
Appendix D As-built Requirements for Gravity Wastewater

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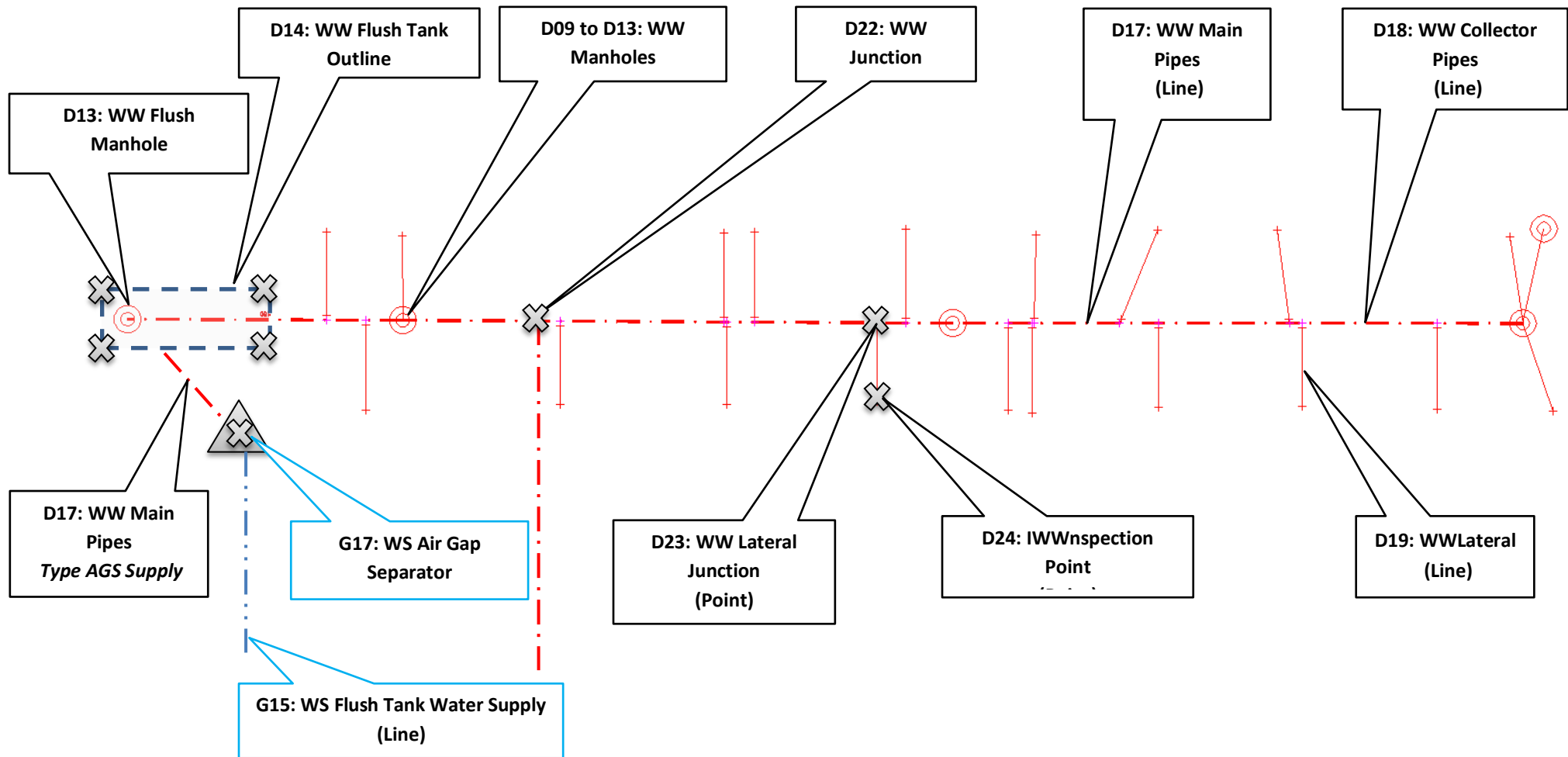
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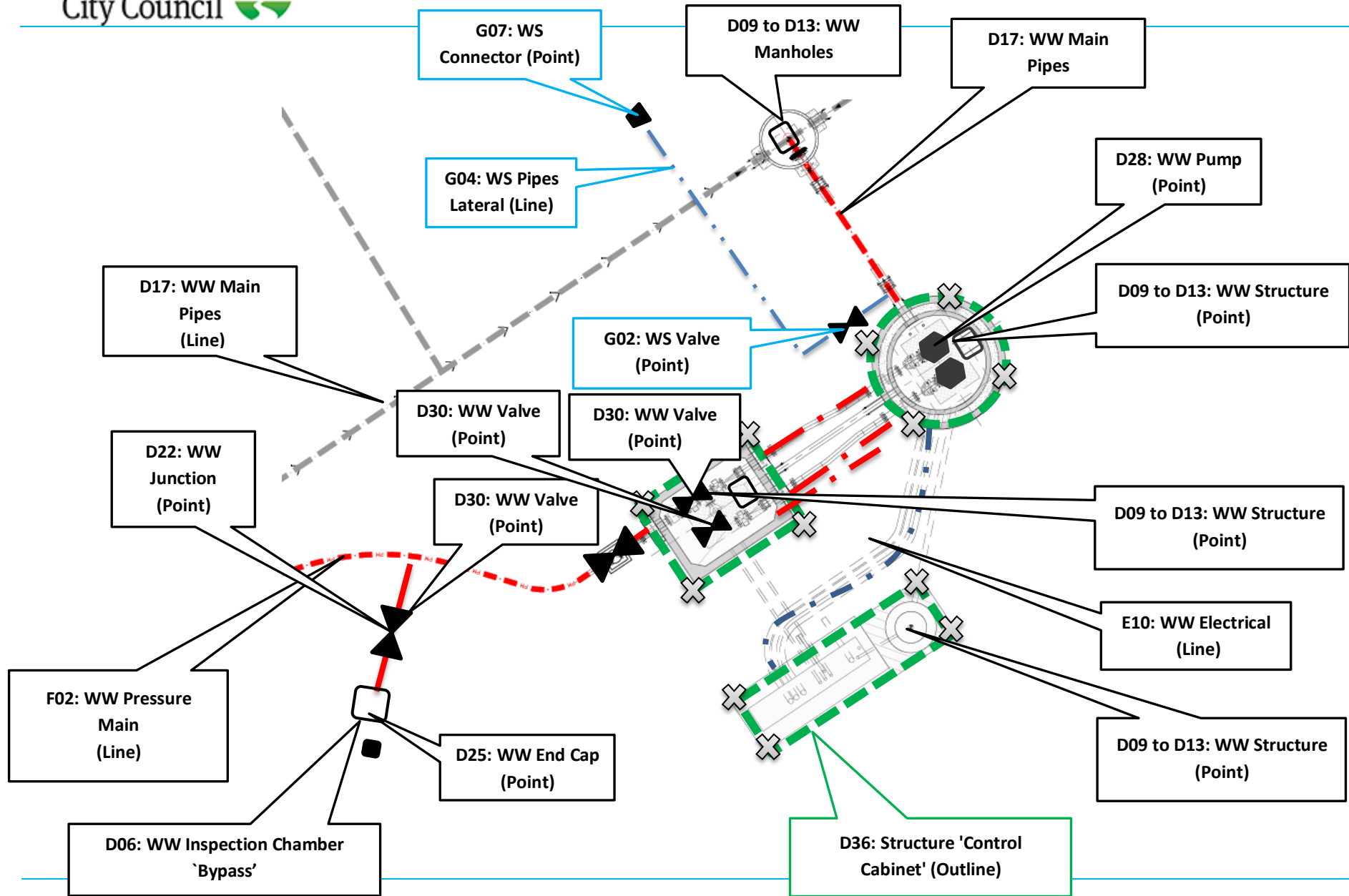
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Gravity Wastewater – Overview



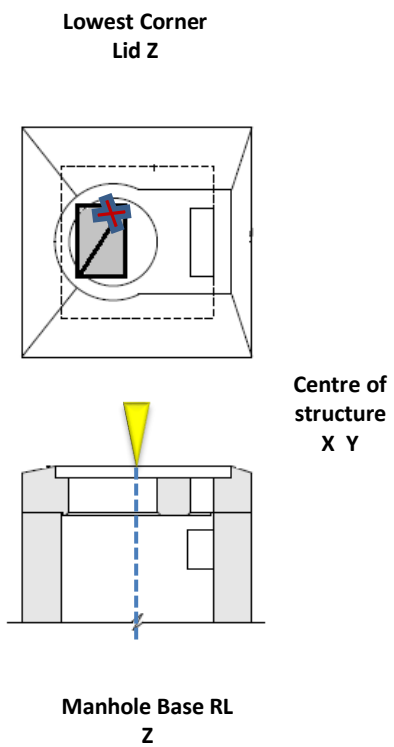
Pumping Station – Overview

As-Built requirements (WW)			
Name	WW Inspection Chamber (Point)		
Point Type	D06 "Point Asset Inputs"		
D06: WW Inspection Chamber	CAT Column	SAG Description	Valid Values
	A	Type of point feature	D06
	B	Type of manhole or access	Select from pick list: domWWAccessType
	C	Existing or New asset	Select from pick list: domExistingOrNew
	D	Differs from design (yes/no)	Select from pick list: domDiffersFromDesign
	E	Unique identifier from drawing	data - text
	F	Centre of structure in Easting coordinate	data - decimal number
	G	Centre of structure in Northing coordinate	data - decimal number
	H	RL on lowest corner of lid	data - decimal number
	J	RL at manhole base (lowest point)	data - decimal number
	K	Width and length of pit (e.g. 600x800) or diameter of pit	data - number
	L	Date of commission	data - date (dd/mm/yyyy)
	M	Location certainty - accuracy of data	Select from pick list: domLocationCertainty
	O	Name of main contractor whom installed asset	Data - text
	P	Date of 'survey-start'	data - date (dd/mm/yyyy)
	Q	Guideline revision used for survey	data - decimal number
	R	Style of access lid	Select from pick list: domLidStyle
	S	Shape of access lid	Select from pick list: domLidType
	T	Manufacturer of asset	Select from pick list: domManufacturer
U	Construction Material	Select from pick list: domAccessConstruction	
V	Type of security on access	Select from pick list: domAccessSecurity	
W	Pit angle - orientation of inner structure to nearest 5 degrees (rectangular pits only)	data - number	
X	Treatment material for refurbished manholes	Select from pick list: domAccessTreatmentType	
Additional Information			
*All other columns must be left "blank" or hold the value "LEAVE BLANK" as default in CAT Col W: leave blank/unchanged for circular chambers Col X: leave blank/unchanged if N/A See Appendix C.1.1 for a CAT example.			

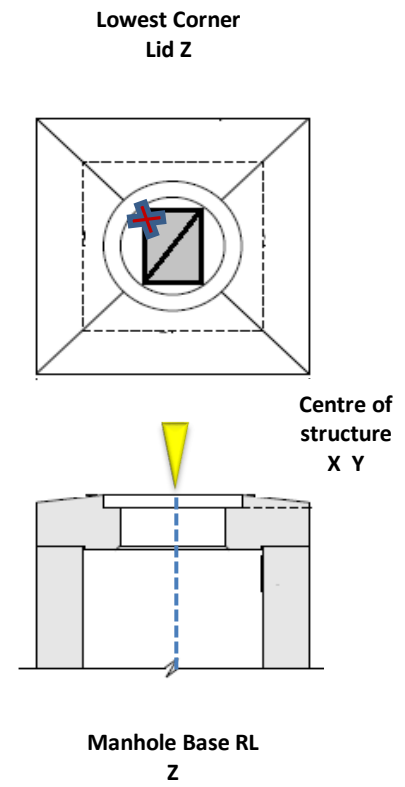
Centre of structure X Y

Lowest Corner Lid Z

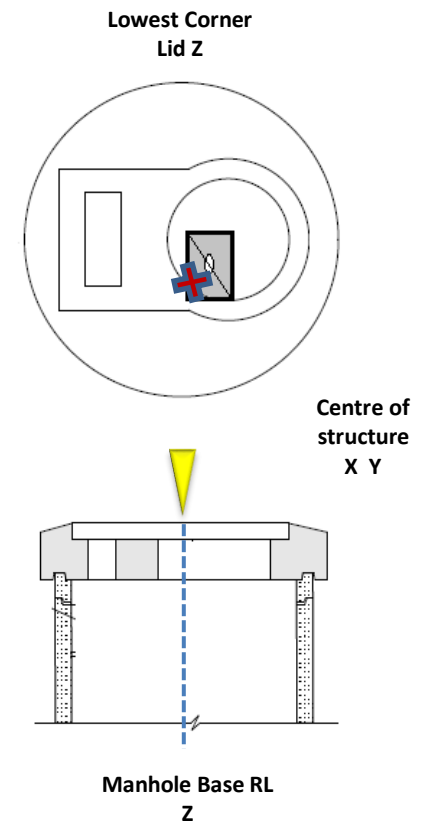
As-Built requirements (WW)		
Name		WW Square Manhole Vented (Point)
Point Type		D09 "Point Asset Inputs"
D09: WW Square Manhole Vented	CAT Column	SAG Description
	A	Type of point feature
	B	Type of manhole or access
	C	Existing or New asset
	D	Differs from design (yes/no)
	E	Unique identifier from drawing
	F	Centre of structure in Easting coordinate
	G	Centre of structure in Northing coordinate
	H	RL on lowest corner of lid
	J	RL at manhole base (lowest point)
	K	Width and length of pit (e.g. 600x800) or diameter of pit
	L	Date of commission
	M	Location certainty - accuracy of data
	O	Name of main contractor whom installed asset
	P	Date of 'survey-start'
	Q	Guideline revision used for survey
	R	Style of access lid
	S	Shape of access lid
	T	Manufacturer of asset
	U	Construction Material
V	Type of security on access	
W	Pit angle - orientation of inner structure to nearest 5 degrees (rectangular pits only)	
X	Treatment material for refurbished manholes	
<p>Valid Values</p> <p>D09</p> <p>Select from pick list: domWWAccessType</p> <p>Select from pick list: domExistingOrNew</p> <p>Select from pick list: domDiffersFromDesign</p> <p>data - text</p> <p>data - decimal number</p> <p>data - decimal number</p> <p>data - decimal number</p> <p>data - decimal number</p> <p>data - number</p> <p>data - date (dd/mm/yyyy)</p> <p>Select from pick list: domLocationCertainty</p> <p>Data - text</p> <p>data - date (dd/mm/yyyy)</p> <p>data - decimal number</p> <p>Select from pick list: domLidStyle</p> <p>Select from pick list: domLidType</p> <p>Select from pick list: domManufacturer</p> <p>Select from pick list: domAccessConstruction</p> <p>Select from pick list: domAccessSecurity</p> <p>data - number</p> <p>Select from pick list: domAccessTreatmentType</p>		
<p>Additional Information</p> <p>*All other columns must be left "blank" or hold the value "LEAVE BLANK" as default in CAT</p> <p>Col X: leave blank/unchanged if N/A</p> <p>See Appendix C.1.1 for a CAT example.</p>		



As-Built requirements (WW)		
Name		WW Square Manhole Non Vented (Point)
Point Type		D10 "Point Asset Inputs"
D10: WW Square Manhole Non Vented	CAT Column	SAG Description
	A	Type of point feature
	B	Type of manhole or access
	C	Existing or New asset
	D	Differs from design (yes/no)
	E	Unique identifier from drawing
	F	Centre of structure in Easting coordinate
	G	Centre of structure in Northing coordinate
	H	RL on lowest corner of lid
	J	RL at manhole base (lowest point)
	K	Width and length of pit (e.g. 600x800) or diameter of pit
	L	Date of commission
	M	Location certainty - accuracy of data
	O	Name of main contractor whom installed asset
	P	Date of 'survey-start'
	Q	Guideline revision used for survey
	R	Style of access lid
	S	Shape of access lid
	T	Manufacturer of asset
	U	Construction Material
V	Type of security on access	
W	Pit angle - orientation of inner structure to nearest 5 degrees (rectangular pits only)	
X	Treatment material for refurbished manholes	
Valid Values		
D10		
Select from pick list: domWWAccessType		
Select from pick list: domExistingOrNew		
Select from pick list: domDiffersFromDesign		
data - text		
data - decimal number		
data - decimal number		
data - decimal number		
data - decimal number		
data - number		
data - date (dd/mm/yyyy)		
Select from pick list: domLocationCertainty		
Data - text		
data - date (dd/mm/yyyy)		
data - decimal number		
Select from pick list: domLidStyle		
Select from pick list: domLidType		
Select from pick list: domManufacturer		
Select from pick list: domAccessConstruction		
Select from pick list: domAccessSecurity		
data - number		
Select from pick list: domAccessTreatmentType		
Additional Information		
*All other columns must be left "blank" or hold the value "LEAVE BLANK" as default in CAT		
Col X: leave blank/unchanged if N/A		
See Appendix C.1.1 for a CAT example.		



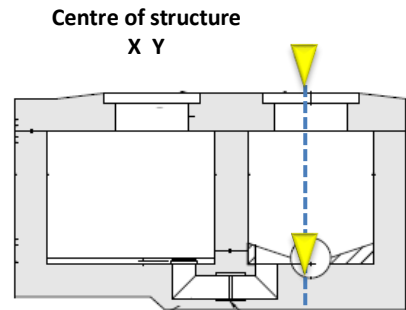
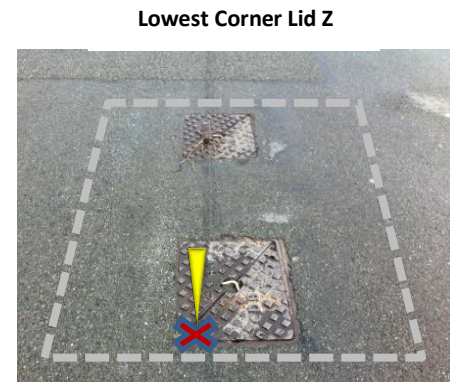
As-Built requirements (WW)		
Name		WW Circular Manhole Vented (Point)
Point Type		D11 "Point Asset Inputs"
D11: WW Circular Manhole Vented	CAT Column	SAG Description
	A	Type of point feature
	B	Type of manhole or access
	C	Existing or New asset
	D	Differs from design (yes/no)
	E	Unique identifier from drawing
	F	Centre of structure in Easting coordinate
	G	Centre of structure in Northing coordinate
	H	RL on lowest corner of lid
	J	RL at manhole base (lowest point)
	K	Width and length of pit (e.g. 600x800) or diameter of pit
	L	Date of commission
	M	Location certainty - accuracy of data
	O	Name of main contractor whom installed asset
	P	Date of 'survey-start'
	Q	Guideline revision used for survey
	R	Style of access lid
	S	Shape of access lid
	T	Manufacturer of asset
	U	Construction Material
V	Type of security on access	
W	Pit angle - orientation of inner structure to nearest 5 degrees (rectangular pits only)	
X	Treatment material for refurbished manholes	
Valid Values		
		D11
		Select from pick list: domWWAccessType
		Select from pick list: domExistingOrNew
		Select from pick list: domDiffersFromDesign
		data - text
		data - decimal number
		data - decimal number
		data - decimal number
		data - decimal number
		data - number
		data - date (dd/mm/yyyy)
		Select from pick list: domLocationCertainty
		Data - text
		data - date (dd/mm/yyyy)
		data - decimal number
		Select from pick list: domLidStyle
		Select from pick list: domLidType
		Select from pick list: domManufacturer
		Select from pick list: domAccessConstruction
		Select from pick list: domAccessSecurity
		data - number
		Select from pick list: domAccessTreatmentType
Additional Information		
*All other columns must be left "blank" or hold the value "LEAVE BLANK" as default in CAT Col W: leave blank/unchanged for circular manholes Col X: leave blank/unchanged if N/A See Appendix C.1.1 for a CAT example.		



As-Built requirements (WW)			
D12: WW Circular Manhole Non Vented	Name	WW Circular Manhole Non Vented (Point)	
	Point Type	D12 "Point Asset Inputs"	
	CAT Column	SAG Description	Valid Values
	A	Type of point feature	D12
	B	Type of manhole or access	Select from pick list: domWWAccessType
	C	Existing or New asset	Select from pick list: domExistingOrNew
	D	Differs from design (yes/no)	Select from pick list: domDiffersFromDesign
	E	Unique identifier from drawing	data - text
	F	Centre of structure in Easting coordinate	data - decimal number
	G	Centre of structure in Northing coordinate	data - decimal number
H	RL on lowest corner of lid	data - decimal number	
J	RL at manhole base (lowest point)	data - decimal number	
K	Width and length of pit (e.g. 600x800) or diameter of pit	data - number	
L	Date of commission	data - date (dd/mm/yyyy)	
M	Location certainty - accuracy of data	Select from pick list: domLocationCertainty	
O	Name of main contractor whom installed asset	Data - text	
P	Date of 'survey-start'	data - date (dd/mm/yyyy)	
Q	Guideline revision used for survey	data - decimal number	
R	Style of access lid	Select from pick list: domLidStyle	
S	Shape of access lid	Select from pick list: domLidType	
T	Manufacturer of asset	Select from pick list: domManufacturer	
U	Construction Material	Select from pick list: domAccessConstruction	
V	Type of security on access	Select from pick list: domAccessSecurity	
W	Pit angle - orientation of inner structure to nearest 5 degrees (rectangular pits only)	data - number	
X	Treatment material for refurbished manholes	Select from pick list: domAccessTreatmentType	
Additional Information			
*All other columns must be left "blank" or hold the value "LEAVE BLANK" as default in CAT Col W: leave blank/unchanged for circular manholes Col X: leave blank/unchanged if N/A See Appendix C.1.1 for a CAT example.			

The diagram illustrates a circular manhole structure. At the top, a crosshair symbol is placed on the lid, labeled 'Lowest Corner Lid Z'. Below this, a yellow triangle points to the 'Centre of structure X Y'. At the bottom, a vertical dashed line indicates the 'Manhole Base RL Z'.

As-Built requirements (WW)			
Name		WW Flush Manhole (Point)	
Point Type		D13 "Point Asset Inputs"	
D13: WW Flush Manhole	CAT Column	SAG Description	Valid Values
	A	Type of point feature	D13
	B	Type of manhole or access	Select from pick list: domWWAccessType
	C	Existing or New asset	Select from pick list: domExistingOrNew
	D	Differs from design (yes/no)	Select from pick list: domDiffersFromDesign
	E	Unique identifier from drawing	data - text
	F	Centre of structure in Easting coordinate	data - decimal number
	G	Centre of structure in Northing coordinate	data - decimal number
	H	RL on lowest corner of lid	data - decimal number
	J	RL at manhole base (lowest point)	data - decimal number
	K	Width and length of pit (e.g. 600x800) or diameter of pit	data - number
	L	Date of commission	data - date (dd/mm/yyyy)
	M	Location certainty - accuracy of data	Select from pick list: domLocationCertainty
	O	Name of main contractor whom installed asset	Data - text
	P	Date of 'survey-start'	data - date (dd/mm/yyyy)
	Q	Guideline revision used for survey	data - decimal number
	R	Style of access lid	Select from pick list: domLidStyle
	S	Shape of access lid	Select from pick list: domLidType
	T	Manufacturer of asset	Select from pick list: domManufacturer
	U	Construction Material	Select from pick list: domAccessConstruction
V	Type of security on access	Select from pick list: domAccessSecurity	
W	Pit angle - orientation of inner structure to nearest 5 degrees (rectangular pits only)	data - number	
X	Treatment material for refurbished manholes	Select from pick list: domAccessTreatmentType	
Additional Information			
<p>*All other columns must be left "blank" or hold the value "LEAVE BLANK" as default in CAT Col W: leave blank/unchanged for circular manholes Col X: leave blank/unchanged if N/A See Appendix C.1.1 for a CAT example.</p>			



As-Built requirements (WW)

D14: WW Flush Tank

Name	WW Flush Tank (Outline)
Point Type	D14 "Line Asset Inputs"



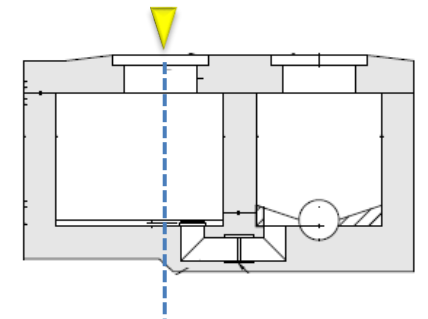
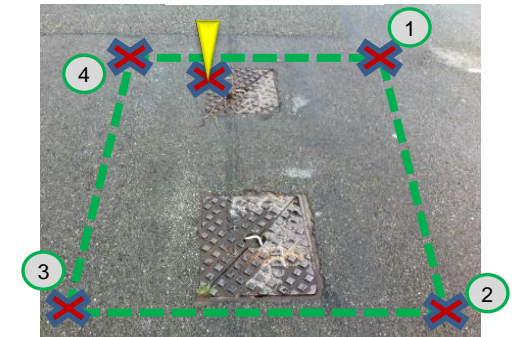
Outline features require at least three row entries in the CAT.

CAT Column	SAG Description	Valid Values
A	Type of polygon feature	D14
B	Vented or non vented	Select from pick list: domWWFlushTankType
C	Existing or New asset	Select from pick list: domExistingOrNew
D	Differs from design (yes/no)	Select from pick list: domDiffersFromDesign
E	Unique identifier from drawing	data - text
F	Polygon vertex Easting coordinate	data - decimal number
G	Polygon vertex Northing coordinate	data - decimal number
H	RL on lowest corner of lid	data - decimal number
I	Number of vertex (point along outline)	data - text
J	Construction Material	Select from pick list: domAccessConstruction
K	Width and length of pit (e.g. 600x800) or diameter of pit	data - number
N	Manufacturer of asset	Select from pick list: domManufacturer
O	Name of main contractor whom installed asset	Data - text
S	Date of commission	data - date (dd/mm/yyyy)
T	Location certainty - accuracy of data	Select from pick list: domLocationCertainty
U	Date of 'survey-start'	data - date (dd/mm/yyyy)
V	Guideline revision used for survey	data - decimal number
V	Capacity of tank in litres	data - decimal number
W	Shape of access lid	Select from pick list: domLidType
X	Type of security on access	Select from pick list: domAccessSecurity
Y	Flushing interval of tank (pick closest)	Select from pick list: domFrequency
Z	How is the tank operated	Select from pick list: domWWFlushTankOperation

All corner points along outline to be surveyed.
Create one CAT row per surveyed point.

Additional Information
 *All other columns must be left "blank" or hold the value "LEAVE BLANK" as default in CAT
 Col I: enter number of vertex along outline
 Col V: refers to the operational capacity of the tank
 See Appendix C.3.1 for a CAT example.

