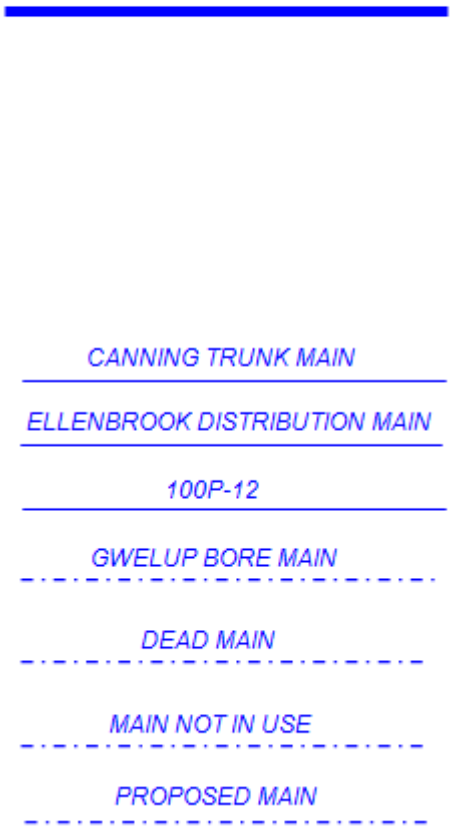
Plan legend information

Before You Dig Australia

This legend is provided to Before You Dig Australia 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



PIPELINES

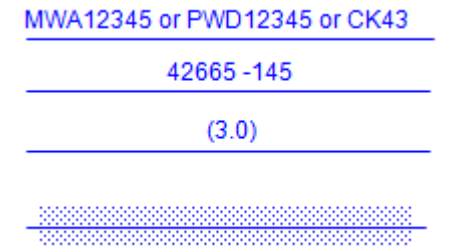
Critical pipeline (thick line)

Extra caution required. Pipe may not be labelled. Risk assessment may be required if working near this pipe. Refer to your Before You Dig Australia (BYDA) information or **131375**.

Pipes are not always labelled on plans as shown here – assume a pipe is significant and pothole to prove location and depth.

Common pipe material abbreviations

AC	Asbestos Cement
ACL	Asbestos Cement Lined
Concrete	
BI	Black Iron
CI	Cast Iron
CU	Copper
DI	Ductile iron
GRP	Glass reinforced plastic
GS	Galvanised steel
GWI	Galvanised wrought iron
HDPE	High density polyethylene; pipe class may also be shown
MDPE	Medium density polyethylene; pipe class may be shown
P	PVC - class will be shown following pipe material (e.g.100P-12)
RC	Reinforced concrete
S	Steel - plate thickness and joint type may be shown after pipe type
SI	Spun iron
SUTT	Sutton
TUNN	Tunnel
VC	Vitrified clay
VIC	Victualic; steel pipe using special coupling



OTHER PIPELINE REFERENCES

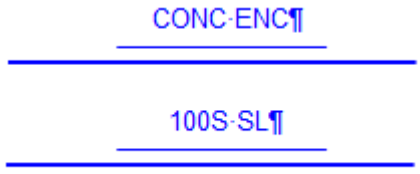
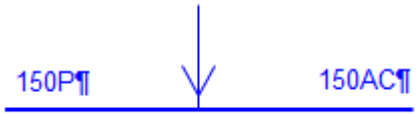
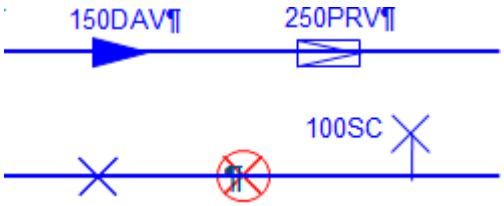
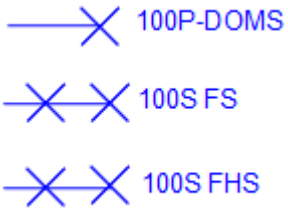
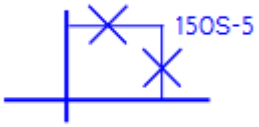
Planset numbers (Water Corporation internal use.)

