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DIGITAL SUBMISSION OF AS CONSTRUCTED INFORMATION MANUAL

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1.0 INTRODUCTION

1.1 Purpose of the Manual

Fraser Coast Regional Council (FCRC) and Wide Bay Water & Waste Services (hereafter referred to as WBW) maintains a comprehensive Geographic Information System (GIS) and Asset Management System (AMS), which lists and contains valuable information on all FCRC and WBW owned assets.

This manual is for the use of Private Developers, the Representatives of Private Developers, internal staff of FCRC and/or WBW, and Consultants (hereafter referred to as Consultants) who are required to submit "As Constructed" information to FCRC and/or WBW as part of FCRC and WBW's development conditions and in accordance with the requirements of the Fraser Coast Regional Council Development Manual.

This manual has been written to assist Consultants in the preparation of the digital "As Constructed" information to be submitted to FCRC and/or WBW in lieu of traditional "As Constructed" plans. It sets out the format in which the digital files are required for FCRC and WBW to append the data to its existing GIS and AMS.

This manual and all related documents and forms, can be downloaded from; https://www.frasercoast.qld.gov.au/development-downloads

1.2 Responsibility of the Consultant

The consultant shall be responsible for

- Supplying digital data in the format set out in this manual.
- Ensuring that the data supplied to FCRC and WBW is correct.

1.3 Responsibility of FCRC and WBW

The FCRC and WBW shall be responsible for

- Updating the FCRC and WBW GIS and AMS with the information supplied by the Consultant.

FCRC or WBW shall not be responsible for

- Ensuring the correctness of the "As Constructed" data. **Development works will not be accepted off maintenance until any incorrect data has been rectified. Any costs associated with 3rd party claims against FCRC and/or WBW for supply of incorrect data that has been certified by a consultant shall be recovered from that consultant. If data submitted by a consultant is found to be inconsistent with the specifications in this manual, the FCRC and/or WBW may recover costs associated with the rectification of the digital information.**

1.4 Aim of the Manual

The aim of this manual is to assist consultants and to ensure that new data input into the FCRC and WBW database is:

- consistent
- accurate
- complete

1.5 Scope of the Manual

This manual is not intended to replace the FCRC Development Manual, but is to be read in conjunction with the Development Manual.

The following asset categories are considered in detail in Sections 4 to 10 of this manual;

- Roads Infrastructure
- Stormwater
- Misc.
- Water Supply
- Sewerage
- Effluent Reuse

The Consultant should contact FCRC or WBW where specific Information for a particular asset is not covered by this manual.

1.6 Purpose of Maintaining FCRC and WBW's GIS and AMS

The Geographic Information System and asset database represents a significant investment by FCRC and WBW. FCRC and WBW are committed to ensuring that the information is maintained to a high degree of accuracy.

The GIS and AMS are used by FCRC and WBW for:

- Maintenance Management
- Risk Management
- Capital Works Planning
- Benchmarking (i.e. comparing how well FCRC and WBW assets perform against other local government's assets)
- Comparison of like assets under different circumstances
- "As Constructed" records
- Services maps of the local authority area
- Asset Valuation
- Pavement Management Strategies
- Production of FCRC and WBW maps
- Hydraulic Modelling

In summary, the collection of asset data is extremely important to Fraser Coast Regional Council and Wide Bay Water & Waste Services as it forms the basis for many important decision-making processes and activities.

1.7 General Requirements

1.7.1 FCRC and WBW Contact

All enquiries relating to the format of the digital information should be directed to FCRC's Assets team (servicedesk@frasercoast.qld.gov.au).

The Consultant should contact the relevant FCRC/WBW Officer where specific information relating to a particular asset that ultimately becomes the responsibility of FCRC and WBW is not covered by this manual.

1.7.2 Submission of "As Constructed" Data

As Constructed information as digital files, is to be submitted to the FCRC Development Services Department before works will be accepted on maintenance.

1.8 Certification of Digital Information

Digital As Constructed information provided to FCRC is to be certified by the Consultants as follows:

- All digital information is to be provided on a Compact Disk/Digital Video Disk – the CD/DVD is to be closed off after writing to prevent further data being written to the CD/DVD.
- The CD/DVD is to be labelled with the pre-printed adhesive "Digital As Constructed Information" labels. The label will have the following inscription and is to be completed in indelible ink with the appropriate information and placed onto the CD. Corresponding details are also to be entered below. The PDF template for these labels can be downloaded from;
  http://www.frasercoast.qld.gov.au/development-downloads
- A *Certificate of Digital Information* Form is to be completed and submitted along with the As Constructed Data for each project. It must include the Certifying Engineer's name, firm, contact number and RPEQ number, as well as the Surveyor's name, firm, and contact number. The form needs to be signed by both the Surveyor and Engineer, on the date of Final Approval, before the As Constructed Data is submitted to Council. See example below.

This digital representation and asset attribute information is a complete and accurate representation of the constructed works within FCRC and WBW's specified survey tolerances. The information is suitable for use by FCRC and WBW and others.
Estate Name and Stage _____
Property Description (prior to subdivision) _____
*FCRC Approval Number*_____
Signed by _____ Date _____
Name _____
Surveyor Firm _____

1.9 Engineer and Surveyor Requirements

The certifications detailed within this manual are FCRC and WBW's standard requirements. Should an Engineer or Surveyor wish to submit alternative certifications, it will be necessary for FCRC and WBW to have the alternatives legally assessed to ensure that the proposed certifications identify that the Engineer or Surveyor is adequately accepting responsibility for compliance with FCRC and WBW's requirements. All costs incurred by FCRC or WBW in having the proposed certifications assessed will be required to be borne by the proposing Engineer or Surveyor. Once formally accepted by FCRC and WBW, the alternate certifications will be acceptable for all works submitted by that Engineer or Surveyor.

2.0 DATA FORMAT

2.1 Software

The software applications noted below are the software applications preferred by FCRC and WBW, however, digital files that can be read by the specified software packages are acceptable.

- AutoCAD.
- Microsoft Excel.

Examples using the specified software are included in Section 12 of this manual.

2.2 Digital Plan Information

2.2.1 General

Digital plan information is to be provided to FCRC and WBW in the following format:

- AutoCAD DXF file or AutoCAD Drawing file.
- ASCII text file.

The digital drawing is to be organized into separate layers for each asset type for easy translation into FCRC and WBW's Geographic Information System. The specifications for objects in the AutoCAD DWG/DXF file are set out in Table 3.4 of this manual. Please note that AutoCAD DXF or DWG files will be acceptable if submitted in an earlier version.

2.2.2 New/Modified Assets

Each new or modified object shown in the CAD drawing should

- Be clearly identified with an asset **Entry No**.
- Have a corresponding row in the As Con Data Form.

2.2.3 Deleted Assets

Assets which have been demolished, retired in situ (abandoned) or removed during the construction of the new works shall be shown in the geographically correct location on the AutoCAD plan to enable FCRC and WBW to locate and delete these assets from the existing asset database. Attribute information is not necessary if the asset can be clearly identified on the plan and separated from similar objects located nearby.

2.2.4 Plan Projection

The AutoCAD drawing shall be set up using the **coordinate** system specified in Section 3.2 of this manual.

2.2.5 Plan Set-up

The scale factor used on all drawings shall be:

- 1 unit = 1 metre

No movement, scaling, translation, or rotation shall be applied to the objects in the drawing.

The suggested layer names and drawing specifications for each asset type are set out in Table 3.4 of this manual. Where the suggested layer names are not utilized it will be of

significant assistance to FCRC and WBW staff if the layer names used are indicative of the information contained on the layer.

Only one object (CAD object) shall be used to represent a single, specific asset. A consistent object type shall be used for each asset type. The object types for each asset are specified in Table 3.4 of this manual. CAD objects should be "snapped" to ensure connectivity of assets where applicable.

Text, where included in the CAD drawing shall be separated into clearly identifiable layers.

The AutoCAD Drawing and DXF files shall have the following general characteristics.

Version	2007 (minimum)
Dimensions	2
Units	Metres
Projection	MGA2020, Zone 56
Number of Decimal Places	6
Format	ASCII
Polylines	Continuous NOT curve fitted; NOT splined
Closed Polygons	Continuous NOT curve fitted; NOT splined
Points Scaling	Relative

2.2.6 Asset Numbering

An **Entry Number** shall be assigned to each asset by the consultant. The Entry Number shall be assigned as follows.

- Block (for point objects only)
  Where point objects are included in the CAD Drawing the Entry Number can be assigned to the point object as an attribute but must also be entered in CAD as text, in a layer identified as text (e.g. WaterMainsText), adjacent to the asset.
- Where point objects are provided in ASCII format, an Entry Number for each object is to be included in the ASCII file.
- For all other object types (lines, polylines, polygons etc.) the Entry Number is to be entered in CAD as text, in a layer identified as text (e.g. WaterMainsText), adjacent to the asset.

2.2.7 Responsibility of the Consultant

The Consultant shall be responsible for

- The correctness and accuracy of the information contained in the drawing file and the DXF file.
- Ensuring that the drawing files and the DXF file are on the correct coordinate system and level datum and that the files are to the correct scale and rotation.
- Ensuring that the assigned asset Entry Numbers are correct in both the plan and attribute tables.

2.2.8 Responsibility of FCRC/WBW

FCRC/WBW shall be responsible

- For correctly inserting the plan information into FCRC and WBW's Geographic Information System.

FCRC/WBW shall not be responsible for
- Scaling, rotating, translating, or otherwise manipulating the data supplied by the consultant.
- Establishing the correct asset Entry numbers.

2.3 Attribute Data

2.3.1 General

Sections 4 to 12 of this manual set out in detail the attribute information which is to be supplied to FCRC and WBW for each asset. Standard forms have been developed to assist the consultant in recording this information and the specific forms required are included in relevant sections of this manual. Each line of attribute information is to have a corresponding CAD object and there must be no blank lines in the As Con Data Form.

Attribute data forms have been included in the MS excel file *"As-Constructed_Information_Data_Form.xls".*

2.3.2 Asset Numbering

The consultant shall establish a simple temporary asset numbering system which will allow the information in the attribute forms to be linked to the correct asset as follows:
- The Entry Number assigned to each row of the attribute data forms shall correspond exactly to an Entry Number assigned to the specific asset and the number shown on digital plan of the geographic locations of assets.
- The number of each asset shall be recorded in the digital attribute form as described in Sections 4 to 12 of this manual.
- The temporary numbers should be kept as simple as possible I.E. WMAIN1, VALVE1, and TEE1 and should not be more than 8 characters in length and contain no spaces.

2.3.3 Responsibility of the Consultant

The Consultant shall be responsible for:
- The accuracy of the information contained in the digital attribute form.
- Ensuring that the Entry Number assigned to each asset by the Consultant correctly associates the attribute data with the correct asset.

2.3.4 Responsibility of FCRC/WBW

FCRC/WBW shall be responsible for:
- Correctly associating the attribute information with the plan information in FCRC and WBW's Geographic Information System based on the information and Entry Numbers supplied by the Consultant.
- Establishment of the final asset numbering system for all new assets.
- Notification to consultant of any errors in the data and consequent acceptance or rejection.

FCRC/WBW shall not be responsible for:
- Establishing the correct temporary corresponding Entry Numbers to each asset.

3.0 SURVEY REQUIREMENTS

3.1 General Requirements

Specific survey tolerances and requirements for the submission of as constructed information to FCRC and WBW are set in this manual. This should not be confused with the construction tolerances and requirements specified in the Development Manual.

3.2 Datum / Projection

The following table lists the required datum/projection to be applied to all the "As Constructed" data provided to FCRC and WBW by the Consultant.

Description	**Datum**	**Units**
Level Datum	Australian Height Datum (AHD)	Metres
Projection	MGA2020, Zone 56	Metres

3.3 Survey Specification

Digital "As Constructed" data supplied to FCRC and WBW by the Consultant shall be in accordance with Table 3.4.

3.4 TABLE 3.4 – AUTOCAD AND SURVEY REQUIREMENTS

Asset Category	Asset Type	Surveyed Location (in Plan View)	Required* Horizontal Survey Accuracy (XY) (± x mm)	Required* Vertical Survey Accuracy (Z) (± x mm)	Object Type (AutoCAD Specification)	Attribute Data Form	AutoCAD Layer Name (Suggested layer names)
Roads Infrastructure	Roads	Centreline of road	± 100mm	±20mm	Polyline	ROADS	RI-Road
	Floodways	Perimeter of each asset	± 100mm	±20mm	Polygon	FLOODWAYS	RI-Floodways
	Kerb & Channel (incl. Median/ Traffic Islands)	Back of kerb & channel	± 100mm	±20mm	Polyline, Polygon	KERB & CHANNEL	RI-Kerb
	Footpaths	Centreline of footpath	± 100mm	±20mm	Polyline	FOOTPATHS	RI-Footpath
	Car Parks	Perimeter of car park	± 100mm	±20mm	Polygon	CAR PARKS	RI-CarPark
	Bus Stops	Centre of bus stop/ shelter	± 100mm	±20mm	Block or ASCII file❖	BUS STOPS	RI-BusStop
	Bridges	Centre of bridge structure	♦Zone 1 ±80mm Zone 2 ± 100mm	±20mm	Block or ASCII file❖	BRIDGES	RI-Bridge
	Major Culverts	Centre of major culvert	♦Zone 1 ±80mm Zone 2 ± 100mm	±20mm	Block or ASCII file❖	MAJOR CULVERTS	RI-MajorCulvert
	Streetlights/ Electrical	Centre of lighting/ electrical asset	± 100mm	±20mm	Block or ASCII file❖/ Polyline	STREETLIGHTS, ELECTRICAL	RI-LightsElectrical
	Traffic Signals	Centre of traffic signal asset	± 100mm	±20mm	Block or ASCII file❖	TRAFFIC SIGNALS	RI-TrafficSignal
Stormwater	Gross Pollutant Traps	Centre of lid	± 100mm	±20mm	Block or ASCII file❖	SW – GROSS POLLUTANT TRAPS	SW-GPT
	Open Drains	Top of bank and invert	± 100mm	±20mm	Polyline	SW – OPEN DRAINS	SW-OpenDrain
	Detention Structures	Perimeter of waterbody (excluding islands)	± 100mm	±20mm	Polyline	SW – DETENTION STRUCTURES	SW-DetentionSt
	Pipes	Centre of pit to centre of pit	± 100mm	±20mm	Polyline	SW - PIPES	SW-Pipe

Asset Category	Asset Type	Surveyed Location (in Plan View)	Required* Horizontal Survey Accuracy (XY) (± x mm)	Required* Vertical Survey Accuracy (Z) (± x mm)	Object Type (AutoCAD Specification)	Attribute Data Form	AutoCAD Layer Name (Suggested layer names)
	Pits, Headwalls	Centre of pit/ centre top of structure	± 100mm	±20mm	Block or ASCII file❖	SW – PITS, HEADWALLS	SW-PitHeadwall
Misc.	Other Structures	Centre of asset/ centreline of asset/ perimeter of asset	± 100mm	±20mm	Block or ASCII file❖/ Polyline/ Polygon	OTHER STRUCTURES	MI-OtherStructure
	Hardstand Areas	Perimeter of hardstand	± 100mm	NA	Closed Polyline	N/A	Hardstand
	Retaining Walls	Centre, top of wall	± 100mm	NA	Polyline	N/A	RetainingWall
	Walls	Centre, top of wall	± 100mm	NA	Polyline	N/A	Wall
Water Supply	Conduit	Centre line of Conduit	± 100mm	±20mm	Line	WAD Conduit	WaterConduit
	Hydrants	Centre of fitting	± 100mm	±20mm	Block or ASCII file❖	WAD Hydrants	WaterHydrants
	Flow Meters	Centre of fitting	± 100mm	±20mm	Block or ASCII file❖	WAD Flowmeters	WaterFlowMeters
	Pipes	Centre of fitting to centre of fitting	± 100mm	NA	Polyline	WAD Pipes	WaterMains
	Pits	Perimeter of pit	± 100mm	±20mm	Closed Polyline	WAD Pits	WaterPits
	PRVs	Centre of fitting	± 100mm	±20mm	Block or ASCII file❖	WAD PRVs	WaterPRVs
	Pumping Stations	Centre of P/S	± 100mm	±20mm	Block or ASCII file❖	WAD Pumps	WaterPumpStations
	Reservoirs	Perimeter of reservoir	± 100mm	NA	Closed Polyline	WAD Reservoir	WaterReservoirs
	Tees / Crosses / Bends	Centre of fitting	± 100mm	±20mm	Block or ASCII file❖	WAD Tees Crosses	WaterTeesCrossesBends
	Valves	Centre of fitting	± 100mm	±20mm	Block or ASCII file❖	WAD Valves	WaterValves
Sewerage	Manholes	Centre of lid and invert level at centre of manhole	± 100mm	±20mm	Block or ASCII file❖	SAD Manholes	SewerManholes
	Inspection Openings	Centre of lid and invert	± 100mm	±20mm	Block or ASCII file❖	SAD IOs	SewerIOs
	Pipes	Centre of lid to centre of lid, Invert levels at connection point in manhole	± 100mm	±20mm	Polyline	SAD Pipes	SewerGravityMains
	Rising Mains	Centre of fitting to centre of fitting (including bends)	± 100mm	±20mm	Polyline	SAD rising Mains	SewerRisingMains
	Pumping Stations	Centre of wet well lid and invert level at centre of well	± 100mm	±20mm	Block or ASCII file❖	SAD Pumpstations	SewagePumpStations
	Treatment Plants	Centre of Plant	NA	NA	Block or ASCII file❖	N/A	SewageTreatmentPlants

Asset Category	Asset Type	Surveyed Location (in Plan View)	Required* Horizontal Survey Accuracy (XY) (± x mm)	Required* Vertical Survey Accuracy (Z) (± x mm)	Object Type (AutoCAD Specification)	Attribute Data Form	AutoCAD Layer Name (Suggested layer names)
	House Connections	Connection point and line to main	± 100mm	±20mm	Polyline	SAD HouseConnections	SewerHouseConnections
	Sewer Valves	Centre of fitting	± 100mm	±20mm	Block or ASCII file❖	SAD VALVE	SewerValves
Effluent Reuse	Effluent Manholes	Centre of lid and invert level at centre of manhole	± 100mm	±20mm	Block or ASCII file❖	ERD Manholes	EffluentManholes
	Effluent Meters	Centre of fitting	± 100mm	±20mm	Block or ASCII file❖	ERD Flowmeters	EffluentMeters
	Effluent Pipes	Centre of fitting to centre of fitting	± 100mm	NA	Polyline	ERD Pipes	EffluentMains
	Effluent Pumping Stations	Centre of P/S	± 100mm	±20mm	Block or ASCII file❖	ERD Pumps	EffluentPumpStations
	Effluent Valves	Centre of fitting	± 100mm	±20mm	Block or ASCII file❖	ERD Valves	EffluentValves
	Effluent Tees / Crosses / Bends	Centre of tee/cross/bend	± 100mm	±20mm	Block or ASCII file❖	ERD Tees Crosses	EffluentTeesCrossesBends
Miscellaneous	Development Boundary	Extent of development / Stage boundary	NA	NA	Closed Polyline	N/A	DevelopmentBound
	Spot heights	▪ 2000m^2 and less require 1 FSL spot height in centre of subdivision lots and 1 within close proximity to all cadastral corners. ▪ Over 2000m^2 require 20m x 20m grid only in areas of earthworks and 1 FSL within close proximity to all cadastral corners. ▪ 10m x 10m grid over entire playing (sports) surfaces	± 100mm	±20mm	Block (each point is to be input as a block containing the level as an attribute) OR The point objects alternatively can be supplied in the ASCON as X, Y, and Z coordinates, with capture date and object layer name	SPOT HEIGHTS	Earthworks
Cadastre	Cadastral Parcels	Limit of lot	± 100mm	NA	Closed Polyline	CADASTRE	PropertyBoundaries
Coastal	Groyne	Perimeter of Groyne	Design	NA	Closed Polyline	N/A	DrainageGroyne

*Note: It is recognized that PSM coordinates have their own inaccuracies. The accuracies stated in the above table are relative to the PSM coordinates. They are not absolute accuracies.

❖ Each asset is to be input as a block, made up of a point object with the Entry Number as an attribute.

