Western Bay of Plenty District Council

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224 Documents + General Guidelines required for **224c**

This is a guideline/checksheet of the engineering documents Council require which may pertain to certain subdivisions.

Note: We have adopted some of TCC's documents so please be aware before submitting a 224c Application.

This document is bookmarked for your convenience. Click the checkboxes (if relevant) in the checklist section to declare that it was been provided/completed.

Checklist:

☐ Asset Completion Report

☐ Certification Statement – Cert 1a

☐ Schedule of Asset Values – Cert 1c

☐ Checklist QA – Earthworks – Cert 1d
☐ Checklist QA – Roading – Cert 1e
☐ Checklist QA – Underground Services – Cert 1f

☐ Asbuilts – 3 Waters with Spatial and Aspatial
☐ Asbuilts – Benchmarks – Cert 1h
☐ Asbuilts – Roading Layout (Show Streetlights and Benchmarks if applicable)
☐ Asbuilts – Roading – AB2 Form
☐ Asbuilts – Final Contour

☐ Conf. of Construction – Road and Ancillary – Cert 4a
☐ Conf. of Construction – Stormwater – Cert 5a
☐ Conf. of Construction – Sanitary Sewer – Cert 6a
☐ Conf. of Construction – Water Reticulation – Cert 7a

☐ Geotechnical Completion Report
☐ Suitability of Land for Building – Cert 10c

Quality Assurance – Roading

- ☐ Post Construction Safety Audit
- ☐ Subgrade: Stringlines (-30mm, +0mm) and CBRs etc
- ☐ Pavement Layers:

Nuclear Densomoter results
Benkelman beam
Grading/Weathering/Crushing/Sand Equivalent
Stringlines
Documents Supplied from Quarry (note: must be less than 3 months old)

- ☐ Sealing Records: Chip (weather and crushing resistance)/Membrane/Asphalt (mix solution)

Quality Assurance – Stormwater

- ☐ CCTV – Report and Video Files (AVI Format)
- ☐ Inspection Sheet: Stormwater Manhole and Pipeline – IS 5.1
- ☐ Inspection Sheet: Sump – IS 5.2

Quality Assurance - Wastewater

- ☐ CCTV – Report and Video Files (AVI Format)
- ☐ Low Pressure Test (TCC's TS 6.1)
- ☐ Inspection Sheet: Wastewater Manhole and Pipeline – IS 6.1

Quality Assurance - Water Supply:

- ☐ Producer Statement – Appendix A1
- ☐ Disinfection Mixture – (TCC's TS 7.2)
- ☐ E-coli Lab Sheet

- ☐ PVC Pressure Test:
  Constant Pressure Test Method for Flexible Pipes (TS 7.1a)

- ☐ PE Pressure Test – Option 1:
  Constant Pressure Test Method for Visco-Elastic Pipes (TS 7.1b)
- ☐ PE Pressure Test Option 2:
  Pressure Rebound Test Method for Visco-Elastic Pipes (TS 7.1c)

- ☐ Live Water Connection Applications Confirmation
- ☐ Inspection Sheet – Hydrant (IS 7.1)
- ☐ Inspection Sheet – Valve (IS 7.2)
- ☐ Inspection Sheet – Water Connection (IS 7.3)

☐ Streetlighting – Electrical Certificate/s
☐ Streetlighting – 10 Year Warranty from Supplier
☐ Streetlighting – Asbuilt (Power Co etc)

☐ Power – Subdivision Completion Certificate
☐ Telephone – Subdivision Completion Certificates

☐ Street/ROW Names Approved – Email Confirmation
☐ Signs have been erected

Certification

Statement

CERTIFICATION STATEMENT

"I hereby certify that the following works comply with the District Plan and the Development Code:

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Signed:.....

Dated: .....

OR

"As an independent professional I, or other personnel under my control, have carried out periodic reviews of the subdivision work appropriate as to the nature of the work. Based upon these reviews, on information supplied by independent professionals engaged in the work and by the contractor during the course of the subdivisional works (optional: and the contractor's certification upon completion of the subdivisional works – copy attached), I hereby certify on the basis of reasonable and appropriate enquiry, that the following subdivision works

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Comply with the conditions of this consent and that the development work required by the conditions of consent has been undertaken in accordance with the sound engineering design and construction practice and complies with the District Plan and the Development Code."

Signed:.....

Dated: .....

Schedule of Asset Values – Cert 1c:

https://www.westernbay.govt.nz/repository/libraries/id:25p4fe6mo17q9stw0v5w/hierarchy/property-rates-building/development-engineering/2018%20Schedule%20of%20Asset%20Values%20-%20Cert%201c%20%282%29.xlsx

Please provide to Council filled out and as an excel file.

At the bottom of the spreadsheet we have included areas which are to be vested in Council: roads, esplanade reserves, ponds etc. Please ensure you fill out this section and assign the lot number to the area.

Checklists:

- **Earthworks**
- **Roading**
- **Underground Services**

QUALITY ASSURANCE EARTHWORKS CHECKLIST

Date: .....

Sub. No: .....

Surveyor: .....

Land Owner: .....

Location: .....

Earth Filling (Compliance with NZS 4431 to be achieved)

Measures of compaction shall be achieved by one of the following:

No	Test Required	Undertaken by	Quantity	Requirements	Checked
1	**Earth Filling**				
(a)	Compacting Curve to determine maximum dry density & optimum moisture content	IANZ	1 curve/soil type	During earthworks	
	Soils shall be tested with a nuclear densometer	IANZ	Max 10% air voids for 10 tests compliance required but for more than 10 tests the average of 10 consecutive tests shall exceed the minimum 1 test/1000m^3	Min 95% MDD Average 10 tests	
(b)	For cohesive soils testing can be as per (a) above, or as follows: Undrained Shear Strength (Shear vane)	IANZ	<10,000m^3 1/750mm lift 1/800m^3 fill or <50,000 1/1.5m lift 1/4000m^3 Deep Fill	Av. 10 tests = 150 KPa min Min valve of 140 KPa Min 2 tests	
(c)	Maximum Air Voids	IANZ	Max 10% air voids for 10 tests compliance required but for more than 10 tests the average of 10 consecutive tests shall exceed the minimum 1 test/1000m^3		
(d)	Existing Ground	IANZ	1 test/lot	750 KPa	
(e)	Cut Area	IANZ	1 test/lot	100 KPa	
(f)	Certification of Geotech Report	IANZ			

No	Test Required	Undertaken by	Quantity	Requirements	Checked
2	**Subgrade**				
(a)	Design CBR	IANZ			
	- large projects, including heavy commercial, Principles, Collector Arterial Roads	IANZ	Design by CIRCLY	Insitu CBR	
	- medium projects Road Lengths >100m	IANZ	CBR Method	Soaked CBR with calibrated Penetrometer	
	- small projects Road Lengths <100m	IANZ	CBR Method	Scala Penetrometer	
(b)	CBR Testing Width				
	<4.0m	IANZ	15 metre centres	Wheel tracks	
	4.1 – 8.5m	IANZ	15 metre centres	Wheel tracks	
	>8.5m	IANZ	20-30 staggered for each line	Centreline and Wheel Tracks	
(c)	Tolerance	Contractor/ Surveyor string results	Every 20m	-30mm + 0mm at edge of formation and centreline 20mm for 3m straight edge, perpendicular or parallel to centreline	

ROADING CHECK SHEET

Date: .....
Sub. No: .....
Surveyor: .....
Land Owner: .....
Location: .....

