



Plan legend information

Dial Before You Dig



This legend is provided to Dial Before You Dig users to assist with interpreting Water Corporation plans.

WARNING - Plans may not show all pipes or associated equipment at a site, or their accurate location. Pothole by hand to verify asset location before using powered machinery.

Water Plan Symbols - Blue																																									
 <p style="text-align: center;"><i>CANNING TRUNK MAIN</i></p> <hr style="border: 1px solid blue;"/> <p style="text-align: center;"><i>ELLENBROOK DISTRIBUTION MAIN</i></p> <hr style="border: 1px solid blue;"/> <p style="text-align: center;"><i>100P-12</i></p> <hr style="border: 1px solid blue;"/> <p style="text-align: center;"><i>GWELUP BORE MAIN</i></p> <hr style="border-top: 1px dashed blue;"/> <p style="text-align: center;"><i>DEAD MAIN</i></p> <hr style="border-top: 1px dashed blue;"/> <p style="text-align: center;"><i>MAIN NOT IN USE</i></p> <hr style="border-top: 1px dashed blue;"/> <p style="text-align: center;"><i>PROPOSED MAIN</i></p> <hr style="border-top: 1px dashed blue;"/>	<p>PIPELINES</p> <p>Critical pipeline (thick line)</p> <p>Extra caution required. Pipe may not be labelled. Risk assessment may be required if working near this pipe. Refer to your Dial Before You Dig information or 131375.</p> <p>Pipes are not always labelled on plans as shown here – assume a pipe is significant and pothole to prove location and depth.</p> <p>Common pipe material abbreviations</p> <table border="0"> <tr> <td>AC</td> <td>Asbestos Cement</td> <td>MDPE</td> <td>Medium density polyethylene; pipe class may be shown</td> </tr> <tr> <td>ACL</td> <td>Asbestos Cement Lined</td> <td>P</td> <td>PVC - class will be shown following pipe material (e.g.100P-12)</td> </tr> <tr> <td>BI</td> <td>Black Iron</td> <td>RC</td> <td>Reinforced concrete</td> </tr> <tr> <td>CI</td> <td>Cast Iron</td> <td>S</td> <td>Steel - plate thickness and joint type may be shown after pipe type</td> </tr> <tr> <td>CU</td> <td>Copper</td> <td>SI</td> <td>Spun iron</td> </tr> <tr> <td>DI</td> <td>Ductile iron</td> <td>SUTT</td> <td>Sutton</td> </tr> <tr> <td>GRP</td> <td>Glass reinforced plastic</td> <td>TUNN</td> <td>Tunnel</td> </tr> <tr> <td>GS</td> <td>Galvanised steel</td> <td>VC</td> <td>Vitrified clay</td> </tr> <tr> <td>GWI</td> <td>Galvanised wrought iron</td> <td>VIC</td> <td>Victualic; steel pipe using special coupling</td> </tr> <tr> <td>HDPE</td> <td>High density polyethylene; pipe class may also be shown</td> <td></td> <td></td> </tr> </table>	AC	Asbestos Cement	MDPE	Medium density polyethylene; pipe class may be shown	ACL	Asbestos Cement Lined	P	PVC - class will be shown following pipe material (e.g.100P-12)	BI	Black Iron	RC	Reinforced concrete	CI	Cast Iron	S	Steel - plate thickness and joint type may be shown after pipe type	CU	Copper	SI	Spun iron	DI	Ductile iron	SUTT	Sutton	GRP	Glass reinforced plastic	TUNN	Tunnel	GS	Galvanised steel	VC	Vitrified clay	GWI	Galvanised wrought iron	VIC	Victualic; steel pipe using special coupling	HDPE	High density polyethylene; pipe class may also be shown		
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<p style="text-align: center;"><i>MWA12345 or PWD12345 or CK43</i></p> <hr style="border: 1px solid blue;"/> <p style="text-align: center;"><i>42665 -145</i></p> <hr style="border: 1px solid blue;"/> <p style="text-align: center;"><i>(3.0)</i></p> <hr style="border: 1px solid blue;"/> 	<p>OTHER PIPELINE REFERENCES</p> <p>Planset numbers (Water Corporation internal use.)</p> <p>Field book reference (Water Corporation internal use.)</p> <p>Some pipes may be on a non-standard alignment. i.e. An alignment other than 2.1m for reticulation mains and 4.5m for distribution mains.</p> <p>Shaded background indicates a Water Corporation internal reference to more detailed information.</p>																																								