Lowest Corner Lid Z

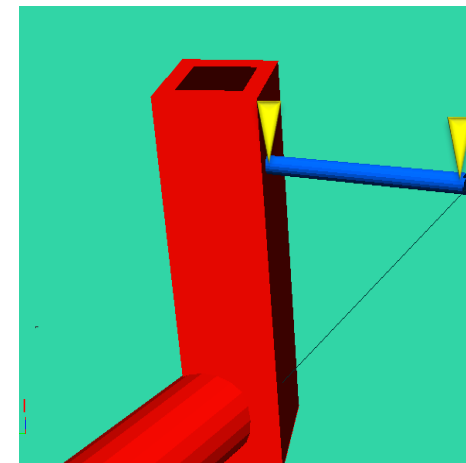


Centre of structure
X Y

As-Built requirements (WW)			
D15: Flush Tank Water Supply	Name	Flush Tank Water Supply (Line)	
	Line Type	D15 "Line Asset Inputs"	
	Line features require at least two row entries in the CAT.		
	CAT Column	SAG Description	Valid Values
	A	Type of line feature	D15
	B	Specific type of pipe	Select from pick list: domWwPipeType
	D	Differs from design (yes/no)	Select from pick list: domDiffersFromDesign
	E	Unique identifier from drawing	data - text
	F	Line vertex Easting coordinate	data - decimal number
	G	Line vertex Northing coordinate	data - decimal number
H	Invert level at vertex	data - decimal number	
I	Number of vertex (point along line) or arc code	data - text	
J	Material of pipe	Select from pick list: domPipeConstruction	
K	Nominal diameter in mm	data - number	
N	Manufacturer of asset	Select from pick list: domManufacturer	
O	Name of main contractor whom installed asset	Select from pick list: domInstallationCompany	
P	Pressure class (PN)	Select from pick list: domNominalPressureClass	
Q	Stiffness rating (SN)	Select from pick list: domStiffnessClass	
R	Concrete Load Class	Select from pick list: domConcreteLoad	
S	Date of commission, Decommission date	data - date (dd/mm/yyyy)	
T	Location certainty - accuracy of data	Select from pick list: domLocationCertainty	
U	Date of 'survey-start'	data - date (dd/mm/yyyy)	
W	Guideline revision used for survey	data - decimal number	
X	Average burial depth to invert of pipe	data - decimal number	
Y	Was the pipe laid in a trench? (yes/no)	Select from pick list: domTrenched	
Additional Information			
*All other columns must be left "blank" or hold the value "LEAVE BLANK" as default in CAT Col I: enter number of vertex along line starting with the downstream end Col W: accuracy 0.5m			




Centre of structure
X Y



All bends, start/end points to be surveyed.
Create one CAT row per surveyed point.

As-Built requirements (WW)			
D16: Air Gap Separator	Name	Air Gap Separator (Point)	
	Point Type	D16 "Point Asset Inputs"	
	CAT Column		
	SAG Description	Valid Values	
	A	Type of point feature	D16
	B	Specific point feature	data - text
	D	Differs from design (yes/no)	Select from pick list: domDiffersFromDesign
	E	Unique identifier from drawing	data - text
	F	Centre of structure in Easting coordinate	data - decimal number
	G	Centre of structure in Northing coordinate	data - decimal number
	K	Nominal diameter in mm	data - number
	L	Date of commission, Decommission date	data - date (dd/mm/yyyy)
	M	Location certainty - accuracy of data	Select from pick list: domLocationCertainty
	O	Name of main contractor whom installed asset	Select from pick list: domInstallationCompany
	P	Date of 'survey-start'	data - date (dd/mm/yyyy)
Q	Guideline revision used for survey	data - decimal number	
T	Manufacturer of asset	Select from pick list: domManufacturer	
V	Type of security on access	Select from pick list: domAccessSecurity	
Additional Information			
*All other columns must be left "blank" or hold the value "LEAVE BLANK" as default in CAT			

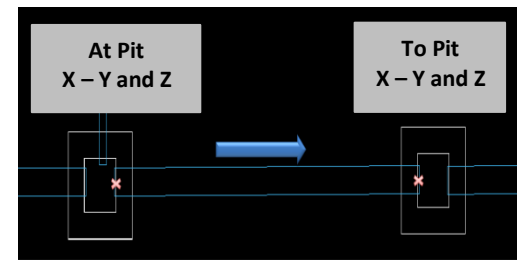
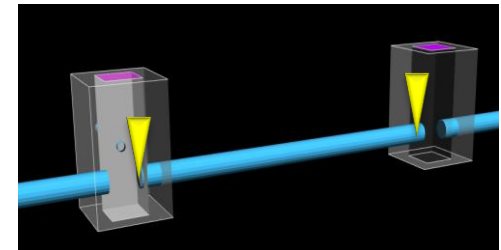
**Centre of structure
X Y**



As-Built requirements (WW)			
D17: WW Main Pipes	Name	WW Main Pipes (Line)	
	Line Type	D17 "Line Asset Inputs"	
	Line features require at least two row entries in the CAT.		
	CAT Column	SAG Description	Valid Values
	A	Type of line feature	D17
	B	Specific type of pipe	Select from pick list: domWWPipeType
	C	Existing or New asset	Select from pick list: domExistingOrNew
	D	Differs from design (yes/no)	Select from pick list: domDiffersFromDesign
	E	Unique identifier from drawing	data - text
	F	Line vertex Easting coordinate	data - decimal number
G	Line vertex Northing coordinate	data - decimal number	
H	Invert level at vertex	data - decimal number	
I	Number of vertex (point along line)	data - text	
J	Material of pipe	Select from pick list: domPipeConstruction	
K	Nominal diameter in mm	data - number	
L	At Pit - UID name from design drawing	data - text	
M	To Pit - UID name from design drawing	data - text	
N	Manufacturer of asset	Select from pick list: domManufacturer	
O	Name of main contractor whom installed asset	Data - text	
P	Pressure class (PN)	Select from pick list: domNominalPressureClass	
Q	Stiffness rating (SN)	Select from pick list: domStiffnessClass	
R	Concrete Load Class	Select from pick list: domConcreteLoad	
S	Date of commission	data - date (dd/mm/yyyy)	
T	Location certainty - accuracy of data	Select from pick list: domLocationCertainty	
U	Date of 'survey-start'	data - date (dd/mm/yyyy)	
V	Guideline revision used for survey	data - decimal number	
W	Pipe Shape	Select from pick list: domPipeShape	
X	Average burial depth to invert of pipe	data - decimal number	
Y	Was the pipe laid in a trench? (yes/no)	Select from pick list: domTrenched	
Additional Information			
*All other columns must be left "blank" or hold the value "LEAVE BLANK" as default in CAT Col I: enter number of vertex along line starting with the downstream end Col W: accuracy 0.5m See Appendix C.2.1 for a CAT example.			



**Centre of structure
X Y and Z**

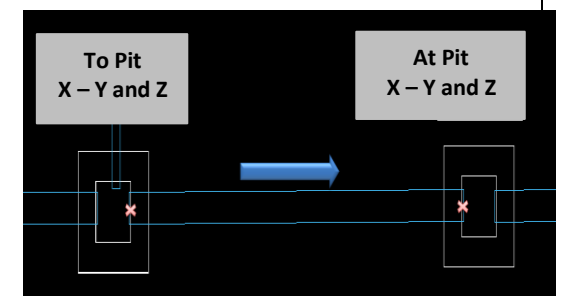
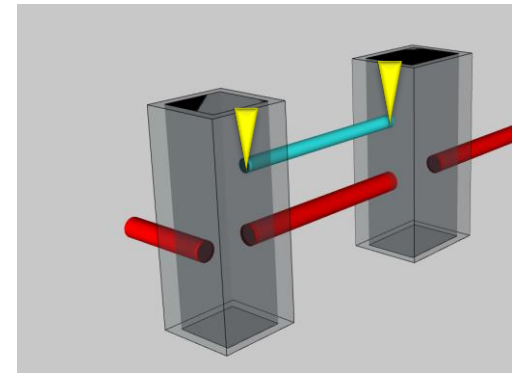


All bends, start/end points to be surveyed.
Create one CAT row per surveyed point.

As-Built requirements (WW)			
D18: WW Collector Pipes	Name	WW Collector Pipes (Line)	
	Line Type	D18 "Line Asset Inputs"	
	Line features require at least two row entries in the CAT.		
	CAT Column	SAG Description	Valid Values
	A	Type of line feature	D18
	B	Specific type of pipe	Select from pick list: domWWPipeType
	C	Existing or New asset	Select from pick list: domExistingOrNew
	D	Differs from design (yes/no)	Select from pick list: domDiffersFromDesign
	E	Unique identifier from drawing	data - text
	F	Line vertex Easting coordinate	data - decimal number
G	Line vertex Northing coordinate	data - decimal number	
H	Invert level at vertex	data - decimal number	
I	Number of vertex (point along line)	data - text	
J	Material of pipe	Select from pick list: domPipeConstruction	
K	Nominal diameter in mm	data - number	
L	At Pit - UID name from design drawing	data - text	
M	To Pit - UID name from design drawing	data - text	
N	Manufacturer of asset	Select from pick list: domManufacturer	
O	Name of main contractor whom installed asset	Data - text	
P	Pressure class (PN)	Select from pick list: domNominalPressureClass	
Q	Stiffness rating (SN)	Select from pick list: domStiffnessClass	
R	Concrete Load Class	Select from pick list: domConcreteLoadClass	
S	Date of commission	data - date (dd/mm/yyyy)	
T	Location certainty - accuracy of data	Select from pick list: domLocationCertainty	
U	Date of 'survey-start'	data - date (dd/mm/yyyy)	
V	Guideline revision used for survey	data - decimal number	
W	Pipe Shape	Select from pick list: domPipeShape	
X	Average burial depth to invert of pipe	data - decimal number	
Y	Was the pipe laid in a trench? (yes/no)	Select from pick list: domTrenched	
Additional Information			
*All other columns must be left "blank" or hold the value "LEAVE BLANK" as default in CAT Col I: enter number of vertex along line starting with the downstream end Col W: accuracy 0.5m See Appendix C.2.1 for a CAT example.			



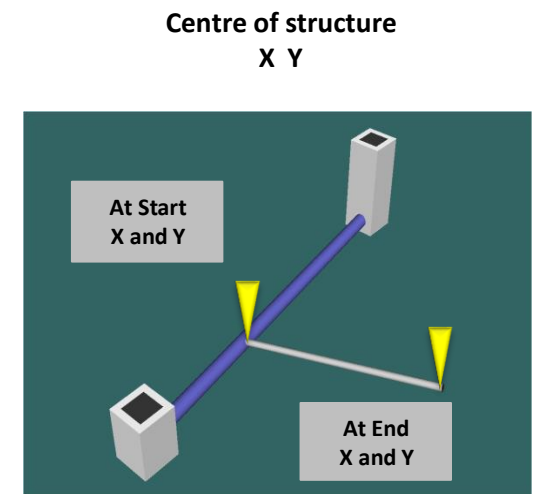
Centre of structure
X Y and Z



All bends, start/end points to be surveyed. Create one CAT row per surveyed point.

As-Built requirements (WW)

D19: WW Lateral	Name		WW Lateral (Line)
	Line Type		D19 "Line Asset Inputs"
	Line features require at least two row entries in the CAT.		
	CAT Column	SAG Description	Valid Values
	A	Type of line feature	D19
	B	Specific type of lateral	Select from pick list: domWWLateralType
	C	Existing or New asset	Select from pick list: domExistingOrNew
	D	Differs from design (yes/no)	Select from pick list: domDiffersFromDesign
	E	Unique identifier from drawing	data - text
	F	Line vertex Easting coordinate	data - decimal number
	G	Line vertex Northing coordinate	data - decimal number
	I	Number of vertex (point along line)	data - text
	J	Material of pipe	Select from pick list: domPipeConstruction
	K	Nominal diameter in mm	data - number
	N	Manufacturer of asset	Select from pick list: domManufacturer
	O	Name of main contractor whom installed asset	Data - text
	P	Pressure class (PN)	Select from pick list: domNominalPressureClass
	Q	Stiffness rating (SN)	Select from pick list: domStiffnessClass
	R	Concrete Load Class	Select from pick list: domConcreteLoadClass
	S	Date of commission	data - date (dd/mm/yyyy)
T	Location certainty - accuracy of data	Select from pick list: domLocationCertainty	
U	Date of 'survey-start'	data - date (dd/mm/yyyy)	
V	Guideline revision used for survey	data - decimal number	
W	Pipe Shape	Select from pick list: domPipeShape	
X	Average burial depth to invert of pipe	data - decimal number	
Y	Was the pipe laid in a trench? (yes/no)	Select from pick list: domTrenched	
AA	Do several units share this lateral? (yes/no)	Select from pick list: domLateralSharedConnection	
AB	Type of lateral junction	Select from pick list: domEyeType	
AC	Distance of IP from lateral start (from connection to existing private lateral) in mm	data - number	
Additional Information			
*All other columns must be left "blank" or hold the value "LEAVE BLANK" as default in CAT Col I: enter number of vertex along line starting with the downstream end Col W: accuracy 0.5m See Appendix C.2.2 for a CAT example.			

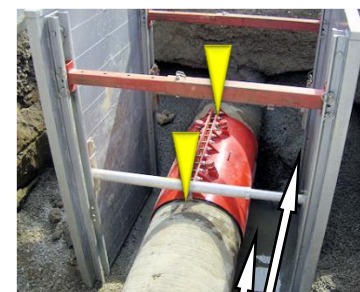
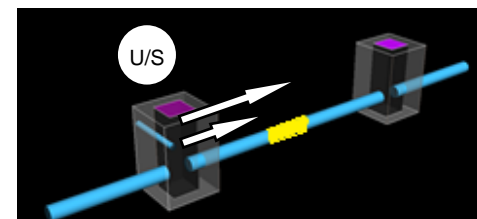


All bends, start/end points to be surveyed.
Create one CAT row per surveyed point.

As-Built requirements (WW)			
D20: WW Repair/Relay Dig	Name	WW Repair/Relay Dig (Line)	
	Line Type	D20 "Line Asset Inputs"	
	If entered without coordinates, this feature requires only one row per repair.		
	CAT Column	SAG Description	Valid Values
	A	Type of line feature	D20
	B	Type of repair	Select from pick list: domRepairType
	C	Existing or New asset	Select from pick list: domExistingOrNew
	D	Differs from design (yes/no)	Select from pick list: domDiffersFromDesign
	E	Unique identifier from drawing	data - text
	F	Line vertex Easting coordinate	data - decimal number
G	Line vertex Northing coordinate	data - decimal number	
I	Number of vertex (point along line)	data - text	
J	Material used for repair	Select from pick list: domRepairMaterial	
K	Nominal diameter in mm	data - number	
L	At Pit - UID name from design drawing	data - text	
M	To Pit - UID name from design drawing	data - text	
N	Manufacturer of asset	Select from pick list: domManufacturer	
O	Name of main contractor whom installed asset	Data - text	
S	Date of commission	data - date (dd/mm/yyyy)	
T	Location certainty - accuracy of data	Select from pick list: domLocationCertainty	
U	Date of 'survey-start'	data - date (dd/mm/yyyy)	
V	Guideline revision used for survey	data - decimal number	
W	Distance from US MH to lining start (m)	data - decimal number	
X	Distance from lining end to DS MH(m)	data - decimal number	
Additional Information			
<p>*All other columns must be left "blank" or hold the value "LEAVE BLANK" as default in CAT Use this feature for dig repairs only (new pipe sections or pipe clamps) – pipe lining is to be entered into D21 Col V&W: Make sure to measure distances from the inner wall of the upstream manhole structure. See Appendix C.2.8 for a CAT example.</p>			



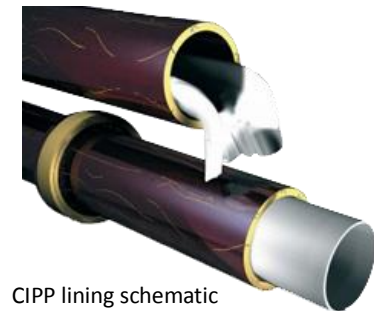
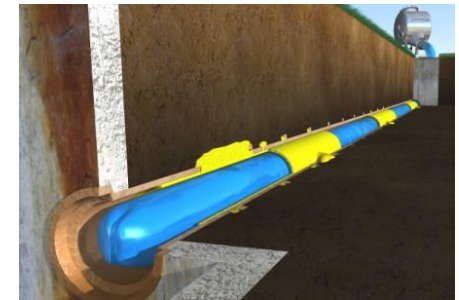
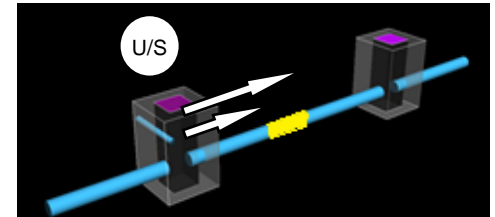
Distance to start and end of repair from upstream MH



As-Built requirements (WW)			
D21: WW Pipe Lining	Name	WW Pipe Lining (Line)	
	Line Type	D21 "Line Asset Inputs"	
	If entered without coordinates, this feature requires only one row per patch.		
	CAT Column	SAG Description	Valid Values
	A	Type of line feature	D21
	B	Type of repair	Select from pick list: domRepairType
	C	Existing or New asset	Select from pick list: domExistingOrNew
	D	Differs from design (yes/no)	Select from pick list: domDiffersFromDesign
	E	Unique identifier from drawing	data - text
	F	Line vertex Easting coordinate	data - decimal number
G	Line vertex Northing coordinate	data - decimal number	
I	Number of vertex (point along line)	data - text	
J	Material used for repair	Select from pick list: domRepairMaterial	
K	Nominal diameter in mm	data - number	
L	At Pit - UID name from design drawing	data - text	
M	To Pit - UID name from design drawing	data - text	
N	Manufacturer of asset	Select from pick list: domManufacturer	
O	Name of main contractor whom installed asset	Data - text	
S	Date of commission	data - date (dd/mm/yyyy)	
T	Location certainty - accuracy of data	Select from pick list: domLocationCertainty	
U	Date of 'survey-start'	data - date (dd/mm/yyyy)	
V	Guideline revision used for survey	data - decimal number	
W	Distance of lining/repair start from inner wall of structure of upstream MH in m	data - decimal number	
X	Distance of lining/repair end from inner wall of structure of upstream MH in m	data - decimal number	
Additional Information			
<p>*All other columns must be left "blank" or hold the value "LEAVE BLANK" as default in CAT Use this feature for pipe lining only (lining patches or fully lined pipes) – pipe repairs are to be entered into D20 Col V&W: Make sure to measure distances from the inner wall of the upstream manhole structure. See Appendix C.2.5 up to C.2.7 for CAT examples.</p>			



Distance to start and end of lining from upstream MH



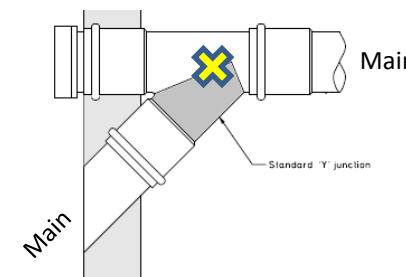
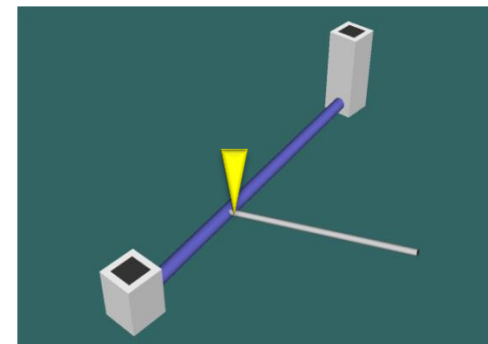
CIPP lining schematic

As-Built requirements (WW)

D22: WW Junction

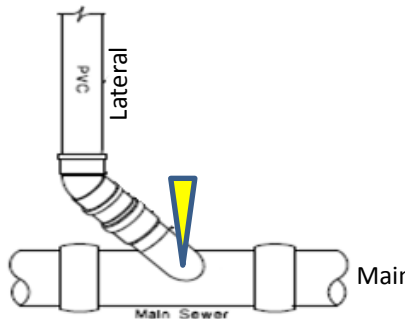
Name		WW Junction (Point)	●
Point Type		D22 "Point Asset Inputs"	
Additional Information			
CAT Column	SAG Description	Valid Values	
A	Type of point feature	D22	
B	Type of junction	Select from pick list: domJunctionType	
C	Existing or New asset	Select from pick list: domExistingOrNew	
D	Differs from design (yes/no)	Select from pick list: domDiffersFromDesign	
E	Unique identifier from drawing	data - text	
F	Centre of structure in Easting coordinate	data - decimal number	
G	Centre of structure in Northing coordinate	data - decimal number	
L	Date of commission	data - date (dd/mm/yyyy)	
M	Location certainty - accuracy of data	Select from pick list: domLocationCertainty	
O	Name of main contractor whom installed asset	Data - text	
P	Date of 'survey-start'	data - date (dd/mm/yyyy)	
Q	Guideline revision used for survey	data - decimal number	
Additional Information			
*All other columns must be left "blank" or hold the value "LEAVE BLANK" as default in CAT			

Centre of Junction
X Y



As-Built requirements (WW)			
D23: WW Lateral Junction	Name	WW Lateral Junction (Point)	
	Point Type	D23 "Point Asset Inputs"	
	CAT Column	SAG Description	Valid Values
	A	Type of point feature	D23
	B	Type of lateral junction	Select from pick list: domEyeType
	C	Existing or New asset	Select from pick list: domExistingOrNew
	D	Differs from design (yes/no)	Select from pick list: domDiffersFromDesign
	E	Unique identifier from drawing	data - text
	F	Centre of structure in Easting coordinate	data - decimal number
	G	Centre of structure in Northing coordinate	data - decimal number
L	Date of commission	data - date (dd/mm/yyyy)	
M	Location certainty - accuracy of data	Select from pick list: domLocationCertainty	
O	Name of main contractor whom installed asset	Data - text	
P	Date of 'survey-start'	data - date (dd/mm/yyyy)	
Q	Guideline revision used for survey	data - decimal number	
Additional Information			
*All other columns must be left "blank" or hold the value "LEAVE BLANK" as default in CAT See Appendix C.1.3 for a CAT example.			

**Centre of Lateral Junction
X Y**



This asset is located at the junction between a lateral and a main

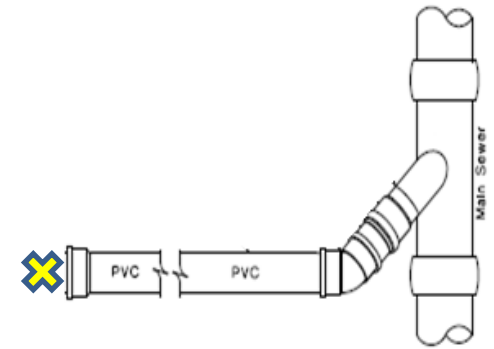
As-Built requirements (WW)			
D24: WW Inspection Point	Name	WW Inspection Point (Point)	
	Point Type	D24 "Point Asset Inputs"	
	CAT Column	SAG Description	Valid Values
	A	Type of point feature	D24
	B	Type of manhole or access	Select from pick list: domWWAccessType
	C	Existing or New asset	Select from pick list: domExistingOrNew
	D	Differs from design (yes/no)	Select from pick list: domDiffersFromDesign
	E	Unique identifier from drawing	data - text
	F	Centre of structure in Easting coordinate	data - decimal number
	G	Centre of structure in Northing coordinate	data - decimal number
	L	Date of commission	data - date (dd/mm/yyyy)
	M	Location certainty - accuracy of data	Select from pick list: domLocationCertainty
	O	Name of main contractor whom installed asset	Data - text
	P	Date of 'survey-start'	data - date (dd/mm/yyyy)
	Q	Guideline revision used for survey	data - decimal number
U	Construction Material	Select from pick list: domAccessConstruction	
Additional Information			
*All other columns must be left "blank" or hold the value "LEAVE BLANK" as default in CAT See Appendix C.1.4 for a CAT example.			

**Centre of Inspection Point
X Y**

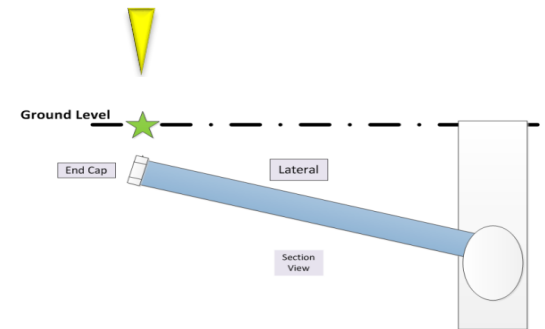
As-Built requirements (WW)


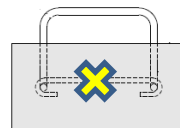
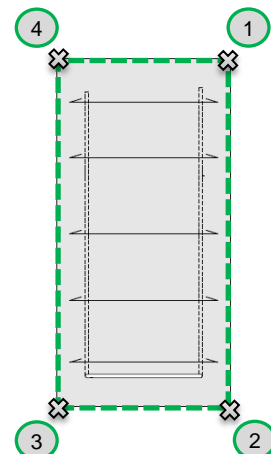
D25: WW End Cap

Name		WW End Cap (Point)
Point Type		D25 "Point Asset Inputs"
CAT Column	SAG Description	Valid Values
A	Type of point feature	D25
B	Specific type of end cap	Select from pick list: domEndCapType
C	Existing or New asset	Select from pick list: domExistingOrNew
D	Differs from design (yes/no)	Select from pick list: domDiffersFromDesign
E	Unique identifier from drawing	data - text
F	Centre of structure in Easting coordinate	data - decimal number
G	Centre of structure in Northing coordinate	data - decimal number
L	Date of commission	data - date (dd/mm/yyyy)
M	Location certainty - accuracy of data	Select from pick list: domLocationCertainty
O	Name of main contractor whom installed asset	Data - text
P	Date of 'survey-start'	data - date (dd/mm/yyyy)
Q	Guideline revision used for survey	data - decimal number
Additional Information		
*All other columns must be left "blank" or hold the value "LEAVE BLANK" as default in CAT		



Centre of End Cap
X Y



As-Built requirements (WW)			
D26: WW Thrust Block	Name	WW Thrust Block (Point or Outline) 	
	Line Type	D26 "Line Asset Inputs"	
	Outline features require at least three row entries in the CAT.		
	CAT Column	SAG Description	Valid Values
	A	Type of polygon feature	D26
	B	Specific type of structure	Select from pick list: domWWStructureType
	C	Existing or New asset	Select from pick list: domExistingOrNew
	D	Differs from design (yes/no)	Select from pick list: domDiffersFromDesign
	E	Unique identifier from drawing	data - text
	F	Polygon vertex Easting coordinate	data - decimal number
G	Polygon vertex Northing coordinate	data - decimal number	
I	Number of vertex (point along outline)	data - text	
J	Predominant material of structure	Select from pick list: domStructureMaterial	
O	Name of main contractor whom installed asset	Data - text	
S	Date of commission	data - date (dd/mm/yyyy)	
T	Location certainty - accuracy of data	Select from pick list: domLocationCertainty	
U	Date of 'survey-start'	data - date (dd/mm/yyyy)	
V	Guideline revision used for survey	data - decimal number	
<div style="border: 2px solid red; padding: 10px; margin: 10px auto; width: 80%;"> <p>For standard shaped thrust blocks, just the centre of structure is to be surveyed</p> <p>For non-standard thrust blocks, all corner points along outline are to be surveyed.</p> </div>			
Additional Information			
<p>*All other columns must be left "blank" or hold the value "LEAVE BLANK" as default in CAT</p> <p>Col I: enter number of vertex along outline</p> <p>See Appendix C.3.1 for a CAT example.</p>			
		<p>Thrust Block Outline or Centre of Structure</p> <p>X Y</p>  	

