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Change Request #:	100
Assigned OGC Document #:	10-138
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Document Name/Version:	*Geography Markup Language (GML) Encoding Standard / 3.2.1
OGC Project Document:	*07-036

If this is a revision of a previous submission and you have a Change Request Number, then check here: ☐

Enter the CR number here: 09-091

Enter the Revsion Number that you are revising here: r1

Title: ⓘ	*GML 3.2.1 change request - Add ReferenceableGridByTransformation
Source: ⓘ	*Arliss Whiteside, Max Martinez
Work item code: ⓘ	
Category: ⓘ	* B (Addition of feature) ⇕

Reason for change: ⓘ	* Abstract Specification Topic 6 (ISO 19123) specifies CV_ReferenceableGrid, but this class was not previously encoded in GML. GML Change Request 07-112r3 adds an abstract implementation of CV_ReferenceableGrid, plus two concrete subtypes that are designed for irregularly spaced grid points. However, another implementation of CV_ReferenceableGrid is required and will be very frequently used. That implementation uses a CC_Transformation or CC_ConcatenatedOperation (instead of grid points) to specify the relationship between grid coverage positions and positions in another CRS, as suggested in Clause 8.10.1.1 of Topic 6. Although that Transformation could use grid points, it will usually be an analytical Transformation using sensor models such as defined in ISO 19130. Analytical Transformations are normally used for these sensor models, to reduce the required data volume and to simplify least-squares adjustment.
Summary of change: ⓘ	* 1) Add a ReferenceableGridByTransformation object element, in the AbstractReferenceableGrid substitutionGroup, which encodes the relationship between grid coverage positions and positions in another CRS using a gml:CoordinateOperation or gml:ConcatenatedOperation. 2) Add a gridCRS property element, in the AbstractReferenceableGridType, which allows encoding the definition of

a complete CRS for any ReferenceableGrid object.

Consequences if not approved:	Major limitation in the types of referenceable grids that can be encoded in GML

Clauses affected:	*
	19.2.7 (new), 19.2.8 (new), 19.2.4

Additional Documents affected:	

Supporting Documentation:	OGC 09-091r2

Comments:	This change request extends and slightly modifies accepted GML 3.2.1 Change Request 07-112r3.

Status:	Assigned

Assigned To:	GML 3.3 SWG

Disposition:	Reffered