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1. INTRODUCTION

1.1. Purpose of the Manual

The District Council of Mount Barker (DCMB) maintains a comprehensive Geographic Information System (GIS) and asset database, which contains valuable information on all DCMB owned assets.

This manual is for the use of Private Developers, the Representatives of Private Developers and Contractors ("Consultant") who are required to submit "As-Constructed" information to DCMB as part of the development approval process or contractual conditions and in accordance with the requirements of the DCMB Standards for Design, Construction and Development of Infrastructure Assets.

This manual has been written to assist Developers in the preparation of digital "As-Constructed" information to be submitted to DCMB in lieu of traditional "As-Constructed" plans. It specifies the format in which the digital files are required in order for DCMB to append the data to its existing Geographic Information System and Asset Database.

1.1.1. 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 the DCMB is correct.

1.1.2. Responsibility of DCMB

The District Council Mount Barker shall be responsible for;

- Updating the DCMB Geographic Information System and Asset Database with the information supplied by the Consultant.

DCMB 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 DCMB 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 accuracy of data specified in this manual, the DCMB may also recover costs associated with the rectification of the digital information.

1.2. Aim of the Manual

The aim of this manual is to assist consultants and to ensure that new asset data input into the DCMB database is;

- Consistent
- Accurate
- Complete

1.3. Scope of the Manual

This manual is not intended to replace the DCMB "Standard and Requirements for Design, Construction and Development of Infrastructure Assets" manual, but is to be read in conjunction with the Standards and Requirements manual.

The following asset categories are considered in detail in Sections 4 to 8 of this manual;

- Roads
- Road Related Signage

- Footpaths
- Kerbing
- Stormwater Drainage
- Water Supply
- Wastewater (Community Water Management Schemes)

The Consultant should contact the District Council of Mount Barker where specific Information for a particular asset is not covered by this manual.

1.4. Purpose of Maintaining DCMB's GIS and Asset Database

The GIS and asset database represents a significant investment by the DCMB. The DCMB is committed to ensuring that the information is maintained to a high degree of accuracy.

The Geographic Information System is used by DCMB for;

- Risk Management
- Capital Works Planning
- Asset Valuation
- Maintenance Management
- "As-Constructed" records
- Services maps of the local authority area
- Pavement Management Strategies
- Production of various DCMB maps
- Hydraulic Modeling

In summary, the collection of asset data is extremely important to the District Council of Mount Barker as it forms the basis for many important decision making processes and activities.

1.5. General Requirements

1.5.1. District Council of Mount Barker Contact

All enquiries relating to the format of the digital information should be directed to DCMB's Geographic Information System (GIS) Coordinator.

The Consultant should contact the relevant Geographic Information Systems (GIS) Coordinator where specific information for a particular asset that is not covered by this manual which ultimately becomes the responsibility of DCMB.

1.5.2. Submission of "As Constructed" Data

As Constructed information as digital files, is to be submitted to the DCMB Engineering Department before a Certificate of Practical Completion is issued.

1.6. Certification of Digital Information

1.6.1. Certification of Information

Digital as constructed information provided to the DCMB is to be certified by the consultant as follows;

- All digital information is to be provided on CD media.
- The CD is to be labeled with the text "Digital As-Constructed Information".
- Additional detail to be labeled on the disk identifying the contents are,

Estate Name and Stage _____
Property Description (prior to subdivision, eg Lot100 DP1234) _____
DCMB Approval Number _____
Signed by _____ Date _____
Name _____
Consulting Engineering Firm _____

1.6.2. Professional Engineering Requirements

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

2. DATA FORMAT

2.1. Software

The software applications noted below are the software applications preferred by the District Council Mount Barker, however, digital files that can be read by the specified software packages are acceptable;

- AutoCAD
- Microsoft Excel

Examples using the specified software are included later in this manual.

2.2. Digital Plan Information

2.2.1. General

Digital plan information is to be provided to DCMB in the following format;

- AutoCAD DXF file or AutoCAD (DWG) Drawing file
- ASCII text file

The digital CAD drawing is to be organized into separate layers for each asset type for easy translation into DCMB's Geographic Information System. The specifications for objects in the AutoCAD DWG/DXF file are set out in Table 3.3 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 must;

- be clearly identified with an asset Entry No
- have a corresponding row in the attribute spreadsheet

2.2.3. Deleted Assets

Assets which have been demolished or removed during the construction of the new works shall be shown in the geographically correct location on the AutoCAD plan to enable DCMB 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 meter

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 3.3 of this manual. Where the suggested layer names are not utilized it will be of significant assistance to DCMB 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 3.3 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	2002 (minimum)
Dimensions	2
Units	Meters
Projection	MGA94, Zone 54
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 **Asset Identifier (Asset ID)** shall be assigned to each asset by the consultant.

The Asset ID shall be assigned as follows;

- Block (for point objects only)
- Where point objects are included in the CAD drawing the Asset ID can be assigned to the point object as an attribute but must also be entered in the CAD drawing as text adjacent to the asset, in a layer identified/named as text, (layer name example, SW-PipeText).
- Where point objects are provided in ASCII format, an Asset ID for each object is to be included in the ASCII file.
- For all other object types (lines, polylines, polygons etc.) the Asset ID is to be entered in CAD drawing as text, in a layer identified/named as text, (layer name example, RD-KerbText).

2.2.7. Responsibility of the Consultant

The Consultant shall be responsible for;

- The correctness and accuracy of the information contained in the CAD drawing file and/or 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 Identifiers are correct in both the plan and attribute tables.

2.2.8. Responsibility of DCMB

DCMB shall be responsible for;

- Correctly inserting the plan information into DCMB’s Geographic Information System.

DCMB shall not be responsible for;

- Scaling, rotating, translating or otherwise manipulating the data supplied by the consultant.

- Establishing the correct Asset Identifiers.

2.3. Attribute Data

2.3.1. General

Sections 4 to 8 of this manual set out in detail the attribute information which is to be supplied to DCMB 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 data spreadsheets. Attribute data forms for the relevant asset type are held within the various tabs in the Microsoft excel file "DCMB Digital As-Constructed Attribute Forms.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 Asset Identifier assigned to each row of the attribute data forms shall correspond exactly to an Asset Identifier 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 8 of this manual.
- The temporary numbers should be kept as simple as possible, example RDPV1, RDL1, WWPS1, etc. 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 Asset Identifier assigned to each asset by the Consultant correctly associates the attribute data with the correct asset.

2.3.4. Responsibility of DCMB

DCMB shall be responsible for;

- Correctly associating the attribute information with the plan information in DCMB's Geographic Information System based on the information and Asset Identifiers supplied by the Consultant.
- Establishment of the final asset numbering system for all new assets.
- Notification to the consultant of any errors in the data and consequent acceptance or rejection.

DCMB shall not be responsible for;

- Establishing the correct temporary corresponding Asset Identifiers to each asset.

3. SURVEY REQUIREMENTS

3.1. General Requirements

Specific survey tolerances and requirements for the submission of as constructed information to DCMB are set in this manual. This should not be confused with the construction tolerances and requirements specified in the Standard and Requirements for Design, Construction and Development of Infrastructure Assets manual.

3.2. Datum / Projection

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

Description	Datum	Units
Level Datum	Australian Height Datum (AHD)	Meters
Projection	MGA 94, Zone 54 Meters	Meters

3.3. Survey Specification

Digital "As Constructed" data recorded and supplied to DCMB by the Consultant shall be in accordance with Table 3.3 below.