As-Built requirements (WW)		
Name		WW Pump (Point)
Point Type		D28 "Point Asset Inputs"
CAT Column	SAG Description	Valid Values
A	Type of point feature	D28
B	Type of function pump used for	Select from pick list: domWWPumpType
C	Existing or New asset	Select from pick list: domExistingOrNew
D	Differs from design (yes/no)	Select from pick list: domDiffersFromDesign
E	Unique identifier from drawing	data - text
F	Centre of structure in Easting coordinate	data - decimal number
G	Centre of structure in Northing coordinate	data - decimal number
H	Height above datum	data - decimal number
L	Date of commission	data - date (dd/mm/yyyy)
M	Location certainty - accuracy of data	Select from pick list: domLocationCertainty
O	Name of main contractor whom installed asset	Data - text
P	Date of 'survey-start'	data - date (dd/mm/yyyy)
Q	Guideline revision used for survey	data - decimal number
R	Name and/or number of pump station	data - text
T	Manufacturer of asset	Select from pick list: domManufacturer
U	Serial number of asset	data - text
V	Backup Energy Source	Select from pick list: domEnergySource
W	Pit angle - orientation of inner structure to nearest 5 degrees (rectangular pits only)	data - number
X	Capacity of pump in litres per hour	data - number
Y	Manufacturer warranty reference	data - text
Z	Manufacturer warranty term in years	data - decimal number
Additional Information		
*All other columns must be left "blank" or hold the value "LEAVE BLANK" as default in CAT Col R&W: leave blank/unchanged if N/A		

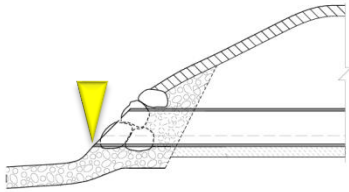
D28: WW Pump



**Centre of Pump
X Y and Z (on pump)**

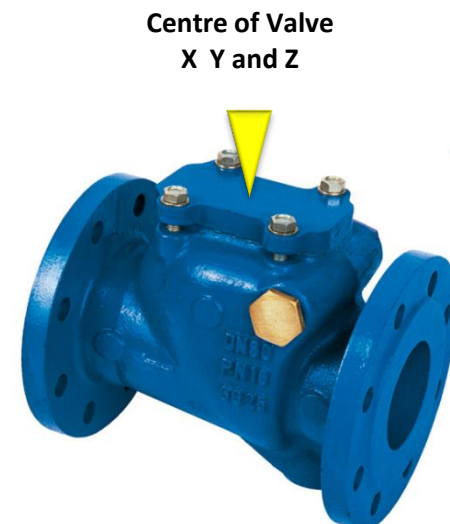
As-Built requirements (WW)			
Name		WW Outlet/Outfall (Point)	
Point Type		D29 "Point Asset Inputs"	
D29: WW Outfall/Outlet	CAT Column	SAG Description	Valid Values
	A	Type of point feature	D29
	B	Type of outfall/outlet	Select from pick list: domOutletType
	C	Existing or New asset	Select from pick list: domExistingOrNew
	D	Differs from design (yes/no)	Select from pick list: domDiffersFromDesign
	E	Unique identifier from drawing	data - text
	F	Centre of structure in Easting coordinate	data - decimal number
	G	Centre of structure in Northing coordinate	data - decimal number
	H	Height above datum	data - decimal number
	L	Date of commission	data - date (dd/mm/yyyy)
	M	Location certainty - accuracy of data	Select from pick list: domLocationCertainty
	O	Name of main contractor whom installed asset	Data - text
	P	Date of 'survey-start'	data - date (dd/mm/yyyy)
	Q	Guideline revision used for survey	data - decimal number
	T	Manufacturer of asset	Select from pick list: domManufacturer
	V	Type of security on outlet access	Select from pick list: domAccessSecurity
	Additional Information		
*All other columns must be left "blank" or hold the value "LEAVE BLANK" as default in CAT			


**Outlet/Outfall
X Y and Z**



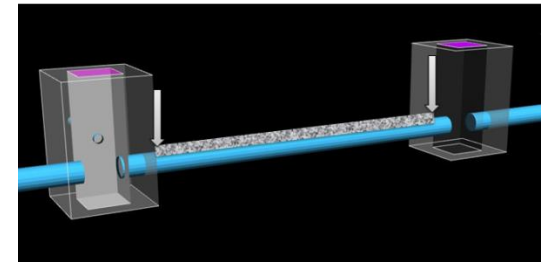
As-Built requirements (WW)		
Name		WW Valve (Point)
Point Type		D30 "Point Asset Inputs"
CAT Column	SAG Description	Valid Values
A	Type of point feature	D30
B	Type of valve	Select from pick list: domWWValveType
C	Existing or New asset	Select from pick list: domExistingOrNew
D	Differs from design (yes/no)	Select from pick list: domDiffersFromDesign
E	Unique identifier from drawing	data - text
F	Centre of valve in Easting coordinate	data - decimal number
G	Centre of valve in Northing coordinate	data - decimal number
H	Height above datum	data - decimal number
K	Nominal diameter in mm	data - number
L	Date of commission	data - date (dd/mm/yyyy)
M	Location certainty - accuracy of data	Select from pick list: domLocationCertainty
O	Name of main contractor whom installed asset	Data - text
P	Date of 'survey-start'	data - date (dd/mm/yyyy)
Q	Guideline revision used for survey	data - decimal number
R	Valve normal operating position - open or closed	Select from pick list: domValveNormalOperating
T	Manufacturer of asset	Select from pick list: domManufacturer
U	Valve closure rotation direction	Select from pick list: domClockwiseClose
W	Main function of valve	Select from pick list: domValveFunction
X	Valve control point	Select from pick list: domValveControlPoint
Y	Manual or motorised valve	Select from pick list: domValveActuation
Z	Manufacturer warranty term in years	data - decimal number
Additional Information		
*All other columns must be left "blank" or hold the value "LEAVE BLANK" as default in CAT		

D30: WW Valve




As-Built requirements (WW)			
D34: WW Structural Pipe Protection	Name	WW Structural Pipe Protection (Line) 	
	Point Type	D34 "Point Asset Inputs"	
	Line features require at least two row entries in the CAT.		
	CAT Column	SAG Description	Valid Values
	A	Type of line feature	D34
	B	Type of structural pipe protection	Select from pick list: domPipeProtectionType
	C	Existing or New asset	Select from pick list: domExistingOrNew
	D	Differs from design (yes/no)	Select from pick list: domDiffersFromDesign
	E	Unique identifier from drawing	data - text
	F	Line vertex Easting coordinate	data - decimal number
	G	Line vertex Northing coordinate	data - decimal number
	I	Number of vertex (point along line)	data - text
	O	Name of main contractor whom installed asset	Data - text
	S	Date of commission	data - date (dd/mm/yyyy)
	T	Location certainty - accuracy of data	Select from pick list: domLocationCertainty
U	Date of 'survey-start'	data - date (dd/mm/yyyy)	
V	Guideline revision used for survey	data - decimal number	
<div style="border: 2px solid red; padding: 5px; display: inline-block;"> <p>Create one CAT row per surveyed point.</p> </div>			
Additional Information			
<p>*All other columns must be left "blank" or hold the value "LEAVE BLANK" as default in CAT Col I: enter number of vertex along line starting with the downstream end</p>			

**Pipe Protection
X Y**



As-Built requirements (WW)			
D35: WW Vent	Name	WW Vent (Point)	
	Point Type	D35 "Point Asset Inputs"	
	CAT Column	SAG Description	Valid Values
	A	Type of point feature	D35
	B	Specific point feature	Vent
	C	Existing or New asset	Select from pick list: domExistingOrNew
	D	Differs from design (yes/no)	Select from pick list: domDiffersFromDesign
	E	Unique identifier from drawing	data - text
	F	Centre of structure in Easting coordinate	data - decimal number
	G	Centre of structure in Northing coordinate	data - decimal number
	L	Date of commission	data - date (dd/mm/yyyy)
	M	Location certainty - accuracy of data	Select from pick list: domLocationCertainty
	O	Name of main contractor whom installed asset	Data - text
	P	Date of 'survey-start'	data - date (dd/mm/yyyy)
	Q	Guideline revision used for survey	data - decimal number
R	Does it have telemetry ducts? (yes/no)	Select from pick list: domTelemetryDucts	
Additional Information			
*All other columns must be left "blank" or hold the value "LEAVE BLANK" as default in CAT			

Centre of Vent
X Y

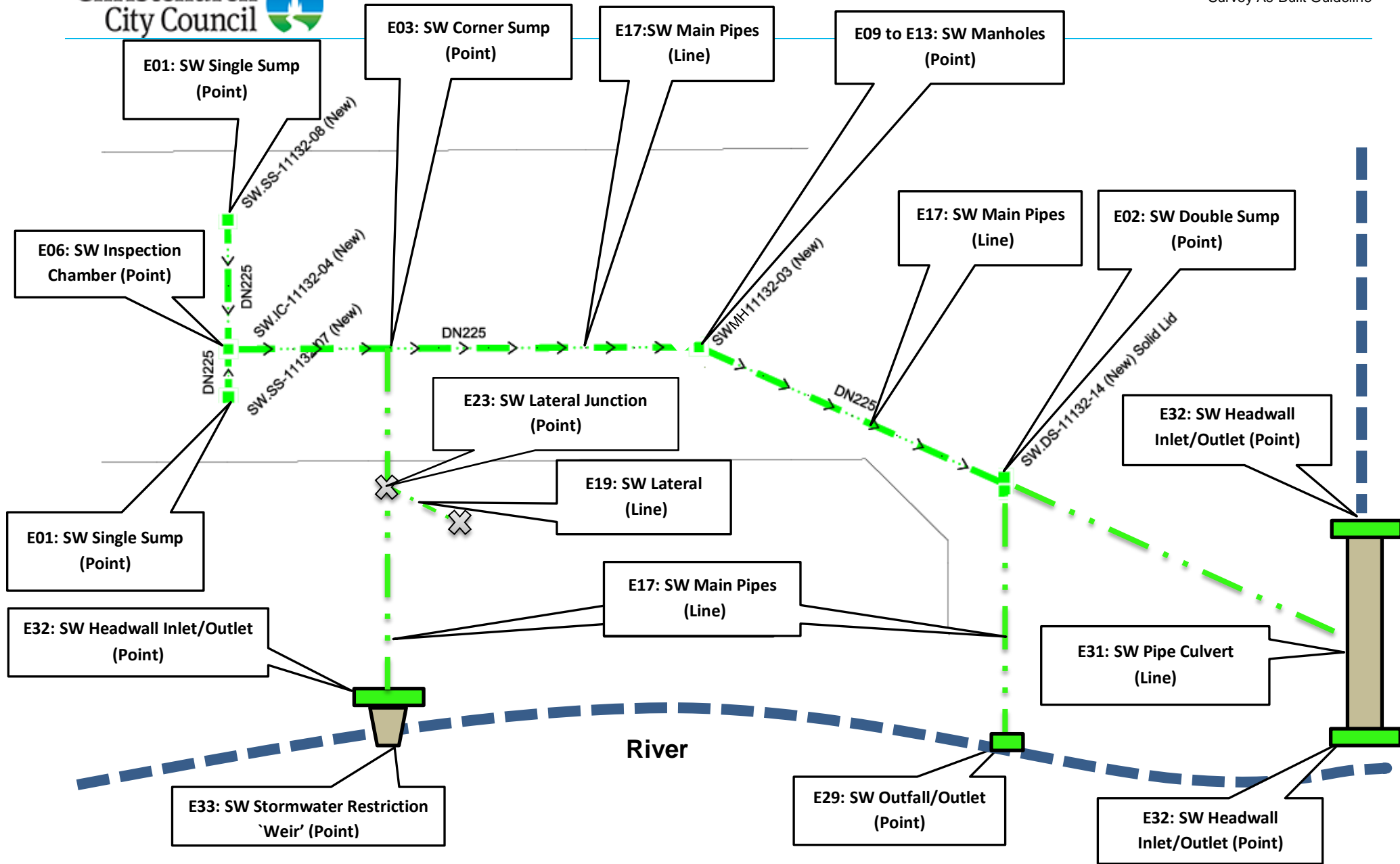


As-Built requirements (WW)			
D36: WW Structure	Name	WW Structure (Outline)	
	Line Type	D36 "Line Asset Inputs"	
	Outline features require at least three row entries in the CAT.		
	CAT Column	SAG Description	Valid Values
	A	Type of polygon feature	D36
	B	Specific type of structure	Select from pick list: domWWStructureType
	C	Existing or New asset	Select from pick list: domExistingOrNew
	D	Differs from design (yes/no)	Select from pick list: domDiffersFromDesign
	E	Unique identifier from drawing	data - text
	F	Polygon vertex Easting coordinate	data - decimal number
G	Polygon vertex Northing coordinate	data - decimal number	
I	Number of vertex (point along outline)	data - text	
J	Predominant material of structure	Select from pick list: domStructureMaterial	
O	Name of main contractor whom installed asset	Data - text	
Q	Date of commission	data - date (dd/mm/yyyy)	
R	Location certainty - accuracy of data	Select from pick list: domLocationCertainty	
T	Date of 'survey-start'	data - date (dd/mm/yyyy)	
U	Guideline revision used for survey	data - decimal number	
<div style="border: 2px solid red; padding: 5px; display: inline-block;"> <p>All corner points along outline to be surveyed. Create one CAT row per surveyed point.</p> </div>			
Additional Information			
<p>*All other columns must be left "blank" or hold the value "LEAVE BLANK" as default in CAT Use this feature for all structures or other larger manholes which do not fit into any of the other structure categories, populate Column B accordingly. Col I: enter number of vertex along outline See Appendix C.1.5 and C.3.1 for a CAT example and beginning of Appendix D for more information.</p>			

Appendix E As-built Requirements for Stormwater Systems

E01: SW Single Sump.....	33
E02: SW Double Sump	34
E03: SW Corner Sump.....	35
E04: SW Triple Sump.....	36
E05: SW Hillside Sump	37
E06: SW Inspection Chamber	38
E07: SW Small Trafficable Sump.....	39
E08: SW House Drain Sump	40
E09: SW Square Manhole Vented.....	41
E10: SW Square Manhole Non Vented.....	42
E11: SW Circular Manhole Vented	43
E12: SW Circular Manhole Non Vented.....	44
E13: SW Flush Manhole.....	45
E17: SW Main Pipes	46
E19: SW Lateral.....	47
E20: SW Repair/Relay Dig.....	48
E21: SW Pipe Lining	49
E22: SW Junction	50

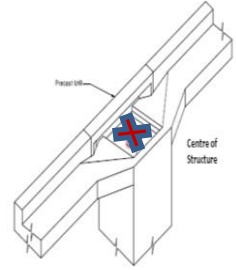
E23: SW Lateral Junction.....	51
E24: SW Inspection Point.....	52
E25: SW End Cap.....	53
E26: SW Thrust Block.....	54
E28: SW Pump.....	55
E29: SW Outfall/Outlet.....	56
E30: SW Valve.....	57
E31: SW Culvert.....	58
E32: SW Headwall Inlet/Outlet.....	59
E33: SW Flow Restriction.....	60
E34: SW Structural Pipe Protection.....	61
E36: SW Structure.....	62



Stormwater – Overview

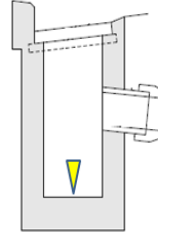
As-Built requirements (SW)			
E01: SW Single Sump	Name	SW Single Sump (Point)	
	Point Type	E01 "Point Asset Inputs"	
	CAT Column	SAG Description	Valid Values
	A	Type of point feature	E01
	B	Specific type of sump	Select from pick list: domSWInletType
	C	Existing or New asset	Select from pick list: domExistingOrNew
	D	Differs from design (yes/no)	Select from pick list: domDiffersFromDesign
	E	Unique identifier from drawing	data - text
	F	Centre of structure in Easting coordinate	data - decimal number
	G	Centre of structure in Northing coordinate	data - decimal number
H	RL on lowest corner of lid	data - decimal number	
J	RL at base of pit (lowest point)	data - decimal number	
K	Width and length of pit (e.g. 600x800) or diameter of pit	data - number	
L	Date of commission	data - date (dd/mm/yyyy)	
M	Location certainty - accuracy of data	Select from pick list: domLocationCertainty	
O	Name of main contractor whom installed asset	Data - text	
P	Date of 'survey-start'	data - date (dd/mm/yyyy)	
Q	Guideline revision used for survey	data - decimal number	
R	Style of sump lid	Select from pick list: domLidStyle	
T	Manufacturer of asset	Select from pick list: domManufacturer	
U	Construction Material of Sump	Select from pick list: domAccessConstruction	
V	Type of security on sump access	Select from pick list: domAccessSecurity	
W	Pit angle - orientation of inner structure to nearest 5 degrees (rectangular pits only)	data - number	
Additional Information			
*All other columns must be left "blank" or hold the value "LEAVE BLANK" as default in CAT See Appendix C.1.2 for a CAT example.			

**Centre of Structure
X Y**




SINGLE SUMP

**Sump RL
Z**

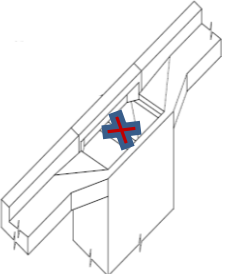


Lowest Corner Lid Z



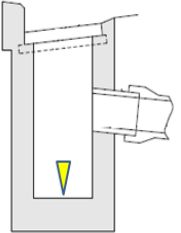
As-Built requirements (SW)			
Name	SW Double Sump (Point)		
Point Type	E02 "Point Asset Inputs"		
E02: SW Double Sump	CAT Column	SAG Description	Valid Values
	A	Type of point feature	E02
	B	Specific type of sump	Select from pick list: domSWInletType
	C	Existing or New asset	Select from pick list: domExistingOrNew
	D	Differs from design (yes/no)	Select from pick list: domDiffersFromDesign
	E	Unique identifier from drawing	data - text
	F	Centre of structure in Easting coordinate	data - decimal number
	G	Centre of structure in Northing coordinate	data - decimal number
	H	RL on lowest corner of lid	data - decimal number
	J	RL at base of pit (lowest point)	data - decimal number
	K	Width and length of pit (e.g. 600x800) or diameter of pit	data - number
	L	Date of commission	data - date (dd/mm/yyyy)
	M	Location certainty - accuracy of data	Select from pick list: domLocationCertainty
	O	Name of main contractor whom installed asset	Data - text
	P	Date of 'survey-start'	data - date (dd/mm/yyyy)
	Q	Guideline revision used for survey	data - decimal number
	R	Style of sump lid	Select from pick list: domLidStyle
	T	Manufacturer of asset	Select from pick list: domManufacturer
	U	Construction Material of Sump	Select from pick list: domAccessConstruction
V	Type of security on sump access	Select from pick list: domAccessSecurity	
W	Pit angle - orientation of inner structure to nearest 5 degrees (rectangular pits only)	data - number	
Additional Information			
*All other columns must be left "blank" or hold the value "LEAVE BLANK" as default in CAT See Appendix C.1.2 for a CAT example.			

**Centre of structure
X Y**




DOUBLE SUMP

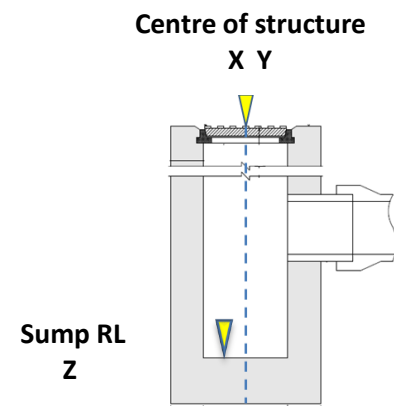
**Sump RL
Z**



Lowest Corner Lid Z




As-Built requirements (SW)			
E03: SW Corner Sump	Name	SW Corner Sump (Point)	
	Point Type	E03 "Point Asset Inputs"	
	CAT Column	SAG Description	Valid Values
	A	Type of point feature	E03
	B	Specific type of sump	Select from pick list: domSWInletType
	C	Existing or New asset	Select from pick list: domExistingOrNew
	D	Differs from design (yes/no)	Select from pick list: domDiffersFromDesign
	E	Unique identifier from drawing	data - text
	F	Centre of structure in Easting coordinate	data - decimal number
	G	Centre of structure in Northing coordinate	data - decimal number
H	RL on lowest corner of lid	data - decimal number	
J	RL at base of pit (lowest point)	data - decimal number	
K	Width and length of pit (e.g. 600x800) or diameter of pit	data - number	
L	Date of commission	data - date (dd/mm/yyyy)	
M	Location certainty - accuracy of data	Select from pick list: domLocationCertainty	
O	Name of main contractor whom installed asset	Data - text	
P	Date of 'survey-start'	data - date (dd/mm/yyyy)	
Q	Guideline revision used for survey	data - decimal number	
R	Style of sump lid	Select from pick list: domLidStyle	
T	Manufacturer of asset	Select from pick list: domManufacturer	
U	Construction Material of Sump	Select from pick list: domAccessConstruction	
V	Type of security on sump access	Select from pick list: domAccessSecurity	
W	Pit angle - orientation of inner structure to nearest 5 degrees (rectangular pits only)	data - number	
Additional Information			
*All other columns must be left "blank" or hold the value "LEAVE BLANK" as default in CAT See Appendix C.1.2 for a CAT example.			



As-Built requirements (SW)			
E04: SW Triple Sump	Name	SW Triple Sump (Point)	
	Point Type	E04 "Point Asset Inputs"	
	CAT Column		
	SAG Description	Valid Values	
	A	Type of point feature	E04
	B	Specific type of sump	Select from pick list: domSWInletType
	C	Existing or New asset	Select from pick list: domExistingOrNew
	D	Differs from design (yes/no)	Select from pick list: domDiffersFromDesign
	E	Unique identifier from drawing	data - text
	F	Centre of structure in Easting coordinate	data - decimal number
G	Centre of structure in Northing coordinate	data - decimal number	
H	RL on lowest corner of lid	data - decimal number	
J	RL at base of pit (lowest point)	data - decimal number	
K	Width and length of pit (e.g. 600x800) or diameter of pit	data - number	
L	Date of commission	data - date (dd/mm/yyyy)	
M	Location certainty - accuracy of data	Select from pick list: domLocationCertainty	
O	Name of main contractor whom installed asset	Data - text	
P	Date of 'survey-start'	data - date (dd/mm/yyyy)	
Q	Guideline revision used for survey	data - decimal number	
R	Style of sump lid	Select from pick list: domLidStyle	
T	Manufacturer of asset	Select from pick list: domManufacturer	
U	Construction Material of Sump	Select from pick list: domAccessConstruction	
V	Type of security on sump access	Select from pick list: domAccessSecurity	
W	Pit angle - orientation of inner structure to nearest 5 degrees (rectangular pits only)	data - number	
Additional Information			
*All other columns must be left "blank" or hold the value "LEAVE BLANK" as default in CAT See Appendix C.1.2 for a CAT example.			

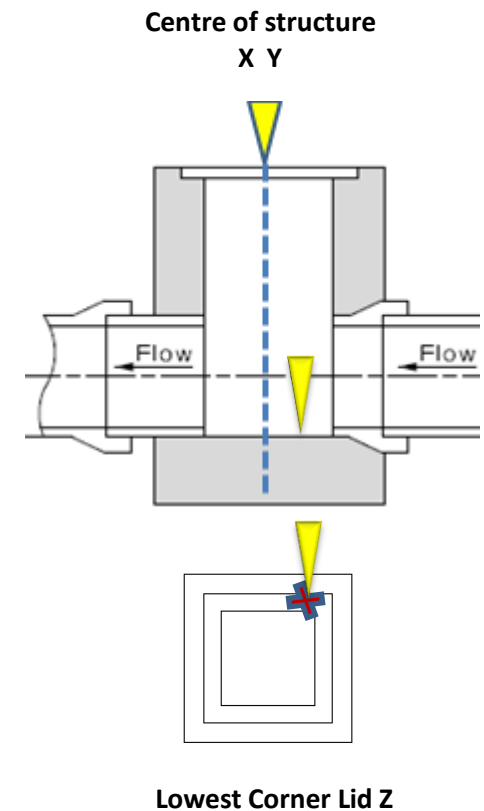
**Centre of structure
X Y**



Lowest Corner Lid Z

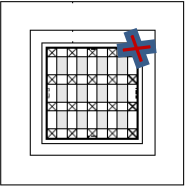
As-Built requirements (SW)																																																																	
Name	SW Hillside Sump (Point)																																																																
Point Type	E05 "Point Asset Inputs"																																																																
<div style="display: flex; justify-content: space-around;"> <div style="text-align: center;">Centre of structure X Y</div> <div style="text-align: center;">Lowest Corner Lid Z</div> </div>																																																																	
E05: SW Hillside Sump	<table border="1"> <thead> <tr> <th>CAT Column</th> <th>SAG Description</th> <th>Valid Values</th> </tr> </thead> <tbody> <tr><td>A</td><td>Type of point feature</td><td>E05</td></tr> <tr><td>B</td><td>Specific type of sump</td><td>Select from pick list: domSWInletType</td></tr> <tr><td>C</td><td>Existing or New asset</td><td>Select from pick list: domExistingOrNew</td></tr> <tr><td>D</td><td>Differs from design (yes/no)</td><td>Select from pick list: domDiffersFromDesign</td></tr> <tr><td>E</td><td>Unique identifier from drawing</td><td>data - text</td></tr> <tr><td>F</td><td>Centre of structure in Easting coordinate</td><td>data - decimal number</td></tr> <tr><td>G</td><td>Centre of structure in Northing coordinate</td><td>data - decimal number</td></tr> <tr><td>H</td><td>RL on lowest corner of lid</td><td>data - decimal number</td></tr> <tr><td>J</td><td>RL at base of pit (lowest point)</td><td>data - decimal number</td></tr> <tr><td>K</td><td>Width and length of pit (e.g. 600x800) or diameter of pit</td><td>data - number</td></tr> <tr><td>L</td><td>Date of commission</td><td>data - date (dd/mm/yyyy)</td></tr> <tr><td>M</td><td>Location certainty - accuracy of data</td><td>Select from pick list: domLocationCertainty</td></tr> <tr><td>O</td><td>Name of main contractor whom installed asset</td><td>Data - text</td></tr> <tr><td>P</td><td>Date of 'survey-start'</td><td>data - date (dd/mm/yyyy)</td></tr> <tr><td>Q</td><td>Guideline revision used for survey</td><td>data - decimal number</td></tr> <tr><td>R</td><td>Style of sump lid</td><td>Select from pick list: domLidStyle</td></tr> <tr><td>T</td><td>Manufacturer of asset</td><td>Select from pick list: domManufacturer</td></tr> <tr><td>U</td><td>Construction Material of Sump</td><td>Select from pick list: domAccessConstruction</td></tr> <tr><td>V</td><td>Type of security on sump access</td><td>Select from pick list: domAccessSecurity</td></tr> <tr><td>W</td><td>Pit angle - orientation of inner structure to nearest 5 degrees (rectangular pits only)</td><td>data - number</td></tr> </tbody> </table>	CAT Column	SAG Description	Valid Values	A	Type of point feature	E05	B	Specific type of sump	Select from pick list: domSWInletType	C	Existing or New asset	Select from pick list: domExistingOrNew	D	Differs from design (yes/no)	Select from pick list: domDiffersFromDesign	E	Unique identifier from drawing	data - text	F	Centre of structure in Easting coordinate	data - decimal number	G	Centre of structure in Northing coordinate	data - decimal number	H	RL on lowest corner of lid	data - decimal number	J	RL at base of pit (lowest point)	data - decimal number	K	Width and length of pit (e.g. 600x800) or diameter of pit	data - number	L	Date of commission	data - date (dd/mm/yyyy)	M	Location certainty - accuracy of data	Select from pick list: domLocationCertainty	O	Name of main contractor whom installed asset	Data - text	P	Date of 'survey-start'	data - date (dd/mm/yyyy)	Q	Guideline revision used for survey	data - decimal number	R	Style of sump lid	Select from pick list: domLidStyle	T	Manufacturer of asset	Select from pick list: domManufacturer	U	Construction Material of Sump	Select from pick list: domAccessConstruction	V	Type of security on sump access	Select from pick list: domAccessSecurity	W	Pit angle - orientation of inner structure to nearest 5 degrees (rectangular pits only)	data - number	<p style="text-align: center;">PLAN</p> <p style="text-align: center;">Sump RL Z</p>
CAT Column	SAG Description	Valid Values																																																															
A	Type of point feature	E05																																																															
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W	Pit angle - orientation of inner structure to nearest 5 degrees (rectangular pits only)	data - number																																																															
Additional Information																																																																	
*All other columns must be left "blank" or hold the value "LEAVE BLANK" as default in CAT See Appendix C.1.2 for a CAT example.																																																																	

As-Built requirements (SW)			
E06: SW Inspection Chamber	Name	SW Inspection Chamber (Point)	
	Point Type	E06 "Point Asset Inputs"	
	CAT Column		
	SAG Description	Valid Values	
	A	Type of point feature	E06
	B	Type of manhole or access	Select from pick list: domSWAccessType
	C	Existing or New asset	Select from pick list: domExistingOrNew
	D	Differs from design (yes/no)	Select from pick list: domDiffersFromDesign
	E	Unique identifier from drawing	data - text
	F	Centre of structure in Easting coordinate	data - decimal number
G	Centre of structure in Northing coordinate	data - decimal number	
H	RL on lowest corner of lid	data - decimal number	
J	RL at manhole base (lowest point)	data - decimal number	
K	Width and length of pit (e.g. 600x800) or diameter of pit	data - number	
L	Date of commission	data - date (dd/mm/yyyy)	
M	Location certainty - accuracy of data	Select from pick list: domLocationCertainty	
O	Name of main contractor whom installed asset	Data - text	
P	Date of 'survey-start'	data - date (dd/mm/yyyy)	
Q	Guideline revision used for survey	data - decimal number	
R	Style of access lid	Select from pick list: domLidStyle	
S	Shape of access lid	Select from pick list: domLidType	
T	Manufacturer of asset	Select from pick list: domManufacturer	
U	Construction Material	Select from pick list: domAccessConstruction	
V	Type of security on access	Select from pick list: domAccessSecurity	
W	Pit angle - orientation of inner structure to nearest 5 degrees (rectangular pits only)	data - number	
X	Treatment material for refurbished manholes	Select from pick list: domAccessTreatmentType	
Additional Information			
*All other columns must be left "blank" or hold the value "LEAVE BLANK" as default in CAT Col W: leave blank/unchanged for circular chambers Col X: leave blank/unchanged if N/A See Appendix C.1.1 for a CAT example.			



