



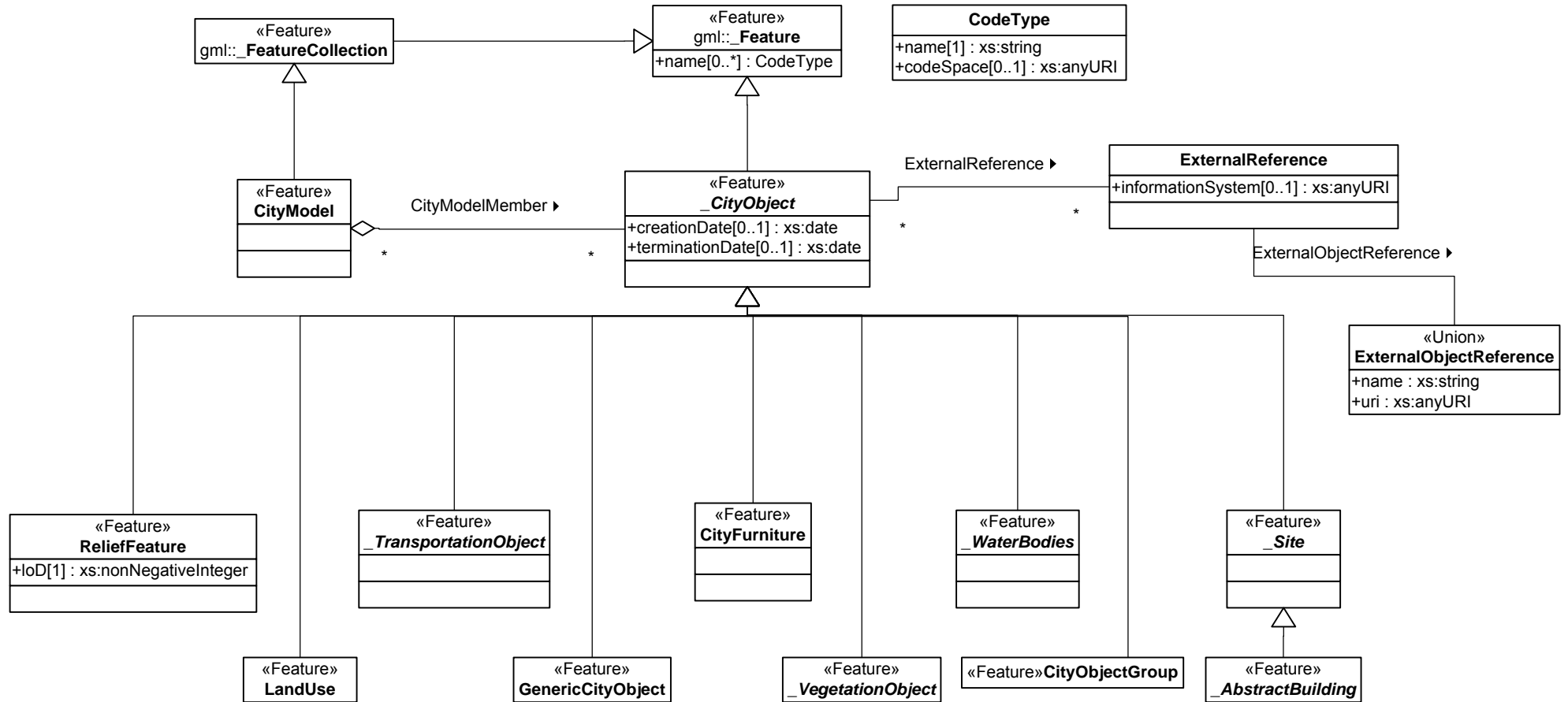
CityGML 1.0

Special Interest Group 3D
(SIG 3D)

Modeling Subgroup

February 22nd, 2006

CityGML: Themes



CityGML: Building Model (1 / 2)