Field book reference (Water Corporation internal use.)

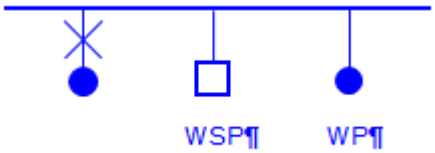
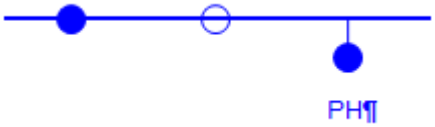
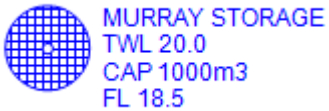
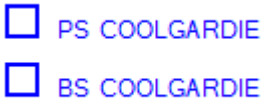
Some pipes may be on a non-standard alignment. i.e. An alignment other than 2.1m for reticulation mains and 4.5m for distribution mains.

Shaded background indicates a Water Corporation internal reference to more detailed information.

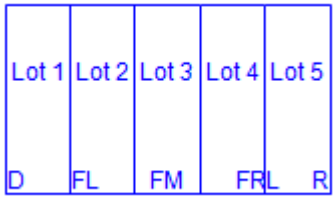
Plan legend information

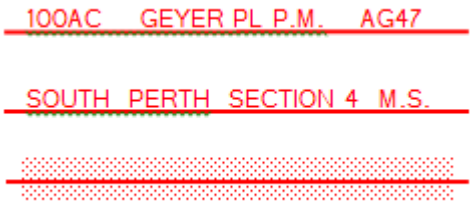
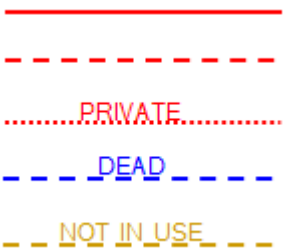
	**CONCRETE ENCASEMENT AND SLEEVES** ENC Encasement SL Sleeve AC Asbestos Cement CI Cast Iron DI Ductile Iron GWI Galvanised Wrought Iron RC Reinforced Concrete S Steel (e.g. 100S as shown)
	**CHANGE INDICATOR ARROW** Indicates a change in pipe type or size. Example: 150mm diameter PVC to 150mm diameter asbestos cement.
	**PIPE OVERPASS** The overpass symbol indicates the shallower of the two pipes.
	**VALVE** 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.
	**DOMS domestic service** **FS Fire service** **FHS Fire hydrant service** A hydrant may be visible external to the building. Even if not visible a substantial fire service may still be present.
	**PIPE BYPASS** Bypass will not be on the same alignment as the main pipeline.
	**DEADPLATE**

Plan legend information

	**CATHODIC PROTECTION FITTINGS** 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. A buried anode – various sizes and configurations TP test point - may be visible on a post or in-ground TR transformer rectifier
	**ACCESS TEE OR MANHOLE OR SERVICE ACCESS PIT** 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.
	**FLOWMETER** Various types of flow meters located in a pit. May be labelled with identifier. (e.g. 50 MFM, 50MM)
	**STANDPIPE** **WATER SAMPLING POINT (WSP)** **WATER SUPPLY POINT (WP)** May be located adjacent to mains. Usually some visible location.
	**HYDRANT** **HYDRANT TEE** **PILLAR HYDRANT**
	**TANKS AND RESERVOIRS** May have data shown: TWL Top Water Level CAP Capacity (cubic metres) FL Floor level
	**WATER PUMP STATION** Water booster station Name and number may be displayed.

Plan legend information

	**PRE-LAID SERVICES** Code indicates which side of a lot the water service is located: D Deferred FL Fully Prelaid Left FM Fully Prelaid Front Middle FR Fully Prelaid Right L Left R Right	Code indicates on which side of a lot the water service is located: May be no visible indication at site.