No	Test Required	Undertaken by	Quantity	Requirements	Checked
1	**Sub base**				
(a)	Grading	IANZ	1/1000m^3	>100% passing 70mm sieve Stone size <60% Pavement depth >40% passing 19mm sieve >10% passing 725um	
(b)	Sand Equivalent	IANZ	1/1000m^3	>25	
(c)	Crushing Resistance	IANZ	1/1000m^3	Max 10% fines	
(d)	CBR	IANZ	1/1000m^3	80% min	
(e)	Compaction Curve	IANZ	1 test	Prior to pavement construction	
(f)	Compaction	IANZ	20m alternate lanes	>95 mean, >92 min of MDD	
(g)	Tolerances (string results)	Surveyor/ Contractor	Centreline and edge of seal at 20m intervals	-25mm + 5mm	
2	**Basecourse**				
(a)	Grading, TNZ M4 for all public roads. GAP40 for all ROWs and private roads.	IANZ	1/1000m^3 or road	Standard grading curves	
(b)	Compaction curve (OMC and MDD)	IANZ	1 test	Prior to pavement construction	
(c)	Compaction (nuclear densometer)	IANZ	20m alternate lanes	>98 mean, >95 min	
(d)	Crushing Resistance	IANZ	1/1000m^3 or road	<10%	
(e)	Sand Equivalent	IANZ	1/1000m^3 or road	Not less than 40 Not less than 25 (Minor roads)	

2	**Basecourse (cont)**				
(f)	Tolerances				
	- straight edge	CPENG	Entire Road and Edge of Seal	10mm over 3m	
	- level (string)	CPENG		-5m + 15mm no K&C 5m + 5mm K&C, Asphalt -0mm + 10mm K&C, 2 coat	
(g)	Metal Tapers	Surveyor	All Roads	1:5 gradient and compaction	
(h)	Bentlemann Bean Test (asphaltic concrete)	Operator	Centre of lane every 20m	As per Code	
3	**Edge Marker Posts**	CPENG	Entire Road	Motsam	
4	**Street Lights**	CPENG	All	Completed as per design and working	
5	**Street Planting**	CPENG	All	As per approved documents, root shrouds in	
6	**Concrete Work**	CPENG	All	General check for workmanship and as per design	
	Concrete Strength Dockets	xxx	xxx	xxx	xxx
7	**2 Coat (refer)**				
(a)	Bitumen (M1 & M3)	Operator	2 x 4L/Truck	M1 & M13	
(b)	Chip (M6)	IANZ	1 per 500m^3	85-89	
	- Cleanliness	IANZ	1 per 800m^3	M/6	
	- ALD/ALG	IANZ	Quarry every 6 months	10% fines	
	- Crushing	IANZ	Quarry once every 2 years	AA or BA	
	- Weathering - Polished Stone	IANZ	Quarry once very 2 years		
(c)	Tolerances	As per base course			
(d)	Spray Rate Design and Compliance	CPENG	Each Run	M/6	

No	Test Required	Undertaken by	Quantity	Requirements	Checked
8	**Asphaltic Concrete (compliance with TNZ M10)**				
(a)	Materials (TNZ M10)	IANZ		M/6	
(i)	Grading Envelope	IANZ		Curve Compliance	
(ii)	Effective Binder Content	IANZ		Refer to Spec	
(ii)	Minimum VMA %	IANZ		Refer to Spec	
(iv)	Stability	IANZ		Refer to Spec	
(v)	Air Voids	IANZ		Refer to Spec	
(vi)	Flow	IANZ		Refer to Spec	
(vii)	Coarse Aggregates	IANZ		Refer to Spec	
	- Weathering	IANZ		AA or BA	
	- Single Broken Faces	IANZ		98% min	
	- Two Broken Faces	IANZ		60% min	
	- Crushing Resistance	IANZ		200Kn min 10%	
	- Polished Stone Value	IANZ		85% min by mass	
(viii)	Fine Aggregates	IANZ			
	- Crushing Resistance	IANZ		200Kn	
	- Sand Equivalent	IANZ		35 minimum	
	- Clay Index (0/0075mm)	IANZ		3 maximum	
(b)	Laying	CPENG	Entire Road	P9	
	- Joints	CPENG	Entire Road	P9	

UNDERGROUND SERVICES CHECKSHEET

No	Test Required	Undertaken by	Quantity	Requirements	Checked
1	**Water Supply**				
(a)	Pressure Test	Consent Holder Representative	1 per new main	1400 KPa or 3 times working pressure for 15 minutes - leak maximum is 1 litre per 10mm or pipe dia/km of main	
(b)(i)	Marker Posts	Consent Holder Representative		Fire Hydrant & Valve Marker painted yellow & white respectively	
(b)(ii)	Fire Hydrant Pavement Marking	Consent Holder Representative		Triangle & Cats Eye	
(c)	General Check of Valve Bases	Consent Holder Representative		As per Spec	
(d)	Main Connection & Main As Live	Consent Holder Representative		Make sure line is live	
2	**Stormwater**				
(a)	Signed Consents	Subdivider/ Landowner		Consents required for each outlet	
(b)	Discharge Consents	EBOP		Sign off in respect of Resource Consents	
(c)	Culverts	Consent Holder	All Pipes	Straight, correct cover	
(d)	General Inspection	Consent Holder	All Pipes	Launching, plasting	
(e)	As-built	Consent Holder	Connections	Check As-builts against design & location of connections are pegged	

No	Test Required	Undertaken by	Quantity	Requirements	Checked
3	**Sanitary Sewer**				
(a)	General Inspection	Consent Holder	All pipes and manholes	Haunching in place, stepping irons, MH sealed	
(b)	As-built	Consent Holder	Connections	Haunching in place, stepping irons, MH sealed	

Asbuilts:

- 3 Waters

Plans shall be provided for the 3 waters along with (an) excel spreadsheet file/s that includes the spatial and aspatial data for each service.

Where LIVE Water Connections are required, the Lot numbers, serial numbers and meter readings should be shown in a table format on the water asbuilt plan.

- Benchmarks

The following sheet is required to be filled out if benchmarks are required to be installed.

- Roading

Westlink and West Roads are currently working towards providing documents that will need to filled out. In the meantime, please keep filling out AB2.

BENCHMARK RECORD

Street Name: .....Contact No:.....

Notes: 1. If benchmark is disturbed please contact Western Bay of Plenty District Council
2. All coordinates to be in terms of NZGD 2000 NZTM

Benchmark No	Easting	Northing	R.L.	Datum	Date	By

AB2 As Built Data Specification – Roading

Specifications are as defined in following tables.

The following information is required to record in Council's asset database (RAMM):

Road Surfacing Materials

Date Laid	
Depth of Asphalt	
Mix Size	
Binder Type (Bitumen type and penetration grade)	
Chip Size(s)	
Binder Additives	

Drainage Assets

Culvert Lengths	
Diameters	
Material Type	
Date Constructed	

Foothpath

Depth	
Date Constructed	
Depth of Asphalt	
Mix Size (For asphalt only)	
Binder Type	
Chip Size(s)	
Binder Additives (if seal rather than concrete)	

Pavement Layers (typically from construction cross section)

Depths of Pavement Material	
Metal Type (Product Specification)	
Quarry Source	
Date Constructed	
Measured CBR of Subgrade and subgrade type. (Sand/Clay/Ash)	

Road Names with correct spelling and start and end points.

