STORMWATER DRAINAGE SPECIFICATION

‘City Spec’

Specifications for Drainage Digital Spatial Data at the City of Albany

Version 1.4
2026

INDEX

1. The Stormwater Drainage Specification

As part of the CITY OF ALBANY SPATIAL DATA SPECIFICATION 'City Spec' the Stormwater Drainage Specification focus on both formed and natural drainage that the City of Albany have to maintain or be aware of. It captures both asset and some engineering details that allow not only for financial reporting and maintenance of assets but also to support future design and development.

The underpinning spatial standards are defined in the parent document, CITY OF ALBANY SPATIAL DATA SPECIFICATION 'City Spec'.

The STORMWATER DRAINAGE SPECIFICATION is a requirement of the City of Albany to streamline the processes undertaken for all drainage asset capturing and maintenance of this data in its geographic information systems (GIS).

This specification is for use by any Developers and Surveyors (hereafter referred to as "Consultants") who undertake Land Development or Capital Works activities that have to be recorded by the City of Albany.

This also includes any related construction activities undertaken by the City of Albany.

2. Contract Deliverables

2.1. Digital Spatial Data File Format

All data is to be supplied in the format specified by the City of Albany:
1. Preferred: ESRI Shapefile, FileGDB,
2. Not Acceptable unless agreed: CADD DXF/DWG + EXCEL/CSV(Attribute Table)
3. Not Acceptable: standalone PDF or hardcopy of Plan

2.2. Submission Metadata File & PDF

A readme.txt file is a simple text file that contains information about the project the digital data is being provided for and must accompany every digital data submission.

A pdf of the submission is to be included as part of the delivery with each layer visible in the legend. There are no requirements for standardised symbology or for attribute tables to be separate to the spatial data.

Label	Description	Example
PROJECT	Project name	Wyndham Estate
STAGE	Subdivision Stage Name	Stage 3B
DATE SUBMITTED	Date the digital data submitted	31/1/2008
COMPANY	Company name taking responsibility for the data	Work Force
SURVEY NUMBER/REF	Company survey reference	A1
CONTACT	Contact name for this project	John Somebody
TELEPHONE	Telephone number	(08) 5555 1234
EMAIL	Email address (as applicable)	johns@workforceco.com.au
MAILING ADDRESS	Mailing address	Level 19 Lower St, Blackhouse Sth, WA, 6000
PHYSICAL ADDRESS	Physical business address	“As Above”
DATUM/PROJECTION	The coordinate system the data is in. Please note the City of Albany only uses GDA94 Zone 50.	GDA94 Zone 50
TRANSFORMATION	The coordinate system the data was transformed from	E.g. Albany Grid ALB94 to GDA94 Zone50
DATA FORMAT & VERSION	Details about the software and file version used to create the digital data	E.g. ArcPro 3.2, Arc Desktop, QGIS
NOTES	Important notes or information to be included here.	Any other relevant information that the data custodian needs to be aware of.

2.3. Submission Media

The following are acceptable methods for providing the digital data files.

- Email to the City of Albany cityassets@albany.wa.gov.au with the relevant project officer CC’d. (File size limitation is 15 megabytes)

3. Graphical Specifications

3.1. Theme/Layer Structure

The following information is provided as the structure when putting together the spatial information.

Depending on the asset to be captured, not all the layers indicated here may appear in submitted data.

It is important to note that each layer should only contain the listed features; any other features present will impede the acceptance testing.

Layer	Feature Type	Description	Attributes
DRAINAGE PITS	Point	Specifies pits and related structures as part of the drainage network	**Attribute**
DRAINAGE PIPES	Polyline	Specifies drainage network as a whole	**Attribute**
WATER BODIES	Polygon	Specifies the area of the features for. Basins, Wetlands and Lakes	**Attribute**
SWALES	Polygon	Specifies the area of the trench indicating the location of a Swale	**Attribute**

3.2. Graphical Data Construction Principals

This section details the graphical data construction principles that must be adhered to for all features (polygons, lines, points).

Please use sound practices when recording data, such as snapping to lines or points, closing polygons and directional graphing in the direction of flow.

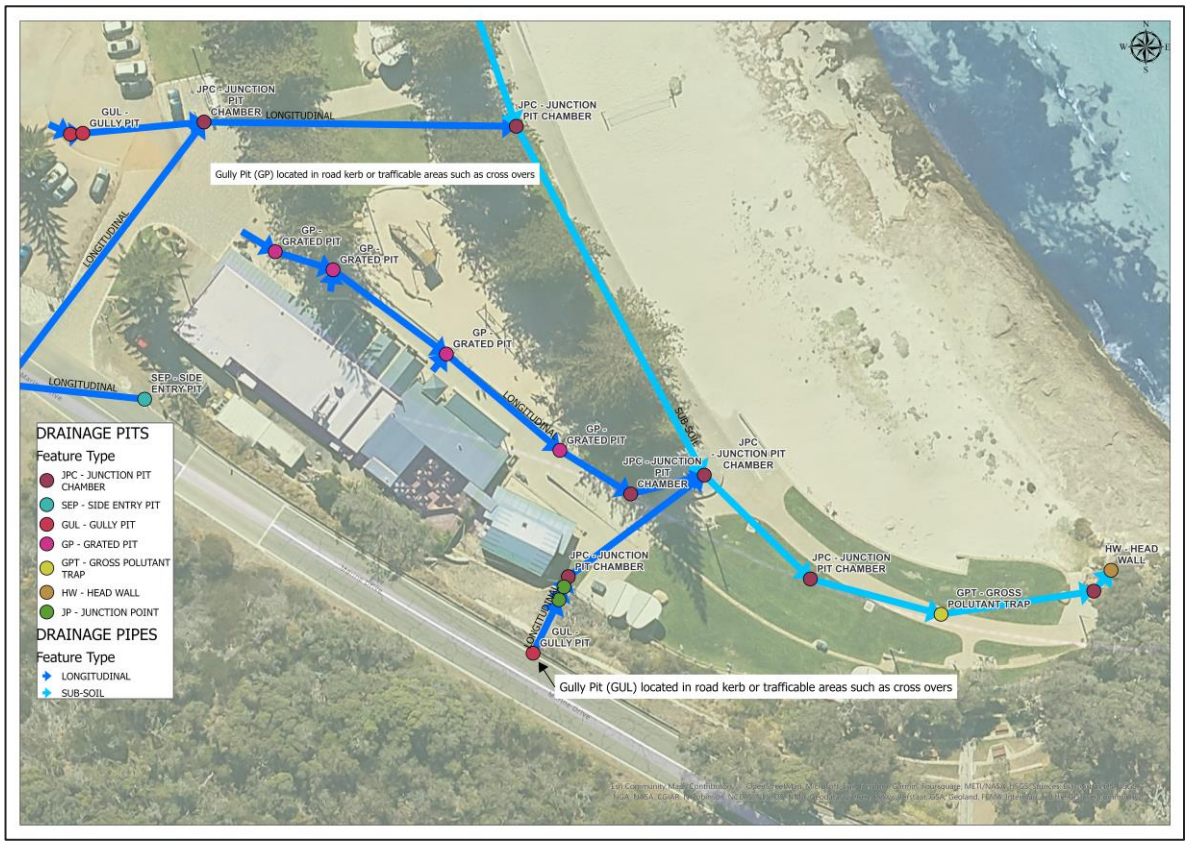
3.2.1. Drainage Pits

Each pit shall be depicted by a single point feature.