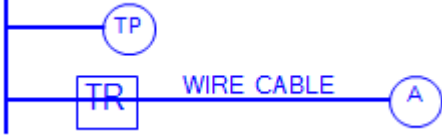


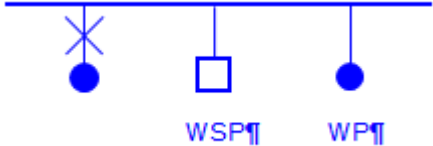
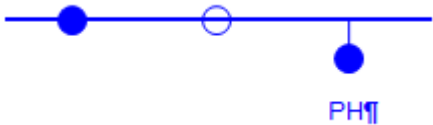
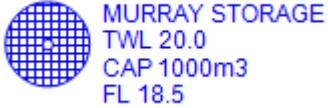

Plan legend information



	<p>CONCRETE ENCASEMENT AND SLEEVES</p> <p>ENC Encasement DI Ductile Iron SL Sleeve GWI Galvanised Wrought Iron AC Asbestos Cement RC Reinforced Concrete CI Cast Iron S Steel (e.g. 100S as shown)</p>
	<p>CHANGE INDICATOR ARROW</p> <p>Indicates a change in pipe type or size. Example: 150mm diameter PVC to 150mm diameter asbestos cement.</p>
	<p>PIPE OVERPASS</p> <p>The overpass symbol indicates the shallower of the two pipes.</p>
	<p>VALVE</p> <p>Different symbols indicate different valve types. Many different valves types are in use. Valves may be labelled (e.g. 250PRV, 100BV, R) From the left: DAV-Double air valve, PRV-Pressure Reducing Valve, SC-Scour valve Valves may be shallower than the main or offset from it. e.g. A scour valve (SC) may have a pipe coming away from main pipeline on the opposite side to that indicated on the plan.</p>
	<p>DOMS domestic service FS Fire service FHS Fire hydrant service</p> <p>A hydrant may be visible external to the building. Even if not visible a substantial fire service may still be present.</p>
	<p>PIPE BYPASS</p> <p>Bypass will not be on the same alignment as the main pipeline.</p>
	<p>DEADPLATE</p>

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	<p>CATHODIC PROTECTION FITTINGS</p> <p>Cathodic protection (CP) systems protect pipelines from corrosion by application of an electric current. Buried CP equipment may be located some distance from the pipeline being protected connected together by buried electric cable. All fittings may not be visible.</p> <p>A buried anode – various sizes and configurations TP test point - may be visible on a post or in-ground TR transformer rectifier</p>
	<p>ACCESS TEE OR MANHOLE OR SERVICE ACCESS PIT</p> <p>Below ground. May not be any visible signs at ground level or may be located in a pit. WARNING: Opening any manhole or pit is dangerous and is prohibited.</p>
	<p>FLOWMETER</p> <p>Various types of flow meters located in a pit. May be labelled with identifier. (e.g. 50 MFM, 50MM)</p>
	<p>STANDPIPE</p> <p>WATER SAMPLING POINT (WSP)</p> <p>WATER SUPPLY POINT (WP)</p> <p>May be located adjacent to mains. Usually some visible location.</p>
	<p>HYDRANT</p> <p>HYDRANT TEE</p> <p>PILLAR HYDRANT</p>
	<p>TANKS AND RESERVOIRS</p> <p>May have data shown: TWL Top Water Level CAP Capacity (cubic metres) FL Floor level</p>
	<p>WATER PUMP STATION</p> <p>Water booster station Name and number may be displayed.</p>