- Show on road layout plan: Supplied: Yes/No

Street tree species and garden layout

- Shown on As-Built Landscaping Plan (or design plan if it was followed accurately)

Supplied: Yes/No

Street Light Pole

Pole Manufacturer	
Model	
Material	
Mounting Height of Lantern	
Outreach	
Lantern manufacturer and Model	
Wattage	
Lamp type	

Also required:

Copy of electrical layout plan which shows cabling, point of supply, location of control relay(s) and circuit fuses.

Supplied: Yes/No

Notice of any consent conditions which must be complied with on an ongoing basis that may be affected by road maintenance, e.g. special filter devices in sumps.

Supplied: Yes/No

Confirmation of Construction:

- Road and Ancillary
- Stormwater
- Sewer
- Water

CONFIRMATION OF SUBDIVISION CONSTRUCTION
ROAD & ANCILLARY

Name of Subdivision: .....

Council File Number: .....

Main Contractor:.....

Roading Subcontractor: .....

Engineer Responsible for Supervision:.....

Engineer Employed by:.....

Qualifications:.....

		Y	N/A	N	Date of Test/Insp/Comment
A	**Kerbing & Channelling**				
	Kerb & channel complete & free of defects				Conc.Strength:
	Kerb type as per eng dwgs approved by Council				
	Carriageway position as shown on appr. engr dwgs				
	Carriageway width checked & found to be as per approved engineering drawings				
	Kerb levels checked and found to be as per approved engineering drawings				
B	**Subgrade**				
	Subgrade inspected by Council prior to metalling				
	Subgrade compaction, strength stiffness and uniformity found to be as per documents approved by Council and as necessary for pavement design				
	Subgrade level and smoothness tolerances found to be as per documents approved by Council				
C	**Basecourse**				
	Basecourse supplied complies with documents approved by Council				
	Basecourse compacted to the standard given in the documents approved by Council				
	Basecourse depth checked @ 20m crs max and found to be not less than that shown on engineering dwgs				

		Y	N/A	N	Date of Test/Insp/Comment
D	**Sealing Surface**				
	Sealing surface inspected & approved by supervising engineer prior to sealing				
	Sealing surface true to line and free of bumps. Variation from a 5m straight edge is less than 10mm				
	Water will not pond on the sealing surface				
	Sealing surface swept clean of loose aggregate, dust and dirt prior to sealing				
	Sealing surface smooth & tightly bonded and presenting a clean stone mosaic free of a skin of fines				
	Sealing surface reasonably dry at time of sealing				
E	**Sealing/Aphaltic Concreting**				
	Sealing chips supplied comply with documents approved by Council				
	Sealing chips adherence to binder achieved				
	Bitumen cut back approved by supervising engineer				
	Application rate approved by supervising engineer				
	Chip rolled with pneumatic tyred rollers as per documents approved by Council				
	Second coat chip seal applied				
	Surplus chip removed				
	Asphaltic concrete applied in accordance with the documents approved by Council				
	Depth of Asphaltic concrete checked and found correct				
F	**Miscellaneous**				
	All shared accesses in accordance with Council's COP				
	Street light design approved by Council				
	Street lighting completed as per approved design				
	Street lights activated				
	All landscaping within road reserve as per plans approved by Council				
	Materials tested as required by approved specification				
	Footpaths completed				
	All pedestrian accessways constructed in accordance with Council's COP				
	Pedestrian accessways fenced				
	Berms topsoiled, grass established and mown once				
	Road marking completed as per documents approved by Council				

	Benchmarks placed in kerb @ 200m crs max from nearest benchmark				
	Traffic signs erected as per docs. approved by Council				
	Keep left arrows at each end of all islands				
	Street name signs erected as per documents approved by Council				

Comments:

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I confirm that the above works have been carried out under my control and that the information provided above is complete and correct.

Signed:..... (Engineer responsible for Supervision)

Name: ..... Date:.....

CONFIRMATION OF SUBDIVISION CONSTRUCTION

Name of Subdivision: .....

Council File Number: .....

Main Contractor: .....

Stormwater Subcontractor: .....

Engineer Responsible for Supervision: .....

Engineer Employed by: .....

Qualifications: .....

		Y	N/A	N	Date of Test/Insp/Comment
A	**Lines & Laterals**				
	All pipe dia and classes as per approved engr dwgs				
	Lines laid in the position shown on approved engineering drawings				
	All lines laid in accordance with manufacturer's instructions and relevant NZ Standards				
	All pipe bedding as per dwgs/specific manufacturer's instructions. Design approved by Council				
	All lines and laterals true to line and grade				
	All lines free of faults, debris and obstructions				
	Each lot provided with a stormwater disposal option				
	End of all connections pegged				
	C.C.T.V. investigation complete, report provided to Council				
B	**Manholes**				
	All joints sealed as per manufacturers instructions				
	All manholes benched and haunched				
	All safety steps installed				
	All lids painted blue				
C	**Sumps & Structures**				
	All sumps cleaned out at completion of roading				
	All inlet and outlet structures as per approved engineering drawings				

Comments:

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I confirm that the above works have been carried out under my control and that the information provided above is complete and correct.

Signed:..... (Engineer responsible for Supervision)

Name: ..... Date:.....

CONFIRMATION OF SUBDIVISION CONSTRUCTION SANITARY SEWER

Name of Subdivision: .....

Council File Number: .....

Main Contractor: .....

Wastewater Subcontractor: .....

Engineer Responsible for Supervision: .....

Engineer Employed by: .....

Qualifications: .....

		Y	N/A	N	Date of Test/Insp/Comment
A	**Lines & Laterals**				
	All pipe dia and classes as per approved engr dwgs				
	Lines laid in the position shown on approved engineering drawings				
	All lines laid in accordance with manufacturer's instructions and relevant NZ Standards				
	All pipe bedding as per dwgs/specific manufacturer's instructions. Design approved by Council				
	All trench backfill compacted to specified standard				
	All lines lamped in the presence of Council after backfilling and found to be satisfactory				
	All lines and laterals true to line and grade				
	All lines free of faults, debris and obstructions				
	All lines and laterals satisfactorily Low Pressure Air Tested as per NZS 4452 – in the presence of the Council				
	No infiltration of water into lines visible				
	A sewer connection has been provided for each lot				
	Ends of all connections pegged				
	New subdivision reticulation system connected into Council's mains				
	C.C.T.V. investigation complete, report provided to Council				

		Y	N/A	N	Date of Test/Insp/Comment
B	**Manholes**				
	All joints sealed as per manufacturers instructions				
	No infiltration of water into lines visible				
	All haunching level with pipe soffits				
	Benching above soffit at a grade of 3:1 to make MH self cleansing				
	All safety steps installed				
	Manhole covers painted white				
C	**Rodding Eyes**				
	Rodding eyes identified at surface with approved box with letters RE on lid				

Comments:

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I confirm that the above works have been carried out under my control and that the information provided above is complete and correct.

Signed:..... (Engineer responsible for Supervision)

Name: ..... Date:.....

CONFIRMATION OF SUBDIVISION CONSTRUCTION
WATER RETICULATION

Name of Subdivision: .....

Council File Number: .....

Main Contractor:.....

Water Reticulation Subcontractor:.....

Engineer Responsible for Supervision:.....

Engineer Employed by:.....

Qualifications:.....