4.0 ROAD SEGMENT RULES

4.1 Overview

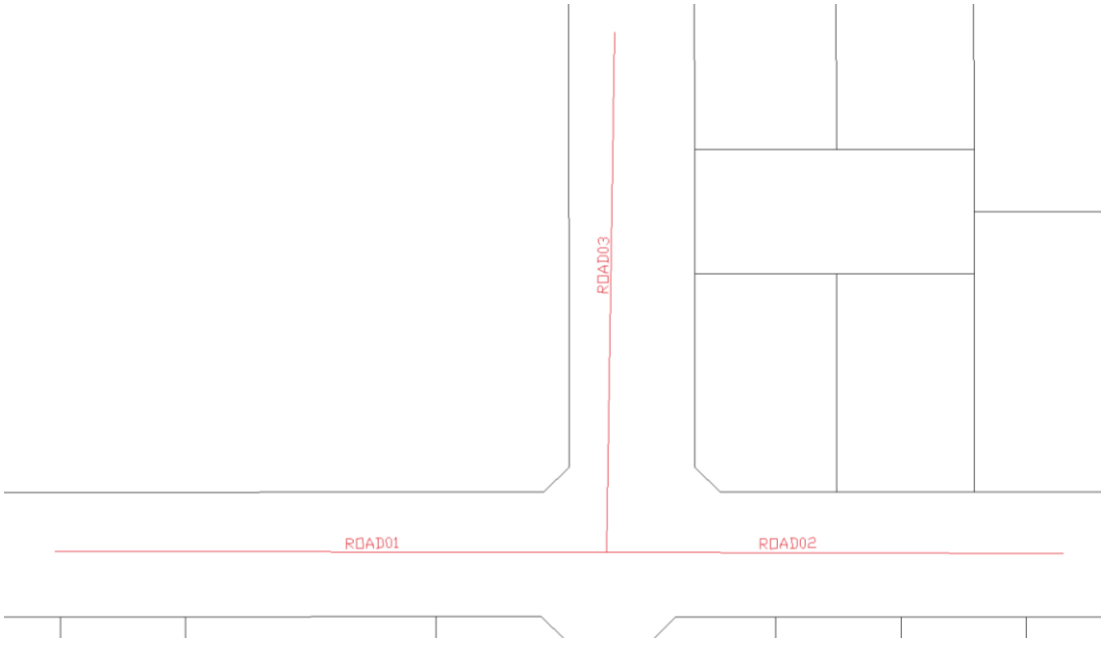
As Council moves forward with its Asset Management, current practices as well as business rules and industry standards have been reviewed to ensure the most efficient and reliable maintenance of Council's asset register.

From this, there have been several Road Segment Rules put in place to standardise and streamline the As Constructed process. These rules are detailed below, with diagrams to provide further clarification on what is expected when submitting As Constructed Data. They provide a uniform standard for specific components of the As Constructed Data, and guide users through what is required with submissions.

4.1.1 Road Segments

Council considers each part of a road, from intersection to intersection, as one asset. These are known as '*Road Segments*' and it is the way that the Road network is formatted e.g.
(Boundary Rd, Wondunna - Between TAVISTOCK ST and MAREE ST,
Boundary Rd, Wondunna - Between MAREE ST and DENMANS CAMP RD).

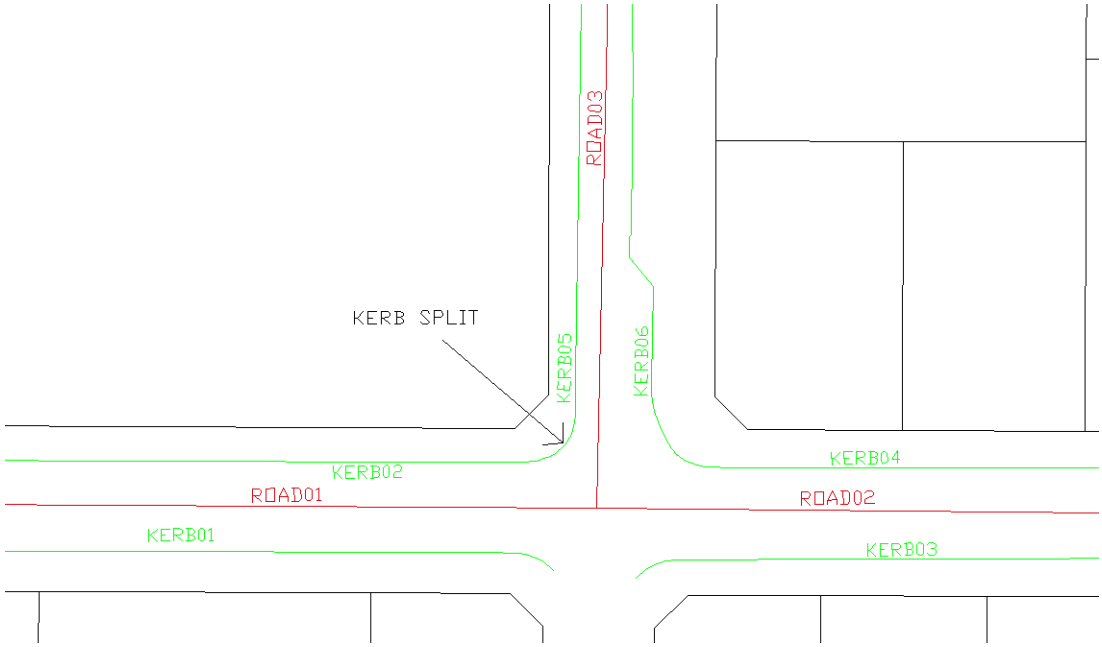
The splitting of roads into road segments is Council's business practice and is to be adopted when supplying As Constructed Data to Council. Where a new road asset has been constructed, which passes through several intersections, it is to be considered a new asset, beginning at the centre of each intersection that it passes through, instead of all the one asset (A new entry/ asset is to be created for each road segment).



In the diagram above, ROAD01, ROAD02 and ROAD03 have been split where the centre line of each road intersects. Even though ROAD01 and ROAD02 are the same street, they are separated into two different assets.

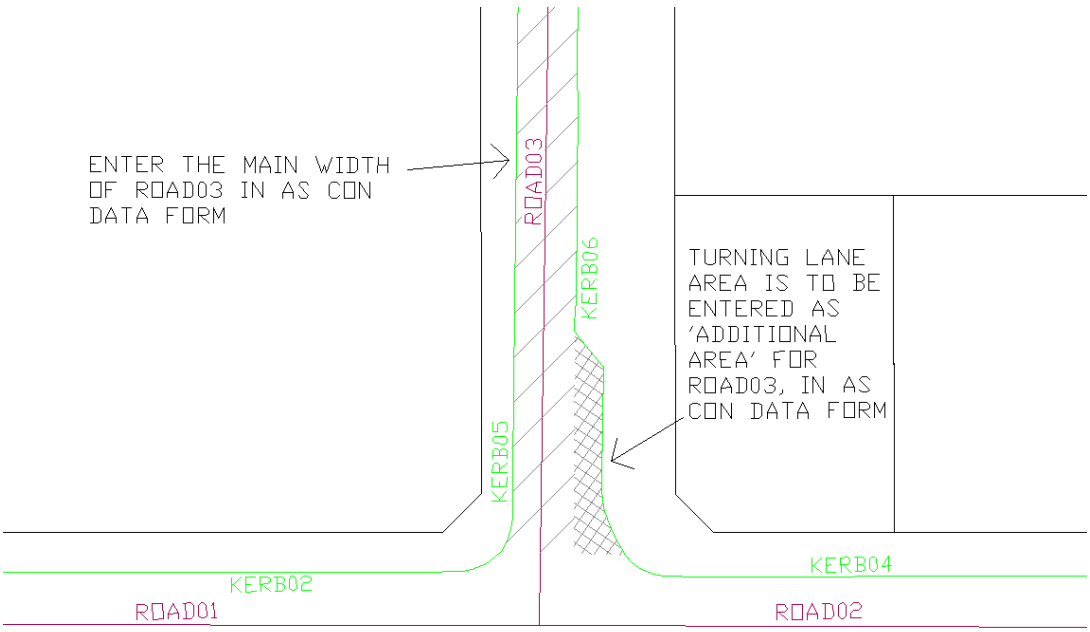
Splitting assets between each road segment should also be done for Kerb & Channel, and Footpath assets, when they are constructed through multiple road segments.

An example of Kerb & Channel is below, where KERB02 and KERB05 have been split at the mid-tangent point between the two kerbs. This is also the case for KERB04 and KERB06.



4.1.2 One asset for each Road Segment

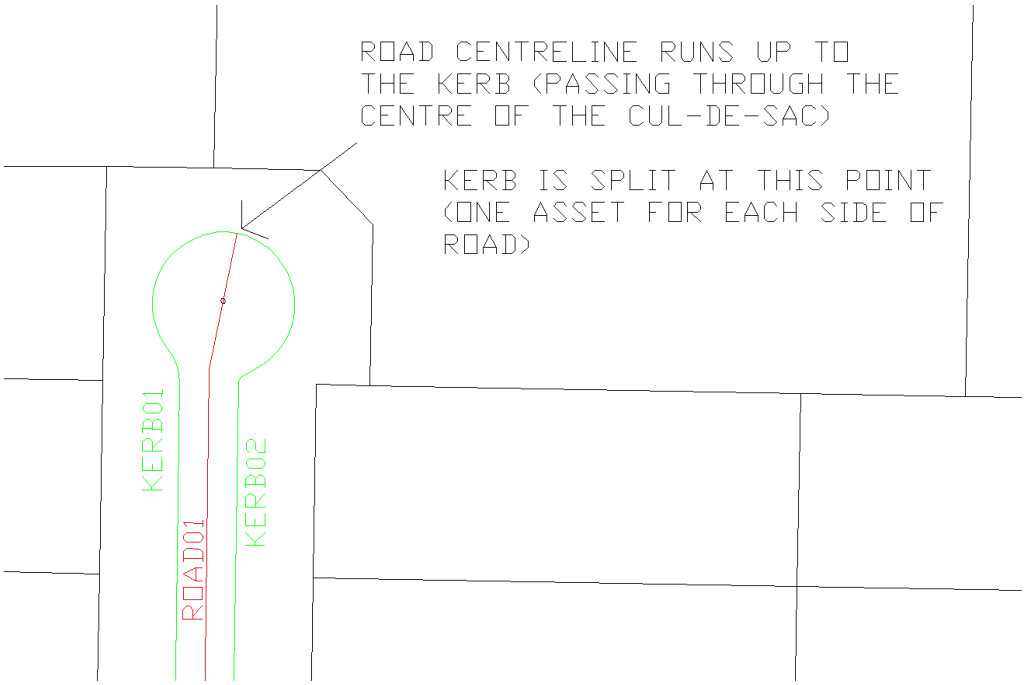
Further to splitting the constructed assets into separate road segments, there should only be one asset for each road segment. For instance, if a road segment has different widths, enter the main width of the road (and enter any additional area, such as the turning lane in ROAD03 below, in the Additional Area section of the As Con Data Form).



This also applies where there are different surface materials of a road, etc. Only enter the surface that is the majority of the road segment.

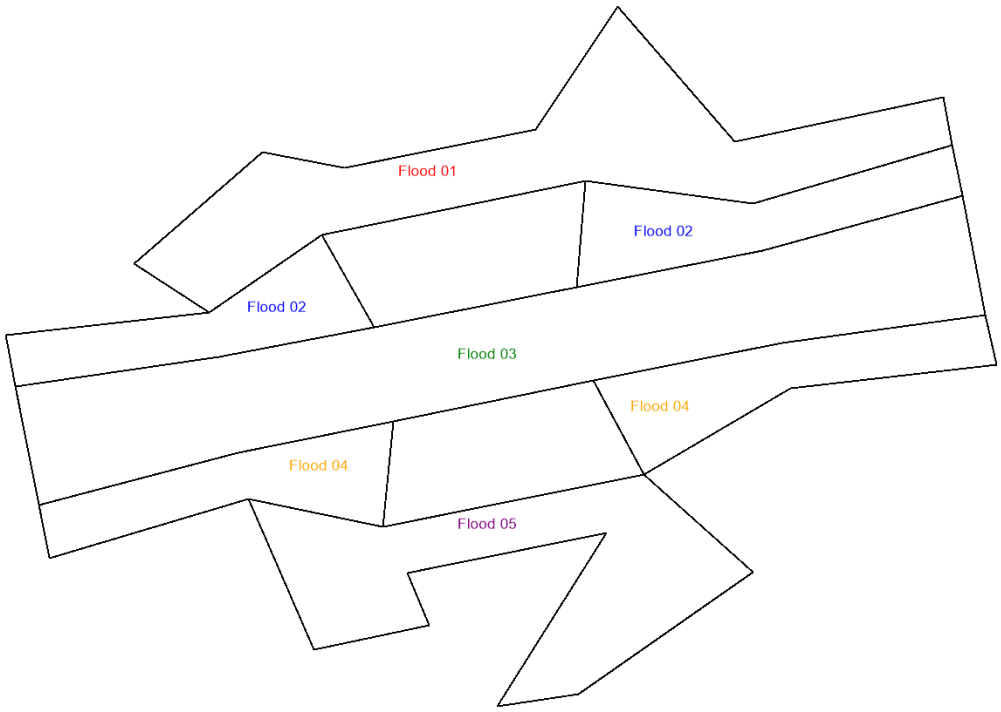
4.1.3 Cul-de-sacs

When Cul-de-sacs are constructed, they should be drawn to have the road centreline meet the middle of the road verge at the kerb & channel. Also, kerb & channel should be split into two (one asset for each side of road), at the point of the road centreline. See the diagram below.



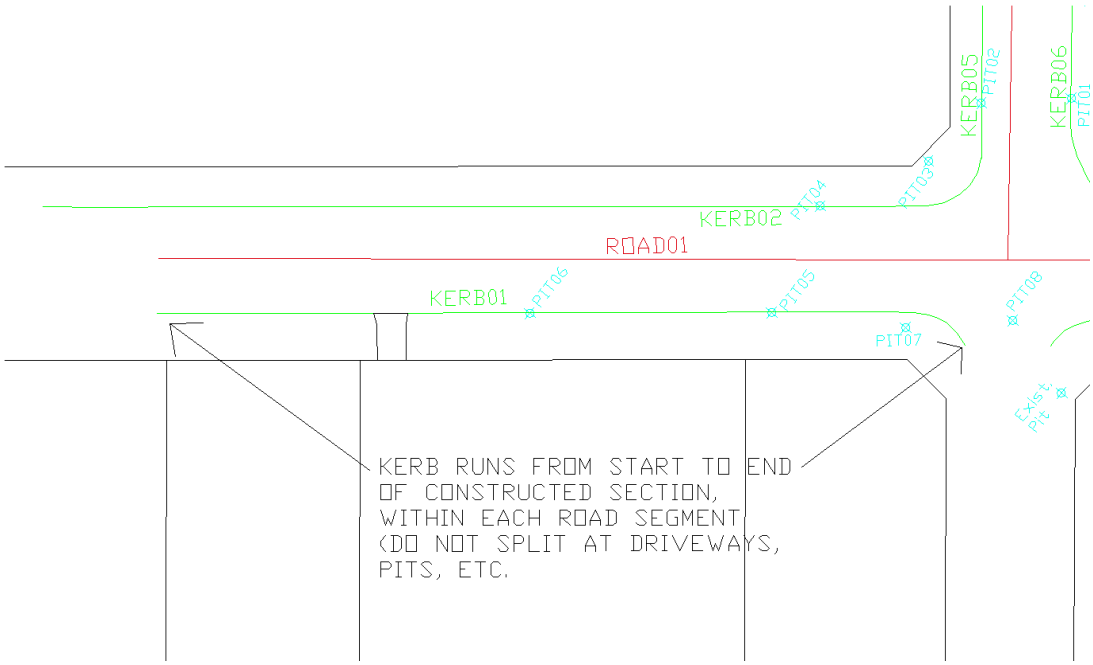
4.1.4 Floodways

When capturing a Floodway, the driving surface should be captured separately from the left and right shoulders and erosion protection.



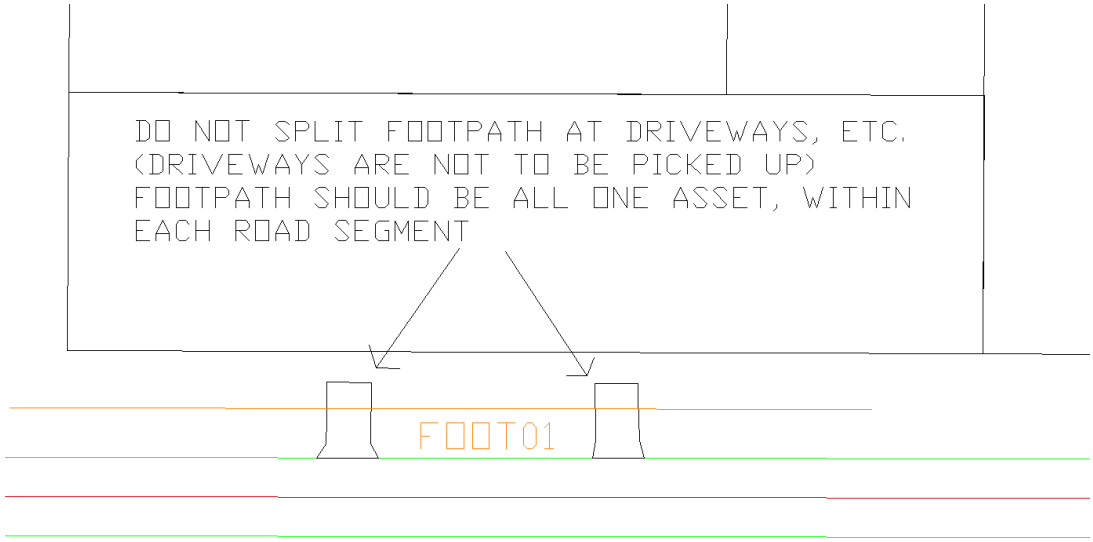
4.1.5 Kerb & Channel

Kerb & Channel assets should not be split at stormwater pits, driveways, etc. where there has been kerb constructed along a road segment. It should all be one continuous kerb asset, do not draw around the stormwater assets but through them, for each side of road. The diagram below shows how Kerb & Channel should be segmented.



4.1.6 Footpaths

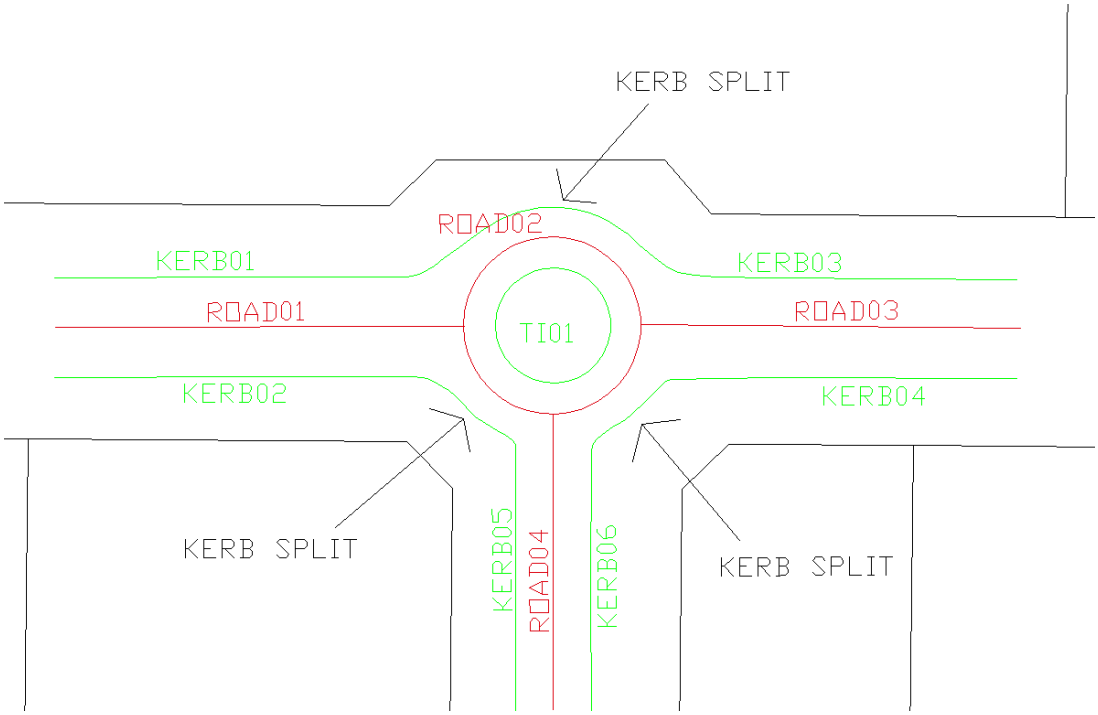
Footpath assets should not be split at driveways. As driveways are not Council's asset, they are not required to be picked up; however, the relevant section of a constructed driveway should be included in the footpath asset, to form one whole footpath for each road segment. This is detailed in the diagram below.