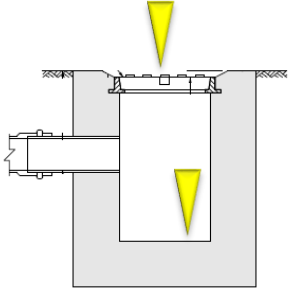
As-Built requirements (SW)			
E07: SW Small Trafficable Sump	Name	SW Small Trafficable Sump (Point)	
	Point Type	E07 "Point Asset Inputs"	
	CAT Column	SAG Description	Valid Values
	A	Type of point feature	E07
	B	Specific type of sump	Select from pick list: domSWInletType
	C	Existing or New asset	Select from pick list: domExistingOrNew
	D	Differs from design (yes/no)	Select from pick list: domDiffersFromDesign
	E	Unique identifier from drawing	data - text
	F	Centre of structure in Easting coordinate	data - decimal number
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L	Date of commission	data - date (dd/mm/yyyy)	
M	Location certainty - accuracy of data	Select from pick list: domLocationCertainty	
O	Name of main contractor whom installed asset	Data - text	
P	Date of 'survey-start'	data - date (dd/mm/yyyy)	
Q	Guideline revision used for survey	data - decimal number	
R	Style of sump lid	Select from pick list: domLidStyle	
T	Manufacturer of asset	Select from pick list: domManufacturer	
U	Construction Material of Sump	Select from pick list: domAccessConstruction	
V	Type of security on sump access	Select from pick list: domAccessSecurity	
W	Pit angle - orientation of inner structure to nearest 5 degrees (rectangular pits only)	data - number	
Additional Information			
*All other columns must be left "blank" or hold the value "LEAVE BLANK" as default in CAT See Appendix C.1.2 for a CAT example.			

Lowest Corner Lid Z



PLAN

Centre of structure X Y

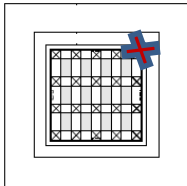


CROSS SECTION

Sump RL Z

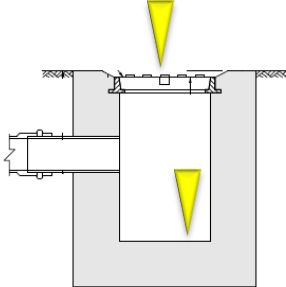
As-Built requirements (SW)			
E08: SW House Drain Sump	Name	SW House Drain Sump (Point)	
	Point Type	E08 "Point Asset Inputs"	
	CAT Column	SAG Description	Valid Values
	A	Type of point feature	E08
	B	Specific type of sump	Select from pick list: domSWInletType
	C	Existing or New asset	Select from pick list: domExistingOrNew
	D	Differs from design (yes/no)	Select from pick list: domDiffersFromDesign
	E	Unique identifier from drawing	data - text
	F	Centre of structure in Easting coordinate	data - decimal number
	G	Centre of structure in Northing coordinate	data - decimal number
H	RL on lowest corner of lid	data - decimal number	
J	RL at base of pit (lowest point)	data - decimal number	
K	Width and length of pit (e.g. 600x800) or diameter of pit	data - number	
L	Date of commission	data - date (dd/mm/yyyy)	
M	Location certainty - accuracy of data	Select from pick list: domLocationCertainty	
O	Name of main contractor whom installed asset	Data - text	
P	Date of 'survey-start'	data - date (dd/mm/yyyy)	
Q	Guideline revision used for survey	data - decimal number	
R	Style of sump lid	Select from pick list: domLidStyle	
T	Manufacturer of asset	Select from pick list: domManufacturer	
U	Construction Material of Sump	Select from pick list: domAccessConstruction	
V	Type of security on sump access	Select from pick list: domAccessSecurity	
W	Pit angle - orientation of inner structure to nearest 5 degrees (rectangular pits only)	data - number	
Additional Information			
*All other columns must be left "blank" or hold the value "LEAVE BLANK" as default in CAT See Appendix C.1.2 for a CAT example.			

Lowest Corner Lid Z



PLAN

Centre of structure X Y

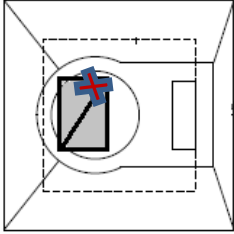


CROSS SECTION

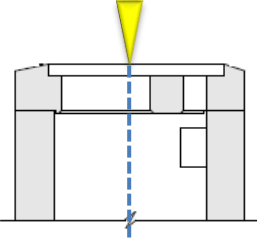
Sump RL Z

As-Built requirements (SW)		
Name		SW Square Manhole Vented (Point)
Point Type		E09 "Point Asset Inputs"
E09: SW Square Manhole Vented	CAT Column	SAG Description
	A	Type of point feature
	B	Type of manhole or access
	C	Existing or New asset
	D	Differs from design (yes/no)
	E	Unique identifier from drawing
	F	Centre of structure in Easting coordinate
	G	Centre of structure in Northing coordinate
	H	RL on lowest corner of lid
	J	RL at manhole base (lowest point)
	K	Width and length of pit (e.g. 600x800) or diameter of pit
	L	Date of commission
	M	Location certainty - accuracy of data
	O	Name of main contractor whom installed asset
	P	Date of 'survey-start'
	Q	Guideline revision used for survey
	R	Style of access lid
	S	Shape of access lid
	T	Manufacturer of asset
	U	Construction Material
V	Type of security on access	
W	Pit angle - orientation of inner structure to nearest 5 degrees (rectangular pits only)	
X	Treatment material for refurbished manholes	
Valid Values		
E09		
Select from pick list: domSWAccessType		
Select from pick list: domExistingOrNew		
Select from pick list: domDiffersFromDesign		
data - text		
data - decimal number		
data - decimal number		
data - decimal number		
data - decimal number		
data - number		
data - date (dd/mm/yyyy)		
Select from pick list: domLocationCertainty		
Data - text		
data - date (dd/mm/yyyy)		
data - decimal number		
Select from pick list: domLidStyle		
Select from pick list: domLidType		
Select from pick list: domManufacturer		
Select from pick list: domAccessConstruction		
Select from pick list: domAccessSecurity		
data - number		
Select from pick list: domAccessTreatmentType		
Additional Information		
*All other columns must be left "blank" or hold the value "LEAVE BLANK" as default in CAT Col X: leave blank/unchanged if N/A See Appendix C.1.1 for a CAT example.		

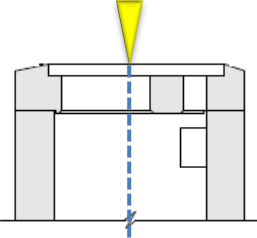
Lowest Corner Lid Z



Centre of structure X Y

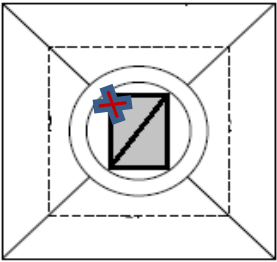


Manhole Base RL Z

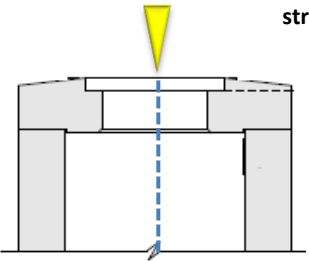


As-Built requirements (SW)			
E10: SW Square Manhole Non Vented	Name	SW Square Manhole Non Vented (Point)	
	Point Type	E10 "Point Asset Inputs"	
	CAT Column	SAG Description	Valid Values
	A	Type of point feature	E10
	B	Type of manhole or access	Select from pick list: domSWAccessType
	C	Existing or New asset	Select from pick list: domExistingOrNew
	D	Differs from design (yes/no)	Select from pick list: domDiffersFromDesign
	E	Unique identifier from drawing	data - text
	F	Centre of structure in Easting coordinate	data - decimal number
	G	Centre of structure in Northing coordinate	data - decimal number
H	RL on lowest corner of lid	data - decimal number	
J	RL at manhole base (lowest point)	data - decimal number	
K	Width and length of pit (e.g. 600x800) or diameter of pit	data - number	
L	Date of commission	data - date (dd/mm/yyyy)	
M	Location certainty - accuracy of data	Select from pick list: domLocationCertainty	
O	Name of main contractor whom installed asset	Data - text	
P	Date of 'survey-start'	data - date (dd/mm/yyyy)	
Q	Guideline revision used for survey	data - decimal number	
R	Style of access lid	Select from pick list: domLidStyle	
S	Shape of access lid	Select from pick list: domLidType	
T	Manufacturer of asset	Select from pick list: domManufacturer	
U	Construction Material	Select from pick list: domAccessConstruction	
V	Type of security on access	Select from pick list: domAccessSecurity	
W	Pit angle - orientation of inner structure to nearest 5 degrees (rectangular pits only)	data - number	
X	Treatment material for refurbished manholes	Select from pick list: domAccessTreatmentType	
Additional Information			
*All other columns must be left "blank" or hold the value "LEAVE BLANK" as default in CAT Col X: leave blank/unchanged if N/A See Appendix C.1.1 for a CAT example.			

Lowest Corner Lid Z



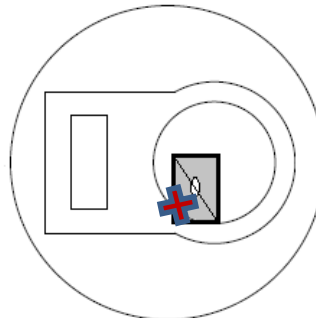
Centre of structure X Y



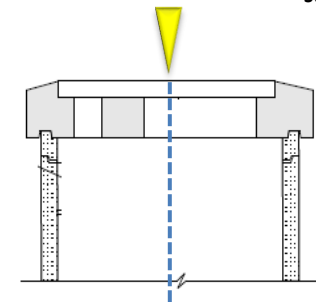
Manhole Base RL Z

As-Built requirements (SW)			
E11: SW Circular Manhole Vented	Name	SW Circular Manhole Vented (Point)	
	Point Type	E11 "Point Asset Inputs"	
	CAT Column	SAG Description	Valid Values
	A	Type of point feature	E11
	B	Type of manhole or access	Select from pick list: domSWAccessType
	C	Existing or New asset	Select from pick list: domExistingOrNew
	D	Differs from design (yes/no)	Select from pick list: domDiffersFromDesign
	E	Unique identifier from drawing	data - text
	F	Centre of structure in Easting coordinate	data - decimal number
	G	Centre of structure in Northing coordinate	data - decimal number
H	RL on lowest corner of lid	data - decimal number	
J	RL at manhole base (lowest point)	data - decimal number	
K	Width and length of pit (e.g. 600x800) or diameter of pit	data - number	
L	Date of commission	data - date (dd/mm/yyyy)	
M	Location certainty - accuracy of data	Select from pick list: domLocationCertainty	
O	Name of main contractor whom installed asset	Data - text	
P	Date of 'survey-start'	data - date (dd/mm/yyyy)	
Q	Guideline revision used for survey	data - decimal number	
R	Style of access lid	Select from pick list: domLidStyle	
S	Shape of access lid	Select from pick list: domLidType	
T	Manufacturer of asset	Select from pick list: domManufacturer	
U	Construction Material	Select from pick list: domAccessConstruction	
V	Type of security on access	Select from pick list: domAccessSecurity	
W	Pit angle - orientation of inner structure to nearest 5 degrees (rectangular pits only)	data - number	
X	Treatment material for refurbished manholes	Select from pick list: domAccessTreatmentType	
Additional Information			
*All other columns must be left "blank" or hold the value "LEAVE BLANK" as default in CAT Col W: leave blank/unchanged for circular manholes Col X: leave blank/unchanged if N/A See Appendix C.1.1 for a CAT example.			

Lowest Corner Lid Z

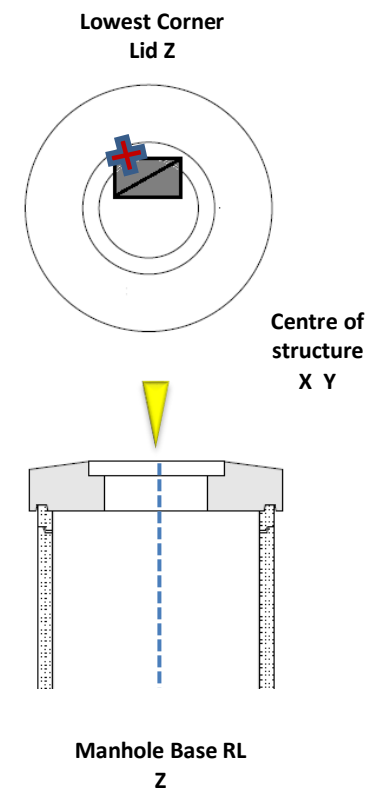


Centre of structure X Y

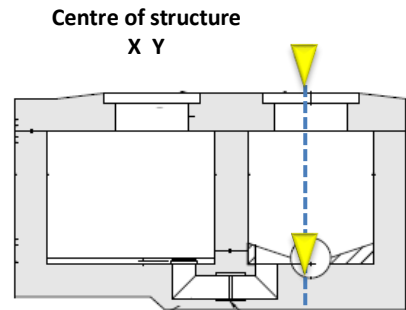
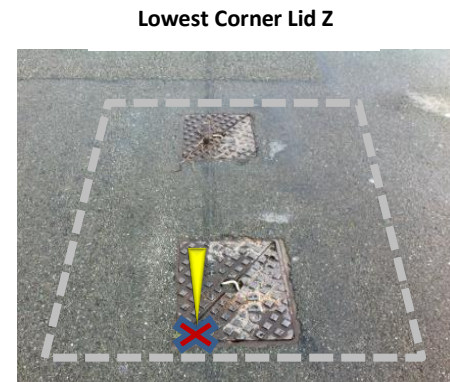



Manhole Base RL Z

As-Built requirements (SW)			
E12: SW Circular Manhole Non Vented	Name	SW Circular Manhole Non Vented (Point)	
	Point Type	E12 "Point Asset Inputs"	
	CAT Column	SAG Description	Valid Values
	A	Type of point feature	E12
	B	Type of manhole or access	Select from pick list: domSWAccessType
	C	Existing or New asset	Select from pick list: domExistingOrNew
	D	Differs from design (yes/no)	Select from pick list: domDiffersFromDesign
	E	Unique identifier from drawing	data - text
	F	Centre of structure in Easting coordinate	data - decimal number
	G	Centre of structure in Northing coordinate	data - decimal number
H	RL on lowest corner of lid	data - decimal number	
J	RL at manhole base (lowest point)	data - decimal number	
K	Width and length of pit (e.g. 600x800) or diameter of pit	data - number	
L	Date of commission	data - date (dd/mm/yyyy)	
M	Location certainty - accuracy of data	Select from pick list: domLocationCertainty	
O	Name of main contractor whom installed asset	Data - text	
P	Date of 'survey-start'	data - date (dd/mm/yyyy)	
Q	Guideline revision used for survey	data - decimal number	
R	Style of access lid	Select from pick list: domLidStyle	
S	Shape of access lid	Select from pick list: domLidType	
T	Manufacturer of asset	Select from pick list: domManufacturer	
U	Construction Material	Select from pick list: domAccessConstruction	
V	Type of security on access	Select from pick list: domAccessSecurity	
W	Pit angle - orientation of inner structure to nearest 5 degrees (rectangular pits only)	data - number	
X	Treatment material for refurbished manholes	Select from pick list: domAccessTreatmentType	
Additional Information			
*All other columns must be left "blank" or hold the value "LEAVE BLANK" as default in CAT Col W: leave blank/unchanged for circular manholes Col X: leave blank/unchanged if N/A See Appendix C.1.1 for a CAT example.			

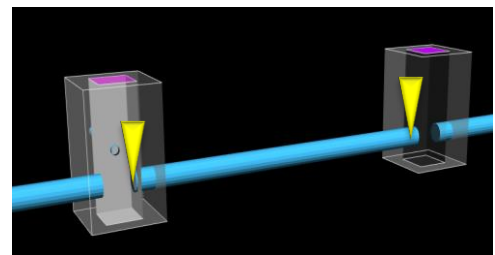
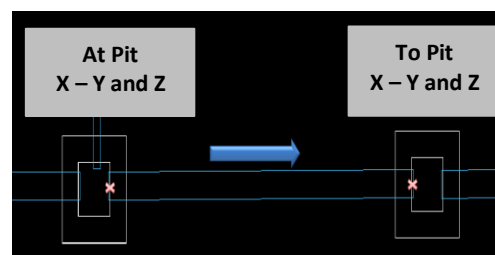


As-Built requirements (SW)			
Name		SW Flush Manhole (Point)	
Point Type		E13 "Point Asset Inputs"	
E13: SW Flush Manhole	CAT Column	SAG Description	
	Valid Values		
	A	Type of point feature	E13
	B	Type of manhole or access	Select from pick list: domSWAccessType
	C	Existing or New asset	Select from pick list: domExistingOrNew
	D	Differs from design (yes/no)	Select from pick list: domDiffersFromDesign
	E	Unique identifier from drawing	data - text
	F	Centre of structure in Easting coordinate	data - decimal number
	G	Centre of structure in Northing coordinate	data - decimal number
	H	RL on lowest corner of lid	data - decimal number
	J	RL at manhole base (lowest point)	data - decimal number
	K	Width and length of pit (e.g. 600x800) or diameter of pit	data - number
	L	Date of commission	data - date (dd/mm/yyyy)
	M	Location certainty - accuracy of data	Select from pick list: domLocationCertainty
	O	Name of main contractor whom installed asset	Data - text
	P	Date of 'survey-start'	data - date (dd/mm/yyyy)
	Q	Guideline revision used for survey	data - decimal number
	R	Style of access lid	Select from pick list: domLidStyle
	S	Shape of access lid	Select from pick list: domLidType
	T	Manufacturer of asset	Select from pick list: domManufacturer
U	Construction Material	Select from pick list: domAccessConstruction	
V	Type of security on access	Select from pick list: domAccessSecurity	
W	Pit angle - orientation of inner structure to nearest 5 degrees (rectangular pits only)	data - number	
X	Treatment material for refurbished manholes	Select from pick list: domAccessTreatmentType	
Additional Information			
*All other columns must be left "blank" or hold the value "LEAVE BLANK" as default in CAT Col W: leave blank/unchanged for circular manholes Col X: leave blank/unchanged if N/A See Appendix C.1.1 for a CAT example.			



As-Built requirements (SW)			
E17: SW Main Pipes	Name	SW Main Pipes (Line)	
	Line Type	E17 "Line Asset Inputs" 	
	Line features require at least two row entries in the CAT.		
	CAT Column	SAG Description	Valid Values
	A	Type of line feature	E17
	B	Specific type of pipe	Select from pick list: domSWPipeType
	C	Existing or New asset	Select from pick list: domExistingOrNew
	D	Differs from design (yes/no)	Select from pick list: domDiffersFromDesign
	E	Unique identifier from drawing	data - text
	F	Line vertex Easting coordinate	data - decimal number
	G	Line vertex Northing coordinate	data - decimal number
	H	Invert level at vertex	data - decimal number
	I	Number of vertex (point along line)	data - text
	J	Material of pipe	Select from pick list: domPipeConstruction
	K	Nominal diameter in mm	data - number
L	At Pit - UID name from design drawing	data - text	
M	To Pit - UID name from design drawing	data - text	
N	Manufacturer of asset	Select from pick list: domManufacturer	
O	Name of main contractor whom installed asset	Data - text	
P	Pressure class (PN)	Select from pick list: domNominalPressureClass	
Q	Stiffness rating (SN)	Select from pick list: domStiffnessClass	
R	Concrete Load Class	Select from pick list: domConcreteLoadClass	
S	Date of commission	data - date (dd/mm/yyyy)	
T	Location certainty - accuracy of data	Select from pick list: domLocationCertainty	
U	Date of 'survey-start'	data - date (dd/mm/yyyy)	
V	Guideline revision used for survey	data - decimal number	
W	Pipe Shape	Select from pick list: domPipeShape	
X	Average burial depth to invert of pipe	data - decimal number	
Y	Was the pipe laid in a trench? (yes/no)	Select from pick list: domTrenched	
Additional Information			
*All other columns must be left "blank" or hold the value "LEAVE BLANK" as default in CAT			
Col I: enter number of vertex along line starting with the downstream end			
Col W: accuracy 0.5m			
See Appendix C.2.1 for a CAT example.			

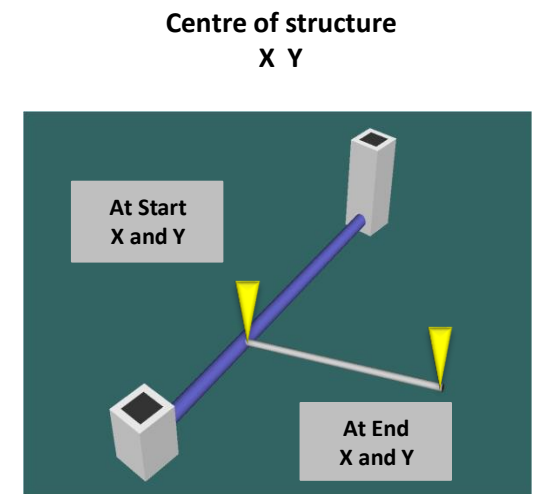
**Centre of structure
X Y and Z**


All bends, start/end points to be surveyed.
Create one CAT row per surveyed point.

As-Built requirements (SW)

E19: SW Lateral	Name		SW Lateral (Line)
	Line Type		E19 "Line Asset Inputs"
	Line features require at least two row entries in the CAT.		
	CAT Column	SAG Description	Valid Values
	A	Type of line feature	E19
	B	Specific type of lateral	Select from pick list: domSWLateralType
	C	Existing or New asset	Select from pick list: domExistingOrNew
	D	Differs from design (yes/no)	Select from pick list: domDiffersFromDesign
	E	Unique identifier from drawing	data - text
	F	Line vertex Easting coordinate	data - decimal number
	G	Line vertex Northing coordinate	data - decimal number
	I	Number of vertex (point along line)	data - text
	J	Material of pipe	Select from pick list: domPipeConstruction
	K	Nominal diameter in mm	data - number
	N	Manufacturer of asset	Select from pick list: domManufacturer
	O	Name of main contractor whom installed asset	Data - text
	P	Pressure class (PN)	Select from pick list: domNominalPressureClass
	Q	Stiffness rating (SN)	Select from pick list: domStiffnessClass
	R	Concrete Load Class	Select from pick list: domConcreteLoadClass
	S	Date of commission	data - date (dd/mm/yyyy)
T	Location certainty - accuracy of data	Select from pick list: domLocationCertainty	
U	Date of 'survey-start'	data - date (dd/mm/yyyy)	
V	Guideline revision used for survey	data - decimal number	
W	Pipe Shape	Select from pick list: domPipeShape	
X	Average burial depth to invert of pipe	data - decimal number	
Y	Was the pipe laid in a trench? (yes/no)	Select from pick list: domTrenched	
AA	Do several units share this lateral? (yes/no)	Select from pick list: domLateralSharedConnection	
AB	Type of lateral junction	Select from pick list: domEyeType	
AC	Distance of IP from lateral start (from connection to existing private lateral) in mm	data - number	
Additional Information			
*All other columns must be left "blank" or hold the value "LEAVE BLANK" as default in CAT Col I: enter number of vertex along line starting with the downstream end Col W: accuracy 0.5m See Appendix C.2.2 for a CAT example.			

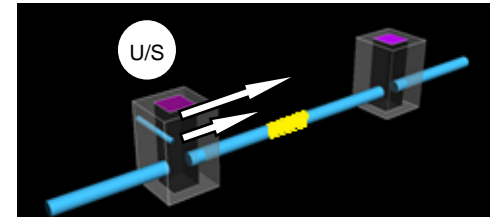


All bends, start/end points to be surveyed.
Create one CAT row per surveyed point.