Legend

LoD membership of classes

LoD 1 - 4

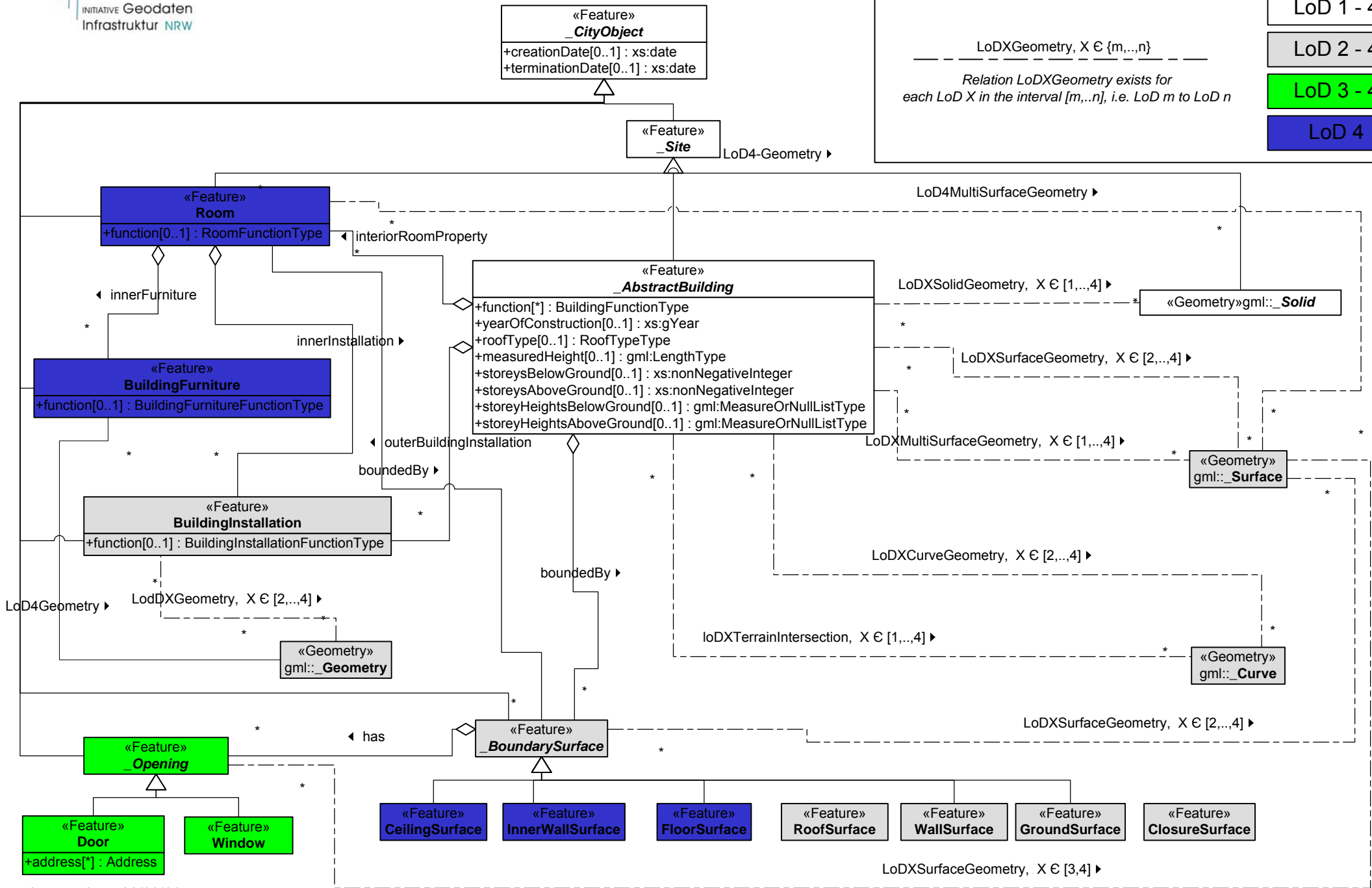
LoD 2 - 4

LoD 3 - 4

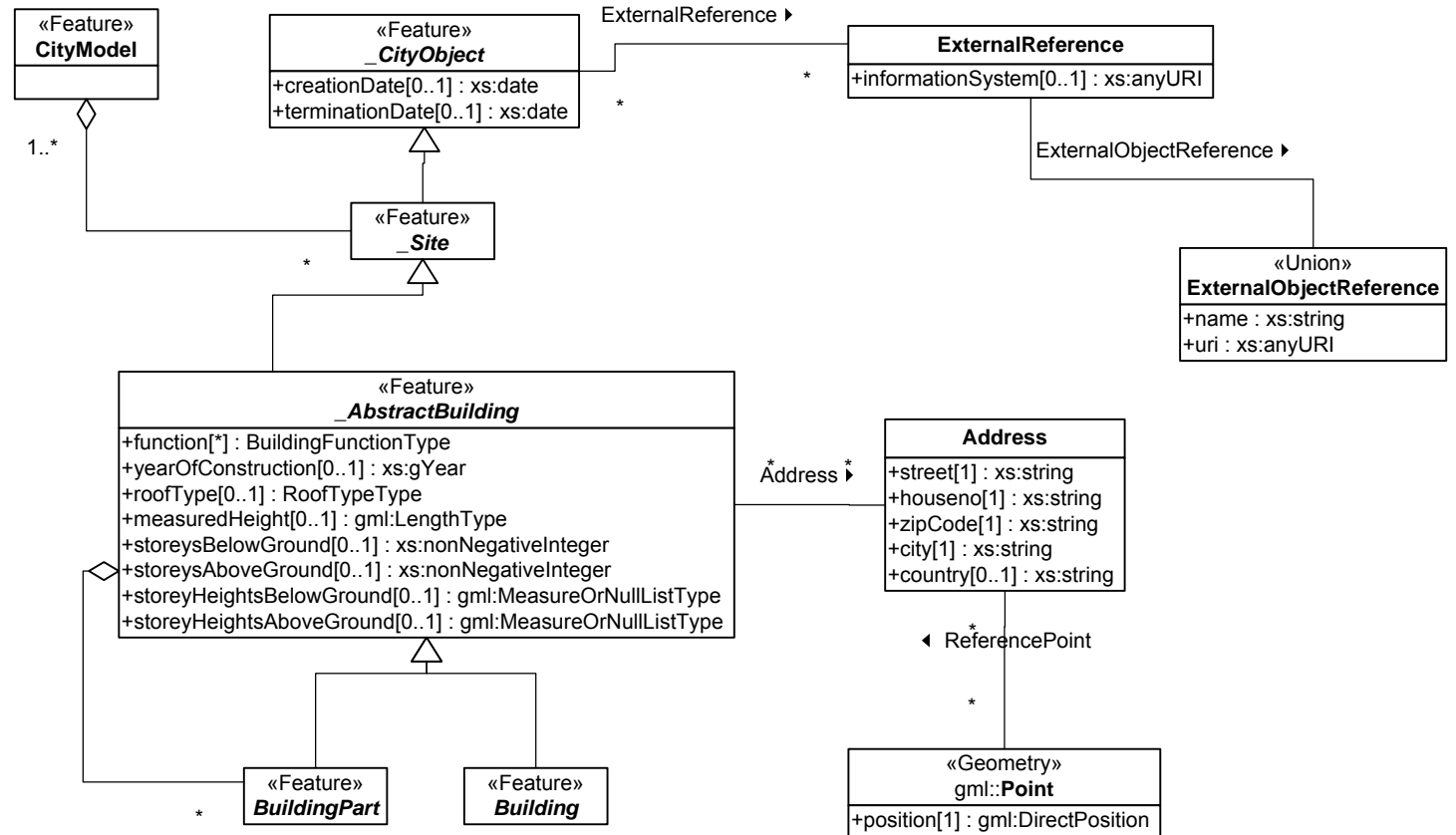
LoD 4

LoDXGeometry, X ∈ {m,...,n}

Relation LoDXGeometry exists for each LoD X in the interval [m,...,n], i.e. LoD m to LoD n



CityGML: Building Model (2 / 2)