Sewer Plan Symbols - Red	
	CRITICAL PIPELINE (THICK LINE) **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**.
	**PRESSURE MAINS AND MAIN SEWERS** Sewerage gravitates to pump stations and then is pumped in a pressure main to a main sewer or wastewater treatment plant. *Size & material – name of pressure main – planset number* P.M. Pressure Main M.S. Main Sewer Shaded background indicates an internal Water Corporation reference to more detailed information.
	**PIPE** Actual pipe in use Proposed or unavailable for release Private pressure main Dead Not in use (may be used in future)

Plan legend information

Pipe material

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_GRP	RC segments lined with glass reinf. plastic pipe or liner
RCPL	RC pipe lined with keyed plasticised PVC sheeting
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

Pipe types of steel (S) and glass reinforced plastic (GRP) display an outside diameter with the nominal pipe size and type.

CHANGE INDICATOR ARROW

Only used on pressure mains. Indicates a change in pipe size, grade, joint or bedding.

VALVE

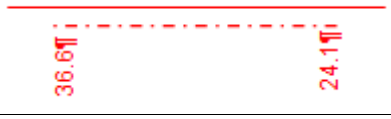
Many different valve types are in use. Valve may be in a pit or have a visible valve cover. There may be no surface indication. May be labelled (e.g. SAV, RV, SV)

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.

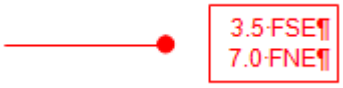
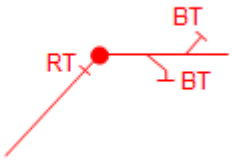
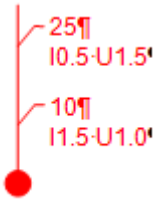
PIPE OVERPASS

When two pipes cross, the shallower of the two pipes has an overpass symbol attached.

Plan legend information

	**WASTEWATER ACCESS CHAMBERS (MANHOLES)** -- Manhole (shown not labelled) -- Tee or maintenance shaft (shown not labelled) MS maintenance shaft (labelled)
	**HAZARDOUS MANHOLE** Indicates a potential health hazard from risk of exposure to toxic waste. **NOTE:** Opening any manhole is dangerous and is prohibited.
	**MANHOLE INFORMATION BOX** Square - nontrafficable (Do not drive vehicles or place loads.) Round - trafficable *Lid level (reduced level)* *Access chamber no.* *Alignment* *Offset* 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) 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.)
	**CONCRETE ENCASEMENT OR SLEEVE** Upstream distances indicated from sewer manhole. Sleeve: Sleeve size and material type shown. (e.g. 225SU)
	**UNDERPINNING** Underpinning supports nearby foundations which have potential to be affected by excavation.
	**PUMP STATION** Wastewater pressure main will be in the vicinity.

Plan legend information

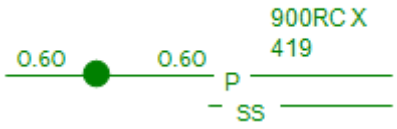
	**CATHODIC PROTECTION** Cathodic protection (CP) systems protect pipelines from corrosion by application of an electric current. Buried CP equipment may be located some distance from the pipeline being protected connected together by buried electric cable. All CP fittings may not be visible. A buried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

Plan legend information

Drainage Plan Symbols – Green

CRITICAL PIPELINE (THICK LINE)

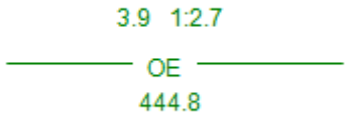
Extra caution required. Pipe may not be labelled. Risk assessment may be required if working near this pipe. Refer to **Dial Before You Dig** information or **131375.**



GRAVITY PIPE

P	Branch or main drain
SS	Subsoil drain

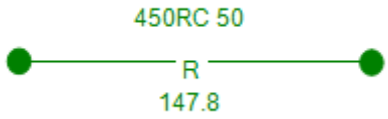
Information displayed: type, upstream and downstream invert levels, length, nominal pipe size. Other info may also be displayed.



OPEN CHANNEL

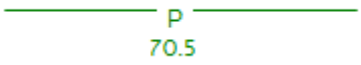
OA	Landscaped
OE	Normal Open Earth
OF	Open channel with flood levee
OH	Half Pipe
OL	Lined Channel
OS	Swale-Shallow Depression
OW	Natural Water Course

Drainage structures even if dry must be kept clear of any obstruction such as sand stockpiles.