Table 3.3 – AutoCAD and Survey Requirements

Asset Class	Asset Type	Surveyed Location	Horizontal Accuracy (X, Y)	Vertical Accuracy (Z)	Object Type	Attribute (excel template tabs)	Form attribute	AutoCAD Layer Name
Roads	Road Pavement and Surface	Centreline of road (segmented consistent pavement/surfacing construction)	±50mm	NA	Polyline	RD-Pavement		RdPavement
	Road Subgrade	Centreline of road	±50mm	NA	Polyline	RD-Subgrade		RdSubgrade
	Road Kerb	Back of Kerb/Kerb and channel	±50mm	NA	Polyline	RD-Kerb		RdKerb
	Footpaths	Centreline of path	±50mm	NA	Polyline	RD-Footpath		RdFootpath
	Road Signs	Centre of sign	±50mm	NA	Block or ASCII file	RD-Sign		RdSign
	Lighting	Centre of pole	±50mm	NA	Block or ASCII file	RD-Lighting		RdLighting
Stormwater	Inlets / Outlets	Centre invert of inlet/outlet	±50mm	±20mm	Block or ASCII file	SW-InletOutlet		SWInletOutlet
	Pits	Centre top of lid	±50mm	±20mm	Block or ASCII file	SW-Pit		SWPit
	Pipes	Centreline of pipe	±50mm	±20mm	Polyline	SW-Pipe		SWPipe
	Open Channel	Invert of channel	±50mm	±20mm	Polyline	SW-Channel		SWChannel
	Structures	Centre of structure	±50mm	±20mm	Block or ASCII file	SW-Structure		SWStructure
	Storage Basin	Perimeter of basin	As per design	NA	Closed Polyline	SW-Basin		SWBasin
Wastewater (CWMS)	Manholes	Centre top of lid	±50mm	±20mm	Block or ASCII file	WW-Manhole		WWManhole
	Inspection Points	Centre top of lid	±50mm	±20mm	Block or ASCII file	WW-IP		WWIP

	Gravity Mains	Centreline of pipe	±50mm	±20mm	Polyline	WW-GravityMain	WWGravityMain
	Rising mains	Centreline of pipe	±50mm	±20mm	Polyline	WW-RisingMain	WWRisingMain
	Connections	Centreline of pipe	±50mm	±20mm	Polyline	WW-Connection	WWConnection
	Pump Stations	Centre of pump station	±50mm	±20mm	Block or ASCII file	WW-PumpStation	WWPumpStation
Reclaimed Water							
	Pipes	Centreline of pipe	±50mm	±20mm	Polyline	RW-Pipe	RWPipes
	Valves	Centre of valve	±50mm	±20mm	Block or ASCII file	RW-Valve	RWValve
	Pump Stations	Centre of pump station	±50mm	±20mm	Block or ASCII file	RW-PumpStation	RWPumpStation

4. ROADS

4.1. 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 3.3 of this manual.

4.2. Attribute Information

4.2.1. General

Attribute information is to be supplied for all new assets which ultimately become the property and responsibility of DCMB, in the format specified in section 2.3. These assets and the relevant form number for recording attribute data are listed in Table 3.3. Attribute information is also to be supplied for all assets which have been modified during the construction of new assets.

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

Attributes described below are to be assigned to a single CAD entity as described in Table 3.3.

4.2.2. Standard Forms

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

4.2.2.1. Road – Pavement / Surfacing

Excel Attribute tab Name. RD-Pavement

4.2.2.1.1. Asset ID

Asset Identifiers 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 Asset Identifier assigned to it whether the asset is a new asset or an existing asset which has been modified.

4.2.2.1.2. Surfacing - Depth

The depth of the sealed road surface where applicable i.e. for AC surfacing, pavers or concrete

4.2.2.1.3. Surfacing - Type

The type of surfacing. Surface types may be:

- Asphaltic Concrete
- 2 coat bitumen
- 3 coat bitumen
- Pavers
- Concrete
- Gravel
- None

4.2.2.1.4. Base - Depth

The depth of the base course pavement material.

4.2.2.1.5. Base - Type

The type of the base course pavement material.

4.2.2.1.6. Sub-Base - Depth

The depth of the sub-base course pavement material.

4.2.2.1.7. Sub-Base - Type

The type of the sub-base course pavement material, (As per Main Roads Standard Specification.)

4.2.2.1.8. Subgrade CBR – Soaked CBR

The CBR test results, based on a 4-day soaked CBR test, of the in-situ subgrade material upon which the pavement design was based.

4.2.2.1.9. Road Hierarchy

The Road Hierarchy. Hierarchy examples may be:

- Sub-Arterial
- Collector
- Local
- Local Access
- Track

4.2.2.1.10. Width – Seal

The width of the road seal from invert of Kerb and Channel to invert of Kerb and Channel or the seal width where no Kerb and Channel exists.

4.2.2.1.11. Width – Carriageway

The width of the road Carriageway from shoulder point to shoulder point.

4.2.2.1.12. Rural / Urban

This column describes whether the road is Rural or Urban. Enter either "Urban" or "Rural." Urban roads are those where the speed limit is less than 70Km per hour.

4.2.2.1.13. Length

The length of the road based on the length of continuous pavement and surfacing material. Where there is a change in either the surfacing type or the pavement composition a new length and details are to be entered on a new line of the spreadsheet (corresponding to a new CAD object).

4.2.2.1.14. Construction Date

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

Example: 1 January 2008 shall be represented by '01/01/2008'

4.2.2.1.15. Construction Cost

The estimated cost of constructing or installing the asset.

4.2.2.1.16. Road Name

The road name in which the asset is located

4.2.2.1.17. Constructed By

The name of the developer.

4.2.2.1.18. Assets Added / Modified

For new assets the correct value of entry = N

For modified assets the correct value of entry = M

4.2.2.2. Road –Subgrade Replacement

Excel Attribute tab Name. RD-Subgrade

4.2.2.2.1. Asset ID

Asset Identifiers are to be assigned by the consultant and shall consist of a unique identifier (i.e. RDSG1, RDSG2, etc.).
Each asset shall have an Asset Identifier assigned to it whether the asset is a new asset or an existing asset which has been modified.

4.2.2.2.2. Width

The width of the subgrade replacement

4.2.2.2.3. Depth

The depth of the subgrade replacement

4.2.2.2.4. Length

The length of the subgrade replacement

4.2.2.2.5. Construction Date

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

Example: 1 January 2008 shall be represented by '01/01/2008'

4.2.2.2.6. Construction Cost

The estimated cost of constructing or installing the asset.

4.2.2.2.7. Road Name

The road name in which the asset is located

4.2.2.2.8. Data Source

The name of the consultant.

4.2.2.2.9. Assets Added / Modified

For new assets the correct value of entry = N

For modified assets the correct value of entry = M

4.2.2.3. Road – Kerb / Kerb and Channel

Excel Attribute tab Name. RD-Kerb

4.2.2.3.1. Asset ID

Asset Identifiers are to be assigned by the consultant and shall consist of a unique identifier (i.e. RDKC1, RDKC2, etc.).
Each asset shall have an Asset Identifier assigned to it whether the asset is a new asset or an existing asset which has been modified.