Where a footpath width differs, enter the main width of the footpath. Where there are different surface materials within a footpath segment enter the surface for the majority of the footpath.

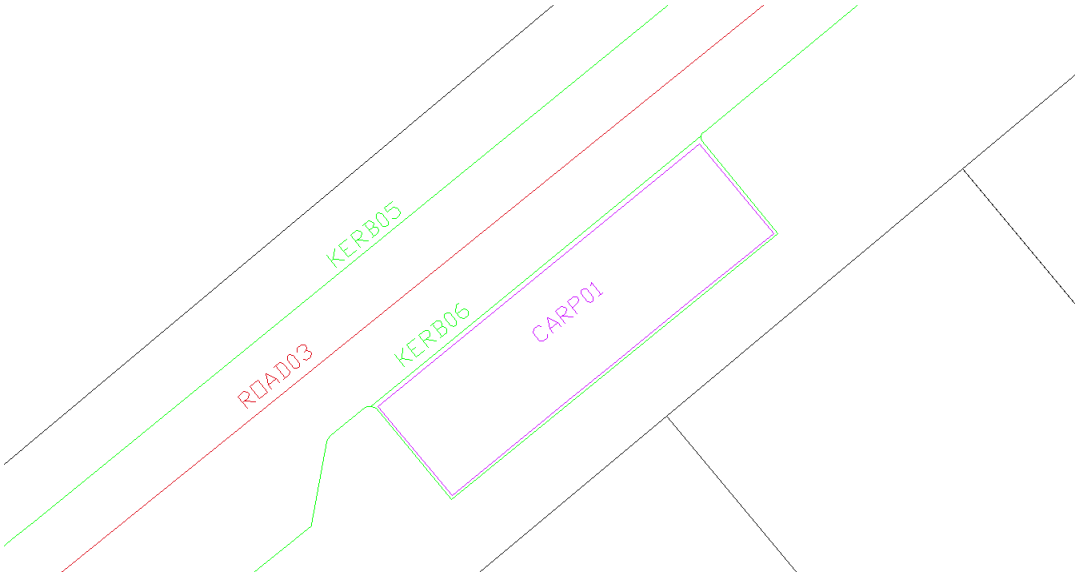
4.1.7 Roundabouts

Roundabouts are to be considered a separate road segment, and have their own centreline based on the nominal centre of the traffic lane that runs around the traffic island. Roundabouts are assigned to whichever is the main/ dominant intersecting road. An example of splitting road and kerb at a roundabout is detailed in the diagram below.



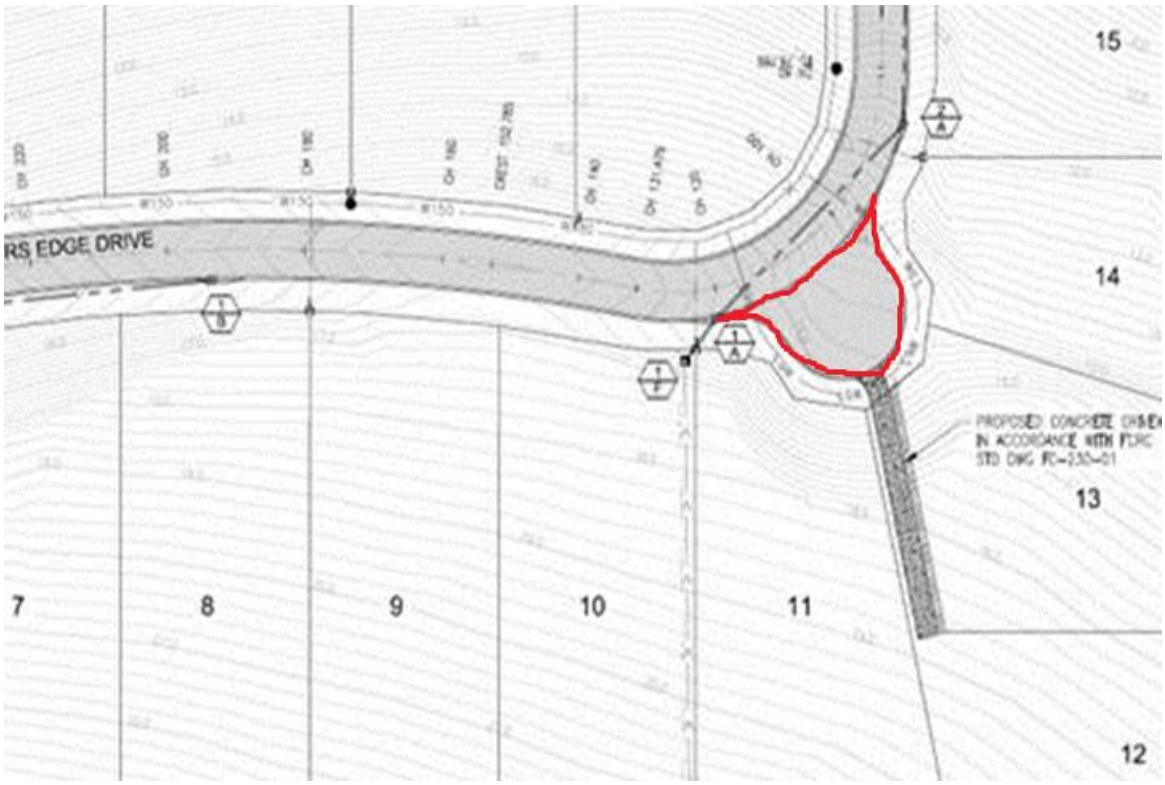
4.1.8 Car Parks

Designated car parks are to be considered separate assets to the road. On-Street is where the car park is on or adjacent to the road separated by a Kerb/Invert and Off-Street is where the car park is detached from the road, with a driveway or access separating it. In the diagram below, an On-Street car park is shown.



4.1.9 Blister in the Road

The blister in the road behind the invert line through to the kerb line outlined in red in the screenshot is picked up as a 'carpark.'



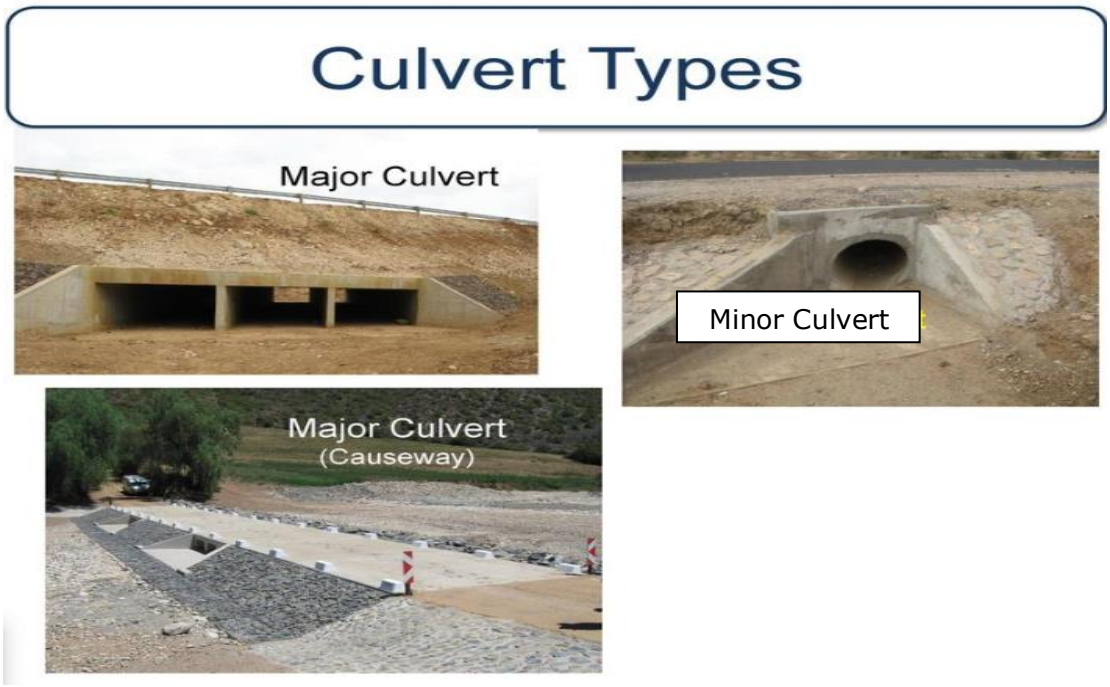
4.1.10 Major, Minor Culverts

Major and Minor Culverts are defined as assets that allow storm water to travel under a transport route/trafficable surface.

Culverts are parent assets and must be captured separate to, and as well as all underlying assets e.g. the individual pipes and headwalls must also be captured in the usual manner.

A culvert will be considered major if it is 6m or greater in width (that is length along the top of the headwall, not including wing walls).

A culvert will be considered minor if it is less than 6m in width.



Further clarification on any, or all, of these road segment rules can be sought by contacting the Asset Systems section of Fraser Coast Regional Council, either by phone or email;

P: 1300 79 49 29

E: servicedesk@frasercoast.qld.gov.au

5.0 ROADS INFRASTRUCTURE ASSETS

5.1 Plan Information

Digital plan information, in the format specified in Section 2.2 of this manual, is to be provided for all the road assets listed in Table 3.4 of this manual.

5.2 Attribute Information

5.2.1 General

Attribute information is to be supplied for all new Roads Infrastructure assets which ultimately become the property and responsibility of Council, in the format specified in section 2.3. These assets and the relevant form name for recording attribute data are listed in Table 3.4.

Attribute information is also to be supplied for all assets which have been modified during the construction of new assets. This includes:

- Assets which have been added (includes moving an asset's location)
- The characteristics (i.e. attributes) of an asset have been modified.

The attribute data forms have been designed to record both new assets and modified assets.

An example project has been completed using the standard attribute data forms and is included in Section 11 of this manual.

5.2.2 Standard Forms

The forms and an explanation of each of the entry columns for each of the forms are included in the following sections.

NOTE: If [*****] is next to the field name below, it indicates that field in the As Con Data Form automatically populates, when all other relevant fields are completed. These automated fields can be overwritten if the automated value is incorrect or requires changing.

5.3 Roads

5.3.1 Data Form: Roads

5.3.1.1 Entry Number

Entry numbers are to be assigned by the consultant and shall consist of a unique identifier (i.e. ROAD01, ROAD02, etc.)

Each asset shall have an Entry Number assigned to it whether the asset is a new asset or an existing asset which has been modified.

5.3.1.2 Length

The length of the road asset in metres, to one decimal place (i.e. 55.1)

5.3.1.3 Formation - Width

The width of the formation for the road asset in metres, to one decimal place (i.e. 6.5)

5.3.1.4 Formation – Area [*]

The area of the formation for the road asset in square metres

5.3.1.5 Pavement – Width

The width of the pavement for the road asset in metres, to one decimal place (i.e. 6.5)

5.3.1.6 Pavement – Area [*]

The area of the pavement for the road asset in square metres

5.3.1.7 Pavement – Depth

The depth of the pavement for the road asset in millimetres

5.3.1.8 Pavement Base Type

The type of pavement **Base & Subbase** types are:

- Type 2.1 (without CTB)
- Type 2.1 (with CTB)
- Type 2.3 (without CTB)
- Type 2.3 (with CTB)
- Type 2.5 (without CTB)
- Unsealed Type 2.5

5.3.1.9 Surface – Width

The width of the surface for the road asset in metres, to one decimal place (i.e. 6.5)

5.3.1.10 Surface – Area [*]

The area of the surface for the road asset in square metres

5.3.1.11 Surface – Depth

The depth of the surface for the road asset in millimetres

5.3.1.12 Surface – Material Type

The type of surfacing material for the road asset. Surface material types are:

- Airport Asphalt
- Airport Asphalt with Grooving
- Asphalt
- Bitumen
- Cobblestone
- Concrete
- Pavers
- Gravel
- Timber
- Track Pad
- Formed
- Unformed

- Unformed – Track
- Other (Add in Remarks)

If it is none of these, it can be entered into the Remarks column

5.3.1.13 Road Name

The name of the road in which the asset is located

5.3.1.14 Road Type

The type of the road in which the asset is located e.g. St

5.3.1.15 Suburb

The name of the suburb in which the asset is located

5.3.1.16 Date of Construction [*]

The date of which the asset was constructed. The format of the date shall be DD/MM/YYYY where:

Example:

- 5 March 2014 shall be represented by '05/03/2014'

5.3.1.17 Remarks

This is where any additional or significant details of the asset can be entered

5.3.1.18 Data Source [*]

The name of the consultant

5.3.1.19 Asset Status

For new assets the correct value of entry = Added

For modified assets the correct value of entry = Modified

For removed assets the correct value of entry is = Removed

5.3.2 DATA FORM: Floodways

5.3.2.1 Entry No.

Entry numbers are to be assigned by the consultant and shall consist of a unique identifier (i.e. FLOOD01, FLOOD02, etc.)

Each asset shall have an Entry Number assigned to it whether the asset is a new asset or an existing asset which has been modified.

5.3.2.2 Type

The Floodway types are:

- Floodway (Centre Surface Protection)
- Floodway (Shoulder Protection)
- Floodway (Scour Protection)

5.3.2.3 Formation – Area

The area of the formation for the floodway asset in square metres, should be taken from the GIS object once drawn.

5.3.2.4 Pavement – Area

The area of the pavement for the floodway in square metres, should be taken from the GIS object once drawn.

5.3.2.5 Pavement – Depth

The depth of the pavement for the floodway in millimetres

5.3.2.6 Pavement Base Type & Pavement Subbase Type:

The type of pavement **Base & Subbase** types are:

- Type 2.1 (without CTB)
- Type 2.1 (with CTB)
- Type 2.3 (without CTB)
- Type 2.3 (with CTB)
- Type 2.5 (without CTB)
- Unsealed Type 2.5

5.3.2.7 Surface – Area [*]

The area of the surface for the floodway asset in square metres, should be taken from the GIS object once drawn.

5.3.2.8 Surface – Depth

The depth of the surface of the floodway asset in millimetres

5.3.2.9 Surface Material Type

The type of surfacing material for the floodway asset. Surface material types are:

- Asphalt
- Bitumen
- Concrete
- Gravel
- Rock
- Stonepitch

5.3.2.10 Road Name

The name of the road in which the asset is located

5.3.2.11 Road Type

The type of the road in which the asset is located e.g. St

5.3.2.12 Suburb

The name of the suburb in which the asset is located

5.3.2.13 Date of Construction [*]

The date of which the asset was constructed. The format of the date shall be DD/MM/YYYY where:

Example:

- 5 March 2014 shall be represented by '05/03/2014'

5.3.2.14 Remarks

This is where any additional or significant details of the asset can be entered

5.3.2.15 Data Source [*]

The name of the consultant

5.3.2.16 Asset Status

For new assets the correct value of entry = Added

For modified assets the correct value of entry = Modified

For removed assets the correct value of entry is = Removed

5.3.3 DATA FORM: KERB & CHANNEL

5.3.3.1 Entry No.

Entry numbers are to be assigned by the consultant and shall consist of a unique identifier (i.e. KERB01, KERB02, etc.)

Each asset shall have an Entry Number assigned to it whether the asset is a new asset or an existing asset which has been modified.

5.3.3.2 Length

The length of the kerb and channel asset in metres, to one decimal place (i.e. 55.1)

5.3.3.3 Type

The type of kerb for the kerb and channel asset. The kerb types are:

- Kerb
- Road Crossing
- Table Drain
- Traffic Island

5.3.3.4 Sub Type

The type of Sub type for kerb and channel assets. The sub types are:

For **KERB**:

- Dish Channel
- Edge Restraint
- Kerb

For **ROAD CROSSING:**

- Dish Channel

For **TABLE DRAIN:**

- Concrete Drain Invert With Grass Banks
- Full Concrete Lined Drain
- Full Rock Lined Drain
- Rock Drain Invert With Grass Banks

For **TRAFFIC ISLAND:**

- Kerb & Shoulder
- Precast Traffic Island
- Traffic Island

5.3.3.5 Median /Traffic Island

Select 'Yes' if the kerb is part of a Median/Traffic Island. Otherwise select 'No'

5.3.3.6 Median Area

If the asset is a Median or Traffic Island, then enter the area in square metres

5.3.3.7 Median Infill

If the asset is a Median or Traffic Island, then select the correct infill from the drop-down box. The infill types are:

- Concrete
- Landscaped
- Mixed
- Paving
- Precast Traffic Island
- Others (Add in Remarks)

5.3.3.8 Road Name

The name of the road in which the asset is located

5.3.3.9 Road Type

The type of the road in which the asset is located e.g. St

5.3.3.10 Suburb

The name of the suburb in which the asset is located

5.3.3.11 Date of Construction [*]

The date of which the asset was constructed. The format of the date shall be DD/MM/YYYY where:

Example:

- 5 March 2014 shall be represented by '05/03/2014'

5.3.3.12 Remarks

This is where any additional or significant details of the asset can be entered

5.3.3.13 Data Source [*]

The name of the consultant

5.3.3.14 Asset Status

For new assets the correct value of entry = Added

For modified assets the correct value of entry = Modified

For removed assets the correct value of entry is = Removed

5.3.4 DATA FORM: FOOTPATHS

5.3.4.1 Entry No.

Entry numbers are to be assigned by the consultant and shall consist of a unique identifier (i.e. FOOT01, FOOT02, etc.)

Each asset shall have an Entry Number assigned to it whether the asset is a new asset or an existing asset which has been modified.

5.3.4.2 Type

The footpath types are:

- Footpath
- Boardwalk
- Trail

If it is none of these, it can be entered into the Remarks column

5.3.4.3 Length

The length of the footpath asset in metres, to one decimal place (i.e. 43.7)

5.3.4.4 Width

The width of the footpath asset in metres, to one decimal place (i.e. 1.8)

5.3.4.5 Area [*]

The area of the footpath asset in square metres

5.3.4.6 Depth

The depth of the footpath asset in millimetres

5.3.4.7 Material Type

Material types are:

- Asphalt
- Bitumen
- Clay Pavers
- Cobblestones
- Concrete
- Concrete Pavers
- FRP – Fibre-Reinforced Plastic
- Gravel High Order – Rail Trail
- Gravel Low Order
- Timber on ground
- Timber Raised
- Timber Raised with Handrail
- Natural
- Other (Add in Remarks)

5.3.4.8 Location

The location of the footpath asset. If it is next to a road, this will be the side of the road. Otherwise, it will be where the footpath is located within. Locations are:

- Left
- Right
- Park

5.3.4.9 Park Name

The name of the park in which the asset is located (if applicable)

5.3.4.10 Road Name

The name of the road in which the asset is located

5.3.4.11 Road Type

The type of the road in which the asset is located e.g. St

5.3.4.12 Suburb

The name of the suburb in which the asset is located

5.3.4.13 Date of Construction [*]

The date of which the asset was constructed. The format of the date shall be DD/MM/YYYY where:

Example:

5 March 2014 shall be represented by '05/03/2014'

5.3.4.14 Remarks

This is where any additional or significant details of the asset can be entered

5.3.4.15 Data Source [*]

The name of the consultant

5.3.4.16 Asset Status

For new assets the correct value of entry = Added

For modified assets the correct value of entry = Modified

For removed assets the correct value of entry is = Removed

5.3.5 DATA FORM: CAR PARKS

5.3.5.1 Entry No.

Entry numbers are to be assigned by the consultant and shall consist of a unique identifier (i.e. CARP01, CARP02, etc.)

Each asset shall have an Entry Number assigned to it whether the asset is a new asset or an existing asset which has been modified.

5.3.5.2 Length

The length of the car park asset in metres, to one decimal place (i.e. 25.6)

5.3.5.3 Width

The width of the car park asset in metres, to one decimal place (i.e. 10.8)

5.3.5.4 Formation Area [*]

The area of the formation for the car park asset in square metres.

5.3.5.5 Pavement Area [*]

The area of the pavement for the car park asset in square metres. Where carparks are of an irregular shape, manually calculate area and ignore the length & width fields.