CityGML: Transportation Model

Legend

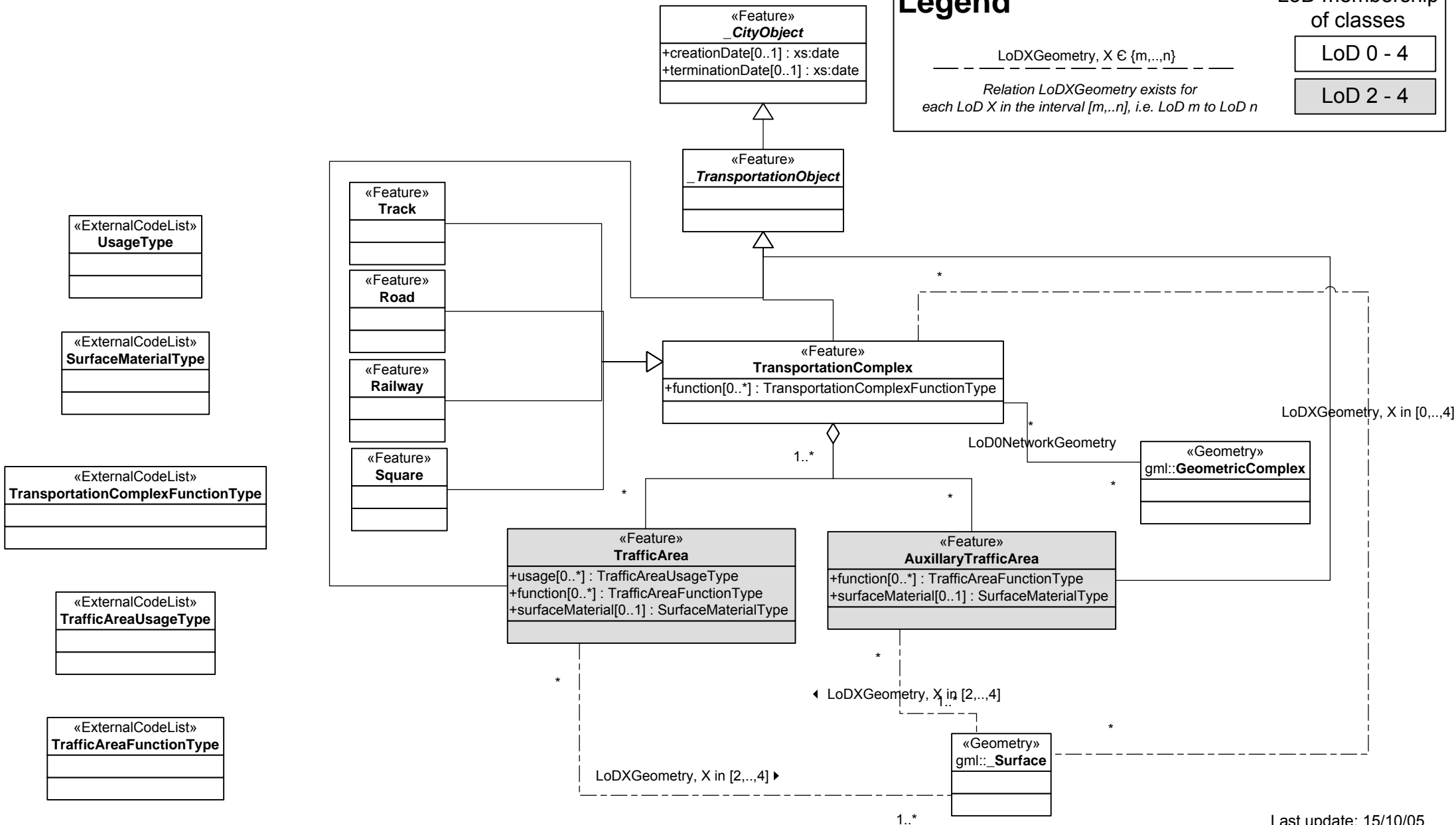
LoD membership of classes

LoD 0 - 4

LoD 2 - 4

LoDXGeometry, X ∈ {m,...,n}

Relation LoDXGeometry exists for each LoD X in the interval [m,...,n], i.e. LoD m to LoD n