		Y	N/A	N	Date of Test/Insp/Comment
	Mains laid in the position shown on engineering drawings approved by Council				
	All pipework, valves and fittings inspected by Consent Holder Representative prior to backfill and found to be satisfactory				
	All pipe dia and classes as per approved engr dwgs				
	All pipe jointing and connecting systems as per council's Code and documents approved by Council				
	All pipes and fittings laid on a uniform fine bedding				
	All anchor blocks required are installed				
	500mm separation distance between watermains and other services has been achieved				
	Min cover to mains is 900mm in carriageway, 600mm in berms and footpaths and 350mm @ tobies				
	All trench backfill compacted to required standard				
	Fire hydrants provided as per approved engr dwgs				
	All hydrant and valve boxes installed				
	All hydrant and valve boxes painted				
	After backfilling all mains and connections have been satisfactorily pressure tested to 1400kPa in the presence of the Council				
	Each lot provided with a water connection				

		Y	N/A	N	Date of Test/Insp/Comment
	Connections terminate with a backflow manifold and box, 300mm inside road reserve				
	Position of lines, connections, hydrants and valves recorded for as-builting				
	The new subdivision reticulation system connected to Council's mains				

Comments:

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I confirm that the above works have been carried out under my control and that the information provided above is complete and correct.

Chartered Engineering Registration Number:.....

Signed:..... Expiry Date: .....

Name: ..... Date:.....

Suitability of Land for Building:

- Geotechnical Completion Report
- Geotechnical Certification

To: Western Bay of Plenty District Council

STATEMENT OF PROFESSIONAL OPINION AS TO THE GEOTECHNICAL SUITABILITY OF LAND FOR BUILDING

Development: .....
Owner: .....
Location: .....
I .....…….of .....
(full name)
....
(name and address of firm)

Hereby confirm that:

1. I am a professional person, appropriately qualified with experience in geotechnical engineering to ascertain the suitability of the land for building development and was retained as the Soils Engineer for the above development.

2. An appropriate level of site investigation and construction supervision has been carried out under my direction and is described in my development evaluation report dated:.....

3. In my professional opinion, not to be construed as a guarantee, I consider that:
   a. The areas shown in my report dated……. of each new allotment or on the development site are suitable for the erection thereon of the building types appropriate to the zoning of the land, provided that:
      ....
      ....

   b. The completed works give due regard to all land slope and foundation stability considerations.

   c. The earth fills shown on the attached Plan No…… have been placed in accordance with the Subdivision and Development Code of Practice of the Western Bay of Plenty District Council.

   d. The filled ground is suitable for the erection thereon of residential buildings not requiring specific design in terms of NZS 3604: 1999 and related documents provided that:
      ....
      ....

   e. The original ground not affected by filling is suitable for the erection thereon of residential buildings not requiring specific design in terms of NZS 3604: 1999 and related documents provided that:
      ....
      ....

4. This professional opinion is furnished to the Council and the owner for their purpose alone, on the express condition that it will not be relied upon by any other person and does not remove the necessity for the normal inspection of foundation conditions at the time of erection for any dwelling.

Signed:.....Date:.....

Quality Assurance:

- **Roading**
- **Stormwater**
- **Sewer**
- **Water**

Roading:

- Subgrade, Pavement Layers and Sealing

(Refer to Confirmation of Construction - Cert 4a and provide documents to show compliance)

- Post Construction Safety Audit

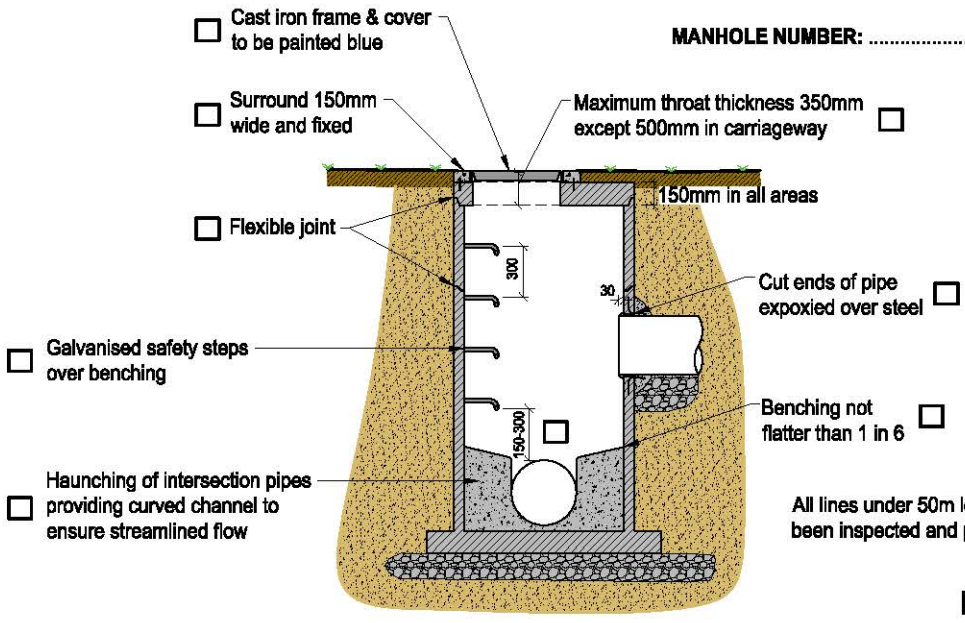
Stormwater:

- CCTV
- TCC’s inspection sheet IS 5.2 & 5.2

DATE: ..... **RC NUMBER:** .....

DEVELOPMENT NAME & STAGE: .....

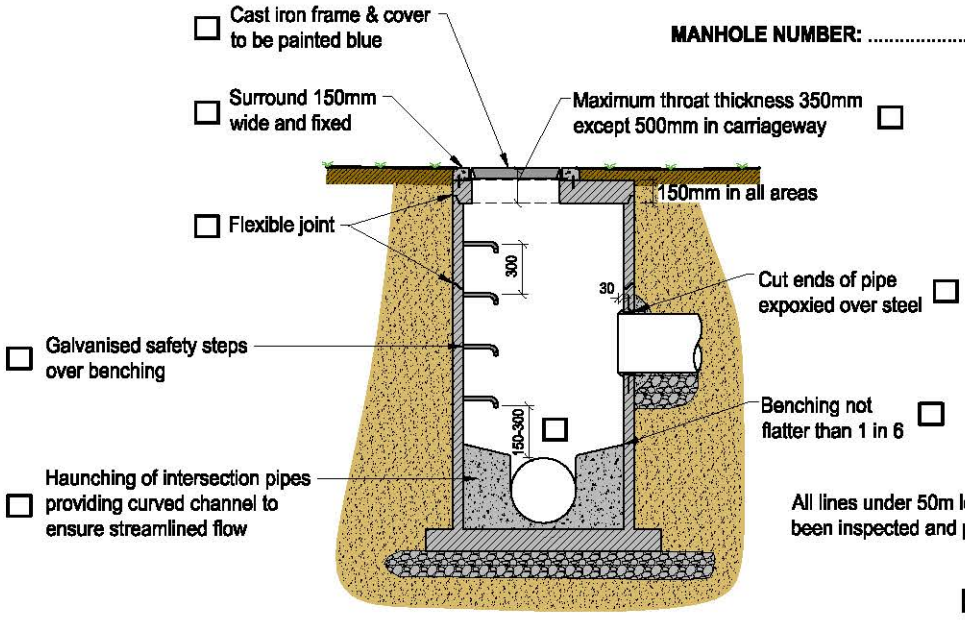
MANHOLE NUMBER: .....



COMMENTS: .....

.....

MANHOLE NUMBER: .....



