

1.0 Introduction

The City of Carlsbad maintains a Geographic Information System (GIS) for use by all City Departments. Major components of the GIS are the parcel base map and the facilities map. To improve the efficiency of map/facilities data collection and use in city operations, the City of Carlsbad requires the submission of digital copies along with the required number of hardcopies for the submittal of all Final Maps, Grading Plans, and Improvement Plans. Digital copies of the approved Final Maps, Improvement and Grading Plans must be submitted along with each submittal of those plans. These requirements do not affect in any way existing requirements of other departments regarding map/plan processing. See Section 4 for details of data file content and organization.

This specification shall be used for the digital submission of maps to the City of Carlsbad, and will pertain to all Final Maps, Grading Plans, and Improvement Plans. Exceptions from these requirements can be made with the express permission of the Deputy City Engineer for Development Services.

For further information or clarification of this specification, contact:

GIS Manager or Engineering Department, Planning and Programs Division
City of Carlsbad
1635 Faraday Avenue
Carlsbad CA 92008
(760) 602-2434 (GIS) *or* (760) 602-2760 (Engineering)

2.0 Format of Data for Digital Submittal

The acceptable formats for digital submittal of the data are:

AutoCAD Release 2000i (Autodesk) .DWG or DXF format
AutoCAD Release 2000 (Autodesk) .DWG or DXF format
AutoCAD Release 14 (Autodesk) .DWG or DXF format
AutoCAD Release 13 (Autodesk) .DWG or DXF format
ArcInfo version 7.x or later (ESRI) line coverage format
ArcInfo version 7.x or later (ESRI) .e00 export format.
ArcView (ESRI) shapefile format (.shp)

3.0 Basis of Bearings and Coordinate Reference

The basis of bearings and all coordinates of data submitted to the City must be in reference to the California Coordinate System - 1983, Zone VI, 1991.35 Epoch, North American Datum of 1983 (NAD83) based on ties to the **City of Carlsbad Survey Control Network** monuments as published on **Record of Survey Map No. 17271**, filed in the office of the San Diego County Recorder on February 8, 2002. The coordinate ties in the digital submission must meet third order accuracy from the control monuments to the project boundary. The project boundary will be located in the California Coordinate System at a common tie point. All other coordinates and line work will be scaled to ground distances and be within 0.5 feet of the true California Coordinate System values. For vertical control, the NGVD 29 datum is still in effect.

NOTE: Use the "Xref" AutoCAD command with "CBD_ROS_NAD83_R14.dwg" to verify project site location (insert point (0,0,0).)

4.0 Data Layering Requirements

Final Maps, Parcel Maps - will consist of:

- file(s) of the entire map submittal area;
- layers description (digital file/ hard copy)

Improvement Plans - will consist of:

- file(s) of the entire plan submittal area;
- layers description (digital file/ hard copy)

Grading Plans - will consist of:

- file(s) of the entire plan submittal area;
- layers description (digital file/ hard copy)

Note:

The model space of the submitted drawings should contain the entire project (showing property lines, improvements, etc.) and it should not be divided into sheets (used for plotting purposes.)

The City of Carlsbad Standard layers are as described in the following tables: 4.1, 4.2, 4.3. Digital submittals are to follow the City of Carlsbad layer format, or be accompanied by a digital file or hardcopy describing layer name and symbol description.

Table 4.1 Final Maps, Parcel Maps

Layer Name	Layer Contents
ACREAGE	net acreage text
BASE	north arrow, location map, etc.
COORD	coordinate values & tic marks
COV	cover sheet information
EASE	public/private easement lines
FLOOD	100 year flood lines and text
HATCH	hatching & shading
LOTS	lot lines, other property lines, and associated text
MON	monumentation markers and associated text
POS	procedure of survey lines and associated text
ROW	right-of-way easement lines and associated text
STCL	street centerline lines and associated text
STREAM	streams
STROW	street right-of-way lines and associated text
THALWEG	watercourse thalwegs

Table 4.2 Improvement Plans

Layer Name	Layer Contents
ACCESS	access covers (size, type, % grade)
APN	assessor parcel number text
BASE	north arrow, location map, etc.
COORD	coordinate values & tic marks
COV	cover sheet information
CURB	curbs, berms, sidewalks
EASE	public/private easement lines
EXGRDIDX	existing grade index contours & text
EXTGRADE	existing grade contours and text
FINGRADE	finished grade contours and text
FINGRDIDX	finish grade index contours & text
FLOOD	100 year flood lines and associated text
FLOW	swales, direction of flow
FTPRINT	footprints of buildings
GRID	grid & grid numerical values for street & utility profiles
HATCH	hatching & shading
INOUT	inlets/outlets
IRRCOND	irrigation conduit
IRRCONTR	irrigation controllers
IRRPIPE	irrigation pipe
LANDSCPLT	landscape planting
LANDSCTXT	landscape text
LOTS	lot lines, other property lines, and associated text
MEDIAN	medians
MON	monumentation markers and associated text
PERCENT	percentages
POS	procedure of survey text and associated text
PUBELECOH	public utilities - electrical: overhead
PUBELECOG	public utilities - electrical: underground
PUBGAS	public utilities - gas distribution
PUBHYDR	public utilities - fire hydrants
PUBTELE	public utilities - telephone boxes
PUBTV	public utilities - cable TV
PUBWATER	public utilities - water supply
RAMP	ramps
RECWPROF	reclaimed water profile
ROW	right-of-way easement lines
SEWERSYS	sewer main and associated text
SEWPROF	sewer profile