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	<p>PRE-LAID SERVICES</p> <p>Code indicates which side of a lot the water service is located:</p> <p>D Deferred FL Fully Prelaid Left FM Fully Prelaid Front Middle FR Fully Prelaid Right L Left R Right</p> <p>Code indicates on which side of a lot the water service is located: May be no visible indication at site.</p>
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Sewer Plan Symbols - Red	
	<p>CRITICAL PIPELINE (THICK LINE)</p> <p>Extra caution required. Pipe may not be labelled. Risk assessment may be required if working near this pipe. Refer to Dial Before You Dig information or 131375.</p>
	<p>PRESSURE MAINS AND MAIN SEWERS</p> <p>Sewerage gravitates to pump stations and then is pumped in a pressure main to a main sewer or wastewater treatment plant.</p> <p><i>Size & material – name of pressure main – planset number</i></p> <p>P.M. Pressure Main M.S. Main Sewer</p> <p>Shaded background indicates an internal Water Corporation reference to more detailed information.</p>
	<p>PIPE</p> <p>Actual pipe in use</p> <p>Proposed or unavailable for release</p> <p>Private pressure main</p> <p>Dead</p> <p>Not in use (may be used in future)</p>

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<p>Pipe material</p> <p>AC asbestos cement AC P asbestos cement lined with UPVC pipe BK brick conduit CI cast iron CI P cast iron lined with UPVC pipe DI ductile iron GRP glass reinforced plastic centrifugally cast (HOBAS) GRP/FW glass reinforced plastic filament wound HDPE high density polyethylene or PE100 plain walled HDPE/PW high density polyethylene or PE100 profile walled MDPE medium density polyethylene or PE80 plain walled P unplasticised polyvinyl chloride (UPVC) P/FRP PVC lined with fibre reinforced plastic-enviroliner P/PW UPVC profile walled PF pitch fibre RA resin aggregate RC reinforced concrete RC/FRP reinforced concrete lined with fibre reinf plastic enviroliner RC/S reinforced concrete segments RC/S_GRPRC segments lined with glass reinf. plastic pipe or liner RCPL RC pipe lined with keyed plasticised PVC sheeting</p>	<p>RC_CIPL reinforced concrete with cured in place liner RC_FPVC reinf. concrete lined with shapes formed from rigid UPVC sheeting RC_G reinf. concrete with sprayed on cement or gunite lining RC_GRP reinforced concrete lined with glass reinforced plastic pipe RC_HDPE reinf. concrete lined with high density polyethylene pipe RC_P reinforced concrete lined with UPVC pipe RC_P/SW reinforced concrete lined with spirally wound UPVC pipe RC_RC reinf. concrete lined with another reinforced concrete pipe RC_RCPL RC pipe lined with another RC pipe lined with keyed plasticised PVC sheeting S mild steel cement lined SU steel usually unlined and not coated S_SL steel with a fusion bonded polyethylene internal lining VC vitrified clay VC/FRP vitrified clay lined with fibre reinforced plastic-enviroliner VC_HDPE vitrified clay lined with high density polyethylene pipe VC_P vitrified clay lined with UPVC pipe VC_P/SW vitrified clay lined with spirally wound UPVC pipe</p> <p>Pipe types of steel (S) and glass reinforced plastic (GRP) display an outside diameter with the nominal pipe size and type.</p>
	<p>CHANGE INDICATOR ARROW</p> <p>Only used on pressure mains. Indicates a change in pipe size, grade, joint or bedding.</p>
	<p>VALVE</p> <p>Many different valve types are in use. Valve may be in a pit or have a visible valve cover. There may be no surface indication. May be labelled (e.g. SAV, RV, SV)</p> <p>Valves may be shallower than the main or offset from it. e.g. A scour valve (SC) may have a pipe coming away from main pipeline on the opposite side to that indicated on the plan.</p>
	<p>PIPE OVERPASS</p> <p>When two pipes cross, the shallower of the two pipes has an overpass symbol attached.</p>