4.2.2.3.2. Kerb/Kerb and Channel - Type

The various Kerb and Channel types are listed below:

- Rollover
- Upright – heritage stone
- Upright – concrete

4.2.2.3.3. Medians/Traffic Islands

Enter 'YES' if the kerb is part of a Median/Traffic Island. Otherwise enter 'NO'.

4.2.2.3.4. Length

Represents the length of the Kerb / Kerb and Channel. The length is the length of the single CAD object to which the attribute data is to be linked.

4.2.2.3.5. Construction Date

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

Example: 1 January 2008 shall be represented by '01/01/2008'

4.2.2.3.6. Construction Cost

The estimated cost of constructing or installing the asset.

4.2.2.3.7. Road Name

The road name in which the asset is located

4.2.2.3.8. Data Source

The name of the consultant.

4.2.2.3.9. Assets Added / Modified

For new assets the correct value of entry = N

For modified assets the correct value of entry = M

4.2.2.4. Road – Footpaths

Excel Attribute tab Name. RD-Footpaths

4.2.2.4.1. Asset ID

Asset Identifiers are to be assigned by the consultant and shall consist of a unique identifier (i.e. RDFP1, RDFP2, etc.).

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

4.2.2.4.2. Material Type

The various types of material are listed below

- Concrete
- Pavers – Concrete
- Pavers – Clay
- Pavers - Stone
- Asphaltic
- Concrete
- Gravel

4.2.2.4.3. Depth

The depth of the pavement/concrete excluding paver bedding

4.2.2.4.4. Width

The width of the footpath

4.2.2.4.5. Length

The length of the footpath

4.2.2.4.6. Road Name

If the asset falls within the road reserve, enter the street name.

If the asset falls within a park / reserve, enter "Park / Reserve"

4.2.2.4.7. Construction Date

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

Example: 1 January 2008 shall be represented by '01/01/2008'

4.2.2.4.8. Construction Cost

The estimated cost of constructing or installing the asset.

4.2.2.4.9. Data Source

The name of the consultant

4.2.2.4.10. Assets Added / Modified

For new assets the correct value of entry = N

For modified assets the correct value of entry = M

For removed assets the correct value of entry = R

4.2.2.5. Road – Traffic Signs

Excel Attribute tab Name. RD-Sign

4.2.2.5.1. Asset ID

Asset Identifiers are to be assigned by the consultant and shall consist of a unique identifier (i.e. RDTS1, RDTS2, etc.). Each asset shall have an Asset Identifier assigned to it whether the asset is a new asset or an existing asset which has been modified.

4.2.2.5.2. Australian Code

The numbering system for the sign specified by the Australian Standard and in the Manual of Uniform Traffic Control Devices (MUTCD), example R1-1 (which is a Stop sign).

4.2.2.5.3. Common Name.

The common name of the sign e.g.

- Stop
- Warning
- No through Road
- Speed

4.2.2.5.4. Road Name

The road name in which the asset is located

4.2.2.5.5. Installation Date

The date the asset was installed. The format of the date shall be DD/MM/YYYY.

Example: 1 January 2008 shall be represented by '01/01/2008'

4.2.2.5.6. Construction Cost

The estimated cost of constructing or installing the asset.

4.2.2.5.7. Data Source

The name of the consultant

4.2.2.5.8. Assets Added / Modified

For new assets the correct value of entry = N

For modified assets the correct value of entry = M

For removed assets the correct value of entry = R

4.2.2.6. Road – Light Poles

Excel Attribute tab Name. RD-Lighting

4.2.2.6.1. Asset ID

Asset Identifiers are to be assigned by the consultant and shall consist of a unique identifier (i.e. RDLP1, RDLP2, etc.). Each asset shall have an Asset Identifier assigned to it whether the asset is a new asset or an existing asset which has been modified.

4.2.2.6.2. Location

Simple codes are to be entered to describe the asset location as listed below:

- Footpath/Verge (Between property boundary and K&C or edge of road)
- Road (Within the road carriageway)
- Private Property/Park (Within real property i.e. private property, DCMB reserve or Crown land)

4.2.2.6.3. Pole Brand

The associated brand

4.2.2.6.4. Pole Model

Enter the model of the Light pole

4.2.2.6.5. Fitting Brand

Represents the brand name of the electrical fitting residing on the electrical pole

4.2.2.6.6. Fitting Model

Enter the model of the electrical fitting

4.2.2.6.7. Fitting Wattage

The wattage of the fitting attached to the electrical pole

4.2.2.6.8. Data Source

The name of the consultant.

4.2.2.6.9. Installation Date

The date the asset was installed. The format of the date shall be DD/MM/YYYY.

Example: 1 January 2008 shall be represented by '01/01/2008'

4.2.2.6.10. Construction Cost

The estimated cost of constructing or installing the asset.

4.2.2.6.11. Assets Added / Modified

For new assets the correct value of entry = N

For modified assets the correct value of entry = M

For removed assets the correct value of entry = R

5. STORMWATER DRAINAGE

5.1. Plan Information

Digital plan information, in the formats specified in Section 2.2 of this manual, is to be provided for all the stormwater drainage assets listed in Table 3.3

5.2. Attribute Information

5.2.1. General

Attribute information is to be supplied for all new assets which ultimately become the property and responsibility of DCMB, in the format specified in section 2.3. These assets and the relevant form number for recording attribute data are listed in Table 3.3. Attribute information is also to be supplied for all assets which have been modified during the construction of new assets.

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

Attributes described below are to be assigned to a single CAD entity as described in Table 3.3.

5.2.2. Standard Forms

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

5.2.2.1. Stormwater – Inlets/Outlets

Excel Attribute tab Name. SW-InletOutlet

5.2.2.1.1. Asset ID

Asset Identifiers are to be assigned by the consultant and shall consist of a unique identifier (i.e. SWIO1, SWIO2, etc.).

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

5.2.2.1.2. Type

The various asset types are listed below. Asset types other than those listed below are to be noted in the remarks column.

- Inlet with Headwall (Inlet with headwall)
- Inlet (Inlet without headwall)
- Outlet with Endwall (Outlet with endwall)
- Outlet (Outlet without endwall)

Note : An 'inlet' is located where an above ground system (e.g. open channel) flows into an underground system (i.e. piped). An 'outlet' is located where an underground system flows into an above ground system.

5.2.2.1.3. Location

Simple codes are to be entered to describe the asset location as listed below:

- Drain (Inlets / Outlets connection to an open channel or drain)
- Footpath (Within the road carriageway (outside K&C outside road seal)

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

5.2.2.1.4. Dimension 1

This column describes the gross, overall length of the inlet or outlet structure.

The dimension is to be recorded in millimetres.

If the shape of an inlet or outlet structure is unusual, details of the structure are to be provided separately.

Examples:

1. Structure: Inlet with Headwall- 0.9 meters long by 0.6 meters high; 'Dimension1' entry: 900
2. Structure: Outlet with Headwall- 0.6 meters long by 0.9 meters high; 'Dimension1' entry: 600
3. Structure: Inlet or Outlet (without headwall)- 'Dimension1' entry: 0

5.2.2.1.5. Dimension 2

This column describes the gross, overall height of the inlet or outlet structure.

The dimension is to be recorded in millimetres.

If the shape of an inlet or outlet structure is unusual, details of the structure are to be provided separately.