Drainage pits include pits with chambers as well as other structures including headwalls, weirs and outlets. The drainage pit layer also includes points recorded to represent a change of grade or the end of a pipe with no actual structure.

It is important to note that the pipe ends must snap to match to the pits (Map 1).

The attributes for this layer are specified in Table 4.1.



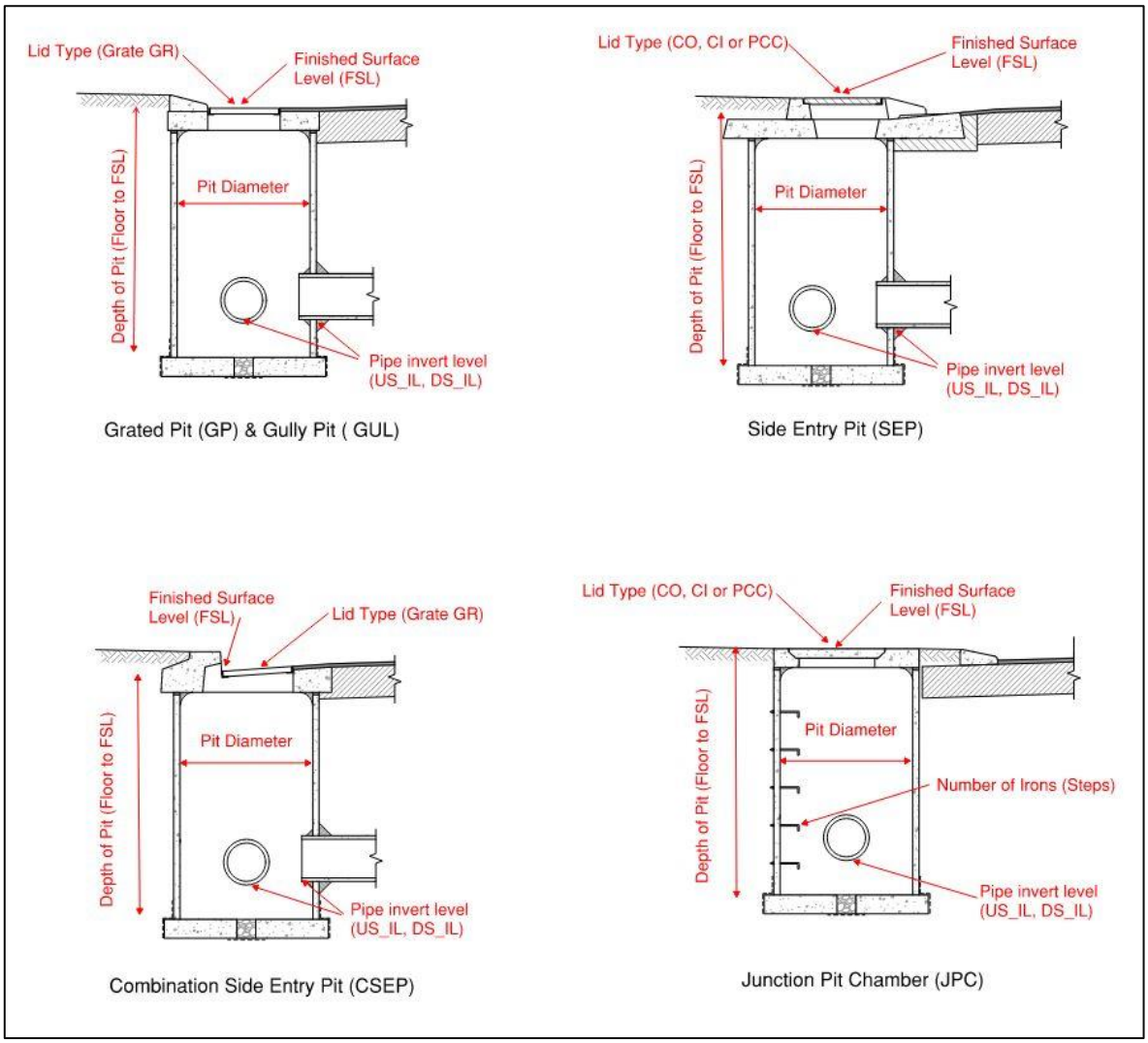
Map 1: Drainage Pit Types & Drainage Pipe Types

3.2.1.1. Pits with Chambers

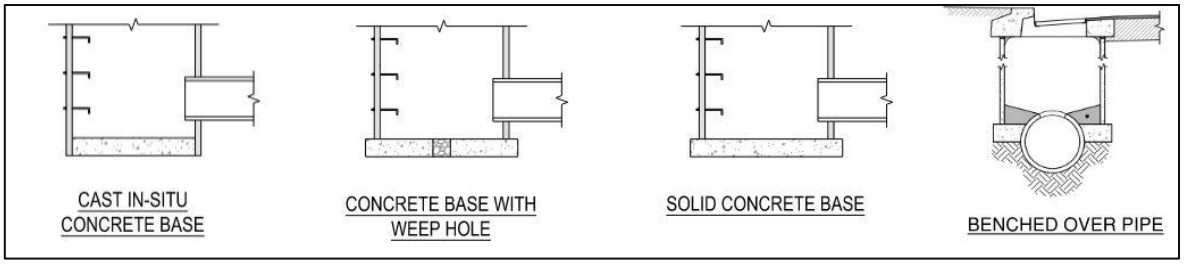
Includes chambered junction pits (JPC), grated and gully pits (GP & GUL), side entry pits (SEP), combination side entry pits (SEPG), soak wells (SOAK) and bubble-up pits (BUP)

Drawing 1 Depicts:

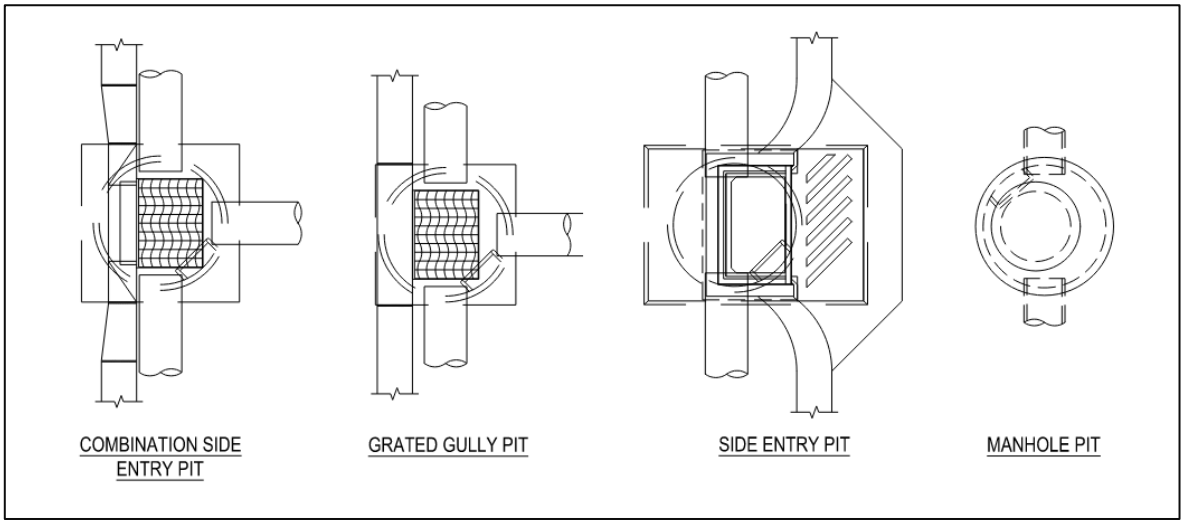
- Pits must be depicted by a single point
- The point must be representative of the FSL (Finished Surface Level)
- For regular shaped pits (i.e. round, rectangular or square) the coordinates are to be in the centre of the structure, generally where the pipes would intersect.
- Pipe ends must snap to the pit location
- Each pit has attributes to capture the floor type (Drawing 2)
- Each pit has attributes to capture the floor types (Drawing 3)



Drawing 1: Pits with chambers



Drawing 2: Pit Floor Types

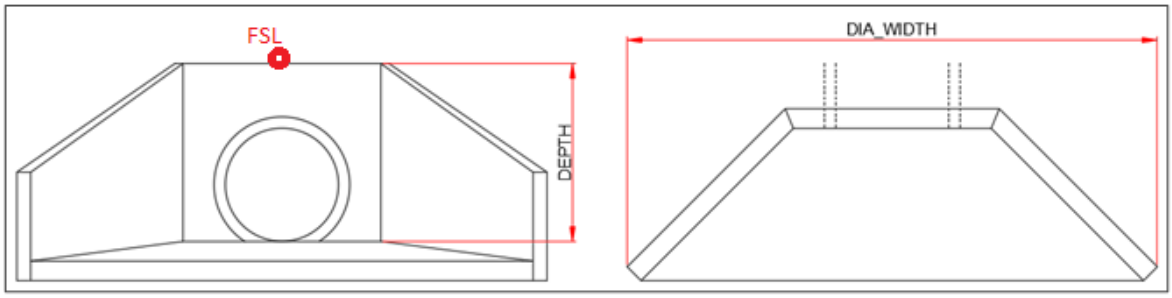


Drawing 3: Pit Lid Types

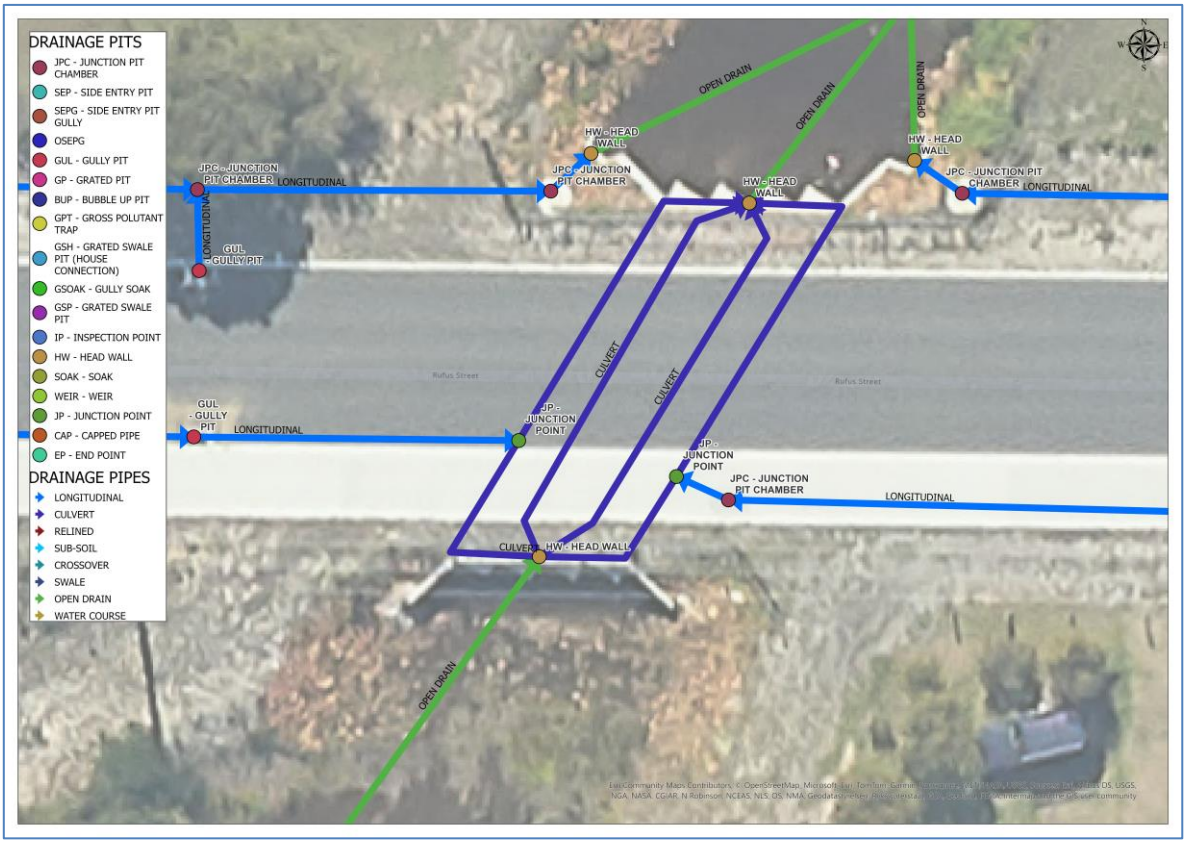
3.2.1.2. Headwalls

Drawing 4 Depicts:

- Headwalls must be depicted by a single point
- The point must be representative of the FSL (Finished Surface Level) and taken at the top of the headwall structure. Depth is the measurement to the invert of the pipe
- Pipe ends must snap to the pit location
- Where multiple pipes terminate at a single headwall the pipes are to be drawn without overlap but snapped to the pit (Map 2)
- Fields for Lid Type and Floor Type are to be 'Null' for Headwalls



Drawing 4: Headwall Attributes



Map 2: Pipe & Pit Connections

3.2.2. Drainage Pipes & Property Connections

Pipe features include constructed pipes such as longitudinal pipes, culverts, sub-soil, pipes that have been relined and crossovers. Pipes also include open drains and natural waterways that are part of the stormwater network. It is important to note that the pits and pipe ends must snap to match to the pits (Drawing 4).

Pipe end coordinates are used to match to pits. If they do not match, the acceptance testing will fail depending on the severity. A small number of errors may be corrected by the City of Albany, but excessive errors will result in processing delays and charges may be incurred by the consultant.

