and nickel cadium battery.	no	\$106.80	Z2213
522	Denko BLEX W2001RM - 2W high flux LED recessed box emergency exit sign and nickel cadium battery.	no	\$89.60	Z2289
523	Denko EmEX1602M - 2W samsung LED high flux emergency exit sign, surface mount and nickel cadium battery.	no	\$89.60	Z3343
524	Denko EmLED-12NM - 2W samsung LED recessed emergency light and nickel cadium battery.	no	\$71.20	Z3356
525	Denko EmLED-14NM - 4W samsung LED recessed emergency light and NIMH battery.	no	\$76.90	Z3357
526	Denko DL2301NM - 2x3W high flux white LED twin flood emergency light and nickel cadium battery.	no	\$88.40	Z3358
527	Denko EmLED 110NM - 10W samsung LED surface emergency light and NIMH battery.	no	\$177.00	Z3359

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S/N	DESCRIPTION	UNIT	RATE(\$)	CODE
<u>J FIRE ALARM ACCESSORIES</u>				
528	Manual break glass call point.	no	\$39.80	SZ672
529	Weather resistant gasket for weatherproof manual call point.	no	\$41.30	SZ673
530	Weatherproof manual break glass call point complete with gasket (IP65).	no	\$160.70	SZ674
531	Ionisation smoke detector complete with LED and mounting base.	no	\$80.80	SZ675
532	Optical smoke detector complete with LED and mounting base.	no	\$84.10	SZ676
533	Fixed temperature cum Rate of Rise (ROR) heat detector (Type A) complete with LED and mounting base.	no	\$56.20	SZ677
534	Fixed temperature heat detector (Type B) complete with LED and mounting base.	no	\$55.90	SZ678
535	Fixed temperature heat detector (Type D) complete with LED and mounting base.	no	\$61.20	SZ679
536	Fixed temperature bi-metallic heat detector (Type B or Grade 2) complete with LED .	no	\$54.60	Z0245
537	Fixed temperature bi-metallic heat detector (Type D) complete with LED.	no	\$58.90	Z0246
538	Alarm bell.	no	\$49.60	SZ680
539	Alarm bell complete with integral strobe light.	no	\$109.40	SZ681
540	Weatherproof base box for alarm bell.	no	\$50.30	SZ682
541	Weatherproof strobe light 24V dc (IP65).	no	\$83.50	SZ683
Home Fire Alarm Device (HFAD) with integrated built-in batteries including testing and commissioning (Rate inclusive of the provision of a 10-year warranty):				
542	HFAD Model Ei Electronics Ei650	no	\$87.30	Z3340
543	HFAD Model FireAngel ST622	no	\$56.80	Z3339
544	HFAD Model Honeywell XS100	no	\$104.50	Z3006

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S/N	DESCRIPTION	UNIT	RATE(\$)	CODE
<u>K TELEVISION SYSTEM</u>				
<u>Broadband</u>				
545	Bridger Amplifier (cable TV distribution amplifier).	no.	\$2,563.50	
546	Trunk Amplifier (cable TV distribution amplifier).	no.	\$2,899.30	
<u>Accessories (for Bridger/Trunk amplifier)</u>				
547	Cable Attenuator - SPB-X (<i>where X denotes 0 to 20</i>).	no.	\$30.20	
548	Cable Equaliser.	no.	\$64.90	
549	Cable Simulator.	no.	\$65.20	
550	Plug-in Directional Coupler.	no.	\$56.40	
551	Plug-in Splitter.	no.	\$56.40	
<u>Coaxial Cable</u>				
552	Coaxial Cable (<i>for RG-6 type</i>).	m	\$1.40	
553	Coaxial Cable (<i>for 'solid' type</i>).	m	\$6.10	
554	Coaxial Cable (<i>for underground type</i>).	m	\$7.20	
<u>S Connector</u>				
555	Connector ('F' Male) (<i>for RG-6 type</i>).	no.	\$2.70	
556	Connector ('F' Male) (<i>for '412' type</i>).	no.	\$16.50	
557	Connector ('F' Male) (<i>for '540' type</i>).	no.	\$17.50	
558	Connector (pin) (<i>for '412' type</i>).	no.	\$21.10	
559	Connector (pin) (<i>for '540' type</i>).	no.	\$14.60	
560	Connector (splice) (<i>for '540' type</i>).	no.	\$23.90	
561	Connector (terminator) (<i>for RG-6 type</i>).	no.	\$2.30	
562	Connector (terminator) (<i>for unused port of OUTDOOR tap, etc.</i>).	no.	\$15.70	
<u>20A Isolator</u>				
563	Key Switch type.	no.	\$57.70	