SPOTELEV	spot elevations markers and text
STCL	street centerline lines and associated text
STLIGHT	electroliers
STLTCOND	street lighting conduits & junction boxes
STORMDRN	culvert and storm drain profiles and associated text
STPROF	street profile
STREAM	streams
STRMPROF	storm drain profile
STROW	street right of way lines and associated text
STSIGN	street name signs
STSTRIPE	traffic striping
THALWEG	watercourse thalwegs
TREE	trees (4" diameter or greater)
TSIGCOND	traffic signal conduit
TSIGN	regulatory & advisory signs
TSIGNAL	traffic signals
TSIGNAL	traffic signals and associated text
WALKS	footprints of walks
WATPROF	water line profile
XTREE	trees to be removed

Table 4.3 Grading Plans

Layer Name	Layer Contents
ACCESS	access covers (size, type, % grade)
APN	assessor parcel number text
BASE	north arrow, location map, etc.
COORD	coordinate values & tic marks
COV	cover sheet information
CURB	curbs, berms, sidewalks
EASE	public/private easement lines
EXGRDIDX	existing grade index contours & text
EXTGRADE	existing grade contours and text
FINGRADE	finished grade contours and text
FINGRDIDX	finish grade index contours & text
FLOOD	100 year flood lines and text
FLOW	swales, direction of flow
FTPRINT	footprints of buildings
HATCH	hatching & shading
INOUT	inlets/outlets
LANDSCPLT	landscape planting
LANDSCTXT	landscape text
LOTS	lot lines, other property lines, and associated text
MEDIAN	medians
PERCENT	percentages
POS	procedure of survey text and associated text
PUBGAS	public utilities - gas distribution
PUBHYDR	public utilities - fire hydrants
PUBTELE	public utilities - telephone boxes
PUBWATER	public utilities - water supply
RAMP	ramps
ROW	right-of-way easement lines and associated text
SEWERSYS	sewer main and associated text
SPOTELEV	spot elevations markers and text
STCL	street centerline lines and associated text
STORMDRN	culvert and storm drain profiles and associated text
STREAM	streams
STROW	street right-of-way lines and associated text
THALWEG	watercourse thalwegs
TREE	trees (4" diameter or greater)
TSIGNAL	traffic signals
TSIGNAL	traffic signals and associated text
WALKS	footprints of walks
XTREE	trees to be removed

5.0 Acceptable Media

The City will accept submissions of the required digital files on the following media:

PC-formatted 3½" DS, HD diskettes (1.44 MB capacity)
PC-formatted Compact Disks

The submitter will be responsible for archival of the digital data until final acceptance. If possible do not archive (compress) the files

Please include all the necessary files on your submittal disk (i.e. XREF-ed files, fonts). (The easiest way to accomplish this is by using the *Pack'n Go* feature from AutoCAD).

All media will be submitted with labels indicating the following information:

Project Name/Number
Date
Company
Contact Name/Telephone Number/Email
File Names (see below for file naming conventions)

6.0 File Naming Conventions

The files will be named according to the plan name with the extension .DXF for CAD-type files, .e00 extension for Arc/Info export files, and no extension for Arc/Info coverages. Examples:

Carlsbad Tract Map No. 98-93	CT9893.DXF; CT9893.E00;CT9893.
Minor Subdivision 89-01	MS8901.DXF; MS8901.E00; MS8901.
Improvement Plan 360-3B	I360-3B.DXF; I360-3B.E00; I360-3B.
Grading Plan 360-3A	G360-3A.DXF; G360-3A.E00; G360-3A.

Appendix A - Arc/Info Format Specifications

Digital files submitted in Arc/Info format will have the following specifications:

Arc Processing

All arc intersections will contain a node, i.e. no intersection errors and no node errors; arc topology will be in existence.

Arc Coding

Each coverages' arc attribute table (.AAT) will contain the item **dxflayer (40, 40, c)**. All arcs in the coverage will be coded for **dxflayer** using the layer names identified in Tables 4.1 - 4.5. For example, from Table 4.1, all street centerlines will be coded for **dxflayer = 'CL'**

Annotation

All text for each coverage will be contained in the annotation subclass **anno.dxf**, and assigned the annotation levels indicated in Tables 4.1 - 4.5. For example, from Table 4.2, the text describing public easements will be contained in the subclass **anno.dxf**, level = 3.

Appendix B

Digital Submittal Check List

Format of Data for Digital Submittal (refer to 2.0)

- (Autodesk) .DWG format. AutoCAD Release _____
- (Autodesk) .DXF format. AutoCAD Release _____
- ArcInfo version 8.x or later (ESRI) line coverage format
- ArcInfo version 8.x or later (ESRI) .e00 export format
- ArcView (ESRI) shape file format (.shp)

Basis of Bearings and Coordinate Reference (refer to 3.0)

Note: Not required for non-subdivision projects unless required by specific condition of project.

- California Coordinate System, Zone VI (NAD83)

Data Layering Requirements (refer to 4.0)

Final Maps - will consist of:

- file(s) of the entire map submittal area;
- layers description file/sheet (see sample- Table 4.1).

Improvement Plans - will consist of:

- file(s) of the entire plan submittal area;
- layers description file/sheet (see sample- Table 4.2).

Grading Plans - will consist of:

- file(s) of the entire plan submittal area;
- layers description file/sheet (see sample- Table 4.3).

Media Information (refer to 5.0)

- Drawing No : _____
- Project Name/No.: _____
- Media Type _____ Date : ____ / ____ / _____
- Company: _____
- Contact Name _____
- Telephone No.: (____) - _____ - _____
- Email address: _____

Submittal No.

- _____

Digital Files Submitted (refer to 6.0)

- Carlsbad Tract Map
- Minor Subdivision
- Improvement Plan
- Grading Plan
- Other _____

Note: *The Digital Submittal Checklist must be turned in along with the digital drawing to complete the submittal process.*