5.3.5.6 Pavement Depth

The depth of the pavement for the car park asset in millimetres

5.3.5.7 Pavement Base Type & Pavement Subbase Type:

The type of pavement **Base & Subbase** types are:

- Type 2.1 (without CTB)
- Type 2.1 (with CTB)
- Type 2.3 (without CTB)
- Type 2.3 (with CTB)
- Type 2.5 (without CTB)
- Unsealed Type 2.5

5.3.5.8 Surface Area [*]

The area of the sealed surface for the car park asset in square metres [This may be different to the pavement area as part of the car park may only be of a gravel standard]

5.3.5.9 Surface Depth

The depth of the surface for the carpark asset in millimetres

5.3.5.10 Surface Material Type

The surface material for the car park asset. Surface material types are:

- Asphalt
- Bitumen
- Concrete
- Earth
- Gravel
- Pavers
- Turfpave
- Other (Add in Remarks)

If it is none of these, it can be entered into the Remarks column

5.3.5.11 Number of Bays

The number of designated/marked parking bays in the car park

5.3.5.12 Car Park Type

The type of car park for the kerb and channel asset. The car park types are:

- Carpark
- Blister
- Drainage Access
- Driveway
- Loading Ramp
- Set Down
- Turnaround
- Hardstand
- Other (Add in Remarks)

5.3.5.13 Road Name

The name of the road in which the asset is located

5.3.5.14 Road Type

The type of the road in which the asset is located e.g. St

5.3.5.15 Suburb

The name of the suburb in which the asset is located

5.3.5.16 Date of Construction [*]

The date of which the asset was constructed. The format of the date shall be DD/MM/YYYY where:

Example:

5 March 2014 shall be represented by '05/03/2014'

5.3.5.17 Remarks

This is where any additional or significant details of the asset can be entered

5.3.5.18 Data Source [*]

The name of the consultant

5.3.5.19 Asset Status

For new assets the correct value of entry = Added

For modified assets the correct value of entry = Modified

For removed assets the correct value of entry is = Removed

5.3.6 DATA FORM: BUS STOPS

5.3.6.1 Entry No.

Entry numbers are to be assigned by the consultant and shall consist of a unique identifier (i.e. BUS01, BUS02, etc.)

Each asset shall have an Entry Number assigned to it whether the asset is a new asset or an existing asset which has been modified.

5.3.6.2 Type

The type of bus stop asset. The bus stop types are:

- Bus Stop
- Hail and Ride
- Bus Zone

If it is none of these, it can be entered into the Remarks column

5.3.6.3 Slab

Select 'Yes' if there is a slab at the bus stop. Otherwise select 'No'

5.3.6.4 Slab Length

The slab length in metres, to one decimal place (i.e. 5.1)

5.3.6.5 Slab Width

The slab width in metres, to one decimal place (i.e. 3.5)

5.3.6.6 Slab Area [*]

The slab area in square metres

5.3.6.7 Public Transport Stop

Select 'Yes' if it is a Public Transport Stop. Otherwise select 'No'

5.3.6.8 School Stop

Select 'Yes' if it is a School stop. Otherwise select 'No'

5.3.6.9 J Pole Installed

Select 'Yes' if there is J Pole installed. Otherwise select 'No'

5.3.6.10 Tactiles

Select 'Yes' if there are Tactiles. Otherwise select 'No'

5.3.6.11 Seat

Select 'Yes' if there is a seat installed. Otherwise select 'No'

5.3.6.12 Seat Material

Seat material types are:

- Aluminium
- Timber
- Steel
- Other (Add in Remarks)

5.3.6.13 Shelter

Select 'Yes' if there is a shelter installed. Otherwise select 'No'

5.3.6.14 Shelter Length

The shelter length in metres, to one decimal place (i.e. 5.1)

5.3.6.15 Shelter Width

The shelter width in metres, to one decimal place (i.e. 3.5)

5.3.6.16 Shelter Material

The shelter material for the bus stop asset. Shelter material types are:

- Aluminium
- Concrete
- Steel
- Timber
- Other (Add in Remarks)

If it is none of these, it can be entered into the Remarks column

5.3.6.17 DDA Compliant

Select 'Yes' if the bus stop asset is compliant with the Disability Discrimination Act requirements. Otherwise select 'No'

5.3.6.18 Road Name

The name of the road in which the asset is located

5.3.6.19 Road Type

The type of the road in which the asset is located e.g. St

5.3.6.20 Suburb

The name of the suburb in which the asset is located

5.3.6.21 Date of Construction [*]

The date of which the asset was constructed. The format of the date shall be DD/MM/YYYY where:

Example:

5 March 2014 shall be represented by '05/03/2014'

5.3.6.22 Remarks

This is where any additional or significant details of the asset can be entered

5.3.6.23 Data Source [*]

The name of the consultant

5.3.6.24 Asset Status

For new assets the correct value of entry = Added

For modified assets the correct value of entry = Modified

For removed assets the correct value of entry is = Removed

5.3.7 DATA FORM: BRIDGES

5.3.7.1 Entry No.

Entry numbers are to be assigned by the consultant and shall consist of a unique identifier (i.e. BRDG01, BRDG02, etc.)

Each asset shall have an Entry Number assigned to it whether the asset is a new asset or an existing asset which has been modified.

5.3.7.2 Bridge Type

- Bridge
- Floodway

5.3.7.3 Bridge & Floodway Sub Type

For Bridges:

- Pedestrian Crossing
- Pedestrian Overpass
- Vehicle & Pedestrian Crossing
- Vehicle Crossing
- Other (Add in Remarks)

For Floodways:

- Centre Surface & Shoulder Protection
- Centre Surface Protection
- Shoulder Protection

- Signed Only

5.3.7.4 Traffic Width

The trafficable width for vehicles across the bridge asset, to one decimal place (i.e. 6.2m). If it is a footbridge, leave this blank

5.3.7.5 Footpath Width

The width of the footpath across the bridge asset, to one decimal place (i.e. 1.6m). If there is no footpath, leave this blank. If there is one on each side of the bridge, add them together

5.3.7.6 Total Structure Length

The total length of the bridge asset in metres, to one decimal place (i.e. 16.9)

5.3.7.7 Total Structure Width

The total width of the bridge asset in metres, to one decimal place (i.e. 9.7)

5.3.7.8 Total Bridge Area [*]

The total area of the bridge asset in square metres

5.3.7.9 Guardrail Crumple Zones

The total number of Guardrail Crumple Zones.

5.3.7.10 Approach Rail Type

The approach rail types for a Bridge and Floodway asset are:

- Steel Guardrail
- Steel handrail with post and mesh infill
- Steel handrail with post, top rail and mid rail
- Steel Rail Vehicle
- Timber handrailing with post and top rail
- Timber handrailing with post, top rail, bottom rail, cross members or decorative infill

If it is none of these, it can be entered into the Remarks column

5.3.7.11 Bridge Rail Type

The Bridge Rail Type for a Bridge and Floodway assets are:

- Concrete Kerb Nib Only
- Fully Enclosed Pedestrian Cage
- Steel Guardrail
- Steel handrail with post and mesh infill
- Steel handrail with post, top rail and mid rail
- Steel Rail Vehicle
- Timber handrailing with post and top rail
- Timber handrailing with post, top rail and mid rail
- Timber handrailing with post, top rail, bottom rail, cross members or decorative infill.
- Timber Kerb Nib Only
- Timber Log Kerb

If it is none of these, it can be entered into the Remarks column

5.3.7.12 Departure Rail Type

The Departure rail types for a Bridge and Floodway asset are:

- Steel Guardrail
- Steel handrail with post and mesh infill
- Steel handrail with post, top rail and mid rail
- Steel Rail Vehicle
- Timber handrailing with post and top rail
- Timber handrailing with post, top rail, bottom rail, cross members or decorative infill

If it is none of these, it can be entered into the Remarks column

5.3.7.13 Approach Rail Length

The length of the rail on the approach to the bridge asset in metres, to one decimal place (i.e. 13.4m). Add the length of all approach rails, on both sides of the road, in each direction

5.3.7.14 Bridge Rail Length

The length of the rail along the bridge asset in metres, to one decimal place (i.e. 16.9m). Add the length of all bridge rails, on both sides of the road

5.3.7.15 Departure Rail Length

The length of the rail on the departure from the bridge asset in metres, to one decimal place (i.e. 12.3m). Add the length of all departure rails, on both sides of the road, in each direction

5.3.7.16 Surface Material

The surface material of the bridge and floodway assets. Material types are:

- Aluminium
- Asphalt
- Bitumen
- Concrete
- Gravel
- Steel
- Timber
- Other (Add in Remarks)

If it is none of these, it can be entered into the Remarks column

5.3.7.17 Span (Main Span)

The length of the bridge asset, in between two abutments, in metres, to one decimal place (i.e. 11.3)

5.3.7.18 Sub Structure Material

The material of the superstructure of the bridge asset. Material types are:

- Concrete
- Timber
- Steel
- Other (Add in Remarks)

If it is none of these, it can be entered into the Remarks column

5.3.7.19 Super Structure Material

The material of the superstructure of the bridge asset. Material types are:

- Concrete
- Timber
- Steel
- Other (Add in Remarks)

If it is none of these, it can be entered into the Remarks column

5.3.7.20 Deck Material

The material of the deck of the bridge asset. Material types are:

- Concrete
- Timber
- Steel
- Other (Add in Remarks)

If it is none of these, it can be entered into the Remarks column

5.3.7.21 Abutment Material

The material of the abutment of the bridge asset. Material types are:

- Concrete
- Timber
- Steel
- Other (Add in Remarks)

If it is none of these, it can be entered into the Remarks column

5.3.7.22 Load Limit

The load limit of the bridge asset in tonnes

5.3.7.23 Crossing Type

The type of crossing for the bridge asset. Crossing types are:

- Waterway
- Overpass
- Railway
- Other (Add in Remarks)

If it is none of these, it can be entered into the Remarks column

5.3.7.24 Bridge Name

The name of the bridge asset, if applicable (i.e. J Ellen Bridge)

5.3.7.25 Crossing Name

The name of the crossing for the bridge asset, if applicable (i.e. Six Mile Creek)

5.3.7.26 Road Name

The name of the road in which the asset is located

5.3.7.27 Road Type

The type of the road in which the asset is located e.g. St

5.3.7.28 Suburb

The name of the suburb in which the asset is located

5.3.7.29 Date of Construction [*]

The date of which the asset was constructed. The format of the date shall be DD/MM/YYYY where:

Example:

5 March 2014 shall be represented by '05/03/2014'

5.3.7.30 Remarks

This is where any additional or significant details of the asset can be entered

5.3.7.31 Data Source [*]

The name of the consultant

5.3.7.32 Asset Status

For new assets the correct value of entry = Added

For modified assets the correct value of entry = Modified

For removed assets the correct value of entry is = Removed

5.3.8 DATA FORM: MAJOR, MINOR CULVERTS

5.3.8.1 Entry No.

Entry numbers are to be assigned by the consultant and shall consist of a unique identifier (i.e. CULV01, CULV02, etc.)

Each asset shall have an Entry Number assigned to it whether the asset is a new asset or an existing asset which has been modified.

5.3.8.2 Type

The type of culvert asset. The culvert types are:

- Major
- Minor

5.3.8.3 Sub Type

The Sub type of culvert asset. The sub types are:

- Detention Outlet
- Pedestrian Crossing
- Vehicle and Pedestrian Crossing
- Vehicle Crossing

5.3.8.4 Traffic Width

The trafficable width for vehicles over the culvert asset in metres, to one decimal place (i.e. 7.5)

5.3.8.5 Number of Cells

The number of cells - Cells refers to the individual rows of pipes/ box culverts that make up the culvert asset (i.e. 5)

5.3.8.6 Cell Diameter/ Width

The diameter of the pipes/ the width of the box culverts that make up the culvert asset in millimetres (i.e. 1050/ 2400)

5.3.8.7 Cell Height

The height of the box culverts that make up the culvert asset in millimetres (i.e. 1200)

5.3.8.8 Cell Length

The length of the rows of pipes/ box culverts that make up the culvert asset in metres, to one decimal place (i.e. 7.8)

5.3.8.9 Culvert Span Length

The length of the water flow through the culvert asset in metres (i.e. if the major culvert is made up of five 2400 * 1200 box culverts, it would be 12)

5.3.8.10 Headwall Height

The height of the headwalls for the culvert in millimetres

5.3.8.11 Headwall Length

The length of the headwalls for the culvert in millimetres

5.3.8.12 Total Culvert Area [*]

The total plan area of the water flow for the culvert asset in square metres (this will be the culvert span length multiplied by the cell length)

5.3.8.13 Guardrail Crumple Zones

The total number of Guardrail Crumple Zones

5.3.8.14 Approach Rail Type

The approach rail types for culvert asset are:

- Steel Guardrail
- Steel handrail with post and mesh infill
- Steel handrail with post, top rail and mid rail
- Steel Rail Vehicle
- Timber handrailing with post and top rail
- Timber handrailing with post, top rail, bottom rail, cross members or decorative infill

If it is none of these, it can be entered into the Remarks column

5.3.8.15 Culvert Rail Type

The Culvert Rail Type for the culvert assets are:

- Concrete Kerb Nib Only
- Fully Enclosed Pedestrian Cage
- Steel Guardrail
- Steel handrail with post and mesh infill
- Steel handrail with post, top rail and mid rail
- Steel Rail Vehicle
- Timber handrailing with post and top rail
- Timber handrailing with post, top rail and mid rail
- Timber handrailing with post, top rail, bottom rail, cross members or decorative infill.
- Timber Kerb Nib Only
- Timber Log Kerb

If it is none of these, it can be entered into the Remarks column

5.3.8.16 Departure Rail Type

The Departure rail types for culvert asset are:

- Steel Guardrail
- Steel handrail with post and mesh infill
- Steel handrail with post, top rail and mid rail
- Steel Rail Vehicle
- Timber handrailing with post and top rail
- Timber handrailing with post, top rail, bottom rail, cross members or decorative infill

If it is none of these, it can be entered into the Remarks column

5.3.8.17 Approach Rail Length

The length of the rail on the approach to the culvert asset in metres, to one decimal place (i.e. 12.8). Add the length of all approach rails, on both sides of the road, in each direction

5.3.8.18 Culvert Rail Length

The length of the rail along the culvert asset in metres, to one decimal place (i.e. 11.4). Add the length of all culvert rails, on both sides of the road

5.3.8.19 Departure Rail Length

The length of the rail on the departure from the culvert asset in metres, to one decimal place (i.e. 12.3m). Add the length of all departure rails, on both sides of the road, in each direction

5.3.8.20 Surface Material

The surface material of the road above the culvert asset. Material types are:

- Asphalt
- Bitumen
- Cobblestone
- Concrete
- Pavers
- Gravel
- Timber
- Track Pad
- Formed
- Unformed

- Unformed – Track
- Other (Add in Remarks)

If it is none of these, it can be entered into the Remarks column

5.3.8.21 Sub, Super Structure & Abutment Material

The Sub & Super Structure & Abutment material of the road above the culvert asset. Material types are:

- Concrete
- Timber
- Steel
- Other (Add in Remarks)

5.3.8.22 Bridge Name

The name of the culvert asset, if applicable (i.e. J Ellen Bridge)

5.3.8.23 Crossing Name

The name of the crossing for the culvert asset, if applicable (i.e. Six Mile Creek)

5.3.8.24 Road Name

The name of the road in which the asset is located

5.3.8.25 Road Type

The type of the road in which the asset is located e.g. St

5.3.8.26 Suburb

The name of the suburb in which the asset is located

5.3.8.27 Date of Construction [*]

The date of which the asset was constructed. The format of the date shall be DD/MM/YYYY where:

Example:

5 March 2014 shall be represented by '05/03/2014'

5.3.8.28 Remarks

This is where any additional or significant details of the asset can be entered

5.3.8.29 Data Source [*]

The name of the consultant

5.3.8.30 Asset Status

For new assets the correct value of entry = Added
For modified assets the correct value of entry = Modified
For removed assets the correct value of entry is = Removed

5.3.9 DATA FORM: STREETLIGHTS/ELECTRICAL

5.3.9.1 Entry No.

Entry numbers are to be assigned by the consultant and shall consist of a unique identifier (i.e. ELEC01, ELEC02, etc.)

Each asset shall have an Entry Number assigned to it whether the asset is a new asset or an existing asset which has been modified.

5.3.9.2 Type

The type of Street Lights/Electrical asset are:

- Electrical Art Light
- Electrical Conduit
- Electrical Light
- Electrical Pit
- Electrical Power Box
- Electrical Power Outlet
- Other (Add in Remarks)

If it is none of these, it can be entered into the Remarks column

5.3.9.3 Diameter/ Width

The diameter or width of the streetlights/ electrical asset in millimetres

5.3.9.4 Height

The height of the streetlights/ electrical asset in millimetres

5.3.9.5 Length

The length of the streetlights/ electrical asset in metres, to one decimal place i.e. 34.6)

5.3.9.6 Foundation Type

The foundation type of the streetlights/ electrical asset is:

- Fixed Footing
- Pole Mount
- Structure Ceiling Mount

5.3.9.7 Material Type

The material type of the streetlights/ electrical asset is:

- PVC
- Aluminium
- Cast Iron
- Galvanised
- Plastic
- Plastic with Concrete Lid
- Plastic with Galvanised Lid
- Powder Coasted
- Stainless Steel
- Steel
- Timber

5.3.9.8 Fuse Type

The fuse type of the streetlights/ electrical asset, if applicable

5.3.9.9 Voltage

The Voltage for the streetlights/electrical asset.

- 240 OH
- 240 UG
- 12
- 24
- Other (Add in Remarks)

5.3.9.10 Wattage

The relevant wattage of the streetlights/ electrical asset, if applicable

5.3.9.11 Solar

Select 'Yes' if it is a Solar streetlights/ electrical asset. Otherwise select 'No'

5.3.9.12 LED

Select 'Yes' if it is a LED streetlights/ electrical asset. Otherwise select 'No'

5.3.9.13 Manufacturer

The manufacturing company of the streetlights/electrical asset

5.3.9.14 Model

The model of the streetlights/ electrical asset

5.3.9.15 Purpose

The purpose of the streetlights/ electrical asset (i.e. For a Switch Box; Control box for Toilet Block, For a Conduit; Power supply to Traffic Light, etc.)

5.3.9.16 Road Name

The name of the road in which the asset is located

5.3.9.17 Road Type

The type of the road in which the asset is located e.g. St

5.3.9.18 Suburb

The name of the suburb in which the asset is located

5.3.9.19 Date of Construction [*]

The date of which the asset was constructed. The format of the date shall be DD/MM/YYYY where:

Example:

- 5 March 2014 shall be represented by '05/03/2014'

5.3.9.20 Remarks

This is where any additional or significant details of the asset can be entered

5.3.9.21 Data Source [*]

The name of the consultant

5.3.9.22 Asset Status

For new assets the correct value of entry = Added

For modified assets the correct value of entry = Modified
For removed assets the correct value of entry is = Removed

5.3.10 DATA FORM: TRAFFIC SIGNALS

5.3.10.1 Entry No.

Entry numbers are to be assigned by the consultant and shall consist of a unique identifier (i.e. TRAF01, TRAF02, etc.)
Each asset shall have an Entry Number assigned to it whether the asset is a new asset or an existing asset which has been modified.

5.3.10.2 Type

The type of traffic signals asset is:

- Traffic Light Post
- Traffic Light Controller
- Traffic Light URD Pillar
- Streams
- Traffic Counter

5.3.10.3 Diameter/ Width

The diameter or width of the traffic signal asset in millimetres

5.3.10.4 Height

The height of the traffic signal asset in millimetres

5.3.10.5 Length

The outreach of the traffic signal asset in metres, if applicable, to one decimal place (i.e. 4.5)

5.3.10.6 Number of Faces

The number of lanterns faces (1-4) on the traffic signal asset, if applicable

5.3.10.7 Lamp Diameter

The diameter of the lamps/lanterns on the traffic signal asset in millimetres, if applicable

5.3.10.8 Material Type

The material type of the traffic signal asset

5.3.10.9 Post Type

The post type of the traffic signal asset, if applicable

5.3.10.10 Number of Pedestrian Push Buttons

The number of pedestrian push buttons on the traffic signal asset

5.3.10.11 Number of Pedestrian Lights

The number of pedestrian lights on the traffic signal asset

5.3.10.12 Manufacturer

The manufacturing company of the traffic signal asset

5.3.10.13 Model

The model of the traffic signal asset

5.3.10.14 Road Name

The name of the road in which the asset is located

5.3.10.15 Road Type

The type of the road in which the asset is located e.g. St

5.3.10.16 Suburb

The name of the suburb in which the asset is located

5.3.10.17 Date of Construction [*]

The date of which the asset was constructed. The format of the date shall be DD/MM/YYYY where:

Example:

5 March 2014 shall be represented by '05/03/2014'

5.3.10.18 Remarks

This is where any additional or significant details of the asset can be entered

5.3.10.19 Data Source [*]

The name of the consultant

5.3.10.20 Asset Status

For new assets the correct value of entry = Added

For modified assets the correct value of entry = Modified

For removed assets the correct value of entry is = Removed

6.0 STORMWATER ASSETS

6.1 Plan Information

Digital plan information, in the formats specified in Section 2.2 of this manual, is to be provided for all the stormwater assets listed in Table 3.4

6.2 Attribute Information

6.2.1 General

Attribute information is to be supplied for all new Stormwater assets which ultimately become the property and responsibility of Council, in the format specified in section 2.3. These assets and the relevant form number for recording attribute data are listed in Table 3.4.

