

Geodatabase Design

ORMAP ESRI User Group

Version 1.1

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Database Purpose

This database schema was designed with two purposes in mind. The primary one was that a set of common editing and map production tools could be created that would allow ArcGIS software users across the state to produce standard maps and reduce redundant editing tasks. Secondly, the common geodatabase would allow for easy sharing of map data throughout the state.

With these goals in mind a committee was formed in late 2003 to complete this design.

During this process the Oregon Framework Implementation Team (OFIT) convened a committee to create the Cadastral Data Exchange Standard (CDES). That standard defines a shapefile and its attributes for exchanging taxlot data between state agencies. Since the CDES design was based on the preliminary design for this database it was decided that the CDES would define the taxlot fields for this design. Therefore any changes to the CDES will be reflected in this document as well. This document will be self-contained since the CDES is for a shapefile and this one is for a geodatabase. The CDES may be found at http://www.oregon.gov/DAS/EISPD/GEO/standards/standards.shtml#OGIC_endorsed_Standards.

Database Design Goals

The features contained in the geodatabase are organized so that:

- It has all the features required to build an Oregon Department of Revenue (DOR) standard assessor's map;
- It follows the Oregon Cadastral Data Exchange Standard for every feature in that standard;
- The design is robust enough to represent all possible alternatives for managing maps. Not every county will use every feature;
- Cartographers can edit and maintain features based on the examples (use cases) presented to the User Group;
- Keys or links are present so that counties can link to county-based Assessment and Taxation (A&T) systems;
- The design can be used to develop and test editing and map production software; and
- Values commonly used by cartographers are kept.

The following items were not addressed in the design due to county variations in business processes and project scope.

- Historical management of features;
- Transactional management of features;
- Management of planning information such as zoning;
- Management of survey information; and
- Full integration with A&T database management systems.

Several features are grouped into feature datasets. The guiding factors for grouping features into a feature data set are:

- 1) The features have topological relationships that can be defined as rules.
- 2) The features should be managed together. For example, features contained in a plat are grouped together because the surveyor could manage them (i.e., a different set of user permissions).

Several features have been grouped in the Feature Classes with Subtypes. The basic rule for deciding this was:

Feature Class: distinguishes features (objects) based on different behaviors, attributes, access privileges, or whether the objects are multi versioned.

Features Subtype: distinguishes objects by their default values, attribute domains, connectivity rules, and relationship rules.

Several standard attributes (fields) are used repeatedly to describe many feature classes.

The following attributes are used to describe standard Coordinate Geometry information as used by ArcMap:

Direction
Distance
Delta
Radius
Radius2
Tangent
Tangent2
ArcLength
Side

The following attributes can be used to track information about each feature:

ReliaCode – The reliability or map accuracy of a feature using standard BLM accuracy values.
AutoDate – The date the feature was last edited.
AutoMethod – The method used when last editing the feature.
AutoWho – Who edited the feature last.

The following attributes are used to describe several different features.

Source – The source document for the feature such as the survey number or book and page.
SourceType – The type of source document such as deed or survey.

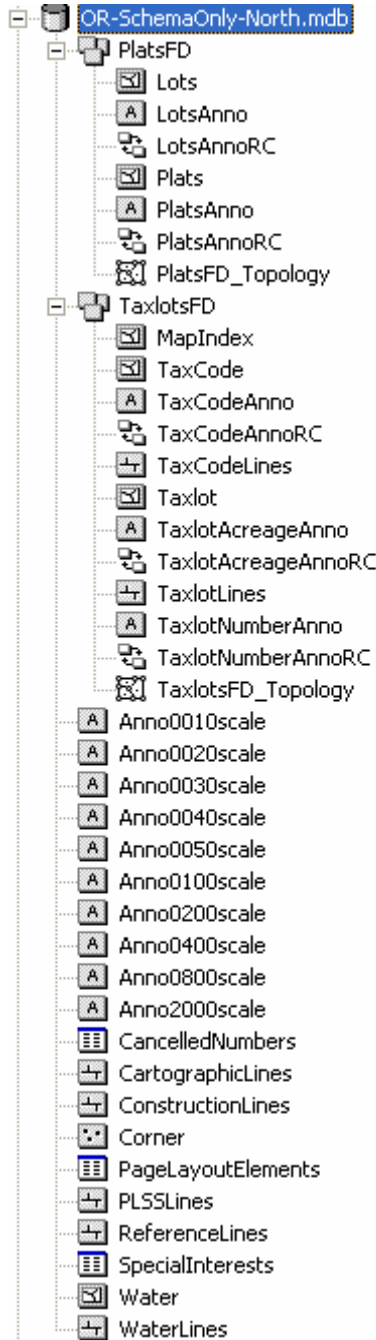
Many attributes or fields have standard ranges such as township or standard values. In ArcMap this information is managed as a Coded Value Domain (CVD)

This document is partitioned into the following sections.