As-Built requirements (SW)		
Name	SW Repair/Relay Dig (Line)	
Line Type	E20 "Line Asset Inputs" 	
If entered without coordinates, this feature requires only one row per repair.		
CAT Column	SAG Description	Valid Values
A	Type of line feature	E20
B	Type of repair	Select from pick list: domRepairType
C	Existing or New asset	Select from pick list: domExistingOrNew
D	Differs from design (yes/no)	Select from pick list: domDiffersFromDesign
E	Unique identifier from drawing	data - text
F	Line vertex Easting coordinate	data - decimal number
G	Line vertex Northing coordinate	data - decimal number
I	Number of vertex (point along line)	data - text
J	Material used for repair	Select from pick list: domRepairMaterial
K	Nominal diameter in mm	data - number
L	At Pit - UID name from design drawing	data - text
M	To Pit - UID name from design drawing	data - text
N	Manufacturer of asset	Select from pick list: domManufacturer
O	Name of main contractor whom installed asset	Data - text
Q	Date of commission	data - date (dd/mm/yyyy)
R	Location certainty - accuracy of data	Select from pick list: domLocationCertainty
T	Date of 'survey-start'	data - date (dd/mm/yyyy)
U	Guideline revision used for survey	data - decimal number
V	Distance of lining/repair start from inner wall of structure of upstream MH in m	data - decimal number
W	Distance of lining/repair end from inner wall of structure of upstream MH in m	data - decimal number
Additional Information		
<p>*All other columns must be left "blank" or hold the value "LEAVE BLANK" as default in CAT Use this feature for dig repairs only (new pipe sections or pipe clamps) – pipe lining is to be entered into D21 Col V&W: Make sure to measure distances from the inner wall of the upstream manhole structure. See Appendix C.2.8 for a CAT example.</p>		

E20: SW Repair/Relay Dig

Distance to start and end of repair from upstream MH



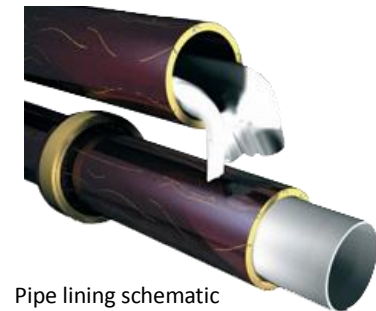
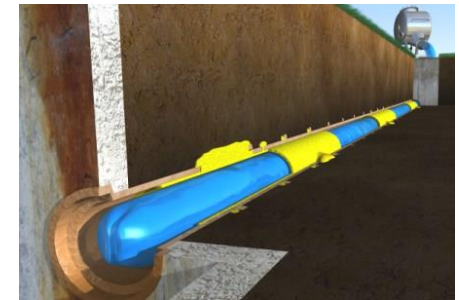
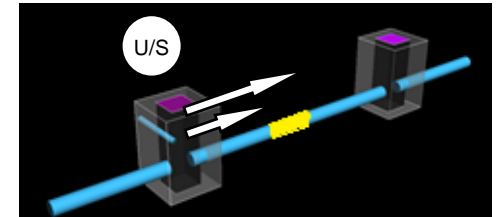
As-Built requirements (SW)

Name		SW Pipe Lining (Line)
Line Type		E21 "Line Asset Inputs"
If entered without coordinates, this feature requires only one row per patch.		
CAT Column	SAG Description	Valid Values
A	Type of line feature	E21
B	Type of repair	Select from pick list: domRepairType
C	Existing or New asset	Select from pick list: domExistingOrNew
D	Differs from design (yes/no)	Select from pick list: domDiffersFromDesign
E	Unique identifier from drawing	data - text
F	Line vertex Easting coordinate	data - decimal number
G	Line vertex Northing coordinate	data - decimal number
I	Number of vertex (point along line)	data - text
J	Material used for repair	Select from pick list: domRepairMaterial
K	Nominal diameter in mm	data - number
L	At Pit - UID name from design drawing	data - text
M	To Pit - UID name from design drawing	data - text
N	Manufacturer of asset	Select from pick list: domManufacturer
O	Name of main contractor whom installed asset	Data - text
Q	Date of commission	data - date (dd/mm/yyyy)
R	Location certainty - accuracy of data	Select from pick list: domLocationCertainty
T	Date of 'survey-start'	data - date (dd/mm/yyyy)
U	Guideline revision used for survey	data - decimal number
V	Distance of lining/repair start from inner wall of structure of upstream MH in m	data - decimal number
W	Distance of lining/repair end from inner wall of structure of upstream MH in m	data - decimal number
Additional Information		
<p>*All other columns must be left "blank" or hold the value "LEAVE BLANK" as default in CAT Use this feature for pipe lining only (lining patches or fully lined pipes) – pipe repairs are to be entered into D20 Col V&W: Make sure to measure distances from the inner wall of the upstream manhole structure. See Appendix C.2.5 up to C.2.7 for CAT examples.</p>		

E21: SW Pipe Lining



Distance to start and end of lining from upstream MH

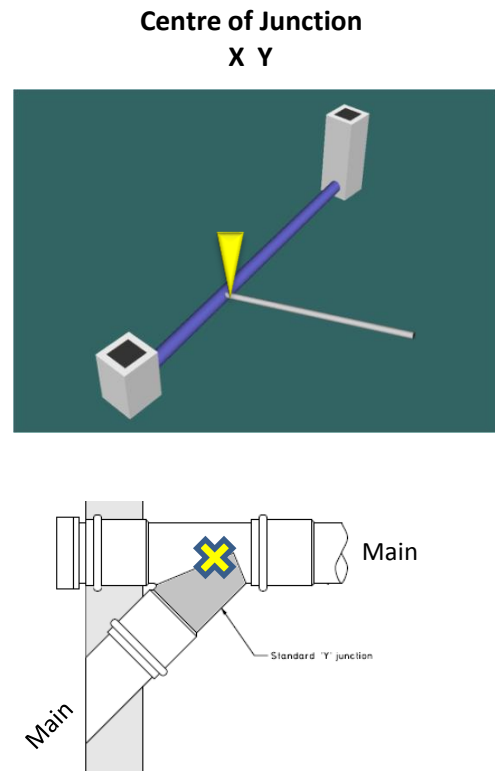


Pipe lining schematic

As-Built requirements (SW)

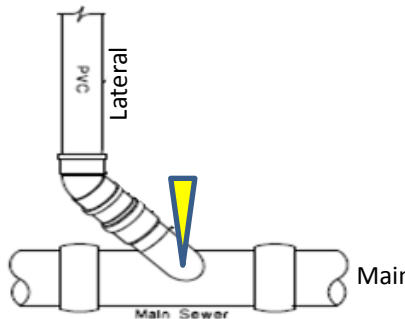
E22: SW Junction

Name		SW Junction (Point)	●
Point Type		E22 "Point Asset Inputs"	
CAT Column	SAG Description	Valid Values	
A	Type of point feature	E22	
B	Type of junction	Select from pick list: domSWJunctionType	
C	Existing or New asset	Select from pick list: domExistingOrNew	
D	Differs from design (yes/no)	Select from pick list: domDiffersFromDesign	
E	Unique identifier from drawing	data - text	
F	Centre of structure in Easting coordinate	data - decimal number	
G	Centre of structure in Northing coordinate	data - decimal number	
L	Date of commission	data - date (dd/mm/yyyy)	
M	Location certainty - accuracy of data	Select from pick list: domLocationCertainty	
O	Name of main contractor whom installed asset	Data - text	
P	Date of 'survey-start'	data - date (dd/mm/yyyy)	
Q	Guideline revision used for survey	data - decimal number	
Additional Information			
*All other columns must be left "blank" or hold the value "LEAVE BLANK" as default in CAT			



As-Built requirements (SW)			
E23: SW Lateral Junction	Name	SW Lateral Junction (Point)	
	Point Type	E23 "Point Asset Inputs"	
	CAT Column	SAG Description	Valid Values
	A	Type of point feature	E23
	B	Type of lateral junction	Select from pick list: domEyeType
	C	Existing or New asset	Select from pick list: domExistingOrNew
	D	Differs from design (yes/no)	Select from pick list: domDiffersFromDesign
	E	Unique identifier from drawing	data - text
	F	Centre of structure in Easting coordinate	data - decimal number
	G	Centre of structure in Northing coordinate	data - decimal number
	L	Date of commission	data - date (dd/mm/yyyy)
	M	Location certainty - accuracy of data	Select from pick list: domLocationCertainty
O	Name of main contractor whom installed asset	Data - text	
P	Date of 'survey-start'	data - date (dd/mm/yyyy)	
Q	Guideline revision used for survey	data - decimal number	
Additional Information			
*All other columns must be left "blank" or hold the value "LEAVE BLANK" as default in CAT See Appendix C.1.3 for a CAT example.			

**Centre of Lateral Junction
X Y**

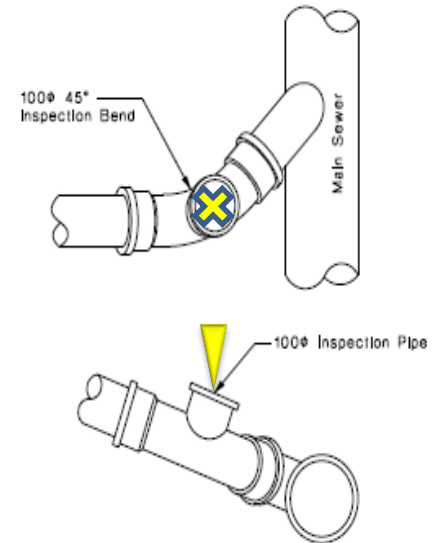


This asset is located at the junction between a lateral and a main

As-Built requirements (SW)		
Name		SW Inspection Point (Point)
Point Type		E24 "Point Asset Inputs"
CAT Column	SAG Description	Valid Values
A	Type of point feature	E24
B	Type of manhole or access	Select from pick list: domSWAccessType
C	Existing or New asset	Select from pick list: domExistingOrNew
D	Differs from design (yes/no)	Select from pick list: domDiffersFromDesign
E	Unique identifier from drawing	data - text
F	Centre of structure in Easting coordinate	data - decimal number
G	Centre of structure in Northing coordinate	data - decimal number
L	Date of commission	data - date (dd/mm/yyyy)
M	Location certainty - accuracy of data	Select from pick list: domLocationCertainty
O	Name of main contractor whom installed asset	Data - text
P	Date of 'survey-start'	data - date (dd/mm/yyyy)
Q	Guideline revision used for survey	data - decimal number
U	Construction Material	Select from pick list: domAccessConstruction
Additional Information		
*All other columns must be left "blank" or hold the value "LEAVE BLANK" as default in CAT See Appendix C.1.4 for a CAT example.		

E24: SW Inspection Point

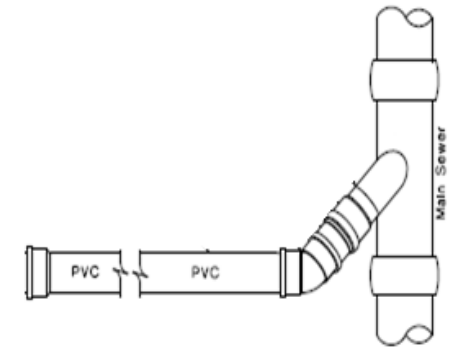
**Centre of Inspection Point
X Y**



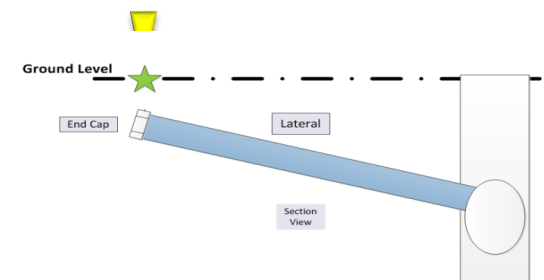
As-Built requirements (SW)


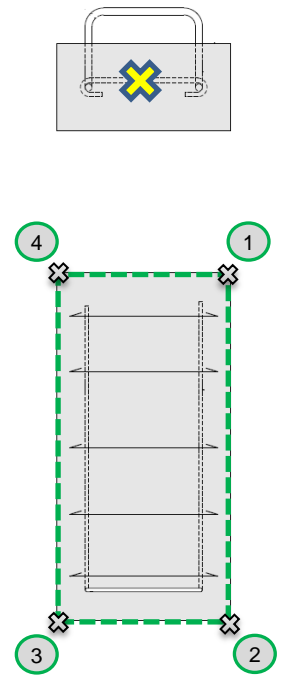
E25: SW End Cap

Name		SW End Cap (Point)
Point Type		E25 "Point Asset Inputs"
CAT Column	SAG Description	Valid Values
A	Type of point feature	E25
B	Specific type of end cap	Select from pick list: domEndCapType
C	Existing or New asset	Select from pick list: domExistingOrNew
D	Differs from design (yes/no)	Select from pick list: domDiffersFromDesign
E	Unique identifier from drawing	data - text
F	Centre of structure in Easting coordinate	data - decimal number
G	Centre of structure in Northing coordinate	data - decimal number
L	Date of commission	data - date (dd/mm/yyyy)
M	Location certainty - accuracy of data	Select from pick list: domLocationCertainty
O	Name of main contractor whom installed asset	Data - text
P	Date of 'survey-start'	data - date (dd/mm/yyyy)
Q	Guideline revision used for survey	data - decimal number
Additional Information		
*All other columns must be left "blank" or hold the value "LEAVE BLANK" as default in CAT		



Centre of End Cap
X Y



As-Built requirements (SW)			
E26: SW Thrust Block	Name	SW Thrust Block (Point or Outline) 	
	Line Type	E26 "Line Asset Inputs"	
	Outline features require at least three row entries in the CAT.		
	CAT Column	SAG Description	Valid Values
	A	Type of polygon feature	E26
	B	Specific type of structure	Select from pick list: domSWStructureType
	C	Existing or New asset	Select from pick list: domExistingOrNew
	D	Differs from design (yes/no)	Select from pick list: domDiffersFromDesign
	E	Unique identifier from drawing	data - text
	F	Polygon vertex Easting coordinate	data - decimal number
G	Polygon vertex Northing coordinate	data - decimal number	
I	Number of vertex (point along outline)	data - text	
J	Predominant material of structure	Select from pick list: domStructureMaterial	
O	Name of main contractor whom installed asset	Data - text	
Q	Date of commission	data - date (dd/mm/yyyy)	
R	Location certainty - accuracy of data	Select from pick list: domLocationCertainty	
T	Date of 'survey-start'	data - date (dd/mm/yyyy)	
U	Guideline revision used for survey	data - decimal number	
<div style="border: 2px solid red; padding: 10px; margin: 10px auto; width: 80%;"> <p>For standard shaped thrust blocks, just the centre of structure is to be surveyed</p> <p>For non-standard thrust blocks, all corner points along outline are to be surveyed.</p> </div>			
Additional Information			
<p>*All other columns must be left "blank" or hold the value "LEAVE BLANK" as default in CAT</p> <p>Col I: enter number of vertex along outline</p> <p>See Appendix C.3.1 for a CAT example.</p>			
		<p>Thrust Block Outline or Centre of Structure</p> <p>X Y</p> 	

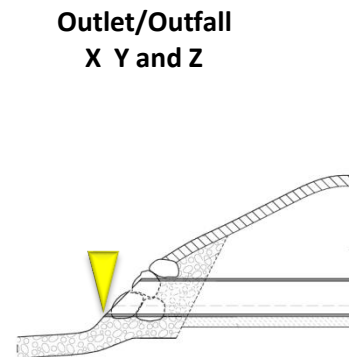
As-Built requirements (SW)		
Name		SW Pump (Point)
Point Type		E28 "Point Asset Inputs"
CAT Column	SAG Description	Valid Values
A	Type of point feature	E28
B	Type of pump	Select from pick list: domSWPumpType
C	Existing or New asset	Select from pick list: domExistingOrNew
D	Differs from design (yes/no)	Select from pick list: domDiffersFromDesign
E	Unique identifier from drawing	data - text
F	Centre of structure in Easting coordinate	data - decimal number
G	Centre of structure in Northing coordinate	data - decimal number
H	Height above datum	data - decimal number
L	Date of commission	data - date (dd/mm/yyyy)
M	Location certainty - accuracy of data	Select from pick list: domLocationCertainty
O	Name of main contractor whom installed asset	Data - text
P	Date of 'survey-start'	data - date (dd/mm/yyyy)
Q	Guideline revision used for survey	data - decimal number
R	Name and/or number of pump station	data - text
T	Manufacturer of asset	Select from pick list: domManufacturer
U	Serial number of asset	data - text
V	Backup Energy Source	Select from pick list: domEnergySource
W	Pit angle - orientation of inner structure to nearest 5 degrees (rectangular pits only)	data - number
X	Capacity of pump in litres per hour	data - number
Y	Manufacturer warranty reference	data - text
Z	Manufacturer warranty term in years	data - decimal number
Additional Information		
*All other columns must be left "blank" or hold the value "LEAVE BLANK" as default in CAT Col R&W: leave blank/unchanged if N/A		


E28: SW Pump




**Centre of Pump
X Y and Z (on pump)**

As-Built requirements (SW)		
Name		SW Outlet/Outfall (Point)
Point Type		E29 "Point Asset Inputs"
E29: SW Outfall/Outlet	CAT Column	SAG Description
	A	Type of point feature
	B	Type of outfall/outlet
	C	Existing or New asset
	D	Differs from design (yes/no)
	E	Unique identifier from drawing
	F	Centre of structure in Easting coordinate
	G	Centre of structure in Northing coordinate
	H	Height above datum
	L	Date of commission
	M	Location certainty - accuracy of data
	O	Name of main contractor whom installed asset
	P	Date of 'survey-start'
	Q	Guideline revision used for survey
	T	Manufacturer of asset
	V	Type of security on outlet access
Valid Values		
		E29
		Select from pick list: domOutletType
		Select from pick list: domExistingOrNew
		Select from pick list: domDiffersFromDesign
		data - text
		data - decimal number
		data - decimal number
		data - decimal number
		data - date (dd/mm/yyyy)
		Select from pick list: domLocationCertainty
		Data - text
		data - date (dd/mm/yyyy)
		data - decimal number
		Select from pick list: domManufacturer
		Select from pick list: domAccessSecurity
Additional Information		
*All other columns must be left "blank" or hold the value "LEAVE BLANK" as default in CAT		




As-Built requirements (SW)		
Name		SW Valve (Point) 
Point Type		E30 "Point Asset Inputs"
E30: SW Valve	CAT Column	SAG Description
	A	Type of point feature
	B	Type of valve
	C	Existing or New asset
	D	Differs from design (yes/no)
	E	Unique identifier from drawing
	F	Centre of structure in Easting coordinate
	G	Centre of structure in Northing coordinate
	H	Height above datum
	K	Nominal diameter in mm
	L	Date of commission
	M	Location certainty - accuracy of data
	O	Name of main contractor whom installed asset
	P	Date of 'survey-start'
	Q	Guideline revision used for survey
	R	Valve normal operating position - open or closed
	T	Manufacturer of asset
	U	Valve closure rotation direction
	W	Main function of valve
	X	Valve control point
Y	Manual or motorised valve	
Z	Manufacturer warranty term in years	
Valid Values		
E30		
Select from pick list: domSWValveType		
Select from pick list: domExistingOrNew		
Select from pick list: domDiffersFromDesign		
data - text		
data - decimal number		
data - decimal number		
data - decimal number		
data - number		
data - date (dd/mm/yyyy)		
Select from pick list: domLocationCertainty		
Data - text		
data - date (dd/mm/yyyy)		
data - decimal number		
Select from pick list: domValveNormalOperating		
Select from pick list: domManufacturer		
Select from pick list: domClockwiseClose		
Select from pick list: domValveFunction		
Select from pick list: domValveControlPoint		
Select from pick list: domValveActuation		
data - decimal number		
Additional Information		
*All other columns must be left "blank" or hold the value "LEAVE BLANK" as default in CAT		

**Centre of Valve
X Y and Z**

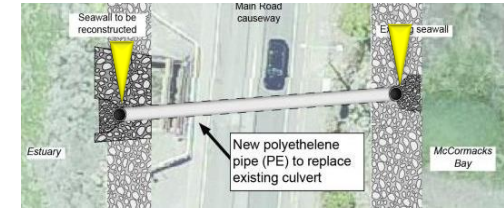


As-Built requirements (SW)


E31: SW Culvert

Name		SW Culvert (Line)
Line Type		E31 "Line Asset Inputs" 
Line features require at least two row entries in the CAT.		
CAT Column	SAG Description	Valid Values
A	Type of line feature	E31
B	Specific type of pipe	Select from pick list: domSWPipeType
C	Existing or New asset	Select from pick list: domExistingOrNew
D	Differs from design (yes/no)	Select from pick list: domDiffersFromDesign
E	Unique identifier from drawing	data - text
F	Line vertex Easting coordinate	data - decimal number
G	Line vertex Northing coordinate	data - decimal number
H	Invert level at vertex	data - decimal number
I	Number of vertex (point along line)	data - text
J	Material of pipe	Select from pick list: domPipeConstruction
K	Nominal diameter in mm	data - number
L	At Pit - UID name from design drawing	data - text
M	To Pit - UID name from design drawing	data - text
N	Manufacturer of asset	Select from pick list: domManufacturer
O	Name of main contractor whom installed asset	Data - text
P	Pressure class (PN)	Select from pick list: domNominalPressureClass
Q	Stiffness rating (SN)	Select from pick list: domStiffnessClass
R	Concrete Load Class	Select from pick list: domConcreteLoadClass
S	Date of commission	data - date (dd/mm/yyyy)
T	Location certainty - accuracy of data	Select from pick list: domLocationCertainty
U	Date of 'survey-start'	data - date (dd/mm/yyyy)
V	Guideline revision used for survey	data - decimal number
W	Pipe Shape	Select from pick list: domPipeShape
X	Average burial depth to invert of pipe	data - decimal number
Y	Was the pipe laid in a trench? (yes/no)	Select from pick list: domTrenched
Additional Information		
<p>*All other columns must be left "blank" or hold the value "LEAVE BLANK" as default in CAT Create one CAT row for each vertex, starting at downstream pit Col I: enter number of vertex along line starting with the downstream end Col W: accuracy 0.5m</p>		


Centre of structure
X Y and Z



All bends, start/end points to be surveyed. Create one CAT row per surveyed point.

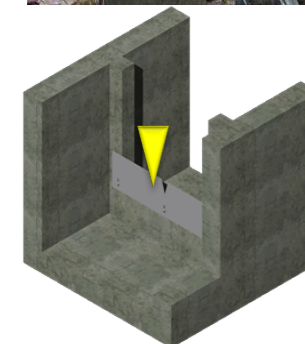
As-Built requirements (SW)			
E32: SW Headwall Inlet/Outlet	Name	SW Headwall Inlet/Outlet (Point) 	
	Point Type	E32 "Point Asset Inputs"	
	CAT Column	SAG Description	Valid Values
	A	Type of point feature	E32
	B	Type of outlet/outfall	Select from pick list: domOutletType
	C	Existing or New asset	Select from pick list: domExistingOrNew
	D	Differs from design (yes/no)	Select from pick list: domDiffersFromDesign
	E	Unique identifier from drawing	data - text
	F	Centre of structure in Easting coordinate	data - decimal number
	G	Centre of structure in Northing coordinate	data - decimal number
	H	Height above datum	data - decimal number
	L	Date of commission	data - date (dd/mm/yyyy)
	M	Location certainty - accuracy of data	Select from pick list: domLocationCertainty
	O	Name of main contractor whom installed asset	Data - text
	P	Date of 'survey-start'	data - date (dd/mm/yyyy)
Q	Guideline revision used for survey	data - decimal number	
T	Manufacturer of asset	Select from pick list: domManufacturer	
V	Type of security on outlet access	Select from pick list: domAccessSecurity	
Additional Information			
*All other columns must be left "blank" or hold the value "LEAVE BLANK" as default in CAT			


**Outlet/Outfall
X Y and Z**



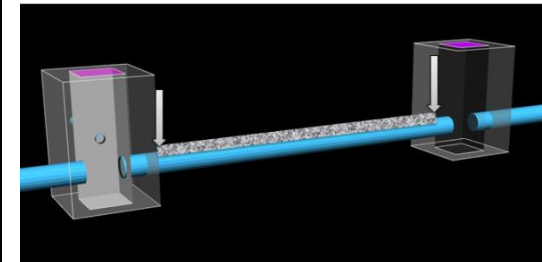
As-Built requirements (SW)			
E33: SW Flow Restriction	Name	SW Flow Restriction 'Weir' (Point)	
	Point Type	E33 "Point Asset Inputs"	
	CAT Column	SAG Description	Valid Values
	A	Type of point feature	E33
	B	Type of stormwater flow restriction	Select from pick list: domSWFlowRestrictionType
	C	Existing or New asset	Select from pick list: domExistingOrNew
	D	Differs from design (yes/no)	Select from pick list: domDiffersFromDesign
	E	Unique identifier from drawing	data - text
	F	Centre of structure in Easting coordinate	data - decimal number
	G	Centre of structure in Northing coordinate	data - decimal number
	H	RL at which water overflows	data - decimal number
	L	Date of commission	data - date (dd/mm/yyyy)
	M	Location certainty - accuracy of data	Select from pick list: domLocationCertainty
	O	Name of main contractor whom installed asset	Data - text
	P	Date of 'survey-start'	data - date (dd/mm/yyyy)
Q	Guideline revision used for survey	data - decimal number	
T	Manufacturer of asset	Select from pick list: domManufacturer	
Additional Information			
*All other columns must be left "blank" or hold the value "LEAVE BLANK" as default in CAT			

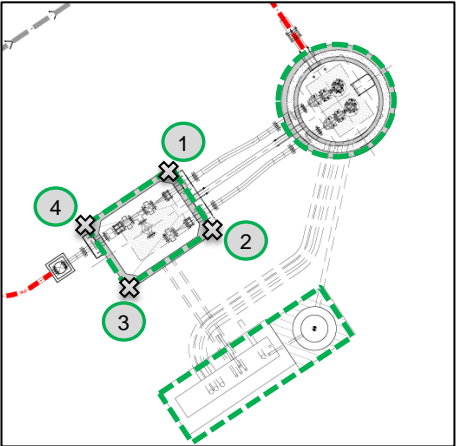
**Flow Restriction
X Y and Z**



As-Built requirements (SW)			
E34: SW Structural Pipe Protection	Name	SW Structural Pipe Protection (Line) 	
	Point Type	E34 "Point Asset Inputs"	
	Line features require at least two row entries in the CAT.		
	CAT Column	SAG Description	Valid Values
	A	Type of line feature	E34
	B	Type of structural pipe protection	Select from pick list: domPipeProtectionType
	C	Existing or New asset	Select from pick list: domExistingOrNew
	D	Differs from design (yes/no)	Select from pick list: domDiffersFromDesign
	E	Unique identifier from drawing	data - text
	F	Line vertex Easting coordinate	data - decimal number
	G	Line vertex Northing coordinate	data - decimal number
	I	Number of vertex (point along line)	data - text
	O	Name of main contractor whom installed asset	Data - text
	Q	Date of commission	data - date (dd/mm/yyyy)
	R	Location certainty - accuracy of data	Select from pick list: domLocationCertainty
T	Date of 'survey-start'	data - date (dd/mm/yyyy)	
U	Guideline revision used for survey	data - decimal number	
<div style="border: 2px solid red; padding: 5px; display: inline-block;"> <p>Create one CAT row per surveyed point.</p> </div>			
Additional Information			
<p>*All other columns must be left "blank" or hold the value "LEAVE BLANK" as default in CAT Col I: enter number of vertex along line starting with the downstream end</p>			