COMMENTS: .....

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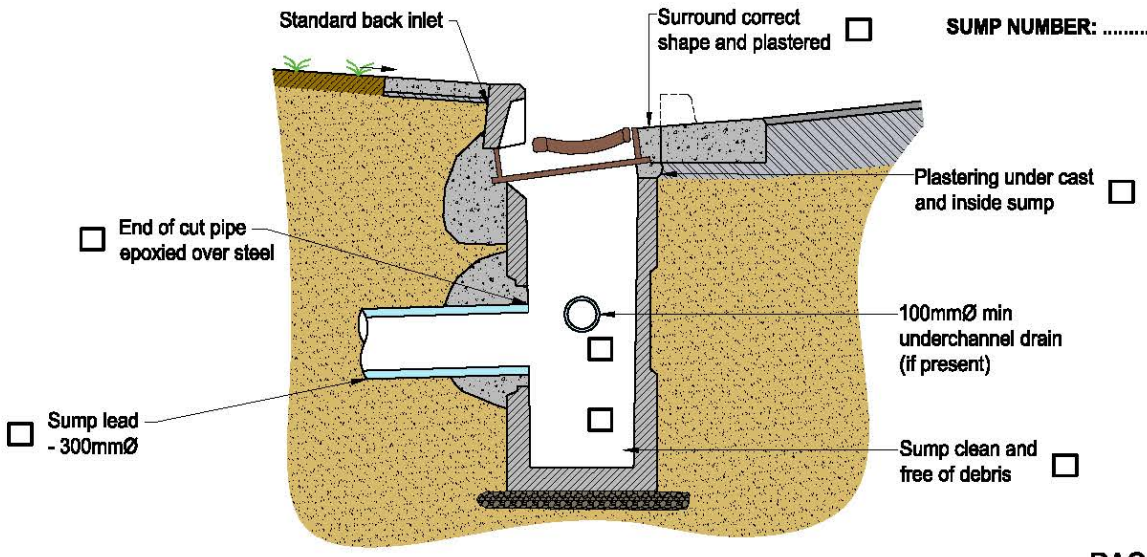
..... **(CONTRACTOR)** ..... **(CERTIFYING ENGINEER)**

..... **(COUNCIL REPRESENTATIVE - WITNESS)**

DATE: ..... **RC NUMBER:** .....

DEVELOPMENT NAME & STAGE: .....

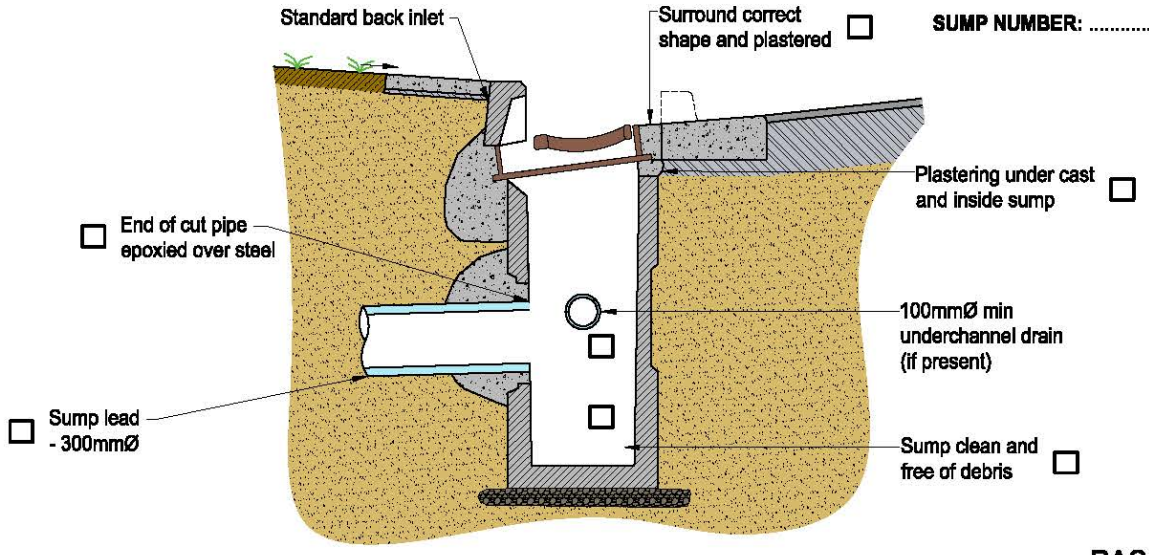
SUMP NUMBER: .....



PASS ☐

COMMENTS: .....

.....



SUMP NUMBER: .....

PASS ☐

COMMENTS: .....

.....

..... **(CONTRACTOR)**

..... **(CERTIFYING ENGINEER)**

..... **(COUNCIL REPRESENTATIVE - WITNESS)**

Wastewater:

- CCTV
- Low Pressure Test (TCC's TS 6.1)
- TCC's Inspection Sheet IS 6.1

Date:…….. RC Number:……..

Development Name and Stage:……

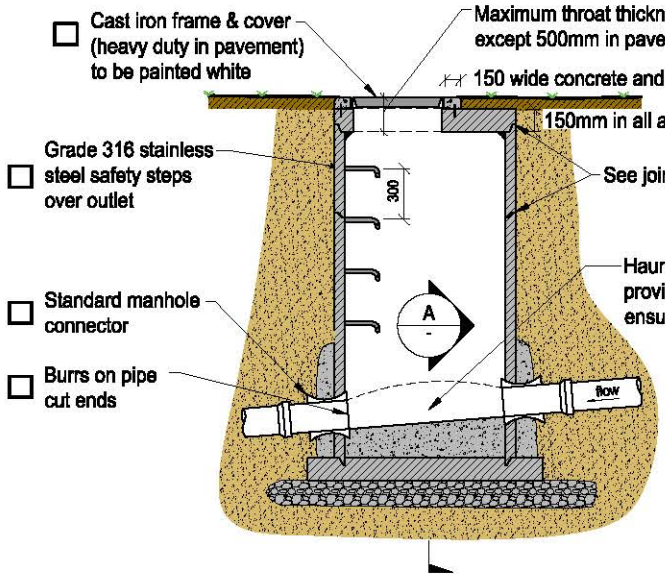
Line ID	(P)ass/(F)ail after 15mins	Comments

……(contractor) ……(certifying engineer)

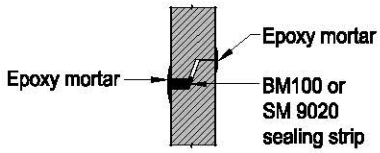
……..(council representative – witness)

DATE: ..... **RC NUMBER:** .....

DEVELOPMENT NAME & STAGE: .....

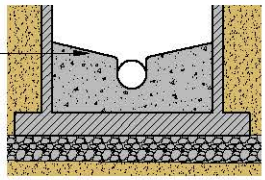


MANHOLE NUMBER: .....