Attribute information is also to be supplied for all assets which have been modified during the construction of new assets. This includes:

- Assets which have been added (includes moving an asset's location)
- The characteristics (i.e. attributes) of an asset have been modified.

The attribute data forms have been designed to record both new assets and modified assets.

An example project has been completed using the standard attribute data forms and is included in Section 11 of this manual.

6.2.2 Standard Forms

The forms and an explanation of each of the entry columns for each of the forms are included in the following sections.

NOTE: If [*****] is next to the field name below, it indicates that the specific field in the As Con Data Form automatically populates, when all other relevant fields are completed. These automated fields can be overwritten if the automated value is incorrect or requires changing

6.3 STORMWATER

6.3.1 DATA FORM: GROSS POLLUTANT TRAPS

6.3.1.1 Entry No.

Entry numbers are to be assigned by the consultant and shall consist of a unique identifier (i.e. GPT01, GPT02, etc.)

Each asset shall have an Entry Number assigned to it whether the asset is a new asset or an existing asset which has been modified.

6.3.1.2 Type

The type of gross pollutant trap asset. Example types are:

- **Biological GPT –**
  SUB_TYPE

  - Bio-garden
  - Bio-pod
  - Bio-Retention Basin
  - Permeable Pavers
  - Swale
- **Mechanical GPT –**
  SUB_TYPE
  - Debris Fence
  - Gross Pollutant Trap
  - Trash Rack
- **Sediment Control –**
  SUB_TYPE
  - Sediment Forebay

6.3.1.3 Diameter/ Width

The diameter or width of the gross pollutant trap asset in millimetres

6.3.1.4 Length

The length of the gross pollutant trap asset in millimetres

6.3.1.5 Depth

The depth of the gross pollutant trap asset in millimetres

6.3.1.6 Material Type

The material type of the gross pollutant trap asset. Material types are:

- Steel
- Cast Iron
- Galvanised Iron
- Concrete
- PVC
- Grassed
- Filter Material
- Other (Add in Remarks)

If it is none of these, it can be entered into the Remarks column

6.3.1.7 Pit Lid Type

The material type of the pit lid of the gross pollutant trap asset. Pit lid types are:

- Concrete
- Galvanised Steel
- Cast Iron
- PVC
- Fibre Glass
- Other (Add in Remarks)

If it is none of these, it can be entered into the Remarks column

6.3.1.8 Manufacturer

The manufacturing company of the gross pollutant trap asset.

- CDS
- Ecosol

- Humes
- Rocla
- SPEL Stormwater
- Other (Add in Remarks)

6.3.1.9 Model

The model of the gross pollutant trap asset

For CDS

- P3018R
- F0908
- P3030
- Other (Add in Remarks)

For Ecosol

- GPT4600
- ETR52
- ETR67
- RF4600
- RF4750
- RSF4300
- RSF4450
- RSF4600
- Tree Pit
- Other (Add in Remarks)

For Humes

- Humeceptor STC2
- Humeceptor STC14
- Humeceptor STC3
- Humegard HG18
- Humegard HG30a
- Humegard HG24/R
- Humegard HG27/R
- Other (Add in Remarks)

For Rocla

- Cleansall 750
- CDS P1015R
- CDS1518
- Cleansall 600
- Cleansall 900
- Downstream Defender DD1200C (Dual pit system)
- FD450
- Sentinel 6000
- Other (Add in Remarks)

For SPEL Stormwater

- Stormceptor Class 3 S1200/608585
- Other (Add in Remarks)

Other (Add in Remarks)

If it is none of these, it can be entered into the Remarks column

6.3.1.10 Surface Level

The surface level on the centre of the pit lid of the gross pollutant trap asset in metres (AHD)

6.3.1.11 Invert Level

The level at the lowest point of the gross pollutant trap asset in metres (AHD)

6.3.1.12 Position

The most appropriate description of where the asset is located. The positions are:

- Kerbside
- Road
- Footpath
- Drain/ Reserve
- Private Property
- Beach
- Other (Add in Remarks)

If it is none of these, it can be entered into the Remarks column

6.3.1.13 Road Name

The name of the road in which the asset is located, if applicable

6.3.1.14 Road Type

The type of the road in which the asset is located e.g. St

6.3.1.15 Suburb

The name of the suburb in which the asset is located

6.3.1.16 Date of Construction [*]

The date of which the asset was constructed. The format of the date shall be DD/MM/YYYY where:

Example:

5 March 2014 shall be represented by '05/03/2014'

6.3.1.17 Remarks

This is where any additional or significant details of the asset can be entered

6.3.1.18 Data Source [*]

The name of the consultant

6.3.1.19 Asset Status

For new assets the correct value of entry = Added

For modified assets the correct value of entry = Modified

For removed assets the correct value of entry is = Removed

6.3.2 DATA FORM: OPEN DRAINS

6.3.2.1 Entry No.

Entry numbers are to be assigned by the consultant and shall consist of a unique identifier (i.e. OPDR01, OPDR02, etc.)

Each asset shall have an Entry Number assigned to it whether the asset is a new asset or an existing asset which has been modified.

6.3.2.2 Type

The type of open drain asset. The open drain types are:

- **Constructed Drain -**
  SUB_TYPE
  - Concrete Access Ramp
  - Rock Access Ramp
  - Full Concrete Lined Drain
  - Concrete Drain Invert With Formal Banks
  - Concrete Drain Invert With Grass Banks
  - Concrete Drain Invert With Natural Banks
  - Concrete Drain Invert With Rock Banks
  - Full Rock Lined Drain
  - Rock Drain Invert With Formal Banks
  - Rock Drain Invert With Grass Banks
  - Rock Drain Invert With Natural Banks
  - Vegetated Drain With Formal Landscaping
  - Vegetated Drain With Formal Landscaping and Low Flow Concrete Invert
  - Vegetated Drain With Light Grass Cover
  - Vegetated Drain With Light Grass Cover and Low Flow Concrete Invert
  - Vegetated Drain With Natural Landscaping
  - Vegetated Drain With Natural Landscaping and Low Flow Concrete Invert

- **Natural Drain -**
  SUB_TYPE
  - Earthen Drain With Dense Cover
  - Earthen Drain With Light Grass Cover

If it is none of these, it can be entered into the Remarks column

6.3.2.3 Length

The length of the open drain asset in metres, to one decimal place (i.e. 64.9)

6.3.2.4 Base Width

The width of the base of the open drain asset in metres, taken at a typical cross-section

6.3.2.5 Top Width

The width of the top of the open drain asset in metres, taken at a typical cross-section

6.3.2.6 Bankfull Depth

The distance from the invert to the top of bank of the open drain asset in metres, taken at a typical cross-section

6.3.2.7 Area [*]

The area of the open drain asset in square metres

6.3.2.8 Volume [*]

The volume of the open drain asset in cubic metres

6.3.2.9 Downstream Invert Level

The invert level at the downstream end of the open drain asset in metres (AHD), to three decimal places

6.3.2.10 Upstream Invert Level

The invert level at the upstream end of the open drain asset in metres (AHD), to three decimal places

6.3.2.11 Position

The most appropriate description of where the asset is located. The positions are:

- Kerbside
- Road
- Footpath
- Drain/ Reserve
- Private Property
- Beach
- Other (Add in Remarks)

If it is none of these, it can be entered into the Remarks column

6.3.2.12 Road Name

The name of the road in which the asset is located, if applicable

6.3.2.13 Road Type

The type of the road in which the asset is located e.g. St

6.3.2.14 Suburb

The name of the suburb in which the asset is located

6.3.2.15 Date of Construction [*]

The date of which the asset was constructed. The format of the date shall be DD/MM/YYYY where:

Example:

5 March 2014 shall be represented by '05/03/2014'

6.3.2.16 Remarks

This is where any additional or significant details of the asset can be entered

6.3.2.17 Data Source [*]

The name of the consultant

6.3.2.18 Asset Status

For new assets the correct value of entry = Added

For modified assets the correct value of entry = Modified

For removed assets the correct value of entry is = Removed

6.3.3 DATA FORM: DETENTION STRUCTURES

6.3.3.1 Entry No.

Entry numbers are to be assigned by the consultant and shall consist of a unique identifier (i.e. DTNS01, DTNS02, etc.)

Each asset shall have an Entry Number assigned to it whether the asset is a new asset or an existing asset which has been modified.

6.3.3.2 Type

The type of detention structure asset is:

- Drainage Detention
- Drainage Retention

6.3.3.3 Length

The length of the detention structure asset in metres, to one decimal place (i.e. 43.2)

6.3.3.4 Width

The width of the detention structure asset in metres, to one decimal place (i.e. 17.4)

6.3.3.5 Depth

The depth of the detention structure asset in metres, to one decimal place (i.e. 3.7)

6.3.3.6 Surface Area [*]

The surface area of the detention structure asset in square metres

6.3.3.7 Volume [*]

The volume of the detention structure asset in cubic metres

6.3.3.8 Invert Level

The invert level at the deepest point of the detention structure asset in metres (AHD), discounting any storage used for permanent water storage

6.3.3.9 Weir

Select 'Yes' if there is a weir on the detention structure asset. Otherwise select 'No'

6.3.3.10 Weir Length

The length of the weir in metres, to one decimal place (i.e. 19.2)

6.3.3.11 Weir Height

The height of the weir in metres (AHD), to three decimal places

6.3.3.12 Weir Material

The material from which the weir is constructed

6.3.3.13 Position

The most appropriate description of where the asset is located. The positions are:

- Drain/ Reserve
- Private Property
- Road

If it is none of these, it can be entered into the Remarks column

6.3.3.14 Road Name

The name of the road in which the asset is located, if applicable

6.3.3.15 Road Type

The type of the road in which the asset is located e.g. St

6.3.3.16 Suburb

The name of the suburb in which the asset is located

6.3.3.17 Date of Construction [*]

The date of which the asset was constructed. The format of the date shall be DD/MM/YYYY where:

Example:

5 March 2014 shall be represented by '05/03/2014'

6.3.3.18 Remarks

This is where any additional or significant details of the asset can be entered

6.3.3.19 Data Source [*]

The name of the consultant

6.3.3.20 Asset Status

For new assets the correct value of entry = Added

For modified assets the correct value of entry = Modified

For removed assets the correct value of entry is = Removed

6.3.4 DATA FORM: PIPES

6.3.4.1 Entry No.

Entry numbers are to be assigned by the consultant and shall consist of a unique identifier (i.e. PIPE01, PIPE02, etc.)

Each asset shall have an Entry Number assigned to it whether the asset is a new asset or an existing asset which has been modified.

6.3.4.2 PIPE TYPE & SUB_TYPE

The **TYPE** of pipe asset is:

- Beach Outlet
- Culvert
- Ergon Access Structure
- Inter Allotment Drainage
- Network Drainage
- Site Specific Drainage

SUB_TYPE

- Pipe
- RCBC

6.3.4.3 Diameter/ Width

The nominal diameter of the circular pipe/ the width of the box culvert asset in millimetres (i.e. 375/ 600)

6.3.4.4 Height

The height of the box culvert asset in millimetres (i.e. 450)

6.3.4.5 Length

The length of the pipe asset in metres, to one decimal place (i.e. 8.1)

6.3.4.6 Material Type

The material type for the pipe asset. Material types are:

- Blackmax
- Fibre Reinforced Concrete
- Flowtite
- Polyethylene
- PVC
- Steel Reinforced Concrete
- Other (Add in Remarks)

If it is none of these, it can be entered into the Remarks column

6.3.4.7 Pipe Class

The relevant pipe class, if applicable

6.3.4.8 Upstream Node

The unique identifier (Entry No.) of the upstream pit/ headwall asset

6.3.4.9 Downstream Node

The unique identifier (Entry No.) of the downstream pit/ headwall asset

6.3.4.10 Upstream Invert Level

The invert level of the pipe asset at its upstream end in metres (AHD), to three decimal places

6.3.4.11 Downstream Invert Level

The invert level of the pipe asset at its downstream end in metres (AHD), to three decimal places

6.3.4.12 Position

The most appropriate description of where the asset is located. The positions are:

- Kerbside
- Road
- Footpath
- Drain/ Reserve
- Private Property
- Beach
- Other (Add in Remarks)

If it is none of these, it can be entered into the Remarks column

6.3.4.13 Road Name

The name of the road in which the asset is located, if applicable

6.3.4.14 Road Type

The type of the road in which the asset is located e.g. St

6.3.4.15 Suburb

The name of the suburb in which the asset is located

6.3.4.16 Date of Construction [*]

The date of which the asset was constructed. The format of the date shall be DD/MM/YYYY where:

Example:

5 March 2014 shall be represented by '05/03/2014'

6.3.4.17 Remarks

This is where any additional or significant details of the asset can be entered

6.3.4.18 Data Source [*]

The name of the consultant

6.3.4.19 Asset Status

For new assets the correct value of entry = Added

For modified assets the correct value of entry = Modified

For removed assets the correct value of entry is = Removed

6.3.5 DATA FORM: PITS/ HEADWALLS

6.3.5.1 Entry No.

Entry numbers are to be assigned by the consultant and shall consist of a unique identifier (i.e. PIT01, PIT02/ HW01, HW02 etc.)

Each asset shall have an Entry Number assigned to it whether the asset is a new asset or an existing asset which has been modified.

6.3.5.2 PITS & HEADWALLS Types

Depending on which type of asset is selected, the list will reflect whether the asset is a:

- **End Structure**
  SUB_TYPE
  - Standard Headwall Wing Wall with Apron
  - Standard Headwall Wing Wall
  - Complex Headwall Wing Wall
  - Headwall with Apron
  - Headwall only
  - Apron Only
  - No End Structure

- **Ergon Access End Structure**
  SUB_TYPE
  - Standard Headwall Wing Wall
  - Headwall Only
  - No End Structure

- **Pit**
  SUB_TYPE
  - Combined Entry Pit
  - Side Inlet Pit
  - Side Inlet Pit with Manhole Lid
  - Field Inlet Pit
  - Gully Inlet Pit
  - Surcharge Pit
  - Access Manhole
  - RCBC Grated Inlet

- **Sub-Surface Structure**
  SUB_TYPE
  - Junction

- **Sub-Surface Fitting**
  SUB_TYPE
  - Node

- **Tide Control Valve**
  SUB_TYPE
  - Hinged Gate Valve
  - Sluice Gate Valve
  - Rubber Duckbill Valve

If it is none of these, it can be entered into the Remarks column

6.3.5.3 Pit/ Headwall Length

The length of the pit/ headwall asset in millimetres

6.3.5.4 Pit Width/ Headwall Height

The width of the pit or the height of the headwall asset in millimetres

6.3.5.5 Pit Depth

The depth of the pit asset in metres, to three decimal places (For headwalls, leave blank)

6.3.5.6 Material Type

The material from which the pit/ headwall asset is constructed. Material types are:

- Precast Concrete
- Cast Insitu Concrete
- PVC/uPVC/Blackmax
- Timber
- Other (Add in Remarks)

If it is none of these, it can be entered into the Remarks column

6.3.5.7 Pit Lid Type

The material type of the lid of the pit asset (For headwalls, leave blank). Material types are:

- Concrete
- Galvanised Steel
- Cast Iron
- PVC
- Fibre Glass
- Other (Add in Remarks)

If it is none of these, it can be entered into the Remarks column

6.3.5.8 Grate

Select 'Yes' if there is a grate on the pit/ headwall asset. Otherwise select 'No'

6.3.5.9 Grate Length

The length of the grate in millimetres

6.3.5.10 Grate Width

The width of the grate in millimetres

6.3.5.11 Grate Material

The material from which the grate is constructed (i.e. Galvanised Steel, Cast Iron, etc.)

6.3.5.12 Number of Lintels

The number of lintels on the pit (For headwalls, leave blank)

6.3.5.13 Lintel Length

The length of the lintels on the pit in millimetres

6.3.5.14 Surface Level

The surface level on the centre of the pit/ top of the headwall asset in metres (AHD), to three decimal places

6.3.5.15 Invert Level

The invert level at the lowest point of the pit/ bottom of the headwall asset in metres (AHD), to three decimal places

6.3.5.16 Position

The most appropriate description of where the asset is located. The positions are:

- Kerbside
- Road
- Footpath
- Drain/ Reserve
- Private Property
- Beach
- Other (Add in Remarks)

If it is none of these, it can be entered into the Remarks column

6.3.5.17 Road Name

The name of the road in which the asset is located, if applicable

6.3.5.18 Road Type

The type of the road in which the asset is located e.g. St

6.3.5.19 Suburb

The name of the suburb in which the asset is located

6.3.5.20 Date of Construction [*]

The date of which the asset was constructed. The format of the date shall be DD/MM/YYYY where:

Example:

5 March 2014 shall be represented by '05/03/2014'

6.3.5.21 Remarks

This is where any additional or significant details of the asset can be entered

6.3.5.22 Data Source [*]

The name of the consultant

6.3.5.23 Asset Status

For new assets the correct value of entry = Added

For modified assets the correct value of entry = Modified

For removed assets the correct value of entry is = Removed

7.0 MISC. ASSETS

7.1 Plan Information

Digital plan information, in the formats specified in Section 2.2 of this manual, is to be provided for all the misc. assets listed in Table 3.4

7.2 Attribute Information

7.2.1 General

Attribute information is to be supplied for all new Misc. assets which ultimately become the property and responsibility of Council, in the format specified in section 2.3. These assets and the relevant form number for recording attribute data are listed in Table 3.4.

Attribute information is also to be supplied for all assets which have been modified during the construction of new assets. This includes:

- Assets which have been added (includes moving an asset's location)
- The characteristics (i.e. attributes) of an asset have been modified.

The attribute data forms have been designed to record both new assets and modified assets.

An example project has been completed using the standard attribute data forms and is included in Section 11 of this manual.

7.2.2 Standard Forms

The form and an explanation of each of the entry columns for the form is included in the following sections

NOTE: If [*****] is next to the field name below, it indicates that the specific field in the As Con Data Form automatically populates, when all other relevant fields are completed. These automated fields can be overwritten if the automated value is incorrect or requires changing

7.2.3 DATA FORM: OTHER STRUCTURES

7.2.3.1 Entry No.

Entry numbers are to be assigned by the consultant and shall consist of a unique identifier (i.e. OTHS1, OTHS02, etc.)

Each asset shall have an Entry Number assigned to it whether the asset is a new asset or an existing asset which has been modified.

7.2.3.2 Type

A general term for the other structure asset (i.e. Erosion Protection, Fence, Bollards, Seat, etc.)

7.2.3.3 Description

A more specific description of the other structure asset (i.e. Rock Scour Protection, Retaining Wall, Edge Bollards, Park Bench, Boundary Fence, Post & Rail Fence, etc.)

7.2.3.4 Quantity

The number of objects that form the other structure asset (For most objects, this will be 1; however, for Bollards, it may be many)

7.2.3.5 Material Type

The material of which the other structure asset is constructed from (i.e. Rock Concrete, Concrete, Timber, Steel, etc.)

7.2.3.6 Length

The length of the other structure asset in metres, to one decimal place (i.e. 23.6m)

7.2.3.7 Width

The width of the other structure asset in millimetres

7.2.3.8 Height

The height of the other structure asset in millimetres

7.2.3.9 Position

The most appropriate description of where the asset is located. Positions are:

- Kerbside
- Road
- Footpath
- Drain/ Reserve
- Private Property
- Beach
- Other (Add in Remarks)

If it is none of these, it can be entered into the Remarks column

7.2.3.10 Park Name

The name of the park in which the asset is located (if applicable)

7.2.3.11 Road Name

The name of the road in which the asset is located, if applicable

7.2.3.12 Road Type

The type of the road in which the asset is located e.g. St

7.2.3.13 Suburb

The name of the suburb in which the asset is located

7.2.3.14 Date of Construction [*]

The date of which the asset was constructed. The format of the date shall be DD/MM/YYYY where:

Example:

- 5 March 2014 shall be represented by '05/03/2014'

7.2.3.15 Remarks

This is where any additional or significant details of the asset can be entered

7.2.3.16 Data Source [*]

The name of the consultant

7.2.3.17 Asset Status

For new assets the correct value of entry = Added
For modified assets the correct value of entry = Modified
For removed assets the correct value of entry is = Removed

8.0 WATER RETICULATION

8.1 Plan Information

Digital plan information, in the formats specified in Section 2.2 of this manual, is to be provided for all the water reticulation assets listed in Table 3.4

8.2 Attribute Information

8.2.1 General

Attribute information is to be supplied for all new water reticulation assets which ultimately become the property and responsibility of WBW, in the formats specified in section 2.3 of this manual. These assets and the relevant form number for recording attribute data are listed in Table 3.4.