The attributes for this layer are specified in Table 4.2

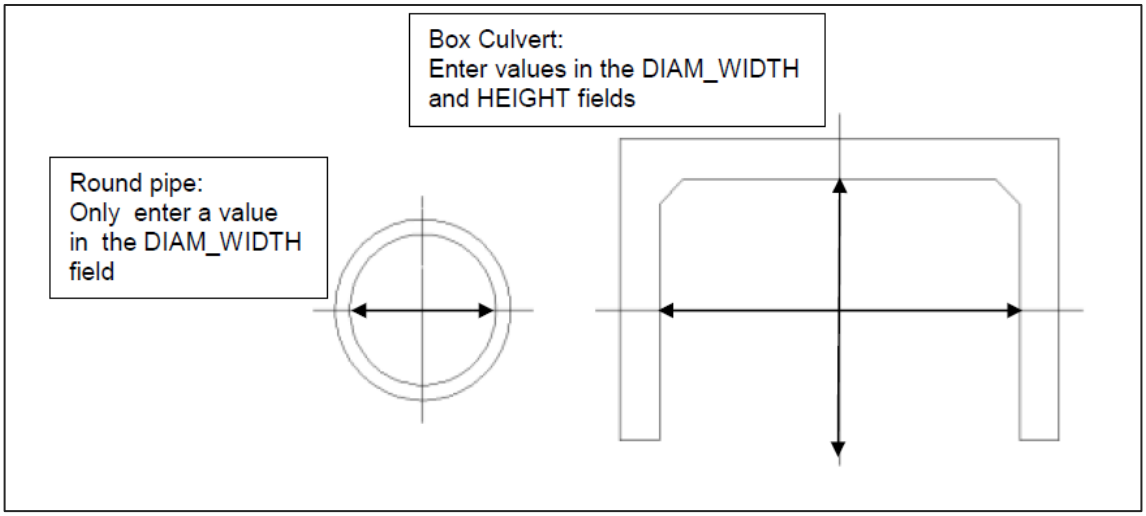
Each pipe shall be depicted by a single continuous line representative of the centreline of that pipe section. There is no attribute allowed to indicate multiple pipes per line feature. If multiple pipes are connected to a pit, they are to be drawn with an offset, so they do not overlap (see Map 2).

A property connection is any single (or sometimes dual) connection into the drainage network from private properties, being residential or commercial. In previous versions of the specification this was a separate layer to the pipes layer. For consistency, property connection pipes have been incorporated into the pipe layer with a new feature type. Property connections are to be noted with the correct ownership of private to distinguish responsibilities

Note that private properties containing drainage infrastructure in easement(s) are to the benefit of the City and must be captured as defined in the PITS and PIPES sections with ownership correctly noted. In addition to this, it is not a requirement to provide any information of a network on private property (such as private car parks that are not in an easement), but it is strongly recommended to do so, if possible (see pits and pipes owner attribute), especially if it is a substantial connection that significantly impacts the drainage network.

Map 2Depicts:

- Each pipe section shall run continuously between pits and is to be broken only at pit intersections, with exceptions of :
    - Open drains and swales
    - Multiple pipes connecting to a headwall
    - Subsoil drainage (like aggregated subsoil drains not connecting to a pit)
- Each pipe section is to be captured in the direction of its flow
- A pit of type ‘JP’ must also be provided for any combination of the following instances:
    - changes in grade along a pipe section
    - changes in direction along a pipe section



Drawing 5: Pipe Dimensions

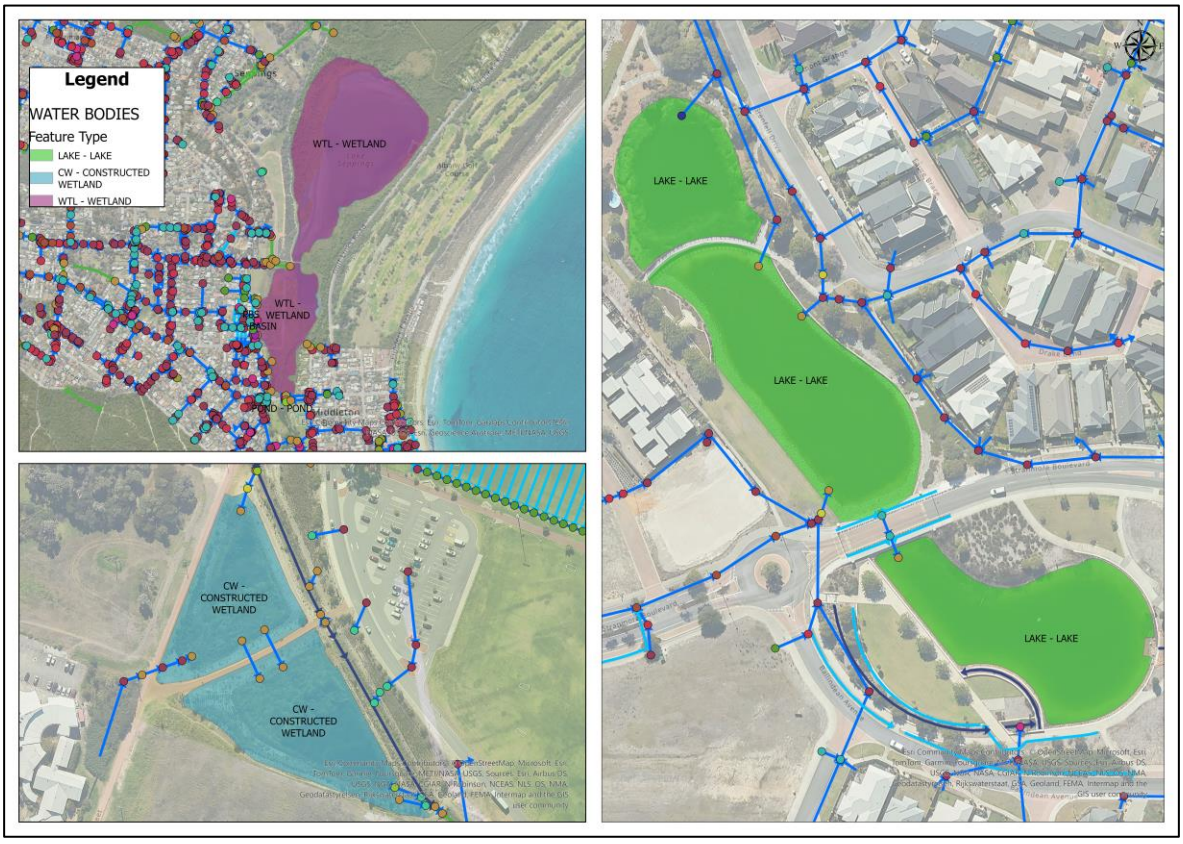
3.2.3. Water Bodies

The features depicted in this section relate to areas of land or water bodies for water retention and attenuation and not as stormwater conveyance mechanisms.