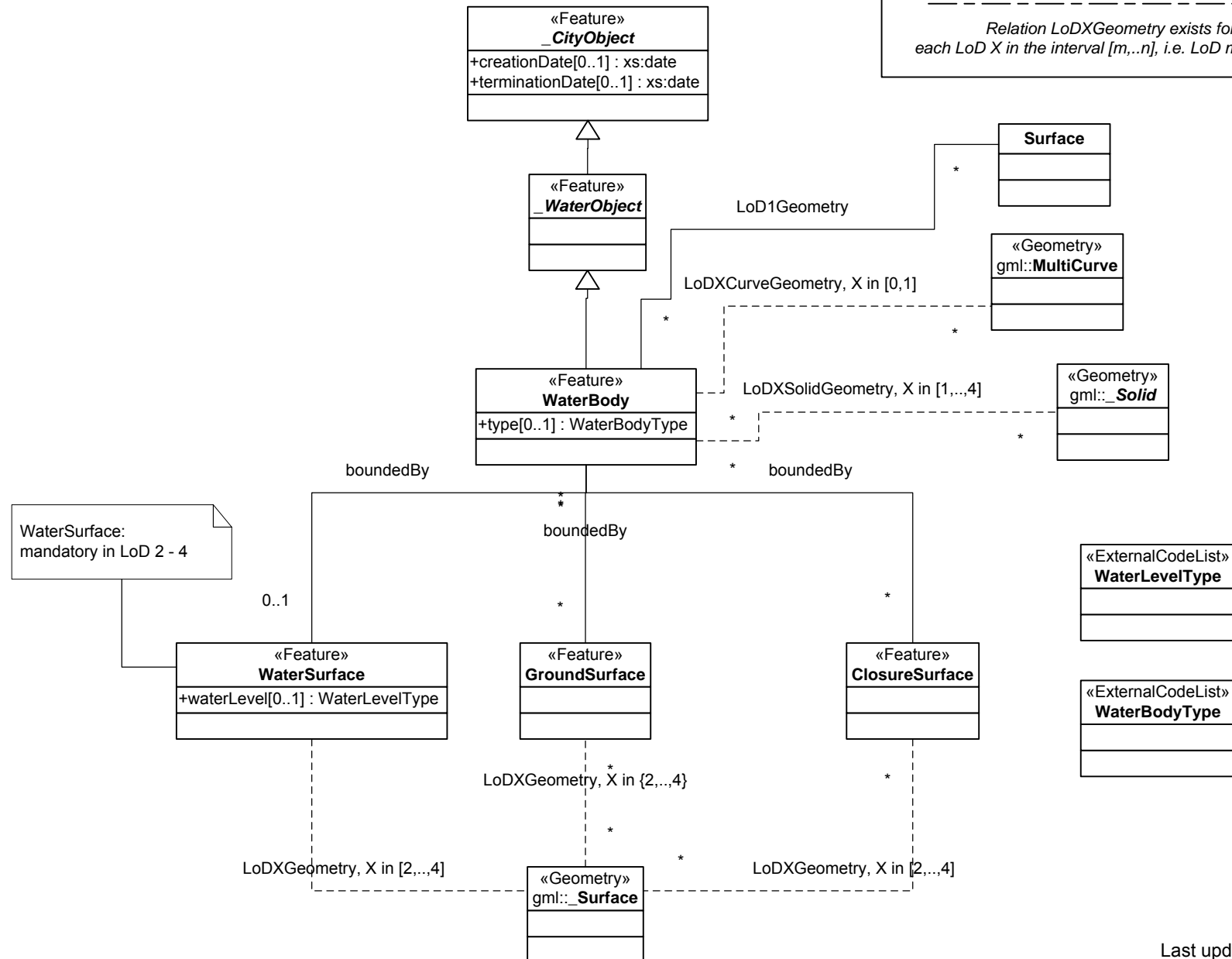


CityGML: Water Bodies

Legend

LoDXGeometry, X ∈ [m,...,n]

Relation LoDXGeometry exists for each LoD X in the interval [m,...,n], i.e. LoD m to LoD n

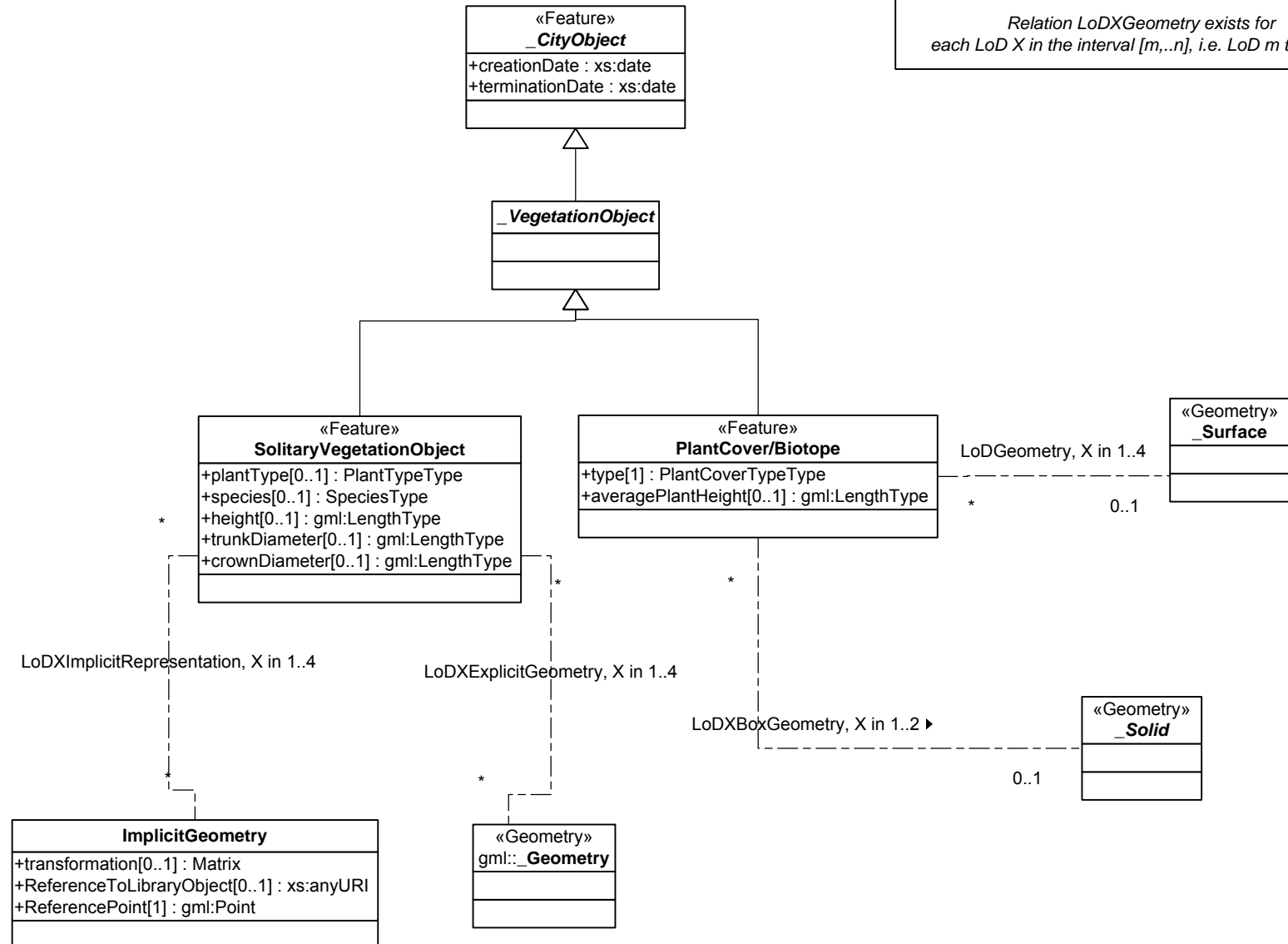
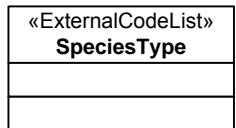
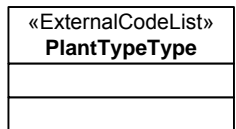
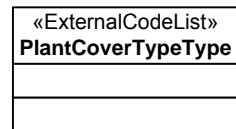