Examples:

1. Structure: Inlet with Headwall - 0.9 meters long by 0.6 meters high; 'Dimension2' entry: 600
2. Structure: Outlet with Headwall - 0.6metres long by 0.9metres high; 'Dimension2' entry: 900
3. Structure: Inlet or Outlet (without headwall)- 'Dimension2' entry: 0

5.2.2.1.6. Material

The material from which the inlet or outlet structure was constructed.

Relevant material types are:

- Precast Concrete
- Cast In-situ Concrete
- Stone Pitched
- Sandbags

5.2.2.1.7. Remarks

Any remarks in relation to the asset.

5.2.2.1.8. Surface Level

Record a surface level on the centre of the inlet/outlet structure (Headwall or Pipe Top.)

5.2.2.1.9. Invert Level

Invert level (i.e. lowest point) of the inlet/outlet structure.

5.2.2.1.10. Rip Rap

Is Rip Rap installed for the inlet/outlet?

5.2.2.1.11. Safety Grating

Is Safety grating installed on the Inlet/ outlet?

5.2.2.1.12. Data Source

The name of the consultant.

5.2.2.1.13. Construction Date

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

Example: 1 January 2008 shall be represented by '01/01/2008'

5.2.2.1.14. Construction Cost

The estimated cost of constructing or installing the asset.

5.2.2.1.15. Height Value

How the Z Coordinate (level) was determined. E.g. Survey

5.2.2.1.16. Assets Added / Modified

For new assets the correct value of entry = N

For modified assets the correct value of entry = M

For removed assets the correct value of entry = R

5.2.2.2. Stormwater - Inlet Pits / Junctions**Excel Attribute tab Name. SW-Pit****5.2.2.2.1. Asset ID**

Asset Identifiers are to be assigned by the consultant and shall consist of a unique identifier (i.e. SWPT1, SWPT2, etc.).

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

5.2.2.2.2. Type

The various asset types are listed below, to be recorded on the Attribute Data Forms:

- Side Entry Pit - Single
- Side Entry Pit - Double
- Side Entry Pit - Triple
- Sump
- Grated inlet pit
- Junction box

5.2.2.2.3. Location

Simple codes are to be entered to describe the asset location as listed below:

- Drain (Inlets / Outlets connection to an open channel or drain)
- Footpath (Within the road carriageway (outside K&C outside road seal)
- Road (Within the road carriageway (between K&C within road seal)
- Private Property/Park (Within real property i.e. private property, easement, DCMB reserve or Crown land)

5.2.2.2.4. Dimension 1

This column describes the gross, overall, internal, maximum dimension (for rectangular inlet pits) or the diameter (for circular inlet pits), which ever is applicable. The dimension is to be recorded in millimetres. NOTE: For rectangular pits, this field must represent the largest dimension of the structure.

If the shape of an inlet pit is not circular or rectangular or is unusual, details of the pit are to be provided separately.

Examples:

1. Structure: Rectangular - 0.9metres wide by 0.6metres long; 'Dimension1' entry: 900

2. Structure: Rectangular - 0.6metres wide by 0.9metres long; 'Dimension1' entry: 900
3. Structure: 0.6metres square; 'Dimension1' entry: 600
4. Structure: Circular - 1050mm radius; 'Dimension1' entry: 2100

5.2.2.2.5. Dimension 2

This column describes the gross, overall, minimum dimension for rectangular inlet pits. The dimension is to be recorded in millimetres. For circular inlet pits, a value of zero must be entered. NOTE: For rectangular inlet pits, this field must represent the smallest dimension of the inlet pit.

If the shape of an inlet pit is not circular or rectangular or is unusual, details of the pit are to be provided separately.

Examples:

1. Structure: Rectangular - 0.9metres wide by 0.6metres long; 'Dimension2' entry: 600
2. Structure: Rectangular - 0.6metres wide by 0.9metres long; 'Dimension2' entry: 600
3. Structure: 0.6metres square; 'Dimension2' entry: 600
4. Structure: Circular - 1050mm radius; 'Dimension2' entry: 0

5.2.2.2.6. Cover Material

Relevant 'Cover Types' are:

- Cast Iron
- Galvanized Iron
- Concrete
- Steel

5.2.2.2.7. Cover brand

The name of the manufacturer of the cover (if known)

5.2.2.2.8. Chamber Material

This column describes the material from which the inlet pit chamber is constructed. Relevant 'Structure Construction Types' and their appropriate abbreviation are as follows:

- Precast concrete
- In-situ concrete

5.2.2.2.9. Number of Lintels

Record the number of lintels on the pit

5.2.2.2.10. Lintel Length

Record the total length of the lintels

5.2.2.2.11. Floodgates

Are floodgates installed in the Pit - yes/no

5.2.2.2.12. Floodgate – Dim 1 – mm

This column describes the gross, overall, internal, maximum dimension. The dimension is to be recorded in millimetres.

Examples:

1. Structure: Rectangular - 0.9metres wide by 0.6metres long; 'Dimension1' entry: 900
2. Structure: Rectangular - 0.6metres wide by 0.9metres long; 'Dimension1' entry: 900
3. Structure: 0.6metres square; 'Dimension1' entry: 600
4. Structure: Circular - 1050mm radius; 'Dimension1' entry: 2100

5.2.2.2.13. Floodgate – Dim 2 – mm

This column describes the gross, overall, minimum dimension. The dimension is to be recorded in millimetres.

Examples:

1. Structure: Rectangular - 0.9metres wide by 0.6metres long; 'Dimension2' entry: 600
2. Structure: Rectangular - 0.6metres wide by 0.9metres long; 'Dimension2' entry: 600
3. Structure: 0.6metres square; 'Dimension2' entry: 600
4. Structure: Circular – 1050mm radius; 'Dimension2' entry: 0

5.2.2.2.14. Litter Basket

Is a litter basket installed? yes/no

5.2.2.2.15. Inlet Grate

Does the side entry pit have an inlet grate? yes/no

5.2.2.2.16. Heavy Duty

Is the pit heavy duty? yes/no

5.2.2.2.17. Surround Material

The material from which the surround has been made. Relevant material types are as follows:

- Precast Concrete
- In-situ Concrete
- Cast Iron
- Recycled Plastic

5.2.2.2.18. Surround Brand

The manufacturer of the surround

5.2.2.2.19. Remarks

Any remarks in relation to the asset.

5.2.2.2.20. Invert Level

Record the invert level (i.e. lowest point) of the inlet pit.

5.2.2.2.21. Surface Level

Record a surface level on the centre of the inlet pit.

5.2.2.2.22. Data Source

The name of the Consultant.

5.2.2.2.23. Construction Date

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

Example: 1 January 2008 shall be represented by '01/01/2008'

5.2.2.2.24. Construction Cost

The estimated cost of constructing or installing the asset.

5.2.2.2.25. Height Value

How the Z Coordinate (level) was determined. E.g. Survey

5.2.2.2.26. Assets Added / Modified / Removed

For new assets the correct value of entry = N

For modified assets the correct value of entry = M

For removed assets the correct value of entry = R

5.2.2.3. Stormwater - Pipes

Excel Attribute tab Name. SW-Pipe

5.2.2.3.1. Asset ID

Asset Identifiers are to be assigned by the consultant and shall consist of a unique identifier (i.e. SWPIPE1, SWPIPE2, etc.).