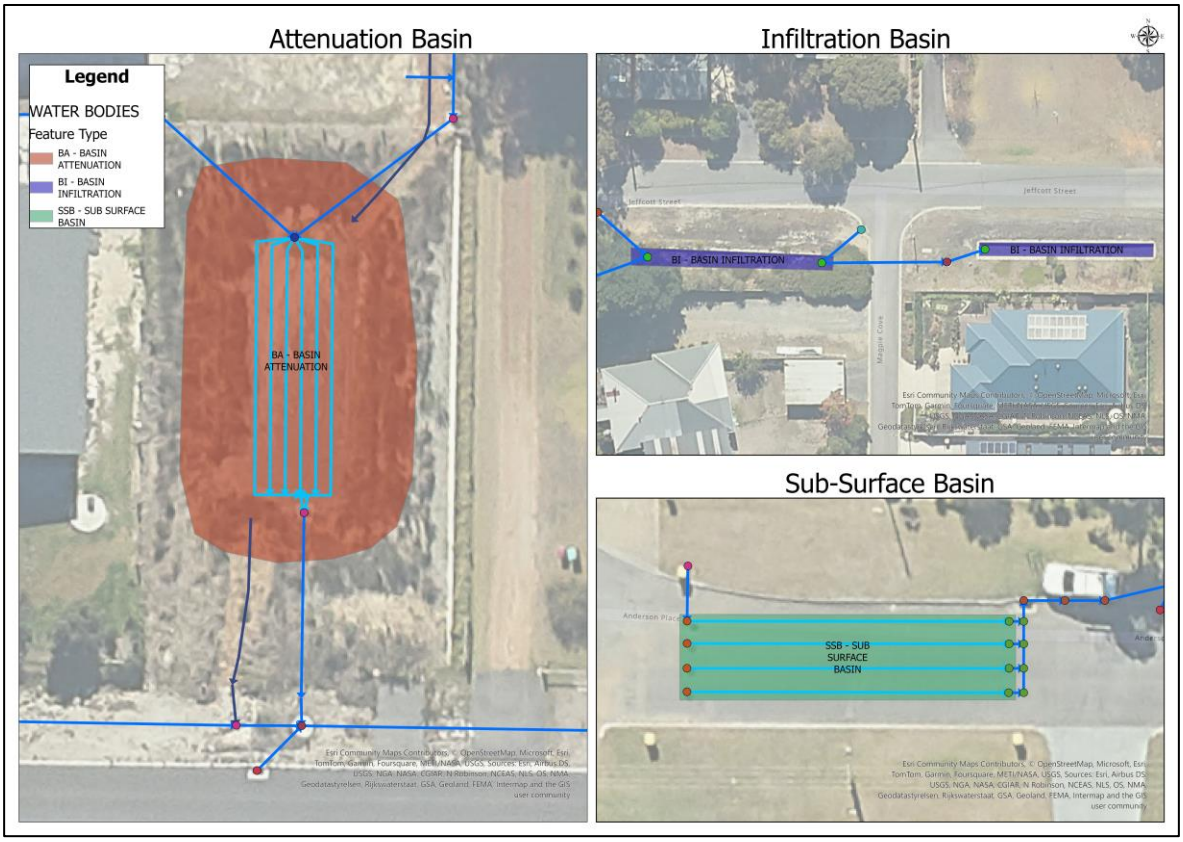
These include both naturally occurring features such as wetlands and lakes as well as constructed features such as basins for infiltration and attenuation and constructed wetlands for intense sediment and nutrient treatments.

The attributes for this layer are specified in Table 4.3

Each water body area shall be depicted by one polygon representing the size of the area i.e. top or maximum surface area (Map 3 & Map 4).



Map 3: Lakes, Wetlands & Constructed Wetlands



Map 4: Attenuation Basins, Infiltration Basins & Sub-Surface Basins

3.2.4. Swales

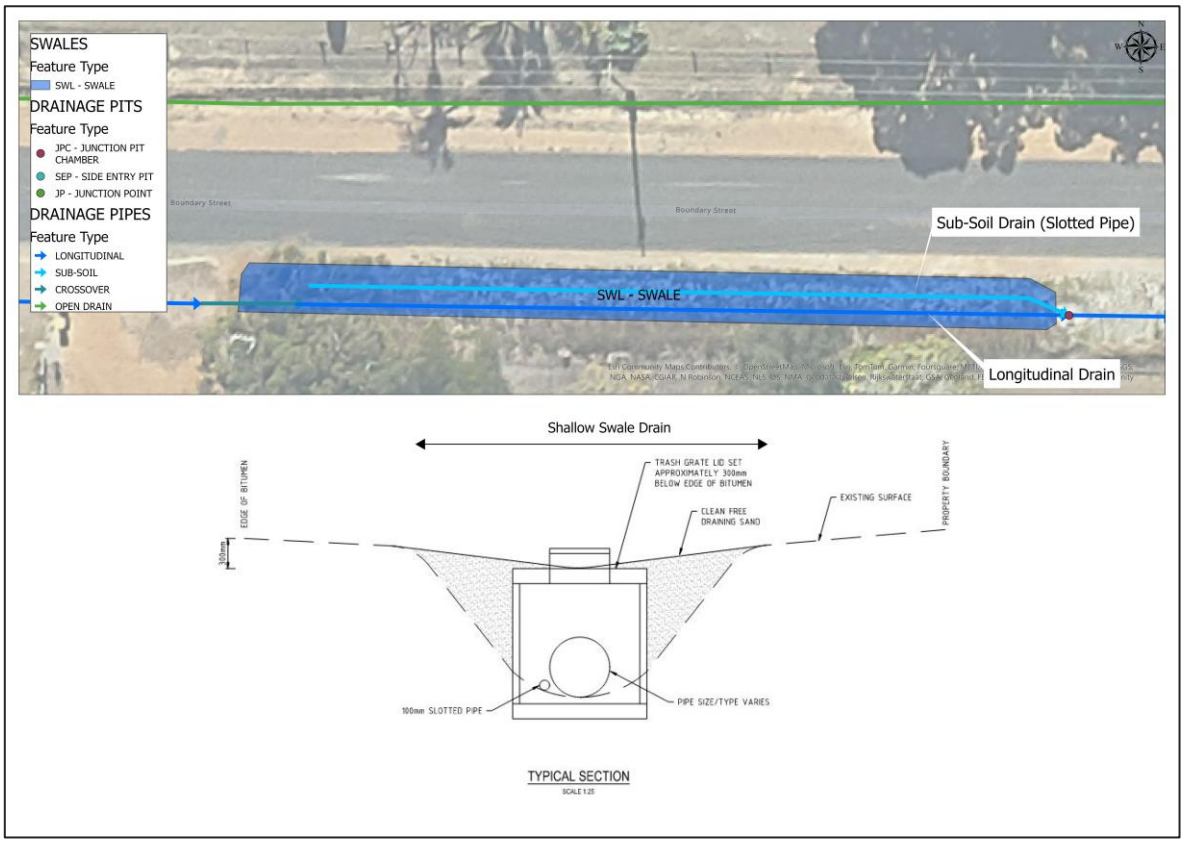
Swales are grassed or vegetated broad, shallow channels used to collect and convey stormwater flows. Swales can be used in lieu or in conjunction with a pipe network to convey stormwater.