Attribute information is also to be supplied for all assets which have been modified during the construction of new assets. This includes:

- Assets which have been added (includes moving an asset's location)
- The characteristics (i.e. attributes) of an asset have been modified.

The Attribute Data Forms have been designed to record new assets, modified assets and decommissioned assets.

8.2.2 Standard Forms

The forms and an explanation of each of the entry columns for each of the forms are included in the following sections.

NOTE: If [*****] is next to the field name below, it indicates that the specific field in the As Con Data Form automatically populates, when all other relevant fields are completed. These automated fields can be overwritten if the automated value is incorrect or requires changing

8.3 Water Supply - Water Conduits

8.3.1 Form No. WAD-Conduit

8.3.1.1 Entry No.

Entry numbers are to be assigned by the consultant and shall consist of a unique identifier (i.e. WCOND1, WCOND2 etc.).
Each asset shall have an entry number assigned to it whether the asset is a new asset or an existing asset which has been modified.

8.3.1.2 Conduit Diameter

The nominal diameter of the conduit in millimetres.

8.3.1.3 Material

The material from which the conduit is constructed:

- CI
- Conc
- HDPE
- MDPE

- mPVC
- oPVC
- uPVC
- MS
- Other – add in Remarks

8.3.1.4 Class

The conduit class in accordance with the relevant Australian Standard

8.3.1.5 Length

The plan length of the conduit in metres.

8.3.1.6 Invert Level

The invert level (i.e. lowest point) of the conduit.

8.3.1.7 Installation Date [*]

The date of which the asset was constructed. The format of the date shall be DD/MM/YYYY where:
Example:
5 March 2008 shall be represented by '05/03/2008'

8.3.1.8 Remarks

Any remarks in relation to the asset.

8.3.1.9 Data Source [*]

The name of the consultant

8.3.1.10 Asset Status

For new assets the correct value of entry = N - New
For modified assets the correct value of entry = I - Modified
For decommissioned assets the correct value of entry = D - Decommissioned

8.4 Water Supply - Hydrants

8.4.1 Form No. WAD-Hydrants

8.4.1.1 Entry No.

Entry numbers are to be assigned by the consultant and shall consist of a unique identifier (i.e. HYDR1, HYDR2 etc.).
Each asset shall have an entry number assigned to it whether the asset is a new asset or an existing asset which has been modified.

8.4.1.2 Location

Description of the asset location as listed below:

- Footpath/Verge (between property boundary and K&C or edge of road)
- Road (within the road carriageway, between K&C within road seal)
- Private Property/Park (within real property i.e. private property, FCRC and WBW reserve or Crown land)
- Unknown

8.4.1.3 Diameter

The nominal diameter of the mains fitting in millimetres.

8.4.1.4 Surface Level

Record a surface level on the centre of the hydrant lid.

8.4.1.5 Installation Date [*]

The date of which the asset was constructed. The format of the date shall be DD/MM/YYYY where:
Example:
5 March 2008 shall be represented by '05/03/2008'

8.4.1.6 Remarks

Any remarks in relation to the asset.

8.4.1.7 Data Source [*]

The name of the Consultant

8.4.1.8 Assets Status

For new assets the correct value of entry = N - New
For modified assets the correct value of entry = I - Modified
For decommissioned assets the correct value of entry = D - Decommissioned

8.5 Water Supply - Flowmeters

8.5.1 Form No. WAD-Flowmeters

8.5.1.1 Entry No.

Entry numbers are to be assigned by the consultant and shall consist of a unique identifier (i.e. FLOW1, FLOW2 etc.).
Each asset shall have an entry number assigned to it whether the asset is a new asset or an existing asset which has been modified.

8.5.1.2 Location

Description of the asset location as listed below:

- Footpath/Verge (between property boundary and K&C or edge of road)
- Road (within the road carriageway, between K&C within road seal)
- Private Property/Park (within real property i.e. private property, FCRC and WBW reserve or Crown land)

8.5.1.3 Diameter

The nominal diameter of the flowmeter in millimetres.

8.5.1.4 Surface Level

Record a surface level on the centre of the flowmeter lid.

8.5.1.5 Installation Date [*]

The date of which the asset was constructed. The format of the date shall be DD/MM/YYYY where:
Example:
5 March 2008 shall be represented by '05/03/2008'

8.5.1.6 Remarks

Any remarks in relation to the asset.

8.5.1.7 Data Source [*]

The name of the Consultant

8.5.1.8 Assets Status

For new assets the correct value of entry = N - New
For modified assets the correct value of entry = I - Modified
For decommissioned assets the correct value of entry = D - Decommissioned

8.6 Water Supply - Pipes

8.6.1 Form No. WAD-Pipes

8.6.1.1 Entry No.

Entry numbers are to be assigned by the consultant and shall consist of a unique identifier (i.e. WPIPE1, WPIPE2 etc.).
Each asset shall have an entry number assigned to it whether the asset is a new asset or an existing asset which has been modified.

8.6.1.2 Location

Description of the asset location as listed below:

- Footpath/Verge (between property boundary and K&C or edge of road)
- Road (within the road carriageway, between K&C within road seal)
- Private Property/Park (within real property i.e. private property, FCRC and WBW reserve or Crown land)

8.6.1.3 Length

The plan length of the pipe from end to end in metres.

8.6.1.4 Diameter

The nominal diameter of the water main in millimetres.

8.6.1.5 Material

The material from which the pipe is constructed:

- ABS
- DICL
- MSCL
- HDPE
- MDPE
- GRP
- mPVC
- oPVC
- uPVC

8.6.1.6 Class

The pipe class in accordance with the relevant Australian Standard (e.g. AS 2280-1995 Ductile Iron Pressure Pipes and Fittings).

8.6.1.7 Installation Date [*]

The date of which the asset was constructed. The format of the date shall be DD/MM/YYYY where:
Example:
5 March 2008 shall be represented by '05/03/2008'

8.6.1.8 Remarks

Any remarks in relation to the asset.

8.6.1.9 Data Source [*]

The name of the Consultant

8.6.1.10 Assets Status

For new assets the correct value of entry = N - New
For modified assets the correct value of entry = I - Modified
For decommissioned assets the correct value of entry = D - Decommissioned

8.7 Water Supply - Pits

8.7.1 Form No. WAD-Pits

8.7.1.1 Entry No.

Entry numbers are to be assigned by the consultant and shall consist of a unique identifier (i.e. WPIT1, WPIT2 etc.).
Each asset shall have an entry number assigned to it whether the asset is a new asset or an existing asset which has been modified.

8.7.1.2 Location

Description of the asset location as listed below:

- Footpath/Verge (between property boundary and K&C or edge of road)
- Road (within the road carriageway, between K&C within road seal)
- Private Property/Park (within real property i.e. private property, FCRC and WBW reserve or Crown land)

8.7.1.3 Length

The plan length of the pit from end to end in millimetres. (Diameter if circular)

8.7.1.4 Width

The plan width of the pit from end to end in millimetres. (Same as length if circular)

8.7.1.5 Depth

The depth of the pit from in millimetres.

8.7.1.6 Surface Level

The surface level (i.e. cover) of the pit.

8.7.1.7 Cover Material

The material of the pit cover

- AL
- CI

- Conc
- MS
- GI
- PVC

8.7.1.8 Pit Construction

The construction method of the pit
- Poured concrete
- Precast concrete
- Concrete Block

8.7.1.9 Sump Pump

Is a sump pump fitted to the pit (T/F)?

8.7.1.10 Installation Date [*]

The date of which the asset was constructed. The format of the date shall be DD/MM/YYYY where:
Example:
5 March 2008 shall be represented by '05/03/2008'

8.7.1.11 Remarks

Any remarks in relation to the asset.

8.7.1.12 Data Source [*]

The name of the consultant

8.7.1.13 Assets Status

For new assets the correct value of entry = N - New
For modified assets the correct value of entry = I - Modified
For decommissioned assets the correct value of entry = D – Decommissioned

8.8 Water Supply - PRVs

8.8.1 Form No. WAD-PRVs

8.8.1.1 Entry No.

Entry numbers are to be assigned by the consultant and shall consist of a unique character (i.e. PRV1, PRV2, PRV3, etc.).
Each asset shall have an Entry Number assigned to it whether the asset is a new asset or an existing asset which has been modified.

8.8.1.2 Location

Description of the asset location as listed below:
- Footpath/Verge (between property boundary and K&C or edge of road)
- Road (within the road carriageway, between K&C within road seal)
- Private Property/Park (within real property i.e. private property, FCRC and WBW reserve or Crown land)

8.8.1.3 Diameter

The nominal diameter of the PRV in millimetres.

8.8.1.4 Model

The Model No. of the PRV

8.8.1.5 Manufacturer

The manufacturer of the PRV.

8.8.1.6 Surface Level

Record a surface level on the centre of the PRV lid.

8.8.1.7 Installation Date [*]

The date of which the asset was constructed. The format of the date shall be DD/MM/YYYY where:
Example:
5 March 2008 shall be represented by '05/03/2008'

8.8.1.8 Remarks

Any remarks in relation to the asset.

8.8.1.9 Data Source [*]

The name of the Consultant

8.8.1.10 Assets Status

For new assets the correct value of entry = N - New
For modified assets the correct value of entry = I - Modified
For decommissioned assets the correct value of entry = D - Decommissioned

8.9 Water Supply – Pump Stations

8.9.1 Form No. WAD-Pumps

8.9.1.1 Entry No.

Entry numbers are to be assigned by the consultant and shall consist of a unique identifier (i.e. PS1, PS2 etc.).
Each asset shall have an entry number assigned to it whether the asset is a new asset or an existing asset which has been modified.

8.9.1.2 Location

Description of the asset location as listed below:

- Footpath/Verge (between property boundary and K&C or edge of road)
- Road (within the road carriageway, between K&C within road seal)
- Private Property/Park (within real property i.e. private property, FCRC and WBW reserve or Crown land)

8.9.1.3 Item

Description of the pump e.g.

- Transfer pump
- Booster pump
- Pump 1
- Pump 2

8.9.1.4 Make

The brand name of the pump.

8.9.1.5 Model No.

The Model No. of the pump

8.9.1.6 Serial No.

The Serial No. of the pump

8.9.1.7 Type

The type of pump e.g.

- Centrifugal
- Sub Centrifugal

8.9.1.8 KW

The KW rating of the pump motor

8.9.1.9 RPM

The number of revolutions per minute of the pump

8.9.1.10 Duty Discharge

Discharge in litres per second

8.9.1.11 Head

Pressure head of the pump

8.9.1.12 Impeller

The diameter of the impeller

8.9.1.13 Bearing

The bearing type and serial No.

8.9.1.14 Seal

The type of seal e.g.

- Mechanical
- Packing

8.9.1.15 Civil Structures

Any buildings, compounds, shelters, etc. associated with the Pump Station (T/F)

8.9.1.16 Installation Date [*]

The date of which the asset was constructed. The format of the date shall be DD/MM/YYYY where:

Example:

5 March 2008 shall be represented by '05/03/2008'

8.9.1.17 Remarks

Any remarks in relation to the asset.

8.9.1.18 Data Source [*]

The name of the Consultant.

8.9.1.19 Assets Status

For new assets the correct value of entry = N - New
For modified assets the correct value of entry = I - Modified
For decommissioned assets the correct value of entry = D - Decommissioned

8.10 Water Supply - Reservoirs

8.10.1 Form No. WAD-Reservoir

8.10.1.1 Entry No.

Entry numbers are to be assigned by the consultant and shall consist of a unique identifier (i.e. RES1, RES2 etc.).
Each asset shall have an entry number assigned to it whether the asset is a new asset or an existing asset which has been modified.

8.10.1.2 Location

Description of the asset location as listed below:

- Footpath/Verge (between property boundary and K&C or edge of road)
- Road (within the road carriageway, between K&C within road seal)
- Private Property/Park (within real property i.e. private property, FCRC and WBW reserve or Crown land)

8.10.1.3 Bottom water Level

The lowest possible level of the water.

8.10.1.4 Top water Level

The highest possible level of the water.

8.10.1.5 Capacity

The capacity of the reservoir in mega litres.

8.10.1.6 Surface Level

The surface level (i.e. cover) of the reservoir.

8.10.1.7 Installation Date [*]

The date of which the asset was constructed. The format of the date shall be DD/MM/YYYY where:
Example:
5 March 2008 shall be represented by '05/03/2008'

8.10.1.8 Remarks

Any remarks in relation to the asset.

8.10.1.9 Data Source [*]

The name of the consultant

8.10.1.10 Assets Status

For new assets the correct value of entry = N - New
For modified assets the correct value of entry = I - Modified
For decommissioned assets the correct value of entry = D - Decommissioned

8.11 Water Supply – Tees, Crosses, Bends

8.11.1 Form No. WAD-Tees Crosses

8.11.1.1 Entry No.

Entry numbers are to be assigned by the consultant and shall consist of a unique identifier (i.e. a TCB1, TCB2, TCB3, etc.).
Each asset shall have an entry number assigned to it whether the asset is a new asset or an existing asset which has been modified.

8.11.1.2 Location

Description of the asset location as listed below:

- Footpath/Verge (between property boundary and K&C or edge of road)
- Road (within the road carriageway, between K&C within road seal)
- Private Property/Park (within real property i.e. private property, FCRC and WBW reserve or Crown land)

8.11.1.3 Level at Top of Pipe

Record a level on the centre of the tee, cross or bend at the top of the pipe.

8.11.1.4 Installation Date [*]

The date of which the asset was constructed. The format of the date shall be DD/MM/YYYY where:
Example:
5 March 2008 shall be represented by '05/03/2008'

8.11.1.5 Remarks

Any remarks in relation to the asset. (E.g. 45°bend or tee)

8.11.1.6 Data Source [*]

The name of the Consultant

8.11.1.7 Assets Status

For new assets the correct value of entry = N - New
For modified assets the correct value of entry = I - Modified
For decommissioned assets the correct value of entry = D - Decommissioned

8.12 Water Supply - Valves

8.12.1 Form No. WAD-Valves

8.12.1.1 Entry No.

Entry numbers are to be assigned by the consultant and shall consist of a unique character (i.e. WV1, WV2, WV3, etc.).
Each asset shall have an entry number assigned to it whether the asset is a new asset or an existing asset which has been modified.

8.12.1.2 Location

Description of the asset location as listed below:

- Footpath/Verge (between property boundary and K&C or edge of road)

- Road (within the road carriageway, between K&C within road seal)
- Private Property/Park (within real property i.e. private property, FCRC and WBW reserve or Crown land)

8.12.1.3 Type

The various valve types are listed below:

- Air
- Altitude
- Ball
- Butterfly
- Gate
- Non-Return
- Press Relief
- Penstock
- Reflux
- Sluice

8.12.1.4 Diameter

The nominal diameter of the valve in millimetres.

8.12.1.5 Surface Level

Record a surface level on the centre of the valve lid.

8.12.1.6 Installation Date [*]

The date of which the asset was constructed. The format of the date shall be DD/MM/YYYY where:

Example:

5 March 2008 shall be represented by '05/03/2008'

8.12.1.7 Remarks

Any remarks in relation to the asset.

8.12.1.8 Data Source [*]

The name of the Consultant

8.12.1.9 Assets Status

For new assets the correct value of entry = N - New
For modified assets the correct value of entry = I - Modified
For decommissioned assets the correct value of entry = D - Decommissioned

9.0 SEWERAGE ASSETS

9.1 Plan Information

Digital plan information, in the formats specified in Section 2.2 of this manual, is to be provided for all sewerage assets listed in Table 3.4

9.2 Attribute Information

9.2.1 General

Attribute information is to be supplied for all new sewerage assets which ultimately become the property and responsibility of WBW, in the formats specified in section 2.3 of this manual. These assets and the relevant form number for recording attribute data are listed in Table 3.4.

Attribute information is also to be supplied for all assets which have been modified during the construction of new assets. This includes:

- Assets which have been added (includes moving an asset's location)
- The characteristics (i.e. attributes) of an asset have been modified.

The attribute data forms have been designed to record new assets, modified assets and decommissioned assets.

9.2.2 Standard Forms

The forms and an explanation of each of the entry columns for each of the forms are included in the following sections.

NOTE: If [*] is next to the field name below, it indicates that the specific field in the As Con Data Form automatically populates, when all other relevant fields are completed. These automated fields can be overwritten if the automated value is incorrect or requires changing

9.3 Sewerage – House Connections

9.3.1 Form No. SAD-House Connections

9.3.1.1 Entry No.

Entry numbers are to be assigned by the consultant and shall consist of unique identifier (i.e. HCON1, HCON2 etc.).
Each asset shall have an entry number assigned to it whether the asset is a new asset or an existing asset which has been modified.

9.3.1.2 Diameter

The nominal diameter of the house connection

9.3.1.3 Material

The material from which the connection pipe is constructed e.g.

- uPVC
- mPVC

9.3.1.4 Class

The pipe class in accordance with the relevant Australian Standard

9.3.1.5 Invert Level

The invert level of the house connection

9.3.1.6 Invert Depth

The depth of the house connection from the finished surface level.

9.3.1.7 Distance from Main

The perpendicular distance the house connection projects from the sewer main

9.3.1.8 Distance from Downstream manhole

The distance along the sewer main starting from the edge of the downstream manhole and finishing perpendicular with the house connection

9.3.1.9 Installation Date [*]

The date of which the asset was constructed. The format of the date shall be DD/MM/YYYY where:
Example:
5 March 2008 shall be represented by '05/03/2008'

9.3.1.10 Remarks

Any remarks in relation to the asset.

9.3.1.11 Data Source [*]

The name of the Consultant.

9.3.1.12 Assets Status

For new assets the correct value of entry = N - New
For modified assets the correct value of entry = I - Modified
For decommissioned assets the correct value of entry = D - Decommissioned

9.4 Sewerage – Inspection Openings

9.4.1 Form No. SAD-IOs

9.4.1.1 Entry No.

Entry numbers are to be assigned by the consultant and shall consist of unique identifier (i.e. IO1, IO2 etc.).
Each asset shall have an entry number assigned to it whether the asset is a new asset or an existing asset which has been modified.

9.4.1.2 Location

Description of the asset location as listed below:

- Footpath/Verge (between property boundary and K&C or edge of road)
- Road (within the road carriageway, between K&C within road seal)
- Private Property/Park (within real property i.e. private property, FCRC and WBW reserve or Crown land)

9.4.1.3 Surface Level

Record a surface level on the centre of the IO lid.

9.4.1.4 Invert Level

Invert level (i.e. lowest point) of the IO.

9.4.1.5 Installation Date [*]

The date of which the asset was constructed. The format of the date shall be DD/MM/YYYY where:
Example:
5 March 2008 shall be represented by '05/03/2008'

9.4.1.6 Remarks

Any remarks in relation to the asset.

9.4.1.7 Data Source [*]

The name of the Consultant.

9.4.1.8 Assets Status

For new assets the correct value of entry = N - New
For modified assets the correct value of entry = I - Modified
For decommissioned assets the correct value of entry = D - Decommissioned

9.5 Sewerage – Manholes

9.5.1 Form No. SAD-Manholes

9.5.1.1 Entry No.

Entry numbers are to be assigned by the consultant and shall consist of unique identifier (i.e. MH1, MH2 etc.).
Each asset shall have an entry number assigned to it whether the asset is a new asset or an existing asset which has been modified.

9.5.1.2 Location

Description of the asset location as listed below:

- Footpath/Verge (between property boundary and K&C or edge of road)
- Road (within the road carriageway, between K&C within road seal)
- Private Property/Park (within real property i.e. private property, FCRC and WBW reserve or Crown land)

9.5.1.3 Bolt Down Cover

Enter 'T' if the manhole cover is a bolt down cover. Otherwise enter 'F'.

9.5.1.4 Chamber Dimension

This column describes the internal diameter for circular manholes. The dimension is to be recorded in millimetres.

9.5.1.5 Wall Material

The material from which the pipe is constructed. Relevant material types are as follows:

- Conc
- FRC
- PP
- PE
- GRP

- PVC

9.5.1.6 Base Construction

Indicates the method used to construct the manhole base. Valid entries are:
- Poured
- Precast

9.5.1.7 Surface Level

Record a surface level on the centre of the manhole lid.

9.5.1.8 Invert Level

Downstream Invert level (i.e. lowest point) of the manhole.

9.5.1.9 Installation Date [*]

The date of which the asset was constructed. The format of the date shall be DD/MM/YYYY where:
Example:
5 March 2008 shall be represented by '05/03/2008'

9.5.1.10 Remarks

Any remarks in relation to the asset.

9.5.1.11 Data Source [*]

The name of the Consultant.