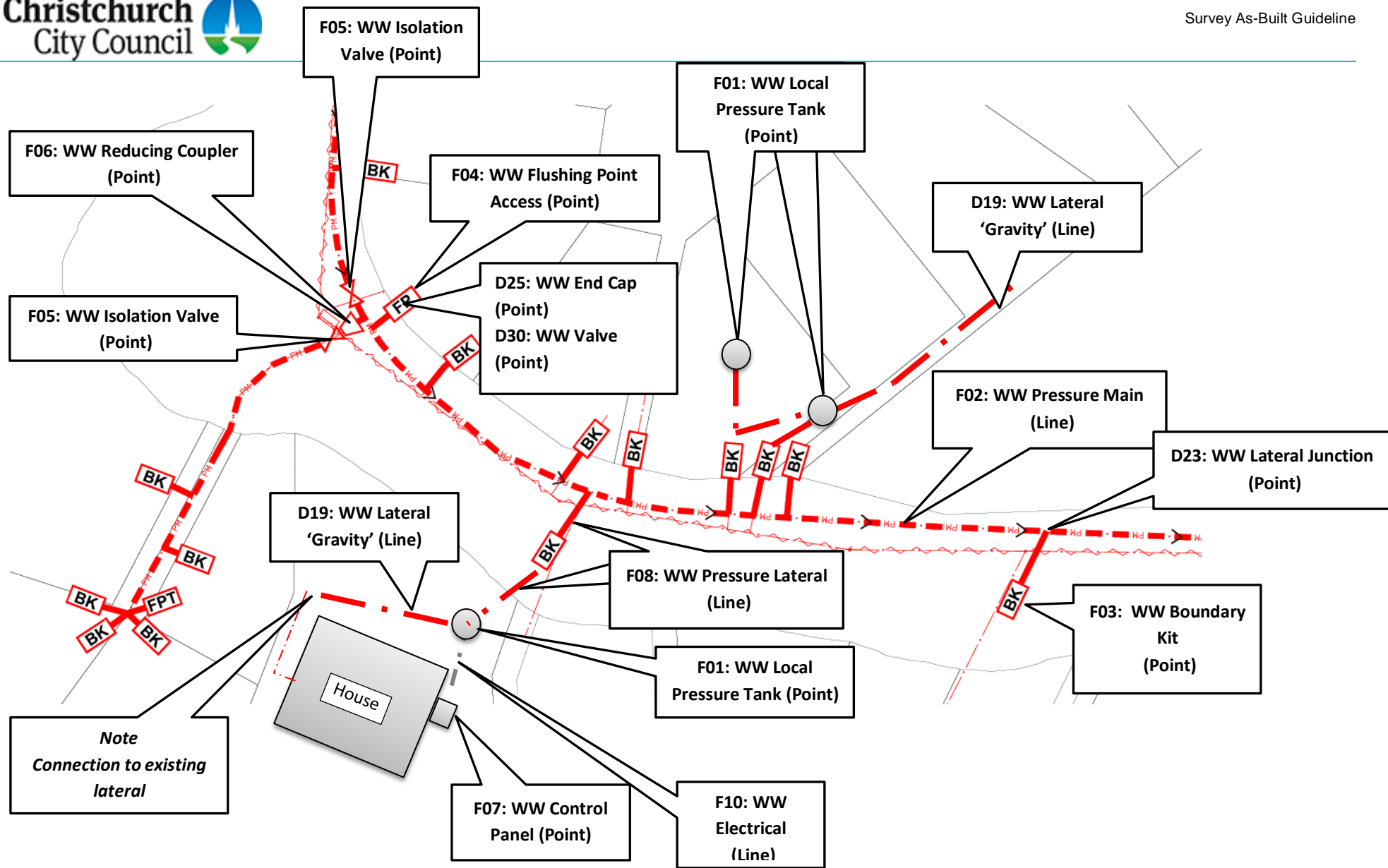
**Pipe Protection
X Y**



As-Built requirements (SW)			
E36: SW Structure	Name	SW Structure (Outline)	
	Line Type	E36 "Line Asset Inputs"	
	Outline features require at least three row entries in the CAT.		
	CAT Column	SAG Description	Valid Values
	A	Type of polygon feature	E36
	B	Specific type of structure	Select from pick list: domSWStructureType
	C	Existing or New asset	Select from pick list: domExistingOrNew
	D	Differs from design (yes/no)	Select from pick list: domDiffersFromDesign
	E	Unique identifier from drawing	data - text
	F	Polygon vertex Easting coordinate	data - decimal number
	G	Polygon vertex Northing coordinate	data - decimal number
	I	Number of vertex (point along outline)	data - text
	J	Predominant material of structure	Select from pick list: domStructureMaterial
	O	Name of main contractor whom installed asset	Data - text
	Q	Date of commission	data - date (dd/mm/yyyy)
R	Location certainty - accuracy of data	Select from pick list: domLocationCertainty	
T	Date of 'survey-start'	data - date (dd/mm/yyyy)	
U	Guideline revision used for survey	data - decimal number	
<div style="border: 2px solid red; padding: 5px; margin: 10px auto; width: fit-content;"> All corner points along outline to be surveyed. Create one CAT row per surveyed point. </div>			
Additional Information			
*All other columns must be left "blank" or hold the value "LEAVE BLANK" as default in CAT Use this feature for all structures or other larger manholes which do not fit into any of the other structure categories, populate col B accordingly. Col I: enter number of vertex along outline See Appendix C.1.5 and C.3.1 for a CAT example and beginning of Appendix D for more information.			
		Structure Outline X Y 	

Appendix F As-built Requirements for Wastewater Pressure Sewer System

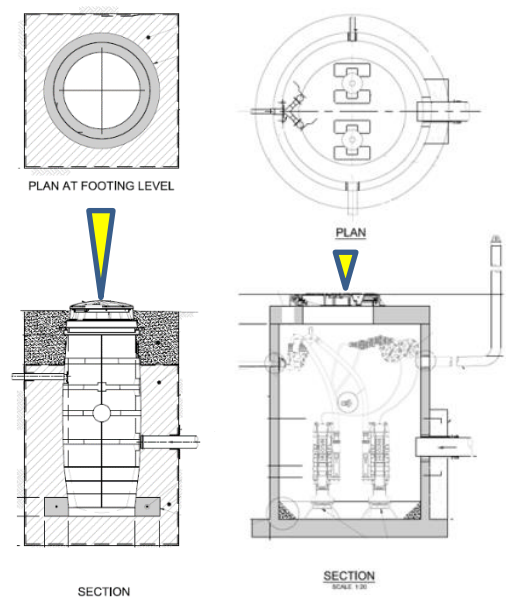
F01: WW Local Pressure Tank System	65
F02: WW Pressure Main	66
F03: WW Local Pressure Boundary Kit.....	65
F04: WW Flushing Point Access	68
F05: WW Isolation Valve	69
F06: WW Reducing Coupler.....	68
F07: WW Local Pressure Control Panel	69
F08: WW Pressure Lateral	772
F10: WW Electrical.....	73



Wastewater Pressure – Overview

As-Built requirements (WW)			
F01: WW Local Pressure Tank System	Name	WW Local Pressure Tank System (Point)	
	Point Type	F01 "Point Asset Inputs"	
	CAT Column	SAG Description	Valid Values
	A	Type of point feature	F01
	B	Specific type of pressure tank	Select from pick list: domWWPressureTankType
	C	Existing or New asset	Select from pick list: domExistingOrNew
	D	Differs from design (yes/no)	Select from pick list: domDiffersFromDesign
	E	Unique identifier from drawing	data - text
	F	Centre of structure in Easting coordinate	data - decimal number
	G	Centre of structure in Northing coordinate	data - decimal number
	H	RL on Centre of Cover	data - decimal number
	L	Date of commission	data - date (dd/mm/yyyy)
	M	Location certainty - accuracy of data	Select from pick list: domLocationCertainty
	O	Name of main contractor whom installed asset	Data - text
	P	Date of 'survey-start'	data - date (dd/mm/yyyy)
Q	Guideline revision used for survey	data - decimal number	
T	Manufacturer of asset	Select from pick list: domManufacturer	
W	Number of pumps operating in tank	data - number	
X	Capacity of tank in litres	data - decimal number	
Z	Manufacturer warranty term in years	data - decimal number	
Additional Information			
*All other columns must be left "blank" or hold the value "LEAVE BLANK" as default in CAT			

**Centre of structure
X Y Z**



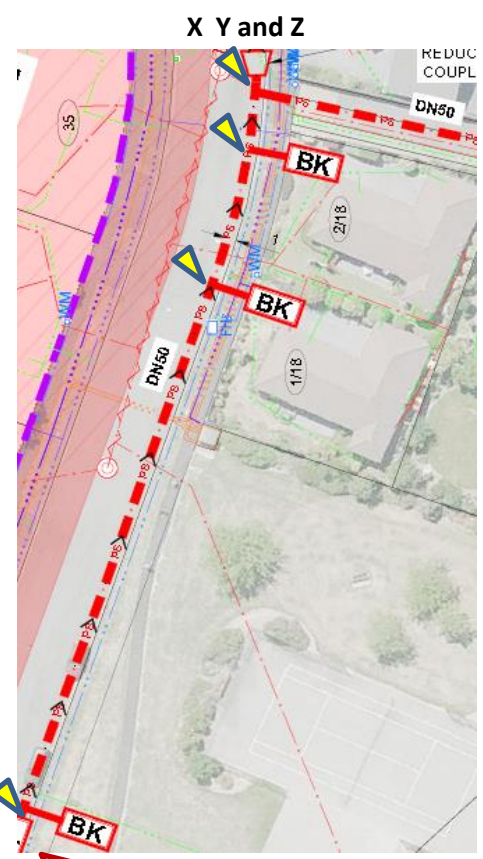
PLAN AT FOOTING LEVEL PLAN

SECTION SECTION SCALE 1:20

non-trafficable trafficable

As-Built requirements (WW)		
Name		WW Pressure Main (Line)
Point Type		F02 "Line Asset Inputs"
Line features require at least two row entries in the CAT.		
CAT Column	SAG Description	Valid Values
A	Type of line feature	F02
B	Specific type of pipe	Select from pick list: domWWPipeType
C	Existing or New asset	Select from pick list: domExistingOrNew
D	Differs from design (yes/no)	Select from pick list: domDiffersFromDesign
E	Unique identifier from drawing	data - text
F	Line vertex Easting coordinate	data - decimal number
G	Line vertex Northing coordinate	data - decimal number
H	Invert level at vertex	data - decimal number
I	Number of vertex (point along line)	data - text
J	Material of pipe	Select from pick list: domPipeConstruction
K	Nominal diameter in mm	data - number
L	At Pit - UID name from design drawing	data - text
M	To Pit - UID name from design drawing	data - text
N	Manufacturer of asset	Select from pick list: domManufacturer
O	Name of main contractor whom installed asset	Data - text
P	Pressure class (PN)	Select from pick list: domNominalPressureClass
Q	Stiffness rating (SN)	Select from pick list: domStiffnessClass
R	Concrete Load Class	Select from pick list: domConcreteLoadClass
S	Date of commission	data - date (dd/mm/yyyy)
T	Location certainty - accuracy of data	Select from pick list: domLocationCertainty
U	Date of 'survey-start'	data - date (dd/mm/yyyy)
V	Guideline revision used for survey	data - decimal number
W	Pipe Shape	Select from pick list: domPipeShape
X	Average burial depth to invert of pipe	data - decimal number
Y	Was the pipe laid in a trench? (yes/no)	Select from pick list: domTrenched
Additional Information		
*All other columns must be left "blank" or hold the value "LEAVE BLANK" as default in CAT Col I: enter number of vertex along line starting with the downstream end Col W: accuracy 0.5m See Appendix C.2.3 for a CAT example		

F02: WW Pressure Main



All bends, start/end points to be surveyed. Create one CAT row per surveyed point.

As-Built requirements (WW)			
F03: WW Local Pressure Boundary Kit	Name	WW Pressure Sewer System Boundary Kit (Point)	
	Point Type	F03 "Point Asset Inputs"	
	CAT Column	SAG Description	Valid Values
	A	Type of point feature	F03
	B	Standard or non standard kit	Select from pick list: domWWBoundaryKitType
	C	Existing or New asset	Select from pick list: domExistingOrNew
	D	Differs from design (yes/no)	Select from pick list: domDiffersFromDesign
	E	Unique identifier from drawing	data - text
	F	Centre of structure in Easting coordinate	data - decimal number
	G	Centre of structure in Northing coordinate	data - decimal number
	H	RL on centre of cover	data - decimal number
	L	Date of commission	data - date (dd/mm/yyyy)
	M	Location certainty - accuracy of data	Select from pick list: domLocationCertainty
	O	Name of main contractor whom installed asset	Data - text
	P	Date of 'survey-start'	data - date (dd/mm/yyyy)
Q	Guideline revision used for survey	data - decimal number	
R	Trafficable or non trafficable structure	Select from pick list: domTrafficable	
T	Manufacturer of asset	Select from pick list: domManufacturer	
Z	Manufacturer warranty term in years	data - decimal number	
Additional Information			
*All other columns must be left "blank" or hold the value "LEAVE BLANK" as default in CAT			

**Centre of structure
X Y and Z**

PLAN

SECTION

As-Built requirements (WW)			
Name		WW Flushing Point (Point)	
Point Type		F04 "Point Asset Inputs"	
F04: WW Flushing Point Access	CAT Column	SAG Description	
	Valid Values		
	A	Type of point feature	F04
	B	Type of manhole or access	Select from pick list: domWWAccessType
	C	Existing or New asset	Select from pick list: domExistingOrNew
	D	Differs from design (yes/no)	Select from pick list: domDiffersFromDesign
	E	Unique identifier from drawing	data - text
	F	Centre of structure in Easting coordinate	data - decimal number
	G	Centre of structure in Northing coordinate	data - decimal number
	H	RL on centre of cover	data - decimal number
	J	RL at manhole base (lowest point)	data - decimal number
	K	Width and length of pit (e.g. 600x800) or diameter of pit	data - number
	L	Date of commission	data - date (dd/mm/yyyy)
	M	Location certainty - accuracy of data	Select from pick list: domLocationCertainty
	O	Name of main contractor whom installed asset	Data - text
	P	Date of 'survey-start'	data - date (dd/mm/yyyy)
	Q	Guideline revision used for survey	data - decimal number
	R	Style of access lid	Select from pick list: domLidStyle
	S	Shape of access lid	Select from pick list: domLidType
	T	Manufacturer of asset	Select from pick list: domManufacturer
U	Construction Material	Select from pick list: domAccessConstruction	
V	Type of security on access	Select from pick list: domAccessSecurity	
W	Pit angle - orientation of inner structure to nearest 5 degrees (rectangular pits only)	data - number	
X	Treatment material for refurbished manholes	Select from pick list: domAccessTreatmentType	
Additional Information			
*All other columns must be left "blank" or hold the value "LEAVE BLANK" as default in CAT Col W: leave blank/unchanged for circular chambers Col X: leave blank/unchanged if N/A See Appendix C.1.1 for a CAT example.			

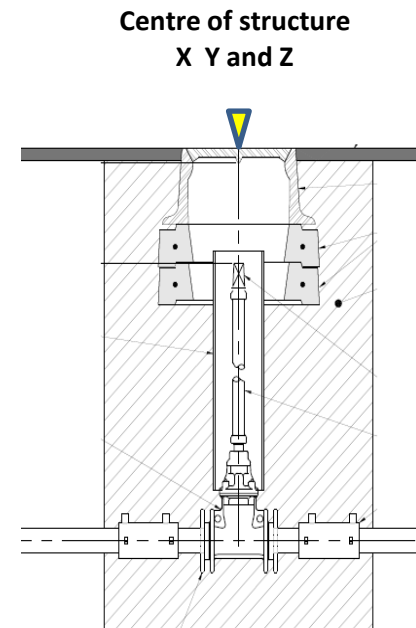
**Centre of structure
X Y and Z**

D25: End Cap (Point)
D30: Valve (Point)

PLAN

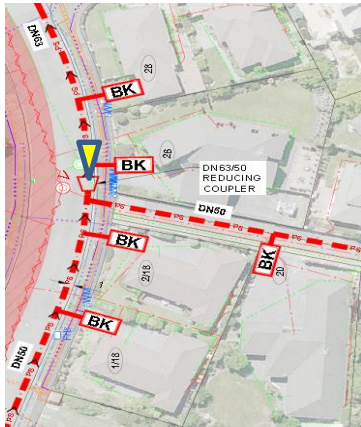

SECTION

As-Built requirements (WW)		
Name		WW Isolation Valve (Point)
Point Type		F05 "Point Asset Inputs"
F05: WW Isolation Valve	CAT Column	SAG Description
	A	Type of point feature
	B	Type of valve
	C	Existing or New asset
	D	Differs from design (yes/no)
	E	Unique identifier from drawing
	F	Centre of structure in Easting coordinate
	G	Centre of structure in Northing coordinate
	H	Height above datum
	K	Nominal diameter in mm
	L	Date of commission
	M	Location certainty - accuracy of data
	O	Name of main contractor whom installed asset
	P	Date of 'survey-start'
	Q	Guideline revision used for survey
	R	Valve normal operating position - open or closed
	T	Manufacturer of asset
	U	Valve closure rotation direction
	W	Main function of valve
	X	Valve control point
Y	Manual or motorised valve	
Z	Manufacturer warranty term in years	
Additional Information		
		*All other columns must be left "blank" or hold the value "LEAVE BLANK" as default in CAT



As-Built requirements (WW)			
F06: WW Reducing Coupler	Name	WW Reducing Coupler (Point)	
	Point Type	F06 "Point Asset Inputs"	
	CAT Column	SAG Description	Valid Values
	A	Type of point feature	F06
	B	Type of junction	Select from pick list: domJunctionType
	C	Existing or New asset	Select from pick list: domExistingOrNew
	D	Differs from design (yes/no)	Select from pick list: domDiffersFromDesign
	E	Unique identifier from drawing	data - text
	F	Centre of structure in Easting coordinate	data - decimal number
	G	Centre of structure in Northing coordinate	data - decimal number
L	Date of commission	data - date (dd/mm/yyyy)	
M	Location certainty - accuracy of data	Select from pick list: domLocationCertainty	
O	Name of main contractor whom installed asset	Data - text	
P	Date of 'survey-start'	data - date (dd/mm/yyyy)	
Q	Guideline revision used for survey	data - decimal number	
Additional Information			
*All other columns must be left "blank" or hold the value "LEAVE BLANK" as default in CAT			

**Centre of structure
X Y**



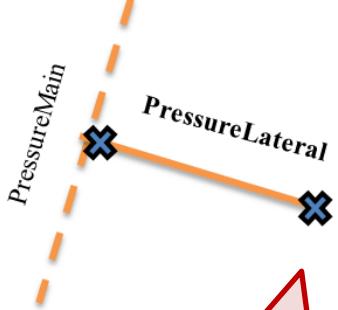



As-Built requirements (WW)			
F07: WW Local Pressure Control Panel	Name	WW Pressure Sewer System Control Panel (Point)	
	Point Type	F07 "Point Asset Inputs"	
	CAT Column	SAG Description	Valid Values
	A	Type of point feature	F07
	B	Panel type	Select from pick list: domWWControlPanelType
	C	Existing or New asset	Select from pick list: domExistingOrNew
	D	Differs from design (yes/no)	Select from pick list: domDiffersFromDesign
	E	Unique identifier from drawing	data - text
	F	Centre of structure in Easting coordinate	data - decimal number
	G	Centre of structure in Northing coordinate	data - decimal number
	L	Date of commission	data - date (dd/mm/yyyy)
	M	Location certainty - accuracy of data	Select from pick list: domLocationCertainty
	O	Name of main contractor whom installed asset	Data - text
	P	Date of 'survey-start'	data - date (dd/mm/yyyy)
	Q	Guideline revision used for survey	data - decimal number
T	Manufacturer of asset	Select from pick list: domManufacturer	
U	Telemetry type	Select from pick list: domTelemetryFitted	
Z	Manufacturer warranty term in years	data - decimal number	
Additional Information			
*All other columns must be left "blank" or hold the value "LEAVE BLANK" as default in CAT			

**Centre of structure
X Y**

Control Panel

Power supply

		As-Built requirements (WW)		
F08: WW Pressure Lateral	Name	WW Pressure Sewer System Lateral (Lir		
	Line Type	F08 "Line Asset Inputs"		
	Line features require at least two row entries in the CAT.			
	CAT Column	SAG Description	Valid Values	
	A	Type of line feature	F08	
	B	Specific type of lateral	Select from pick list: domWWLateralType	
	C	Existing or New asset	Select from pick list: domExistingOrNew	
	D	Differs from design (yes/no)	Select from pick list: domDiffersFromDesign	
	E	Unique identifier from drawing	data - text	
	F	Line vertex Easting coordinate	data - decimal number	
	G	Line vertex Northing coordinate	data - decimal number	
	I	Number of vertex (point along line)	data - text	
	J	Material of pipe	Select from pick list: domPipeConstruction	
	K	Nominal diameter in mm	data - number	
	N	Manufacturer of asset	Select from pick list: domManufacturer	
O	Name of main contractor whom installed asset	Data - text		
P	Pressure class (PN)	Select from pick list: domNominalPressureClass		
Q	Stiffness rating (SN)	Select from pick list: domStiffnessclass		
R	Concrete Load Class	Select from pick list: domConcreteLoadClass		
S	Date of commission	data - date (dd/mm/yyyy)		
T	Location certainty - accuracy of data	Select from pick list: domLocationCertainty		
U	Date of 'survey-start'	data - date (dd/mm/yyyy)		
V	Guideline revision used for survey	data - decimal number		
W	Pipe Shape	Select from pick list: domPipeShape		
X	Average burial depth to invert of pipe	data - decimal number		
Y	Was the pipe laid in a trench? (yes/no)	Select from pick list: domTrenched		
AA	Do several units share this lateral? (yes/no)	Select from pick list: domLateralSharedConnection		
AB	Type of lateral junction	Select from pick list: domEyeType		
AC	Distance of IP from lateral start (from connection to existing private lateral) in mm	data - number		
Additional Information				
*All other columns must be left "blank" or hold the value "LEAVE BLANK" as default in CAT Col I: enter number of vertex along line starting with the downstream end Col W: accuracy 0.5m				
				
				
				
		<div style="border: 2px solid red; padding: 10px; width: fit-content; margin: auto;"> <p>All bends, start/end points to be surveyed. Create one CAT row per surveyed point.</p> </div>		

As-Built requirements (WW, SW, WS)			
F10: WW Electrical	Name	WW Electrical (Line)	
	Line Type	F10 "Line Asset Inputs"	
	Line features require at least two row entries in the CAT.		
	CAT Column	SAG Description	Valid Values
	A	Type of line feature	F10
	B	Type of cable	Select from pick list: domWWPressureCableType
	C	Existing or New asset	Select from pick list: domExistingOrNew
	D	Differs from design (yes/no)	Select from pick list: domDiffersFromDesign
	E	Unique identifier from drawing	data - text
	F	Line vertex Easting coordinate	data - decimal number
G	Line vertex Northing coordinate	data - decimal number	
I	Number of vertex (point along line)	data - text	
J	Conduit material	Select from pick list: domPipeConstruction	
K	Conduit diameter	data - number	
O	Name of main contractor whom installed asset	Data - text	
Q	Date of commission	data - date (dd/mm/yyyy)	
R	Location certainty - accuracy of data	Select from pick list: domLocationCertainty	
T	Date of 'survey-start'	data - date (dd/mm/yyyy)	
U	Guideline revision used for survey	data - decimal number	
X	Was the pipe laid in a trench? (yes/no)	Select from pick list: domTrenched	
Additional Information			
*All other columns must be left "blank" or hold the value "LEAVE BLANK" as default in CAT Col I: enter number of vertex along line starting with the downstream end			

The diagram shows a red line with three vertices. A control panel is connected to a power supply. The diagram is labeled 'X Y' and 'Control Panel'.

All bends, start/end points to be surveyed.
Create one CAT row per surveyed point.