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S/N	DESCRIPTION	UNIT	RATE(\$)	CODE
<u>K TELEVISION SYSTEM (CONT'D)</u>				
<u>Power Supply</u>				
564	Power Supply (2A) (for cable TV).	no.	\$625.10	
565	Power Supply (3A) (for cable TV).	no.	\$625.10	
566	Power Supply (4A) (for cable TV).	no.	\$625.10	
567	Power Supply (6A) (for cable TV).	no.	\$625.10	
568	Power Supply (9A) (for cable TV).	no.	\$807.90	
569	Power Supply (15A) (for cable TV).	no.	\$960.30	
<u>Splitter</u>				
570	Splitter (2-way) (indoor).	no.	\$6.30	
571	Splitter (3-way) (indoor).	no.	\$8.10	
572	Splitter (4-way) (indoor).	no.	\$9.30	
573	Splitter (2-way) (outdoor).	no.	\$50.60	
574	Splitter (3-way) (outdoor).	no.	\$55.30	
<u>Subscriber Outlet - Isolator</u>				
575	Outlet (Isolator type).	no.	\$20.30	
576	Outlet (box base, 1 ½ gang type).	no.	\$2.70	
577	Outlet (box base, 2 gang type).	no.	\$2.70	
578	Outlet (TV/FM front plate, 1 ½ gang type 2).	no.	\$22.70	
579	Outlet (TV/FM front plate, 2 gang type).	no.	\$30.80	

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S/N	DESCRIPTION	UNIT	RATE(\$)	CODE
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K TELEVISION SYSTEM (CONT'D)

Tee Unit

580	Tee unit (2-way) (<i>outdoor</i>).	no.	\$47.30
581	Tee unit (4-way) (<i>outdoor</i>).	no.	\$57.50
582	Tee unit (8-way) (<i>outdoor</i>).	no.	\$95.30
583	Tee unit (Directional Coupler).	no.	\$48.90
584	Tee unit (Power Inserter).	no.	\$52.60

Metal Conduits - BS4568 including painting and others associated with the work

585	20 mm diameter.	m	\$9.50
586	25 mm diameter.	m	\$11.00

PVC Conduits - HEAVY GAUGE including painting and others associated with the work

587	20 mm diameter.	m	\$4.00
588	25 mm diameter.	m	\$5.20
589	50 mm diameter.	m	\$10.30
590	110 mm diameter.	m	\$33.80

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S/N	DESCRIPTION	UNIT	RATE(\$)	CODE
<u>K TELEVISION SYSTEM (CONT'D)</u>				
<u>Miscellaneous Items</u>				
591	Metal Tap-Off box (Heavy duty type) - (200(L) x 200(B) x 600(H)) mm approx., with lock & concrete mix base (400(L) x 400(B) x 300(H)) mm approx.	no.	\$163.20	
592	Metallic tee/splitter box (200(L) x 180(B) x 350(H)) mm approx.	no.	\$97.70	
593	Metallic tee/splitter box (200(L) x 180(B) x 300(H)) mm approx.	no.	\$91.00	
594	Metallic tee/splitter box (180(L) x 120(B) x 300(H)) mm approx.	no.	\$84.40	
595	Amplifier bracket complete powder coating (for Cable TV distribution amplifier).	no.	\$67.60	
596	PVC trunking inclusive of PVC saddles & 'Hilti' nails or equivalent (20 x 40) mm approx.	m	\$8.10	
597	PVC trunking inclusive of PVC saddles & 'Hilti' nails or equivalent (50 x 50) mm approx.	m	\$11.00	
598	PVC trunking inclusive of PVC saddles & 'Hilti' nails or equivalent (100 x 50) mm approx.	m	\$16.60	