

<b>RODNEY DISTRICT COUNCIL</b> <b>OREWA CBD CATCHMENT MANAGEMENT PLAN</b> <b>STORMWATER FLOODING MITIGATION MEASURES</b> <b>COST ESTIMATE SUMMARY FOR ALL OPTIONS</b>		
Item	Description	Amount (\$)
OPTION 1	New diversion pipe picking up worst locations in CBD in Tamariki Avenue, Hibiscus Coast Highway to new beach outlet at Riverside Road	\$2,130,000
OPTION 2	New diversion pipe picking up worst locations in CBD in Moenui Avenue, Tamariki Avenue, Moana Avenue, Florence Avenue to existing beach outlet at Marine View	\$1,745,000
OPTION 3	Storage basins/channels in Victor Eaves Reserve	\$348,000
OPTION 4	New diversion pipe picking up worst locations in CBD in Tamariki Avenue, Hibiscus Coast Highway to new pump station (Q=1.8m <sup>3</sup> /s) at Riverside Road, pumping main in Riverside Road to new outlet on Doment Creek	\$3,657,000
OPTION 5	New diversion pipe picking up worst locations in CBD in Tamariki Avenue, Hibiscus Coast Highway, Riverside Road to new outlet on Doment Creek	\$3,052,000
OPTION 6	New concrete channel in Doment Creek from Florence Avenue to Dan Tori Place and from Doment Crescent to Riverside Road	\$2,144,000
OPTION 7	Combination of Options 3, 5 and 6	\$5,544,000
OPTION 8	Combination of Options 2 and 6	\$3,889,000
OPTION 9	Combination of Options 2 and 6 with pipe link cutoff between CBD to Doment Creek	\$3,889,000
OPTION 10	New pipe in Doment Creek from Florence Avenue to Dan Tori Place and new vegetated channel in Doment Creek from Doment Crescent to Riverside Road	\$813,000
OPTION 11	As Option 10 with tidal gate on Doment Creek at Riverside Road	\$946,000
OPTION 12	New diversion pipe picking up worst locations in CBD in Tamariki Avenue, Hibiscus Coast Highway to new beach outlet at Tamariki Avenue	Deleted, replaced by Option 14
OPTION 13	New diversion pipe picking up worst locations in CBD in Tamariki Avenue, Hibiscus Coast Highway to existing beach outlet at Moana Reserve	\$1,361,000
OPTION 14	New diversion pipe picking up worst locations in CBD in Tamariki Avenue, Moenui Avenue to new beach outlet at Moenui Reserve	\$1,514,000
OPTION 15	New diversion pipe picking up worst locations in CBD in Moenui Avenue, Tamariki Avenue, Moana Avenue to new sea outfall at Moana Reserve	\$5,358,000
OPTION 16	New diversion pipe in Florence Avenue to Doment Creek pipeline	\$351,000
OPTION 17	New diversion pipe in Florence Avenue, Lillian place to Doment Creek channel	\$941,000
OPTION 18	New diversion pipe in Tamariki Avenue, Moenui Avenue to connection in Riverside Road	\$474,000
OPTION 19	New diversion pipe in Tamariki Avenue, Moenui Avenue, Riverside Road to new outlet on Doment Creek	\$1,451,000
OPTION 20	New diversion pipe in Moana Avenue to existing beach outlet at Moana Reserve	\$169,000
OPTION 21	New pipe upgrade in Alice Avenue, Hibiscus Coast Highway to existing beach outlet at Remembrance Reserve	\$462,000
OPTION 22	New pressurised pipe servicing future multi-storey development in Florence Avenue, Tamariki Avenue, Moenui Avenue, Centreway Road and Riverside Road to new outlet on Doment Creek Channel	\$3,407,000
OPTION 23	Managed Infrastructure Upgrades (Various Locations)	Not Costed
OPTION 24	New diversion pipe in Moana Avenue to new beach outlet at Moana Reserve	\$711,000
OPTION 25	New pipe upgrade in Elizabeth Street, Hibiscus Coast Highway to existing beach outlet at Noel Avenue	Not Costed

**RODNEY DISTRICT COUNCIL**  
**OREWA CBD CATCHMENT MANAGEMENT PLAN**  
**STORMWATER FLOODING MITIGATION MEASURES**  
**OPTION 1 – NEW DIVERSION PIPE PICKING UP WORST LOCATIONS IN CBD IN TAMARIKI**  
**AVENUE, HIBISCUS COAST HIGHWAY TO NEW BEACH OUTLET AT RIVERSIDE ROAD**  
**COST ESTIMATE**

Item	Description	Unit	Quantity	Rate (\$)	Amount (\$)
<b>1</b>	<b>Preliminary and General</b>				
1.1	Establishment.	lump sum	1		\$25,000.00
1.2	Insurances.	lump sum	1		\$20,000.00
1.3	Temporary Traffic Management (Incl Plan).	lump sum	1		\$54,000.00
1.4	Health and Safety (Incl Plan).	lump sum	1		\$8,000.00
1.5	Quality Assurance and Testing (Incl Plan).	lump sum	1		\$11,000.00
1.6	Network Utility Services (Liaison and location) .	lump sum	1		\$15,000.00
1.7	As Built.	lump sum	1		\$12,000.00
<b>Item 1 Total</b>					<b>\$145,000.00</b>
<b>2</b>	<b>Earthworks</b>				
	Clearing				
2.1	Remove all miscellaneous vegetation, superficial obstructions and rubbish.	lump sum	1		\$6,000.00
2.2	Dismantle and remove existing fences, signs and street furniture and store for reuse.	lump sum	1		\$6,000.00
2.3	Undercut to waste where soft (Provisional)	m3	120	\$30.00	\$3,600.00
2.4	Supply and place hard fill (Provisional).	m3	120	\$80.00	\$9,600.00
2.5	Sediment control.	lump sum	1		\$9,000.00
<b>Item 2 Total</b>					<b>\$34,200.00</b>
<b>3</b>	<b>Drainage Pipelines</b>				
	Provide new gravity pipeline from existing reticulation located in Tamariki Avenue through Hibiscus Coast Highway to new beach outlet.				
	Supply, excavate, bed, lay, joint, test, backfill and reinstate reinforced concrete (Class X) drainage pipe in road/footpath/reserve.				
3.1	Single 900mm Nom Dia RCRRJ pipe in 1.5 – 3.0m depth.	m	155	\$660.00	\$102,300.00
3.2	Single 1050mm Nom Dia RCRRJ pipe in 1.5 – 3.0m depth.	m	68	\$860.00	\$58,480.00
3.3	Twin 1050mm Nom Dia RCRRJ pipe in 1.5 – 3.0m depth.	m	377	\$1,548.00	\$583,596.00
3.4	Supply and install 2550mm Nom Dia RC manholes in 1.5 – 3.0m depth.	no.	4	\$17,800.00	\$71,200.00
3.5	Construct 3.5m x 3.5m concrete cast-insitu manhole chamber in 1.5 – 3.0m depth.	no.	7	\$30,000.00	\$210,000.00
3.6	Construct outlet structure on beach	no.	1	\$10,000.00	\$10,000.00
3.7	Supply and install cesspits (675 x 450mm).	no.	6	\$1,500.00	\$9,000.00
3.8	Connect service (house) connections to new pipe.	no.	20	\$300.00	\$6,000.00
3.9	Connect existing pipes to new manholes.	no.	20	\$500.00	\$10,000.00
3.10	Trench excavation dewatering by pumping (Allow 100% of total pipeline length).	m	600	\$100.00	\$60,000.00
3.11	Trench excavation shoring up to 3.0m depth (Allow 100% of total pipeline length).	m2	1200	\$100.00	\$120,000.00
<b>Item 3 Total</b>					<b>\$1,240,576.00</b>
<b>4</b>	<b>Miscellaneous</b>				
4.1	Reinstatement of tar seal roadway (hotmix).	m2	1260	\$120.00	\$151,200.00
4.2	Reinstatement of concrete footpaths and driveways.	m2	240	\$100.00	\$24,000.00
4.3	Reinstatement of fence lines.	lump sum			\$3,000.00
4.4	Reinstatement of gardens.	lump sum			\$10,000.00
4.5	Topsoil, grass and fertiliser.	m2	200	\$10.00	\$2,000.00
<b>Item 4 Total</b>					<b>\$190,200.00</b>
<b>5</b>	<b>Design and Construction</b>				
5.1	Engineering Design and Construction Supervision.	lump sum	15%		\$241,496.40
<b>6</b>	<b>Contingency</b>				
6.1	Contingency.	lump sum	15%		\$277,720.86
<b>Option Total</b>					<b>\$2,129,193.26</b>

Notes:-

1. Estimate accuracy = +/- 20%.

**RODNEY DISTRICT COUNCIL**  
**OREWA CBD CATCHMENT MANAGEMENT PLAN**  
**STORMWATER FLOODING MITIGATION MEASURES**  
**OPTION 2 – NEW DIVERSION PIPE PICKING UP WORST LOCATIONS IN CBD**  
**IN MOENUI AVENUE, TAMARIKI AVENUE, MOANA AVENUE, FLORENCE AVENUE**  
**TO EXISTING BEACH OUTLET AT MARINE VIEW**  
**COST ESTIMATE**

Item	Description	Unit	Quantity	Rate (\$)	Amount (\$)
<b>1</b>	<b>Preliminary and General</b>				
1.1	Establishment.	lump sum	1		\$30,000.00
1.2	Insurances.	lump sum	1		\$20,000.00
1.3	Temporary Traffic Management (Incl Plan).	lump sum	1		\$54,000.00
1.4	Health and Safety (Incl Plan).	lump sum	1		\$10,000.00
1.5	Quality Assurance and Testing (Incl Plan).	lump sum	1		\$14,000.00
1.6	Network Utility Services (Liaison and location) .	lump sum	1		\$10,000.00
1.7	As Built.	lump sum	1		\$12,000.00
<b>Item 1 Total</b>					<b>\$150,000.00</b>
<b>2</b>	<b>Earthworks</b>				
	Clearing				
2.1	Remove all miscellaneous vegetation, superficial obstructions and rubbish.	lump sum	1		\$8,000.00
2.2	Dismantle and remove existing fences, signs and street furniture and store for reuse.	lump sum	1		\$8,000.00
2.3	Undercut to waste where soft (Provisional)	m3	109	\$30.00	\$3,276.00
2.4	Supply and place hard fill (Provisional).	m3	109	\$80.00	\$8,736.00
2.5	Sediment control.	lump sum	1		\$12,000.00
<b>Item 2 Total</b>					<b>\$40,012.00</b>
<b>3</b>	<b>Drainage Pipelines</b>				
	Provide new gravity pipeline from existing reticulation located in Moenui Avenue, Tamariki Avenue, Moana Avenue through Florence Avenue to existing beach outlet.				
	Supply, excavate, bed, lay, joint, test, backfill and reinstate reinforced concrete (Class X) drainage pipe in road/footpath/reserve.				
3.1	Single 900mm Nom Dia RCRRJ pipe in 1.5 – 3.0m depth.	m	66	\$660.00	\$43,560.00
3.2	Twin 900mm Nom Dia RCRRJ pipe in 1.5 – 3.0m depth.	m	240	\$1,188.00	\$285,120.00
3.3	Single 1050mm Nom Dia RCRRJ pipe in 1.5 – 3.0m depth.	m	183	\$860.00	\$157,380.00
3.4	Single 1500mm Nom Dia RCRRJ pipe in 1.5 – 3.0m depth.	m	57	\$1,210.00	\$68,970.00
3.5	Supply and install 2550mm Nom Dia RC manholes in 1.5 – 3.0m depth.	no.	4	\$17,800.00	\$71,200.00
3.6	Construct 3.5m x 3.5m concrete cast-insitu manhole chamber in 1.5 – 3.0m depth.	no.	5	\$30,000.00	\$150,000.00
3.7	Construct outlet structure on beach	no.	1	\$10,000.00	\$10,000.00
3.8	Supply and install cesspits (675 x 450mm).	no.	6	\$1,500.00	\$9,000.00
3.9	Connect service (house) connections to new pipe.	no.	20	\$300.00	\$6,000.00
3.10	Connect existing pipes to new manholes.	no.	24	\$500.00	\$12,000.00
3.11	Trench excavation dewatering by pumping (Allow 100% of total pipeline length).	m	546	\$100.00	\$54,600.00
3.12	Trench excavation shoring up to 3.0m depth (Allow 100% of total pipeline length).	m2	1092	\$100.00	\$109,200.00
<b>Item 3 Total</b>					<b>\$977,030.00</b>

<b>4</b>	<b>Miscellaneous</b>				
4.1	Reinstatement of tar seal roadway (hotmix).	m2	955.5	\$120.00	\$114,660.00
4.2	Reinstatement of concrete footpaths and driveways.	m2	218.4	\$100.00	\$21,840.00
4.3	Reinstatement of fence lines.	lump sum			\$3,000.00
4.4	Reinstatement of gardens.	lump sum			\$10,000.00
4.5	Topsoil, grass and fertiliser.	m2	240	\$10.00	\$2,400.00
<b>Item 4 Total</b>					<b>\$151,900.00</b>
<b>5</b>	<b>Design and Construction</b>				
5.1	Engineering Design and Construction Supervision.	lump sum	15%		\$197,841.30
<b>6</b>	<b>Contingency</b>				
6.1	Contingency.	lump sum	15%		\$227,517.50
<b>Option Total</b>					<b>\$1,744,300.80</b>

Notes:-

1. Estimate accuracy = +/- 20%.

**RODNEY DISTRICT COUNCIL**  
**OREWA CBD CATCHMENT MANAGEMENT PLAN**  
**STORMWATER IMPROVEMENT OPTIONS**  
**OPTION 3 – STORAGE BASINS/CHANNELS IN VICTOR EAVES RESERVE**  
**COST ESTIMATE**

Item	Description	Unit	Quantity	Rate (\$)	Amount (\$)
<b>1</b>	<b>Preliminary and General</b>				
1.1	Establishment.	lump sum	1		\$8,000.00
1.2	Insurances.	lump sum	1		\$5,000.00
1.3	Temporary Traffic Management (Incl Plan).	lump sum	1		\$5,000.00
1.4	Health and Safety (Incl Plan).	lump sum	1		\$3,000.00
1.5	Quality Assurance and Testing (Incl Plan).	lump sum	1		\$5,000.00
1.6	Network Utility Services (Liaison and location) .	lump sum	1		\$2,000.00
1.7	As Builts.	lump sum	1		\$3,000.00
<b>Item 1 Total</b>					<b>\$31,000.00</b>
<b>2</b>	<b>Earthworks</b>				
	Clearing				
2.1	Remove all miscellaneous vegetation, superficial obstructions and rubbish.	lump sum	1		\$3,000.00
2.2	Dismantle and remove existing fences, signs and street furniture and store for reuse.	lump sum	1		\$2,000.00
2.3	Sediment control.	lump sum	1		\$6,000.00
<b>Item 2 Total</b>					<b>\$11,000.00</b>
<b>3</b>	<b>East/West Channel</b>				
	Expand existing channel and construct storage basin on existing east/west channel within Victor Eaves Reserve adjacent to 93 to 105 Florence Avenue.				
	Excavate basin to measure 30.0m wide x 160.0m long x 1.0m deep.				
3.1	Strip topsoil (150mm thick) to temporary stockpile.	m2	4800	\$5.00	\$24,000.00
3.2	Bulk excavation of material to form basin.	m3	4800	\$15.00	\$72,000.00
	Excavate channel to measure 3.0m wide x 160.0m long x 0.5m deep.				
3.3	Bulk excavation of material from existing channel.	m3	200	\$15.00	\$3,000.00
3.4	Removal of surplus material from site.	m3	5000	\$15.00	\$75,000.00
3.5	Construct reinforced concrete (35 MPa strength) weir wall at downstream end of basin. Incl supply, placing, forming and finishing. 5.0m long x 200mm wide x 1.0m high.	lump sum	1		\$5,000.00
3.6	Replace topsoil (150mm thick), preparation and hydro mulch grass seeding.	m2	4800	\$10.00	\$48,000.00
<b>Item 3 Total</b>					<b>\$203,000.00</b>
<b>4</b>	<b>North/South Channel</b>				
	Expand existing north/south channel through centre of Victor Eaves Reserve.				
	Excavate channel to measure 2.0m wide x 250.0m long x 0.5m deep.				
4.1	Strip topsoil (150mm thick) to temporary stockpile.	m2	500	\$7.00	\$3,500.00
4.2	Bulk excavation of material from existing channel.	m3	200	\$15.00	\$3,000.00
4.3	Removal of surplus material from site.	m3	200	\$15.00	\$3,000.00
4.4	Construct reinforced concrete (35 MPa strength) weir wall at downstream end of basin. Incl supply, placing, forming and finishing. 2.0m long x 200mm wide x 0.5m high.	lump sum	1		\$3,000.00
4.5	Replace topsoil (150mm thick), preparation and hydro mulch grass seeding.	m2	500	\$10.00	\$5,000.00
<b>Item 4 Total</b>					<b>\$17,500.00</b>
<b>5</b>	<b>Design and Construction</b>				
5.1	Engineering Design and Construction Supervision.	lump sum	15%		\$39,375.00
<b>6</b>	<b>Contingency</b>				
6.1	Contingency.	lump sum	15%		\$45,281.25
<b>Section Total</b>					<b>\$347,156.25</b>