The attributes for this layer are specified in Table 4.4

Each swale area shall be depicted by two graphical components:

1. An area representing the size of the swale trench
    a. The swale trench is to be depicted by a polygon
    b. Generally, represents the surface area of the trench, “top of bank”
2. A collection trench at the base of the swale, “bottom of trench”
    a. These features are captured as part of the PIPE network, section 3.2.2 Pipes.
    b. The surface material of the swale is to be captured on the PIPE layer, there is no requirement to capture material of the polygon.

Please be aware that where there are instances of swale trenches in-between driveway crossovers that they must be separate polygons depicting each section of the swale.



Drawing 6: Shallow Swale Drain with Piped Infrastructure

3.3. Acceptance Testing

Please note that the STORMWATER DRAINAGE SPECIFICATION reflects the City of Albany's requirements to record the asset. Contractual and compliance requirements, such as provision of marked-up drawings, are separate to this specification.

! The drainage network shall be a single continuous file/drawing (not tiled or split in any form). Non-compliance will result in failing the acceptance testing.

! Attributes must comply with all the specifications in Section 4. Non-compliance will fail the acceptance testing.

! Please note that Data Validation is implied by the feature type, attribute data types and content descriptions provided in Section 4. Contractors still must ensure the data is correct.

3.4. Matching to Existing Infrastructure

It is the responsibility of the consultant to ensure the "As Constructed" digital data of the assets are related to the current digital drainage data held by the City of Albany.

The City of Albany will make available an extract of any digital drainage data held in their GIS that cover the specific project area. In some instances, there may not be any data available or available data may not have been verified.

! Submissions must include all required attributes of the existing infrastructure that the new assets are connecting to. This allows for verification of existing drainage data and creates a 'tie-in' reference for the new infrastructure.

4. Attribute Specifications

All submissions will be provided in the preferred datum of City of Albany (MGA50 & AHD) as described in the CITY OF ALBANY SPATIAL DATA SPECIFICATION framework.

As all new cadastral information is placed on the MGA grid it is an expectation that all data provided by Contractors will be representative of this level of accuracy.

- All fields are to be populated in accordance with the notes and codes supplied in this document.
- All attribute files are to use the Column Names and Data Types set out in this section. Column names are restricted to 10 characters for compatibility (i.e. for ESRI Shape-files).
- All attributes marked with an **M** in the tables must be provided and will fail the acceptance testing if not provided. **M = Mandatory Attribute**
- Attributes marked with **IO** can be left unfilled. **IO = Inhouse Only**

4.1. DRAINAGE_PITS

	Column Name	Data Type	Max Length	Constraint	Contents
PIT & CHAMBER DETAILS					
M	FEAT_TYPE	Alpha	5 chars	No commas	Type of pit (Table 5.1)
M	CON_TYPE	Alpha	5 chars	No commas	Construction Type (Table 5.2)
M	DIA_WIDTH	Whole Number	n/a	Whole mm	Diameter of circular pit or diameter of associated pipe for headwalls
	LENGTH	Whole Number	n/a	Whole mm	Width of pit if not circular
M	FSL	Decimal Number	n/a	2 decimal metres	Finished Surface Level (FSL) of Pit (Drawing 1)
M	DEPTH	Decimal Number	n/a	2 decimal metres	Natural or Finished Surface level to bottom of pit relative to FSL.A 'down measure' depicted in Drawing 1.
M	FLOOR_TYPE	Alpha	5 chars	No commas	Floor/Base of pit (Table 5.4)
M	NO_OF_IRONS	Whole Number	n/a	0 if none	Number of installed step irons
M	LITTER_TRP	Alpha	1 char	Yes/No field	Litter Trap is installed
M	PLACE_DATE_PIT	Date	n/a	dd/mm/yyyy	Construction Date
M	PIT_CONDITION	Whole Number	n/a	Whole Number	Asset Condition Rating (Table 6.1)
LID DETAILS					
M	LID_TYPE	Alpha	5 chars	No commas	Lid Construction Type (Table 5.3)
	CYCLE_SAFE	Alpha	1 char	Yes/No field	Specific to Grate-style lids
M	PLACE_DATE_LID	Date	n/a	dd/mm/yyyy	Construction Date
M	LID_COND	Whole Number	n/a	Whole Number	Asset Condition Rating classification (Table 6.2)
AUDIT FIELDS					
	COND_BY	Alpha	15 chars	No commas	Initials of person completing the condition survey
IO	FIELD_REF	Alpha/Numeric	10 chars	No commas	A unique field reference to this asset. First characters are derived from the feature type with the numeric values derived from the Object ID.
	SOURCE_REF	Alpha/Numeric	20 chars	No commas	Surveyors Job Reference
	SOURCE	Alpha/Numeric	100 chars	No commas	Additional details related to the survey or accompanying documents
	WAPC_NO	Alpha/Numeric	20 chars	No commas	Western Australian Planning Commission reference number; or 'n/a'
M	LAST_AUDIT	Date	n/a	dd/mm/yyyy	Install date if new, or date of the audit
	EXPEC_LIFE	Whole Number	n/a	Years	Expected life in years

	REPL_COST	Decimal Number	n/a	Currency	Replacement cost of asset as new
M	OWNER	Alpha/Numeric	5 chars	No commas	Responsible Entity (Table 5.9)
IO	COA_REF	Alpha/Numeric	20 chars	No commas	Synergy file or record number
	COMMENTS	Alpha/Numeric	150 chars	No commas	Any additional comments that relate to this feature

4.2. DRAINAGE_PIPES

	Column Name	Data Type	Max Length	Constraint	Contents
M	FEAT_TYPE	Alpha	15 chars	No commas	Type of Pipe (Table 5.5)
M	MATERIAL	Alpha	5 chars	No commas	Pipe material (Table 5.6)
M	DIA_WIDTH	Whole Number	n/a	In millimetres	Pipe Diameter if circular (Drawing 4)
	HEIGHT	Whole Number	n/a	In millimetres	Side Height if a culvert or non-circular pipe (Drawing 5)
M	US_IL	Decimal Number	n/a	2 decimal metres	Invert Level at the Upstream side of pipe
M	DS_IL	Decimal Number	n/a	2 decimal metres	Invert Level at the Downstream side of pipe.
M	PLACE_DATE	Date	n/a	dd/mm/yyyy	Construction Date
	REDUNDANT	Alpha/Numeric	5chars	Yes/No field	Is the pipe still insitu but not in use
	CONDITION	Whole Number	n/a	Whole Number	Asset Condition Rating classification (Table 6.3)
	VISUALS	Alpha	255 chars	No commas	Relative path to a video or image file associated with the pipe linked by Field Reference
AUDIT FIELDS					
	COND_BY	Alpha	15 chars	No commas	Initials of person completing the condition survey
IO	FIELD_REF	Alpha/Numeric	10 chars	No commas	A unique field reference to this asset. First characters are derived from the feature type with the numeric values derived from the Object ID.
	SOURCE_REF	Alpha/Numeric	20 chars	No commas	Surveyors Job Reference
	SOURCE	Alpha/Numeric	100 chars	No commas	Additional details related to the survey or accompanying documents
	WAPC_NO	Alpha/Numeric	20 chars	No commas	Western Australian Planning Commission reference number; or ‘n/a’
M	LAST_AUDIT	Date	n/a	dd/mm/yyyy	Install date if new, or date of the audit
	EXPEC_LIFE	Whole Number	n/a	Years	Expected life in years
	REPL_COST	Decimal Number	n/a	Currency	Replacement cost of asset as new
M	OWNER	Alpha/Numeric	5 chars	No commas	Responsible Entity (Table 5.9)
IO	COA_REF	Alpha/Numeric	20 chars	No commas	Synergy file or record number
	COMMENTS	Alpha/Numeric	150 chars	No commas	Any additional comments that relate to this feature