1. Feature Overview
2. Feature Data Sets
3. Stand-Alone Feature Classes
4. Annotation Feature Classes
5. Tables
6. Coded Value Domains

1. FEATURE OVERVIEW

The following figure shows the feature datasets and feature classes of the geodatabase. Detailed descriptions follow.



PlatsFD (Plat Feature Data Set) – Feature data set that represents plat information including condos, subdivisions, and partitions. This information has topological relationships within it. The data set could be shared with the surveyors.

Lots – A polygon feature that represents basic information about lots, blocks and plat name. This feature can be used to search for lots by a legal description. It will have feature linked lot annotation but will typically not be used for mapping.

Plats - A polygon feature that can be used to locate a plat and to symbolize its outline on a map.

LotsAnno & LotsAnnoRC – Feature linked annotation for lot numbers and associated relationship class

PlatsAnno & PlatsAnnoRC – Feature linked annotation for plat names and associated relationship class

PlatsFD_Topology – Topology rules for the feature data set.

TaxlotsFD (Taxlot Feature Data Set) – A feature data set that represents taxlot information. This feature data set has topological relationships.

MapIndex – Polygon feature that represents that map outline. It contains some basic map information.

TaxCode – Polygon feature that represents tax code areas. This will allow us to track annexations.

TaxCodeAnno & TaxCodeAnnoRC – Feature linked annotation for tax code polygons and associated relationship class

TaxCodeLines – Line feature used to build tax codes and represent them on a map.

Taxlot – Polygon feature of taxlots. Contains basic taxlot information that could be used to connect to attributes.

TaxlotAcresAnno & TaxlotAcresAnnoRC – Feature linked annotation for taxlot acres and associated relationship class

TaxlotNumberAnno & TaxlotNumberAnnoRC – Feature linked annotation for taxlot number and associated relationship class

TaxlotLines - Line features used to build taxlot polygons and display them on a map.

TalotsFD_Topology – Topology rules for the feature dataset.

Stand-Alone Feature Classes

CartographicLines – Line feature class that represents cartographic lines such as tics, arrows, and hooks that do not represent physical or legal features but are only used to clarify the information on the map.

ConstructionLines – Line feature class that represents construction lines. This feature class is where most work will take place. Features could be placed here to work on and after editing or placement is complete they could be moved to other feature classes. Construction lines are never plotted on the assessor's map.

Corner – Point feature class that represents standard corners used in mapping including donation land claims, section and sub-section corners, etc. It can include control points that come from the surveyor.

PLSSLines – Line feature class that represents public land survey lines including section, government lots, and donation land claims (DLC).

ReferenceLines – Line feature class that represents any line including road and railroad centerlines, easements, etc.

Water – A polygon feature class used to identify water bodies or open water.

WaterLines – A line feature class used to identify water lines such as streams.

AnnoXXXXscale – Several annotation feature classes used to manage annotation for each standard map scale including 1"=10', 20', 30', 40', 50', 100', 200', 400', 800', 1000', and 2000'.

1. FEATURE DATASETS

PlatsFD (Plats Feature Dataset)

Lots (polygon)

DocNumber	(Text, Length = 64)	internal reference number. This may change from county to county. Some may use instrument number while others may use a survey number.
Block	(Text, Length = 32)	
Lot	(Text, Length = 32)	
AutoDate	(Date)	
AutoMethod	(Text, Length = 3)	CVD – AutoMethod
AutoWho	(Text, Length = 30)	

Plats (polygon)

PlatName	(Text, Length = 100)	the actual name of the subdivision the way it would appear on the map. The feature-linked annotation uses this item
DocNumber	(Text, Length = 64)	
Source	(Text, Length = 20)	
SourceType	(Text, Length = 20)	CVD – SourceType
ReliaCode	(Short Integer)	CVD - ReliaCode
AutoDate	(Date)	
AutoMethod	(Text, Length = 3)	CVD – AutoMethod
AutoWho	(Text, Length = 30)	