CityGML: Vegetation

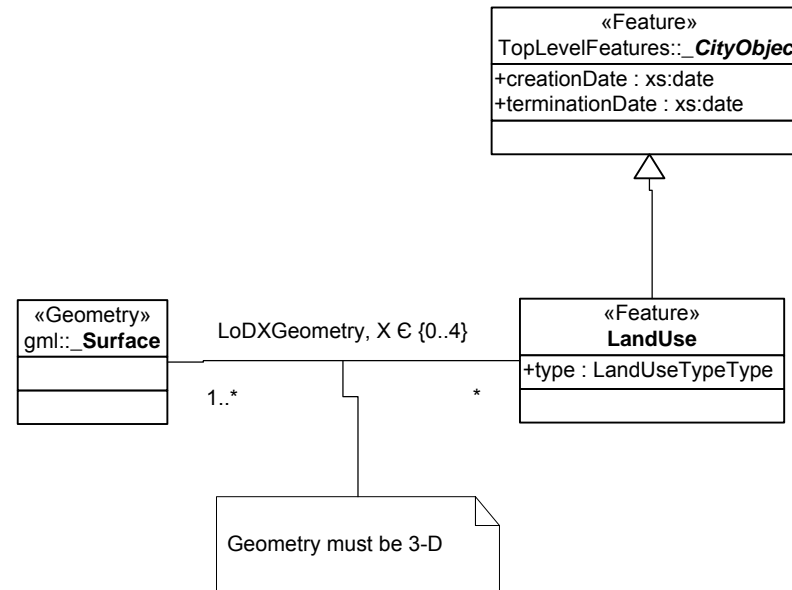
Legend

LoDXGeometry, $X \in \{m, \dots, n\}$

Relation LoDXGeometry exists for each LoD X in the interval $[m, \dots, n]$, i.e. LoD m to LoD n

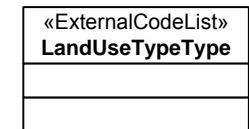


Land Use

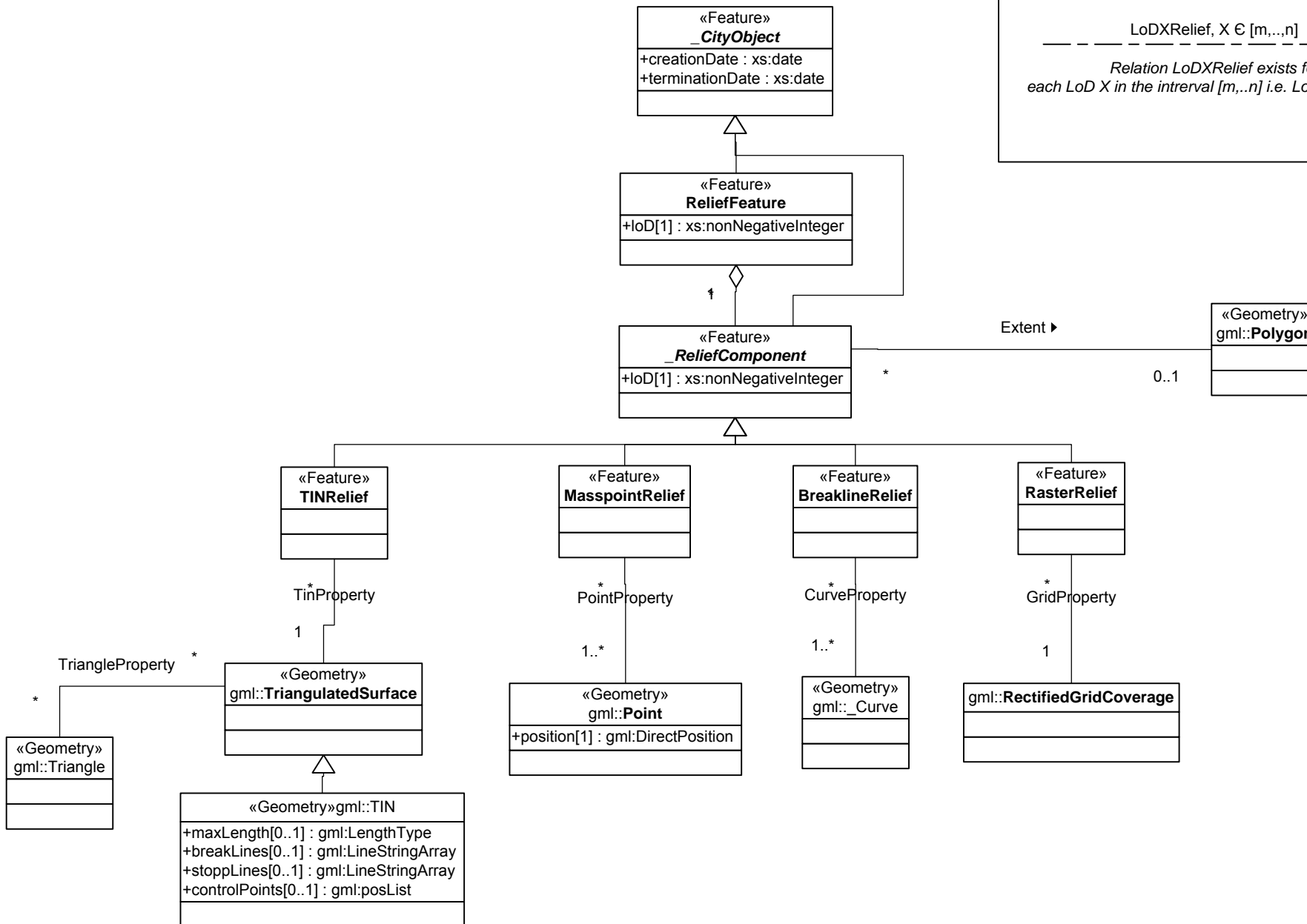
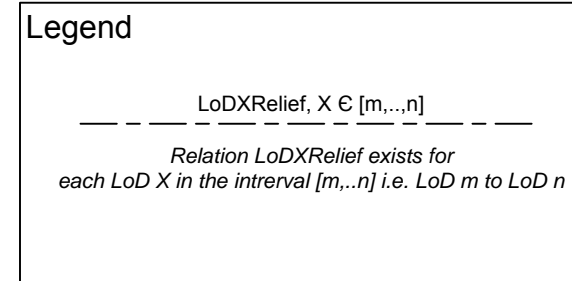