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	<p>WASTEWATER ACCESS CHAMBERS (MANHOLES)</p> <ul style="list-style-type: none"> -- Manhole (shown not labelled) -- Tee or maintenance shaft (shown not labelled) MS maintenance shaft (labelled)
	<p>HAZARDOUS MANHOLE</p> <p>Indicates a potential health hazard from risk of exposure to toxic waste.</p> <p>NOTE: Opening any manhole is dangerous and is prohibited.</p>
	<p>MANHOLE INFORMATION BOX</p> <p>Square - nontrafficable (Do not drive vehicles or place loads.)</p> <p>Round - trafficable</p> <p><i>Lid level (reduced level)</i></p> <p><i>Access chamber no.</i></p> <p><i>Alignment</i></p> <p><i>Offset</i></p> <p>A - along, the distance along a boundary from an intersection of boundaries. This will be a first distance only. (e.g. 7.0 ASE: 7m along boundary SE direction)</p> <p>F - from, the distance at right angles from a boundary. This will be the second distance, but may be the first as well. (e.g. 2m from boundary SW direction.)</p>
	<p>CONCRETE ENCASEMENT OR SLEEVE</p> <p>Upstream distances indicated from sewer manhole.</p> <p>Sleeve: Sleeve size and material type shown. (e.g. 225SU)</p>
	<p>UNDERPINNING</p> <p>Underpinning supports nearby foundations which have potential to be affected by excavation.</p>
<p>SOUTH PERTH PS1</p>	<p>PUMP STATION</p> <p>Wastewater pressure main will be in the vicinity.</p>

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	<p>CATHODIC PROTECTION</p> <p>Cathodic protection (CP) systems protect pipelines from corrosion by application of an electric current. Buried CP equipment may be located some distance from the pipeline being protected connected together by buried electric cable. All CP fittings may not be visible.</p> <p>A buried anode – various sizes and configurations</p> <p>TP test point - may be visible on a post or in-ground</p> <p>TR transformer rectifier</p>
	<p>TUNNEL</p> <p>As indicated with square brackets facing towards the tunnel with both distances from downstream manhole displayed.</p>
	<p>INSPECTION OPENING</p> <p>Screw capped end of a gravity pipe running from a sewer manhole.</p> <p>Placed at the end (usually upstream) of pipes. Information box displays tie distances and directions. (See manholes)</p>
	<p>TRAP</p> <p>A trap is used to minimise gas build up and odour in house connection lines.</p> <p>BT boundary trap on connection</p> <p>BTR boundary trap required on connection</p> <p>RT running trap on a pipe</p> <p>RF rubber flap on a manhole</p> <p>RV property, backflow device, shown as reflux valve on connection</p>
	<p>PROPERTY CONNECTION</p> <p>I In-distance towards the property at right angles from the pipe. Only shown when 0.5 or more.</p> <p>U Up-distance the connection is brought up to bring it to within 1.5 of the surface</p>



