



IHEEP Conference 2009

LA DOTD Case Study *Distributed Quality Control* *&* *Automated Enforcement* *of* *CAD Standards*

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Marie Franklyn - Altiva Software, Inc.



Goal for this Session:

Share the case study of LA DOTD's use of advanced software technology to streamline the workflow internally and with their consultants through better CAD standards management.



Meeting Agenda

- **Introduction**
- **Benefits of CAD Standards for LA DOTD**
- **Overview of LA DOTD Standards Approach**
 - *Workspace Standards*
 - *CAD Drafting Standards*
 - *Indexing Standards for Document Management*
 - *File Set Standards for Deliverables*
- **Summary of Progress**

Old Reality

Electronic Publishing- A Driving Force

New Reality



Electronic Plans Distribution Center: Search Results - Microsoft Internet Explorer

Electronic Publishing of
Transportation Development
Louisiana's DOTD
Louisiana's DOTD
LOUISIANA'S DOTD
DOTD
Louisiana.gov

La DOTD
search@louisiana.gov

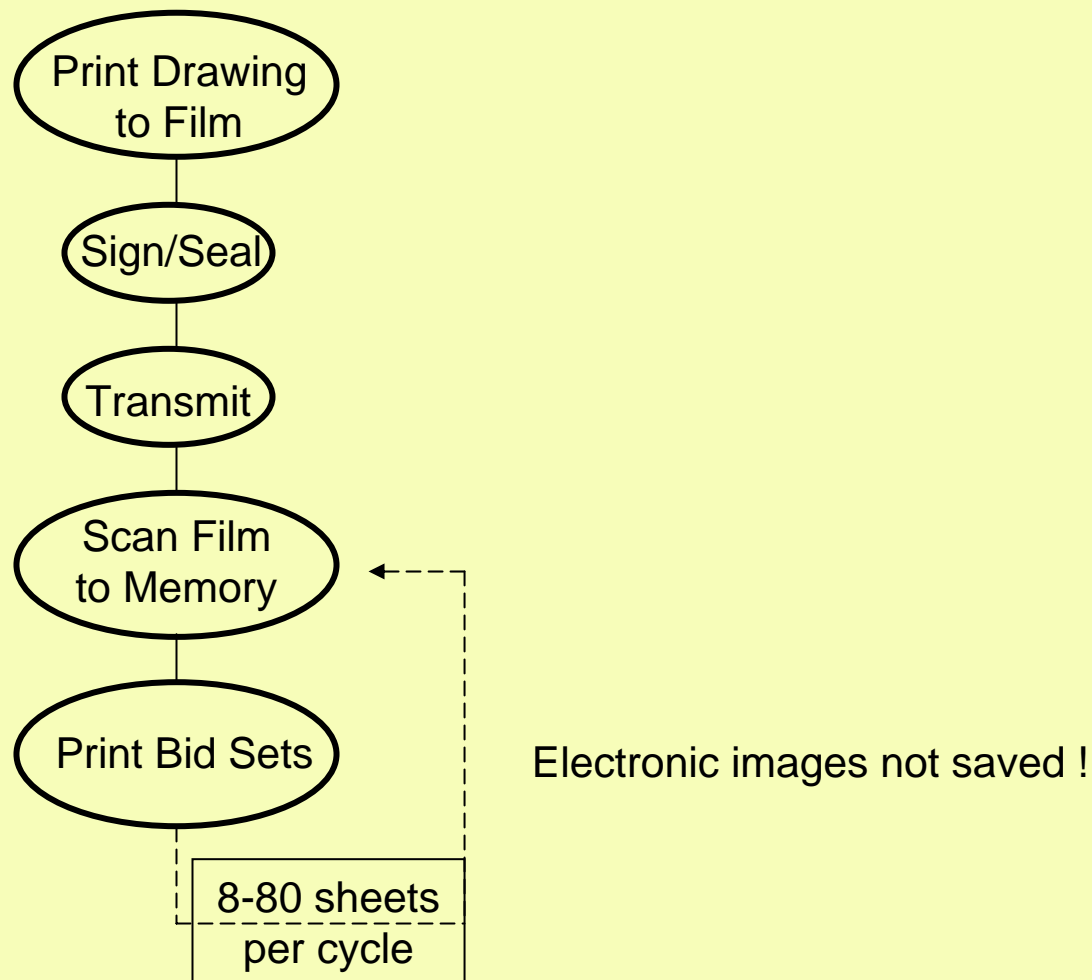
Search Results: 01 45 (272 matches)

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	sheet C029.dwg	2-27-06	29		Right-of-Way Maps	
	sheet C030.dwg	2-27-06	30		Right-of-Way Maps	
	sheet C031.dwg	2-27-06	31		Cross-Sections	
	sheet C032.dwg	2-27-06	32		Cross-Sections	
	sheet C033.dwg	2-27-06	33		Cross-Sections	
	sheet C034.dwg	2-27-06	34		Cross-Sections	
	sheet C035.dwg	2-27-06	35		Cross-Sections	
	sheet C036.dwg	2-27-06	36		Cross-Sections	
	sheet C037.dwg	2-27-06	37		Cross-Sections	
	sheet C038.dwg	2-27-06	38		Cross-Sections	
	sheet C039.dwg	2-27-06	39		Permanent Signing Plans	
	sheet C040.dwg	2-27-06	40		Permanent Signing Plans	
	sheet C041.dwg	2-27-06	41		Permanent Signing Plans	
	sheet C042.dwg	2-27-06	42		Permanent Signing Plans	

Next 15 matches



LA DOTD Electronic Standards



Publishing Workflow 2003



Electronic Publishing Workflow Requires Standard Methods

Draw to DOTD CAD Standards
Certify and Index

Verify CAD Standards Certification
Verify Digital Signatures and Index
Verify Submittal Completeness

Print CAD to PDF (not film)
Digitally Sign PDF

Send PDF
to Falcon

Send all
to ProjectWise



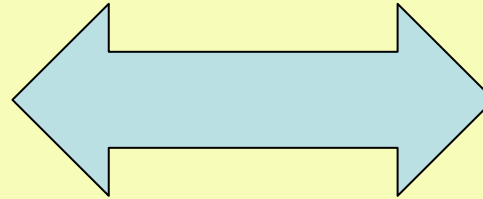
LA DOTD Goals

- Establish an electronic publishing system
- Establish a common set of tools and standards (CAD and design standards)
- Require external consultants to use the department's standard tools and standards
- Allow AutoCAD to be Used
- Establish data collaboration with consultants



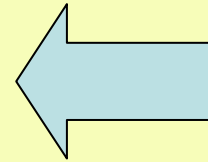
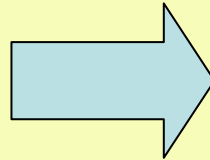
DOTD & Consultants

LADOTD
Various depts.



Engineering
Consulting
Community

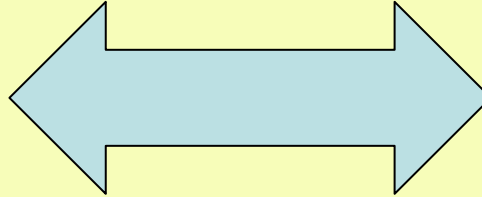
Requests



Deliverables

DOTD & Consultants

LADOTD
Various depts.



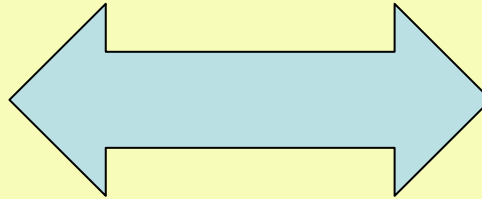
Engineering
Consulting
Community

Concerns?