Legend

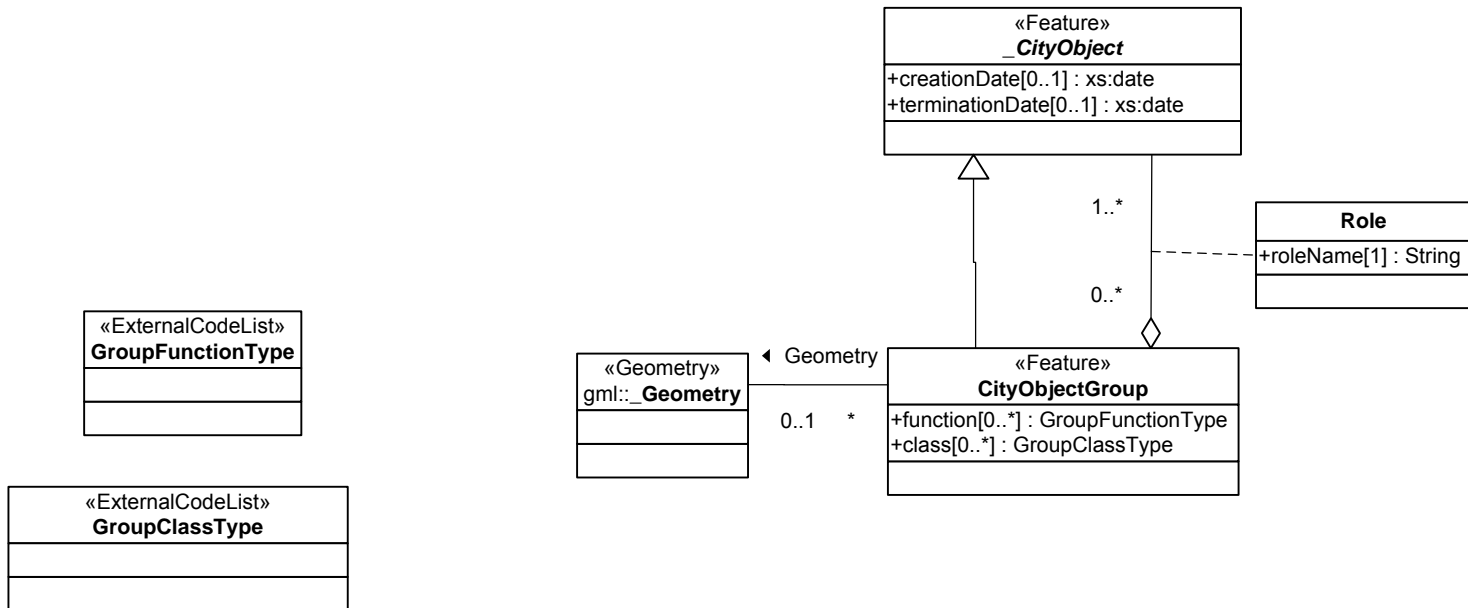
----- LoDXGeometry, X ∈ {m,..n} -----
Relation LoDXGeometry exists for each LoD X in the interval [m,..n], i.e. LoD m to LoD n