RISING MAIN

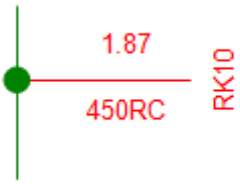
Letter 'R' displayed on pipe between pump station and access chamber.
(e.g. 450mm diam reinforced concrete)



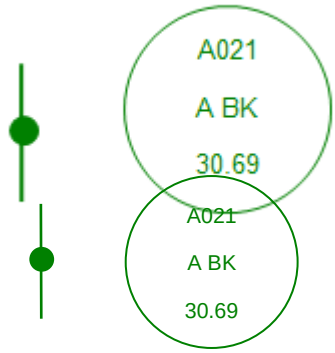
Material abbreviations

A	Asbestos
AC	Asbestos cement
BK	Brick
CI	Cast Iron
CM	Concrete Monier
CTL	Concrete tunnel
CV	Concrete Voussoirs
DI	Ductile Iron
ECC	Enclosed Conc Channel
ECCB Bridge	Enclosed Conc Channel
FRC	Fibre Reinforced Concrete
HCAL	Hel-Cor Aluminium
HCMS Steel	Hel-Cor Galvanised Mild
MS	Mass Concrete
MSCL	Mild Steel Cement Lined
MF	Geofabrics-Megaflo
P	Polyvinyl Chloride
POLY	Polyethylene
RC 900RC)	Reinforced Conc (e.g.
RCBC Culvert	Reinforced Conc Box
S	Steel

Plan legend information

	GB Glazed Brick VC Vitrified Clay GRP Glass Reinforced Plastic W Wood
	**SHADED BACKGROUND** Shaded background around a pipe indicates an internal reference to more detailed information.
	**CONNECTION** Local authority or private connection (orange). Pipe size, type and invert level shown. Identifier may be shown.
	**CHANGE INDICATOR ARROW** Indicates a change in pipe size, grade, joint or bedding
	**VALVES** Different valve types indicated. May be also be labelled (e.g. 100SAV, 100SC, 100BV) Valves may be shallower than the main or offset from it. Valve may be in a pit or have a cover which is visible or there may not be any surface indication.
	**PIPE OVERPASS** The overpass symbol indicates the shallower of the two pipes.

Plan legend information



ACCESS CHAMBER (MANHOLE)

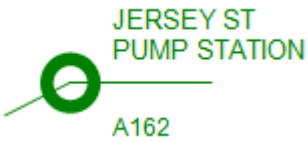
An access point to drainage pipes.

Square non-trafficable Round trafficable	
Access chamber no	e.g. A021
Type	WI well liner PS pipe segment BK brick (See example) RC reinforced concrete MC mass concrete
Lid level (reduced level)	e.g. 30.69
Alignment	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)
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)

DRAIN CROSSING

A drain crossing which is a pipe or series of pipes.

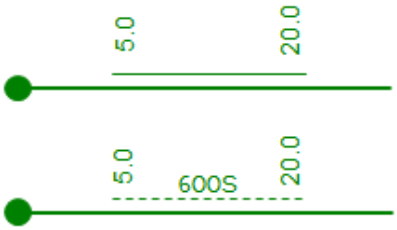
BPC	bank access culvert
OBC	occupational box culvert
OPC	occupational culvert
RBC	road box culvert
RPC	road culvert
SYP	syphon



PUMP STATION

Pump station name, number and planset number.

Plan legend information

	**DRAIN FITTINGS** Represented by a letter and identification number. 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
	**CONCRETE ENCASEMENT OR SLEEVE** Concrete encasement or sleeve provides increased protection. Upstream distances are indicated from the manhole. Sleeve size and material type shown. e.g. 600S = 600mm diam steel
	**CATHODIC PROTECTION** Buried CP equipment may be located some distance from the pipeline being protected interconnected by buried cable. All CP fittings may not be visible. A buried anode – various sizes and configurations TP test point (may be visible on a post or in-ground) TR transformer rectifier