



# BRAMS to SAP Extract Requirements Specification

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## Document control

### 1 Version history

Version	Author	Reviewer	Purpose/Comments	Date
1.0	Gary Meades	Matthew Andreatta Kim Geedrick	Reformatted Document, attribute review.	21-03-2014
1.1	Gary Meades	Matthew Andreatta Kim Geedrick	Include XSP within Equipment Views.	01-04-2014
1.2	Gary Meades	Matthew Andreatta Kim Geedrick	Amended for Release	03-04-2014
1.3	Gary Meades	Matthew Andreatta Kim Geedrick	Amended screenshot page 11 re XBEX_OPDN_VERGE example	04-04-2014

### 2 Release approval

This document is approved for release.

*Version* 1.3  
*Name* Matthew Andreatta  
*Position* Asset Information Management, Manager

*Signature:*

*Date:*

### 3 Requirements agreed

This document accurately reflects the agreed business requirements.

*Version* 1.3  
*Name* Matthew Andreatta  
*Position* Asset Information Management, Manager

*Signature:*

*Date:*

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# Functional Requirements

## 4 Background

The following requirement has been documented to define the extract views/tables required for initial BRAMS to SAP data loading.

The SAP Road, Verge (Footpath), Median (K&C and infill) and Kerb and Channel assets will be initially created based on data held in the Brisbane Road Asset Management System (BRAMS).

The 'Road' equipment within SAP is defined as an entire street from start to end regardless of how many suburbs it crosses and is to be based on the BRAMS RLINK network.

The Median' equipment in SAP is similar to 'Road' equipment, and is also based on the BRAMS RLNK network.

The 'Footpath' equipment in SAP is similar to 'Road' except related to the VLINK network and for each street two footpath equipment's will be created, one for the odd side and one for the even side.

Standard terminology for footpath in BRAMS is Verge; these terms may be used interchangeably in this document.

The 'Kerb and channel' equipment is the same as Footpath except based on the KLINK network.

Attributes for the SAP equipment will be managed as linear referenced characteristics.

### 4.1 Example SAP hierarchies (indicative only)

The following is an example of the network hierarchy to be extracted.

```
BCC\.....\INFRASTRUCTURE\ROADS
  \GEORGE STREET 451265
  \ANN STREET 875465
```

```
BCC\.....\INFRASTRUCTURE\MEDIAN
  \GEORGE STREET 231265
  \ANN STREET 565465
```

```
BCC\.....\INFRASTRUCTURE\FOOTPATH
  \GEORGE STREET ODD 545421
  \GEORGE STREET EVEN 963541
  \ANN STREET ODD 9875421
  \ANN STREET EVEN 7845121
```

```
BCC\.....\INFRASTRUCTURE\KERB
  \GEORGE STREET ODD 753215
  \GEORGE STREET EVEN 965874
  \ANN STREET ODD 123548
  \ANN STREET EVEN 951547
```

## 5 Deliverables

Based on the requirements within this document and the solution design to date, the following deliverables are required;

	Deliverable Description	Deliverable
1	Road Equipment View	XBEX_EQUIP_RDCO
2	Median Equipment View	XBEX_EQUIP_MED
3	Kerb Equipment View	XBEX_EQUIP_KCOR
4	Verge Equipment View	XBEX_EQUIP_VECO
5	Attribute View Procedure (To create attribute tables)	XBCC_EQUIP_ATTR_VIEWS
6	Attribute Input Table (Source table for Attribute proc)	XBCC_EAV_INPUT
7	Attribute Tables as generated by deliverables 5 and 6.	
8	Suburb Boundary View - Road	XBEX_SUBURB_EQUIP_RDCO
9	Suburb Boundary View - Median	XBEX_SUBURB_EQUIP_MED
10	Suburb Boundary View - Verge	XBEX_SUBURB_EQUIP_VECO
11	Suburb Boundary View - Kerb	XBEX_SUBURB_EQUIP_KCOR

### 5.1 Assumptions

The following assumption has been made;

- A method of executing the above deliverables and the XBCC\_EQUIP\_ATTR\_VIEWS procedure shall be via a manual GRI within the BRAMS Application or via a scheduled DBMS JOB. By doing so the extract\_date fields will be populated until such time that the extract is refreshed.

## 6 Equipment Views

The scope for this body of work is to create a number of database views/tables (or materialised views) to support the extraction of BRAMS data to enable the initial SAP load for road, footpath, K&C and median equipment's.

The naming convention for tables/view/mat views is to consist of the prefix XBEX\_ (BRAMS Extract) to differentiate from existing XBCC tables.

