Change Request #:	351
Assigned OGC Document #:	14-047
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Document Name/Version:	*City Geography Markup Language (CityGML) Encoding Standard / 2.0
OGC Project Document:	*12-019
If this is a revision of a previous submission and you have a Change Request Number, then check here:  Enter the CR number here:  Enter the Revsion Number that you are revising here:	
Title:	* Develop a mechanism for parameterized implicit geometries.
Source:	*OGC 14-033 Work package 14
Work item code:	
Category:	* C (Functional modification of feature)
Reason for	*
change:₩	There are two primary reasons for extending or replacing the existing facility for implicit geometries in CityGML:  1. More flexibility in creating standard furniture and installations can extend the range of geometries that can be incorporated in models by reference, rather than via a copy of the geometry. Using references can greatly reduce the size of models. In version 2.0 entities like road signs, trees, and balustrades can only be transformed by scaling, rotation, and translation. More flexible transformations will enhance compactness.  2. Procedural definition of geometries is one of the most general methods for defining transformations of inputs to produce arbitrarily complex geometries. Procedural methods can express extruded footprint volume and CSG representations used by related approaches to modelling the built environment. Procedurally-defined implicit geometries may provide a mechanism for better interoperability with IFC. Procedural methods offer the possibility of both compactness and enhanced interoperability.
Summary of change:	Recognizing the two aspects � compact representation and interoperability with other approaches to the modelling of the built environment, the work could proceed as follows:  1. The kinds of entities for which parameterized geometries are applicable would be specified.

	<ol> <li>The representational expressiveness required to meet a goal of (for example) better interoperability with IFC would be examined.</li> <li>A decision would be made as to whether a full procedural definition is feasible.</li> <li>If a procedural method is selected, then the mechanism for expressing procedures would be defined. Ideally this would be adoption of something that already exists in another domain.</li> <li>If a more limited method is selected, then the mechanism would be defined.</li> <li>Some experiments to validate the approach in terms of compactness and interoperability would be nice.</li> </ol>
Consequences if not approved:	
Clauses affected:	* 8.3, 10.1
Additional Documents affected:	
Supporting Documentation:	IFC Specification: http://www.buildingsmart-tech.org/specifications/ifc-releases/ifc4-release
Comments:	
Status:	Assigned ‡
Assigned To:	CityGML SWG ‡
Disposition:	Referred and Posted ‡