9.5.1.12 Assets Status

For new assets the correct value of entry = N - New
For modified assets the correct value of entry = I - Modified
For decommissioned assets the correct value of entry = D - Decommissioned

9.6 Sewerage - Pipes

9.6.1 Form No. SAD-Pipes

9.6.1.1 Entry No.

Entry numbers are to be assigned by the consultant and shall consist of unique identifier (i.e. SPIPE1, SPIPE2 etc.).
Each asset shall have an entry number assigned to it whether the asset is a new asset or an existing asset which has been modified.

9.6.1.2 Upstream Manhole

Represents the unique identifier (Entry No.) of the upstream asset.

9.6.1.3 Downstream Manhole

Represents the unique identifier (Entry No.) of the downstream asset.

9.6.1.4 Upstream Invert Level

Record the pipe invert level at its upstream end.

9.6.1.5 Downstream Invert Level

Record the pipe invert level at its downstream end. Downstream internal or external drops into manholes are to be measured at the invert at the top of the drop as per WSAA standard drawings. Vertical drops are to be noted in the remark's column with measurements.

9.6.1.6 Diameter

The nominal diameter of the pipe. The diameter shall be recorded in millimetres.

9.6.1.7 Length

Represents the slope length of the pipe from end to end. That is, chamber dimensions shall not be included, and the pipe length shall be an actual length accounting for the slope of the pipe (i.e. NOT a plan length).

9.6.1.8 Material

The material from which the pipe is constructed. Relevant material types are as follows:

- ABS
- AC
- Conc
- DICL
- GRP
- MSCL
- mPVC
- oPVC
- uPVC
- RPP
- SWPP

9.6.1.9 Class

The pipe class in accordance with the relevant Australian Standard

9.6.1.10 Installation Date [*]

The date of which the asset was constructed. The format of the date shall be DD/MM/YYYY where:

Example:

5 March 2008 shall be represented by '05/03/2008'

9.6.1.11 Remarks

Any remarks in relation to the asset. Downstream internal or external drops into manholes are to be noted here with a vertical drop measurement as per WSAA standard drawings.

9.6.1.12 Data Source [*]

The name of the Consultant.

9.6.1.13 Assets Status

For new assets the correct value of entry = N - New
For modified assets the correct value of entry = I - Modified
For decommissioned assets the correct value of entry = D - Decommissioned

9.7 Sewerage – Pump Stations

Note - Pump Stations should also include As Constructed details/layout drawings – supplied by the Engineer

9.7.1 Form No. SAD-Pump Stations

9.7.1.1 Entry No.

Entry numbers are to be assigned by the consultant and shall consist of unique identifier (i.e. SPUMP1, SPUMP2 etc.).
Each asset shall have an entry number assigned to it whether the asset is a new asset or an existing asset which has been modified.

9.7.1.2 Location

The street address of the asset

9.7.1.3 Make

The Make of the pump

9.7.1.4 Serial No.

The Serial No. of the pump

9.7.1.5 Model

The pump Model

9.7.1.6 Type

The Type of pump

9.7.1.7 Voltage

The voltage of the pump

9.7.1.8 Current

The current in the pump in Amps

9.7.1.9 KW

Kilowatt rating of pump

9.7.1.10 RPM

The number of revolutions per minute of the pump

9.7.1.11 Phase

Phase of the pump

9.7.1.12 Design Duty Discharge

The design discharge in litres per second

9.7.1.13 Design Head

The pressure at certain flow

9.7.1.14 Impellor Dia.

The diameter of the Impeller

9.7.1.15 Bearings

The bearing type and serial No.

9.7.1.16 Seals

The type of seal

9.7.1.17 Pump Stop

The level of sewage where the pump will switch off

9.7.1.18 Duty Start

The level of sewage where the pump on duty will start

9.7.1.19 Standby Start

The level of sewage where the standby pump will start

9.7.1.20 High Level

Electrical alarms reported by telemetry, reading the pressure transmitter in the wet well

9.7.1.21 O/Flow

Level of overflow

9.7.1.22 Surface Level

Record a surface level on the centre of the pump.

9.7.1.23 RM-outlet Level

The level at the top of the rising main

9.7.1.24 Floor Level

The level at the internal base of the rising main

9.7.1.25 Inlet Invert Level

The level of the incoming pipe at the wet well

9.7.1.26 Well Diameter

The diameter of the wet well. If the well is not circular, provide length and width measurements.

9.7.1.27 Commissioned Date [*]

The date of which the asset was commissioned. The format of the date shall be DD/MM/YYYY where:
Example:
5 March 2008 shall be represented by '05/03/2008'

9.7.1.28 Remarks

Any remarks in relation to the asset.

9.7.1.29 Data Source [*]

The name of the Consultant.

9.7.1.30 Assets Status

For new assets the correct value of entry = N - New

For modified assets the correct value of entry = I - Modified
For decommissioned assets the correct value of entry = D - Decommissioned

9.8 Sewerage – Rising Mains

9.8.1 Form No. SAD-Rising- Mains

9.8.1.1 Entry No.

Entry numbers are to be assigned by the consultant and shall consist of unique identifier (i.e. SRM1, SRM2 etc.).
Each asset shall have an entry number assigned to it whether the asset is a new asset or an existing asset which has been modified.

9.8.1.2 Pump Stations

Pump Station which feeds the rising main

9.8.1.3 Downstream Invert Level

Record the pipe invert level at its downstream (outlet) end. Downstream internal or external drops into manholes are to be measured at the invert at the top of the drop as per WSAA standard drawings. Vertical drops are to be noted in the Remarks column with measurements.

9.8.1.4 Rising Main Diameter

The nominal diameter of the pipe.

9.8.1.5 Material

The material from which the pipe is constructed e.g.

- ABS
- DICL
- GRP
- HDPE
- MDPE
- PE
- oPVC
- mPVC
- uPVC

9.8.1.6 Length

The plan length of the pipe from end to end

9.8.1.7 Installation Date [*]

The date of which the asset was constructed. The format of the date shall be DD/MM/YYYY where:
Example:
5 March 2008 shall be represented by '05/03/2008'

9.8.1.8 Remarks

Any remarks in relation to the asset. Downstream internal or external drops into manholes are to be noted here with a vertical drop measurement as per WSAA standard drawings.

9.8.1.9 Data Source [*]

The name of the Consultant.

9.8.1.10 Assets Status

For new assets the correct value of entry = N - New
For modified assets the correct value of entry = I - Modified
For decommissioned assets the correct value of entry = D - Decommissioned

9.9 Sewerage - Valves

9.9.1 Form No. ERD-Valves

9.9.1.1 Entry No.

Entry numbers are to be assigned by the consultant and shall consist of a unique character (i.e. SEV1, SEV2, SEV3, etc.).
Each asset shall have an entry number assigned to it whether the asset is a new asset or an existing asset which has been modified.

9.9.1.2 Location

Description of the asset location as listed below:

- Footpath/Verge (between property boundary and K&C or edge of road)
- Road (within the road carriageway, between K&C within road seal)
- Private Property/Park (within real property i.e. private property, FCRC and WBW reserve or Crown land)

9.9.1.3 Type

The various asset types are listed below:

- Air
- Ball
- Scour
- Non-Return
- Sluice
- Penstock

9.9.1.4 Diameter

The nominal diameter of the valve in millimetres.

9.9.1.5 Surface Level

Record a surface level on the centre of the valve lid.

9.9.1.6 Installation Date [*]

The date of which the asset was constructed. The format of the date shall be DD/MM/YYYY where:
Example:
5 March 2008 shall be represented by '05/03/2008'

9.9.1.7 Remarks

Any remarks in relation to the asset.

9.9.1.8 Data Source [*]

The name of the Consultant

9.9.1.9 Assets Status

For new assets the correct value of entry = N - New
For modified assets the correct value of entry = I - Modified
For decommissioned assets the correct value of entry = D - Decommissioned

10.0 EFFLUENT REUSE

10.1 Plan Information

Digital plan information, in the formats specified in Section 2.2 of this manual, is to be provided for all the effluent reuse assets listed in Table 3.4

10.2 Attribute Information

10.2.1 General

Attribute information is to be supplied for all new effluent reuse assets which ultimately become the property and responsibility of WBW, in the formats specified in section 2.3 of this manual. These assets and the relevant form number for recording attribute data are listed in Table 3.4.

Attribute information is also to be supplied for all assets which have been modified during the construction of new assets. This includes:

- Assets which have been added (includes moving an asset's location)
- The characteristics (i.e. attributes) of an asset have been modified.

The Attribute Data Forms have been designed to record new assets, modified assets, and decommissioned assets.

10.2.2 Standard Forms

The forms and an explanation of each of the entry columns for each of the forms are included in the following sections.

NOTE: If [*] is next to the field name below, it indicates that the specific field in the As Con Data Form automatically populates, when all other relevant fields are completed. These automated fields can be overwritten if the automated value is incorrect or requires changing

10.3 Effluent Reuse – Manholes

10.3.1 Form No. ERD-Manhole

10.3.1.1 Entry No.

Entry numbers are to be assigned by the consultant and shall consist of unique identifier (i.e. SEM1, SEM2 etc.).
Each asset shall have an entry number assigned to it whether the asset is a new asset or an existing asset which has been modified.

10.3.1.2 Location

Description of the asset location as listed below:

- Footpath/Verge (between property boundary and K&C or edge of road)
- Road (within the road carriageway, between K&C within road seal)
- Private Property/Park (within real property i.e. private property,

FCRC and WBW reserve or Crown land)

10.3.1.3 Bolt Down Cover

Enter 'T' if the manhole cover is a bolt down cover. Otherwise enter 'F'.

10.3.1.4 Chamber Dimension

This column describes the internal diameter for circular manholes. The dimension is to be recorded in millimetres.

10.3.1.5 Wall Material

The material from which the pipe is constructed. Relevant material types are as follows:

- Conc
- FRC
- PP
- PE
- GRP
- PVC

10.3.1.6 Base Construction

Indicates the method used to construct the manhole base. Valid entries are:

- Poured
- Precast

10.3.1.7 Surface Level

Record a surface level on the centre of the manhole lid.

10.3.1.8 Invert Level

Downstream Invert level (i.e. lowest point) of the manhole.

10.3.1.9 Installation Date [*]

The date of which the asset was constructed. The format of the date shall be DD/MM/YYYY where:

Example:
5 March 2008 shall be represented by '05/03/2008'

10.3.1.10 Remarks

Any remarks in relation to the asset.

10.3.1.11 Data Source [*]

The name of the Consultant.

10.3.1.12 Assets Status

For new assets the correct value of entry = N - New
For modified assets the correct value of entry = I - Modified
For decommissioned assets the correct value of entry = D - Decommissioned

10.4 Effluent Reuse - Flowmeters

10.4.1 Form No. ERD-Flowmeters

10.4.1.1 Entry No.

Entry numbers are to be assigned by the consultant and shall consist of a unique character (i.e. ERM1, ERM2, EFM3, etc.).
Each asset shall have an entry number assigned to it whether the asset is a new asset or an existing asset which has been modified.

10.4.1.2 Location

Description of the asset location as listed below:

- Footpath/Verge (between property boundary and K&C or edge of road)
- Road (within the road carriageway, between K&C within road seal)
- Private Property/Park (within real property i.e. private property, FCRC and WBW reserve or Crown land)

10.4.1.3 Diameter

The nominal diameter of the valve in millimetres.

10.4.1.4 Surface Level

Record a surface level on the centre of the valve lid.

10.4.1.5 Installation Date [*]

The date of which the asset was constructed. The format of the date shall be DD/MM/YYYY where:
Example:
5 March 2008 shall be represented by '05/03/2008'

10.4.1.6 Remarks

Any remarks in relation to the asset.

10.4.1.7 Data Source [*]

The name of the Consultant

10.4.1.8 Assets Status

For new assets the correct value of entry = N - New
For modified assets the correct value of entry = I - Modified
For decommissioned assets the correct value of entry = D - Decommissioned

10.5 Effluent Reuse - Pipes

10.5.1 Form No. ERD-Pipes

10.5.1.1 Entry No.

Entry numbers are to be assigned by the consultant and shall consist of unique identifier (i.e. SEP1, SEP2 etc.).
Each asset shall have an entry number assigned to it whether the asset is a new asset or an existing asset which has been modified.

10.5.1.2 Location

Description of the asset location as listed below:

- Footpath/Verge (between property boundary and K&C or edge of road)
- Road (within the road carriageway, between K&C within road seal)

- Private Property/Park (within real property i.e. private property, FCRC and WBW reserve or Crown land)

10.5.1.3 Length

The plan length of the pipe from end to end in metres.

10.5.1.4 Diameter

The nominal diameter of the water main in millimetres.

10.5.1.5 Material

The material from which the pipe is constructed. Relevant material types are as follows:

- DICL
- MSCL
- GRP
- HDPE
- MDPE
- mPVC
- oPVC
- uPVC

10.5.1.6 Class

The pipe class in accordance with the relevant Australian Standard (e.g. AS 2280-1995 Ductile Iron Pressure Pipes and Fittings).

10.5.1.7 Installation Date [*]

The date of which the asset was constructed. The format of the date shall be DD/MM/YYYY where:
Example:
5 March 2008 shall be represented by '05/03/2008'

10.5.1.8 Remarks

Any remarks in relation to the asset.

10.5.1.9 Data Source [*]

The name of the Consultant

10.5.1.10 Assets Status

For new assets the correct value of entry = N - New
For modified assets the correct value of entry = I - Modified
For decommissioned assets the correct value of entry = D - Decommissioned

10.6 Effluent Reuse – Pump Stations

10.6.1 Form No. ERD-Pumps

10.6.1.1 Entry No.

Entry numbers are to be assigned by the consultant and shall consist of a unique integer (i.e. a whole number; 1, 2, 3, etc.).
Each asset shall have an entry number assigned to it whether the asset is a new asset or an existing asset which has been modified.

10.6.1.2 Location

Description of the asset location as listed below:

- Footpath/Verge (between property boundary and K&C or edge of road)
- Road (within the road carriageway, between K&C within road seal)
- Private Property/Park (within real property i.e. private property, FCRC and WBW reserve or Crown land)

10.6.1.3 Item

Description of the pump e.g.
- Transfer Pump
- Booster Pump
- Pump 1
- Pump 2

10.6.1.4 Make

The brand name of the pump

10.6.1.5 Model No.

The Model No. of the pump

10.6.1.6 Serial No.

The Serial No. of the pump

10.6.1.7 Type

The type of pump e.g.
- Centrifugal
- Sub Centrifugal

10.6.1.8 KW

The KW rating of the pump motor

10.6.1.9 RPM

The number of revolutions per minute of the pump

10.6.1.10 Duty Discharge

Discharge in litres per second

10.6.1.11 Head

Pressure head of the pump

10.6.1.12 Impeller

The diameter of the Impeller

10.6.1.13 Bearing

The bearing type and serial No.

10.6.1.14 Seal

The type of seal e.g.
- Mechanical
- Packing

10.6.1.15 Civil Structures

Any buildings, compounds, shelters, etc. associated with the Pump Station (T/F)

10.6.1.16 Installation Date [*]

The date of which the asset was constructed. The format of the date shall be DD/MM/YYYY where:
Example:
5 March 2008 shall be represented by '05/03/2008'

10.6.1.17 Remarks

Any remarks in relation to the asset.

10.6.1.18 Data Source [*]

The name of the Consultant.

10.6.1.19 Assets Status

For new assets the correct value of entry = N - New
For modified assets the correct value of entry = I - Modified
For decommissioned assets the correct value of entry = D - Decommissioned

10.7 Effluent Reuse – Tees, Crosses, Bends

10.7.1 Form No. ERD-Tees Crosses

10.7.1.1 Entry No.

Entry numbers are to be assigned by the consultant and shall consist of unique identifier (i.e. SETC, SETC2 etc.).
Each asset shall have an entry number assigned to it whether the asset is a new asset or an existing asset which has been modified.

10.7.1.2 Location

Description of the asset location as listed below:

- Footpath/Verge (between property boundary and K&C or edge of road)
- Road (within the road carriageway, between K&C within road seal)
- Private Property/Park (within real property i.e. private property, FCRC and WBW reserve or Crown land)

10.7.1.3 Level at Top of Pipe

Record a level on the centre of the tee, cross or bend at the top of the pipe.

10.7.1.4 Installation Date [*]

The date of which the asset was constructed. The format of the date shall be DD/MM/YYYY where:
Example:
5 March 2008 shall be represented by '05/03/2008'

10.7.1.5 Remarks

Any remarks in relation to the asset.

10.7.1.6 Data Source [*]

The name of the Consultant

10.7.1.7 Assets Status

For new assets the correct value of entry = N - New
For modified assets the correct value of entry = I - Modified
For decommissioned assets the correct value of entry = D - Decommissioned

10.8 Effluent Reuse - Valves

10.8.1 Form No. ERD-Valves

10.8.1.1 Entry No.

Entry numbers are to be assigned by the consultant and shall consist of a unique character (i.e. ERV1, ERV2, EFV3, etc.).
Each asset shall have an entry number assigned to it whether the asset is a new asset or an existing asset which has been modified.

10.8.1.2 Location

Description of the asset location as listed below:

- Footpath/Verge (between property boundary and K&C or edge of road)
- Road (within the road carriageway, between K&C within road seal)
- Private Property/Park (within real property i.e. private property, FCRC and WBW reserve or Crown land)

10.8.1.3 Type

The various asset types are listed below, to be recorded on the 'Effluent Reuse Data Form – Valves'

- Air
- Altitude
- Ball
- Gate
- Butterfly
- Non-Return
- Penstock
- Press Relief
- Reflux
- Sluice

10.8.1.4 Diameter

The nominal diameter of the valve in millimetres.

10.8.1.5 Surface Level

Record a surface level on the centre of the valve lid.

10.8.1.6 Installation Date [*]

The date of which the asset was constructed. The format of the date shall be DD/MM/YYYY where:
Example:
5 March 2008 shall be represented by '05/03/2008'

10.8.1.7 Remarks

Any remarks in relation to the asset.

10.8.1.8 Data Source [*]

The name of the Consultant

10.8.1.9 Assets Status

For new assets the correct value of entry = N - New
For modified assets the correct value of entry = I - Modified
For decommissioned assets the correct value of entry = D – Decommissioned

11.0 SPOT HEIGHTS

11.1 Plan Information

Digital plan information, in the format specified in Section 2.2 of this manual, is to be provided for the area encompassed by the development stage boundary as listed in Table 3.4.

11.2 Attribute Information

11.2.1 General

Attribute information is to be supplied for all spot heights for any development where civil works has altered the surface level prior to those works. These finished surface levels (FSL) and the relevant form for recording attribute data are listed in Table 3.4.

For subdivision lots which are 2000m² or less, a FSL spot height is required within and in close proximity to every cadastral corner and one in the centre of the lot.

For subdivision lots which are greater than 2000m², a FSL spot height is required within and in close proximity to every cadastral corner and a 20m x 20m grid of spot heights covering only areas of the lot where earthworks have been undertaken. In the case of a grid of points, only the X, Y and Z attributes are required.

As a minimum, finished surface levels shall be supplied:

- Within close proximity to all cadastral corners
- 1 FSL spot height in the centre of subdivision lots which are 2000m² or less
- 20m x 20m grid in lots greater than 2000m² and only in areas of earthworks
- 10m x 10m grid over entire playing (sports) surfaces

11.3 Attribute Form

11.3.1 Entry No.

Entry numbers are to be assigned by the consultant and shall consist of a unique character (i.e. FSL1, FSL2, FSL3, etc.).

11.3.2 Proposed Lot on Plan No.

The registered lot on plan number in which the spot height is contained. (Not required if on a road reserve)

11.3.3 X Coordinate

The X Coordinate

11.3.4 Y Coordinate

The Y Coordinate

11.3.5 Z Coordinate

The Z Coordinate

11.3.6 Date of Construction [*]

The date of completion of the civil works. The format of the date shall be DD/MM/YYYY where:

Example:

5 March 2014 shall be represented by '05/03/2014'

11.3.7 Remarks

Any remarks in relation to the record.

11.3.8 Data Source [*]

The name of the Consultant.

12.0 CADASTRE

12.1 Plan Information

Digital plan information, in the formats specified in Section 2.2 of this manual, is to be provided for all the Cadastral parcels listed in Table 3.4.

12.2 Attribute Information

12.2.1 Entry No.

Entry numbers are to be assigned by the consultant and shall consist of a unique character (i.e. 01, 02, 03, etc.).

12.2.2 Lot No.

The registered lot number for each lot within a new subdivision.

12.2.3 Plan No.

The registered plan number for each lot within a new subdivision.

12.2.4 Tenure

The registered tenure for each lot within a new subdivision.