Notes:--

1. Estimate accuracy = +/- 20%.

**RODNEY DISTRICT COUNCIL**  
**OREWA CBD CATCHMENT MANAGEMENT PLAN**  
**STORMWATER FLOODING MITIGATION MEASURES**  
**OPTION 4 – NEW DIVERSION PIPE PICKING UP WORST LOCATIONS IN CBD**  
**IN TAMARIKI AVENUE, HIBISCUS COAST HIGHWAY TO PUMP STATION (Q=1.8m<sup>3</sup>/s) AT**  
**RIVERSIDE ROAD, PUMPING MAIN IN RIVERSIDE ROAD TO NEW OUTLET ON DOMENT CREEK**  
**COST ESTIMATE**

Item	Description	Unit	Quantity	Rate (\$)	Amount (\$)
<b>1</b>	<b>Preliminary and General</b>				
1.1	Establishment.	lump sum	1		\$35,000.00
1.2	Insurances.	lump sum	1		\$40,000.00
1.3	Temporary Traffic Management (Incl Plan).	lump sum	1		\$80,000.00
1.4	Health and Safety (Incl Plan).	lump sum	1		\$12,000.00
1.5	Quality Assurance and Testing (Incl Plan).	lump sum	1		\$17,000.00
1.6	Network Utility Services (Liaison and location) .	lump sum	1		\$12,500.00
1.7	As Builts.	lump sum	1		\$21,000.00
<b>Item 1 Total</b>					<b>\$217,500.00</b>
<b>2</b>	<b>Earthworks</b>				
	Clearing				
2.1	Remove all miscellaneous vegetation, superficial obstructions and rubbish.	lump sum	1		\$10,000.00
2.2	Dismantle and remove existing fences, signs and street furniture and store for reuse.	lump sum	1		\$10,000.00
2.3	Undercut to waste where soft (Provisional)	m3	109	\$30.00	\$3,270.00
2.4	Supply and place hard fill (Provisional).	m3	109	\$80.00	\$8,720.00
2.5	Sediment control.	lump sum	1		\$15,000.00
<b>Item 2 Total</b>					<b>\$46,990.00</b>
<b>3</b>	<b>Drainage Pipelines</b>				
	Provide new gravity pipeline from existing reticulation located in Tamariki Avenue through Hibiscus Coast Highway to New Pumping station in Riverside Road/beach reserve.				
	Supply, excavate, bed, lay, joint, test, backfill and reinstate reinforced concrete (Class X) drainage pipe in road/footpath/reserve.				
3.1	Single 900mm Nom Dia RCRRJ pipe in 1.5 – 3.0m depth (Connections to existing reticulation manholes).	m	155	\$660.00	\$102,300.00
3.2	Twin 1050mm Nom Dia RCRRJ pipe in 1.5 – 3.0m depth.	m	170	\$1,548.00	\$263,160.00
3.3	Single 1200mm Nom Dia RCRRJ pipe in 1.5 – 3.0m depth.	m	220	\$960.00	\$211,200.00
3.4	Supply and install 2550mm Nom Dia RC manholes in 1.5 – 3.0m depth.	no.	8	\$17,800.00	\$142,400.00
3.5	Supply and install 3.5m x 3.5m concrete cast-insitu manhole chamber in 1.5 – 3.0m depth.	no.	5	\$30,000.00	\$150,000.00
3.6	Supply and install cesspits (675 x 450mm).	no.	8	\$1,500.00	\$12,000.00
3.7	Connect service (house) connections to new pipe.	no.	20	\$300.00	\$6,000.00
3.8	Connect existing pipes to new manholes.	no.	24	\$500.00	\$12,000.00
3.9	Trench excavation dewatering by pumping (Allow 100% of total pipeline length).	m	545	\$100.00	\$54,500.00
3.10	Trench excavation shoring up to 3.0m depth (Allow 50% of total pipeline length).	m2	1090	\$100.00	\$109,000.00
<b>Item 3 Total</b>					<b>\$1,062,560.00</b>
<b>4</b>	<b>Pumping Station</b>				

	Provide pumping station at Riverside Road/Hibiscus Coast Highway in beach reserve.				
	Peak flow Q=1.8m <sup>3</sup> /s (modelled) Pumping head=5m (calculated)				
	Provide and install:-				
4.1	Pump chamber wet well.	lump sum	1		\$130,000.00
4.2	Valve/pigging chamber.	lump sum	1		\$25,000.00
4.3	Submersible pumps – 2 duty, 1 standby. Incl cables, guiderails, discharge bends and chains.	no.	3	\$65,000.00	\$195,000.00
4.4	Valving and manifold pipework.	lump sum	1		\$70,000.00
4.5	Motor control centre and switchboard.	lump sum	1		\$90,000.00
4.6	Power supply.	lump sum	1		\$25,000.00
4.7	Water supply.	lump sum	1		\$5,000.00
4.8	Telemetry.	lump sum	1		\$30,000.00
4.9	Control centre building. (20m <sup>2</sup> floor area).	lump sum	1		\$50,000.00
4.10	Compound with turning area and security fence.	lump sum	1		\$25,000.00
4.11	Testing and commissioning.	lump sum	1		\$35,000.00
<b>Item 4 Total</b>					<b>\$680,000.00</b>
<b>5</b>	<b>Rising Main</b>				
	Provide rising main in Riverside Road from pumping station to outlet on Doment Creek.				
	Supply, excavate, bed, lay, joint, test, backfill and reinstate rising main pipe in road/reserve.				
5.1	1050 Nom Dia RCRRJ pipe in 1.5 – 3.0m depth.	m	460	\$860.00	\$395,600.00
5.2	Supply and install Air valves/drain valves.	lump sum	1		\$30,000.00
5.3	Supply and install outlet structure.	no.	1	\$10,000.00	\$10,000.00
5.4	Trench excavation dewatering by pumping (Allow 100% of total pipeline length).	m	460	\$50.00	\$23,000.00
5.5	Trench excavation shoring up to 3.0m depth (Allow 50% of total pipeline length).	m <sup>2</sup>	920	\$50.00	\$46,000.00
<b>Item 5 Total</b>					<b>\$504,600.00</b>
<b>6</b>	<b>Miscellaneous</b>				
6.1	Reinstatement of tar seal roadway (hotmix).	m <sup>2</sup>	1829.1	\$120.00	\$219,492.00
6.2	Reinstatement of concrete footpaths and driveways.	m <sup>2</sup>	159.6	\$100.00	\$15,960.00
6.3	Reinstatement of fence lines.	lump sum			\$5,000.00
6.4	Reinstatement of gardens.	lump sum			\$10,000.00
6.5	Topsoil, grass and fertiliser.	m <sup>2</sup>	300	\$10.00	\$3,000.00
<b>Item 6 Total</b>					<b>\$253,452.00</b>
<b>7</b>	<b>Design and Construction</b>				
7.1	Engineering Design and Construction Supervision.	lump sum	15%		\$414,765.30
<b>8</b>	<b>Contingency</b>				
8.1	Contingency.	lump sum	15%		\$476,980.10
<b>Option Total</b>					<b>\$3,656,847.40</b>

Notes:-

1. Estimate accuracy = +/- 20%.

**RODNEY DISTRICT COUNCIL**  
**OREWA CBD CATCHMENT MANAGEMENT PLAN**  
**STORMWATER FLOODING MITIGATION MEASURES**  
**OPTION 5 – NEW DIVERSION PIPE PICKING UP WORST LOCATIONS IN CBD**  
**IN TAMARIKI AVENUE, HIBISCUS COAST HIGHWAY, RIVERSIDE ROAD**  
**TO NEW OUTLET ON DOMENT CREEK**  
**COST ESTIMATE**

Item	Description	Unit	Quantity	Rate (\$)	Amount (\$)
<b>1</b>	<b>Preliminary and General</b>				
1.1	Establishment.	lump sum	1		\$35,000.00
1.2	Insurances.	lump sum	1		\$30,000.00
1.3	Temporary Traffic Management (Incl Plan).	lump sum	1		\$80,000.00
1.4	Health and Safety (Incl Plan).	lump sum	1		\$12,000.00
1.5	Quality Assurance and Testing (Incl Plan).	lump sum	1		\$17,000.00
1.6	Network Utility Services (Liaison and location) .	lump sum	1		\$12,500.00
1.7	As Built.	lump sum	1		\$16,000.00
<b>Item 1 Total</b>					<b>\$202,500.00</b>
<b>2</b>	<b>Earthworks</b>				
	Clearing				
2.1	Remove all miscellaneous vegetation, superficial obstructions and rubbish.	lump sum	1		\$10,000.00
2.2	Dismantle and remove existing fences, signs and street furniture and store for reuse.	lump sum	1		\$10,000.00
2.3	Undercut to waste where soft (Provisional).	m3	204	\$30.00	\$6,120.00
2.4	Supply and place hard fill (Provisional).	m3	204	\$80.00	\$16,320.00
2.5	Sediment control.	lump sum	1		\$15,000.00
<b>Item 2 Total</b>					<b>\$57,440.00</b>
<b>3</b>	<b>Drainage Pipelines</b>				
	Provide new gravity pipeline from existing reticulation located in Tamariki Avenue through Hibiscus Coast Highway to New Pumping station in Riverside Road/beach reserve.				
	Supply, excavate, bed, lay, joint, test, backfill and reinstate reinforced concrete (Class X) drainage pipe in road/footpath/reserve.				
3.1	Single 900mm Nom Dia RCRRJ pipe in 1.5 – 3.0m depth (Connections to existing reticulation manholes).	m	155	\$660.00	\$102,300.00
3.2	Twin 1050mm Nom Dia RCRRJ pipe in 1.5 – 3.0m depth.	m	170	\$1,548.00	\$263,160.00
3.3	Single 1200mm Nom Dia RCRRJ pipe in 3.0 – 4.5m depth.	m	695	\$960.00	\$667,200.00
3.4	Supply and install 2550mm Nom Dia RC manholes in 1.5 – 3.0m depth.	no.	8	\$17,800.00	\$142,400.00
3.5	Supply and install 3.5m x 3.5m concrete cast-insitu manhole chamber in 1.5 – 3.0m depth.	no.	8	\$30,000.00	\$240,000.00
3.6	Supply and install cesspits (675 x 450mm).	no.	16	\$1,500.00	\$24,000.00
3.7	Connect service (house) connections to new pipe.	no.	30	\$300.00	\$9,000.00
3.8	Connect existing pipes to new manholes.	no.	30	\$500.00	\$15,000.00
3.9	Supply and install outlet structure.	no.	1	\$5,000.00	\$5,000.00
3.10	Trench excavation dewatering by pumping (Allow 100% of total pipeline length).	m	1020	\$100.00	\$102,000.00
3.11	Trench excavation shoring up to 3.0m depth (Allow 50% of total pipeline length).	m2	2040	\$100.00	\$204,000.00
<b>Item 3 Total</b>					<b>\$1,774,060.00</b>
<b>4</b>	<b>Miscellaneous</b>				

4.1	Reinstatement of tar seal roadway (hotmix).	m2	1785	\$120.00	\$214,200.00
4.2	Reinstatement of concrete footpaths and driveways.	m2	408	\$100.00	\$40,800.00
4.3	Reinstatement of fence lines.	lump sum			\$5,000.00
4.4	Reinstatement of gardens.	lump sum			\$10,000.00
4.5	Topsoil, grass and fertiliser.	m2	300	\$10.00	\$3,000.00
<b>Item 4 Total</b>					<b>\$273,000.00</b>
<b>5</b>	<b>Design and Construction</b>				
5.1	Engineering Design and Construction Supervision.	lump sum	15%		\$346,050.00
<b>6</b>	<b>Contingency</b>				
6.1	Contingency.	lump sum	15%		\$397,957.50
<b>Option Total</b>					<b>\$3,051,007.50</b>

Notes:-

1. Estimate accuracy = +/- 20%.

**RODNEY DISTRICT COUNCIL**  
**OREWA CBD CATCHMENT MANAGEMENT PLAN**  
**STORMWATER FLOODING MITIGATION MEASURES**  
**OPTION 6 – NEW CONCRETE CHANNEL IN DOMENT CREEK FROM FLORENCE AVENUE**  
**TO DAN TORI PLACE AND FROM DOMENT CRESCENT TO RIVERSIDE ROAD**  
**COST ESTIMATE**

Item	Description	Unit	Quantity	Rate (\$)	Amount (\$)
<b>1</b>	<b>Preliminary and General</b>				
1.1	Establishment.	lump sum	1		\$35,000.00
1.2	Insurances.	lump sum	1		\$20,000.00
1.3	Temporary Traffic Management (Incl Plan).	lump sum	1		\$30,000.00
1.4	Health and Safety (Incl Plan).	lump sum	1		\$7,000.00
1.5	Quality Assurance and Testing (Incl Plan).	lump sum	1		\$11,000.00
1.6	Network Utility Services (Liaison and location).	lump sum	1		\$3,000.00
1.7	As Built.	lump sum	1		\$6,000.00
				<b>Item 1 Total</b>	<b>\$112,000.00</b>
<b>2</b>	<b>Channel No.1 Construction</b>				
	Provide concrete lining upgrade to existing Doment Creek channel from Riverside Road to Doment Crescent. U shaped channel section 4.0m wide x 1.7m deep, length = 150m.				
	Earthworks.				
2.1	Clear and remove all miscellaneous vegetation, superficial obstructions and rubbish.	lump sum	1		\$5,000.00
	Excavate material from existing channel (Incl disposal).				
2.2	Excavate to spoil.	m3	900	\$30.00	\$27,000.00
2.3	Excavate to Redvale Landfill.	m3	130	\$40.00	\$5,200.00
2.4	Excavate to fill.	m3	10	\$20.00	\$200.00
2.5	Undercut unsuitable material to waste where soft (Provisional).	m3	50	\$20.00	\$1,000.00
2.6	Channel excavation dewatering (By pumping).	lump sum	1		\$3,000.00
2.7	Erosion and sediment control.	lump sum	1		\$6,000.00
2.8	Trench excavation support (Allow up to 1.5m depth).	m2	90	\$50.00	\$4,500.00
2.9	Run of pit hard fill material foundation to channel base, 300mm thick	m3	265	\$100.00	\$26,500.00
2.10	Foundation Sub base GAP85 material, 150mm thick.	m3	135	\$80.00	\$10,800.00
2.11	Scoria material drainage to channel's wall sides 200mm thick.	m3	160	\$70.00	\$11,200.00
2.12	DN 100 PE Perforated Drainage Pipe (with filter cloth).	m	300	\$15.00	\$4,500.00
2.13	DN 100 uPVC Pipe Tee (Drain connection through channel walls).	No	70	\$70.00	\$4,900.00
2.14	Subbase Geotextile layer.	m2	900	\$7.00	\$6,300.00
	Concrete.				
2.15	Site concrete blinding (50mm thick).	m2	900	\$20.00	\$18,000.00
2.16	Precast concrete L shape wall panel 1.7m high x 0.6m wide x 1.55m long (Supply and delivery).	No	194	\$1,500.00	\$291,000.00
2.17	Precast concrete L shape wall panel 1.7m high x 0.6m wide x 1.55m long (Installation incl jointing).	No	194	\$500.00	\$97,000.00
2.18	Cast insitu reinforced concrete base 225mm thick, 40MPa strength (Incl reinforcement)	m3	95	\$400.00	\$38,000.00
				<b>Item 2 Total</b>	<b>\$560,100.00</b>
<b>3</b>	<b>Channel No.2 Construction</b>				
	Provide concrete lining upgrade to existing Doment Creek channel from Doment Crescent to Francis Skinner Place. U shaped channel section 3.0m wide x 2.0m deep, length = 70m.				
	Earthworks.				
3.1	Clear and remove all miscellaneous vegetation, superficial obstructions and rubbish.	lump sum	1		\$3,000.00
	Excavate material from existing channel (Incl disposal).				
3.2	Excavate to spoil.	m3	305	\$30.00	\$9,150.00
3.3	Excavate to Redvale Landfill.	m3	45	\$40.00	\$1,800.00
3.4	Excavate to fill.	m3	10	\$20.00	\$200.00
3.5	Undercut unsuitable material to waste where soft (Provisional).	m3	50	\$20.00	\$1,000.00
3.6	Channel excavation dewatering (By pumping).	lump sum	1		\$3,000.00
3.7	Erosion and sediment control.	lump sum	1		\$4,000.00
3.8	Trench excavation support (Allow up to 1.5m depth).	m2	45	\$50.00	\$2,250.00
3.9	Run of pit hard fill material foundation to channel base, 300mm thick	m3	125	\$100.00	\$12,500.00
3.10	Foundation Sub base GAP85 material, 150mm thick.	m3	55	\$80.00	\$4,400.00
3.11	Scoria material drainage to channel's wall sides 200mm thick.	m3	80	\$70.00	\$5,600.00
3.12	DN 100 PE Perforated Drainage Pipe (with filter cloth).	m	140	\$15.00	\$2,100.00
3.13	DN 100 uPVC Pipe Tee (Drain connection through channel walls).	No	50	\$70.00	\$3,500.00
3.14	Subbase Geotextile layer.	m2	230	\$7.00	\$1,610.00
	Concrete.				
3.15	Site concrete blinding (50mm thick).	m2	230	\$20.00	\$4,600.00