- *Cost of adhering to DOTD workflow & standards*
- *Delivery in minimal timeframe*
- *Absorbing cost of new technology*
- *Rework cost*

DOTD & Consultants

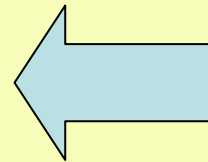
LADOTD
Various depts.



*Engineering
Consulting
Community*

Concerns?

- Did We Get What We Asked For*
- Completion to specs*
- Checking of deliverables*
- Rework cost / Liability*



Deliverables

- **Overview of LA DOTD Standards Approach**
 - ***Workspace Standards***
 - ***CAD Drafting Standards***
 - ***Indexing Standards for Document Management***
 - ***File Set Standards for Deliverables***



Technology Overview

1. Download Resources

2. Install Resources

3. Draft to Standards

4. Check/Fix

5. Certify to Standards

6. Index Drawings

7. Submit Files to DOTD



DeployCAD



CADconform



Indexer



Submittal



La DOTD - Design Section - Electronic Standards - Windows Internet Explorer

http://www.dotd.la.gov/highways/project_devel/design/electronic_s

LOUISIANA DEPARTMENT OF TRANSPORTATION AND DEVELOPMENT

DOTD A-Z 511LA.org

LOUISIANA DEPARTMENT of **Transportation & Development**
Agency of Louisiana.gov

LOUISIANA'S on the MOVE... **DOTD** BUILD the WAY

search louisiana.gov GO

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Information on this web site is posted to aid in the efficient dissemination of information to designers. The data contained within this web site is periodically updated. Designers are responsible to be aware of any updates and incorporate significant changes into their final design.

Index:

- > [DOTD Software Standards for Electronic Plans*](#)
- > [DOTD CAD Standards Downloads at altivasoft.com*](#)
- > [DOTD's ProjectWise Webserver](#)



Deploy Standards

LOUISIANA DEPARTMENT OF TRANSPORTATION AND DEVELOPMENT



LADOTD CAD Standards

Altiva Software is a partner of LADOTD and provides this website to deliver the required CADconform software and accompanying AutoCAD and MicroStation resource files along with information about meeting the standards for LADOTD electronic plans.

Information for LADOTD CADD Standards

Document	Platforms	Type
LADOTD Software Requirements	AutoCAD & MicroStation	PDF
LADOTD CAD Standards Help	AutoCAD & MicroStation	PDF

Notes: The CADconform software requires license keys to be functional. Please [contact Altiva Software](#) or phone at (281) 295-2250 to purchase the required software license keys.

LADOTD requires the use of MicroStation V8 2004-XM or AutoCAD R2006-2008, so the CADconform downloads below are specifically for those versions.

Downloads for AutoCAD Users

Installer	Compatible with	Information
CADconform Software	AutoCAD	PDF
AutoCAD Resources • All Disciplines	AutoCAD R2006-2008	PDF

Downloads for MicroStation Users

Installer	Compatible with	Information
CADconform Software	MicroStation	PDF
MicroStation Resources • All Disciplines	MicroStation V8 2004-V8 XM	PDF

Spread sheet of requirements

Resources for MicroStation and AutoCAD

CADconform Software



Software & Deliverable Standards

Microsoft Excel - DOTD Software Standards for Electronic Plans_Rev 2-15-2008.xls

File Edit View Insert Format Tools Data ApproveIt Window Help

D4 MicroStation V8.5 / 8.9 or Autodesk AutoCAD 2005-2009(1) *

A B C D E F G H I J K

1

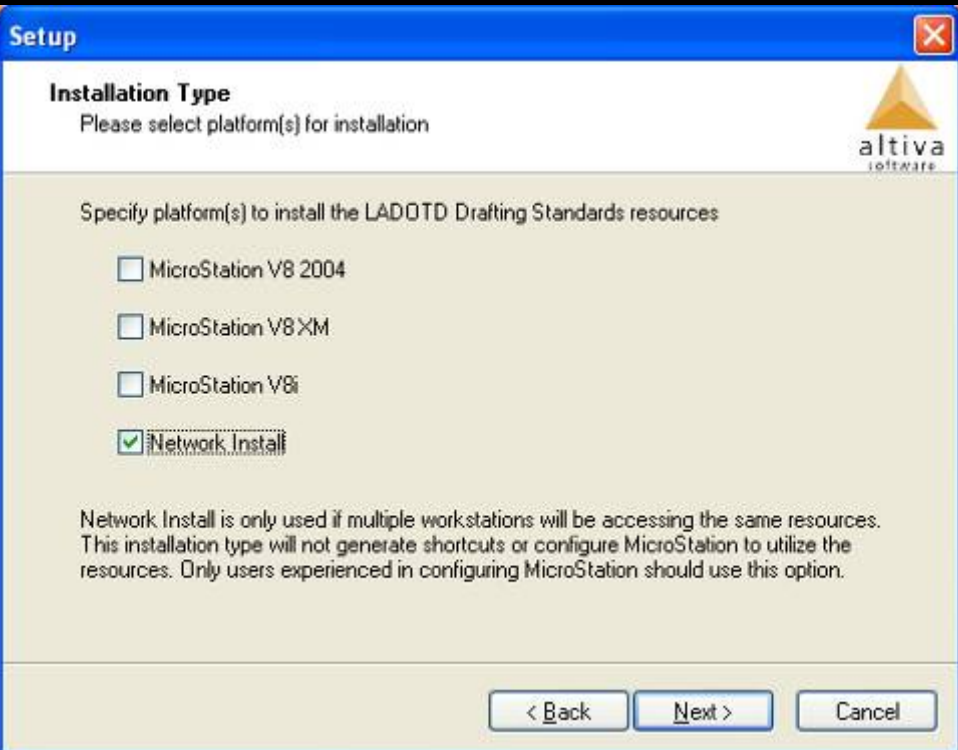
LA DOTD Software and Deliverable Standards for Electronic Plans * (Revised 03/20/2008)

Function	DOTD Software Standard	Consultant Software Standard	Uniform Format Deliverable	Comments
CAD Drafting	MicroStation V8.5 or 8.9	MicroStation V8.5 / 8.9 or Autodesk AutoCAD 2005-2009(1) *	MicroStation - DGN	⁽¹⁾ At DOTD's discretion, when specified in the contract, MicroStation may be required for any or all project participants on specific projects. * MicroStation V8.9 (XM) is required to translate AutoCAD 2007 drawings.
CAD Standards Management	Altiva CADconform V6.4	Altiva CADconform V6.4	Certified DGN	Drawings can be created using MicroStation or AutoCAD version of CADconform. Deliverable DGN files shall be certified as DOTD CAD standard compliant using CADconform running on MicroStation.
Plotting	ProjectWise InterPlot Organizer V8.9 (formerly Iplot Client)	ProjectWise InterPlot Organizer V8.9 (Runs on MicroStation and AutoCAD) (Print Deliverable from MicroStation)	PDF ⁽²⁾	⁽²⁾ PDF format drawings will eventually become the formal electronic deliverable, subject to approval and implementation of digital signature methodology. Until then DOTD will scan deliverable matte film drawings to TIFF format.
Deliverable Indexing	Corporate Montage - ControlCAD Indexer V2.2	Corporate Montage - ControlCAD Indexer V2.2	XML	Indexer includes a "Submittal" tool that checks deliverable standards and 'zips' files for submission, and a "Verification" tool that verifies submittal standards compliance. The software will be available at no charge from the DOTD web site.
Road Design	Inroads V8.9	Inroads V8.9	DGN, ALG, DTM	Inroads must be run on the MicroStation platform.
Survey	Inroads Survey V8.9	Inroads Survey V8.9	FWD, DGN, DTM, ALG, ASCII	Data collection tools and methods that produce the required deliverable content and accuracy are acceptable. Inroads must be run on the MicroStation platform.
Hydraulics Drafting	Inroads Storm & Sanitary V8.9	Inroads Storm & Sanitary V8.9	DGN, SDB	DOTD is also considering Inroads Storm & Sanitary for the hydraulics design standard. The current design standard is Hydrwin. Inroads must be run on the MicroStation platform.
CAD Redlining and As-built Plans	Redline V8.5 or 8.9	Redline V8.5 or 8.9	RDL	Bentley Redline is free for consultants to use when designing DOTD projects. The software is available at no charge from the DOTD web site. Redline will be required as needed.
Electronic Plan Reader	Adobe Acrobat Reader V7-V8	Adobe Acrobat Reader V7-V8	N/A	Until implementation of digital signatures, plans will be published in TIFF format. TIFF is automatically converted to PDF when viewing in DOTD's Falcon publishing system. If viewing TIFF offline, use CPC View or other suitable viewer.
Electronic Plans Management	ProjectWise Explorer V8.9	ProjectWise Explorer V8.9 (3)	N/A	⁽³⁾ At DOTD's discretion consultants may be required to manage their plans in, or upload submittals to, the DOTD ProjectWise repository. ProjectWise Explorer software is available at no charge on the DOTD web site.
Electronic Plans Publishing	tsaADVET Falcon SVP	N/A	N/A	This plans publishing software, accessible via the DOTD web site, is used to search/view/print/download indexed final project plans and manage related contractor questions and answers.