Each asset shall have an Asset Identifier assigned to it whether the asset is a new asset or an existing asset which has been modified. Multiple barrel pipes shall be considered as multiple entries i.e. each barrel shall have a CAD object, an Asset Identifier and a line of attribute information.

5.2.2.3.2. Upstream Node

This Column represents the unique identifier (Asset ID) of the upstream asset.

5.2.2.3.3. Downstream Node

This Column represents the unique identifier (Asset ID) of the downstream asset.

5.2.2.3.4. Type

The various asset types to be recorded on the Attribute Data Forms are listed below

- Circular Pipe
- Box Culvert

5.2.2.3.5. Dimension 1

This column describes the nominal maximum dimension (for box culverts) or nominal diameter (for circular pipes), which ever is applicable. The dimension is to be recorded in millimetres.

NOTE: For box culverts, this field must represent the largest dimension. If the shape of a pipe is not circular or rectangular or is unusual, details of the pipe are to be provided separately.

Examples:

1. Structure: Box culvert - 0.9metres wide by 0.6metres high; 'Dimension1' entry: 900
2. Structure: Box culvert - 0.6metres wide by 0.9metres high; 'Dimension1' entry: 900
3. Structure: Box culvert - 0.6metres square; 'Dimension1' entry: 600
4. Structure: Circular Pipe – 1050mm radius; 'Dimension1' entry: 2100

5.2.2.3.6. Dimension 2

This column describes the nominal minimum dimension for box culverts. The dimension is to be recorded in millimetres. For circular pipes, a value of zero must be entered.

NOTE: For box culverts, this field must represent the smallest dimension.

If the shape of a pipe is not circular or rectangular or is unusual, details of the pipe are to be provided separately.

Examples:

1. Structure: Box culvert - 0.9metres wide by 0.6metres high; 'Dimension2' entry: 600
2. Structure: Box culvert - 0.6metres wide by 0.9metres high; 'Dimension2' entry: 600
3. Structure: Box culvert - 0.6metres square; 'Dimension2' entry: 600
4. Structure: Circular pipe – 1050mm radius; 'Dimension2' entry: 0

5.2.2.3.7. 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). The length shall be recorded in metres.

5.2.2.3.8. Material

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

- Fibre Reinforced Concrete
- uPVC
- PVC
- Cast Iron
- Steel Reinforced Concrete
- Polypropylene
- HDPE
- Corrugated Galvanized Steel
- Corrugated Aluminium

5.2.2.3.9. Remarks

Any remarks in relation to the asset.

5.2.2.3.10. Upstream Invert Level

Record the pipe invert level at its upstream end.

5.2.2.3.11. Downstream Invert Level

Record the pipe invert level at its downstream end.

5.2.2.3.12. CCTV

Has the pipe been CCTV scanned? yes/no

5.2.2.3.13. Data Source

The name of the Consultant.

5.2.2.3.14. Construction Date

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

Example: 1 January 2008 shall be represented by '01/01/2008'

5.2.2.3.15. Construction Cost

The estimated cost of constructing or installing the asset.

5.2.2.3.16. Assets Added / Modified / Removed

For new assets the correct value of entry = N

For modified assets the correct value of entry = M

For removed assets the correct value of entry = R

5.2.2.4. Stormwater - Open Channels**Excel Attribute tab Name. SW-Channel****5.2.2.4.1. Asset ID**

Asset Identifiers are to be assigned by the consultant and shall consist of a unique identifier (i.e. SWOC1, SWOC2, etc.).

Each asset shall have an Asset Identifier assigned to it whether the asset is a new asset or an existing asset, which has been modified. Multiple barrel pipes shall be considered as multiple entries i.e. each

barrel shall have a CAD object, an Asset Identifier and a line of attribute information.

5.2.2.4.2. Type

The various asset types are listed below. Asset types other than those listed below are to be noted in the remarks column.

- Open concrete lined channel
- Open vegetated channel
- Open vegetated channel with concrete invert
- Open vegetated channel with rock invert
- Overland flow path
- Rock lined open channel

5.2.2.4.3. Length

Represents the slope length of the channel from end to end. The length shall be recorded in metres.

5.2.2.4.4. Bottom width

The width of the channel in metres at its base taken at a typical cross-section.

5.2.2.4.5. Top width

The width of the channel in metres at its top taken at a typical cross-section.

5.2.2.4.6. Bankfull depth

The distance in metres from the invert to the top of bank taken at a typical cross-section.

5.2.2.4.7. Downstream Invert

Record the channel invert at the downstream end.

5.2.2.4.8. Upstream Invert

Record the channel invert at the upstream end.

5.2.2.4.9. Construction Date

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

Example: 1 January 2008 shall be represented by '01/01/2008'

5.2.2.4.10. Construction Cost

The estimated cost of constructing or installing the asset.

5.2.2.4.11. Data Source

The name of the consultant

5.2.2.4.12. Remarks

Any remarks in relation to the asset.

5.2.2.4.13. Assets Added / Modified / Removed

For new assets the correct value of entry = N

For modified assets the correct value of entry = M

For removed assets the correct value of entry = R

5.2.2.5. Stormwater - Detention / Retention Basins

Excel Attribute tab Name. SW-Basin

5.2.2.5.1. Asset ID

Asset Identifiers are to be assigned by the consultant and shall consist of a unique identifier (i.e. SWB1, SWB2, etc.).

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

5.2.2.5.2. Type

The various asset types to be recorded are listed below.

- Retention Basin
- Detention Basin

5.2.2.5.3. Invert Level – m – AHD

The invert level at the deepest point in the basin, recorded in metres AHD

5.2.2.5.4. Temporary Storage Capacity

The amount of temporary storage available in the basin in cubic metres, discounting any storage used for permanent water storage.

5.2.2.5.5. Underground Storage

Record if underground storage has been used.

5.2.2.5.6. Weir

Record if there is a weir on the basin.

5.2.2.5.7. Weir Height – m – AHD

Record the weir level in metres AHD

5.2.2.5.8. Weir Material

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

- Concrete
- Roadway
- Turf

5.2.2.5.9. Weir Length

The length in metres of the weir at its recorded weir height.

5.2.2.5.10. Construction Date

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

Example: 1 January 2008 shall be represented by '01/01/2008'

5.2.2.5.11. Construction Cost

The estimated cost of constructing or installing the asset.

5.2.2.5.12. Data Source

The name of the consultant.

5.2.2.5.13. Remarks

Any remarks in relation to the asset.

5.2.2.5.14. Assets Added / Modified / Removed

For new assets the correct value of entry = N

For modified assets the correct value of entry = M

For removed assets the correct value of entry = R

5.2.2.6. Stormwater - Structures

Excel Attribute tab Name. SW-Structure

5.2.2.6.1. Asset ID

Asset Identifiers are to be assigned by the consultant and shall consist of a unique identifier (i.e. a SWSTR1, SWSTR2, etc.).

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

5.2.2.6.2. Type

The various Asset types to be recorded are listed below.

- Gross Pollutant Trap
- Tank
- Treatment Plant
- Wetland

5.2.2.6.3. Manufacturer

The name of the manufacturer of the device.

5.2.2.6.4. Model

The manufacturers model of the device.

5.2.2.6.5. Location

Simple codes are to be entered to describe 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, DCMB reserve or Crown land)

Cover Material

5.2.2.6.6. Dimension 1 – mm

This column describes the gross overall internal maximum dimension. The dimension is to be recorded in millimetres.