3.16	Precast concrete L shape wall panel 2.0m high x 0.6m wide x 1.55m long (Supply and delivery).	No	90	\$1,800.00	\$162,000.00
3.17	Precast concrete L shape wall panel 2.0m high x 0.6m wide x 1.55m long (Installation incl jointing).	No	90	\$500.00	\$45,000.00
3.18	Cast insitu reinforced concrete base 225mm thick, 40MPa strength (Incl reinforcement)	m3	30	\$400.00	\$12,000.00
<b>Item 3 Total</b>					<b>\$277,710.00</b>
<b>4</b>	<b>Channel No.3 Construction</b>				
	Provide concrete lining upgrade to existing Doment Creek channel from Lillian Place to Florence Avenue. U shaped channel section 2.0m wide x 1.8m deep, length = 127m.				
	Earthworks.				
4.1	Clear and remove all miscellaneous vegetation, superficial obstructions and rubbish.	lump sum	1		\$5,000.00
	Excavate material from existing channel (Incl disposal).				
4.2	Excavate to spoil.	m3	580	\$30.00	\$17,400.00
4.3	Excavate to Redvale Landfill.	m3	55	\$35.00	\$1,925.00
4.4	Excavate to fill.	m3	230	\$20.00	\$4,600.00
4.5	Undercut unsuitable material to waste where soft (Provisional).	m3	50	\$20.00	\$1,000.00
4.6	Channel excavation dewatering (By pumping).	lump sum	1		\$3,000.00
4.7	Erosion and sediment control.	lump sum	1		\$6,000.00
4.8	Trench excavation support (Allow up to 1.5m depth).	m2	75	\$50.00	\$3,750.00
4.9	Run of pit hard fill material foundation to channel base, 300mm thick.	m3	230	\$100.00	\$23,000.00
4.10	Foundation Sub base GAP85 material, 150mm thick.	m3	80	\$80.00	\$6,400.00
4.11	Scoria material drainage to channel's wall sides 200mm thick.	m3	145	\$70.00	\$10,150.00
4.12	DN 100 PE Perforated Drainage Pipe (with filter cloth).	m	260	\$15.00	\$3,900.00
4.13	DN 100 uPVC Pipe Tee (Drain connection through channel walls).	No	90	\$70.00	\$6,300.00
4.14	Subbase Geotextile layer.	m2	515	\$7.00	\$3,605.00
	Concrete.				
4.15	Site concrete blinding (50mm thick).	m2	515	\$20.00	\$10,300.00
4.16	Precast concrete L shape wall panel 1.8m high x 0.6m wide x 1.55m long (Supply and delivery).	No	168	\$1,600.00	\$268,800.00
4.17	Precast concrete L shape wall panel 1.8m high x 0.6m wide x 1.55m long (Installation incl jointing).	No	168	\$500.00	\$84,000.00
4.18	Cast insitu reinforced concrete base 225mm thick, 40MPa strength (Incl reinforcement).	m3	24	\$400.00	\$9,600.00
<b>Item 4 Total</b>					<b>\$468,730.00</b>
<b>5</b>	<b>Miscellaneous</b>				
5.1	Dismantle and remove existing fence lines.	m	350	\$15.00	\$5,250.00
5.2	Construct timber fence lines.	m	700	\$80.00	\$56,000.00
5.3	Sheet Piling.	m2	70	\$300.00	\$21,000.00
5.4	Connections with existing culverts.	m	8	\$1,000.00	\$8,000.00
5.5	Joint clip for precast concrete L shape wall panel.	no.	900	\$50.00	\$45,000.00
5.6	Supply and install 2.0m square manhole in 1.5 – 3.0m depth.	lump sum	1		\$12,000.00
5.7	Supply and install cesspits (450mm square x 900mm deep).	ea	30	\$500.00	\$15,000.00
	Pipelines.				
	Supply, excavate, bed, lay, joint, test, backfill and reinstate reinforced concrete (Class X) drainage pipe.				
5.8	1650mm Nom Dia RCRRJ pipe in 1.5 – 3.0m depth.	m	6	\$1,420.00	\$8,520.00
	Replacement of existing uPVC pipe crossings				
5.9	300mm Nom Dia uPVC pipe, 6.0m long.	ea	1	\$2,000.00	\$2,000.00
5.10	200mm Nom Dia uPVC pipe, 5.0m long.	ea	1	\$1,000.00	\$1,000.00
5.11	200mm Nom Dia uPVC pipe, 6.0m long.	ea	1	\$1,200.00	\$1,200.00
5.12	100mm Nom Dia uPVC pipe, 4.0m long.	ea	1	\$400.00	\$400.00
	Extend existing pipes and cast into channel walls				
5.13	300mm Nom Dia RCRRJ pipe	m	5	\$250.00	\$1,250.00
5.14	200mm Nom Dia uPVC pipe	m	5	\$180.00	\$900.00
5.15	150mm Nom Dia uPVC pipe	m	10	\$100.00	\$1,000.00
5.16	100mm Nom Dia uPVC pipe	m	20	\$60.00	\$1,200.00
5.17	50mm Nom Dia uPVC pipe	m	5	\$30.00	\$150.00
	Reinstatement				
5.18	Topsail, grass and fertiliser.	m2	75	\$15.00	\$1,125.00
5.19	Reinstatement of sealed footpaths and driveways.	m2	90	\$100.00	\$9,000.00
5.20	Reinstatement of road kerb and channel.	m	20	\$100.00	\$2,000.00
5.21	Reinstatement of gardens.	lump sum			\$10,000.00
<b>Item 5 Total</b>					<b>\$201,995.00</b>
<b>6</b>	<b>Design and Construction</b>				
5.1	Engineering Design and Construction Supervision.	lump sum	15%		\$243,080.25
<b>7</b>	<b>Contingency</b>				
6.1	Contingency.	lump sum	15%		\$279,542.29
<b>Option Total</b>					<b>\$2,143,157.54</b>

Notes:-

1. Estimate accuracy = +/- 20%.

**RODNEY DISTRICT COUNCIL**  
**OREWA CBD CATCHMENT MANAGEMENT PLAN**  
**STORMWATER FLOODING MITIGATION MEASURES**  
**OPTION 10 – NEW PIPE IN DOMENT CREEK FROM FLORENCE AVENUE TO DAN TORI PLACE**  
**AND NEW VEGETATED CHANNEL IN DOMENT CREEK FROM DOMENT CRESCENT TO**  
**RIVERSIDE ROAD**  
**COST ESTIMATE**

Item	Description	Unit	Quantity	Rate (\$)	Amount (\$)
<b>1</b>	<b>Preliminary and General</b>				
1.1	Establishment.	lump sum	1		\$16,000.00
1.2	Insurances.	lump sum	1		\$10,000.00
1.3	Temporary Traffic Management (Incl Plan).	lump sum	1		\$21,000.00
1.4	Health and Safety (Incl Plan).	lump sum	1		\$7,000.00
1.5	Quality Assurance and Testing (Incl Plan).	lump sum	1		\$11,000.00
1.6	Network Utility Services (Liaison and location) .	lump sum	1		\$3,000.00
1.7	As Built.	lump sum	1		\$6,000.00
<b>Item 1 Total</b>					<b>\$74,000.00</b>
<b>2</b>	<b>Vegetated Channel No.1 Construction</b>				
	Provide upgrade to existing Doment Creek channel from Riverside Road to Doment Crescent. Vegetated U shaped channel section 4.0m wide base x 1.8m deep, (side slope 1V:3H) length = 125m.				
	Earthworks.				
2.1	Clear and remove all miscellaneous vegetation, superficial obstructions and rubbish.	lump sum	1		\$5,000.00
	Excavate material from existing channel (Incl disposal).				
2.2	Excavate to spoil.	m3	600	\$30.00	\$18,000.00
2.3	Excavate to Redvale Landfill.	m3	200	\$40.00	\$8,000.00
2.4	Excavate to fill.	m3	200	\$20.00	\$4,000.00
2.5	Undercut unsuitable material to waste where soft (Provisional).	m3	55	\$20.00	\$1,100.00
2.6	Channel excavation dewatering (By pumping).	lump sum	1		\$3,000.00
2.7	Erosion and sediment control.	lump sum	1		\$6,000.00
2.8	Trench excavation support (Allow up to 1.5m depth).	m2	90	\$50.00	\$4,500.00
2.9	Construct (Re-profile) U shaped channel section 4.0m wide x 1.8m deep (side slope 1V:3H).	m	125	\$250.00	\$31,250.00
2.10	Imported aggregate hardfill basecourse to channel foundation (200mm thick).	m3	150	\$100.00	\$15,000.00
2.11	Supply and install geotextile liner.	m2	1250	\$10.00	\$12,500.00
2.12	Topsoil, grass and fertiliser.	m2	875	\$15.00	\$13,125.00
<b>Item 2 Total</b>					<b>\$121,475.00</b>
<b>3</b>	<b>Vegetated Channel No.2 Construction</b>				
	Provide upgrade to existing Doment Creek channel from Doment Crescent to Francis Skinner Place. Vegetated U shaped channel section 2.0m wide base x 1.8m deep, (side slope 1V:3H) length = 90m.				
	Earthworks.				
3.1	Clear and remove all miscellaneous vegetation,	lump sum	1		\$3,000.00
	Excavate material from existing channel (Incl disposal).				
3.2	Excavate to spoil.	m3	400	\$30.00	\$12,000.00
3.3	Excavate to Redvale Landfill (Contaminated).	m3	100	\$40.00	\$4,000.00
3.4	Excavate to fill.	m3	100	\$20.00	\$2,000.00
3.5	Undercut unsuitable material to waste where soft	m3	30	\$20.00	\$600.00

3.6	Channel excavation dewatering (By pumping).	lump sum	1		\$1,500.00
3.7	Erosion and sediment control.	lump sum	1		\$4,000.00
3.8	Trench excavation support (Allow up to 1.5m depth).	m2	55	\$50.00	\$2,750.00
3.9	Construct (Re-profile) U shaped channel section 4.0m wide x 1.8m deep (side slope 1V:3H).	m	90	\$200.00	\$18,000.00
3.10	Imported aggregate hardfill basecourse to channel foundation (200mm thick).	m3	75	\$100.00	\$7,500.00
3.11	Supply and install geotextile liner.	m2	900	\$10.00	\$9,000.00
3.12	Topsoil, grass and fertiliser.	m2	630	\$15.00	\$9,450.00
<b>Item 3 Total</b>					<b>\$73,800.00</b>
<b>4</b>	<b>Pipelines and Structures</b>				
	Provide gravity pipeline upgrade to existing Doment Creek channel from Dan Tori Place to Florence Avenue. Length = 135m.				
	Supply, excavate, bed, lay, joint, test, backfill and reinstate reinforced concrete (Class X) drainage pipe.				
4.1	Single 1650mm Nom Dia RCRRJ pipe in 1.5 – 3.0m depth.	m	135	\$1,420.00	\$191,700.00
4.2	Supply and install 2550mm Nom Dia RC manholes in 1.5 – 3.0m depth.	no.	2	\$17,800.00	\$35,600.00
4.3	Supply and install cesspits (675 x 450mm).	no.	2	\$1,500.00	\$3,000.00
4.4	Connect service (house) connections to new pipe.	no.	8	\$200.00	\$1,600.00
4.5	Connect existing pipes to new manholes.	no.	2	\$250.00	\$500.00
4.6	Trench excavation dewatering by pumping (Allow 100% of total pipeline length).	m	135	\$50.00	\$6,750.00
4.7	Trench excavation shoring up to 3.0m depth (Allow 50% of total pipeline length).	m2	135	\$50.00	\$6,750.00
4.8	Imported fill to channel excavation surrounding pipe.	m3	30	\$40.00	\$1,200.00
<b>Item 4 Total</b>					<b>\$247,100.00</b>
<b>5</b>	<b>Miscellaneous</b>				
	Existing Pipelines and Services				
5.1	Replacement of existing pipe crossings (Various diameters).	lump sum			\$6,000.00
5.2	Extend/trim existing drain pipes and provide concrete outlet structures to channel banks.	lump sum			\$9,000.00
5.3	Reinstatement of sealed footpaths and driveways.	m2	100	\$100.00	\$10,000.00
5.4	Reinstatement of timber fence lines.	m	700	\$80.00	\$56,000.00
5.5	Reinstatement of gardens.	lump sum			\$10,000.00
5.6	Topsoil, grass and fertiliser.	m2	820	\$15.00	\$12,300.00
5.7	Planting (trees, shrubs).	lump sum			\$10,000.00
<b>Item 5 Total</b>					<b>\$98,300.00</b>
<b>6</b>	<b>Design and Construction</b>				
6.1	Engineering Design and Construction Supervision.	lump sum	15%		\$92,201.25
<b>7</b>	<b>Contingency</b>				
7.1	Contingency.	lump sum	15%		\$106,031.44
<b>Option Total</b>					<b>\$812,907.69</b>

Notes:–

1. Estimate accuracy = +/- 20%.

**RODNEY DISTRICT COUNCIL**  
**OREWA CBD CATCHMENT MANAGEMENT PLAN**  
**STORMWATER FLOODING MITIGATION MEASURES**  
**OPTION 11 – NEW PIPE IN DOMENT CREEK FROM FLORENCE AVENUE TO DAN TORI PLACE**  
**AND NEW VEGETATED CHANNEL IN DOMENT CREEK FROM DOMENT CRESCENT TO**  
**RIVERSIDE ROAD WITH TIDAL GATE ON DOMENT CREEK AT RIVERSIDE ROAD**  
**COST ESTIMATE**

Item	Description	Unit	Quantity	Rate (\$)	Amount (\$)
<b>1</b>	<b>Preliminary and General</b>				
1.1	Establishment.	lump sum	1		\$16,000.00
1.2	Insurances.	lump sum	1		\$10,000.00
1.3	Temporary Traffic Management (Incl Plan).	lump sum	1		\$21,000.00
1.4	Health and Safety (Incl Plan).	lump sum	1		\$7,000.00
1.5	Quality Assurance and Testing (Incl Plan).	lump sum	1		\$11,000.00
1.6	Network Utility Services (Liaison and location).	lump sum	1		\$3,000.00
1.7	As Built.	lump sum	1		\$6,000.00
<b>Item 1 Total</b>					<b>\$74,000.00</b>
<b>2</b>	<b>Vegetated Channel No.1 Construction</b>				
	Provide upgrade to existing Doment Creek channel from Riverside Road to Doment Crescent. Vegetated U shaped channel section 4.0m wide base x 1.8m deep, (side slope 1V:3H), Length = 125m.				
	Earthworks.				
2.1	Clear and remove all miscellaneous vegetation, superficial obstructions and rubbish.	lump sum	1		\$5,000.00
	Excavate material from existing channel (Incl disposal).				
2.2	Excavate to spoil.	m3	600	\$30.00	\$18,000.00
2.3	Excavate to Redvale Landfill (Contaminated).	m3	200	\$40.00	\$8,000.00
2.4	Excavate to fill.	m3	200	\$20.00	\$4,000.00
2.5	Undercut unsuitable material to waste where soft (Provisional).	m3	55	\$20.00	\$1,100.00
2.6	Channel excavation dewatering (By pumping).	lump sum	1		\$3,000.00
2.7	Erosion and sediment control.	lump sum	1		\$6,000.00
2.8	Trench excavation support (Allow up to 1.5m depth).	m2	90	\$50.00	\$4,500.00
2.9	Construct (Re-profile) U shaped channel section 4.0m wide x 1.8m deep (side slope 1V:3H).	m	125	\$250.00	\$31,250.00
2.10	Imported aggregate hardfill basecourse to channel foundation (200mm thick).	m3	150	\$100.00	\$15,000.00
2.11	Supply and install geotextile liner.	m2	1250	\$10.00	\$12,500.00
2.12	Topsoil, grass and fertiliser.	m2	875	\$15.00	\$13,125.00
<b>Item 2 Total</b>					<b>\$121,475.00</b>
<b>3</b>	<b>Vegetated Channel No.2 Construction</b>				
	Provide upgrade to existing Doment Creek channel from Doment Crescent to Francis Skinner Place. Vegetated U shaped channel section 2.0m wide base x 1.8m deep, (side slope 1V:3H), Length = 90m.				
	Earthworks.				
3.1	Clear and remove all miscellaneous vegetation,	lump sum	1		\$3,000.00
	Excavate material from existing channel (Incl disposal).				
3.2	Excavate to spoil.	m3	400	\$30.00	\$12,000.00
3.3	Excavate to Redvale Landfill (Contaminated).	m3	100	\$40.00	\$4,000.00
3.4	Excavate to fill.	m3	100	\$20.00	\$2,000.00
3.5	Undercut unsuitable material to waste where soft	m3	30	\$20.00	\$600.00