Sheet1 Sheet2 Sheet3

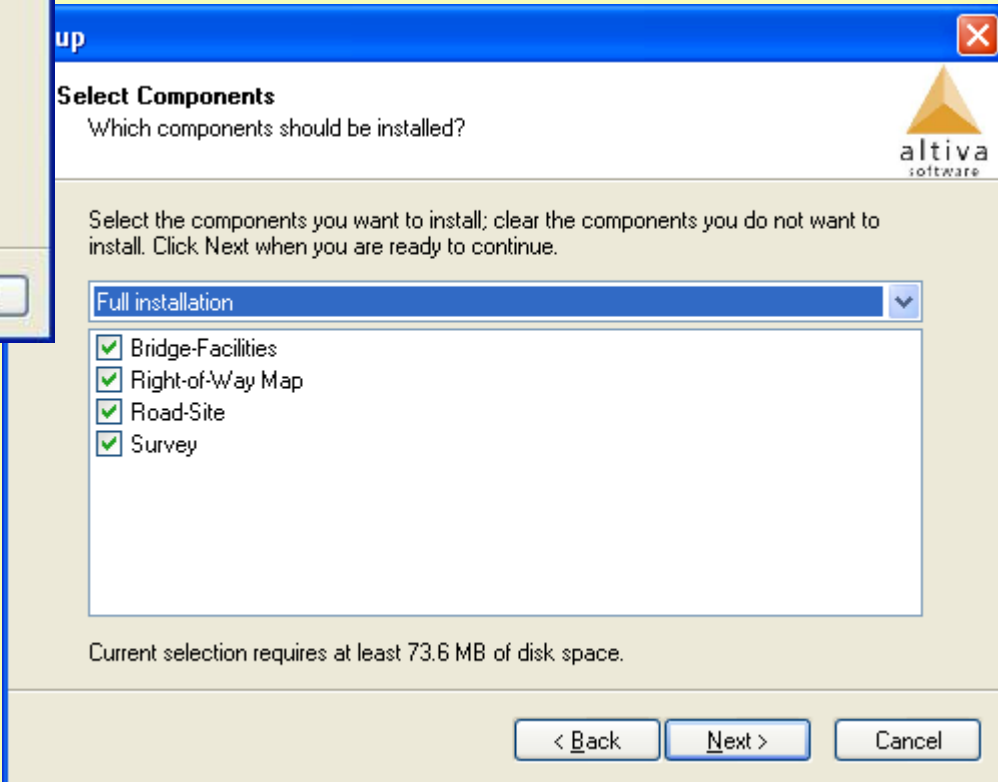


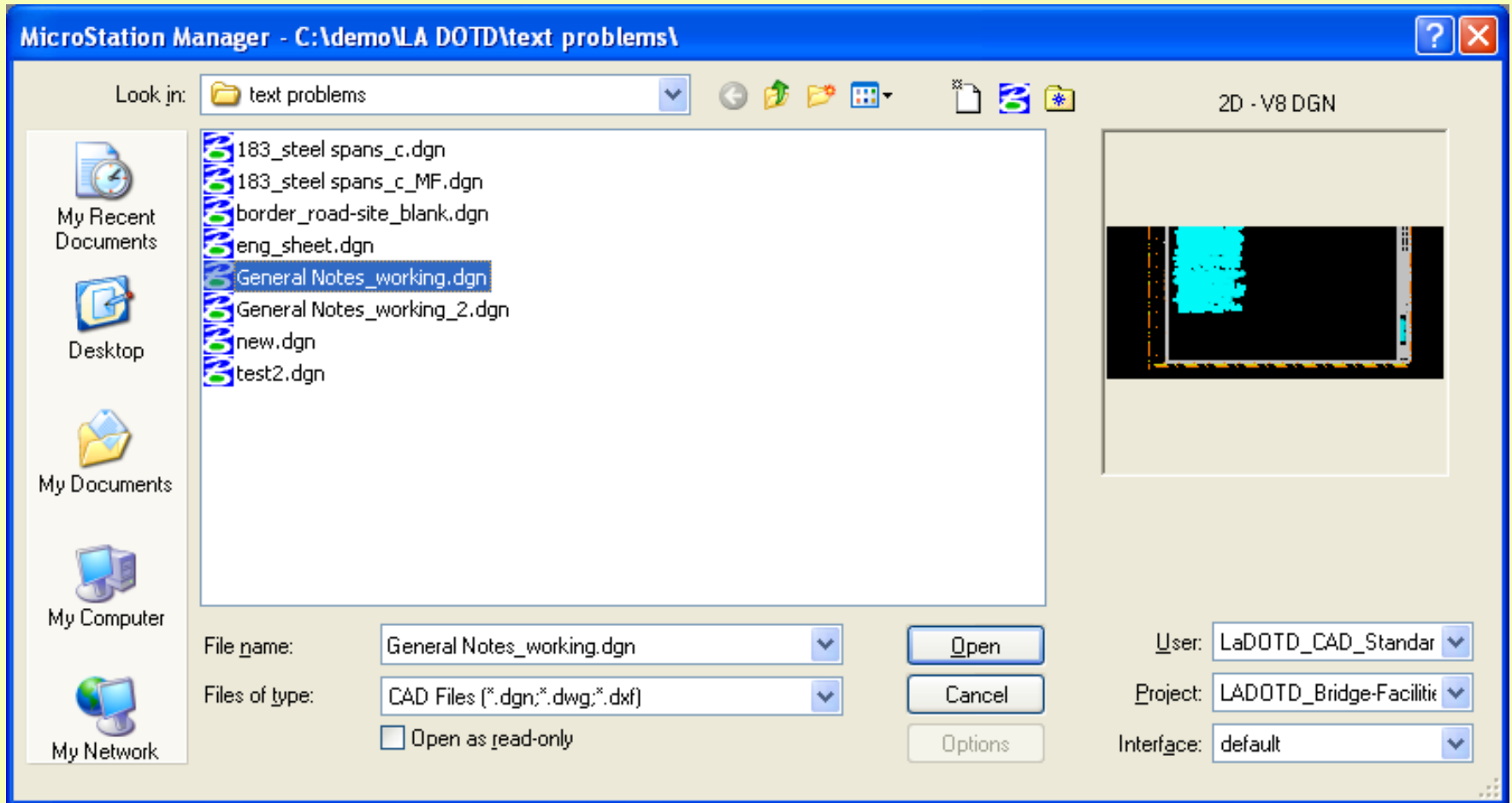
Workspace Install



- Requires no administration knowledge
- Automatically modified config files / profiles

- Network or stand-alone installation
- Installs: Cell/block libraries, config files, project data, menus, fonts, templates, profiles, CADconform Database, etc.