Each of the equipment views are documented as follows;

## 6.1 Road Equipment View

The XBEX\_EQUIP\_RDCO view is to be based on the Road network. An entry represents an entire street from start to end, inclusive of all suburbs that make up the street. The order of the dataset is to be by columns STREET\_NAME and STREET\_CORRIDOR\_ID ascending.

Column Sequence	Column Name	Type	Comment	Source
1	NETWORK_PRIMARY_ID	Number(9)	This will be considered the linkage between BRAMS and SAP for road assets. Must be the same ID that the BRAMS SAP interface will use.	v_nm_nlt_rdco_rdco_sdo_dt.ne_id
2	STREET_NAME	Varchar(80)	Street name for the road corridor	v_nm_nlt_rdco_rdco_sdo_dt.street_name
3	STREET_CORRIDOR_ID	Varchar(80)	Coreland Street corridor ID	
4	EXTRACT_DATE	Date	Extract Date	SYSDATE populated at creation or replacement of table/view.
5	LENGTH	Number (3 decimal places)	BRAMS spatial length of the road corridor	Derived from NM_Members
6	GIS_SHAPE	SDO Geometry	Network geometry for the road corridor	v_nm_nlt_rdco_rdco_sdo_dt.geoloc

Information for this view will come from v\_nm\_nlt\_rdco\_rdco\_sdo\_dt and if necessary nm\_members.

### Example Output for XBEX\_EQUIP\_RDCO

[illegible]

## 6.2 Median Equipment View

The XBEX\_EQUIP\_MED view is to be based on the road network. An entry represents an entire street from start to end, inclusive of all suburbs that make up the street. Individual medians will be managed a SAP linear characterises along the median equipment; this data will be sourced from the equipment attribute views specified below. The order of the dataset is to be by columns STREET\_NAME and STREET\_CORRIDOR\_ID ascending.

Column Sequence	Column Name	Type	Comment	Source
1	NETWORK_PRIMARY_ID	Number(12)	This will be considered the linkage between BRAMS and SAP for road assets. Must be the same ID that the BRAMS SAP interface will use.	999    v_nm_nlt_rdc0_rdc0_sdo_dt.ne_id
2	STREET_NAME	Varchar(80)	Street name for the road corridor	v_nm_nlt_rdc0_rdc0_sdo_dt.street_name
3	STREET_CORRIDOR_ID	Varchar(80)	Coreland Street corridor ID	
4	EXTRACT_DATE	Date	Extract Date	Sysdate populated at creation or replacement of table/view.
5	LENGTH	Number (3 decimal places)	BRAMS spatial length of the road corridor	Derived from NM_Members
6	GIS_SHAPE	SDO Geometry	Network geometry for the road corridor	v_nm_nlt_rdc0_rdc0_sdo_dt.geoloc

### Example Output for XBEX EQUIP MED

Columns	Values	Comments
NETWORK_PRIMARY_ID	99915207950	
STREET_NAME	AARON PL	
STREET_CORRIDOR_ID	13280	
EXTRACT_DATE	02/04/2014 10:28	Extract Date - sysdate
LENGTH	333.590	Length of Road Corridor
GIS_SHAPE	(3302, 28356, (1, 2, 1, . . . . .	Geometry in SDO_GEOMETRY format

### 6.3 Kerb Equipment View

The XBEX\_EQUIP\_KCOR view is to be based on the Kerb network. An entry represents an entire street side from start to end, inclusive of all suburbs that make up the street for a particular side (odd/even). The order of the dataset is to be by columns STREET\_NAME, SIDE and STREET\_CORRIDOR\_ID ascending.

Column Sequence	Column Name	Type	Comment	Source
1	NETWORK_PRIMARY_ID	Number(9)	This will be considered the linkage between BRAMS and SAP for road assets. Must be the same ID that the BRAMS SAP interface will use.	v_nm_nlt_kcor_kcor_sdo_dt.ne_id
2	STREET_NAME	Varchar(80)	Street name for the road corridor	v_nm_nlt_kcor_kcor_sdo_dt.street_name
3	SIDE	Varchar(1)	O or E	
4	STREET_CORRIDOR_ID	Varchar(80)	Coreland Street corridor ID	
5	EXTRACT_DATE	Date	Extract Date	Sysdate populated at creation or replacement of table/view.
6	LENGTH	Number (3 decimal places)	BRAMS spatial length of the road corridor	Derived from NM_Members
7	GIS_SHAPE	SDO Geometry	Network geometry for the road corridor	v_nm_nlt_kcor_kcor_sdo_dt.geoloc