4.3. WATER BODIES

	Column Name	Data Type	Max Length	Constraint	Contents
M	FEAT_TYPE	Alpha	5 chars	No commas	Feature type EG: Lake (Table 5.7)
M	TOP_RL	Decimal Number	n/a	2 decimal places	Top bank level of the system
	BOTT_RL	Decimal Number	n/a	2 decimal places	Bottom bank level of the system
M	PLACE_DATE	Date	n/a	dd/mm/yyyy	Construction
I	CONDITION	Whole Number	1 chars	Whole Number	Condition rating of the Water Bodies (Table 6.4)
AUDIT FIELDS					
I	COND_BY	Alpha	15 chars	No commas	Condition surveyor
IO	FIELD_REF	Alpha/Numeric	10 chars	No commas	A unique field reference to this asset. First characters are derived from the feature type with the numeric values derived from the Object ID.
	SOURCE_REF	Alpha/Numeric	20 chars	No commas	Surveyors Job Reference
	SOURCE	Alpha/Numeric	100 chars	No commas	Additional details related to the survey or accompanying documents
	WAPC_NO	Alpha/Numeric	20 chars	No commas	Western Australian Planning Commission reference number; or ‘n/a’
M	LAST_AUDIT	Date	n/a	dd/mm/yyyy	Install date if new, or date of the audit
M	OWNER	Alpha/Numeric	5 chars	No commas	Responsible Entity (Table 5.9)
IO	COA_REF	Alpha/Numeric	20 chars	No commas	Synergy file or record number
	COMMENTS	Alpha/Numeric	150 chars	No commas	Any additional comments that relate to this feature

4.4. SWALES

	Column Name	Data Type	Max Length	Constraint	Contents
M	FEAT_TYPE	Alpha	5 chars	No commas	Feature type (Table 5.8)
M	DS_IL	Decimal Number	n/a	2 decimal places	Downstream end-of-swale Invert Level at the surface
M	US_IL	Decimal Number	n/a	2 decimal places	Upstream end-of-swale Invert Level at the surface
M	PLACE_DATE	Date	n/a	dd/mm/yyyy	Construction Date
	CONDITION	Whole Number	n/a	Whole number	Condition rating of Swale as defined in (Table 6.5)
AUDIT FIELDS					
I	COND_BY	Alpha	15 chars	No commas	Condition surveyor
IO	FIELD_REF	Alpha/Numeric	10 chars	No commas	A unique field reference to this asset. First characters are derived from the feature type with the numeric values derived from the Object ID.
	SOURCE_REF	Alpha/Numeric	20 chars	No commas	Surveyors Job Reference
	SOURCE	Alpha/Numeric	100 chars	No commas	Additional details related to the survey or accompanying documents
	WAPC_NO	Alpha/Numeric	20 chars	No commas	Western Australian Planning Commission reference number; or ‘n/a’
M	LAST_AUDIT	Date	n/a	dd/mm/yyyy	Install date if new, or date of the audit
M	OWNER	Alpha/Numeric	5 chars	No commas	Responsible Entity (Table 5.9)
IO	COA_REF	Alpha/Numeric	20 chars	No commas	Synergy file or record number
	COMMENTS	Alpha/Numeric	150 chars	No commas	Any additional comments that relate to this feature

5. Code Lists

Code lists are used to standardise terminology by providing a list of item descriptions relating to a particular attribute. A number of attributes specified in Section 4 require the input of these codes.

Consultants please note that should a code not exist within an attribute code list, mark the entity as code UNK, then write the new code and an appropriate description in the comment field. Please pre-empt this situation by communicating such anomalies to the City of Albany promptly (email: cityassets@albany.wa.gov.au).

5.1. Pit Type

Code	Description	Comment
EP	End point	Use when no Headwall or Pit
CAP	Capped pipe	Temporary cap placed for future connection. Lid type = UNK, Con Type = UNK
BUP	Bubble Up Pit	End of line/pressure relief
GP	Grated Pit	Pit with grated lid not in trafficable locations. Pit lid type = GR
GUL	Gully Pit	Grated Pit constructed along road kerb or in crossovers. Grated Pits where traffic management is required. Pit lid type = GR
GPT	Gross pollutant trap	Provide details in comments field
HW	Headwall	End treatment for pipes, use this description for both upstream and downstream treatments. Lid type = 'UNK'.
IP	Inspection Point	Access point to underground structure
JP	Junction Point	To be placed at a change of grade or direction of pipe, or an intersection of pipes with no constructed pit. Lid Type ='UNK', Floor type = UNK, Dia Width = NULL, Length = NULL
JPC	Junction Pit with Chamber	Pit with associated chamber
SEP	Side Entry Pit	
SEPG	Side Entry / Gully Pit. Also called a Combination SEP	Side Entry / Gully Pit combination. Pit lid type = Lid of SEP not the grate component.
SOAK	Soak	Pit fitted with weepholes in sides
WEIR	Weir	Provide details in Comments field
UNK	Unknown	Use when not known

5.2. Pit Construction Type

Code	Description	Comment
PC	Pre-cast	Concrete pre cast
CIS	Cast in-situ	Concrete in-situ

CO	Concrete	Use if unknown concrete type
PCC	Pre-Cast Concrete	Commercially produced concrete product
BRK	Brick	Brick and mortar
RBRK	Rendered Brick	Brick rendered with in-situ concrete
STN	Stone	Generally, a mortared stone
TMB	Timber	
ERT	Earth	
PVC	PVC	
UNK	Unknown	Use when not known

5.3. Pit Lid Type

Code	Description	Comment
CI	Concrete Insert	Pre-Cast Concrete Inserts
CO	Concrete solid	Use if unknown concrete type
GA	Steel-Trafficable	Gatic™ style product, steel frame concrete filled
GR	Grate	
TG	Trash Grate	Raised grate to allow water flow to bubble-p pits
PVC	PVC	
UNK	Unknown	Use when not known

5.4. Pit Floor Type

Code	Description	Comment
CPC	Concrete Pre Cast - Solid	Solid concrete base
CPW	Concrete Pre cast with weephole	Concrete base with soakage weephole
CIS	Cast in-situ	Concrete floor cast in-situ
AGG	Aggregate	Loose aggregate-filled
BENCH	Benched over pipe	Pit placed over existing pipe
UNK	Unknown	Use when not known

5.5. Pipe Type

Code	Description	Comment
LONGITUDINAL	Longitudinal	Constructed circular pipe
OPEN DRAIN	Constructed Open Drain	Managed/Maintained Waterways. For Natural earth/grass use MATERIAL = UNK
CROSSOVER	Property entrances	
CULVERT	Box culvert	Pipe with square form
RELINED	Relined longitudinal pipes	Existing pipe relined with new material.