JOINT DETAIL

Benching not flatter than 1 in 3



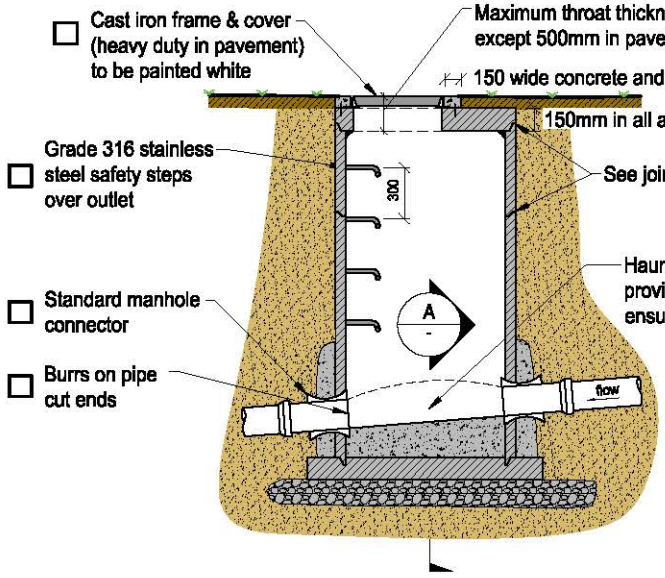
All lines under 50m long have been inspected and passed

PASS

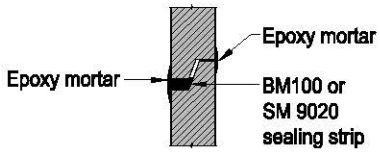
SECTION A

COMMENTS: .....

.....

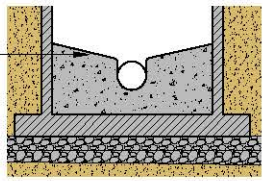


MANHOLE NUMBER: .....



JOINT DETAIL

Benching not flatter than 1 in 3



All lines under 50m long have been inspected and passed

PASS

SECTION A

COMMENTS: .....

.....

..... **(CONTRACTOR)** ..... **(CERTIFYING ENGINEER)**

..... **(COUNCIL REPRESENTATIVE - WITNESS)**

TaurangaCity

INSPECTION SHEET

WASTEWATER MANHOLE & PIPELINE < 50m LENGTH

IS6.1

Water Supply:

- **Water Supply Producer Statement**
- **E-coli Testing (IANZ Accrediated Lab Form)**
- **Disinfection Mixture (TS 7.2)**

- **Pressure Testing**

If PVC: TS7.1a Constant Pressure Test Method for Flexible Pipes
If PE: TS7.1b Constant Pressure Test Method for Visco-Elastic Pipes
OR TS7.1c Pressure Rebound Test Method for Visco-Elastic Pipes

- **Applications for each water meter where LIVE Water Connections are required**

The water meters may have one application form filled out which includes all Lots, compiled together with the water asbuilt layout (showing the table of the Lot number, serial and meter reading) and sent to:
carolyn.bennett@westernbay.govt.nz (Council's Water Billing Officer)

At 224 stage, please provide an email from Carolyn that confirms the fees have been paid.

- **TCC's Inspection Sheets IS 7.1 - 7.3**

APPENDIX A1 – Producer Statement

Western Bay of Plenty District Council
Barkes Corner. Private Bag 12803. Tauranga.
Tel: (64 7) 571 8008; Fax: (64 7) 571 8017
Freephone: 0800 926 732; www.wbopdc.govt.nz

UTILITIES AND SERVICES

Items	Descriptions
Resource Consent / Contract No.	
Location of Work Street Address:	
Town / Area	
Total length & size of Pipe / volume of Reservoir disinfected	
Type of Pipe / Reservoir	
Chlorine dose applied (FAC mg/l)	
Chlorine FAC mg/l (after Contact time)	
Date time start / finish & Contact Period (hrs)	
Chlorine Residual in main / reservoir after final flush (FAC mg/l)	
Chlorine Residual after dechlorination (mg/l) discharged water	
Date of De-chlorination / discharge	
Bacteriological results	Attached Results (Must be original from IANZ Laboratory)
Principle /Client name:	
Address:	
Contact person:	
Contact phone:	
Contractor/ Company Name	
Address:	
Engineer (CPE) involved:	
Council Representative involved	
Contact phone:	
Comments:	
Name:..... Signature:…… Date…… Principle/Contractor Representative	

The final strength of chlorine to water is to be 15mg/l+/- 5mg/l

Pipe Dia. (millimetres)	Enter Line Length (metres)	Volume of Water (Litres)
375		
300		
200		
150		
100		
50		
20		

Total water main volume _____ **Litres**

Enter the strength of concentrated hypochlorite _____ % FAC

Total volume of Sodium Hypochlorite to to mix with the water, to acieve 15mg/l, is _____ ml

……..(contractor) ……(certifying engineer)

……..(council representative – witness)

TS7.1a Constant Pressure Test Method for Flexible Pipes

Date of Test:		**Resource Consent / TCC Contract No:**		
Development Name and Stage / TCC Contract Name				
Project/ Pipe Location:				
Contractors Reps Name:		**Contractors Company:**		
Certifying Engineers Name:		**Engineers Company:**		
Council Witness Name:		**Witnesses Company:**		

Test Establishment Information				
Pipe Material /Type:		**Pressure Rating** (PN - bar) :		***Note*** *1bar = 10m = 100 kPa*
Length of Pipe Tested: (Km) **= L**		**Max. Test Pressure** (kPa) **= 1.25 x PN :**		
Pipe Nominal Diameter: (m) **= D**		**Ave. Test Pressure** (m) **= H :**		*Estimate or measure (To be supplied by the engineer prior to the test)*

Pre-Test Checks	**Yes / NA**	**Comment**
Ensure pre-test preparation acceptable and air purged from line		
Ensure test section isolated & adequately supported against thrust		

Measured Volume of Make Up Water to Retain Test Pressure				
	Time	**Meter Reading (L)**	**Volume of Makeup Water (L)**	
Start Time				
Meter readings shall be taken at 15min or 30min intervals. Minimum test duration = 2hrs Maximum test duration = 5hrs				Manual Calculation Space:
	Target Calculated Volumes Of Make Up Water	Measured Volume must be less than (L/15min)	Measured Volume must be less than (L/30min)	Measured Volume must be less than (L/hr)

Test Calculations				
Calculated Allowable Make Up Water - Q (L/hr)		Q=0.14*L*D*H		

Test Results

Is the Measured Volume of Make Up Water less than the Calculated Allowable Make Up Volume?		*(a)* ***Y*** *= Yes /* ***N*** *= No*	To Pass (a) = Y
The thrust blocks are acceptably in tact after test		*(b)* ***Y*** *= Thrust Blocks OK /* ***N*** *= Unacceptable*	To Pass (b) = Y
There are no visible leaks.		*(c)* ***Y*** *= No Leaks /* ***N*** *= leaks were detected*	To Pass (c) = Y
		Overall Test Result:	

Test Certification

I certify that this test was undertaken to the requirements of the Infrastructure Development Code

…….. *(Contractor's Representative)* …….. *(Certifying Engineer)*

I certify that I was in attendance during the testing procedure acting as a witness for Tauranga City Council

…….. *(Council's Representative)*

TS7.1a Constant Pressure Test Method for Flexible Pipes

1. Before starting the test, all pre-test procedures outlined in NZS4404:2010 (Section C3.3) shall be completed

2. Following the test measurement completion, all post test procedures outlined in NZS4404:2010 (Section C3.4) shall be completed

3. Pressure logs shall be supplied to Council before full passing of test is recognised

TS7.1b Constant Pressure Test Method for Visco-Elastic Pipes

Date of Test:		**Resource Consent / TCC Contract No:**		
Development Name and Stage / TCC Contract Name				
Project/ Pipe Location:				
Contractors Reps Name:		**Contractors Company:**		
Certifying Engineers Name:		**Engineers Company:**		
Council Witness Name:		**Witnesses Company:**		