3.6	Channel excavation dewatering (By pumping).	lump sum	1		\$1,500.00
3.7	Erosion and sediment control.	lump sum	1		\$4,000.00
3.8	Trench excavation support (Allow up to 1.5m depth).	m2	55	\$50.00	\$2,750.00
3.9	Construct (Re-profile) U shaped channel section 4.0m wide x 1.8m deep (side slope 1V:3H).	m	90	\$200.00	\$18,000.00
3.10	Imported aggregate hardfill basecourse to channel foundation (200mm thick).	m3	75	\$100.00	\$7,500.00
3.11	Supply and install geotextile liner.	m2	900	\$10.00	\$9,000.00
3.12	Topsoil, grass and fertiliser.	m2	630	\$15.00	\$9,450.00
<b>Item 3 Total</b>					<b>\$73,800.00</b>
<b>4</b>	<b>Pipelines and Structures</b>				
	Provide gravity pipeline upgrade to existing Doment Creek channel from Dan Tori Place to Florence Avenue. Length = 135m.				
	Supply, excavate, bed, lay, joint, test, backfill and reinstate reinforced concrete (Class X) drainage pipe.				
4.1	Single 1650mm Nom Dia RCRRJ pipe in 1.5 – 3.0m depth.	m	135	\$1,420.00	\$191,700.00
4.2	Supply and install 2550mm Nom Dia RC manholes in 1.5 – 3.0m depth.	no.	2	\$17,800.00	\$35,600.00
4.3	Supply and install cesspits (675 x 450mm).	no.	2	\$1,500.00	\$3,000.00
4.4	Connect service (house) connections to new pipe.	no.	8	\$200.00	\$1,600.00
4.5	Connect existing pipes to new manholes.	no.	2	\$250.00	\$500.00
4.6	Trench excavation dewatering by pumping (Allow 100% of total pipeline length).	m	135	\$50.00	\$6,750.00
4.7	Trench excavation shoring up to 3.0m depth (Allow 50% of total pipeline length).	m2	135	\$50.00	\$6,750.00
4.8	Imported fill to channel excavation surrounding pipe.	m3	30	\$40.00	\$1,200.00
<b>Item 4 Total</b>					<b>\$247,100.00</b>
<b>5</b>	<b>Miscellaneous</b>				
	Existing Pipelines and Services				
5.1	Replacement of existing pipe crossings (Various diameters).	lump sum			\$6,000.00
5.2	Extend/trim existing drain pipes and provide concrete outlet structures to channel banks.	lump sum			\$9,000.00
5.3	Reinstatement of sealed footpaths and driveways.	m2	100	\$100.00	\$10,000.00
5.4	Reinstatement of timber fence lines.	m	700	\$80.00	\$56,000.00
5.5	Reinstatement of gardens.	lump sum			\$10,000.00
5.6	Topsoil, grass and fertiliser.	m2	820	\$15.00	\$12,300.00
5.7	Planting (trees, shrubs).	lump sum			\$10,000.00
<b>Item 5 Total</b>					<b>\$98,300.00</b>
<b>6</b>	<b>Tidal Gate</b>				
6.1	Excavate, construct, supply, install and reinstate tidal gate structure works on Doment Creek at Riverside Road culvert.	lump sum			\$100,000.00
<b>Item 5 Total</b>					<b>\$100,000.00</b>
<b>7</b>	<b>Design and Construction</b>				
7.1	Engineering Design and Construction Supervision.	lump sum	15%		\$107,201.25
<b>8</b>	<b>Contingency</b>				
8.1	Contingency.	lump sum	15%		\$123,281.44
<b>Option Total</b>					<b>\$945,157.69</b>

Notes:-

1. Estimate accuracy = +/- 20%.

**RODNEY DISTRICT COUNCIL**  
**OREWA CBD CATCHMENT MANAGEMENT PLAN**  
**STORMWATER FLOODING MITIGATION MEASURES**  
**OPTION 13 – NEW DIVERSION PIPE PICKING UP WORST LOCATIONS IN CBD**  
**IN TAMARIKI AVENUE, HIBISCUS COAST HIGHWAY TO EXISTING BEACH OUTLET**  
**AT MOANA RESERVE**  
**COST ESTIMATE**

Item	Description	Unit	Quantity	Rate (\$)	Amount (\$)
<b>1</b>	<b>Preliminary and General</b>				
1.1	Establishment.	lump sum	1		\$25,000.00
1.2	Insurances.	lump sum	1		\$15,000.00
1.3	Temporary Traffic Management (Incl Plan).	lump sum	1		\$47,000.00
1.4	Health and Safety (Incl Plan).	lump sum	1		\$8,000.00
1.5	Quality Assurance and Testing (Incl Plan).	lump sum	1		\$11,000.00
1.6	Network Utility Services (Liaison and location) .	lump sum	1		\$6,000.00
1.7	As Built.	lump sum	1		\$10,000.00
<b>Item 1 Total</b>					<b>\$122,000.00</b>
<b>2</b>	<b>Earthworks</b>				
	Clearing				
2.1	Remove all miscellaneous vegetation, superficial obstructions and rubbish.	lump sum	1		\$6,000.00
2.2	Dismantle and remove existing fences, signs and street furniture and store for reuse.	lump sum	1		\$6,000.00
2.3	Undercut to waste where soft (Provisional).	m3	92	\$30.00	\$2,760.00
2.4	Supply and place hard fill (Provisional).	m3	92	\$80.00	\$7,360.00
2.5	Sediment control.	lump sum	1		\$9,000.00
<b>Item 2 Total</b>					<b>\$31,120.00</b>
<b>3</b>	<b>Drainage Pipelines</b>				
	Provide new gravity pipeline from existing reticulation located in Tamariki Avenue through Moenui Avenue to new beach outlet.				
	Supply, excavate, bed, lay, joint, test, backfill and reinstate reinforced concrete (Class X) drainage pipe in road/footpath/reserve.				
3.1	Single 750mm Nom Dia RCRRJ pipe in 1.5 – 3.0m depth.	m	123	\$525.00	\$64,575.00
3.2	Twin 750mm Nom Dia RCRRJ pipe in 1.5 – 3.0m depth.	m	48	\$945.00	\$45,360.00
3.3	Single 900mm Nom Dia RCRRJ pipe in 1.5 – 3.0m depth.	m	32	\$660.00	\$21,120.00
3.4	Twin 1050mm Nom Dia RCRRJ pipe in 1.5 – 3.0m depth.	m	257	\$999.00	\$256,743.00
3.5	Supply and install 2550mm Nom Dia RC manholes in 1.5 – 3.0m depth.	no.	4	\$17,800.00	\$71,200.00
3.6	Supply and install 3.5m x 3.5m concrete cast-insitu manhole chamber in 1.5 – 3.0m depth.	no.	5	\$30,000.00	\$150,000.00
3.7	Supply and install cesspits (675 x 450mm).	no.	9	\$1,500.00	\$13,500.00
3.8	Connect service (house) connections to new pipe.	no.	20	\$300.00	\$6,000.00
3.9	Connect existing pipes to new manholes.	no.	24	\$500.00	\$12,000.00
3.10	Trench excavation dewatering by pumping (Allow 100% of total pipeline length).	m	460	\$100.00	\$46,000.00
3.11	Trench excavation shoring up to 3.0m depth (Allow 50% of total pipeline length).	m2	460	\$100.00	\$46,000.00
<b>Item 3 Total</b>					<b>\$732,498.00</b>
<b>4</b>	<b>Miscellaneous</b>				
4.1	Reinstatement of tar seal roadway (hotmix).	m2	966	\$120.00	\$115,920.00
4.2	Reinstatement of concrete footpaths and driveways.	m2	184	\$100.00	\$18,400.00

4.3	Reinstatement of fence lines.	lump sum			\$3,000.00
4.4	Reinstatement of gardens.	lump sum			\$5,000.00
4.5	Topsoil, grass and fertiliser.	m2	100	\$10.00	\$1,000.00
<b>Item 4 Total</b>					<b>\$143,320.00</b>
<b>5</b>	<b>Design and Construction</b>				
5.1	Engineering Design and Construction Supervision.	lump sum	15%		\$154,340.70
<b>6</b>	<b>Contingency</b>				
6.1	Contingency.	lump sum	15%		\$177,491.81
<b>Option Total</b>					<b>\$1,360,770.51</b>

Notes:-

1. Estimate accuracy = +/- 20%.

**RODNEY DISTRICT COUNCIL**  
**OREWA CBD CATCHMENT MANAGEMENT PLAN**  
**STORMWATER FLOODING MITIGATION MEASURES**  
**OPTION 14 – NEW DIVERSION PIPE PICKING UP WORST LOCATIONS IN CBD**  
**IN TAMARIKI AVENUE, MOENUI AVENUE TO NEW BEACH OUTLET AT MOENUI RESERVE**  
**COST ESTIMATE**

Item	Description	Unit	Quantity	Rate (\$)	Amount (\$)
<b>1</b>	<b>Preliminary and General</b>				
1.1	Establishment.	lump sum	1		\$30,000.00
1.2	Insurances.	lump sum	1		\$15,000.00
1.3	Temporary Traffic Management (Incl Plan).	lump sum	1		\$47,000.00
1.4	Health and Safety (Incl Plan).	lump sum	1		\$10,000.00
1.5	Quality Assurance and Testing (Incl Plan).	lump sum	1		\$14,000.00
1.6	Network Utility Services (Liaison and location) .	lump sum	1		\$8,000.00
1.7	As Built.	lump sum	1		\$12,000.00
<b>Item 1 Total</b>					<b>\$136,000.00</b>
<b>2</b>	<b>Earthworks</b>				
	Clearing				
2.1	Remove all miscellaneous vegetation, superficial obstructions and rubbish.	lump sum	1		\$8,000.00
2.2	Dismantle and remove existing fences, signs and street furniture and store for reuse.	lump sum	1		\$8,000.00
2.3	Undercut to waste where soft (Provisional)	m3	100	\$30.00	\$3,000.00
2.4	Supply and place hard fill (Provisional).	m3	100	\$80.00	\$8,000.00
2.5	Sediment control.	lump sum	1		\$12,000.00
<b>Item 2 Total</b>					<b>\$39,000.00</b>
<b>3</b>	<b>Drainage Pipelines</b>				
	Provide new gravity pipeline from existing reticulation located in Tamariki Avenue through Moenui Avenue to new beach outlet.				
	Supply, excavate, bed, lay, joint, test, backfill and reinstate reinforced concrete (Class X) drainage pipe in road/footpath/reserve.				
3.1	Twin 825mm Nom Dia RCRRJ pipe in 1.5 – 3.0m depth.	m	291	\$999.00	\$290,709.00
3.2	Single 900mm Nom Dia RCRRJ pipe in 1.5 – 3.0m depth.	m	121	\$660.00	\$79,860.00
3.3	Single 1200mm Nom Dia RCRRJ pipe in 1.5 – 3.0m depth.	m	88	\$960.00	\$84,480.00
3.4	Supply and install 2550mm Nom Dia RC manholes in 1.5 – 3.0m depth.	no.	3	\$17,800.00	\$53,400.00
3.5	Supply and install 3.5m x 3.5m concrete cast-insitu manhole chamber in 1.5 – 3.0m depth.	no.	7	\$30,000.00	\$210,000.00
3.6	Construct outlet structure on beach	no.	1	\$3,000.00	\$3,000.00
3.7	Supply and install cesspits (675 x 450mm).	no.	11	\$1,500.00	\$16,500.00
3.8	Connect service (house) connections to new pipe.	no.	20	\$300.00	\$6,000.00
3.9	Connect existing pipes to new manholes.	no.	24	\$500.00	\$12,000.00
3.10	Trench excavation dewatering by pumping (Allow 100% of total pipeline length).	m	500	\$100.00	\$50,000.00
3.11	Trench excavation shoring up to 3.0m depth (Allow 50% of total pipeline length).	m2	500	\$100.00	\$50,000.00
<b>Item 3 Total</b>					<b>\$855,949.00</b>
<b>4</b>	<b>Miscellaneous</b>				
4.1	Reinstatement of tar seal roadway (hotmix).	m2	700	\$120.00	\$84,000.00
4.2	Reinstatement of concrete footpaths and driveways.	m2	200	\$100.00	\$20,000.00
4.3	Reinstatement of fence lines.	lump sum			\$3,000.00
4.4	Reinstatement of gardens.	lump sum			\$5,000.00

4.5	Topsoil, grass and fertiliser.	m2	144	\$10.00	\$1,440.00
<b>Item 4 Total</b>					<b>\$113,440.00</b>
<b>5</b>	<b>Design and Construction</b>				
5.1	Engineering Design and Construction Supervision.	lump sum	15%		\$171,658.35
<b>6</b>	<b>Contingency</b>				
6.1	Contingency.	lump sum	15%		\$197,407.10
<b>Option Total</b>					<b>\$1,513,454.45</b>

Notes:-

1. Estimate accuracy = +/- 20%.

**RODNEY DISTRICT COUNCIL**  
**OREWA CBD CATCHMENT MANAGEMENT PLAN**  
**STORMWATER FLOODING MITIGATION MEASURES**  
**OPTION 15 – NEW DIVERSION PIPE PICKING UP WORST LOCATIONS IN CBD**  
**IN MOENUI AVENUE, MOANA AVENUE TO NEW SEA OUTFALL AT MOANA RESERVE**  
**COST ESTIMATE**

Item	Description	Unit	Quantity	Rate (\$)	Amount (\$)
<b>1</b>	<b>Preliminary and General</b>				
1.1	Establishment.	lump sum	1		\$100,000.00
1.2	Insurances.	lump sum	1		\$50,000.00
1.3	Temporary Traffic Management (Incl Plan).	lump sum	1		\$68,000.00
1.4	Health and Safety (Incl Plan).	lump sum	1		\$16,000.00
1.5	Quality Assurance and Testing (Incl Plan).	lump sum	1		\$30,000.00
1.6	Network Utility Services (Liaison and location) .	lump sum	1		\$8,000.00
1.7	As Built.	lump sum	1		\$17,000.00
<b>Item 1 Total</b>					<b>\$289,000.00</b>
<b>2</b>	<b>Earthworks</b>				
	Clearing				
2.1	Remove all miscellaneous vegetation, superficial obstructions and rubbish.	lump sum	1		\$17,000.00
2.2	Dismantle and remove existing fences, signs and street furniture and store for reuse.	lump sum	1		\$17,000.00
2.3	Undercut to waste where soft (Provisional).	m3	81	\$30.00	\$2,430.00
2.4	Supply and place hard fill (Provisional).	m3	81	\$80.00	\$6,480.00
2.5	Sediment control.	lump sum	1		\$12,000.00
<b>Item 2 Total</b>					<b>\$54,910.00</b>
<b>3</b>	<b>Drainage Pipelines</b>				
	Provide new gravity pipeline from existing reticulation located in Tamariki Avenue through Moenui Avenue to new beach outlet.				
	Supply, excavate, bed, lay, joint, test, backfill and reinstate reinforced concrete (Class X) drainage pipe in road/footpath/reserve.				
3.1	Twin 825mm Nom Dia RCRRJ pipe in 1.5 – 3.0m depth.	m	137	\$999.00	\$136,863.00
3.2	Single 900mm Nom Dia RCRRJ pipe in 1.5 – 3.0m depth.	m	37	\$660.00	\$24,420.00
3.3	Twin 900mm Nom Dia RCRRJ pipe in 1.5 – 3.0m depth.	m	158	\$1,188.00	\$187,704.00
3.4	Single 1050mm Nom Dia RCRRJ pipe in 1.5 – 3.0m depth.	m	73	\$860.00	\$62,780.00
3.5	Supply and install 2550mm Nom Dia RC manholes in 1.5 – 3.0m depth.	no.	4	\$17,800.00	\$71,200.00
3.6	Supply and install 3.5m x 3.5m concrete cast-insitu manhole chamber in 1.5 – 3.0m depth.	no.	6	\$30,000.00	\$180,000.00
3.7	Supply and install cesspits (675 x 450mm).	no.	10	\$1,500.00	\$15,000.00
3.8	Connect service (house) connections to new pipe.	no.	24	\$300.00	\$7,200.00
3.9	Connect existing pipes to new manholes.	no.	30	\$500.00	\$15,000.00
3.10	Trench excavation dewatering by pumping (Allow 100% of total pipeline length).	m	405	\$100.00	\$40,500.00
3.11	Trench excavation shoring up to 3.0m depth (Allow 50% of total pipeline length).	m2	405	\$100.00	\$40,500.00
<b>Item 3 Total</b>					<b>\$781,167.00</b>
<b>4</b>	<b>Miscellaneous</b>				
4.1	Reinstatement of tar seal roadway (hotmix).	m2	405	\$120.00	\$48,600.00
4.2	Reinstatement of concrete footpaths and driveways.	m2	162	\$100.00	\$16,200.00
4.3	Reinstatement of fence lines.	lump sum			\$3,000.00