PlatsFD_Topology (ranks and rules) Cluster = 0.005

Lots	2	Must not overlap
Lots	2	Must be covered by Plats
Plats	1	Must not overlap

Notes:

- *These feature classes remain in a separate feature dataset due to data permission reasons. There is the possibility that these layers may become available to county surveyors.*
- *The “must not have gaps” rule is not being used since both lots and plats are not continuous layers and there would be too many exceptions to the rule.*

TaxlotsFD (Taxlot Feature Dataset)

MapIndex (polygon)

MapScale	(Long Integer)	CVD – MapScale
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MapNumber (Text, Length = 20) The map number as used in the assessor's database
ORMapNum (Text, Length = 24)
CityName (Text, Length = 50)
PageNumber (Long Integer) *optional field for those that want to control page numbers in a map series*
ReliaCode (Short Integer) CVD - ReliaCode
AutoDate (Date)
AutoMethod (Text, Length = 3) CVD – AutoMethod
AutoWho (Text, Length = 30)

TaxCode (polygon)

County (Short Integer) CVD – County
TaxCode (Text, Length = 8) *unique across all counties. Optional, each county could create and define its own CVD*
Source (Text, Length = 20)
YearCreated (Date)
ReliaCode (Short Integer) CVD - ReliaCode
AutoDate (Date)
AutoMethod (Text, Length = 3) CVD – AutoMethod
AutoWho (Text, Length = 30)

TaxCodeLines (line) This feature class is simply for cartographic purposes. Annexations are created at different years with different sources. Rather than displaying the complete polygon boundaries, only those lines that are current will be displayed.

CurrentLine (Text, Length = 1) CVD – YesNo (Default = Y)

Taxlot (polygon)

County (Short Integer) CVD – County
Town (Short Integer) CVD - Town
TownPart (Double) CVD - Part
TownDir (Text, Length = 1) CVD - TownDir
Range (Short Integer) CVD - Range
RangePart (Double) CVD - Part
RangeDir (Text, Length = 1) CVD - RangeDir
SecNumber (Short Integer) CVD - Section
Qtr (Text, Length = 1) CVD - Qtr
QtrQtr (Text, Length = 1) CVD – Qtr
Anomaly (Text, Length = 2) *added to deal with some irregular situations (e.g., split Townships, split sections)*
MapSufType (Text, Length = 1) CVD – MapSufType (Default = 0) *used to denote supplemental, detail, or multi-sheet maps*
MapSufNum (Short Integer) *value between 000 – 999*

MapNumber	(Text, Length = 20) <i>concatenation of Town → MapSuffixNum (custom at each Co</i>
ORMapNum	(Text, Length = 24)
Taxlot	(Text, Length = 5)
SpecialInt	(Text, Length = 1)
MapTaxlot	(Text, Length = 25)
ORTaxlot	(Text, Length = 29)
TaxlotFeet	(Long Integer) <i>legal record square feet</i>
TaxlotAcres	(Double) <i>legal record acres</i>
MapAcres	(Double) <i>same as [shape_area]/43560</i>
ReliaCode	(Short Integer) CVD - ReliaCode
MapClass	(Text, Length = 1) Map Classification reflecting the typical scale of the Assessor's map used to map a region, as determined by the Cartographer. (U, R, or F) ¹
MapRelCode	(Text, Length = 2) Identifies the relationship between the tax map and the current <i>ORMAP Technical Specifications</i> (01, 02, or 03) ²
AutoDate	(Date)
AutoMethod	(Text, Length = 3) CVD – AutoMethod
AutoWho	(Text, Length = 30)

TaxlotLines (line)

LineType	(Short Integer)	CVD – LineType
Direction	(Text, Length = 12)	
Distance	(Text, Length = 10)	
Delta	(Text, Length = 10)	
Radius	(Text, Length = 10)	
Radius2	(Text, Length = 10)	
Tangent	(Text, Length = 10)	
Tangent2	(Text, Length = 10)	
ArcLength	(Text, Length = 10)	
Side	(Text, Length = 1)	
Source	(Text, Length = 20)	
SourceType	(Text, Length = 20)	CVD – SourceType
ReliaCode	(Short Integer)	CVD - ReliaCode
AutoDate	(Date)	
AutoMethod	(Text, Length = 3)	CVD – AutoMethod
AutoWho	(Text, Length = 30)	

¹ The values and definitions for MapClass are: U = Urban, R = Rural, F = Farm/Forest (resource lands) These will be determined by the professional judgment of a County Cartographer.