5.2.2.6.7. Dimension 2 - mm

This column describes the internal minimum dimension. The dimension is to be recorded in millimetres. For circular pipes, a value of zero must be entered.

If the shape of a pipe is not circular or rectangular or is unusual, details of the pipe are to be provided separately.

5.2.2.6.8. Material

The material from which the cover is constructed

Relevant material types are as follows

- In-situ concrete
- Precast concrete
- Cast iron

5.2.2.6.9. Surface Level – m AHD

Surface Level on the centre of the cover lid.

5.2.2.6.10. Storage Level – m AHD

The level at which the maximum storage capacity is reached.

5.2.2.6.11. Invert Level Sump – m AHD

Invert level at the lowest point of the device.

5.2.2.6.12. Cleansing Volume

The volume of material in cubic metres that the device is capable of holding.

5.2.2.6.13. Construction Date

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

Example: 1 January 2008 shall be represented by '01/01/2008'

5.2.2.6.14. Construction Cost

The estimated cost of constructing or installing the asset.

5.2.2.6.15. Data Source

The name of the consultant.

5.2.2.6.16. Remarks

Any remarks in relation to the asset.

5.2.2.6.17. Assets Added / Modified / Removed

For new assets the correct value of entry = N

For modified assets the correct value of entry = M

For removed assets the correct value of entry = R

6. WASTEWATER (CWMS)

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 wastewater assets listed in Table 3.3

6.2. Attribute Information

6.2.1. General

Attribute information is to be supplied for all new assets which ultimately become the property and responsibility of DCMB, in the format specified in section 2.3. These assets and the relevant form number for recording attribute data are listed in Table 3.3. Attribute information is also to be supplied for all assets which have been modified during the construction of new assets.

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

Attributes described below are to be assigned to a single CAD entity as described in Table 3.3.

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.

6.2.2.1. Wastewater – Connections

Excel Attribute tab Name. WW-Connection

6.2.2.1.1. Asset ID

Asset Identifiers are to be assigned by the consultant and shall consist of unique identifier (i.e. WWCON1, WWCON2 etc.). Each asset shall have an Asset Identifier assigned to it whether the asset is a new asset or an existing asset which has been modified.

6.2.2.1.2. Diameter

The nominal diameter of the house connection

6.2.2.1.3. Material

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

- Concrete
- Clay
- uPVC

6.2.2.1.4. Class

The pipe class in accordance with the relevant Australian Standard

6.2.2.1.5. Invert Level

The invert level of the house connection

6.2.2.1.6. Invert Depth

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

6.2.2.1.7. Distance from Main

The perpendicular distance the house connection projects from the sewer Gravity Main

6.2.2.1.8. 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

6.2.2.1.9. Construction Date

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

Example: 1 January 2008 shall be represented by '01/01/2008'

6.2.2.1.10. Construction Cost

The estimated cost of constructing or installing the asset.

6.2.2.1.11. Remarks

Any remarks in relation to the asset.

6.2.2.1.12. Data Source

The name of the Consultant.

6.2.2.1.13. Assets New, Modified, Removed

For new assets the correct value of entry = N

For modified assets the correct value of entry = M

For removed assets the correct value of entry = R

6.2.2.2. Wastewater – Inspection Points / Flushing Points

Excel Attribute tab Name. WW-IP

6.2.2.2.1. Asset ID

Asset Identifiers are to be assigned by the consultant and shall consist of unique identifier (i.e. WWIP1, WWIP2 etc.).

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

6.2.2.2.2. Location

Simple codes are to be entered to describe 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, DCMB reserve or Crown land)

6.2.2.2.3. Surface Level

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

6.2.2.2.4. Invert Level

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

6.2.2.2.5. Construction Date

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

Example: 1 January 2008 shall be represented by '01/01/2008'

6.2.2.2.6. Construction Cost

The estimated cost of constructing or installing the asset.

6.2.2.2.7. Remarks

Any remarks in relation to the asset.

6.2.2.2.8. Data Source

The name of the Consultant.

6.2.2.2.9. Assets New, Modified, Removed

For new assets the correct value of entry = N

For modified assets the correct value of entry = M

For removed assets the correct value of entry = R

6.2.2.3. Wastewater – Manholes

Excel Attribute tab Name. WW-Manhole

6.2.2.3.1. Asset ID

Asset Identifiers are to be assigned by the consultant and shall consist of unique identifier (i.e. WWMH1, WWMH2 etc.).

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

6.2.2.3.2. Location

Simple codes are to be entered to describe the asset location as listed below:

- Footpath/Verge (Between property boundary and K&C or edge of road)
- Road (Within the road carriageway)
- Private Property/Park (Within real property i.e. private property, DCMB reserve or Crown land)

6.2.2.3.3. Bolt Down Cover

Enter 'True' if the manhole cover is a bolt down cover. Otherwise enter 'False'.

6.2.2.3.4. Chamber Dimension

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

6.2.2.3.5. Base Construction

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

- In-situ concrete
- Precast concrete
- Other

6.2.2.3.6. Surface Level

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

6.2.2.3.7. Invert Level

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

6.2.2.3.8. Construction Date

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

Example: 1 January 2008 shall be represented by '01/01/2008'

6.2.2.3.9. Construction Cost

The estimated cost of constructing or installing the asset.

6.2.2.3.10. Remarks

Any remarks in relation to the asset.

6.2.2.3.11. Data Source

The name of the Consultant.

6.2.2.3.12. Assets New, Modified, Removed

For new assets the correct value of entry = N

For modified assets the correct value of entry = M

For removed assets the correct value of entry = R

6.2.2.4. Wastewater – Gravity Mains

Excel Attribute tab Name. WW-GravityMain

6.2.2.4.1. Asset ID

Asset Identifiers are to be assigned by the consultant and shall consist of unique identifier (i.e. WWGM1, WWGM2 etc.).

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

6.2.2.4.2. Upstream Manhole

Represents the unique identifier (Asset ID) of the upstream asset.

6.2.2.4.3. Downstream Manhole

Represents the unique identifier (Asset ID) of the downstream asset.

6.2.2.4.4. Upstream Invert Level

Record the pipe invert level at its upstream end.

6.2.2.4.5. Downstream Invert Level

Record the pipe invert level at its downstream end.

6.2.2.4.6. Diameter

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

6.2.2.4.7. 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).

6.2.2.4.8. Material

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

- AC
- BB
- RC
- VC
- DICL
- PVC
- uPVC

6.2.2.4.9. Joint Type

The joint type used between adjoining pipes. E.g.:

- RR

6.2.2.4.10. Class

The pipe class in accordance with the relevant Australian Standard

6.2.2.4.11. Construction Date

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

Example: 1 January 2008 shall be represented by '01/01/2008'

6.2.2.4.12. Construction Cost

The estimated cost of constructing or installing the asset.

6.2.2.4.13. Remarks

Any remarks in relation to the asset.

6.2.2.4.14. Data Source

The name of the Consultant.

6.2.2.4.15. Assets New, Modified, Removed

For new assets the correct value of entry = N

For modified assets the correct value of entry = M

For removed assets the correct value of entry = R

6.2.2.5. Wastewater – Pump Stations

Excel Attribute tab Name. WW-PumpStation

6.2.2.5.1. Asset ID

Asset Identifiers are to be assigned by the consultant and shall consist of unique identifier (i.e.WWPS1, WWPS2 etc.).