SUB-SOIL	Sub-soil drainage	
SWALE	For Swales 3.2.4	Used to denote conveyance of water in a swale
WATER COURSE	Natural Waterway	Flow channel of a natural River or Stream. MATERIAL = UNK
MITRE DRAIN	Drain for road runoff	Take runoff out of table drains or directly off road shoulders where table drains are absent
PROPERTY CONNECTION	Property Connection	
UNK	Unknown	Use when not known

5.6. Pipe Material

Code	Description	Class	Comment
AC	Asbestos Concrete		
AG	Aggregate Drains		
BRK	Brick		
CONC	Concrete		Not known if reinforced
CORR	Corrugated Steel/Aluminium		Define Steel or Aluminium in Comments field
FSP	Fibre Reinforced Concrete		No steel reinforcement
GR	Grass		Use for Swales
HDPE	High Density Polyethylene		“Black Max”
IRON	Iron		Specify Galvanised or otherwise in comments
NE	Natural Earth		Use for open drains and swales
PPP	Polypropylene		
PVC	Polyvinylchloride		
RC	Reinforced concrete	No class	Use if class unknown
RC1	Reinforced concrete	1	
RC2	Reinforced concrete	2	
RC3	Reinforced concrete	3	
RC4	Reinforced concrete	4	
STONE	Stone pitched or mortared		
UCON	Un-reinforced Concrete		Concrete – no steel reinforcement
UNK	Unknown		Use when not known
UPVCS	Un-plasticised Polyvinylchloride		Sewer Quality UPVC
VC	Vitreous clay		

5.7. Water Bodies

Code	Description	Comment
BI	Basin Infiltration	Located in permeable areas such as sandy soils to maximise infiltration potential. Do not have a primary conveyance function. Infiltration basins do not have an outflow but can have an overflow.
BA	Basin Attenuation	Located in areas with impermeable soils such as clay. Primary function is to slow the release of stormwater from a developed area before being released into the stormwater network. These basins have a controlled outflow.
SSB	Sub-Surface Basin	Basin under the ground used for attenuation or infiltration depending on ground conditions.
WTL	Wetlands	Naturally occurring, extensively vegetated bodies of water. EG: Lake Seppings
CW	Constructed Wetlands	Constructed wetlands have a high focus on habitat and water quality improvement. E.G: Wellington Street Wetland
LAKE	Lakes	Permanent standing or slow-moving bodies of open water created by natural depression or excavating below natural A lake generally has a high aesthetic value E.G: Oyster Harbour Public Open Space

5.8. Swale Type

Code	Description	Comment
SWL	Swale	Swales are shallow linear depressions that provide for stormwater collection and conveyance.
SPIL	Spillway	Generally used to armour areas from scouring, or to disperse flows.

5.9. Owner

Code	Description	Comment
COA	City of Albany	
SGU	State Government Utility	MRWA
CAL	City of Albany - Leased	Responsibility of the Lessee
PVT	Private	On Private Land

6. Conditions Ratings

Condition Ratings are generally in five classes. The maintenance demand is related to these classes:

- Rating 1 is in very good condition, with no defects or wear evident
- Rating 2 is serviceable with no maintenance required.
- Rating 3 could benefit from maintenance but is still performing its required function.
- Rating 4 requires maintenance to perform its function to full effect.
- Rating 5 requires immediate attention. The asset has failed and is posing a risk.

A rating of 0 (zero) is only used when an asset has not been rated. This situation should be avoided.

6.1. PIT Condition Rating

Rating	Condition	% Rem Life	Example	Description
1	Excellent	100		Recently Installed or in as-new condition
2	Good	70		As-new, sound physical condition. Asset likely to perform adequately without major works.
3	Average	50		Wear and tear could be evident but no failures in structural integrity. Potentially halfway through its useful life.
4	Poor	20		Evidence of minor structural failures and/or maintenance required.

5	Very Poor	2		Failed or failure imminent. Poor condition which would have the structure in need of intervention in the short term.
0	NOT RATED			Asset has not been rated

6.2. LID Condition Rating

Rating	Condition	% Rem Life	Example	Description
1	Excellent	100		Recently Installed or in as-new condition
2	Good	70		As-new, sound physical condition. Asset likely to perform adequately without major works.
3	Average	50		Wear and tear could be evident but no failures in structural integrity. Potentially halfway through its useful life.
4	Poor	20		Evidence of minor structural failures and/or maintenance required.
5	Very Poor	2		Failed or failure imminent. Poor condition which would have the structure in need of intervention in the short term.
0	NOT RATED			Asset has not been rated

6.3. PIPE Condition Rating

Rating	Condition	% Rem Life	Example	Description
1	Excellent	100		Recently Installed or in as-new condition
2	Good	70		As-new, sound physical condition. Asset likely to perform adequately without major works.
3	Average	50		Wear and tear could be evident but no failures in structural integrity. Potentially halfway through its useful life. Some minor slipping at joins or exposed lifting points.
4	Poor	20	 	Evidence of minor structural failures and/or maintenance required.

5	Very Poor	2	 	Failed or failure imminent. Poor condition which would have the structure in need of intervention in the short term.
0	NOT RATED			Asset has not been rated

6.4. WATER BODIES Condition Rating

Rating	Condition	Example	Description
1	Excellent		Recently Installed or in as-new condition
2	Good		As-new, sound physical condition. Asset likely to perform adequately without major works.
3	Average		Significant deterioration evident, Overgrowing of vegetation and slight erosion. Minor components or isolated sections of the pond need repair now, but asset still functions safely at adequate level of service. Work required but asset is still serviceable.
4	Poor		Failed or failure imminent. Vegetation prohibiting access to the pond and pond edge is eroded. Major work required in the near future.
5	Very Poor		Basin is inundated with vegetation and water is not able to flow as intended and access for maintenance is problematic.
0	NOT RATED		Asset has not been rated

6.5. SWALE Condition Rating

Rating	Condition	Example	Description
1	Excellent		Recently Installed or in as-new condition.
2	Good		Swale is functioning as designed, with water flow achievable, with sufficient growth for nutrient removal/water absorption
3	Average		Swale is functioning; however, performance is hindered by vegetation and weeds, and overtopping via an easier path is a risk. Cleaning/remediation is required.
4	Poor		Swale overgrown/silted to the point where water flow path is not evident
5	Very Poor		Swale is inundated with vegetation and water cannot flow as intended and access for maintenance is problematic.
0	NOT RATED		Asset has not been rated

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