Drainage Plan Symbols – Green																																													
	<p>CRITICAL PIPELINE (THICK LINE)</p> <p>Extra caution required. Pipe may not be labelled. Risk assessment may be required if working near this pipe. Refer to Dial Before You Dig information or 131375.</p>																																												
	<p>GRAVITY PIPE</p> <p>P Branch or main drain SS Subsoil drain</p> <p>Information displayed: type, upstream and downstream invert levels, length, nominal pipe size. Other info may also be displayed.</p>																																												
	<p>OPEN CHANNEL</p> <p>OA Landscaped OE Normal Open Earth OF Open channel with flood levee OH Half Pipe OL Lined Channel OS Swale-Shallow Depression OW Natural Water Course</p> <p>Drainage structures even if dry must be kept clear of any obstruction such as sand stockpiles.</p>																																												
	<p>RISING MAIN</p> <p>Letter 'R' displayed on pipe between pump station and access chamber. (e.g. 450mm diam reinforced concrete)</p>																																												
	<p>Material abbreviations</p> <table border="0"> <tr> <td>A</td><td>Asbestos</td> <td>HCAL</td><td>Hel-Cor Aluminium</td> </tr> <tr> <td>AC</td><td>Asbestos cement</td> <td>HCMS</td><td>Hel-Cor Galvanised Mild Steel</td> </tr> <tr> <td>BK</td><td>Brick</td> <td>MS</td><td>Mass Concrete</td> </tr> <tr> <td>CI</td><td>Cast Iron</td> <td>MSCL</td><td>Mild Steel Cement Lined</td> </tr> <tr> <td>CM</td><td>Concrete Monier</td> <td>MF</td><td>Geofabrics-Megaflo</td> </tr> <tr> <td>CTL</td><td>Concrete tunnel</td> <td>P</td><td>Polyvinyl Chloride</td> </tr> <tr> <td>CV</td><td>Concrete Voussoirs</td> <td>POLY</td><td>Polyethylene</td> </tr> <tr> <td>DI</td><td>Ductile Iron</td> <td>RC</td><td>Reinforced Conc (e.g. 900RC)</td> </tr> <tr> <td>ECC</td><td>Enclosed Conc Channel</td> <td>RCBC</td><td>Reinforced Conc Box Culvert</td> </tr> <tr> <td>ECCB</td><td>Enclosed Conc Channel Bridge</td> <td>S</td><td>Steel</td> </tr> <tr> <td>FRC</td><td>Fibre Reinforced Concrete</td> <td></td><td></td> </tr> </table>	A	Asbestos	HCAL	Hel-Cor Aluminium	AC	Asbestos cement	HCMS	Hel-Cor Galvanised Mild Steel	BK	Brick	MS	Mass Concrete	CI	Cast Iron	MSCL	Mild Steel Cement Lined	CM	Concrete Monier	MF	Geofabrics-Megaflo	CTL	Concrete tunnel	P	Polyvinyl Chloride	CV	Concrete Voussoirs	POLY	Polyethylene	DI	Ductile Iron	RC	Reinforced Conc (e.g. 900RC)	ECC	Enclosed Conc Channel	RCBC	Reinforced Conc Box Culvert	ECCB	Enclosed Conc Channel Bridge	S	Steel	FRC	Fibre Reinforced Concrete		
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	<p>ACCESS CHAMBER (MANHOLE) An access point to drainage pipes.</p> <p>Square non-trafficable Round trafficable</p> <p>Access chamber no e.g. A021</p> <p>Type WI well liner PS pipe segment BK brick (See example) RC reinforced concrete MC mass concrete</p> <p>Lid level (reduced level) Alignment e.g. 30.69 F - From, the distance at right angles from a boundary. This will be the second distance, but may be the first as well. (e.g. 3.3 FSW: 3.3 m from boundary in SW direction)</p> <p>Offset A - Along, the distance along a boundary from an intersection of boundaries. This will be a first distance only. (e.g. 19.0 ASE: 3.3 m along boundary in SE direction)</p>
	<p>DRAIN CROSSING A drain crossing which is a pipe or series of pipes.</p> <p>BPC bank access culvert OBC occupational box culvert OPC occupational culvert RBC road box culvert RPC road culvert SYP syphon</p>
	<p>PUMP STATION Pump station name, number and planset number.</p>

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	<p>DRAIN FITTINGS</p> <p>Represented by a letter and identification number.</p> <ul style="list-style-type: none"> E extraction point F continuously logged flow station G groundwater monitoring site I industrial waste discharge M maximum height indicator Q water quality-sampling site R continuously logged rain gauge
	<p>CONCRETE ENCASEMENT OR SLEEVE</p> <p>Concrete encasement or sleeve provides increased protection. Upstream distances are indicated from the manhole.</p> <p>Sleeve size and material type shown. e.g. 600S = 600mm diam steel</p>
	<p>CATHODIC PROTECTION</p> <p>Buried CP equipment may be located some distance from the pipeline being protected interconnected by buried cable. All CP fittings may not be visible.</p> <ul style="list-style-type: none"> A buried anode – various sizes and configurations TP test point (may be visible on a post or in-ground) TR transformer rectifier