12.2.5 Date of Construction [*]

The date of completion of the civil works. The format of the date shall be DD/MM/YYYY where:

Example:

5 March 2014 shall be represented by '05/03/2014'

12.2.6 Remarks

Any remarks in relation to the record.

12.2.7 Data Source [*]

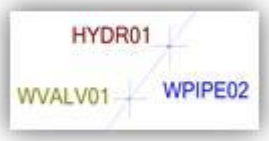
The name of the Consultant.

13.0 WORKED EXAMPLES

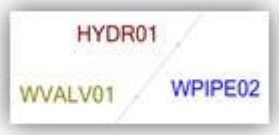
12.1.1, 12.2, 12.3, 12.4, 12.5 – Shows the points using a "point style" but might give the surveyors the wrong idea?? Or could we use a specific point style and note that we have done that? Just trying to make it OBVIOUS that we just want points.

Incorrect

Correct



Incorrect

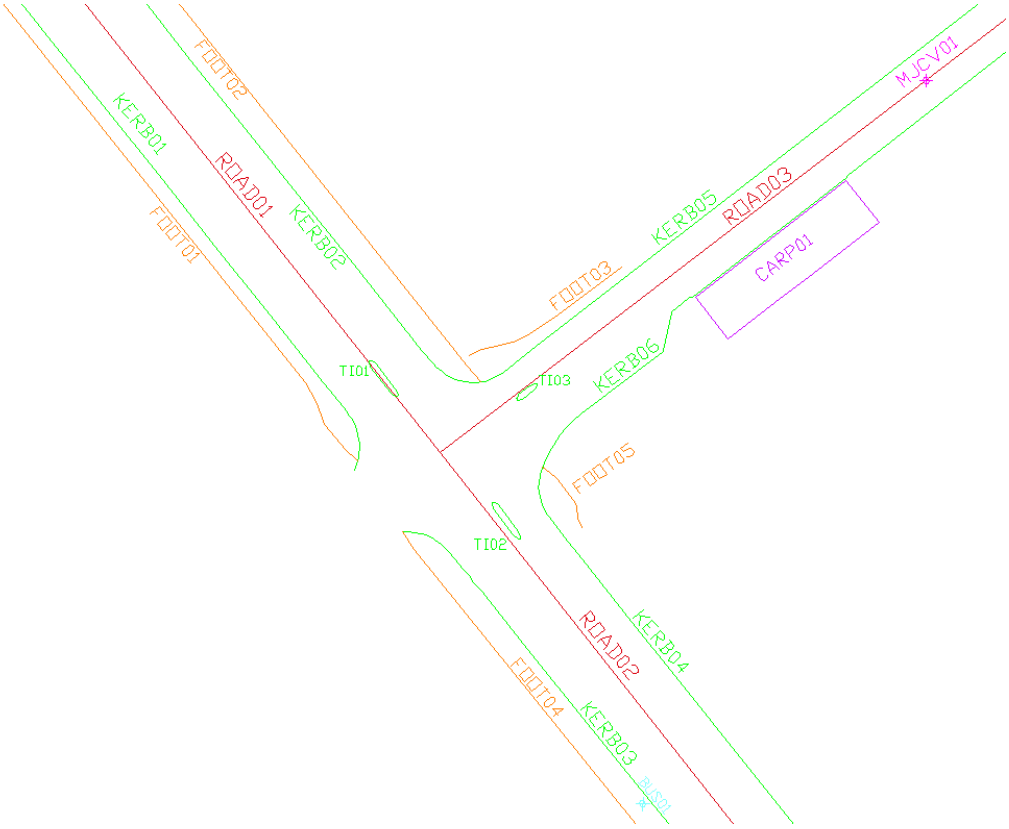


Correct

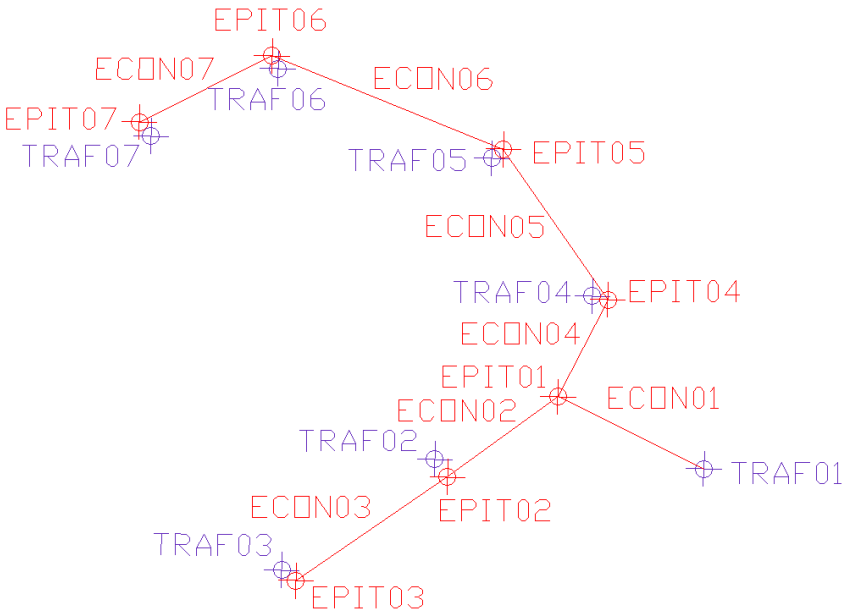
Note: The following data is an example only and is not to be taken as correct

13.1 Roads Infrastructure Attribute Data

An example of marked up plans showing asset numbering and hardcopy plots of Roads Infrastructure Attribute Data follows: -

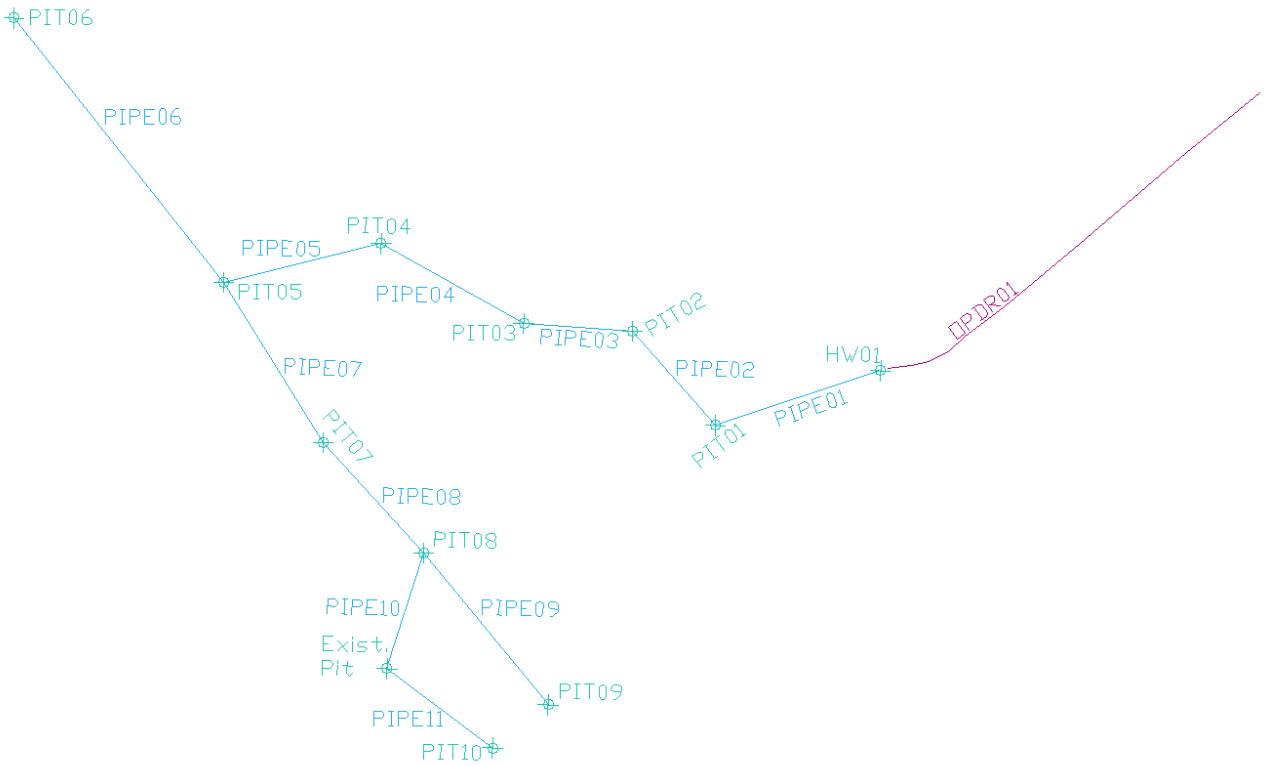


13.2 Traffic Signals, Street Lights/ Electrical



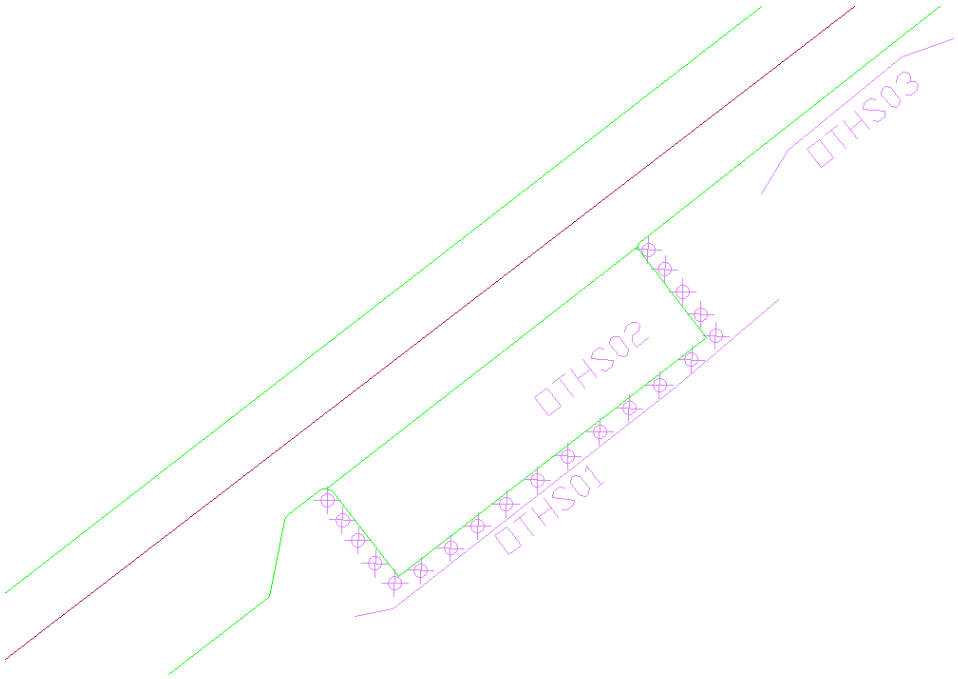
13.3 Storm water Attribute Data

An example of marked up plans showing asset numbering and hardcopy plots of Stormwater Attribute Data Forms follows: -



13.4 Misc. Assets Attribute Data

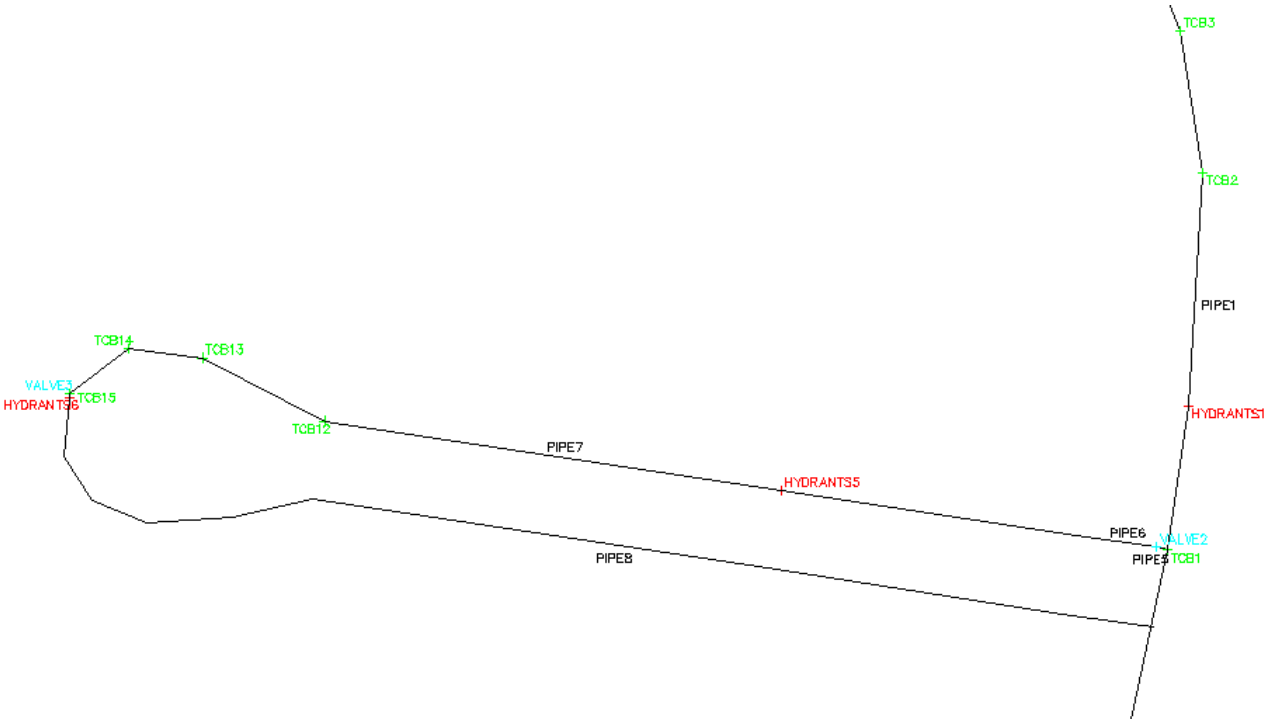
An example of marked plans showing asset numbering and hardcopy of plots of Misc. Assets Attribute Data Forms follows: -



- OTHS01 refers to a retaining wall, denoted by a single line
- OTHS02 refers to bollards around a car park; each individual bollard denoted by a point object, and grouped together to be one asset
- OTHS03 refers to a fence, denoted by a single line

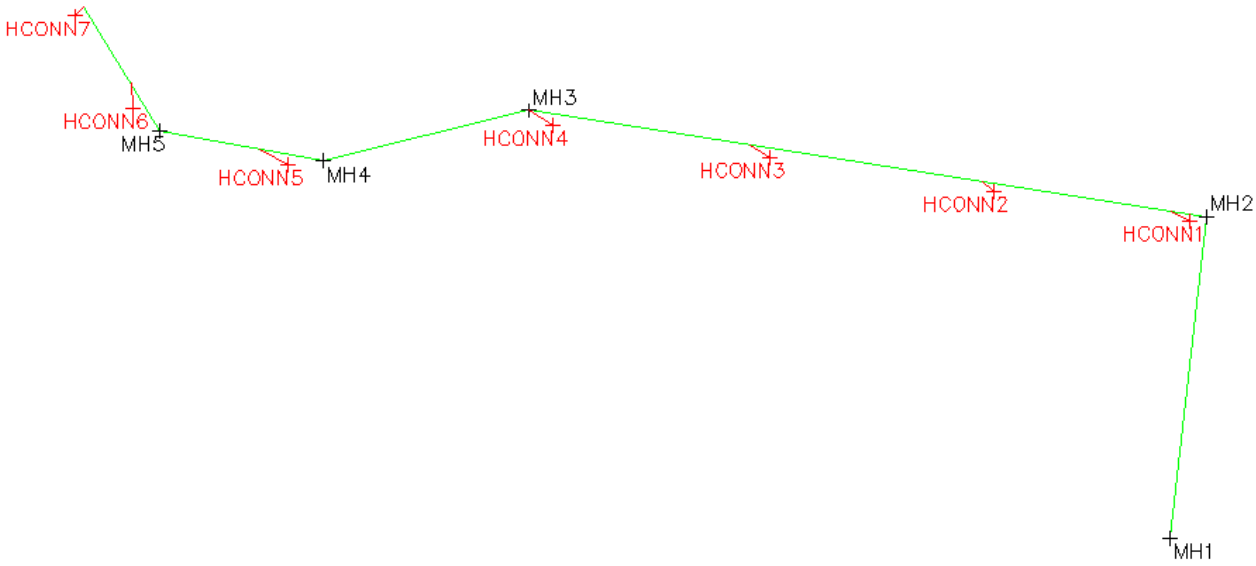
13.5 Water

An example of marked plans showing asset numbering and hardcopy plots of Water Attribute Data Forms follows: -



13.6 Sewer

An example of marked up plans showing asset numbering and hardcopy plots of Sewer Attribute Data Forms follows: -

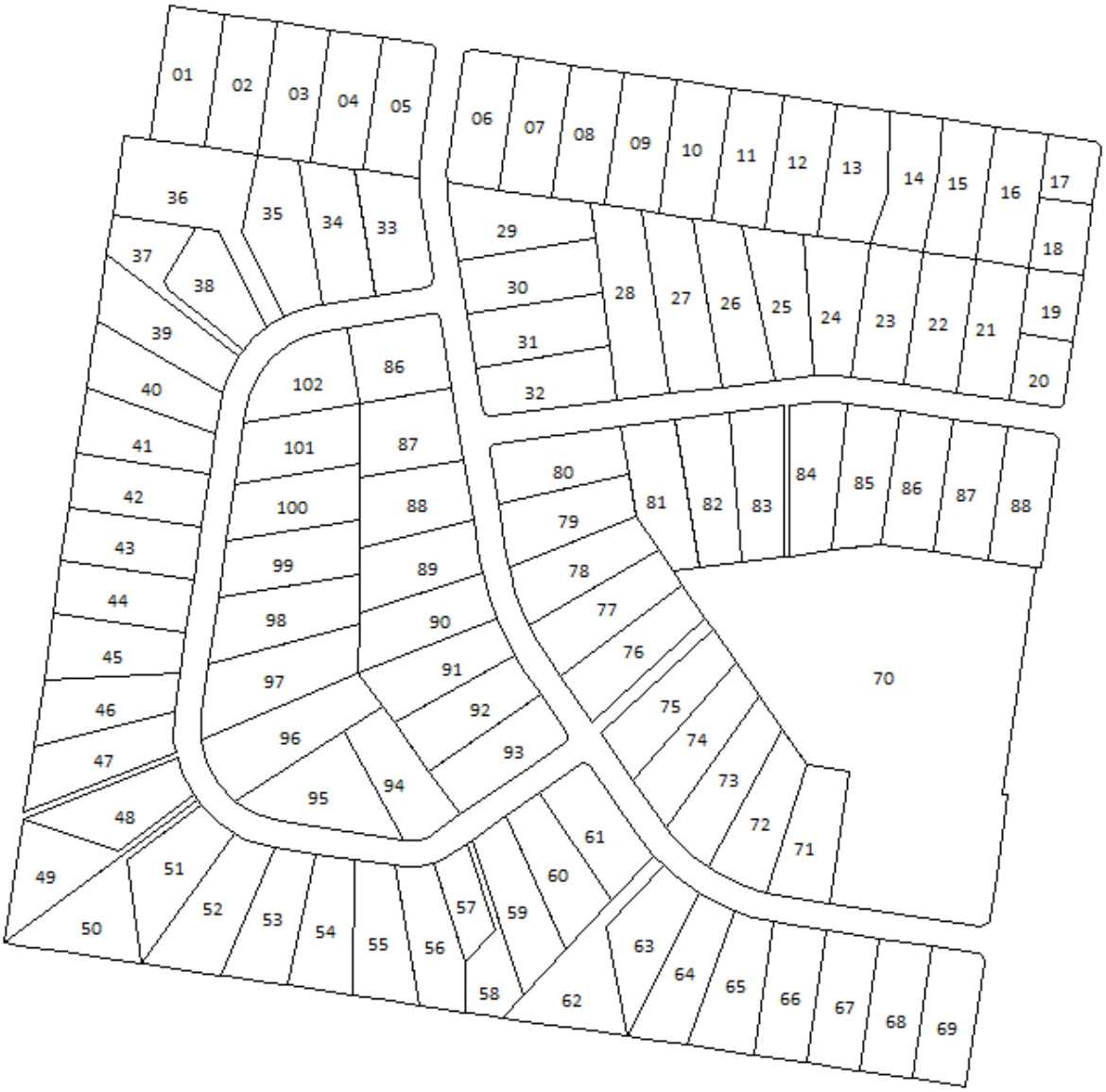


13.7 Spot Heights

An example of the Spot Heights for lots under 2000m^2 follows:-

13.8 Cadastre

An example of the Cadastre follows: -



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