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

6.2.2.5.2. Location

The street address of the asset

6.2.2.5.3. Make

The Make of the pump

6.2.2.5.4. Serial No.

The Serial No. of the pump

6.2.2.5.5. Model

The pump Model

6.2.2.5.6. Type

The Type of pump

6.2.2.5.7. Voltage

The voltage of the pump

6.2.2.5.8. Current

The current in the pump in Amps

6.2.2.5.9. KW

Kilowatt rating of pump

6.2.2.5.10. RPM

The number of revolutions per minute of the pump

6.2.2.5.11. Phase

Phase of the pump

6.2.2.5.12. Design Duty Discharge

The design discharge in liters per second

6.2.2.5.13. Design Head

The pressure at certain flow

6.2.2.5.14. Impellor Diameter

The diameter of the Impeller

6.2.2.5.15. Bearings

The bearing type and serial No.

6.2.2.5.16. Seals

The type of seal

6.2.2.5.17. Pump Stop

The level of sewage where the pump will switch off

6.2.2.5.18. Duty Start

The level of sewage where the pump on duty will start

6.2.2.5.19. Standby Start

The level of sewage where the standby pump will start

6.2.2.5.20. High Level

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

6.2.2.5.21. O/Flow

Level of overflow

6.2.2.5.22. Surface Level

Record a surface level on the centre of the pump.

6.2.2.5.23. RM-outlet Level

The level at the top of the rising main

6.2.2.5.24. Floor Level

The level at the internal base of the rising main

6.2.2.5.25. Inlet Invert Level

The level of the incoming pipe at the wet well

6.2.2.5.26. Well Diameter

The diameter of the wet well. If the well is not round provide actual

measurements.

6.2.2.5.27. Commissioned Date

The date the asset was commissioned. The format of the date shall be DD/MM/YYYY.

Example: 1 January 2008 shall be represented by '01/01/2008'

6.2.2.5.28. Construction Cost

The estimated cost of constructing or installing the asset.

6.2.2.5.29. Remarks

Any remarks in relation to the asset.

6.2.2.5.30. Data Source

The name of the Consultant.

6.2.2.5.31. Assets New, Modified, Removed

For new assets the correct value of entry = N

For modified assets the correct value of entry = M

For removed assets the correct value of entry = R

6.2.2.6. Wastewater – Rising Mains

Excel Attribute tab Name. WW-RisingMain

6.2.2.6.1. Asset ID

Asset Identifiers are to be assigned by the consultant and shall consist of unique identifier (i.e. WWRM1, WWRM2 etc.).

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

6.2.2.6.2. Pump Stations

Pump Station which feeds the rising main

6.2.2.6.3. Location

Simple codes are to be entered to describe the asset location as listed below:

- Footpath/Verge (Between property boundary and K&C or edge of road)
- Road (Within the road carriageway)
- Private Property/Park (Within real property i.e. private property, DCMB reserve or Crown land)

6.2.2.6.4. Rising Main Diameter

The nominal diameter of the pipe

6.2.2.6.5. Material

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

- uPVC
- DICL

6.2.2.6.6. Length

The plan length of the pipe from end to end

6.2.2.6.7. Construction Date

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

Example: 1 January 2008 shall be represented by '01/01/2008'

6.2.2.6.8. Construction Cost

The estimated cost of constructing or installing the asset.

6.2.2.6.9. Remarks

Any remarks in relation to the asset.

6.2.2.6.10. Data Source

The name of the Consultant.

6.2.2.6.11. Assets New, Modified, Removed

For new assets the correct value of entry = N

For modified assets the correct value of entry = M

For removed assets the correct value of entry = R

7. RECLAIMED WATER

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 reclaimed water assets listed in Table 3.3

7.2. Attribute Information

7.2.1. General

Attribute information is to be supplied for all new assets which ultimately become the property and responsibility of DCMB, in the format specified in section 2.3. These assets and the relevant form number for recording attribute data are listed in Table 3.3. Attribute information is also to be supplied for all assets which have been modified during the construction of new assets.

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

Attributes described below are to be assigned to a single CAD entity as described in Table 3.3.

7.2.2. Standard Forms

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

7.2.2.1. Reclaimed Water – Pipes

Excel Attribute tab Name. RW-Pipe

7.2.2.1.1. Asset ID

Asset Identifiers are to be assigned by the consultant and shall consist of unique identifier (i.e. RWP1, RWP2 etc.).

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

7.2.2.1.2. Location

Simple codes are to be entered to describe the asset location as listed below:

- Footpath/Verge (Between property boundary and K&C or edge of road)
- Road (Within the road carriageway)
- Private Property/Park (Within real property i.e. private property, DCMB reserve or Crown land)

7.2.2.1.3. Length

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

7.2.2.1.4. Diameter

The nominal diameter of the water main in millimetres.

7.2.2.1.5. Material

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

- DICL
- AC

- AV
- AVC
- CI
- HDPE
- MDPE
- HOB
- uPVC
- PVC
- POLY
- GCI
- BB
- Plastic

7.2.2.1.6. Class

The pipe class in accordance with the relevant Australian Standard (e.g. AS2280-1995 Ductile Iron Pressure Pipes and Fittings).

7.2.2.1.7. Construction Date

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

Example: 1 January 2008 shall be represented by '01/01/2008'

7.2.2.1.8. Construction Cost

The estimated cost of constructing or installing the asset.

7.2.2.1.9. Remarks

Any remarks in relation to the asset.

7.2.2.1.10. Data Source

The name of the Consultant

7.2.2.1.11. Assets New, Modified, Removed

For new assets the correct value of entry = N

For modified assets the correct value of entry = M

For removed assets the correct value of entry = R

7.2.3. Reclaimed Water – Pump Stations

Excel Attribute tab Name. RW-PumpStation

7.2.3.1.1. Asset ID

Asset Identifiers are to be assigned by the consultant and shall consist of a unique identifier (i.e. RWPS1, RWPS2, etc.).

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

7.2.3.1.2. Location

Simple codes are to be entered to describe the asset location as listed below:

- Footpath/Verge (Between property boundary and K&C or edge of road)
- Road (Within the road carriageway)
- Private Property/Park (Within real property i.e. private property, DCMB reserve or Crown land)

7.2.3.1.3. Item

Description of the pump e.g.

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

7.2.3.1.4. Make

The brand name of the pump.

7.2.3.1.5. Model No.

The Model No. of the pump

7.2.3.1.6. Serial No.

The Serial No. of the pump

7.2.3.1.7. Type

The type of pump e.g.

- Centrifugal
- Sub Centrifugal

7.2.3.1.8. KW

The KW rating of the pump motor

7.2.3.1.9. RPM

The number of revolutions per minute of the pump

7.2.3.1.10. Duty Discharge

Discharge in litres per second

7.2.3.1.11. Head

Pressure head of the pump

7.2.3.1.12. Impeller

The diameter of the Impeller

7.2.3.1.13. Bearing

The bearing type and serial No.

7.2.3.1.14. Seal

The type of seal e.g.

- Mechanical
- Packing

7.2.3.1.15. Civil Structures

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

7.2.3.1.16. Construction Date

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

Example: 1 January 2008 shall be represented by '01/01/2008'

7.2.3.1.17. Construction Cost

The estimated cost of constructing or installing the asset.