- User and Project Configuration Files Ready to Go



Technology Overview

3. Draft to Standards

4. Check/Fix

5. Certify to Standards



CADconform

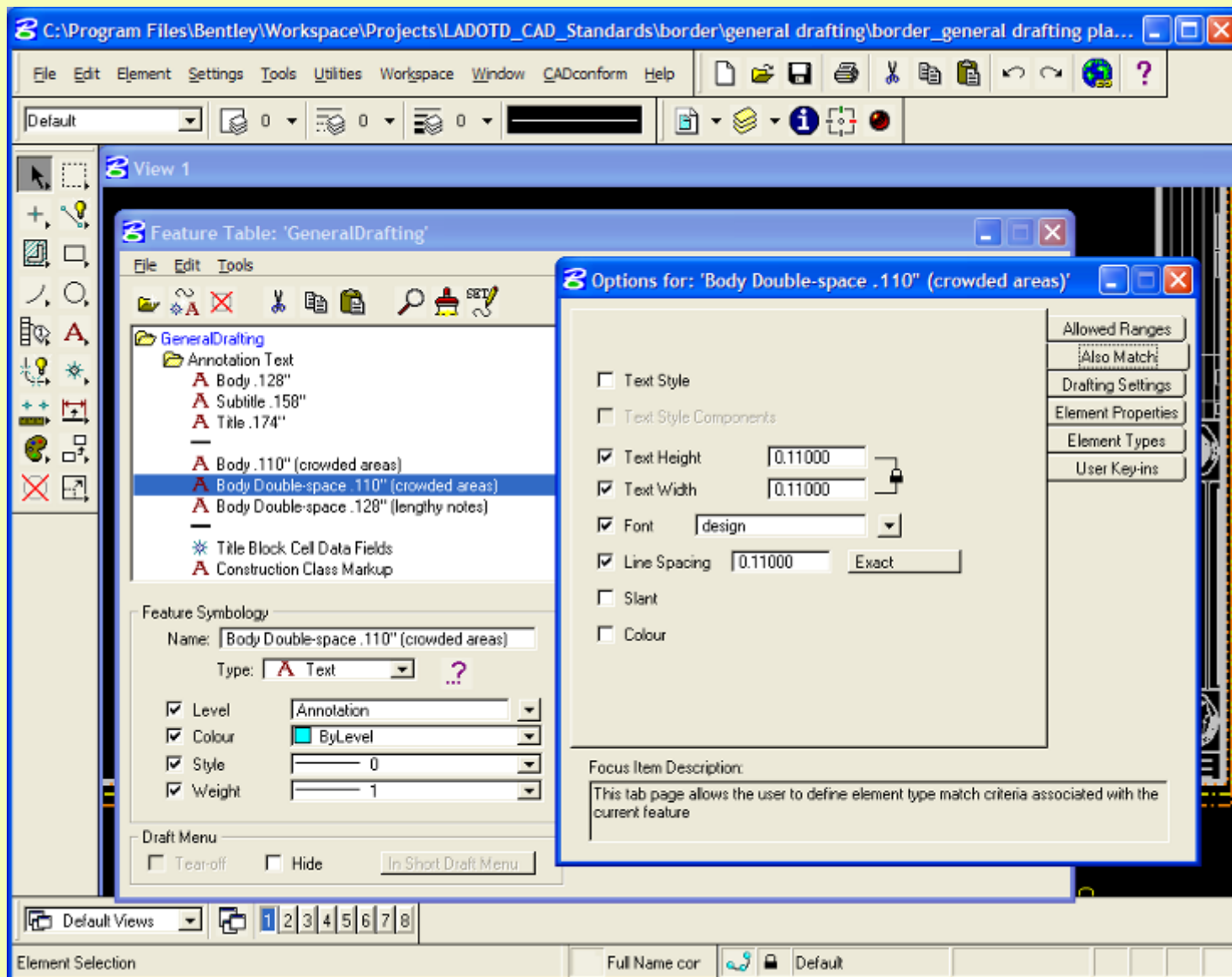


Feature Based System

CADconform is a “Feature-Based” system:

- Stores fully defined LA DOTD drawing features in a database
- Auto-generates *drafting* menus straight from the database
- Drafters are able to *check and fix their own* drawings
- Drafters are able to *certify* they have met standards
- Management is able to run compliance *reports*
- Result: Positive control in a solution drafters like to use

DOTD Creates Discipline Drawing Standards



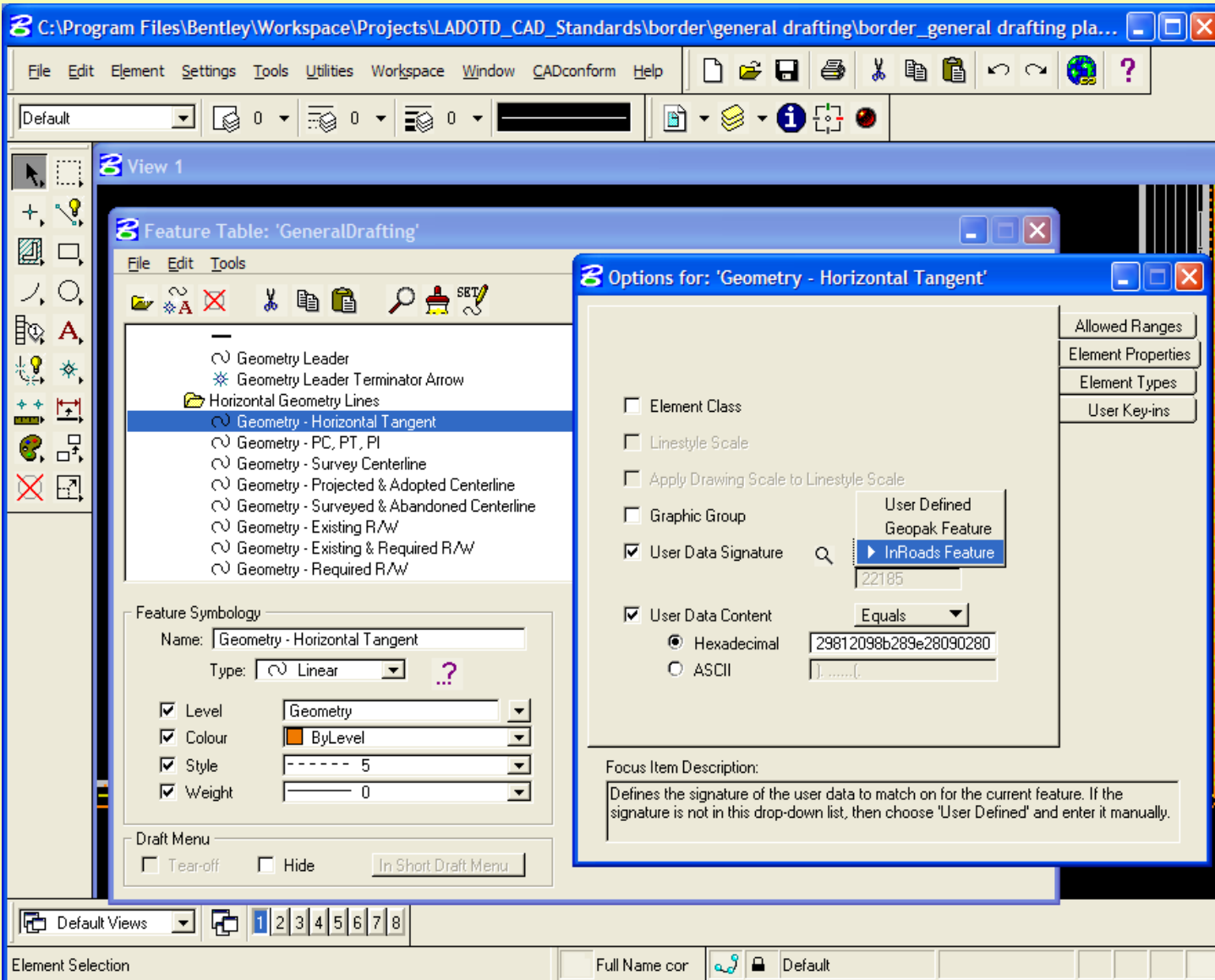
The screenshot displays the Bentley software interface for creating drawing standards. The main window shows a 'Feature Table: 'GeneralDrafting'' with a list of features. The 'Body Double-space .110' (crowded areas) feature is selected. An 'Options for: 'Body Double-space .110' (crowded areas)' dialog box is open, showing the following settings:

- Text Style
- Text Style Components
- Text Height: 0.11000
- Text Width: 0.11000
- Font: design
- Line Spacing: 0.11000, Exact
- Slant
- Colour

The 'Focus Item Description' at the bottom of the dialog states: "This tab page allows the user to define element type match criteria associated with the current feature".

The Feature Table also lists other features such as 'Annotation Text', 'Body .128"', 'Subtitle .158"', 'Title .174"', 'Body .110" (crowded areas)', 'Body Double-space .120" (lengthy notes)', 'Title Block Cell Data Fields', and 'Construction Class Markup'. The 'Feature Symbology' section shows the name 'Body Double-space .110' (crowded areas)', type 'Text', and various symbology options like Level, Colour, Style, and Weight.

Vertical Support

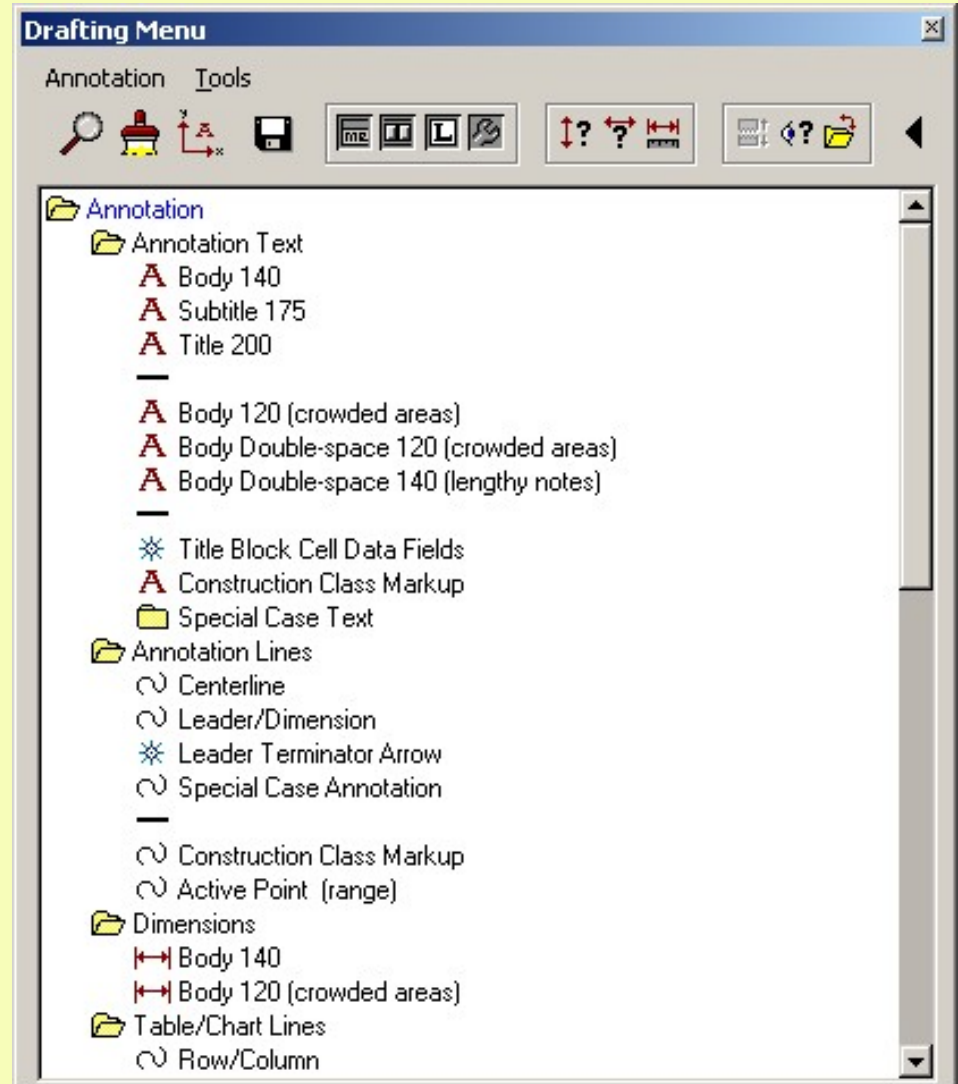
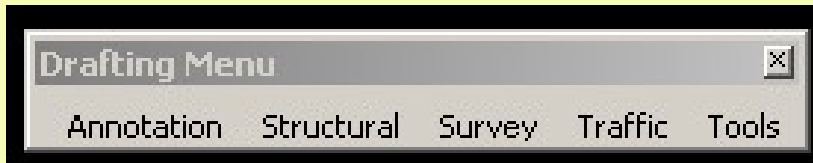
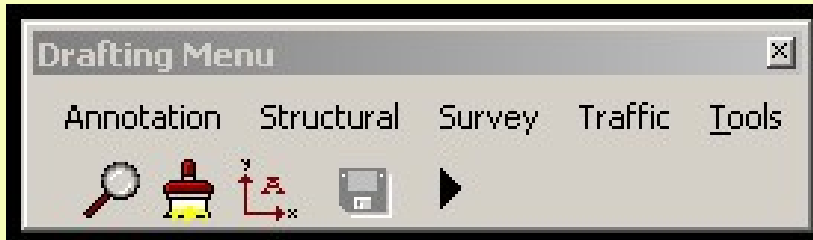


The screenshot displays the Bentley software interface with the following components:

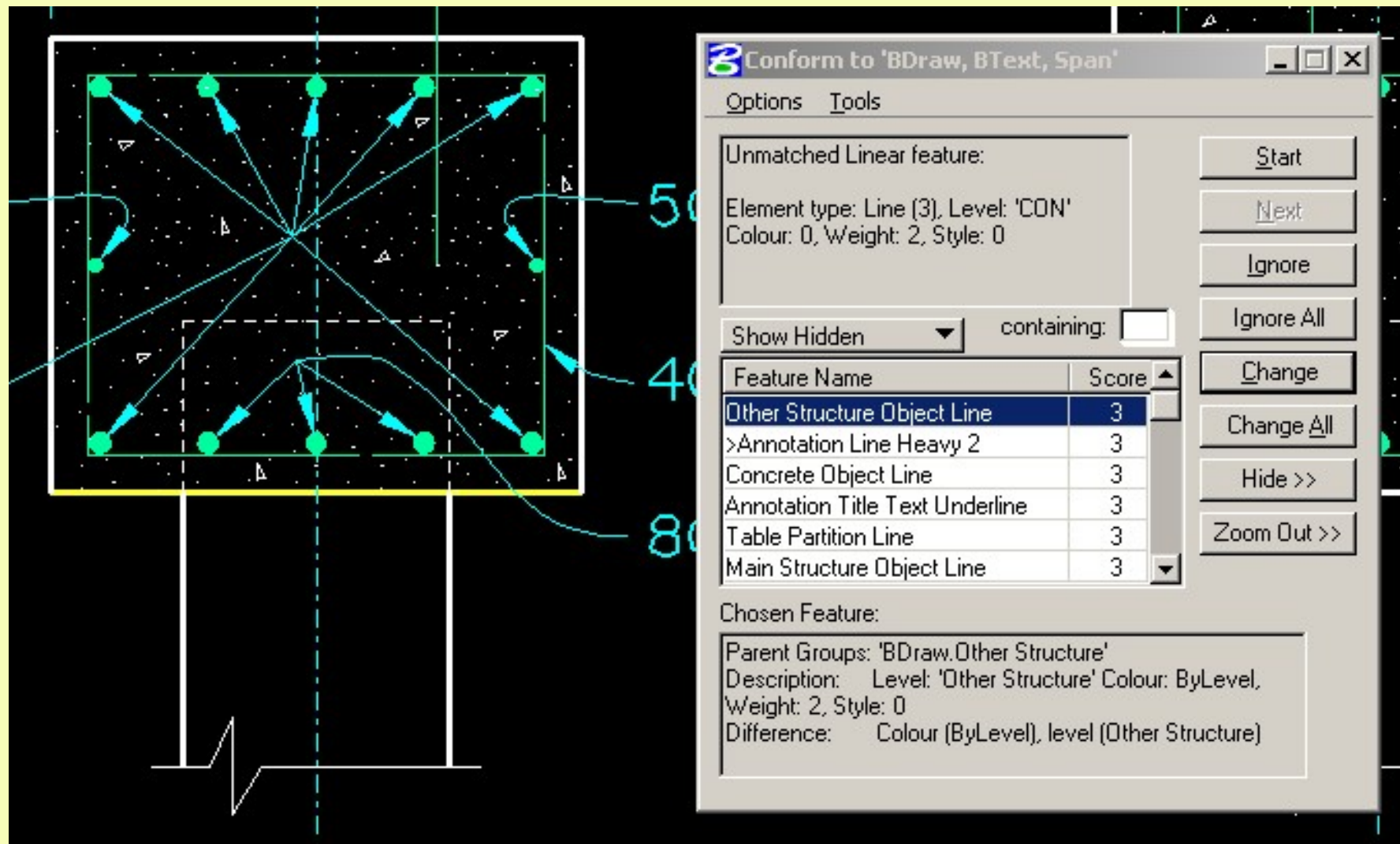
- File Table:** Shows a tree view of features under 'Horizontal Geometry Lines', with 'Geometry - Horizontal Tangent' selected.
- Feature Symbology:**
 - Name: Geometry - Horizontal Tangent
 - Type: Linear
 - Level: Geometry
 - Colour: ByLevel
 - Style: - - - - - 5
 - Weight: 0
- Options for: 'Geometry - Horizontal Tangent'** dialog box:
 - Element Class
 - Linestyle Scale
 - Apply Drawing Scale to Linestyle Scale
 - Graphic Group
 - User Data Signature: InRoads Feature (22105)
 - User Data Content: Hexadecimal (29812098b289e28090280)
- Focus Item Description:** Defines the signature of the user data to match on for the current feature. If the signature is not in this drop-down list, then choose 'User Defined' and enter it manually.

Long Menu

Short Menu Options



Check



The diagram on the left shows a rectangular area with a yellow border containing a network of red lines and nodes. A dashed white box is overlaid on the bottom portion of this area. A red lightning bolt symbol is positioned below the diagram. Handwritten red numbers '50', '40', and '80' are placed to the right of the diagram, with lines pointing to specific features.

The 'Conform to' dialog box on the right is titled 'Conform to 'BDraw, BText, Span''. It has two tabs: 'Options' and 'Tools'. The 'Options' tab is active.

Unmatched Linear feature:

Element type: Line (3), Level: 'CON'
 Colour: 0, Weight: 2, Style: 0

Show Hidden containing:

Feature Name	Score
Other Structure Object Line	3
>Annotation Line Heavy 2	3
Concrete Object Line	3
Annotation Title Text Underline	3
Table Partition Line	3
Main Structure Object Line	3

Chosen Feature:

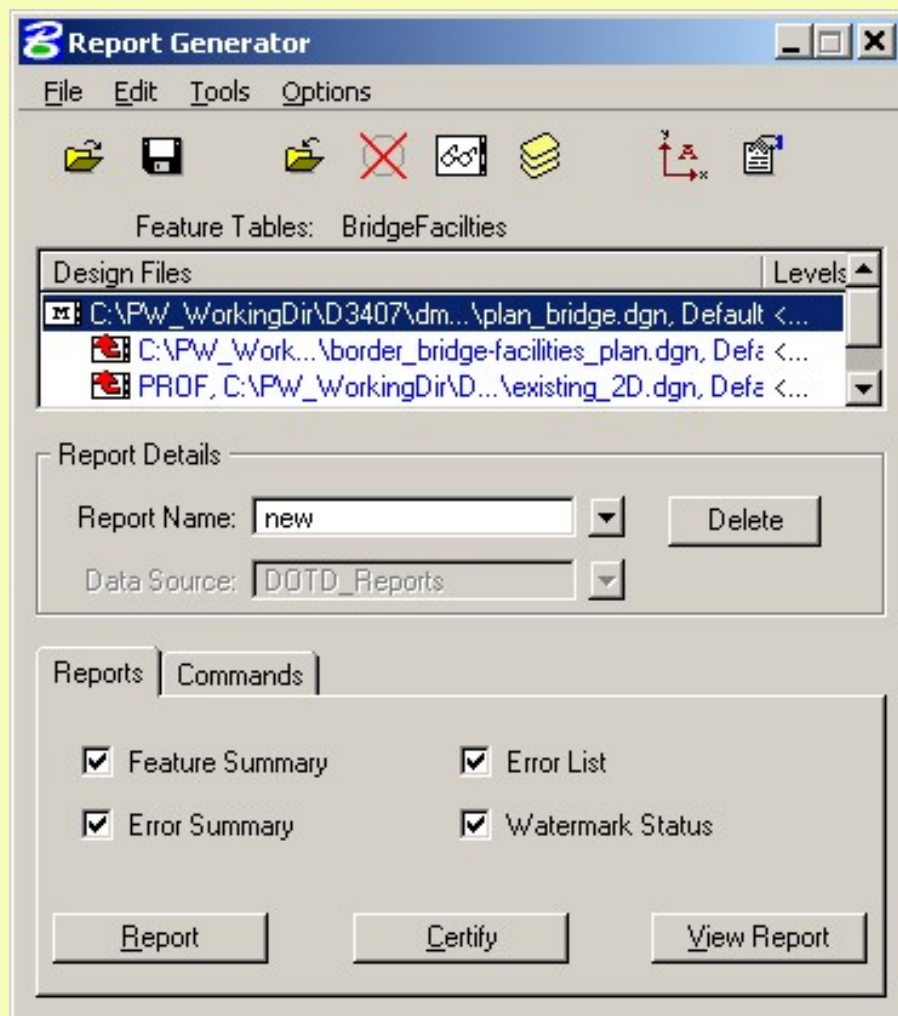
Parent Groups: 'BDraw.Other Structure'
 Description: Level: 'Other Structure' Colour: ByLevel, Weight: 2, Style: 0
 Difference: Colour (ByLevel), level (Other Structure)