Test Establishment Information

Pipe Material /Type:		**Pressure Rating** (PN - bar) :		*Note 1bar = 10m = 100 kPa*
Length of Pipe Tested: (Km) **= L**		**Max. Test Pressure** (kPa) **= 1.25 x PN** :		
Pipe Nominal Diameter: (m) **= D**		**Ave. Test Pressure** (m) **= H :**		*Estimate or measure (To be supplied by the engineer prior to the test)*

Pre-Test Checks	**Yes / NA**	**Comment**
Ensure pre-test preparation acceptable and air purged from line		
Ensure test section isolated & adequately supported against thrust		
Apply test pressure , shut off, allow to settle over 12hrs		

Measured Volume of Make Up Water to Retain Test Pressure

	Time	**Meter Reading (L)**	**Volume of Makeup Water (L)**	
Start:				
Reading at Hour 2:				
Reading at Hour 3:				***(V1)*** *= Makeup volume hour 2-3 (L)*
Reading at Hour 4:				
Reading at Hour 5:				***(V2)*** *= Makeup volume hour 4-5 (L)*

Test Calculations

Calculate Q (L/hr) Q=0.14*L*D*H		**Allowable Make Up Volume** (L/hr) 0.55*V1 + Q		*(d)*

Test Results

Is V2 < Allowable makeup volume *(d)* ?		*(a)* ***Y*** *= Yes /* ***N*** *= No*	To Pass (a) = Y
The thrust blocks are acceptably in tact after test		*(b)* ***Y*** *= Thrust Blocks OK /* ***N*** *= Unacceptable*	To Pass (b) = Y
There are no visible leaks.		*(c)* ***Y*** *= No Leaks /* ***N*** *= leaks were detected*	To Pass (c) = Y
		Overall Test Result:	

Test Certification

I certify that this test was undertaken to the requirements of the Infrastructure Development Code

…….. *(Contractor's Representative)* …….. *(Certifying Engineer)*

I certify that I was in attendance during the testing procedure acting as a witness for Tauranga City Council

…….. *(Council's Representative)*

TS7.1b Constant Pressure Test Method for Visco-Elastic Pipes

1. Before starting the test, all pre-test procedures outlined in NZS4404:2010 (Section C3.3) shall be completed

2. Following the test measurement completion, all post test procedures outlined in NZS4404:2010 (Section C3.4) shall be completed

3. Pressure logs shall be supplied to Council before full passing of test is recognised

TS7.1c Pressure Rebound Test Method for Visco-Elastic Pipes

Date of Test:		**Resource Consent / TCC Contract No:**		
Development Name and Stage / TCC Contract Name:				
Project/ Pipe Location:				
Contractors Reps Name:		**Contractors Company:**		
Certifying Engineers Name:		**Engineers Company:**		
Council Witness Name:		**Witnesses Company:**		

Test Establishment Information

Pipe Material /Type:		**Pressure Rating** (PN - bar) :		
Length of Pipe Tested: (m) **= L**		**Max. Test Pressure** (kPa) **= 1.25 x PN**: **= P**		***Note*** *1bar = 10m = 100 kPa*
Pipe Nominal Diameter: (m) **= DN**		**Pipe Wall Thickness:** (m) **= e**		*Refer TS7.1c Apx A*
Pipe Internal Diameter: (m) **= D**				

Pre-Test Checks	**Yes / NA**	**Comment**
Ensure pre-test preparation acceptable and air purged from line		
Ensure test section isolated & adequately supported against thrust		

Preliminary Phase Information

Reduce pressure and allow to stand for 60 mins to just above atmospheric at highest point		
Raise pressure to test pressure **(P)** in less than 10 minutes - confirm test pressure		
Hold pressure at **(P)** for 30 minutes then cease pumping and allow to decay for 60 minutes		
Reading of remaining pressure after 60 mins		**(a)**
Calculate 70% of test pressure **(P)**		**(b)**
If value (a) is greater than value (b), continue to next stage. **If value (b) is greater than value (a), the test has failed.**	Continue	Fail

Air Volume Assessment

	Initial Meter Reading	**Final Meter Reading**	**Volume of Water Bled** (litres) **(ΔV)**	**Pressure Drop** (kPa) **(ΔP)**
Quickly (less than 5mins) reduce pressure by 10-15% of the standard test pressure (P), measure volume of water bled out.				
Calculate volume of water in pipe **V** = π x **(D**÷2)² x **L** x 1000 (litres)			**(y)** ↑	
E_w ...refer **Table 1**				
E_r ...refer **Table 2**				
$\Delta V_{(Max\ Allowable\ Bled)}$ = 1.2 x V x ΔP x ((1÷ E_w) + ((D ÷ e) ÷ E_r)) (litres)		**(x)**		

If value (x) is greater than value (y), continue to next stage. **If value (y) is greater than value (x), the test has failed.**	Continue	Fail

Main Test Phase		
	Time	**Pressure** (kPa)
Pressure Reading at Start Time		
Pressure Reading after 30 minutes		
Pressure Reading after …… minutes		
Pressure Reading after 90 minutes (if required)		

Test Results

Is "Main Test Phase" pressure rise acceptable i.e. gradual, levelling after about 30 minutes?		*(a)* ***Y*** *= Yes /* ***N*** *= No*	To Pass (a) = Y
The thrust blocks are acceptably in tact after test		*(b)* ***Y*** *= Thrust Blocks OK /* ***N*** *= Unacceptable*	To Pass (b) = Y
There are no visible leaks.		*(c)* ***Y*** *= No Leaks /* ***N*** *= leaks were detected*	To Pass (c) = Y
		Overall Test Result:	

Test Certification

I certify that this test was undertaken to the requirements of the Infrastructure Development Code

…….. *(Contractor's Representative)* …….. *(Certifying Engineer)*

I certify that I was in attendance during the testing procedure acting as a witness for Tauranga City Council

…….. *(Council's Representative)*

Tauranga City

TS7.1c Pressure Rebound Test Method for Visco-Elastic Pipes

1. Before starting the test, all pre-test procedures outlined in NZS4404:2010 (Section C3.3) shall be completed

2. Following the test measurement completion, all post test procedures outlined in NZS4404:2010 (Section C3.4) shall be completed

3. Pressure logs shall be supplied to Council before full passing of test is recognised

---

Data Tables for Air Volume Assessment

Table 1 - Bulk Modulus of Water - E_w	
Temperature (°C)	**Bulk Modulus** (kPa x 10^3)
5	2080
10	2110
15	2140
20	2170
25	2210
30	2230

Table 2 - Pipe Material Modulus - E_r		
Temperature	**PE 80B - E Modulus** (kPa x10^3)	**PE 100 - E Modulus** (kPa x10^3)
(°C)	**3hr**	**3hr**
5	680	900
10	610	820
15	550	750
20	510	680
25	470	630
30	430	600

Western Bay of Plenty District Council

Water Connection Application & Acceptance

Site/Location Details

Address:	Town:
Legal Description:	Lot Size (ha):
Val Ref:	Parcel No.

Details of Owner:		Details of Applicant (if different from Owner):	
Name:		Name:	
Postal Address:		Postal Address:	
Email:	Phone:	Email:	Phone:

Proposed Use:

Domestic-Building ❒ Domestic-Agriculture ❒ Commercial/Industrial-New Building ❒ Irrigation ❒ Other ❒ _____

Signed by or on behalf of the Owner:

Signed: …….. **Date:** …….

Name: …….