4.4	Reinstatement of gardens.	lump sum			\$6,000.00
4.5	Topsoil, grass and fertiliser.	m2	220	\$10.00	\$2,200.00
<b>Item 4 Total</b>					<b>\$76,000.00</b>
<b>5</b>	<b>Sea Outfall</b>				
	Provide new gravity sea outfall pipeline from drop structure located in Moana Plaza and connected to new/existing reticulation through Moenui to outlet.				
	Supply, excavate, lay, joint, and test, by thrusting reinforced concrete (Class Z) drainage pipe in reserve/beach.				
5.1	Single 1500mm Nom Dia RCFJ pipe in 4.5 – 6.0m depth.	m	430	\$6,000.00	\$2,580,000.00
5.2	Construct temporary thrust pit by excavation and shoring 7.0m x 5.0m x 6.0m deep. Supply and install thrusting equipment as necessary.	lump sum			\$50,000.00
5.3	Construct 4.0m x 4.0m concrete cast-insitu drop structure in 4.5 – 6.0m depth. Including all pipe connections and equipment etc.	lump sum			\$70,000.00
5.4	Construct 3.0m x 3.0m concrete cast-insitu outlet structure in 4.5 – 6.0m depth. Including all temporary construction works (barge,cofferdam, dewatering etc) and permanent works etc.	lump sum			\$150,000.00
<b>Item 5 Total</b>					<b>\$2,850,000.00</b>
<b>6</b>	<b>Design and Construction</b>				
6.1	Engineering Design and Construction Supervision.	lump sum	15%		\$607,661.55
<b>7</b>	<b>Contingency</b>				
7.1	Contingency.	lump sum	15%		\$698,810.78
<b>Option Total</b>					<b>\$5,357,549.33</b>

Notes:–

1. Estimate accuracy = +/- 20%.

**RODNEY DISTRICT COUNCIL**  
**OREWA CBD CATCHMENT MANAGEMENT PLAN**  
**STORMWATER FLOODING MITIGATION MEASURES**  
**OPTION 16 – NEW DIVERSION PIPE IN FLORENCE AVENUE TO DOMENT CREEK PIPELINE**  
**COST ESTIMATE**

Item	Description	Unit	Quantity	Rate (\$)	Amount (\$)
<b>1</b>	<b>Preliminary and General</b>				
1.1	Establishment.	lump sum	1		\$10,000.00
1.2	Insurances.	lump sum	1		\$4,000.00
1.3	Temporary Traffic Management (Incl Plan).	lump sum	1		\$7,000.00
1.4	Health and Safety (Incl Plan).	lump sum	1		\$3,000.00
1.5	Quality Assurance and Testing (Incl Plan).	lump sum	1		\$5,000.00
1.6	Network Utility Services (Liaison and location) .	lump sum	1		\$3,000.00
1.7	As Builts.	lump sum	1		\$2,000.00
<b>Item 1 Total</b>					<b>\$34,000.00</b>
<b>2</b>	<b>Earthworks</b>				
	Clearing				
2.1	Remove all miscellaneous vegetation, superficial obstructions and rubbish.	lump sum	1		\$2,000.00
2.2	Dismantle and remove existing fences, signs and street furniture and store for reuse.	lump sum	1		\$2,000.00
2.3	Undercut to waste where soft (Provisional).	m3	26	\$30.00	\$774.00
2.4	Supply and place hard fill (Provisional).	m3	26	\$80.00	\$2,064.00
2.5	Sediment control.	lump sum	1		\$3,000.00
<b>Item 2 Total</b>					<b>\$9,838.00</b>
<b>3</b>	<b>Drainage Pipelines</b>				
	Provide new gravity pipeline from existing reticulation located in Florence Avenue to outlet/connection on Doment Creek.				
	Supply, excavate, bed, lay, joint, test, backfill and reinstate reinforced concrete (Class X) drainage pipe in road/footpath/reserve.				
3.1	Single 825mm Nom Dia RCRRJ pipe in 1.5 – 3.0m depth.	m	118	\$555.00	\$65,490.00
3.2	Single 900mm Nom Dia RCRRJ pipe in 1.5 – 3.0m depth.	m	54	\$660.00	\$35,640.00
3.3	Supply and install 1800mm Nom Dia RC manholes in 1.5 – 3.0m depth.	no.	3	\$9,580.00	\$28,740.00
3.4	Supply and install 2550mm Nom Dia RC manhole in 1.5 – 3.0m depth.	no.	1	\$17,800.00	\$17,800.00
3.5	Supply and install cesspits (675 x 450mm).	no.	2	\$1,500.00	\$3,000.00
3.6	Connect service (house) connections to new pipe.	no.	8	\$300.00	\$2,400.00
3.7	Connect existing pipes to new manholes.	no.	4	\$500.00	\$2,000.00
3.8	Trench excavation dewatering by pumping (Allow 100% of total pipeline length).	m	172	\$100.00	\$17,200.00
3.9	Trench excavation shoring up to 3.0m depth (Allow 50% of total pipeline length).	m2	172	\$100.00	\$17,200.00
<b>Item 3 Total</b>					<b>\$189,470.00</b>
<b>4</b>	<b>Miscellaneous</b>				
4.1	Reinstatement of tar seal roadway (hotmix).	m2	129	\$120.00	\$15,480.00
4.2	Reinstatement of concrete footpaths and driveways.	m2	129	\$100.00	\$12,900.00
4.3	Reinstatement of fence lines.	lump sum			\$500.00
4.4	Reinstatement of gardens.	lump sum			\$3,000.00
4.5	Topsoil, grass and fertiliser.	m2	15	\$10.00	\$150.00
<b>Item 4 Total</b>					<b>\$32,030.00</b>
<b>5</b>	<b>Design and Construction</b>				
5.1	Engineering Design and Construction Supervision.	lump sum	15%		\$39,800.70
<b>6</b>	<b>Contingency</b>				
6.1	Contingency.	lump sum	15%		\$45,770.81
<b>Option Total</b>					<b>\$350,909.51</b>

Notes:-

1. Estimate accuracy = +/- 20%.

**RODNEY DISTRICT COUNCIL**  
**OREWA CBD CATCHMENT MANAGEMENT PLAN**  
**STORMWATER FLOODING MITIGATION MEASURES**  
**OPTION 17 – NEW DIVERSION PIPE IN FLORENCE AVENUE, LILLIAN PLACE**  
**TO DOMENT CREEK CHANNEL**  
**COST ESTIMATE**

Item	Description	Unit	Quantity	Rate (\$)	Amount (\$)
<b>1</b>	<b>Preliminary and General</b>				
1.1	Establishment.	lump sum	1		\$13,000.00
1.2	Insurances.	lump sum	1		\$10,000.00
1.3	Temporary Traffic Management (Incl Plan).	lump sum	1		\$10,000.00
1.4	Health and Safety (Incl Plan).	lump sum	1		\$8,000.00
1.5	Quality Assurance and Testing (Incl Plan).	lump sum	1		\$11,000.00
1.6	Network Utility Services (Liaison and location).	lump sum	1		\$9,000.00
1.7	As Built.	lump sum	1		\$4,000.00
<b>Item 1 Total</b>					<b>\$65,000.00</b>
<b>2</b>	<b>Earthworks</b>				
	Clearing				
2.1	Remove all miscellaneous vegetation, superficial obstructions and rubbish.	lump sum	1		\$6,000.00
2.2	Dismantle and remove existing fences, signs and street furniture and store for reuse.	lump sum	1		\$9,000.00
2.3	Undercut to waste where soft (Provisional).	m3	67	\$30.00	\$2,004.00
2.4	Supply and place hard fill (Provisional).	m3	67	\$80.00	\$5,344.00
2.5	Sediment control.	lump sum	1		\$9,000.00
<b>Item 2 Total</b>					<b>\$31,348.00</b>
<b>3</b>	<b>Drainage Pipelines</b>				
	Provide new gravity pipeline and upgrade from existing reticulation located in Florence Avenue through Lillian Place to outlet/connection on Doment Creek.				
	Supply, excavate, bed, lay, joint, test, backfill and reinstate reinforced concrete (Class X) drainage pipe in road/footpath/reserve/garden.				
3.1	Twin 675mm Nom Dia RCRRJ pipe in 1.5 – 3.0m depth.	m	151	\$801.00	\$120,951.00
3.2	Single 900mm Nom Dia RCRRJ pipe in 1.5 – 3.0m depth.	m	55	\$660.00	\$36,300.00
3.3	Twin 1050mm Nom Dia RCRRJ pipe in 1.5 – 3.0m depth.	m	128	\$1,548.00	\$198,144.00
3.4	Supply and install 1800mm Nom Dia RC manholes in 1.5 – 3.0m depth.	no.	2	\$9,580.00	\$19,160.00
3.5	Supply and install 2550mm Nom Dia RC manholes in 1.5 – 3.0m depth.	no.	2	\$17,800.00	\$35,600.00
3.6	Supply and install 3060mm Nom Dia RC manholes in 1.5 – 3.0m depth.	no.	3	\$20,000.00	\$60,000.00
3.7	Construct outlet structure.	no.	1	\$5,000.00	\$5,000.00
3.8	Supply and install cesspits (675 x 450mm).	no.	2	\$1,500.00	\$3,000.00
3.9	Connect service (house) connections to new pipe.	no.	16	\$300.00	\$4,800.00
3.10	Connect existing pipes to new manholes.	no.	8	\$500.00	\$4,000.00
3.11	Trench excavation dewatering by pumping (Allow 100% of total pipeline length).	m	334	\$100.00	\$33,400.00
3.12	Trench excavation shoring up to 3.0m depth (Allow 50% of total pipeline length).	m2	334	\$100.00	\$33,400.00
<b>Item 3 Total</b>					<b>\$553,755.00</b>
<b>4</b>	<b>Miscellaneous</b>				
4.1	Reinstatement of tar seal roadway (hotmix).	m2	100.2	\$120.00	\$12,024.00

4.2	Reinstatement of concrete footpaths and driveways.	m2	133.6	\$100.00	\$13,360.00
4.3	Reinstatement of fence lines.	lump sum			\$13,000.00
4.4	Reinstatement of gardens.	lump sum			\$20,000.00
4.5	Topsoil, grass and fertiliser.	m2	100	\$10.00	\$3,000.00
<b>Item 4 Total</b>					<b>\$61,384.00</b>
<b>5</b>	<b>Design and Construction</b>				
5.1	Engineering Design and Construction Supervision.	lump sum	15%		\$106,723.05
<b>6</b>	<b>Contingency</b>				
6.1	Contingency.	lump sum	15%		\$122,731.51
<b>Option Total</b>					<b>\$940,941.56</b>

Notes:-

1. Estimate accuracy = +/- 20%.

**RODNEY DISTRICT COUNCIL**  
**OREWA CBD CATCHMENT MANAGEMENT PLAN**  
**STORMWATER FLOODING MITIGATION MEASURES**  
**OPTION 18 – NEW DIVERSION PIPE IN TAMARIKI AVENUE, MOENUI AVENUE**  
**TO CONNECTION IN RIVERSIDE ROAD**  
**COST ESTIMATE**

Item	Description	Unit	Quantity	Rate (\$)	Amount (\$)
<b>1</b>	<b>Preliminary and General</b>				
1.1	Establishment.	lump sum	1		\$25,000.00
1.2	Insurances.	lump sum	1		\$5,000.00
1.3	Temporary Traffic Management (Incl Plan).	lump sum	1		\$12,000.00
1.4	Health and Safety (Incl Plan).	lump sum	1		\$8,000.00
1.5	Quality Assurance and Testing (Incl Plan).	lump sum	1		\$11,000.00
1.6	Network Utility Services (Liaison and location) .	lump sum	1		\$6,000.00
1.7	As Built.	lump sum	1		\$4,000.00
<b>Item 1 Total</b>					<b>\$71,000.00</b>
<b>2</b>	<b>Earthworks</b>				
	Clearing				
2.1	Remove all miscellaneous vegetation, superficial obstructions and rubbish.	lump sum	1		\$8,000.00
2.2	Dismantle and remove existing fences, signs and street furniture and store for reuse.	lump sum	1		\$8,000.00
2.3	Undercut to waste where soft (Provisional)	m3	26	\$30.00	\$792.00
2.4	Supply and place hard fill (Provisional).	m3	26	\$80.00	\$2,112.00
2.5	Sediment control.	lump sum	1		\$9,000.00
<b>Item 2 Total</b>					<b>\$27,904.00</b>
<b>3</b>	<b>Drainage Pipelines</b>				
	Provide new gravity pipeline and upgrade from existing reticulation located in Tamariki Avenue, Moenui Avenue to connection in Riverside Road.				
	Supply, excavate, bed, lay, joint, test, backfill and reinstate reinforced concrete (Class X) drainage pipe in road/footpath/reserve/garden.				
3.1	Single 375mm Nom Dia RCRRJ pipe in 1.5 – 3.0m depth.	m	62	\$275.00	\$17,050.00
3.2	Single 525mm Nom Dia RCRRJ pipe in 1.5 – 3.0m depth.	m	94	\$345.00	\$32,430.00
3.3	Single 600mm Nom Dia RCRRJ pipe in 1.5 – 3.0m depth.	m	44	\$395.00	\$17,380.00
3.4	Single 675mm Nom Dia RCRRJ pipe in 1.5 – 3.0m depth.	m	64	\$445.00	\$28,480.00
3.5	Supply and install 1050mm Nom Dia RC manholes in 1.5 – 3.0m depth.	no.	1	\$4,550.00	\$4,550.00
3.6	Supply and install 1800mm Nom Dia RC manholes in 1.5 – 3.0m depth.	no.	5	\$9,580.00	\$47,900.00
3.7	Supply and install cesspits (675 x 450mm).	no.	4	\$1,500.00	\$6,000.00
3.8	Connect service (house) connections to new pipe.	no.	10	\$300.00	\$3,000.00
3.9	Connect existing pipes to new manholes.	no.	6	\$500.00	\$3,000.00
3.10	Trench excavation dewatering by pumping (Allow 100% of total pipeline length).	m	264	\$100.00	\$26,400.00
3.11	Trench excavation shoring up to 3.0m depth (Allow 50% of total pipeline length).	m2	198	\$100.00	\$19,800.00
<b>Item 3 Total</b>					<b>\$205,990.00</b>
<b>4</b>	<b>Miscellaneous</b>				
4.1	Reinstatement of tar seal roadway (hotmix).	m2	90	\$120.00	\$10,800.00
4.2	Reinstatement of concrete footpaths and driveways.	m2	90	\$100.00	\$9,000.00
4.3	Reinstatement of fence lines.	lump sum			\$10,000.00

4.4	Reinstatement of gardens.	lump sum			\$20,000.00
4.5	Topsoil, grass and fertiliser.	m2	300	\$10.00	\$3,000.00
<b>Item 4 Total</b>					<b>\$52,800.00</b>
<b>5</b>	<b>Design and Construction</b>				
5.1	Engineering Design and Construction Supervision.	lump sum	15%		\$53,654.10
<b>6</b>	<b>Contingency</b>				
6.1	Contingency.	lump sum	15%		\$61,702.22
<b>Option Total</b>					<b>\$473,050.32</b>

Notes:-

1. Estimate accuracy = +/- 20%.

**RODNEY DISTRICT COUNCIL**  
**OREWA CBD CATCHMENT MANAGEMENT PLAN**  
**STORMWATER FLOODING MITIGATION MEASURES**  
**OPTION 19 – NEW DIVERSION PIPE IN TAMARIKI AVENUE, MOENUI AVENUE,**  
**RIVERSIDE ROAD TO NEW OUTLET ON DOMENT CREEK**  
**COST ESTIMATE**