Buttons on the right side of the dialog: Start, Next, Ignore, Ignore All, Change, Change All, Hide >>, Zoom Out >>



Batch Report & Certify

Drawing Certification and Reports



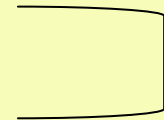
Standards Certification with Secure Watermark





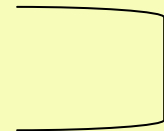
Technology Overview

6. Index Drawings



Indexer

7. Submit Files to DOT



Submittal



ControlCAD Indexer

Consultant Indexing for Falcon and ProjectWise

Enter Metadata Values

File

Filename: c:\documents and settings\d2544.ladotdom\desktop\829-32-0007-1b\003a.dgn

Set Meta Data

- ✗ Main
 - ✓ Project Drawings
 - ✓ Bridge Superstructure
 - ✗ Span
 - ✗ ACP Plans

Louisiana DOTD

Lead Project Number (###-##-####)
450-17-0025

Discipline
Bridge

Plan Phase
ACP Plans

Document Class
Project Drawings

Sheet Number
[Redacted]

Series Number
1 of 4

Title
EMERGENCY CROSSOVER SPAN_A

Description
135' Emergency Crossover

Remarks
[Empty]

Meta-data Version 1.0

Save Cancel

Enter Metadata Values

File

Filename: c:\documents and settings\d2544.ladotdom\desktop\829-32-0007-1b\003a.dgn

Set Meta Data

- ✗ Main
 - ✓ Project Drawings
 - ✓ Bridge Superstructure
 - ✗ Span
 - ✗ ACP Plans

Span Type
Girder Span

Skew Angle
90°

Clear Roadway
Other

Span Length
135'

Spans Per Unit
1

Deck Thickness
8'

Geometry
Straight

Girder Type
PPC Type BT78

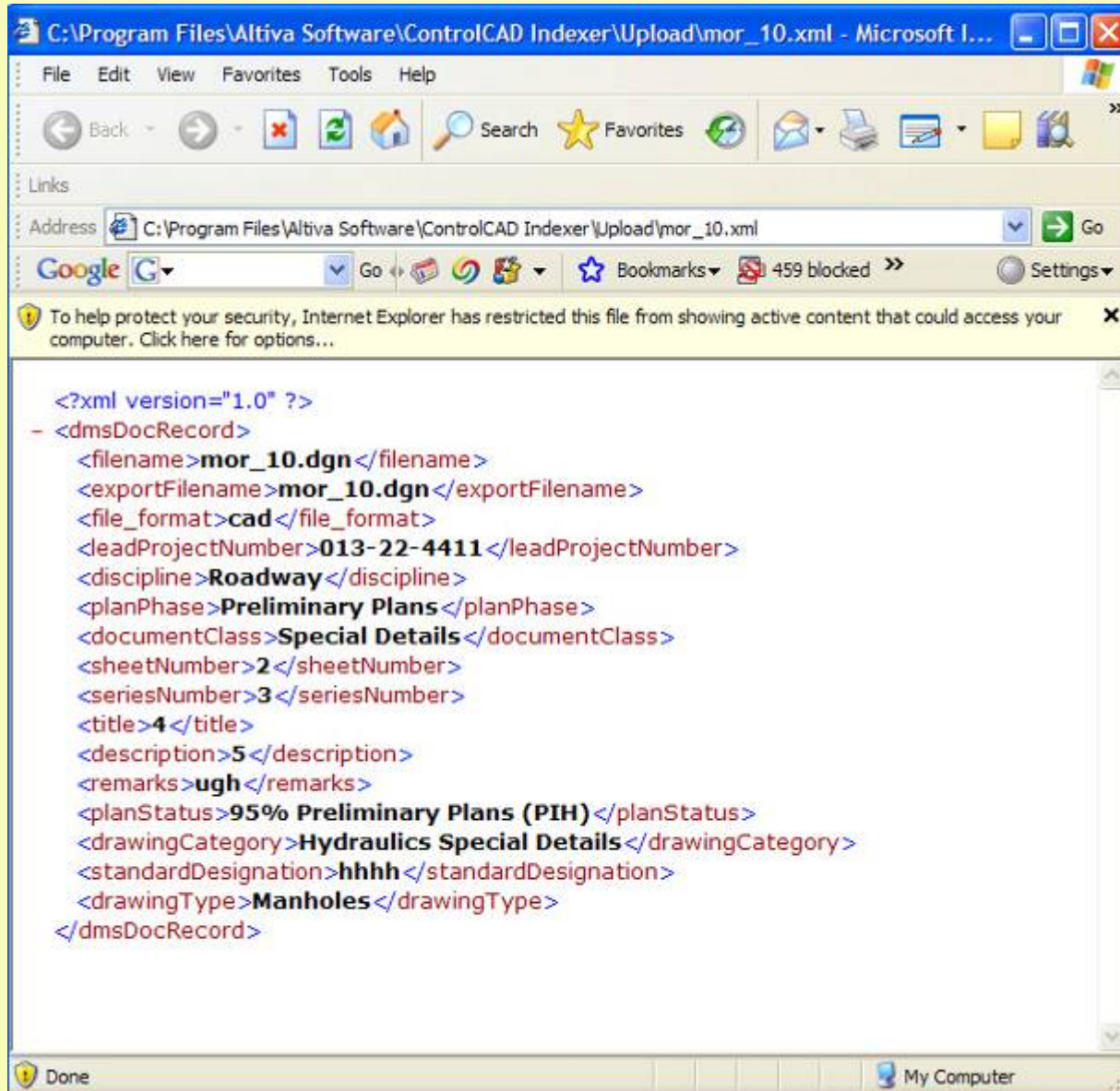
Girder Spacing
Other

Misc. Design Criteria 1
Select...

Misc. Design Criteria 2
Select...

Meta-data Version 1.0

Save Cancel



```

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  <planPhase>Preliminary Plans</planPhase>
  <documentClass>Special Details</documentClass>
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  <seriesNumber>3</seriesNumber>
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  <drawingCategory>Hydraulics Special Details</drawingCategory>
  <standardDesignation>hhhh</standardDesignation>
  <drawingType>Manholes</drawingType>
</dmsDocRecord>
  
```

Indexer delivers attributes to ProjectWise via XML output



ControlCAD Indexer

ControlCAD Indexer

Enter Metadata Values

File

Filename: c:\documents and settings\vd2544.ladotdom\desktop\829-32-0007-1b\003a.dgn

Set Meta Data

- Main
 - Project Drawings
 - Bridge Superstructure
 - Span
 - ACP Plans

Louisiana DOTD

Lead Project Number (####-##-####)
450-17-0025

Discipline
Bridge

Plan Phase
ACP Plans

Document Class
Project Drawings

Sheet Number
[Redacted]

Series Number
1 of 4

Title
EMERGENCY CROSSOVER SPAN_A

Description
135' Emergency Crossover

Remarks

Meta-data Version 1.0

Save Cancel

Interface helps consultants identify what attributes are required.