Consent is requested to connect to Council's water mains at the above address subject to the Terms and Conditions of Supply (attached) and terms of the Western Bay of Plenty District Council General Bylaw

Conditions:

Condition 1:

You must nominate one of the Approved Contractors listed below and make your own arrangements for them to carry out the "Installation Requirements". These contractors know the methods and materials required by the Western Bay of Plenty District Council and it is a condition of this consent that they do the work to Council's specified standards. Upon completion of the work the **nominated contractor** is required to sign the declaration and **return** this along with the As-Built information required overleaf.

❒	1.	Veolia Water Services Pty Ltd	PO Box 297, Katikati 3166	Phone: 07 5492661
❒	2.	JMC Ltd	PO Box 16070, Bethlehem, Tauranga 3147	Phone: 027 549 9828
❒	3.	Armadillo 2007 Ltd	PO Box 15090, Tauranga 3144	Phone: 07 577 9265
❒	4.	Chappy Te Moni	218 Manoeka Rd, RD3, Te Puke 3183	Phone: 027 355 5137

Other Conditions:

……..

Connection Details – To be completed by Council & Contractor

Metered ❒ Unmetered ❒ Relocation ❒

New Installation Requirements:

Connection:	Yes ❒		Diameter:	
Manifold Backflow:	Yes ✓		Description:	
Other Backflow Device:	Yes ❒	No ❒	Description:	
Meter:	Yes ❒	No ❒	Description/Class:	

Contractor …… Date Connected: ……

Receipted By: (WBOPDC Office Use Only)

Application Fee	**$102.00**	**PLUS** Part Year UAC		**TOTAL FEE**		**Receipt No.**	

CCO Name: …… Signature: …… Date sent to PSP: ……..

Professional Service Provider: (please date as completed)

Approved:		Advise Customer (if not approved):		Send form to Customer:		Send copy to TLF, WBOPDC:	

AS BUILT INFORMATION – To be completed by Contractor

Meter Meter Serial No. _____ Meter Size: _____

Meter Type & Unit Domestic (M) ☐ Domestic (I) ☐ Commercial (M) ☐ Commercial (I) ☐ Other ☐

Model Number PSM (Kent) ☐ MSM (Kent) ☐ 501 LM (Socam) ☐ Other ☐

Date Installed / / Meter Reading _____

Backflow Type Air Gap ☐ RPZ ☐ Double Check ☐ Acuflo ☐

Backflow Serial Number _____ Watts ☐ RMC ☐ Febco ☐

Location Description: *(i.e. 30m from southern boundary, inside orchard shelter; 1m LHS driveway)*

……

……

Sketch of Location (show road and property boundaries and connection location with dimensions)

INSTALLATION (APPROVED CONTRACTOR)

I, ……..of ……(company)
certify that the above connection was made to the standards required BY WBOPDC (Code of Practice for Development) and that the As-built information supplied is complete.
Signed:…… Date:……

RETURN FORM TO: Rates Co-ordinator, Western Bay of Plenty District Council, Private Bag 12803, Tauranga

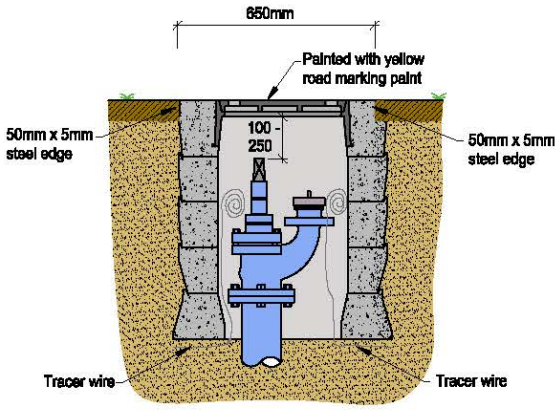
WBOPDC OFFICE USE ONLY:		DATE:	SIGNATURE:
1. Finance Department	Rates, Billing and Meter Data Recorded		
2. GIS Department	As-Built Data		
3. Records Section	Property File		

The personal information on this form will be used by Council specifically for the purpose of processing and identifying the application. This form will then be placed within the property file, which is accessible to the public.

DATE: ..... **RC NUMBER:** .....

DEVELOPMENT NAME & STAGE: .....

Hydrant Number	(P)ass / (F)ail	Comments if Fail



..... (CONTRACTOR)

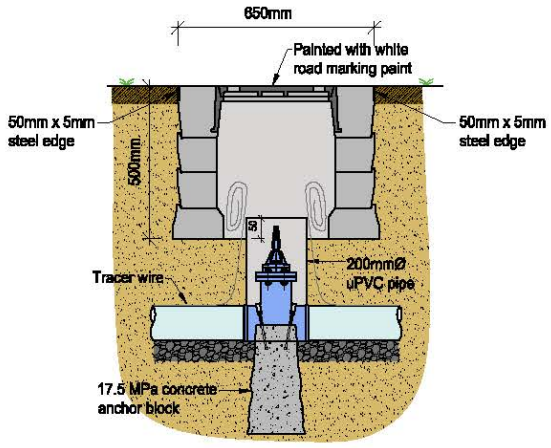
..... (CERTIFYING ENGINEER)

..... (COUNCIL REPRESENTATIVE - WITNESS)

DATE: ..... **RC NUMBER:** .....

DEVELOPMENT NAME & STAGE: .....

Valve Number	(P)ass / (F)ail	Comments if Fail



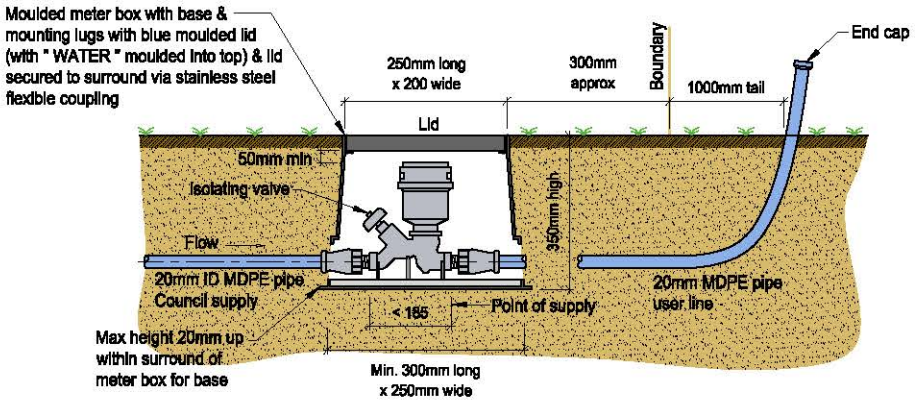
..... **(CONTRACTOR)** ..... **(CERTIFYING ENGINEER)**

..... **(COUNCIL REPRESENTATIVE - WITNESS)**

DATE: ..... **RC NUMBER:** .....

DEVELOPMENT NAME & STAGE: .....

Lot Number	(P)ass / (F)ail	Comments if Fail



..... **(CONTRACTOR)** ..... **(CERTIFYING ENGINEER)**

..... **(COUNCIL REPRESENTATIVE - WITNESS)**

Streetlighting:

- **Electrical Certificate from Supplier (One for each light)**
- **10 Year Warranty from Supplier**
- **Asbuilt (Power Co etc)**

Power/Telephone:

- **Provide the Subdivision Completion Certificates from each provider**

Street/ROW Names:

- Approved Street and/or ROW names are required. This can be provided as an email from Council confirming the approval.