Item	Description	Unit	Quantity	Rate (\$)	Amount (\$)
<b>1</b>	<b>Preliminary and General</b>				
1.1	Establishment.	lump sum	1		\$30,000.00
1.2	Insurances.	lump sum	1		\$15,000.00
1.3	Temporary Traffic Management (Incl Plan).	lump sum	1		\$47,000.00
1.4	Health and Safety (Incl Plan).	lump sum	1		\$11,000.00
1.5	Quality Assurance and Testing (Incl Plan).	lump sum	1		\$15,000.00
1.6	Network Utility Services (Liaison and location).	lump sum	1		\$8,000.00
1.7	As Built.	lump sum	1		\$10,000.00
<b>Item 1 Total</b>					<b>\$136,000.00</b>
<b>2</b>	<b>Earthworks</b>				
	Clearing				
2.1	Remove all miscellaneous vegetation, superficial obstructions and rubbish.	lump sum	1		\$8,000.00
2.2	Dismantle and remove existing fences, signs and street furniture and store for reuse.	lump sum	1		\$8,000.00
2.3	Undercut to waste where soft (Provisional).	m3	127	\$30.00	\$3,798.00
2.4	Supply and place hard fill (Provisional).	m3	127	\$80.00	\$10,128.00
2.5	Sediment control.	lump sum	1		\$12,000.00
<b>Item 2 Total</b>					<b>\$41,926.00</b>
<b>3</b>	<b>Drainage Pipelines</b>				
	Provide new gravity pipeline from existing reticulation located in Tamariki Avenue, Moenui Avenue, Riverside Road Highway to new outlet on Doment Creek.				
	Supply, excavate, bed, lay, joint, test, backfill and reinstate reinforced concrete (Class X) drainage pipe in road/footpath/reserve.				
3.1	Single 600mm Nom Dia RCRRJ pipe in 1.5 – 3.0m depth (Connections to existing reticulation manholes).	m	20	\$395.00	\$7,900.00
3.2	Single 900mm Nom Dia RCRRJ pipe in 1.5 – 3.0m depth (Connections to existing reticulation manholes).	m	123	\$660.00	\$81,180.00
3.3	Single 1050mm Nom Dia RCRRJ pipe in 1.5 – 3.0m depth.	m	115	\$860.00	\$98,900.00
3.4	Single 1200mm Nom Dia RCRRJ pipe in 3.0 – 4.5m depth.	m	375	\$960.00	\$360,000.00
3.5	Supply and install 1800mm Nom Dia RC manholes in 1.5 – 3.0m depth.	no.	9	\$9,580.00	\$86,220.00
3.6	Supply and install cesspits (675 x 450mm).	no.	6	\$1,500.00	\$9,000.00
3.7	Connect service (house) connections to new pipe.	no.	20	\$300.00	\$6,000.00
3.8	Connect existing pipes to new manholes.	no.	12	\$500.00	\$6,000.00
3.9	Trench excavation dewatering by pumping (Allow 100% of total pipeline length).	m	633	\$100.00	\$63,300.00
3.10	Trench excavation shoring up to 3.0m depth (Allow 50% of total pipeline length).	m2	633	\$100.00	\$63,300.00
<b>Item 3 Total</b>					<b>\$781,800.00</b>
<b>4</b>	<b>Miscellaneous</b>				
4.1	Reinstatement of tar seal roadway (hotmix).	m2	633	\$120.00	\$75,960.00

4.2	Reinstatement of concrete footpaths and driveways.	m2	253.2	\$100.00	\$25,320.00
4.3	Reinstatement of fence lines.	lump sum			\$10,000.00
4.4	Reinstatement of gardens.	lump sum			\$20,000.00
4.5	Topsoil, grass and fertiliser.	m2	600	\$10.00	\$6,000.00
<b>Item 4 Total</b>					<b>\$137,280.00</b>
<b>5</b>	<b>Design and Construction</b>				
5.1	Engineering Design and Construction Supervision.	lump sum	15%		\$164,550.90
<b>6</b>	<b>Contingency</b>				
6.1	Contingency.	lump sum	15%		\$189,233.54
<b>Option Total</b>					<b>\$1,450,790.44</b>

Notes:-

1. Estimate accuracy = +/- 20%.

**RODNEY DISTRICT COUNCIL**  
**OREWA CBD CATCHMENT MANAGEMENT PLAN**  
**STORMWATER FLOODING MITIGATION MEASURES**  
**OPTION 20 – NEW DIVERSION PIPE IN MOANA AVENUE**  
**TO EXISTING BEACH OUTLET AT MOANA RESERVE**  
**COST ESTIMATE**

Item	Description	Unit	Quantity	Rate (\$)	Amount (\$)
<b>1</b>	<b>Preliminary and General</b>				
1.1	Establishment.	lump sum	1		\$10,000.00
1.2	Insurances.	lump sum	1		\$2,000.00
1.3	Temporary Traffic Management (Incl Plan).	lump sum	1		\$7,000.00
1.4	Health and Safety (Incl Plan).	lump sum	1		\$3,000.00
1.5	Quality Assurance and Testing (Incl Plan).	lump sum	1		\$5,000.00
1.6	Network Utility Services (Liaison and location).	lump sum	1		\$2,000.00
1.7	As Built.	lump sum	1		\$2,000.00
<b>Item 1 Total</b>					<b>\$31,000.00</b>
<b>2</b>	<b>Earthworks</b>				
	Clearing				
2.1	Remove all miscellaneous vegetation, superficial obstructions and rubbish.	lump sum	1		\$1,000.00
2.2	Dismantle and remove existing fences, signs and street furniture and store for reuse.	lump sum	1		\$1,000.00
2.3	Undercut to waste where soft (Provisional).	m3	16	\$30.00	\$480.00
2.4	Supply and place hard fill (Provisional).	m3	16	\$80.00	\$1,280.00
2.5	Sediment control.	lump sum	1		\$2,000.00
<b>Item 2 Total</b>					<b>\$5,760.00</b>
<b>3</b>	<b>Drainage Pipelines</b>				
	Provide new gravity pipeline from existing reticulation located in Moana Avenue to connection at Bakehouse Lane.				
	Supply, excavate, bed, lay, joint, test, backfill and reinstate reinforced concrete (Class X) drainage pipe in road/footpath/reserve/garden.				
3.1	Single 600mm Nom Dia RCRRJ pipe in 1.5 – 3.0m depth.	m	80	\$395.00	\$31,600.00
3.2	Supply and install 1800mm Nom Dia RC manholes in 1.5 – 3.0m depth.	no.	2	\$9,580.00	\$19,160.00
3.3	Supply and install cesspits (675 x 450mm).	no.	2	\$1,500.00	\$3,000.00
3.4	Connect service (house) connections to new pipe.	no.	4	\$300.00	\$1,200.00
3.5	Connect existing pipes to new manholes.	no.	4	\$500.00	\$2,000.00
3.6	Trench excavation dewatering by pumping (Allow 100% of total pipeline length).	m	80	\$100.00	\$8,000.00
3.7	Trench excavation shoring up to 3.0m depth (Allow 50% of total pipeline length).	m2	80	\$100.00	\$8,000.00
<b>Item 3 Total</b>					<b>\$72,960.00</b>
<b>4</b>	<b>Miscellaneous</b>				
4.1	Reinstatement of tar seal roadway (hotmix).	m2	128	\$120.00	\$15,360.00
4.2	Reinstatement of concrete footpaths and driveways.	m2	24	\$100.00	\$2,400.00
<b>Item 4 Total</b>					<b>\$17,760.00</b>
<b>5</b>	<b>Design and Construction</b>				
5.1	Engineering Design and Construction Supervision.	lump sum	15%		\$19,122.00
<b>6</b>	<b>Contingency</b>				
6.1	Contingency.	lump sum	15%		\$21,990.30
<b>Option Total</b>					<b>\$168,592.30</b>

Notes:–

1. Estimate accuracy = +/- 20%.

**RODNEY DISTRICT COUNCIL**  
**OREWA CBD CATCHMENT MANAGEMENT PLAN**  
**STORMWATER FLOODING MITIGATION MEASURES**  
**OPTION 21 – NEW PIPE UPGRADE IN ALICE AVENUE, HIBISCUS COAST ROAD**  
**TO EXISTING BEACH OUTLET AT REMEMBRANCE RESERVE**  
**COST ESTIMATE**

Item	Description	Unit	Quantity	Rate (\$)	Amount (\$)
<b>1</b>	<b>Preliminary and General</b>				
1.1	Establishment.	lump sum	1		\$9,000.00
1.2	Insurances.	lump sum	1		\$5,000.00
1.3	Temporary Traffic Management (Incl Plan).	lump sum	1		\$10,000.00
1.4	Health and Safety (Incl Plan).	lump sum	1		\$5,000.00
1.5	Quality Assurance and Testing (Incl Plan).	lump sum	1		\$8,000.00
1.6	Network Utility Services (Liaison and location).	lump sum	1		\$4,000.00
1.7	As Built.	lump sum	1		\$4,000.00
<b>Item 1 Total</b>					<b>\$45,000.00</b>
<b>2</b>	<b>Earthworks</b>				
	Clearing				
2.1	Remove all miscellaneous vegetation, superficial obstructions and rubbish.	lump sum	1		\$2,000.00
2.2	Dismantle and remove existing fences, signs and street furniture and store for reuse.	lump sum	1		\$2,000.00
2.3	Undercut to waste where soft (Provisional).	m3	38	\$30.00	\$1,140.00
2.4	Supply and place hard fill (Provisional).	m3	38	\$80.00	\$3,040.00
2.5	Sediment control.	lump sum	1		\$4,000.00
<b>Item 2 Total</b>					<b>\$12,180.00</b>
<b>3</b>	<b>Drainage Pipelines</b>				
	Provide new gravity upgrade from existing reticulation located in Alice Avenue, Hibiscus Coast Highway Place to existing beach outlet.				
	Supply, excavate, bed, lay, joint, test, backfill and reinstate reinforced concrete (Class X) drainage pipe in road/footpath/reserve/garden.				
3.1	Single 600mm Nom Dia RCRRJ pipe in 1.5 – 3.0m depth.	m	52	\$395.00	\$20,540.00
3.2	Twin 675mm Nom Dia RCRRJ pipe in 1.5 – 3.0m depth.	m	66	\$801.00	\$52,866.00
3.3	Twin 750mm Nom Dia RCRRJ pipe in 1.5 – 3.0m depth.	m	8	\$945.00	\$7,560.00
3.4	Single 1050mm Nom Dia RCRRJ pipe in 1.5 – 3.0m depth.	m	64	\$860.00	\$55,040.00
3.5	Supply and install 1800mm Nom Dia RC manholes in 1.5 – 3.0m depth.	no.	1	\$9,580.00	\$9,580.00
3.6	Supply and install 2550mm Nom Dia RC manholes in 1.5 – 3.0m depth.	no.	4	\$17,800.00	\$71,200.00
3.7	Construct outlet structure.	no.	1	\$10,000.00	\$10,000.00
3.8	Supply and install cesspits (675 x 450mm).	no.	2	\$1,500.00	\$3,000.00
3.9	Connect service (house) connections to new pipe.	no.	12	\$300.00	\$3,600.00
3.10	Connect existing pipes to new manholes.	no.	10	\$500.00	\$5,000.00
3.11	Trench excavation dewatering by pumping (Allow 100% of total pipeline length).	m	190	\$100.00	\$19,000.00
3.12	Trench excavation shoring up to 3.0m depth (Allow 50% of total pipeline length).	m2	190	\$100.00	\$19,000.00
<b>Item 3 Total</b>					<b>\$255,846.00</b>
<b>4</b>	<b>Miscellaneous</b>				
4.1	Reinstatement of tar seal roadway (hotmix).	m2	76	\$120.00	\$9,120.00
4.2	Reinstatement of concrete footpaths and driveways.	m2	76	\$100.00	\$7,600.00

4.3	Reinstatement of fence lines.	lump sum			\$8,000.00
4.4	Reinstatement of gardens.	lump sum			\$8,000.00
4.5	Topsoil, grass and fertiliser.	m2	300	\$10.00	\$3,000.00
<b>Item 4 Total</b>					<b>\$35,720.00</b>
<b>5</b>	<b>Design and Construction</b>				
5.1	Engineering Design and Construction Supervision.	lump sum	15%		\$52,311.90
<b>6</b>	<b>Contingency</b>				
6.1	Contingency.	lump sum	15%		\$60,158.69
<b>Option Total</b>					<b>\$461,216.59</b>

Notes:-

1. Estimate accuracy = +/- 20%.

**RODNEY DISTRICT COUNCIL**  
**OREWA CBD CATCHMENT MANAGEMENT PLAN**  
**STORMWATER FLOODING MITIGATION MEASURES**  
**OPTION 22 – NEW PRESSURISED PIPE SERVICING FUTURE MULTI-STOREY DEVELOPMENT**  
**IN FLORENCE AVENUE, MOANA AVENUE, TAMARIKI AVENUE, MOENUI AVENUE,**  
**CENTREWAY ROAD AND RIVERSIDE ROAD TO NEW OUTLET ON DOMENT CREEK**  
**COST ESTIMATE**

Item	Description	Unit	Quantity	Rate (\$)	Amount (\$)
<b>1</b>	<b>Preliminary and General</b>				
1.1	Establishment.	lump sum	1		\$55,000.00
1.2	Insurances.	lump sum	1		\$30,000.00
1.3	Temporary Traffic Management (Incl Plan).	lump sum	1		\$85,000.00
1.4	Health and Safety (Incl Plan).	lump sum	1		\$21,000.00
1.5	Quality Assurance and Testing (Incl Plan).	lump sum	1		\$32,000.00
1.6	Network Utility Services (Liaison and location).	lump sum	1		\$27,000.00
1.7	As Built.	lump sum	1		\$33,000.00
<b>Item 1 Total</b>					<b>\$283,000.00</b>
<b>2</b>	<b>Earthworks</b>				
	Clearing.				
2.1	Remove all miscellaneous vegetation, superficial obstructions and rubbish.	lump sum	1		\$27,000.00
2.2	Dismantle and remove existing fences, signs and street furniture and store for reuse.	lump sum	1		\$27,000.00
2.3	Undercut to waste where soft (Provisional).	m3	74	\$30.00	\$2,220.00
2.4	Supply and place hard fill (Provisional).	m3	74	\$80.00	\$5,920.00
2.5	Sediment control.	lump sum	1		\$27,000.00
<b>Item 2 Total</b>					<b>\$89,140.00</b>
<b>3</b>	<b>Drainage Pipelines</b>				
	Provide new lateral gravity pipelines from new multi-storey development located in Florence Avenue, Moana Avenue, Tamariki Avenue and Moenui Avenue to connection with new main pipe in Centreway Road.				
	Supply, excavate, bed, lay, joint, test, backfill and reinstate polyethylene PE80B (PN6.3) pipe in road/footpath.				
3.1	Single 315mm Nom Dia PE80B pipe in 0 – 1.5m depth.	m	340	\$330.00	\$112,200.00
3.2	Single 355mm Nom Dia PE80B pipe in 0 – 1.5m depth.	m	55	\$350.00	\$19,250.00
3.3	Single 400mm Nom Dia PE80B pipe in 1.5 – 3.0m depth.	m	370	\$370.00	\$136,900.00
3.4	Single 450mm Nom Dia PE80B pipe in 1.5 – 3.0m depth.	m	320	\$400.00	\$128,000.00
3.5	Single 500mm Nom Dia PE80B pipe in 1.5 – 3.0m depth.	m	240	\$435.00	\$104,400.00
3.6	Single 560mm Nom Dia PE80B pipe in 1.5 – 3.0m depth.	m	225	\$480.00	\$108,000.00
3.7	Single 630mm Nom Dia PE80B pipe in 1.5 – 3.0m depth.	m	400	\$520.00	\$208,000.00
	Provide new main gravity pipeline from connection to new lateral pipes in Florence Avenue along Centreway Road and Riverside Road to new outlet in Doment Creek.				
	Supply, excavate, bed, lay, joint, test, backfill and reinstate reinforced concrete (Class X) drainage pipe in road/footpath/reserve. Includes tees for service connections.				