² The values and definitions for MapRelCode are: 01= Meets or exceeds ORMAP Technical Specifications, 02 = Technical Specifications not met, 03 = Excepted from Technical Specifications

Taxlots_FD_Topology (rules)

Taxcode	Must not overlap
Taxcode	Must not have gaps
Taxcode	Must be covered by MapIndex
TaxcodeLines	Must not overlap
TaxcodeLines	Must not intersect
TaxcodeLines	Must not self-intersect
TaxcodeLines	Must not have dangles
TaxcodeLines	Must be covered by boundary of Taxcode
Taxlot	Must not overlap
Taxlot	Must not have gaps
Taxlot	Boundary must be covered by TaxlotLines
TaxlotLines	Must not overlap
TaxlotLines	Must not intersect
TaxlotLines	Must not self-intersect
TaxlotLines	Must not have dangles
TaxlotLines	Must be covered by boundary of Taxlot

The fields used to generate the ORmapNum field used in the MapIndex and Taxlot feature classes (from the Cadastral Data Exchange Standard) are:

County (Short Integer, Length = 2) County number³
Town (Short Integer, Length = 2) Township number
TownPart (Double, Length = 3) Partial township ([.00]⁴, .25, .50 or .75)
TownDir (Text, Length = 1) Township direction (N or S)
Range (Short Integer, Length = 2) Range number
RangePart (Double, Length = 3) Partial range ([.00], .25, .50 or .75)
RangeDir (Text, Length = 1) Range direction (E or W)
SecNumber (Short Integer, Length = 2) Section number ([00] to 37)
Qtr (Text, Length = 1) Quarter section ([0] or alpha character)
QtrQtr (Text, Length = 1) Quarter-Quarter section ([0] or alpha character)
Anomaly (Text, Length = 2) For irregular situations that are not otherwise categorized (e.g., split Townships, split sections) ([--], TN, TS, SN, SS,)
MapSufType (Text, Length = 1) [0], Detail (D), Supplemental (S) or multi-sheet maps (T)
MapSufNum (Short Integer, Length = 3) Sheet number for D, S, or T maps, [000]

³ The county numbers as defined by DOR are: 01-Baker, 02-Benton, 03-Clackamas, 04-Clatsop, 05-Columbia, 06-Coos, 07-Crook, 08-Curry, 09-Deschutes, 10-Douglas, 11-Gilliam, 12-Grant, 13-Harney, 14-Hood River, 15-Jackson, 16-Jefferson, 17-Josephine, 18-Klamath, 19-Lake, 20-Lane, 21-Lincoln, 22-Linn, 23-Malheur, 24-Marion, 25-Morrow, 26-Multnomah, 27-Polk, 28-Sherman, 29-Tillamook, 30-Umatilla, 31-Union, 32-Wallowa, 33-Wasco, 34-Washington, 35-Wheeler, and 36-Yamhill. To convert these numbers to Federal Information Processing Standards (FIPS) codes, multiply the number by two and subtract one. To convert FIPS codes to Oregon codes, add one to the FIPS code and divide by two.

⁴ Default (or null) values are enclosed in square brackets [].

MapNumber (Text, Length = 20) Must use map number as stored in the County's Assessor's database

Samples: 0101.50S01.25E01AATNS001 (width = 24)
2601.00N01.00W13AB--0000

The fields used to generate the ORtaxlot field in the Taxlot feature class are:

ORMapNum – as defined above except that MapSuffixType and MapSuffixNum are all zeros
Taxlot – Five-digit taxlot number with leading zeros or ROADS, RAILS, WATER, or NONTL

Samples: 0101.50S01.25E01AATN000000100 (width = 29)
2601.00N01.00W13AB--000010200

3. STAND-ALONE FEATURE CLASSES

CartographicLines (line) This feature class was designed to store line features specific to mapping purposes (e.g., leader lines, arrows, land hooks, etc).

LineType	(Short Integer)	CVD – LineType
MapScale	(Long Integer)	CVD – MapScale
MapNumber	(Text, Length = 20)	
AutoDate	(Date)	
AutoMethod	(Text, Length = 3)	CVD – AutoMethod
AutoWho	(Text, Length = 30)	

ConstructionLines (line) This feature class was added for those that want to build all line work in a temporary construction layer and then later copy the features into the appropriate layers. This line FC has all of the attributes defined in other line feature classes to make the copying of attributes easy.

