

4.1.6 BPS Locations

4.1.6.1 Identification

Name : BPS Locations
Identifier : ViaNova.Dbdd.ConceptualSchema.BpsLocations

4.1.6.2 Description

This schema defines the location references conform the ' Beschrijvende Plaatsaanduiding Systematiek' (descriptive location reference system) [BPS94] as used by Rijkswaterstaat.

4.1.6.3 Conceptual schema

```
SCHEMA BPSLOCATIONS;

TYPE BpsRoadType = STRING (2);
END_TYPE;

TYPE BpsPathType = STRING (2);
END_TYPE;

TYPE BpsLaneType = STRING (2);
END_TYPE;

TYPE lmrPosition = ENUMERATION OF
  (LEFT,
   MIDLE,
   RIGHT);
END_TYPE;

ENTITY BpsLocationReference;
  road      : BpsRoadName;
  location  : BpsCsLocation;
  path      : OPTIONAL BpsPathId;
  report    : OPTIONAL STRING;
  lane      : OPTIONAL BpsLaneId;
  WHERE
    laneOnlyIfPath : exists(path) > exists(lane);
END_ENTITY;

ENTITY BpsRoadName;
  roadType   : BpsRoadType;
  roadNumber : INTEGER;
  WHERE
    positiveRoadNumber : roadNumber > 0;
END_ENTITY;

ENTITY BpsCrossSection;
  hmPoleNumber : REAL (1);
  offset       : REAL (1);
  WHERE
    PositiveHmPoleNumber : hmPoleNumber > 0;
    offsetRange          : {-100 < offset < 100};
END_ENTITY;

(*
*Attribute definitions*
<hmPoleNumber>
Number as written on the hectometre pole

<offset>
distance in metres form the hectometer pole
*)

ENTITY BpsPathId
  ABSTRACT SUPERTYPE OF (ONEOF(BpsParallelPathId, BpsNonParallelPathId));
  pathType : BpsPathType;
END_ENTITY;

ENTITY BpsParallelPathId
  SUBTYPE OF(BpsPathId);
  pathNumber : INTEGER;
  position   : lmrPosition;
  WHERE
```

```

        PositivePathNumber : pathNumber > 0;
    END_ENTITY;

    ENTITY BpsNonParallelPathId
        SUBTYPE OF(BpsPathId);
        DvkCharacter : STRING (1);
    END_ENTITY;

    ENTITY BpsLaneId;
        laneType : BpsLaneType;
        laneNumber : INTEGER;
        position : lmrPosition;
    WHERE
        PositiveLaneNumber : laneNumber > 0;
    END_ENTITY;

END_SCHEMA;

```

Schema 4-6 BPS Locations schema

4.1.6.4 Entity descriptions

The various entities together with some auxiliary definitions are described below.

BpsCrossSection

the representation of a cross section (dutch 'dwarsraai') location consisting of the identification number of an hectometre pole and an offset to that pole, see [BPS94].

BpsLocationReference

A representation of a BPS location reference consisting of a road name, a cross section identification, an optional location on this cross section and an optional report, see [BPS94].

BpsNonParallelPathId

The representation of a BPS non-parallel path (dutch 'niet parallelle baan') consisting of a path type and a DVK-character (dutch 'DVK-letter'), see [BPS94].

BpsParallelPathId

The representation of a BPS parallel path (dutch 'parallele baan') consisting of a path type, a path number and its position (left, middle or right), see [BPS94].

BpsPathId

An abstract supertype representing the type (dutch 'baansoort' of parallel and non parallel paths (dutch 'banen')

BpsRoadName

A name of a road consisting of a road type identifier and a road number, see [BPS94].

4.1.6.5 Type descriptions

The various types together with some auxiliary definitions are described below.

BpsLaneNumber

The number of a lane (dutch 'volgnummer strook') as defined within [BPS94] (from the right side to the left).

BpsLaneType

The type of a lane (dutch 'strooksoort') as defined within [BPS94]. The following types of lanes are distinguished (in Dutch):

- Bereden banen
 - 'R-' -- Rijstrook
 - 'V-' -- Vluchtstrook
 - 'C-' -- Correctiestrook
 - 'U-' -- Uitrijstrook
 - 'I-' -- Invoegstrook
 - 'W-' -- Weefstrook

- 'B-' -- Busstrook
- 'F-' -- Fietsstrook
- 'S-' -- Suggestiestrook
- 'P-' -- Parkeerstrook
- 'L-' -- Kruiestrook
- Markeringen
 - 'K-' -- Kantstreep
 - 'D-' -- Deelstreep
 - 'A-' -- Asstreep
- Niet verharde stroken
 - 'BB' -- Bovenberm
 - 'TA' -- Talud
 - 'OB' -- Onderberm
 - 'WG' -- Watergang
 - 'BG' -- Berm tussen watergang en weggrens
- Overige stroken
 - 'T-' -- Voetstrook
 - 'G-' -- Gootstrook
 - 'O-' -- Kantopsluiting
 - 'X-' -- Overige strook

BpsPathType

The type of a path (dutch 'baansoort') as defined within [BPS94]. The following types of paths are distinguished (in Dutch):

- Verharde banen
 - 'HR' -- Hoofdrijbaan
 - 'VW' -- Verbindingsweg
 - 'PW' -- Parallelweg
 - 'FP' -- Fietspad
 - 'RB' -- Rondebaan
 - 'VB' -- Verzorgingsbaan
 - 'TN' -- Tussenbaan
 - 'VP' -- Voetpad
- Niet verharde banen
 - 'MB' -- Middenberm
 - 'BB' -- Buitenberm
 - 'TB' -- Tussenberm
 - 'IB' -- Ingesloten berm
- Overige banen
 - 'YY' -- Overige baan

BpsRoadJunctionName

The name of an road junction as used in inter human communication.

<< Not used in the schema >>

BpsRoadType

The type of a road (dutch 'wegsoort') as defined within [BPS94]. The following types of roads are distinguished (in Dutch):

- 'RW' -- Rijksweg
- 'PW' -- Provinciale weg
- 'GW' -- Gemeenteweg
- 'WW' -- Waterschapsweg
- 'PA' -- Particuliere weg

LmrPosition

The position (dutch 'positie') relative to the orientation line (dutch 'oriëntatielijn') as used within [BPS94]. The possible values are Left , Middle, or Right.

4.1.6.6 Integrity constraints

There are no integrity rules specified.

4.1.6.7 Other security aspects

There are no additional security requirements

4.1.6.8 Performance aspects

There are no additional performance requirements

4.1.6.9 Implementation aspects

There are no additional implementation requirements.

4.1.6.10 Abbreviations

BPS	Beschrijvende Plaatsaanduiding Systematiek
DWW	Dienst Weg- en Waterbouwkunde

4.1.6.11 References

See section 2 for a complete reference description.

[BPS94]	Driessen, J. e.a., Beschrijvende Plaatsaanduiding Systematiek Rijkswaterstaat DWW, rapport P-DWW-94-014, December 1994 ISBN 90-369-0006-9
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