3.8	Single 675mm Nom Dia RCRRJ pipe in 1.5 – 3.0m depth.	m	180	\$445.00	\$80,100.00
3.9	Single 975mm Nom Dia RCRRJ pipe in 1.5 – 3.0m depth.	m	110	\$770.00	\$84,700.00
3.10	Single 1200mm Nom Dia RCRRJ pipe in 1.5 – 3.0m depth.	m	150	\$960.00	\$144,000.00
3.11	Single 1200mm Nom Dia RCRRJ pipe in 3.0 – 4.5m depth.	m	110	\$1,035.00	\$113,850.00
3.12	Supply and install 1050mm Nom Dia RC manholes in 1.5 – 3.0m depth. (sealed).	no.	4	\$4,550.00	\$18,200.00
3.13	Supply and install 1800mm Nom Dia RC manholes in 1.5 – 3.0m depth. (sealed)	no.	2	\$9,580.00	\$19,160.00
3.14	Supply and install 1800mm Nom Dia RC manholes in 1.5 – 3.0m depth. (sealed).	no.	2	\$12,380.00	\$24,760.00
3.15	Trench excavation dewatering by pumping (Allow 100% of total pipeline length).	m	2500	\$100.00	\$250,000.00
3.16	Trench excavation shoring up to 3.0m depth (Allow 50% of total pipeline length).	m2	2500	\$100.00	\$250,000.00
<b>Item 3 Total</b>					<b>\$1,801,520.00</b>
<b>4</b>	<b>Miscellaneous</b>				
4.1	Reinstatement of tar seal roadway (hotmix).	m2	2625	\$120.00	\$315,000.00
4.2	Reinstatement of concrete footpaths and driveways.	m2	750	\$100.00	\$75,000.00
4.4	Reinstatement of reserve.	lump sum			\$10,000.00
4.5	Topsoil, grass and fertiliser.	m2	200	\$10.00	\$2,000.00
<b>Item 4 Total</b>					<b>\$402,000.00</b>
<b>5</b>	<b>Design and Construction</b>				
5.1	Engineering Design and Construction Supervision.	lump sum	15%		\$386,349.00
<b>6</b>	<b>Contingency</b>				
6.1	Contingency.	lump sum	15%		\$444,301.35
<b>Option Total</b>					<b>\$3,406,310.35</b>

Notes:–

1. Estimate accuracy = +/- 20%.

**RODNEY DISTRICT COUNCIL**  
**OREWA CBD CATCHMENT MANAGEMENT PLAN**  
**STORMWATER FLOODING MITIGATION MEASURES**  
**OPTION 24 – NEW DIVERSION PIPE IN MOANA AVENUE**  
**TO EXISTING BEACH OUTLET AT MOANA RESERVE**  
**COST ESTIMATE**

Item	Description	Unit	Quantity	Rate (\$)	Amount (\$)
<b>1</b>	<b>Preliminary and General</b>				
1.1	Establishment.	lump sum	1		\$20,000.00
1.2	Insurances.	lump sum	1		\$5,000.00
1.3	Temporary Traffic Management (Incl Plan).	lump sum	1		\$21,000.00
1.4	Health and Safety (Incl Plan).	lump sum	1		\$6,000.00
1.5	Quality Assurance and Testing (Incl Plan).	lump sum	1		\$8,000.00
1.6	Network Utility Services (Liaison and location).	lump sum	1		\$6,000.00
1.7	As Built.	lump sum	1		\$4,000.00
<b>Item 1 Total</b>					<b>\$70,000.00</b>
<b>2</b>	<b>Earthworks</b>				
	Clearing.				
2.1	Remove all miscellaneous vegetation, superficial obstructions and rubbish.	lump sum	1		\$4,000.00
2.2	Dismantle and remove existing fences, signs and street furniture and store for reuse.	lump sum	1		\$4,000.00
2.3	Undercut to waste where soft (Provisional).	m3	42	\$30.00	\$1,260.00
2.4	Supply and place hard fill (Provisional).	m3	42	\$80.00	\$3,360.00
2.5	Sediment control.	lump sum	1		\$6,000.00
<b>Item 2 Total</b>					<b>\$18,620.00</b>
<b>3</b>	<b>Drainage Pipelines</b>				
	Provide new gravity pipeline from existing reticulation located in Moana Avenue to connection at Bakehouse Lane.				
	Supply, excavate, bed, lay, joint, test, backfill and reinstate reinforced concrete (Class X) drainage pipe in road/footpath/reserve/garden.				
3.1	Single 1200mm Nom Dia RCRRJ pipe in 1.5 – 3.0m depth.	m	206	\$960.00	\$197,760.00
3.2	Supply and install 1800mm Nom Dia RC manholes in 1.5 – 3.0m depth.	no.	5	\$9,580.00	\$47,900.00
3.3	Supply and install cesspits (675 x 450mm).	no.	6	\$1,500.00	\$9,000.00
3.4	Connect service (house) connections to new pipe.	no.	20	\$300.00	\$6,000.00
3.5	Connect existing pipes to new manholes.	no.	6	\$500.00	\$3,000.00
3.6	Trench excavation dewatering by pumping (Allow 100% of total pipeline length).	m	206	\$100.00	\$20,600.00
3.7	Trench excavation shoring up to 3.0m depth (Allow 100% of total pipeline length).	m2	412	\$100.00	\$41,200.00
3.8	Construct outlet structure on beach.	no.	1	\$10,000.00	\$10,000.00
<b>Item 3 Total</b>					<b>\$335,460.00</b>
<b>4</b>	<b>Miscellaneous</b>				
4.1	Reinstatement of tar seal roadway (hotmix).	m2	247.2	\$120.00	\$29,664.00
4.2	Reinstatement of concrete footpaths and driveways.	m2	82.4	\$100.00	\$8,240.00
<b>Item 4 Total</b>					<b>\$37,904.00</b>
<b>5</b>	<b>Design and Construction</b>				
5.1	Engineering Design and Construction Supervision.	lump sum	15%		\$69,297.60
<b>6</b>	<b>Contingency</b>				
6.1	Contingency.	lump sum	15%		\$79,692.24
<b>Option Total</b>					<b>\$610,973.84</b>

Notes:-

1. Estimate accuracy = +/- 20%.

RODNEY DISTRICT COUNCIL OREWA CBD CATCHMENT MANAGEMENT PLAN STORMWATER IMPROVEMENT OPTIONS SCHEDULE OF RATES						
Item	Description	Unit	Unit Rate (\$)	Unit Rate (\$)	Extra Over Unit Rate (\$)	Extra Over Unit Rate (\$)
SINGLE PIPE (TRENCH INSTALL)			TWIN PIPE (TRENCH INSTALL)		SINGLE PIPE (TRENCHLESS INSTALL)	
					TWIN PIPE (TRENCHLESS INSTALL)	
1	375mm Dia RCRRJ Class X Drainage Pipe (1.5-3.0m depth)	m	\$100.00	\$190.00	\$100.00	\$180.00
1.1	Supply and delivery	m	\$45.00	\$81.00	\$45.00	\$81.00
1.2	Excavate (including removal of any existing pipes)	m	\$60.00	\$108.00	\$60.00	\$108.00
1.3	Bed, lay, joint and test	m	\$70.00	\$126.00	\$70.00	\$126.00
1.4	Backfill and reinstatement	m	\$20.00	\$36.00	\$20.00	\$36.00
1.5	Extra cover for thrusting	m				
	<b>Total Rate</b>		<b>\$275.00</b>	<b>\$481.00</b>	<b>\$275.00</b>	<b>\$475.00</b>
1	525mm Dia RCRRJ Class X Drainage Pipe (1.5-3.0m depth)	m	\$155.00	\$279.00	\$155.00	\$279.00
1.1	Supply and delivery	m	\$50.00	\$90.00	\$50.00	\$90.00
1.2	Excavate (including removal of any existing pipes)	m	\$65.00	\$117.00	\$65.00	\$117.00
1.3	Bed, lay, joint and test	m	\$75.00	\$135.00	\$75.00	\$135.00
1.4	Backfill and reinstatement	m	\$25.00	\$45.00	\$25.00	\$45.00
1.5	Extra cover for thrusting	m				
	<b>Total Rate</b>		<b>\$345.00</b>	<b>\$621.00</b>	<b>\$345.00</b>	<b>\$621.00</b>
1	600mm Dia RCRRJ Class X Drainage Pipe (1.5-3.0m depth)	m	\$195.00	\$351.00	\$195.00	\$351.00
1.1	Supply and delivery	m	\$55.00	\$99.00	\$55.00	\$99.00
1.2	Excavate (including removal of any existing pipes)	m	\$65.00	\$117.00	\$65.00	\$117.00
1.3	Bed, lay, joint and test	m	\$70.00	\$126.00	\$70.00	\$126.00
1.4	Backfill and reinstatement	m	\$25.00	\$45.00	\$25.00	\$45.00
1.5	Extra cover for thrusting	m				
	<b>Total Rate</b>		<b>\$395.00</b>	<b>\$711.00</b>	<b>\$395.00</b>	<b>\$711.00</b>
1	675mm Dia RCRRJ Class X Drainage Pipe (1.5-3.0m depth)	m	\$230.00	\$414.00	\$230.00	\$414.00
1.1	Supply and delivery	m	\$60.00	\$108.00	\$60.00	\$108.00
1.2	Excavate (including removal of any existing pipes)	m	\$70.00	\$126.00	\$70.00	\$126.00
1.3	Bed, lay, joint and test	m	\$85.00	\$153.00	\$85.00	\$153.00
1.4	Backfill and reinstatement	m	\$25.00	\$45.00	\$25.00	\$45.00
1.5	Extra cover for thrusting	m				
	<b>Total Rate</b>		<b>\$445.00</b>	<b>\$801.00</b>	<b>\$445.00</b>	<b>\$801.00</b>
1	750mm Dia RCRRJ Class X Drainage Pipe (1.5-3.0m depth)	m	\$300.00	\$540.00	\$300.00	\$540.00
1.1	Supply and delivery	m	\$65.00	\$117.00	\$65.00	\$117.00
1.2	Excavate (including removal of any existing pipes)	m	\$70.00	\$126.00	\$70.00	\$126.00
1.3	Bed, lay, joint and test	m	\$80.00	\$144.00	\$80.00	\$144.00
1.4	Backfill and reinstatement	m	\$25.00	\$45.00	\$25.00	\$45.00
1.5	Extra cover for thrusting	m				
	<b>Total Rate</b>		<b>\$525.00</b>	<b>\$945.00</b>	<b>\$525.00</b>	<b>\$945.00</b>
2	825mm Dia RCRRJ Class X Drainage Pipe (1.5-3.0m depth)	m	\$315.00	\$567.00	\$315.00	\$567.00
1.1	Supply and delivery	m	\$70.00	\$126.00	\$70.00	\$126.00
1.2	Excavate (including removal of any existing pipes)	m	\$75.00	\$135.00	\$75.00	\$135.00
1.3	Bed, lay, joint and test	m	\$85.00	\$153.00	\$85.00	\$153.00
1.4	Backfill and reinstatement	m	\$25.00	\$45.00	\$25.00	\$45.00
1.5	Extra cover for thrusting	m				
	<b>Total Rate</b>		<b>\$555.00</b>	<b>\$999.00</b>	<b>\$555.00</b>	<b>\$999.00</b>
3	900mm Dia RCRRJ Class X Drainage Pipe (1.5-3.0m depth)	m	\$410.00	\$738.00	\$410.00	\$738.00
1.1	Supply and delivery	m	\$75.00	\$135.00	\$75.00	\$135.00
1.2	Excavate (including removal of any existing pipes)	m	\$75.00	\$135.00	\$75.00	\$135.00
1.3	Bed, lay, joint and test	m	\$90.00	\$162.00	\$90.00	\$162.00
1.4	Backfill and reinstatement	m	\$30.00	\$54.00	\$30.00	\$54.00
1.5	Extra cover for thrusting	m				
	<b>Total Rate</b>		<b>\$670.00</b>	<b>\$1,212.00</b>	<b>\$670.00</b>	<b>\$1,212.00</b>
4	900mm Dia RCRRJ Class X Drainage Pipe (3.0-4.5m depth)	m	\$410.00	\$738.00	\$410.00	\$738.00
1.1	Supply and delivery	m	\$85.00	\$153.00	\$85.00	\$153.00
1.2	Excavate (including removal of any existing pipes)	m	\$100.00	\$180.00	\$100.00	\$180.00
2.3	Bed, lay, joint and test	m	\$130.00	\$234.00	\$130.00	\$234.00
2.4	Backfill and reinstatement	m	\$30.00	\$54.00	\$30.00	\$54.00
2.5	Extra cover for thrusting	m				
	<b>Total Rate</b>		<b>\$735.00</b>	<b>\$1,323.00</b>	<b>\$735.00</b>	<b>\$1,323.00</b>
5	975mm Dia RCRRJ Class X Drainage Pipe (1.5-3.0m depth)	m	\$495.00	\$891.00	\$495.00	\$891.00
1.1	Supply and delivery	m	\$85.00	\$153.00	\$85.00	\$153.00
1.2	Excavate (including removal of any existing pipes)	m	\$90.00	\$162.00	\$90.00	\$162.00
1.3	Bed, lay, joint and test	m	\$110.00	\$198.00	\$110.00	\$198.00
1.4	Backfill and reinstatement	m	\$30.00	\$54.00	\$30.00	\$54.00
1.5	Extra cover for thrusting	m				
	<b>Total Rate</b>		<b>\$770.00</b>	<b>\$1,386.00</b>	<b>\$770.00</b>	<b>\$1,386.00</b>
6	1050mm Dia RCRRJ Class X Drainage Pipe (1.5-3.0m depth)	m	\$595.00	\$1,071.00	\$595.00	\$1,071.00
1.1	Supply and delivery	m	\$95.00	\$171.00	\$95.00	\$171.00
1.2	Excavate (including removal of any existing pipes)	m	\$95.00	\$171.00	\$95.00	\$171.00
1.3	Bed, lay, joint and test	m	\$120.00	\$216.00	\$120.00	\$216.00
1.4	Backfill and reinstatement	m	\$35.00	\$63.00	\$35.00	\$63.00
1.5	Extra cover for thrusting	m				
	<b>Total Rate</b>		<b>\$860.00</b>	<b>\$1,548.00</b>	<b>\$860.00</b>	<b>\$1,548.00</b>
7	1050mm Dia RCRRJ Class X Drainage Pipe (3.0-4.5m depth)	m	\$595.00	\$1,071.00	\$595.00	\$1,071.00
1.1	Supply and delivery	m	\$110.00	\$198.00	\$110.00	\$198.00
1.2	Excavate (including removal of any existing pipes)	m	\$110.00	\$198.00	\$110.00	\$198.00
1.3	Bed, lay, joint and test	m	\$150.00	\$270.00	\$150.00	\$270.00
1.4	Backfill and reinstatement	m	\$30.00	\$54.00	\$30.00	\$54.00
1.5	Extra cover for thrusting	m				
	<b>Total Rate</b>		<b>\$930.00</b>	<b>\$1,674.00</b>	<b>\$930.00</b>	<b>\$1,674.00</b>
8	1200mm Dia RCRRJ Class X Drainage Pipe (1.5-3.0m depth)	m	\$640.00	\$1,152.00	\$640.00	\$1,152.00
1.1	Supply and delivery	m	\$100.00	\$180.00	\$100.00	\$180.00
1.2	Excavate (including removal of any existing pipes)	m	\$100.00	\$180.00	\$100.00	\$180.00
1.3	Bed, lay, joint and test	m	\$130.00	\$234.00	\$130.00	\$234.00
1.4	Backfill and reinstatement	m	\$30.00	\$54.00	\$30.00	\$54.00
1.5	Extra cover for thrusting	m				
	<b>Total Rate</b>		<b>\$960.00</b>	<b>\$1,728.00</b>	<b>\$960.00</b>	<b>\$1,728.00</b>
8	1200mm Dia RCRRJ Class X Drainage Pipe (3.0-4.5m depth)	m	\$640.00	\$1,152.00	\$640.00	\$1,152.00
1.1	Supply and delivery	m	\$115.00	\$207.00	\$115.00	\$207.00
1.2	Excavate (including removal of any existing pipes)	m	\$120.00	\$216.00	\$120.00	\$216.00
1.3	Bed, lay, joint and test	m	\$160.00	\$288.00	\$160.00	\$288.00
1.4	Backfill and reinstatement	m	\$45.00	\$81.00	\$45.00	\$81.00
1.5	Extra cover for thrusting	m				
	<b>Total Rate</b>		<b>\$1,035.00</b>	<b>\$1,863.00</b>	<b>\$1,035.00</b>	<b>\$1,863.00</b>
10	1350mm Dia RCRRJ Class X Drainage Pipe (1.5-3.0m depth)	m	\$770.00	\$1,386.00	\$770.00	\$1,386.00
1.1	Supply and delivery	m	\$120.00	\$216.00	\$120.00	\$216.00
1.2	Excavate (including removal of any existing pipes)	m	\$140.00	\$252.00	\$140.00	\$252.00
1.3	Bed, lay, joint and test	m	\$180.00	\$324.00	\$180.00	\$324.00
1.4	Backfill and reinstatement	m	\$30.00	\$54.00	\$30.00	\$54.00
1.5	Extra cover for thrusting	m				
	<b>Total Rate</b>		<b>\$1,210.00</b>	<b>\$2,178.00</b>	<b>\$1,210.00</b>	<b>\$2,178.00</b>
11	1650mm Dia RCRRJ Class X Drainage Pipe (1.5-3.0m depth)	m	\$940.00	\$1,692.00	\$940.00	\$1,692.00
1.1	Supply and delivery	m	\$130.00	\$234.00	\$130.00	\$234.00
1.2	Excavate (including removal of any existing pipes)	m	\$140.00	\$252.00	\$140.00	\$252.00
1.3	Bed, lay, joint and test	m	\$210.00	\$378.00	\$210.00	\$378.00
1.4	Backfill and reinstatement	m	\$60.00	\$108.00	\$60.00	\$108.00
1.5	Extra cover for thrusting	m				
	<b>Total Rate</b>		<b>\$1,420.00</b>	<b>\$2,556.00</b>	<b>\$1,420.00</b>	<b>\$2,556.00</b>
<b>MANHOLES</b>						
12	1050mm Nom Dia RC Manholes (Up to 600mm Nom Dia Pipes at 1.5-3.0m depth)				(Up to 1200mm Nom Dia Pipes at 2.0-4.5m depth)	
	Supply and delivery					
9.1	Flanged base slab with riser	each	\$1,800.00	\$2,450.00		
9.2	Lid and adjustment rings	each	\$350.00	\$350.00		
9.3	Frame and cover	each	\$490.00	\$490.00		
9.4	Excavate, install, backfill and reinstatement	each	\$2,000.00	\$2,700.00		
	<b>Total Rate</b>		<b>\$4,550.00</b>	<b>\$5,990.00</b>		
13	1800mm Nom Dia RC Manholes (Up to 1200mm Nom Dia Pipes at 1.5-3.0m depth)				(Up to 1200mm Nom Dia Pipes at 2.0-4.5m depth)	
	Supply and delivery					
10.1	Flanged base slab with riser	each	\$3,900.00	\$5,200.00		
10.2	Lid and adjustment rings	each	\$1,200.00	\$1,200.00		
10.3	Frame and cover	each	\$490.00	\$490.00		
10.4	Excavate, install, backfill and reinstatement	each	\$1,000.00	\$1,300.00		
	<b>Total Rate</b>		<b>\$9,590.00</b>	<b>\$12,390.00</b>		
14	2550mm Nom Dia RC Manholes (Up to 1200mm Nom Dia Pipes at 1.5-3.0m depth)				(Up to 1200mm Nom Dia Pipes at 2.0-4.5m depth)	
	Supply and delivery					
10.1	Flanged base slab with riser	each	\$8,900.00	\$10,600.00		
10.2	Lid and adjustment rings	each	\$2,500.00	\$2,500.00		
10.3	Frame and cover	each	\$490.00	\$490.00		
10.4	Excavate, install, backfill and reinstatement	each	\$1,000.00	\$1,300.00		
	<b>Total Rate</b>		<b>\$17,890.00</b>	<b>\$22,500.00</b>		
<b>CHANNEL</b>						
15	Reinforced concrete channel section					
11.1	200mm thick base Slab (35 MPa concrete) steel reinforced, incl supply, placing, forming and finishing	m3	\$350.00	\$140.00	Channel 2.0m wide x 1.8m high	Channel 4.0m wide x 1.8m high
11.2	200mm thick concrete blockwork walls, incl supply, laying, reinforcement, grout core filling and waterproofing backfilled face.	m2	\$250.00	\$90.00		\$90.00
	<b>Total Rate/m length</b>		<b>\$550.00</b>	<b>\$1,130.00</b>		<b>\$1,290.00</b>

Notes-  
1. Estimate accuracy = +/- 20%.