LineType	(Short Integer)	CVD – LineType
Direction	(Text, Length = 12)	
Distance	(Text, Length = 10)	
Delta	(Text, Length = 10)	
Radius	(Text, Length = 10)	
Radius2	(Text, Length = 10)	
Tangent	(Text, Length = 10)	
Tangent2	(Text, Length = 10)	
ArcLength	(Text, Length = 10)	
Side	(Text, Length = 1)	
LoStation	(Text, Length = 20)	
HiStation	(Text, Length = 20)	
Source	(Text, Length = 20)	
SourceType	(Text, Length = 20)	CVD – SourceType
MapScale	(Long Integer)	CVD – MapScale

MapNumber	(Text, Length = 20)	
ReliaCode	(Short Integer)	CVD - ReliabilityCode
AutoDate	(Date)	
AutoMethod	(Text, Length = 3)	CVD – AutoMethod
AutoWho	(Text, Length = 30)	

Corner (point) Point feature class that represents standard corners used in mapping including donation land claims, section and sub-section corners. It can include control points that come from the surveyor.

CornerSymbol	(Short Integer)	CVD – CornerSymbol
CornerDesc	(Text, Length = 64)	<i>description of the actual feature (e.g., SE corner of a DLC)</i>
ControlType	(Short Integer)	CVD – ControlType
CommonName	(Text, Length = 32)	
GCDB	(Text, Length = 10)	
Easting	(Double)	
Northing	(Double)	
Latitude	(Double)	
Longitude	(Double)	
Source	(Text, Length = 20)	
SourceType	(Text, Length = 20)	CVD – SourceType
MapScale	(Long Integer)	CVD – MapScale
MapNumber	(Text, Length = 20)	<i>if no value, it always displays. If given a value, it will only display for that particular map</i>
ReliaCode	(Short Integer)	CVD - ReliabilityCode
AutoDate	(Date)	
AutoMethod	(Text, Length = 3)	CVD – AutoMethod
AutoWho	(Text, Length = 30)	

PLSSLines (line)

LineType	(Short Integer)	CVD – LineType
Direction	(Text, Length = 12)	
Distance	(Text, Length = 10)	
Delta	(Text, Length = 10)	
Radius	(Text, Length = 10)	
Radius2	(Text, Length = 10)	
Tangent	(Text, Length = 10)	
Tangent2	(Text, Length = 10)	
ArcLength	(Text, Length = 10)	
Side	(Text, Length = 1)	
Source	(Text, Length = 20)	
SourceType	(Text, Length = 20)	CVD – SourceType
MapScale	(Long Integer)	CVD – MapScale
MapNumber	(Text, Length = 20)	

ReliaCode	(Short Integer)	CVD - ReliabilityCode
AutoDate	(Date)	
AutoMethod	(Text, Length = 3)	CVD – AutoMethod
AutoWho	(Text, Length = 30)	

ReferenceLines (line) Any feature that could be surveyed and has (meaningful) geometric positions should be placed into this FC. For example, Plat Boundary, Historical Lines, MapIndex Boundaries, Road Tics, BPA, Easements, Condo levels, Centerlines, Vegetation lines, Private Road ROWs.

LineType	(Short Integer)	CVD – LineType
Direction	(Text, Length = 12)	
Distance	(Text, Length = 10)	
Delta	(Text, Length = 10)	
Radius	(Text, Length = 10)	
Radius2	(Text, Length = 10)	
Tangent	(Text, Length = 10)	
Tangent2	(Text, Length = 10)	
ArcLength	(Text, Length = 10)	
Side	(Text, Length = 1)	
LoStation	(Text, Length = 20)	
HiStation	(Text, Length = 20)	
Source	(Text, Length = 20)	
SourceType	(Text, Length = 20)	CVD – SourceType
MapScale	(Long Integer)	CVD – MapScale
MapNumber	(Text, Length = 20)	
ReliaCode	(Short Integer)	CVD - ReliabilityCode
AutoDate	(Date)	
AutoMethod	(Text, Length = 3)	CVD – AutoMethod
AutoWho	(Text, Length = 30)	

Water (polygon)