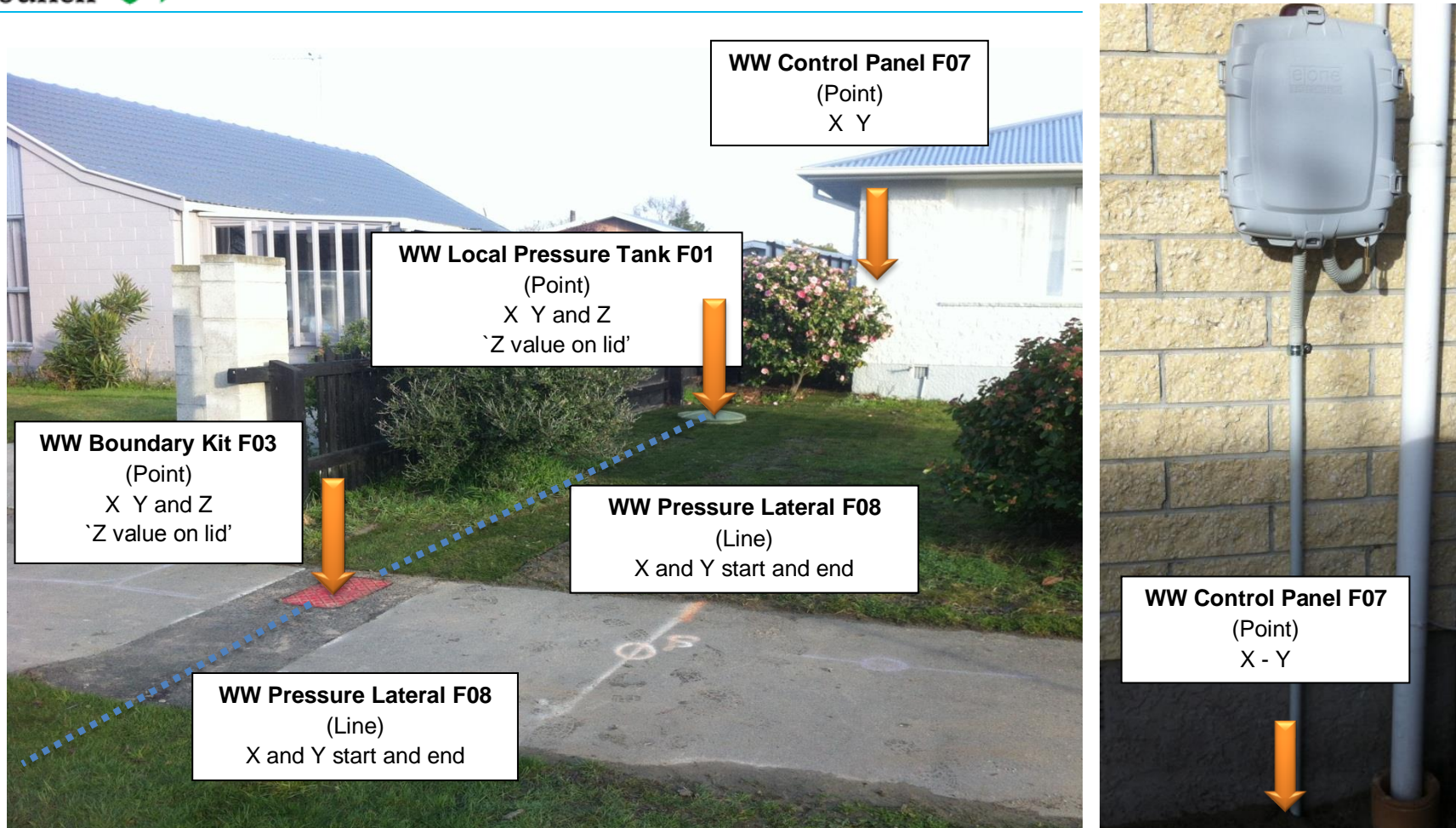


Figure 34: Pressure System Layout for a Typical Household

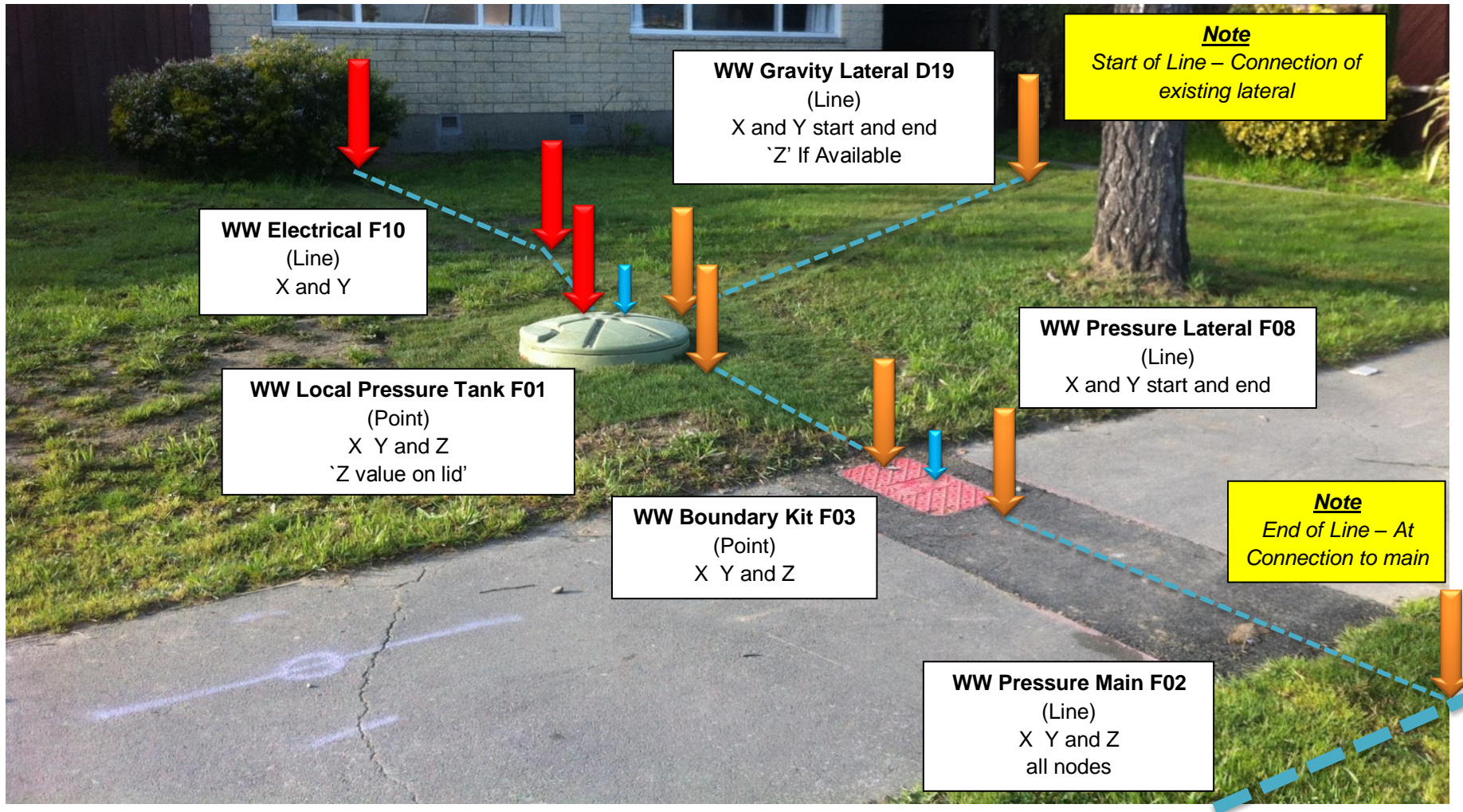
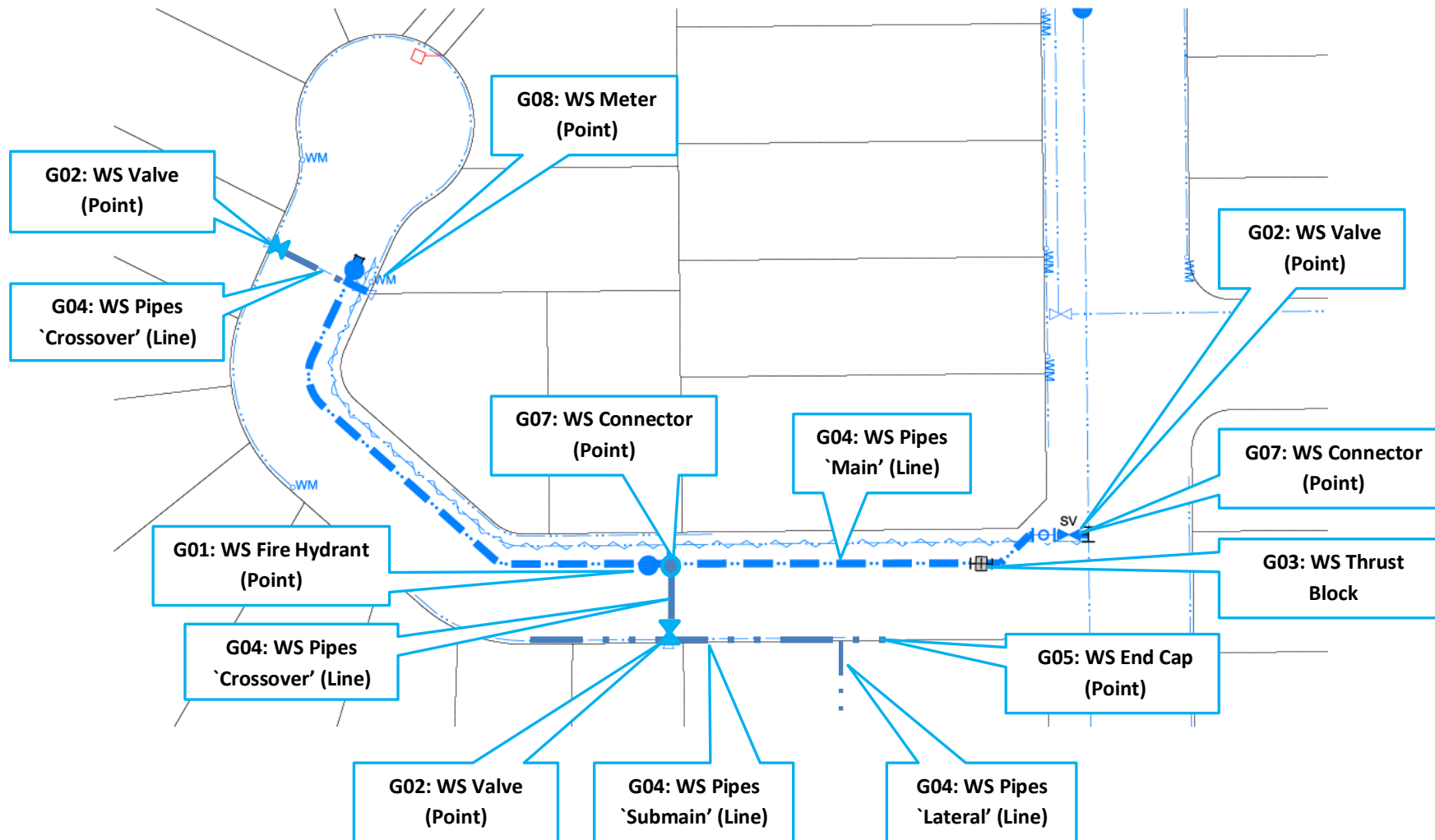


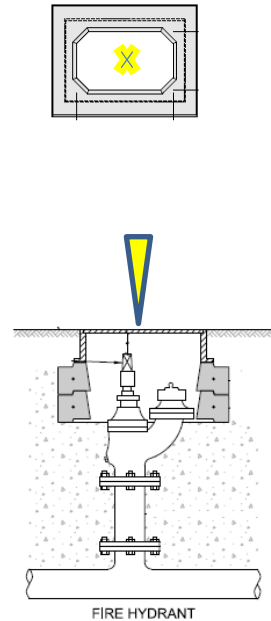
Figure 35: WW Pressure System Layout Overview

Appendix G As-built Requirements for Water Supply

G01: WS Fire Hydrant.....	78
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Reticulated Water – Overview

As-Built requirements (WS)			
G01: WS Fire Hydrant	Name	WS Fire Hydrant (Point)	
	Point Type	G01 "Point Asset Inputs"	
	CAT Column	SAG Description	Valid Values
	A	Type of point feature	G01
	B	Standard or non standard	Select from pick list: domWSHydrantType
	C	Existing or New asset	Select from pick list: domExistingOrNew
	D	Differs from design (yes/no)	Select from pick list: domDiffersFromDesign
	E	Unique identifier from drawing	data - text
	F	Centre of structure in Easting coordinate	data - decimal number
	G	Centre of structure in Northing coordinate	data - decimal number
	H	RL on lowest corner of lid	data - decimal number
	L	Date of commission	data - date (dd/mm/yyyy)
	M	Location certainty - accuracy of data	Select from pick list: domLocationCertainty
	O	Name of main contractor whom installed asset	Data - text
	P	Date of 'survey-start'	data - date (dd/mm/yyyy)
Q	Guideline revision used for survey	data - decimal number	
T	Manufacturer of asset	Select from pick list: domManufacturer	
Additional Information			
*All other columns must be left "blank" or hold the value "LEAVE BLANK" as default in CAT			
<p>Centre of hydrant X Y and Z</p>  <p>The diagram consists of two parts. The top part is a plan view of a hydrant lid, showing a square with an inner octagonal shape and a yellow 'X' in the center, representing the center point. The bottom part is a cross-sectional view of the hydrant, showing the internal valve mechanism and the connection to the underground pipe. A blue arrow points from the center of the hydrant in the cross-section up to the 'X' in the plan view. The label 'FIRE HYDRANT' is at the bottom.</p>			

As-Built requirements (WS)			
G02: WS Valve	Name	WS Valve (Point)	
	Point Type	G02 "Point Asset Inputs"	
	CAT Column	SAG Description	Valid Values
	A	Type of point feature	G02
	B	Type of valve	Select from pick list: domWSValveType
	C	Existing or New asset	Select from pick list: domExistingOrNew
	D	Differs from design (yes/no)	Select from pick list: domDiffersFromDesign
	E	Unique identifier from drawing	data - text
	F	Centre of structure in Easting coordinate	data - decimal number
	G	Centre of structure in Northing coordinate	data - decimal number
	H	Height above datum	data - decimal number
	K	Nominal diameter in mm	data - number
	L	Date of commission	data - date (dd/mm/yyyy)
	M	Location certainty - accuracy of data	Select from pick list: domLocationCertainty
	O	Name of main contractor whom installed asset	Data - text
	P	Date of 'survey-start'	data - date (dd/mm/yyyy)
	Q	Guideline revision used for survey	data - decimal number
	R	Valve normal operating position - open or closed	Select from pick list: domValveNormalOperating
	T	Manufacturer of asset	Select from pick list: domManufacturer
	U	Valve closure rotation direction	Select from pick list: domClockwiseClose
V	Is the valve (incl. lid) buried below ground? (yes/no)	Select from pick list: domValveBuried	
W	Main function of valve	Select from pick list: domValveFunction	
X	Valve control point	Select from pick list: domValveControlPoint	
Y	Manual or motorised valve	Select from pick list: domValveActuation	
Z	Manufacturer warranty term in years	data - decimal number	
AA	Pressure triggering opening/closing of valve in kPa	data - number	
Additional Information			
*All other columns must be left "blank" or hold the value "LEAVE BLANK" as default in CAT			

**Centre of valve
X Y Z**

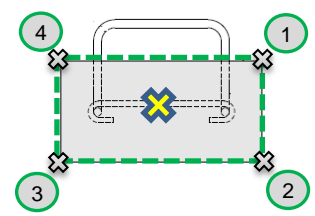
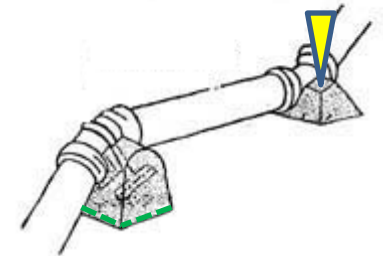
The diagram consists of two parts. The top part is a plan view of a valve box, showing a yellow 'X' marking the center of the valve. The bottom part is a cross-sectional view of the valve assembly, showing the valve body, handle, and surrounding structure. A yellow triangle points to the center of the valve body. Labels include 'Finished surface', 'Valve box', and 'VALVE'.

As-Built requirements (WS)		
Name		WS Thrust Block (Point or Outline)
Line Type		G03 "Line Asset Inputs"
Outline features require at least three row entries in the CAT.		
CAT Column	SAG Description	Valid Values
A	Type of polygon feature	G03
B	Specific type of structure	Select from pick list: domWSStructureType
C	Existing or New asset	Select from pick list: domExistingOrNew
D	Differs from design (yes/no)	Select from pick list: domDiffersFromDesign
E	Unique identifier from drawing	data - text
F	Polygon vertex Easting coordinate	data - decimal number
G	Polygon vertex Northing coordinate	data - decimal number
I	Number of vertex (point along outline)	data - text
J	Predominant material of structure	Select from pick list: domStructureMaterial
O	Name of main contractor whom installed asset	Data - text
Q	Date of commission	data - date (dd/mm/yyyy)
R	Location certainty - accuracy of data	Select from pick list: domLocationCertainty
T	Date of 'survey-start'	data - date (dd/mm/yyyy)
U	Guideline revision used for survey	data - decimal number
<div style="border: 2px solid red; padding: 10px; margin: 10px auto; width: 80%;"> <p>For standard shaped thrust blocks, just the centre of structure is to be surveyed</p> <p>For non-standard thrust blocks, all corner points along outline are to be surveyed.</p> </div>		
Additional Information		
*All other columns must be left "blank" or hold the value "LEAVE BLANK" as default in CAT Col I: enter number of vertex along outline		

G03: WS Thrust Block



Thrust Block Outline or Centre of Structure
X Y



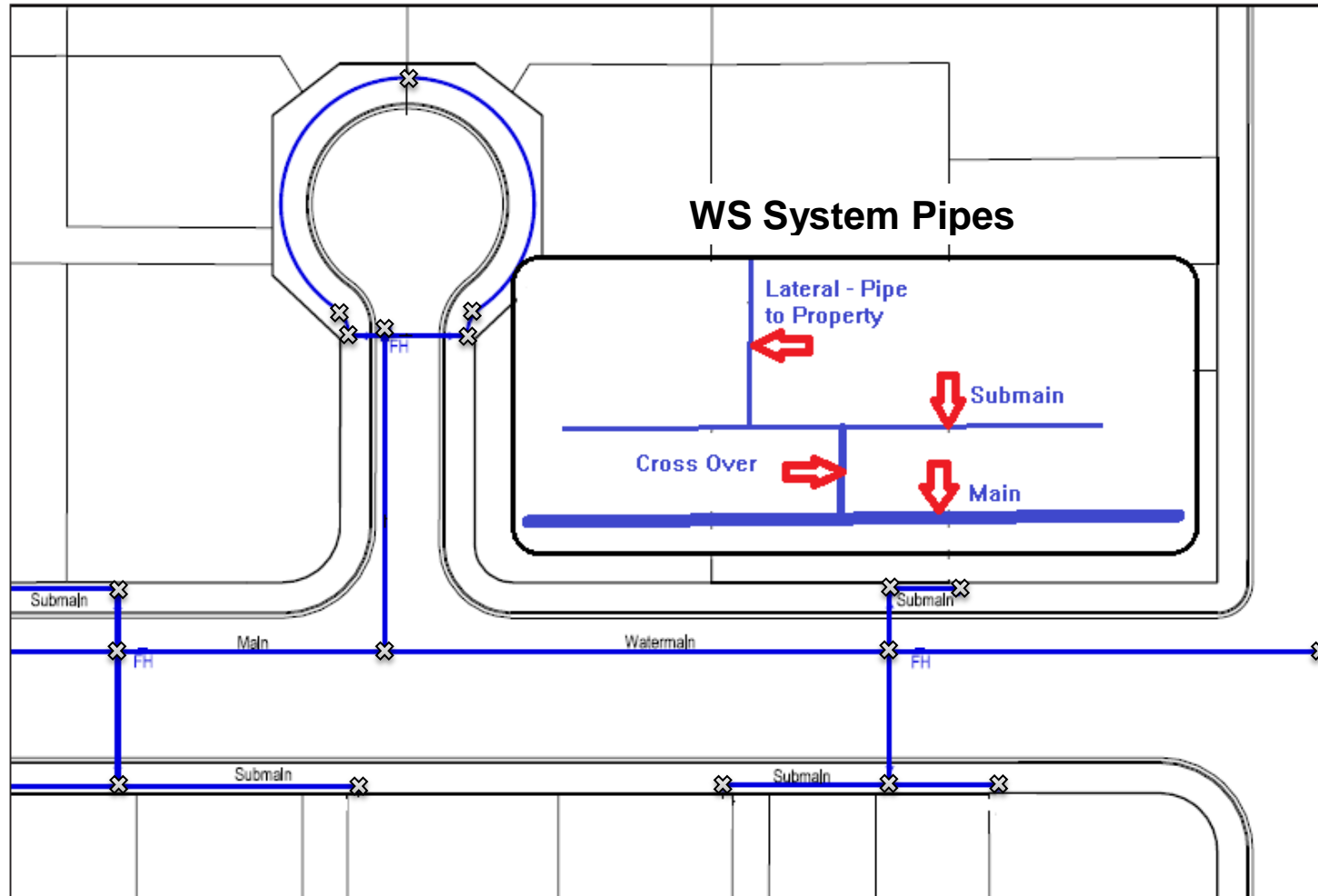


Figure WS System Pipes

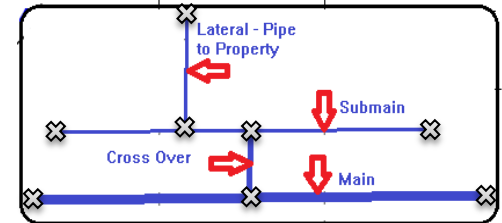
As-Built requirements (WS)

G04: WS Pipes	Name		WS Pipes (Line)
	Line Type		G04 "Line Asset Inputs"
	Line features require at least two row entries in the CAT.		
	CAT Column	SAG Description	Valid Values
	A	Type of line feature	G04
	B	Specific type of pipe	Select from pick list: domWSPipeType
	C	Existing or New asset	Select from pick list: domExistingOrNew
	D	Differs from design (yes/no)	Select from pick list: domDiffersFromDesign
	E	Unique identifier from drawing	data - text
	F	Line vertex Easting coordinate	data - decimal number
	G	Line vertex Northing coordinate	data - decimal number
	H	Invert level at vertex	data - decimal number
	I	Number of vertex (point along line)	data - text
	J	Material of pipe	Select from pick list: domPipeConstruction
	K	Nominal diameter in mm	data - number
	N	Manufacturer of asset	Select from pick list: domManufacturer
	O	Name of main contractor whom installed asset	Data - text
	P	Pressure class (PN)	Select from pick list: domNominalPressureClass
	Q	Stiffness rating (SN)	Select from pick list: domStiffnessClass
	R	Concrete Load Class	Select from pick list: domConcreteLoadClass
S	Date of commission	data - date (dd/mm/yyyy)	
T	Location certainty - accuracy of data	Select from pick list: domLocationCertainty	
U	Date of 'survey-start'	data - date (dd/mm/yyyy)	
W	Guideline revision used for survey	data - decimal number	
X	Average burial depth to invert of pipe	data - decimal number	
Y	Was the pipe laid in a trench? (yes/no)	Select from pick list: domTrenched	
Additional Information			
<p>*All other columns must be left "blank" or hold the value "LEAVE BLANK" as default in CAT Use this feature for all WS pipe types incl. laterals. Col I: enter number of vertex along line starting with the downstream end Col W: accuracy 0.5m</p>			




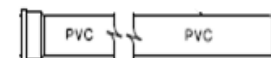
Centre of pipe vertex
X Y

RWS System Pipes




All bends, start/end points to be surveyed.
Create one CAT row per surveyed point.

As-Built requirements (WS)			
G05: WS End Cap	Name	WS End Cap (Point) 	
	Point Type	G05 "Point Asset Inputs"	
	CAT Column	SAG Description	Valid Values
	A	Type of point feature	G05
	B	Specific type of end cap	Select from pick list: domEndCapType
	C	Existing or New asset	Select from pick list: domExistingOrNew
	D	Differs from design (yes/no)	Select from pick list: domDiffersFromDesign
	E	Unique identifier from drawing	data - text
	F	Centre of structure in Easting coordinate	data - decimal number
	G	Centre of structure in Northing coordinate	data - decimal number
	L	Date of commission	data - date (dd/mm/yyyy)
	M	Location certainty - accuracy of data	Select from pick list: domLocationCertainty
	O	Name of main contractor whom installed asset	Data - text
	P	Date of 'survey-start'	data - date (dd/mm/yyyy)
	Q	Guideline revision used for survey	data - decimal number
Additional Information			
*All other columns must be left "blank" or hold the value "LEAVE BLANK" as default in CAT			



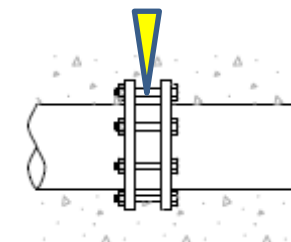
As-Built requirements (WS)			
Name		WS Pump (Point)	
Point Type		G06 "Point Asset Inputs"	
G06: WS Pump	CAT Column	SAG Description	Valid Values
	A	Type of point feature	G06
	B	Type of function pump used for	Select from pick list: domWSPumpType
	C	Existing or New asset	Select from pick list: domExistingOrNew
	D	Differs from design (yes/no)	Select from pick list: domDiffersFromDesign
	E	Unique identifier from drawing	data - text
	F	Centre of structure in Easting coordinate	data - decimal number
	G	Centre of structure in Northing coordinate	data - decimal number
	H	Height above datum	data - decimal number
	L	Date of commission	data - date (dd/mm/yyyy)
	M	Location certainty - accuracy of data	Select from pick list: domLocationCertainty
	O	Name of main contractor whom installed asset	Data - text
	P	Date of 'survey-start'	data - date (dd/mm/yyyy)
	Q	Guideline revision used for survey	data - decimal number
	R	Name and/or number of pump station	data - text
	T	Manufacturer of asset	Select from pick list: domManufacturer
	U	Serial number of asset	data - text
	V	Backup Energy Source	Select from pick list: domEnergySource
X	Capacity of pump in litres per hour	data - number	
Y	Manufacturer warranty reference	data - text	
Z	Manufacturer warranty term in years	data - decimal number	
Additional Information			
*All other columns must be left "blank" or hold the value "LEAVE BLANK" as default in CAT			

**Centre of Pump
X Y and Z (on pump)**



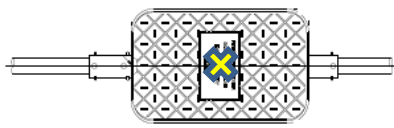
As-Built requirements (WS)			
G07: WS Connector	Name	WS Connector (Point)	
	Point Type	G07 "Point Asset Inputs"	
	CAT Column	SAG Description	Valid Values
	A	Type of point feature	G07
	B	Type of connector	Select from pick list: domWSConnectorType
	C	Existing or New asset	Select from pick list: domExistingOrNew
	D	Differs from design (yes/no)	Select from pick list: domDiffersFromDesign
	E	Unique identifier from drawing	data - text
	F	Centre of structure in Easting coordinate	data - decimal number
	G	Centre of structure in Northing coordinate	data - decimal number
	L	Date of commission	data - date (dd/mm/yyyy)
	M	Location certainty - accuracy of data	Select from pick list: domLocationCertainty
O	Name of main contractor whom installed asset	Data - text	
P	Date of 'survey-start'	data - date (dd/mm/yyyy)	
Q	Guideline revision used for survey	data - decimal number	
Additional Information			
*All other columns must be left "blank" or hold the value "LEAVE BLANK" as default in CAT Connectors on laterals and between laterals and submains are not required.			