**RODNEY DISTRICT COUNCIL  
OREWA CBD CATCHMENT MANAGEMENT PLAN  
STORMWATER IMPROVEMENT OPTIONS  
SCHEDULE OF RATES**

Item	Description	Unit	Unit Rate (\$)	Unit Rate (\$)	Extra Over Unit Rate (\$)	Extra Over Unit Rate (\$)	
SINGLE PIPE (TRENCH INSTALL)		TWIN PIPE (TRENCH INSTALL)		SINGLE PIPE (TRENCHLESS INSTALL)		TWIN PIPE (TRENCHLESS INSTALL)	
<b>1</b>	<b>375mm Dia RCRRJ Class X Drainage Pipe (1.5-3.0m depth)</b>						
1.1	Supply and delivery	m	\$80.00	\$136.00	\$80.00	\$136.00	
1.2	Excavate (including removal of any existing pipes)	m	\$40.00	\$72.00	\$40.00	\$72.00	
1.3	Bed, lay, joint and test	m	\$60.00	\$108.00	\$60.00	\$108.00	
1.4	Backfill and reinstatement	m	\$65.00	\$117.00	\$65.00	\$117.00	
1.5	Extra cover for thrusting	m		\$200.00		\$200.00	
	<b>Total Rate</b>		<b>\$245.00</b>	<b>\$433.00</b>	<b>\$445.00</b>	<b>\$733.00</b>	
<b>1</b>	<b>525mm Dia RCRRJ Class X Drainage Pipe (1.5-3.0m depth)</b>						
1.1	Supply and delivery	m	\$130.00	\$221.00	\$130.00	\$221.00	
1.2	Excavate (including removal of any existing pipes)	m	\$45.00	\$81.00	\$45.00	\$81.00	
1.3	Bed, lay, joint and test	m	\$65.00	\$117.00	\$65.00	\$117.00	
1.4	Backfill and reinstatement	m	\$70.00	\$126.00	\$70.00	\$126.00	
1.5	Extra cover for thrusting	m		\$200.00		\$200.00	
	<b>Total Rate</b>		<b>\$310.00</b>	<b>\$545.00</b>	<b>\$510.00</b>	<b>\$845.00</b>	
<b>1</b>	<b>600mm Dia RCRRJ Class X Drainage Pipe (1.5-3.0m depth)</b>						
1.1	Supply and delivery	m	\$150.00	\$255.00	\$150.00	\$255.00	
1.2	Excavate (including removal of any existing pipes)	m	\$50.00	\$90.00	\$50.00	\$90.00	
1.3	Bed, lay, joint and test	m	\$65.00	\$117.00	\$65.00	\$117.00	
1.4	Backfill and reinstatement	m	\$75.00	\$135.00	\$75.00	\$135.00	
1.5	Extra cover for thrusting	m		\$200.00		\$200.00	
	<b>Total Rate</b>		<b>\$340.00</b>	<b>\$597.00</b>	<b>\$540.00</b>	<b>\$897.00</b>	
<b>1</b>	<b>675mm Dia RCRRJ Class X Drainage Pipe (1.5-3.0m depth)</b>						
1.1	Supply and delivery	m	\$170.00	\$289.00	\$170.00	\$289.00	
1.2	Excavate (including removal of any existing pipes)	m	\$55.00	\$99.00	\$55.00	\$99.00	
1.3	Bed, lay, joint and test	m	\$70.00	\$126.00	\$70.00	\$126.00	
1.4	Backfill and reinstatement	m	\$80.00	\$144.00	\$80.00	\$144.00	
1.5	Extra cover for thrusting	m		\$200.00		\$200.00	
	<b>Total Rate</b>		<b>\$375.00</b>	<b>\$658.00</b>	<b>\$575.00</b>	<b>\$958.00</b>	
<b>1</b>	<b>750mm Dia RCRRJ Class X Drainage Pipe (1.5-3.0m depth)</b>						
1.1	Supply and delivery	m	\$185.00	\$314.50	\$185.00	\$314.50	
1.2	Excavate (including removal of any existing pipes)	m	\$55.00	\$99.00	\$55.00	\$99.00	
1.3	Bed, lay, joint and test	m	\$70.00	\$126.00	\$70.00	\$126.00	
1.4	Backfill and reinstatement	m	\$80.00	\$144.00	\$80.00	\$144.00	
1.5	Extra cover for thrusting	m		\$200.00		\$200.00	
	<b>Total Rate</b>		<b>\$390.00</b>	<b>\$683.50</b>	<b>\$590.00</b>	<b>\$983.50</b>	
<b>1</b>	<b>825mm Dia RCRRJ Class X Drainage Pipe (1.5-3.0m depth)</b>						
1.1	Supply and delivery	m	\$200.00	\$340.00	\$200.00	\$340.00	
1.2	Excavate (including removal of any existing pipes)	m	\$60.00	\$108.00	\$60.00	\$108.00	
1.3	Bed, lay, joint and test	m	\$75.00	\$135.00	\$75.00	\$135.00	
1.4	Backfill and reinstatement	m	\$85.00	\$153.00	\$85.00	\$153.00	
1.5	Extra cover for thrusting	m		\$200.00		\$200.00	
	<b>Total Rate</b>		<b>\$420.00</b>	<b>\$736.00</b>	<b>\$620.00</b>	<b>\$1,036.00</b>	
<b>1</b>	<b>900mm Dia RCRRJ Class X Drainage Pipe (1.5-3.0m depth)</b>						
1.1	Supply and delivery	m	\$280.00	\$476.00	\$280.00	\$476.00	
1.2	Excavate (including removal of any existing pipes)	m	\$65.00	\$117.00	\$65.00	\$117.00	
1.3	Bed, lay, joint and test	m	\$75.00	\$135.00	\$75.00	\$135.00	
1.4	Backfill and reinstatement	m	\$90.00	\$162.00	\$90.00	\$162.00	
1.5	Extra cover for thrusting	m		\$200.00		\$200.00	
	<b>Total Rate</b>		<b>\$510.00</b>	<b>\$890.00</b>	<b>\$710.00</b>	<b>\$1,190.00</b>	
<b>2</b>	<b>900mm Dia RCRRJ Class X Drainage Pipe (3.0-4.5m depth)</b>						
2.1	Supply and delivery	m	\$280.00	\$476.00	\$280.00	\$476.00	
2.2	Excavate (including removal of any existing pipes)	m	\$90.00	\$162.00	\$90.00	\$162.00	
2.3	Bed, lay, joint and test	m	\$100.00	\$180.00	\$100.00	\$180.00	
2.4	Backfill and reinstatement	m	\$130.00	\$234.00	\$130.00	\$234.00	
2.5	Extra cover for thrusting	m		\$250.00		\$250.00	
	<b>Total Rate</b>		<b>\$600.00</b>	<b>\$1,052.00</b>	<b>\$850.00</b>	<b>\$1,402.00</b>	
<b>1</b>	<b>975mm Dia RCRRJ Class X Drainage Pipe (1.5-3.0m depth)</b>						
1.1	Supply and delivery	m	\$335.00				
1.2	Excavate (including removal of any existing pipes)	m	\$70.00				
1.3	Bed, lay, joint and test	m	\$85.00				
1.4	Backfill and reinstatement	m	\$100.00				
1.5	Extra cover for thrusting	m					
	<b>Total Rate</b>		<b>\$590.00</b>				
<b>3</b>	<b>1050mm Dia RCRRJ Class X Drainage Pipe (1.5-3.0m depth)</b>						
3.1	Supply and delivery	m	\$390.00	\$663.00	\$390.00	\$663.00	
3.2	Excavate (including removal of any existing pipes)	m	\$75.00	\$135.00	\$75.00	\$135.00	
3.3	Bed, lay, joint and test	m	\$90.00	\$162.00	\$90.00	\$162.00	
3.4	Backfill and reinstatement	m	\$105.00	\$189.00	\$105.00	\$189.00	
3.5	Extra cover for thrusting	m		\$200.00		\$200.00	
	<b>Total Rate</b>		<b>\$660.00</b>	<b>\$1,149.00</b>	<b>\$860.00</b>	<b>\$1,549.00</b>	
<b>4</b>	<b>1050mm Dia RCRRJ Class X Drainage Pipe (3.0-4.5m depth)</b>						
4.1	Supply and delivery	m	\$390.00	\$663.00	\$390.00	\$663.00	
4.2	Excavate (including removal of any existing pipes)	m	\$100.00	\$180.00	\$100.00	\$180.00	
4.3	Bed, lay, joint and test	m	\$110.00	\$198.00	\$110.00	\$198.00	
4.4	Backfill and reinstatement	m	\$130.00	\$234.00	\$130.00	\$234.00	
4.5	Extra cover for thrusting	m		\$250.00		\$250.00	
	<b>Total Rate</b>		<b>\$730.00</b>	<b>\$1,275.00</b>	<b>\$1,080.00</b>	<b>\$1,725.00</b>	
<b>5</b>	<b>1200mm Dia RCRRJ Class X Drainage Pipe (1.5-3.0m depth)</b>						
5.1	Supply and delivery	m	\$470.00	\$799.00	\$470.00	\$799.00	
5.2	Excavate (including removal of any existing pipes)	m	\$90.00	\$162.00	\$90.00	\$162.00	
5.3	Bed, lay, joint and test	m	\$100.00	\$180.00	\$100.00	\$180.00	
5.4	Backfill and reinstatement	m	\$115.00	\$207.00	\$115.00	\$207.00	
5.5	Extra cover for thrusting	m		\$200.00		\$200.00	
	<b>Total Rate</b>		<b>\$775.00</b>	<b>\$1,348.00</b>	<b>\$1,175.00</b>	<b>\$1,848.00</b>	
<b>6</b>	<b>1200mm Dia RCRRJ Class X Drainage Pipe (3.0-4.5m depth)</b>						
6.1	Supply and delivery	m	\$470.00	\$799.00	\$470.00	\$799.00	
6.2	Excavate (including removal of any existing pipes)	m	\$115.00	\$207.00	\$115.00	\$207.00	
6.3	Bed, lay, joint and test	m	\$120.00	\$216.00	\$120.00	\$216.00	
6.4	Backfill and reinstatement	m	\$140.00	\$252.00	\$140.00	\$252.00	
6.5	Extra cover for thrusting	m		\$250.00		\$250.00	
	<b>Total Rate</b>		<b>\$845.00</b>	<b>\$1,474.00</b>	<b>\$1,295.00</b>	<b>\$2,024.00</b>	
<b>7</b>	<b>1500mm Dia RCRRJ Class X Drainage Pipe (1.5-3.0m depth)</b>						
7.1	Supply and delivery	m	\$540.00	\$918.00	\$540.00	\$918.00	
7.2	Excavate (including removal of any existing pipes)	m	\$120.00	\$216.00	\$120.00	\$216.00	
7.3	Bed, lay, joint and test	m	\$140.00	\$252.00	\$140.00	\$252.00	
7.4	Backfill and reinstatement	m	\$150.00	\$270.00	\$150.00	\$270.00	
7.5	Extra cover for thrusting	m		\$200.00		\$200.00	
	<b>Total Rate</b>		<b>\$950.00</b>	<b>\$1,656.00</b>	<b>\$1,350.00</b>	<b>\$2,356.00</b>	
<b>8</b>	<b>1650mm Dia RCRRJ Class X Drainage Pipe (1.5-3.0m depth)</b>						
8.1	Supply and delivery	m	\$600.00	\$1,020.00	\$600.00	\$1,020.00	
8.2	Excavate (including removal of any existing pipes)	m	\$130.00	\$234.00	\$130.00	\$234.00	
8.3	Bed, lay, joint and test	m	\$140.00	\$252.00	\$140.00	\$252.00	
8.4	Backfill and reinstatement	m	\$150.00	\$270.00	\$150.00	\$270.00	
8.5	Extra cover for thrusting	m		\$200.00		\$200.00	
	<b>Total Rate</b>		<b>\$1,020.00</b>	<b>\$1,776.00</b>	<b>\$1,320.00</b>	<b>\$2,376.00</b>	
<b>MANHOLES</b>							
<b>9</b>	<b>1050mm Nom Dia RC Manholes (Up to 600mm Nom Dia Pipes at 1.5-3.0m depth)</b>						
	Supply and delivery						
9.1	Flanged base slab with riser	each	\$900.00	\$1,150.00			
9.2	Lid and adjustment rings	each	\$300.00	\$300.00			
9.3	Frame and cover	each	\$150.00	\$150.00			
9.4	Excavate, install, backfill and reinstatement	each	\$750.00	\$1,050.00			
	<b>Total Rate</b>		<b>\$2,000.00</b>	<b>\$2,600.00</b>			
<b>10</b>	<b>1800mm Nom Dia RC Manholes (Up to 1200mm Nom Dia Pipes at 1.5-3.0m depth)</b>						
	Supply and delivery						
10.1	Flanged base slab with riser	each	\$2,400.00	\$3,200.00			
10.2	Lid and adjustment rings	each	\$900.00	\$900.00			
10.3	Frame and cover	each	\$300.00	\$300.00			
10.4	Excavate, install, backfill and reinstatement	each	\$1,300.00	\$1,700.00			
	<b>Total Rate</b>		<b>\$4,900.00</b>	<b>\$6,000.00</b>			
<b>10</b>	<b>2550mm Nom Dia RC Manholes (Up to 1200mm Nom Dia Pipes at 1.5-3.0m depth)</b>						
	Supply and delivery						
10.1	Flanged base slab with riser	each	\$3,500.00	\$4,200.00			
10.2	Lid and adjustment rings	each	\$1,300.00	\$1,300.00			
10.3	Frame and cover	each	\$300.00	\$300.00			
10.4	Excavate, install, backfill and reinstatement	each	\$2,000.00	\$2,600.00			
	<b>Total Rate</b>		<b>\$7,100.00</b>	<b>\$8,300.00</b>			
<b>CHANNEL</b>							
<b>11</b>	<b>Reinforced concrete channel section</b>						
11.1	200mm thick base Slab (35 MPa concrete) steel reinforced, incl supply, placing, forming and finishing	m3	\$350.00	\$140.00	Channel 2.0m wide x 1.8m high	Channel 4.0m wide x 1.8m high	
11.2	200mm thick concrete blockwork walls, incl supply, laying, reinforcement, grout core filling and waterproofing backfilled face.	m2	\$130.00	\$234.00			
	<b>Total Rate/m length</b>		<b>\$130.00</b>	<b>\$374.00</b>		<b>\$542.00</b>	

Notes-  
1. Estimate accuracy = +/- 20%.