WaterName	(Text, Length = 64)	
WaterType	(Text, Length = 20)	CVD – WaterType
Source	(Text, Length = 20)	
SourceType	(Text, Length = 20)	CVD – SourceType
ReliaCode	(Short Integer)	CVD - ReliabilityCode
AutoDate	(Date)	
AutoMethod	(Text, Length = 3)	CVD – AutoMethod
AutoWho	(Text, Length = 30)	

WaterLines (line)

WaterName	(Text, Length = 64)
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LineType	(Short Integer)	CVD – LineType
Source	(Text, Length = 20)	
SourceType	(Text, Length = 20)	CVD – SourceType
MapScale	(Long Integer)	CVD – MapScale
MapNumber	(Text, Length = 20)	
ReliaCode	(Short Integer)	CVD - ReliabilityCode
AutoDate	(Date)	
AutoMethod	(Text, Length = 3)	CVD – AutoMethod
AutoWho	(Text, Length = 30)	

4. STANDARD ANNOTATION FEATURE CLASSES

All standard annotation feature classes have the following user-defined additional fields:

MapNumber (Text, Length = 20)
AutoDate (Date)
AutoMethod (Text, Length = 3) CVD – AutoMethod
AutoWho (Text, Length = 30)

All standard annotation levels will be organized by scale as individual annotation classes:

Anno0010scale
Anno0020scale
Anno0030scale
Anno0040scale
Anno0050scale
Anno0100scale
Anno0200scale
Anno0400scale
Anno0800scale
Anno1000scale
Anno2000scale

Each standard annotation feature class has the following subclass names based on the IGDS standards:

Control	(1)	
PublicRoad	(10)	Two different sizes
PrivateRoad	(13)	
Railroad	(16)	
Easement	(19)	
Station	(20)	
WaterBodyName	(23)	Two different sizes
RiverName	(25)	Two different sizes
CreekName	(27)	
CanalName	(29)	
MiscHydro	(30)	
BearingDistance	(34)	
SurveyNum	(35)	
ReferenceNotes	(36)	
Taxlot	(37)	
TaxlotAcres	(38)	
SubdivisionName	(41)	Two different sizes
BlockNum	(42)	
LotNum	(43)	
SectionNum	(45)	

GovtLot-Acres	(46)
DLCName	(47)
MeanderName	(48)
StandardParallel	(49)
Code	(54)
SpecialBoundary	(55)
Zone	(56)
CityLimits	(57)
Adjacent County Name	(58)
Landmark	(59)
Vegetation	(61)
SeeMaps	(62)
ConstuctionAnno	(63) <i>added so that editors could create notes. These features will not be rendered in the final map</i>

Note:

SeeMaps - There are two types of SeeMaps 1) to designate a map within a map (index maps) and 2) to designate adjacent maps. There is one subclass and 2 different symbols (Index and Adjacent)

Feature-linked Annotation Feature Classes

All standard annotation feature classes have the following user defined, additional fields:

MapScale	(Long Integer)	CVD - MapScale
MapNumber	(Text, Length = 20)	
AutoDate	(Date)	
AutoMethod	(Text, Length = 3)	CVD – AutoMethod
AutoWho	(Text, Length = 30)	

Notes:

- All feature-linked annotation is created with a reference scale of 1200 and map units equal to feet in the sample geodatabases.*
- If coverage annotation is being converted the fields above can't be added until after the conversion because annotation cannot be loaded into an existing schema.*
- MapScale was added in order to control the visibility of feature-linked annotation since it is not broken out based on scale. The editing application automatically sets the size of the annotation based on the scale map the annotation is created it.*

The following annotation levels will be feature-linked:

TaxlotAcreage	– linked to the Taxlot/TaxlotAcres field
TaxlotNumber	– linked to the Taxlot/Taxlot field
LotNumber	– linked to the Lots/Lot field
PlatName	– linked to the Plats/PlatName field
Taxcode	– linked to the Taxcode/Taxcode field

5. TABLES

CancelledNumbers

MapNumber (Text, Length = 20)

Taxlot (Text, Length = 20) *width is 20 to accommodate ranges (800 THRU 1000)
and special interest taxlots*

PageLayoutElements

MapNumber	(Text, Length = 20)
DataFrameMinX	(Double)
DataFrameMinY	(Double)
DataFrameMaxX	(Double)
DataFrameMaxY	(Double)
MapPositionX	(Double)
MapPositionY	(Double)
MapAngle	(Double)
TitleX	(Double)
TitleY	(Double)
DisclaimerX	(Double)
DisclaimerY	(Double)
CancelNumX	(Double)
CancelNumY	(Double)
DateX	(Double)
DateY	(Double)
URCornerNumX	(Double)
URCornerNumY	(Double)
LRCornerNumX	(Double)
LRCornerNumY	(Double)
ScaleBarX	(Double)
ScaleBarY	(Double)
NorthX	(Double)
NorthY	(Double)

6. CODED VALUE DOMAINS

All lists are minimums. Users may add values for their specific needs.