### Example Output for XBEX\_EQUIP\_KCOR

<b>Columns</b>	<b>Values</b>	<b>Comments</b>
NETWORK_PRIMARY_ID	16465619	
STREET_NAME	HORNBY ST	
SIDE	E	
STREET_CORRIDOR_ID	4992	
EXTRACT_DATE	02/04/2014 10:28	Extract Date - sysdate
LENGTH	423.410	Length of Road Corridor
GIS_SHAPE	(3302, 28356,, (1, 2, 1,,,,,,,)	Geometry in SDO_GEOMETRY format



## 6.4 Footpath (Verge) Equipment View

The XBEX\_EQUIP\_VECO view is to be based on the Verge network. An entry represents an entire street side from start to end, inclusive of all suburbs that make up the street for a particular side (odd/even). The order of the dataset is to be by columns STREET\_NAME, SIDE and STREET\_CORRIDOR\_ID ascending.

Column Sequence	Column Name	Type	Comment	Source
1	NETWORK_PRIMARY_ID	Number(9)	This will be considered the linkage between BRAMS and SAP for road assets. Must be the same ID that the BRAMS SAP interface will use.	v_nm_nlt_veco_veco_sdo_dt.ne_id
2	STREET_NAME	Varchar(80)	Street name for the road corridor	v_nm_nlt_veco_veco_sdo_dt.street_name
3	SIDE	Varchar(1)	O or E	
4	STREET_CORRIDOR_ID	Varchar(80)	Coreland Street corridor ID	
5	EXTRACT_DATE	Date	Extract Date	Sysdate populated at creation or replacement of table/view.
6	LENGTH	Number (3 decimal places)	BRAMS spatial length of the road corridor	Derived from NM_Members
7	GIS_SHAPE	SDO Geometry	Network geometry for the road corridor	v_nm_nlt_veco_veco_sdo_dt.geoloc

### Example Output for XBEX\_EQUIP\_VECO

<b>Columns</b>	<b>Values</b>	<b>Comments</b>
NETWORK_PRIMARY_ID	15277228	
STREET_NAME	MORA ST	
SIDE	O	
STREET_CORRIDOR_ID	7057	
EXTRACT_DATE	02/04/2014 10:28	Extract Date - sysdate
LENGTH	58.944	Length of Verge Corridor
GIS_SHAPE	(3302, 28356, , (1, 2, 1, . . . . . )	Geometry in SDO_GEOMETRY format

## 6.5 Equipment attribute views or SAP characteristics views

A method compiled to produce a table that contains BRAMS asset data along with start and end chainages relevant to the correct network (street not street suburb), the 'parent' asset number (from above views) and the asset number. This method must also work for GROUPS such as OPWD.

The method for input variables will be BRAMS ASSET TYPE, NETWORK NAME, XSP's. The output view will be named as per the PRIMARY\_VIEW value within XBCC\_EAV\_INPUT and contain the following information;

- The Asset Type,
- The NETWORK\_PRIMARY\_ID to relate back to the SAP equipment,
- The Asset Id,
- The Asset Start Date,
- The Start and End chainages of Asset relative to the entire street (not street suburb),
- The XSP of the Asset,
- The street name based on <NETWORK>\_PRIMARY\_ID,
- The street corridor code <NETWORK>\_PRIMARY\_ID,
- All the BRAMS attributes for that particular asset type,
- The <NETWORK> Side (O or E) if applicable to Network Type,
- The latest survey ID based on latest ESUR associated with the Asset Location,
- The latest survey Date based on latest ESUR associated with the Asset Location,
- The latest survey Type based on latest ESUR associated with the Asset Location,
- The extract date of the dataset, default to SYSDATE, and
- Spatial geometry representing the asset (clip network centreline).

oNote: a spatial geometry of null, as a result, indicates that the route may have issues.

The order of the dataset is to be by columns <NETWORK>\_PRIMARY\_ID, START\_CH ascending.

This method will then be used by BCC subject matter experts to create the required views to support the SAP initial load.

A procedure XBCC\_EQUIP\_ATTR\_VIEWS will be created that will read from an input table, XBCC\_EAV\_INPUT, and create tables based on the data. An exception will be thrown if the Network or the network SDO views do not exist. Networks are defined by their 4 Character Exor Code, with the exception of Median Equipment, that is handled by the fictitious network of 'MED'.

An appropriate method of execution will be provided using a both a GRI and Scheduled Job.