Centre of Connector
X Y






As-Built requirements (WS)			
G08: WS Meter	Name	WS Meter (Point)	
	Point Type	G08 "Point Asset Inputs"	
	CAT Column	SAG Description	Valid Values
	A	Type of point feature	G08
	B	Specific point feature	data - text
	C	Existing or New asset	Select from pick list: domExistingOrNew
	D	Differs from design (yes/no)	Select from pick list: domDiffersFromDesign
	E	Unique identifier from drawing	data - text
	F	Centre of structure in Easting coordinate	data - decimal number
	G	Centre of structure in Northing coordinate	data - decimal number
	K	Nominal diameter in mm	data - number
	L	Date of commission	data - date (dd/mm/yyyy)
	M	Location certainty - accuracy of data	Select from pick list: domLocationCertainty
	O	Name of main contractor whom installed asset	Data - text
	P	Date of 'survey-start'	data - date (dd/mm/yyyy)
Q	Guideline revision used for survey	data - decimal number	
T	Manufacturer of asset	Select from pick list: domManufacturer	
U	Serial number of asset	data - text	
V	Does the asset have telemetry? (yes/no)	Select from pick list: domTelemetryFitted	
Additional Information			
*All other columns must be left "blank" or hold the value "LEAVE BLANK" as default in CAT			

Centre of structure
X Y





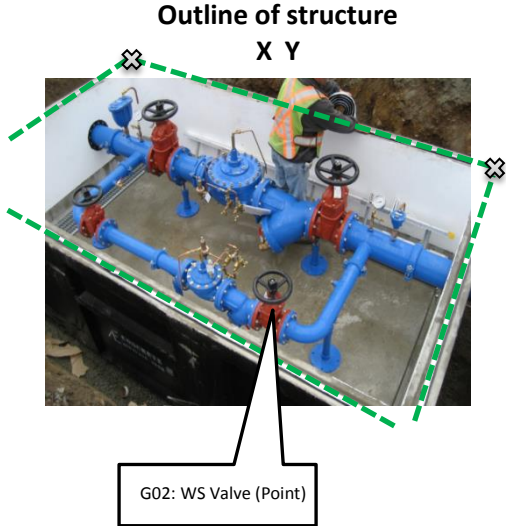
PLAN

As-Built requirements (WS)			
G09: WS Reservoir	Name	WS Reservoir (Outline) 	
	Line Type	G09 "Line Asset Inputs"	
	Outline features require at least three row entries in the CAT.		
	CAT Column	SAG Description	Valid Values
	A	Type of polygon feature	G09
	B	Specific polygon feature	data - text
	C	Existing or New asset	Select from pick list: domExistingOrNew
	D	Differs from design (yes/no)	Select from pick list: domDiffersFromDesign
	E	Unique identifier from drawing	data - text
	F	Polygon vertex Easting coordinate	data - decimal number
	G	Polygon vertex Northing coordinate	data - decimal number
	H	Height above datum	data - decimal number
	I	Number of vertex (point along outline)	data - text
	O	Name of main contractor whom installed asset	Data - text
	Q	Date of commission	data - date (dd/mm/yyyy)
R	Location certainty - accuracy of data	Select from pick list: domLocationCertainty	
T	Date of 'survey-start'	data - date (dd/mm/yyyy)	
U	Guideline revision used for survey	data - decimal number	
V	Name of reservoir	data - text	
W	Volume in cubic metres	data - number	
X	Type of security on access	Select from pick list: domAccessSecurity	
<p>All corner points along outline to be surveyed. Create one CAT row per surveyed point.</p>			
Additional Information			
<p>*All other columns must be left "blank" or hold the value "LEAVE BLANK" as default in CAT Col I: enter number of vertex along outline</p>			
		<p>Outline of structure X Y and Z</p>  	

As-Built requirements (WS)			
G10: WS Reservoir Inlet/Outlet	Name	WS Reservoir Inlet/Outlet (Point)	
	Point Type	G10 "Point Asset Inputs"	
	CAT Column	SAG Description	Valid Values
	A	Type of point feature	G10
	B	Asset type on which outlet is installed	Select from pick list: domWSOutletType
	C	Existing or New asset	Select from pick list: domExistingOrNew
	D	Differs from design (yes/no)	Select from pick list: domDiffersFromDesign
	E	Unique identifier from drawing	data - text
	F	Centre of structure in Easting coordinate	data - decimal number
	G	Centre of structure in Northing coordinate	data - decimal number
	L	Date of commission	data - date (dd/mm/yyyy)
	M	Location certainty - accuracy of data	Select from pick list: domLocationCertainty
O	Name of main contractor whom installed asset	Data - text	
P	Date of 'survey-start'	data - date (dd/mm/yyyy)	
Q	Guideline revision used for survey	data - decimal number	
Additional Information			
*All other columns must be left "blank" or hold the value "LEAVE BLANK" as default in CAT			

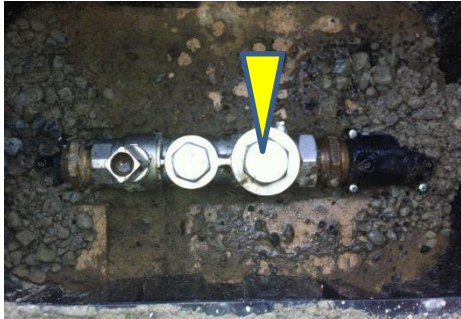
**Centre of structure
X Y**



As-Built requirements (WS)			
G11: WS Structure	Name	WS Structure (Outline) 	
	Line Type	G11 "Line Asset Inputs"	
	Outline features require at least three row entries in the CAT.		
	CAT Column	SAG Description	Valid Values
	A	Type of polygon feature	G11
	B	Specific type of structure	Select from pick list: domWSStructureType
	C	Existing or New asset	Select from pick list: domExistingOrNew
	D	Differs from design (yes/no)	Select from pick list: domDiffersFromDesign
	E	Unique identifier from drawing	data - text
	F	Polygon vertex Easting coordinate	data - decimal number
	G	Polygon vertex Northing coordinate	data - decimal number
	I	Number of vertex (point along outline)	data - text
	J	Predominant material of structure	Select from pick list: domStructureMaterial
	O	Name of main contractor whom installed asset	Data - text
	Q	Date of commission	data - date (dd/mm/yyyy)
R	Location certainty - accuracy of data	Select from pick list: domLocationCertainty	
T	Date of 'survey-start'	data - date (dd/mm/yyyy)	
U	Guideline revision used for survey	data - decimal number	
V	Type of security on access	Select from pick list: domAccessSecurity	
W	Volume in cubic metres	data - number	
X	Construction style (for tanks)	Select from pick list: domTankConstructionStyle	
<p>All corner points along outline to be surveyed. Create one CAT row per surveyed point.</p>			
Additional Information			
<p>*All other columns must be left "blank" or hold the value "LEAVE BLANK" as default in CAT Col I: enter number of vertex along outline Col W&X: leave blank/unchanged if N/A</p>			
		<p style="text-align: center;">Outline of structure X Y</p> 	

As-Built requirements (WS)			
G12: WS Restrictor	Name	WS Restrictor (Point)	
	Point Type	G12 "Point Asset Inputs"	
	CAT Column	SAG Description	Valid Values
	A	Type of point feature	G12
	B	Specific point feature	data - text
	C	Existing or New asset	Select from pick list: domExistingOrNew
	D	Differs from design (yes/no)	Select from pick list: domDiffersFromDesign
	E	Unique identifier from drawing	data - text
	F	Centre of structure in Easting coordinate	data - decimal number
	G	Centre of structure in Northing coordinate	data - decimal number
	L	Date of commission	data - date (dd/mm/yyyy)
	M	Location certainty - accuracy of data	Select from pick list: domLocationCertainty
	O	Name of main contractor whom installed asset	Data - text
	P	Date of 'survey-start'	data - date (dd/mm/yyyy)
	Q	Guideline revision used for survey	data - decimal number
W	Flow Rate in cubic metres/day	data - number	
Additional Information			
*All other columns must be left "blank" or hold the value "LEAVE BLANK" as default in CAT			

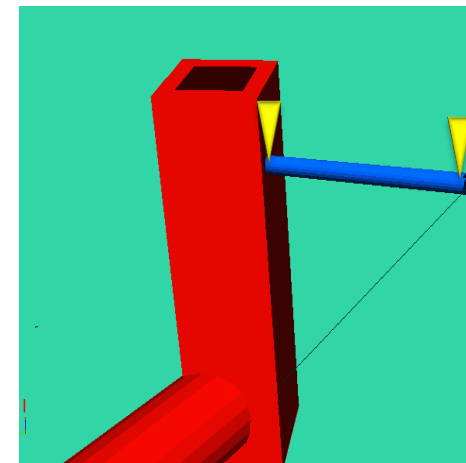
Centre of restrictor
X Y




As-Built requirements (WS)			
G15: Flush Tank Water Supply	Name	Flush Tank Water Supply (Line)	
	Line Type	G15 "Line Asset Inputs"	
	Line features require at least two row entries in the CAT.		
	CAT Column	SAG Description	Valid Values
	A	Type of line feature	G15
	B	Specific type of pipe	Select from pick list: domWSPipeType
	C	Existing or New asset	Select from pick list: domExistingOrNew
	D	Differs from design (yes/no)	Select from pick list: domDiffersFromDesign
	E	Unique identifier from drawing	data - text
	F	Line vertex Easting coordinate	data - decimal number
G	Line vertex Northing coordinate	data - decimal number	
H	Invert level at vertex	data - decimal number	
I	Number of vertex (point along line)	data - text	
J	Material of pipe	Select from pick list: domPipeConstruction	
K	Nominal diameter in mm	data - number	
N	Manufacturer of asset	Select from pick list: domManufacturer	
O	Name of main contractor whom installed asset	Data - text	
P	Pressure class (PN)	Select from pick list: domNominalPressureClass	
Q	Stiffness rating (SN)	Select from pick list: domStiffnessClass	
R	Concrete Load Class	Select from pick list: domConcreteLoadClass	
S	Date of commission	data - date (dd/mm/yyyy)	
T	Location certainty - accuracy of data	Select from pick list: domLocationCertainty	
U	Date of 'survey-start'	data - date (dd/mm/yyyy)	
W	Guideline revision used for survey	data - decimal number	
X	Average burial depth to invert of pipe	data - decimal number	
Y	Was the pipe laid in a trench? (yes/no)	Select from pick list: domTrenched	
Additional Information			
*All other columns must be left "blank" or hold the value "LEAVE BLANK" as default in CAT			
Col I: enter number of vertex along line starting with the downstream end			
Col W: accuracy 0.5m			



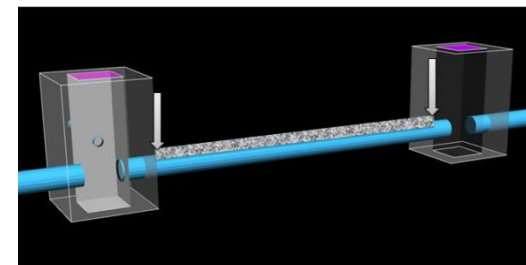
Centre of structure
X Y



All bends, start/end points to be surveyed.
Create one CAT row per surveyed point.

As-Built requirements (WS)			
G16: Structural Pipe Protection	Name	Structural Pipe Protection (Line) 	
	Point Type	G16 "Point Asset Inputs"	
	Line features require at least two row entries in the CAT.		
	CAT Column	SAG Description	Valid Values
	A	Type of line feature	G16
	B	Type of structural pipe protection	Select from pick list: domPipeProtectionType
	C	Existing or New asset	Select from pick list: domExistingOrNew
	D	Differs from design (yes/no)	Select from pick list: domDiffersFromDesign
	E	Unique identifier from drawing	data - text
	F	Line vertex Easting coordinate	data - decimal number
	G	Line vertex Northing coordinate	data - decimal number
	I	Number of vertex (point along line)	data - text
	O	Name of main contractor whom installed asset	Data - text
	Q	Date of commission	data - date (dd/mm/yyyy)
	R	Location certainty - accuracy of data	Select from pick list: domLocationCertainty
T	Date of 'survey-start'	data - date (dd/mm/yyyy)	
U	Guideline revision used for survey	data - decimal number	
<div style="border: 2px solid red; padding: 5px; display: inline-block;"> <p>Create one CAT row per surveyed point.</p> </div>			
Additional Information			
*All other columns must be left "blank" or hold the value "LEAVE BLANK" as default in CAT Col I: enter number of vertex along line starting with the downstream end			

**Pipe Protection
X Y**



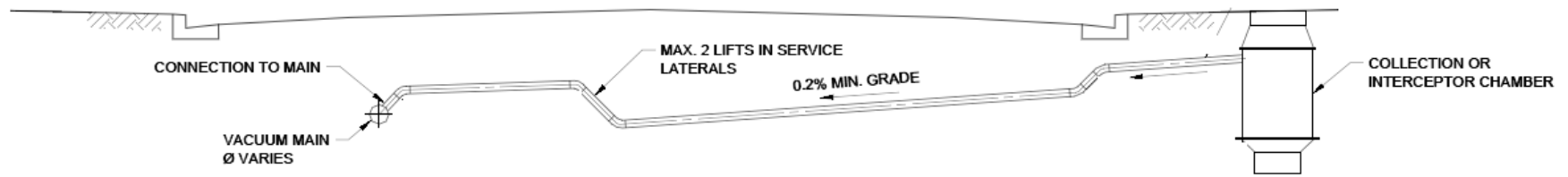
As-Built requirements (WS)			
G17: Air Gap Separator	Name	Air Gap Separator (Point)	
	Point Type	G17 "Point Asset Inputs"	
	CAT Column	SAG Description	Valid Values
	A	Type of point feature	G17
	B	Specific point feature	Air Gap Separator
	C	Existing or New asset	Select from pick list: domExistingOrNew
	D	Differs from design (yes/no)	Select from pick list: domDiffersFromDesign
	E	Unique identifier from drawing	data - text
	F	Centre of structure in Easting coordinate	data - decimal number
	G	Centre of structure in Northing coordinate	data - decimal number
K	Nominal diameter in mm	data - number	
L	Date of commission	data - date (dd/mm/yyyy)	
M	Location certainty - accuracy of data	Select from pick list: domLocationCertainty	
O	Name of main contractor whom installed asset	Data - text	
P	Date of 'survey-start'	data - date (dd/mm/yyyy)	
Q	Guideline revision used for survey	data - decimal number	
T	Manufacturer of asset	Select from pick list: domManufacturer	
V	Type of security on access	Select from pick list: domAccessSecurity	
Additional Information			
*All other columns must be left "blank" or hold the value "LEAVE BLANK" as default in CAT			

Centre of structure
X Y

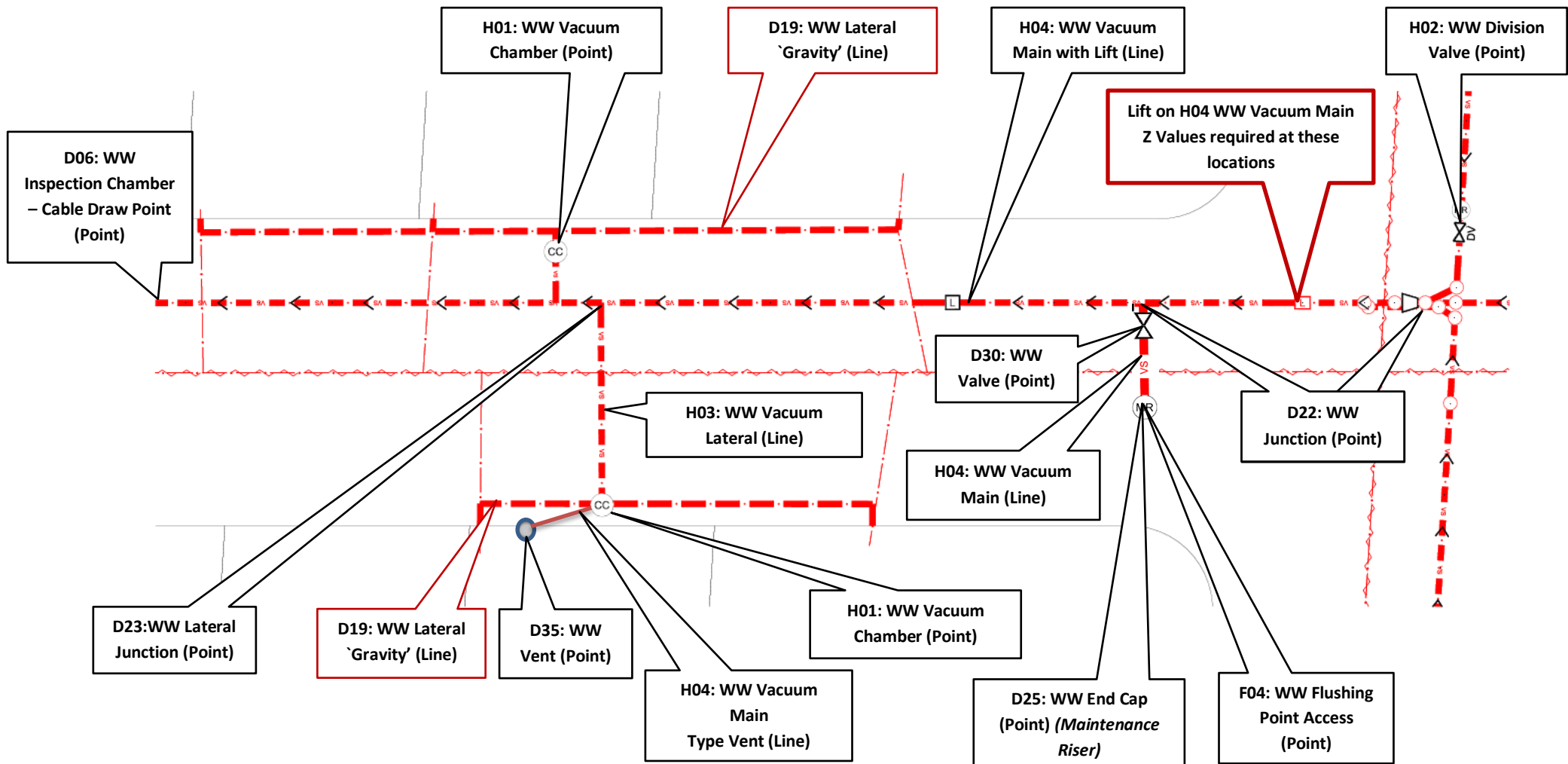


Appendix H As-built Requirements for Vacuum Wastewater System

H01: WW Vacuum Chamber	96
H02: WW Division Valve	95
H03: WW Vacuum Lateral.....	96
H04: WW Vacuum Main.....	97



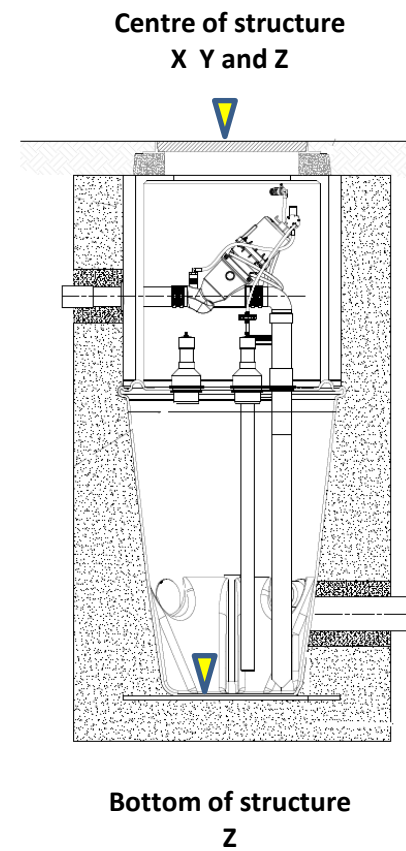
VACUUM SERVICE LATERAL TYPICAL SECTION



Wastewater Vacuum – Overview

As-Built requirements (WW)

H01: WW Vacuum Chamber	Name	WW Vacuum Chamber (Point)	●	
	Point Type	H01 "Point Asset Inputs"		
	CAT Column	SAG Description	Valid Values	
	A	Type of point feature	H01	
	B	Specific type of vacuum chamber	Select from pick list: domWWVacuumChamberType	
	C	Existing or New asset	Select from pick list: domExistingOrNew	
	D	Differs from design (yes/no)	Select from pick list: domDiffersFromDesign	
	E	Unique identifier from drawing	data - text	
	F	Centre of structure in Easting coordinate	data - decimal number	
	G	Centre of structure in Northing coordinate	data - decimal number	
	H	RL on lowest corner of lid	data - decimal number	
	J	RL at base of pit (lowest point)	data - decimal number	
	L	Date of commission	data - date (dd/mm/yyyy)	
	M	Location certainty - accuracy of data	Select from pick list: domLocationCertainty	
	O	Name of main contractor whom installed asset	Data - text	
	P	Date of 'survey-start'	data - date (dd/mm/yyyy)	
	Q	Guideline revision used for survey	data - decimal number	
	R	Trafficable or non trafficable structure	Select from pick list: domTrafficable	
	S	Shape of access lid	Select from pick list: domLidType	
	T	Manufacturer of asset	Select from pick list: domManufacturer	
	U	Construction material of chamber	Select from pick list: domAccessConstruction	
	V	Type of security on access	Select from pick list: domAccessSecurity	
	W	Serial number of tank	data - text	
	X	Capacity of tank in litres	data - decimal number	
	Y	Serial numbers of interface valves (divide by)	data - text	
Z	Manufacturer warranty term in years	data - decimal number		
AA	Number of interface valves in chamber	data - number		
AB	Has this chamber been installed with a bottom plate? (yes/no)	Select from pick list: domWWTankBottomPlate		
AC	Type of additional storage apart from this chamber	Select from pick list: domWWTankAdditionalStorage		
AD	Unique identifier for telemetry	data - text		
Additional Information				
*All other columns must be left "blank" or hold the value "LEAVE BLANK" as default in CAT				



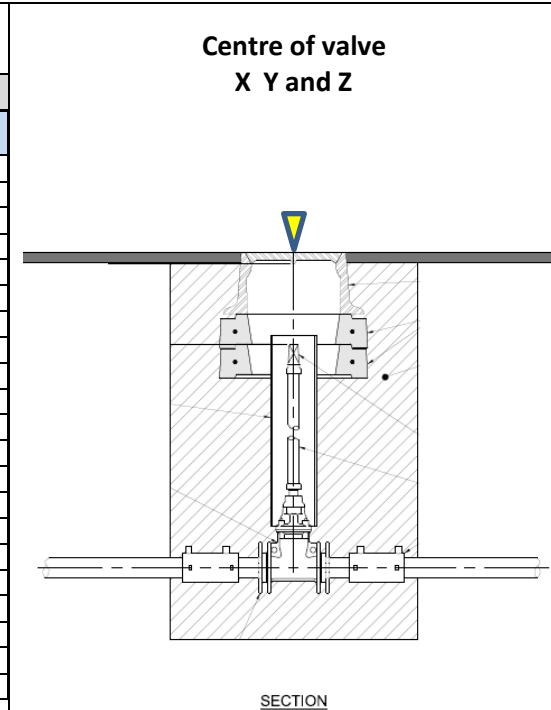
As-Built requirements (WW)


Name	WW Division Valve (Point)
Point Type	H02 "Point Asset Inputs"

H02: WW Division Valve

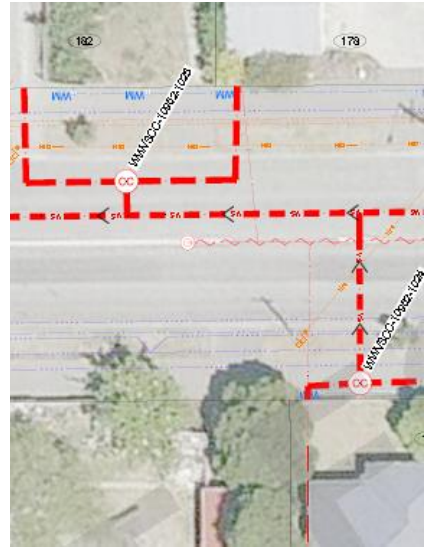
CAT Column	SAG Description	Valid Values
A	Type of point feature	H02
B	Type of valve	Select from pick list: domWWValveType
C	Existing or New asset	Select from pick list: domExistingOrNew
D	Differs from design (yes/no)	Select from pick list: domDiffersFromDesign
E	Unique identifier from drawing	data - text
F	Centre of structure in Easting coordinate	data - decimal number
G	Centre of structure in Northing coordinate	data - decimal number
H	Height above datum	data - decimal number
K	Nominal diameter in mm	data - number
L	Date of commission	data - date (dd/mm/yyyy)
M	Location certainty - accuracy of data	Select from pick list: domLocationCertainty
O	Name of main contractor whom installed asset	Data - text
P	Date of 'survey-start'	data - date (dd/mm/yyyy)
Q	Guideline revision used for survey	data - decimal number
R	Valve normal operating position - open or closed	Select from pick list: domValveNormalOperating
T	Manufacturer of asset	Select from pick list: domManufacturer
U	Valve closure rotation direction	Select from pick list: domClockwiseClose
W	Main function of valve	Select from pick list: domValveFunction
X	Valve control point	Select from pick list: domValveControlPoint
Y	Manual or motorised valve	Select from pick list: domValveActuation
Z	Manufacturer warranty term in years	data - decimal number

Additional Information
 *All other columns must be left "blank" or hold the value "LEAVE BLANK" as default in CAT



As-Built requirements (WW)			
H03: WW Vacuum Lateral	Name	WW Vacuum Lateral (Line)	
	Line Type	H03 "Line Asset Inputs" 	
	Line features require at least two row entries in the CAT.		
	CAT Column	SAG Description	Valid Values
	A	Type of line feature	H03
	B	Specific type of lateral	Select from pick list: domWWLateralType
	C	Existing or New asset	Select from pick list: domExistingOrNew
	D	Differs from design (yes/no)	Select from pick list: domDiffersFromDesign
	E	Unique identifier from drawing	data - text
	F	Line vertex Easting coordinate	data - decimal number
	G	Line vertex Northing coordinate	data - decimal number
	I	Number of vertex (point along line)	data - text
	J	Material of pipe	Select from pick list: domPipeConstruction
	K	Nominal diameter in mm	data - number
	N	Manufacturer of asset	Select from pick list: domManufacturer
	O	Name of main contractor whom installed asset	Data - text
	P	Pressure class (PN)	Select from pick list: domNominalPressureClass
	Q	Stiffness rating (SN)	Select from pick list: domStiffnessClass
	R	Concrete Load Class	Select from pick list: domConcreteLoadClass
	S	Date of commission	data - date (dd/mm/yyyy)
T	Location certainty - accuracy of data	Select from pick list: domLocationCertainty	
U	Date of 'survey-start'	data - date (dd/mm/yyyy)	
V	Guideline revision used for survey	data - decimal number	
W	Pipe Shape	Select from pick list: domPipeShape	
X	Average burial depth to invert of pipe	data - decimal number	
Y	Was the pipe laid in a trench? (yes/no)	Select from pick list: domTrenched	
Z	Do several units share this lateral? (yes/no)	Select from pick list: domLateralSharedConnection	
AA	Number of vacuum lifts (for vacuum pipes)	data - number	
AB	Type of lateral junction	Select from pick list: domEyeType	
AC	Distance of IP from lateral start (from connection to existing private lateral) in mm	data - number	
Additional Information			
*All other columns must be left "blank" or hold the value "LEAVE BLANK" as default in CAT Col I: enter number of vertex along line starting with the downstream end (also survey grade changes at lifts) Col W: accuracy 0.5m			

Lateral Pipe X Y



All bends, start/end points to be surveyed.
Create one CAT row per surveyed point.

As-Built requirements (WW)

Name	WW Vacuum Main (Line)
Line Type	H04 "Line Asset Inputs"



Line features require at least two row entries in the CAT.

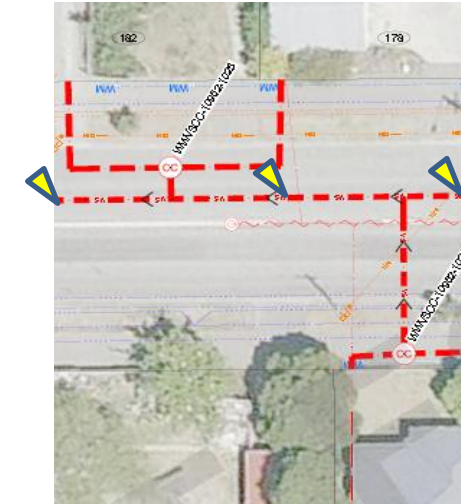
CAT Column	SAG Description	Valid Values
A	Type of line feature	H04
B	Specific type of pipe	Select from pick list: domWWPipeType
C	Existing or New asset	Select from pick list: domExistingOrNew
D	Differs from design (yes/no)	Select from pick list: domDiffersFromDesign
E	Unique identifier from drawing	data - text
F	Line vertex Easting coordinate	data - decimal number
G	Line vertex Northing coordinate	data - decimal number
H	Invert level at vertex	data - decimal number
I	Number of vertex (point along line)	data - text
J	Material of pipe	Select from pick list: domPipeConstruction
K	Nominal diameter in mm	data - number
L	At Pit - UID name from design drawing	data - text
M	To Pit - UID name from design drawing	data - text
N	Manufacturer of asset	Select from pick list: domManufacturer
O	Name of main contractor whom installed asset	Data - text
P	Pressure class (PN)	Select from pick list: domNominalPressureClass
Q	Stiffness rating (SN)	Select from pick list: domStiffnessClass
R	Concrete Load Class	Select from pick list: domConcreteLoadClass
S	Date of commission	data - date (dd/mm/yyyy)
T	Location certainty - accuracy of data	Select from pick list: domLocationCertainty
U	Date of 'survey-start'	data - date (dd/mm/yyyy)
V	Guideline revision used for survey	data - decimal number
W	Pipe Shape	Select from pick list: domPipeShape
X	Average burial depth to invert of pipe	data - decimal number
Y	Was the pipe laid in a trench? (yes/no)	Select from pick list: domTrenched
Z	Number of vacuum lifts (for vacuum pipes)	data - number

H04: WW Vacuum Main

Additional Information

*All other columns must be left "blank" or hold the value "LEAVE BLANK" as default in CAT
 Col I: enter number of vertex along line starting with the downstream end (also survey grade changes at lifts)
 Col W: accuracy 0.5m
 See Appendix C.2.4 for a CAT example.

Main Pipe X Y and Z



Z values at change of grade

All bends, lifts, start/end points to be surveyed.
 Create one CAT row per surveyed point.

Notes : - Please refer to appendices D & I for pickups of other assets which may be associated with a Wastewater Vacuum System

- D06 WW Inspection Chamber
- D10 WW Square Manhole Non Vented
- D12 WW Circular Manhole Non Vented
- D19 WW Gravity Lateral
- D22 WW Junction
- D24 WW Inspection Point
- D25 WW End Cap
- D26 WW Thrust Block
- D28 WW Pump
- D30 WW Valve
- D35 WW Vent
- I04 WW Pump Station Structure