AutoMethod (Text)

CAL	Calculated
COG	COGO
CON	Converted
DIG	Digitized
GPS	GPS
PRP	Proportion
SUR	Survey
UNK	Unknown

ControlType (Short Integer)

1	Angle Point
2	Auxiliary Meander Point
3	Bench Mark (Quad)
4	Center Quarter Section Corner
5	Coordinate Control Point
6	Crossing Closing Corner
7	Donation Land Claim
8	Found Bench Mark
9	Found Corner
10	Found Triangulation Station
11	Homestead Survey
12	Initial Point
13	Intersection Point
14	Location Corner
15	Location Monument
16	Lot Corner
17	Meander Corner
18	Mile Corner or Mile Post
19	Mineral Survey Corner
20	Point on a Line
21	Quarter Corner
22	Section Corner
23	Special Meander Corner
24	Station
25	Subdivision of Section Corner
26	Township Corner
27	Vegetation Line Corner
28	Witness Point

CornerSymbol (Short Integer) This should describe what the Control Type symbol looks like on the map.

0	Don't Display
1	Hollow Circle (e.g., tangent point, direction change)
2	Solid Circle (e.g., found)
3	Small Hollow Square (e.g., lot corner)
4	Large Hollow Square (e.g., found section corner)
5	2 concentric circles – inner hollow (e.g., DLC – not found)
6	2 concentric circles – inner solid (e.g., DLC – found)
7	Hollow triangle with solid circle (e.g., vegetation)
8	Cross with BM (e.g., benchmark)

County (Short Integer)

1	01 – Baker
2	02 – Benton
3	03 – Clackamas
4	04 – Clatsop
5	05 – Columbia
6	06 – Coos
7	07 – Crook
8	08 – Curry
9	09 – Deschutes
10	10 – Douglas
11	11 – Gilliam
12	12 – Grant
13	13 – Harney
14	14 – Hood River
15	15 – Jackson
16	16 – Jefferson
17	17 – Josephine
18	18 – Klamath
19	19 – Lake
20	20 – Lane
21	21 – Lincoln
22	22 – Linn
23	23 – Malheur
24	24 – Marion
25	25 – Morrow
26	26 – Multnomah
27	27 – Polk
28	28 – Sherman
29	29 – Tillamook
30	30 – Umatilla

31	31 – Union
32	32 – Wallowa
33	33 – Wasco
34	34 – Washington
35	35 – Wheeler
36	36 - Yamhill

LineType (Short Integer)

2	PLSS Section Line	PLSSLines
3	1/16 th Line Inside DLC	PLSSLines
7	Control Reference Line	ReferenceLines
8	Public Road ROW	TaxlotLines
9	Public Road Centerline	ReferenceLines
11	Private Road ROW	ReferenceLines
12	Private Road Centerline	ReferenceLines
14	Railroad ROW	TaxlotLines
15	Railroad Centerline	ReferenceLines
17	Easement ROW	ReferenceLines
18	Easement Centerline	ReferenceLines
22	Water Body	WaterLines
24	River	WaterLines
26	Creek	WaterLines
28	Canal	WaterLines
30	Misc Water	WaterLines
32	Parcel Boundary	TaxlotLines
33	Historical Boundary	ReferenceLines
34	Hist Bnd (non display)	ReferenceLines
40	Subdivision Line	ReferenceLines
44	Section Corner	PLSSLines
46	Govt Lot line	PLSSLines
47	DLC Line	PLSSLines
48	Meander Line	PLSSLines
50	Other	ReferenceLines
51	Map Boundary	ReferenceLines - (optional)
52	Detail Map Boundary	ReferenceLines - (optional)
55	Special Boundary	ReferenceLines
56	Zone	ReferenceLines
60	BPA	ReferenceLines
61	Condo	CartographicLines
62	Gas Utility	ReferenceLines
63	Local Utility	ReferenceLines
70	Oyster Plat	ReferenceLines
71	Jetty	ReferenceLines
72	Fiber Optic	ReferenceLines
73	Limited Common Element	ReferenceLines