### Example Output for XBEX OPDN VERGE

Columns	Values	Comments
IIT_INV_TYPE	OPDN	Asset Type
NETWORK_PRIMARY_ID	15285445	Parent Network Corridor
ASSET_PRIMARY_ID	401778035	Asset ID
ASSET_START_DATE	25/09/2010	Asset Start Date
START_CH	3707.67	Start Chainage relative to Network Corridor
END_CH	3734.28	End Chainage relative to Network Corridor
XSP	XVE1	Asset XSP
NETWORK_NAME	TINGIRA ST EVEN	Parent Network Corridor Name
NETWORK_CORRIDOR_CODE	9778	Parent Network Corridor Code
OPEN_DRAIN_TYPE	TABLE DRAIN	Attributes of Asset Type
OPEN_DRAIN_TYPE_SOURCE	RSI	
OPEN_DRAIN_SURFACE	GRAVEL/EARTH	
OPEN_DRAIN_SURFACE_SOURCE	RSI	
DRAIN_CONSTRUCTION_DATE	25/08/2010	
DRAIN_CONSTRUCTION_DATE_SOURCE	RSI	
ESTABLISHMENT_EVENT		
CLOSURE_EVENT		
PARENT_ASSET		
NETWORK_SIDE	E	Network Side if applicable
LATEST_SURVEY_ID	400289795	Latest Survey
LATEST_SURVEY_DATE	25/08/2010	
LATEST_SURVEY_TYPE	Combined	
EXTRACT_DATE	1/04/2014	Extract Date - sysdate
GEOLOC	(3302.28356, -1.2.1.....)	Geometrv in SDO_GEOMETRY format

**Some examples that can be used in XBCC\_EAV\_INPUT are:**

Table Name	BRAMS Asset	Network	XSP	Comments
XBEX_ASOW_ROAD	ASOW	RDCO	XCS, XCE1, XCO1	This will produce Asset Owner information for road equipment
XBEX_ASOW_KERB	ASOW	KCOR	XKE, XKO	This will produce Asset Owner information for kerb equipment
XBEX_ASOW_VERGE	ASOW	VECO	XVO1, XVO2, XVO3, XVO4, XVE1, XVE2, XVE3, XVE4	This will produce Asset Owner information for verge equipment
XBEX_ASOW_ROAD	ASOW	MED	XRМ, XCM, XMKE, XMKO, XRKE, XRKO	This will produce Asset Owner information for median equipment
XBEX_KERB_ROAD	KERB	RDCO	XRМ, XCM	This will produce Kerb information for median equipment
XBEX_OPDN_VERGE	OPDN	VECO	XVE1,XVO1	This will produce Open Drain information for verge equipment
XBEX_PAVE_VERGE	PAVE	VECO	XVO1, XVO2, XVO3, XVO4, XVE1, XVE2, XVE3, XVE4	This will produce constructed path information for footpath equipment
XBEX_PLAY_ROAD	PLAY	RDCO	XCS, XCE1, XCO1	This will produce road surface information for road equipment

## 6.6 Suburb Boundary View

For each of the equipment views a second view is to be created to supply the location of suburb boundary changes along each SAP equipment record. The order of the dataset is to be by column SUBURB NAME and START CH ascending.

Column Sequence	Column Name	Type	Comment
1	NETWORK_PRIMARY_ID	Number(9)	This will be considered the linkage between BRAMS and SAP for road assets. Must be the same ID that the BRAMS SAP interface will use.
2	SUBURB NAME	Varchar(80)	Name of suburb
3	START_CH	Number	Relative to the equipment
4	END_CH	Number	Relative to the equipment
5	STREET_CORRIDOR_ID	Varchar(80)	Coreland Street corridor ID
6	STREET_NAME	Varchar(80)	May not be required by SAP but useful to have
7	EXTRACT_DATE	Date	Sysdate populated at creation or replacement of view.
8	GIS_SHAPE	SDO Geometry	Network geometry for the street suburb

The names of these views will be:

- XBEX\_SUBURB\_EQUIP\_RDCO,
- XBEX\_SUBURB\_EQUIP\_MED,
- XBEX\_SUBURB\_EQUIP\_VECO, and
- XBEX SUBURB EQUIP KCOR.

### Example Output for XBEX SUBURB EQUIP\_VECO

Columns	Values	Comments
NETWORK_PRIMARY_ID	15277230	
SUBURB_NAME	PADDINGTON	
START_CH	0.000	
END_CH	162.106	
STREET_CORRIDOR_ID	7105	
STREET_NAME	MORA ST	
EXTRACT_DATE	02/04/2014 10:28	Extract Date - sysdate
GIS_SHAPE	(3302, 28356., (1, 2, 1, . . . . .)	Geometry in SDO_GEOMETRY format

## 6.7 Ward and Region Boundary Views

In BRAMS terminology Wards and Regions are managed as Assets. Using the 'Equipment attribute views or SAP characteristics views Ward and Region data can be produced. *This is information for the BaSE project team only no action required from Bentley.*

END OF DOCUMENT