7.2.3.1.18. Remarks

Any remarks in relation to the asset.

7.2.3.1.19. Data Source

The name of the Consultant.

7.2.3.1.20. Assets New, Modified, Removed

For new assets the correct value of entry = N

For modified assets the correct value of entry = M

For removed assets the correct value of entry = R

7.2.3.2. Reclaimed Water – Valves

Excel Attribute tab Name. RW-Valve

7.2.3.2.1. Asset ID

Asset Identifiers are to be assigned by the consultant and shall consist of a unique character (i.e. RWV1, RWV2, etc.).

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

7.2.3.2.2. Location

Simple codes are to be entered to describe 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, DCMB reserve or Crown land)

7.2.3.2.3. Type

The various asset types are listed below,

- Air Release
 - Boundary
 - Butterfly
 - Sluice
 - Scour
 - Isolating
 - Altitude
 - Reflux

7.2.3.2.4. Diameter

The nominal diameter of the valve in millimetres.

7.2.3.2.5. Surface Level

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

7.2.3.2.6. Construction Date

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

Example: 1 January 2008 shall be represented by '01/01/2008'

7.2.3.2.7. Construction Cost

The estimated cost of constructing or installing the asset.

7.2.3.2.8. Remarks

Any remarks in relation to the asset.

7.2.3.2.9. Data Source

The name of the Consultant

7.2.3.2.10. Assets New, Modified, Removed

For new assets the correct value of entry = N

For modified assets the correct value of entry = M

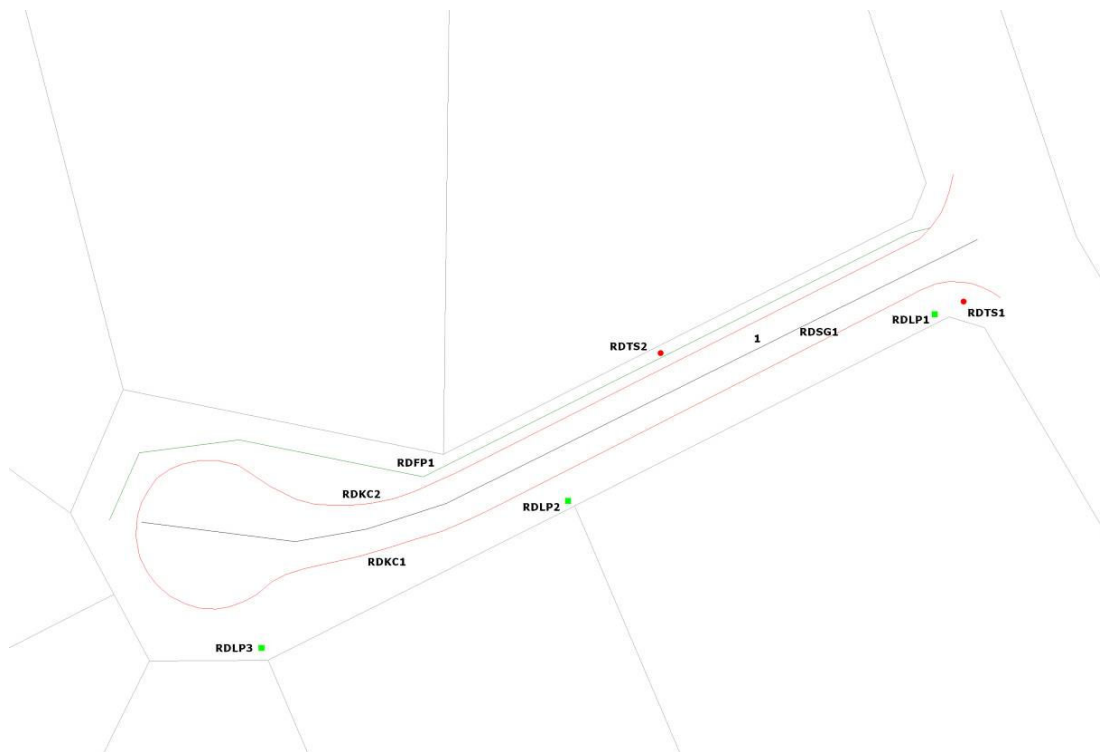
For removed assets the correct value of entry = R

8. WORKED EXAMPLES

NOTE: The data contained in the following files and plans is an example only and is not to be taken as correct.

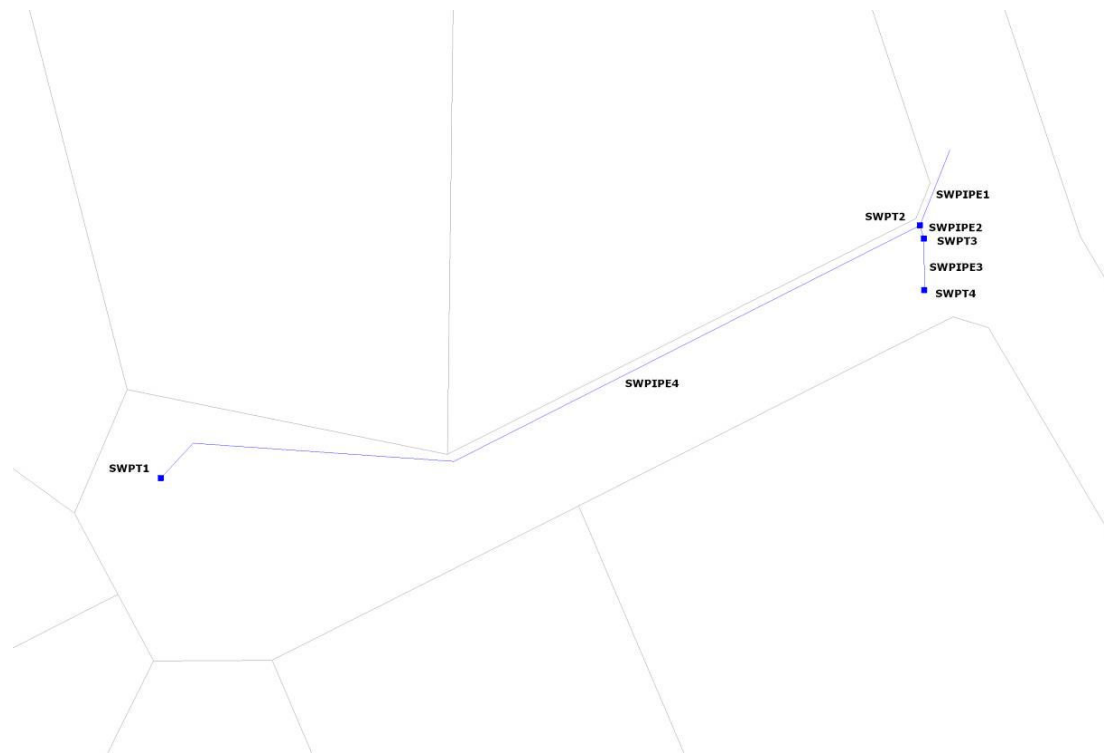
8.1. Roads

An example of marked up plans showing asset numbering and hardcopy plots of Roads Attribute Data Forms follows.



8.2. Stormwater Drainage

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



8.3. Wastewater (CWMS)

An example of marked up plans showing asset numbering and hardcopy plots of Wastewater Attribute Data Forms follows.