74	Leases	ReferenceLines
100	Anno Arrow	CartographicLines
101	Land Hook	CartographicLines
102	Radius Line	CartographicLines
103	Road Tic	ReferenceLines
120	Station Reference	CartographicLines
125	River Arrow	CartographicLines
134	Bearing / Distance Arrow	CartographicLines
136	Reference Note Arrow	CartographicLines
137	Taxlot Arrow	CartographicLines
141	Subdivision Arrow	CartographicLines
147	DLC Arrow	CartographicLines
154	Code Arrow	CartographicLines
162	See Map Arrow	CartographicLines
199	CAD Arrow	CartographicLines

MapSufType (Text)

0	Standard Map
D	Detail
S	Supplemental
T	Sheet (For oversize maps that won't fit on one sheet)

MapScale (Long Integer)

120	10 Scale
240	20 Scale
360	30 Scale
480	40 Scale
600	50 Scale
1200	100 Scale
2400	200 Scale
4800	400 Scale
9600	800 Scale
12000	1000 Scale
24000	2000 Scale

Part (Double)

0.00	0.00
0.25	0.25
0.50	0.50
0.75	0.75

Qtr (Text)

0	0
A	A
B	B
C	C
D	D
E	E
F	F
G	G
H	H
I	I
J	J

Range (Short Integer)

0	00
1	01
...	...
60	60

RangeDir (Text)

E	E
W	W

ReliabilityCode (Short Integer)

0	Unknown
1	1 foot or less
2	3 feet or less
3	10 feet or less
4	40 feet or less
5	100 feet or less
6	200 feet or less
7	Over 200 feet
8	Possibly fraudulent

Section (Short Integer)

00	00
01	01
...	...
37	37

SourceType (Text)

CONDO	Condominium Plat
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PARTITION	Partition Plat
PHOTO	Photo
SUBDIV	Subdivision
DEED	Deed
SURVEY	Survey
OTHER	Other

Town (Short Integer)

00	00
01	01
...	...
50	50

TownDir (Text)

N	N
S	S

WaterType (Text)

WATERBODY	Water Body (lakes, ponds, etc)
RIVER	River
CREEK	Creek
CANAL	Canal
MISC WATER	Misc Water (high/low, harbor)

YesNo (Text)

N	No
Y	Yes

Appendix A – History

The user group has been established to develop a shared data structure and tools to manage property tax information to support the map maintenance business process, map production, and limited support of related business functions. The data structure documented by this design has been developed through a committee effort that is funded by ORMAP. The following cadastral Geodatabase design is the results of our meetings on:

12/10/03,
 02/05/04,
 07/21/04,
 09/15/04,
 01/05/05,
 02/10/05,
 03/08/05,
 06/23-24/05,
 09/20-21/05,
 01/13/06,
 07/20/06 (no changes to design)
 05/08/08 Final changes to create Version 1.0
 08/21/08 Added MapClass and MapRelCode fields to the taxlot feature class to bring it into conformance with the Cadastral Data Exchange Standard

General items for all participants to review:

- Check to see if all Coded Value Domains (CVD) are clearly defined and complete.
- Consider if there are logical default values for CVDs.
- Consider the data type and definition (e.g., length for text values)
- Carefully evaluate Topology rules, Feature Class ranks, cluster tolerance.
- Ensure that the Spatial Domain and Precision is appropriate.

General notes:

- Some CVDs are specific to County and may need to be modified accordingly.
- The annotation feature classes are not broken into subclasses. There is no point in completely defining annotation subclasses in the SchemaOnly design prior to the coverage annotation being converted due to the fact that coverage annotation can not be loaded into an existing GDB. The annotation FCs are there simply to show the complete design.
- The SchemaOnly designs will include the following spatial domains. These only apply to databases created prior to ArcGIS version 9.2:
 - **OR-SchemaOnly-North** (NAD 83/91 North)

▪ Xmin 7200000	Ymin 50000	Precision	1000
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 - **OR-SchemaOnly-South** (NAD 83/91 South)

▪ Xmin 3800000	Ymin 50000	Precision	1000
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