CityGML: Digital Terrain Model



CityGML: Groups

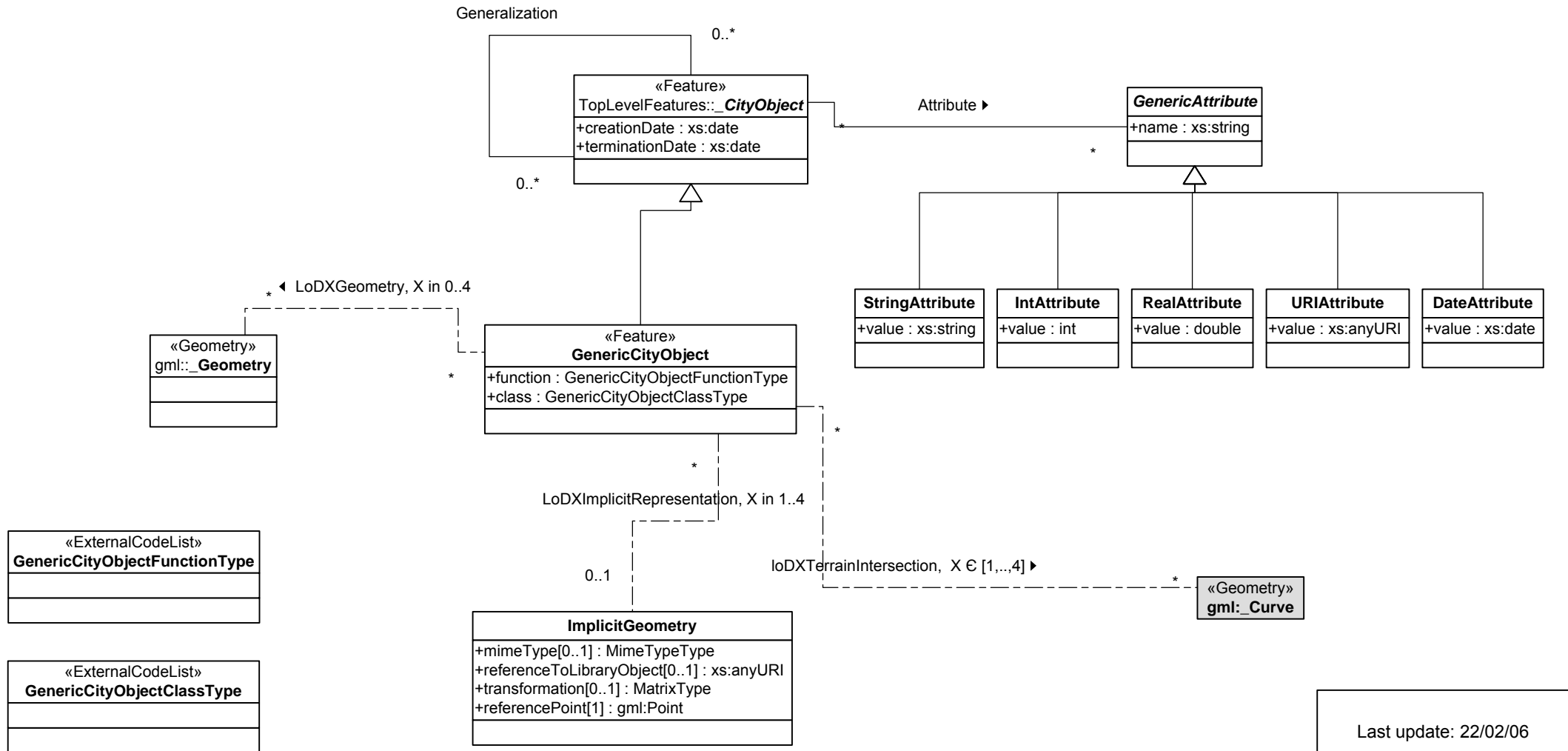


CityGML: Generic Objects and Attributes

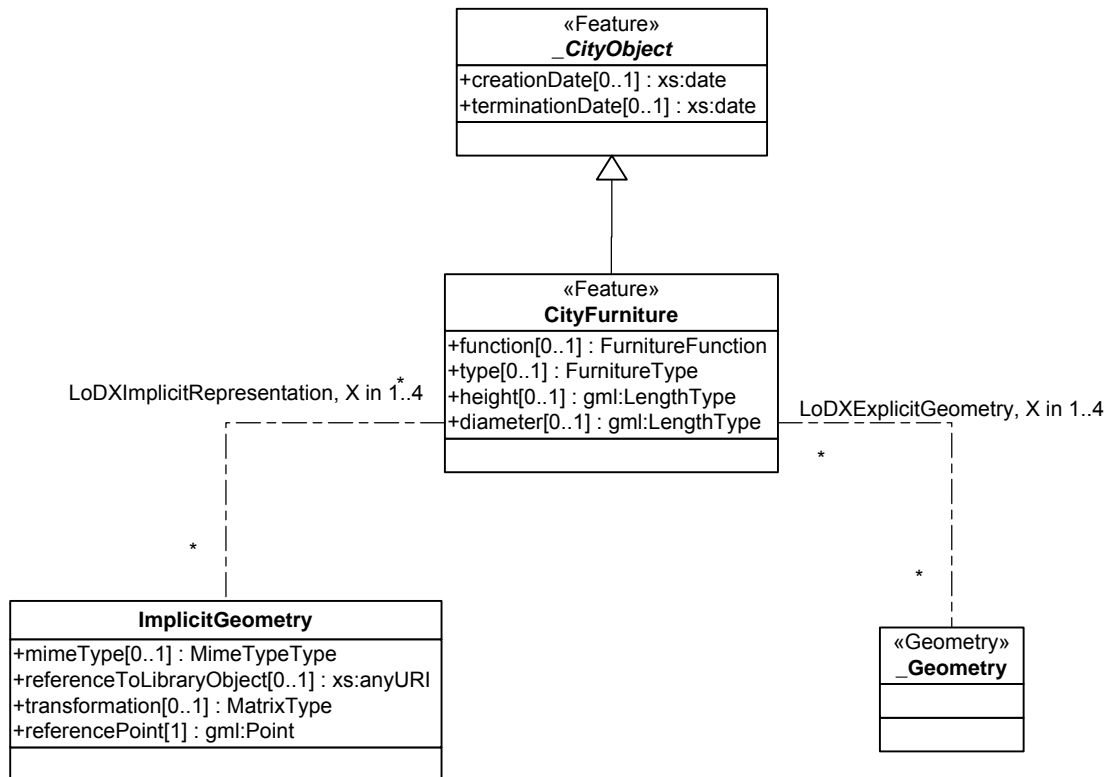
Legend

LoDXGeometry, $X \in \{m, \dots, n\}$

Relation LoDXGeometry exists for each LoD X in the interval $[m, \dots, n]$, i.e. LoD m to LoD n



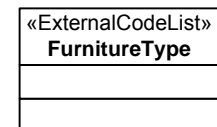
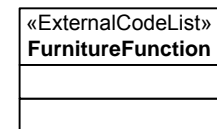
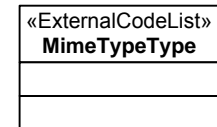
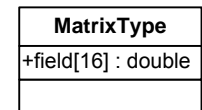
CityGML: CityFurniture



Legend

LoDXGeometry, $X \in \{m, \dots, n\}$

Relation LoDXGeometry exists for each LoD X in the interval $[m, \dots, n]$, i.e. LoD m to LoD n



History:

060216: Diagram TopLevelFeatures: ExternalObjectReference added

060222: Furniture changed to CityFurniture

060222: Multiplicity oc CityModelMember changed

060222: Types changed to more precise gml or xs data types

060222: Stereotype ExternalCodeList introduced, used for Dictionary Attributes

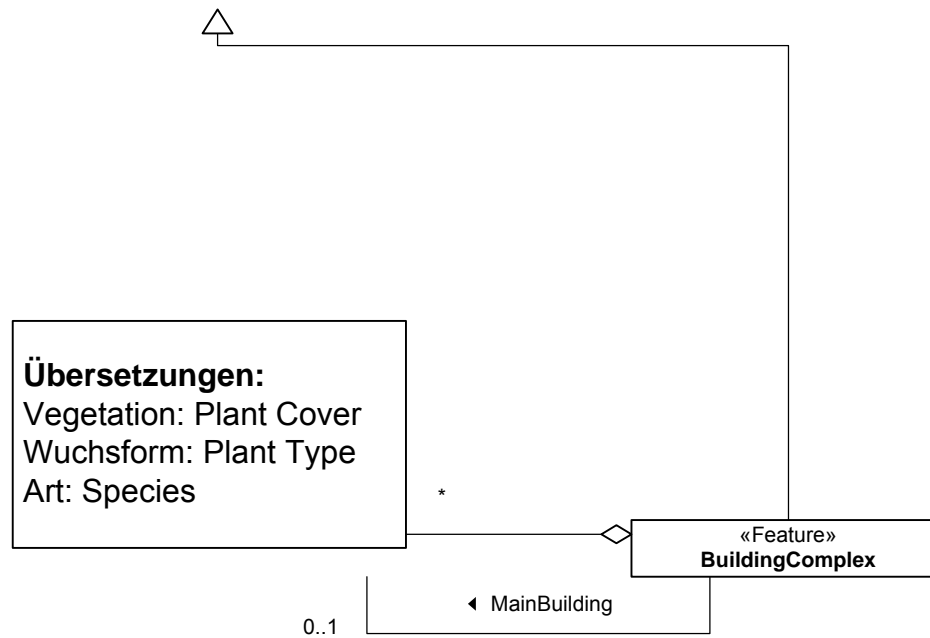
060222: Implicit Geometry added to CityFurnitures and Generic City Objects

060222: Terrain Intersection Curve added to Generic City Objects (for modelling Tunnels, Bridges)

Discussion Issues:

- there are no specific GML3 classes for the representation of linear networks. GML 3 Topology is very complex and is not used by CityGML up to now. Thus the representation by Geometric Complexes is used, which has to be restricted to linear networks by constraints.

- the model does not allow for aggregations between different LoD, for example to aggregate a pedestrian and a bicycle path in LoD3 to a single Traffic Area in LoD2. This kind of modelling requires the definition of relations between objects in different LoD, which have not been considered yet.

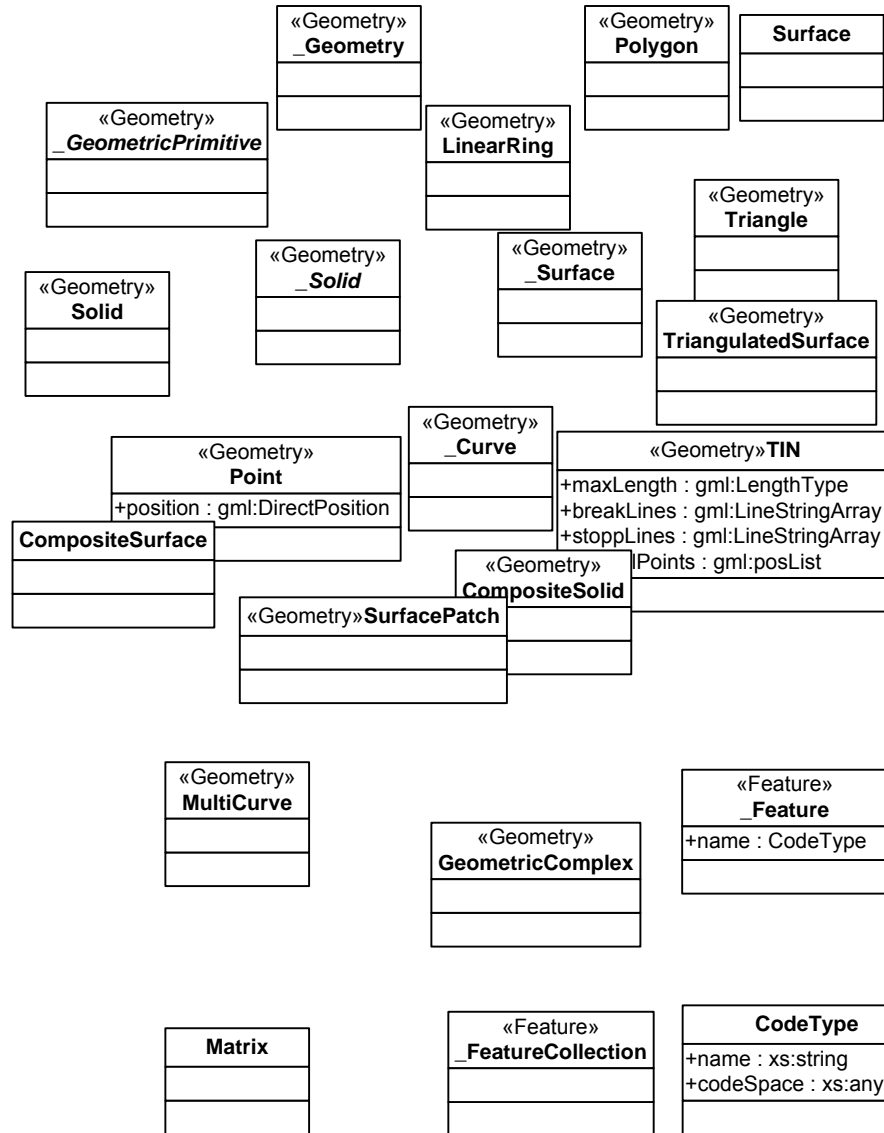


in future versions:

Subclasses of WaterBody:
Ocean, StagnantWater, RunningWater

direction of flow, Gewässerstationierungslinie (auch bei Straßen)

schiffbarkeit



«ExternalCodeList» BuildingFunctionType

«ExternalCodeList» RoofTypeType

«ExternalCodeList» RoomFunctionType

«ExternalCodeList» BuildingFurnitureFunctionType

«ExternalCodeList» BuildingInstallationFunctionType