ProjectWise Attributes Page

218_emergency crossover span_a

General Security Attributes More Attributes Audit Trail Geospatial

Lead Project Number: 450-17-0025 Project Name: I-10 BRIDGE OVER LAKE PONTCHARTRAIN Plan Phase: ACP Plans

District/Section: 02 Parish: 36 Route: I-10 Published Plan Status:

Design Dist/Sect: 25 Discipline: Bridge Sys. of Measure: English Revision Date:

Document Title: EMERGENCY CROSSOVER SPAN_A

Description: 135' Emergency Crossover Span

Remarks:

Document Class: Project Drawings Sheet Number: [Redacted] Series Number: 1 of 4 Standard Designation:

Drawing Category: Bridge Superstructure

Drawing Type: Span

Subtype:

Misc. Design Criteria

Misc. Design Criteria	Design Criteria Value
Special Feature 1	
Special Feature 2	

Bent Type: [Redacted] Girder Type: PPC Type BT Span Type: Girder Span Clear Roadway: Other Geometry: Straight

Bent Detail Type: [Redacted] Girder Spacing: Other Span Length: 135' Spans Per Unit: 1

Support Type: [Redacted] Skew Angle: 90° Deck Thickness: 8"

Save Undo Close

K < 83/107 > >|

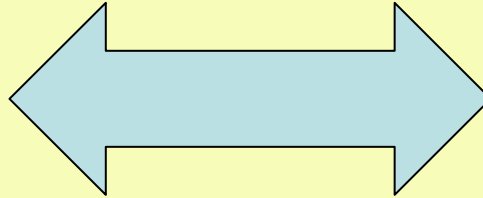


Indexing

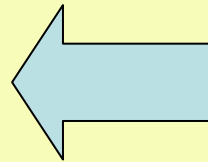
- ❖ Enables DOTD/consultants to index drawings before delivery
- ❖ Ensures that all required attributes are indexed
- ❖ Integrates with ProjectWise
 - ✓ Sends XML index and drawing to ProjectWise
 - ✓ Can be used to index or QA/QC index in ProjectWise
 - ✓ Alternate indexing tool in ProjectWise

Deliverables

LADOTD
Various depts.



*Engineering
Consulting
Community*

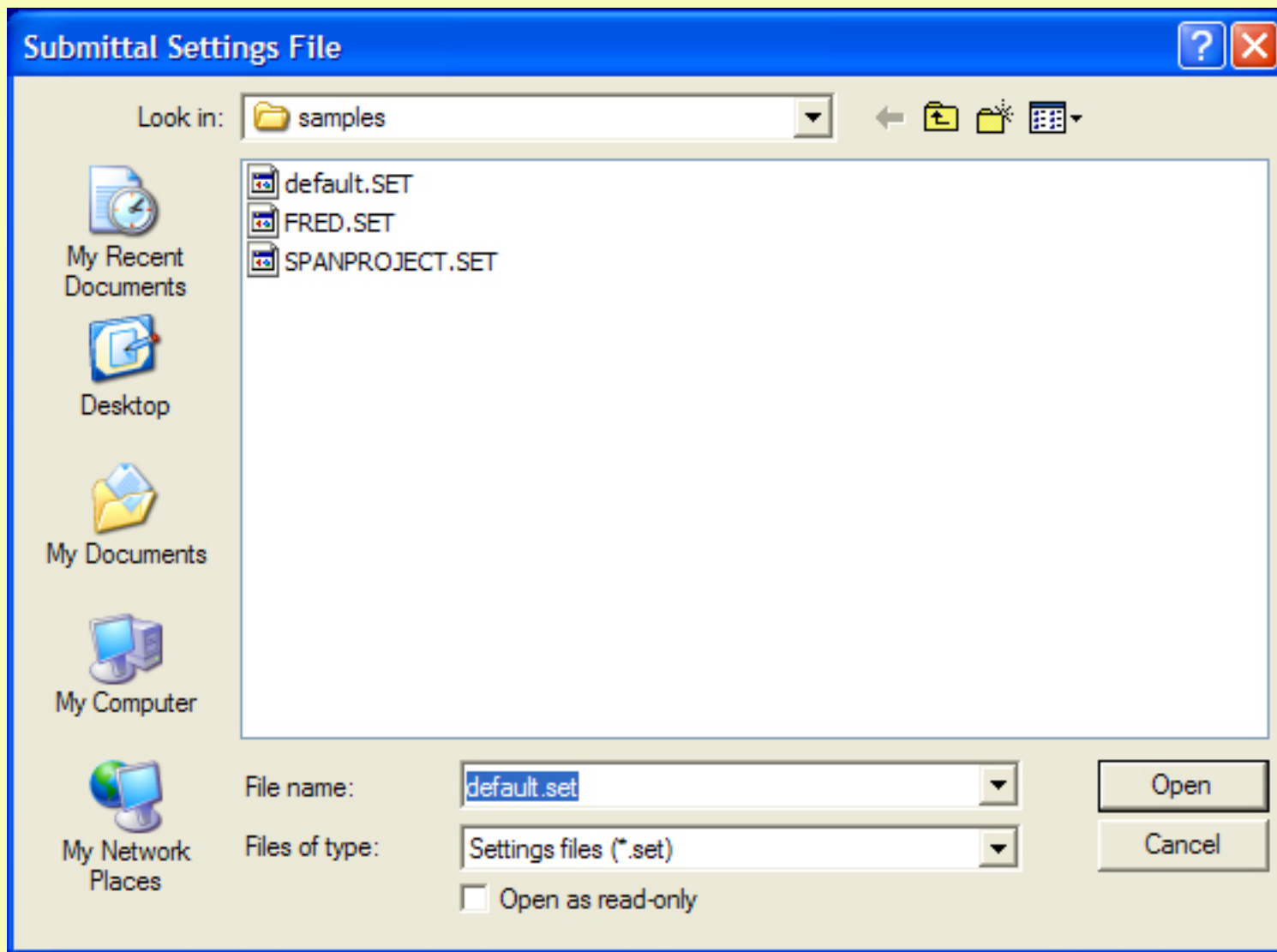


Deliverables

• Did we get what we asked for?

- 1300 DGN Files*
- Reference Files*
- Certified Standards*
- PDF Files*
- Document Management required attributes (xml files)*

Submittal Tool





Submittal Tool

Administrator mode: Create Settings File

File

Settings File Description: 450-00-000 (Wolf Creek Bridge and Approaches)

Created by: Patrick Wollerson

Created for: ABC Engineering

Check CAD Standards Stamp
100 Percent of files to comply

Check for Attribute XML

Check for PDF

Check for DGN signature

Check for PDF signature

Check Ref Files

ALL Refs as Models

Feature Tables Selected

Add Feature Tables Remove Feature Table

Done

Settings Delivered by the DOTD Plans Manager

Submittal Tool

ControlCAD Submittal 1.x.xx

File View Edit Attributes Help

File Name Type Modified Size Cert Stamp XML PDF PDF

Add File(s) to archive

Look in: samples

test.mdb	_Job014449_Report.xls
bent_certify.dgn	z_B931jzui_Job014449
Copy of Test1.dgn	default.SET
Test1.dgn	Report.xls
Test3.pdf	TEST2.xml
bent_conform.dgn	test4.xml
_DO_NOT_USE_WINZIP_TO_ADD_FILES.TXT	Test1.XML
test5.dgn	FRED.SET
test4.dgn	ASDFGH.zip
test3.dgn	SPANPROJECT.SET
Copy of test2.dgn	TEST3.XML
test2.dgn	bent_certify.pdf
Test1.pdf	awsfd.zip
Test2.pdf	345r.zip
Test4.pdf	

File name: "TEST2.xml" "bent_certify.dgn" "Copy of Test" Open

Files of type: Cancel

Type: XML Document
Date Modified: 2/4/2007 1:24 AM
Size: 1002 bytes

OVR



Submittal Tool

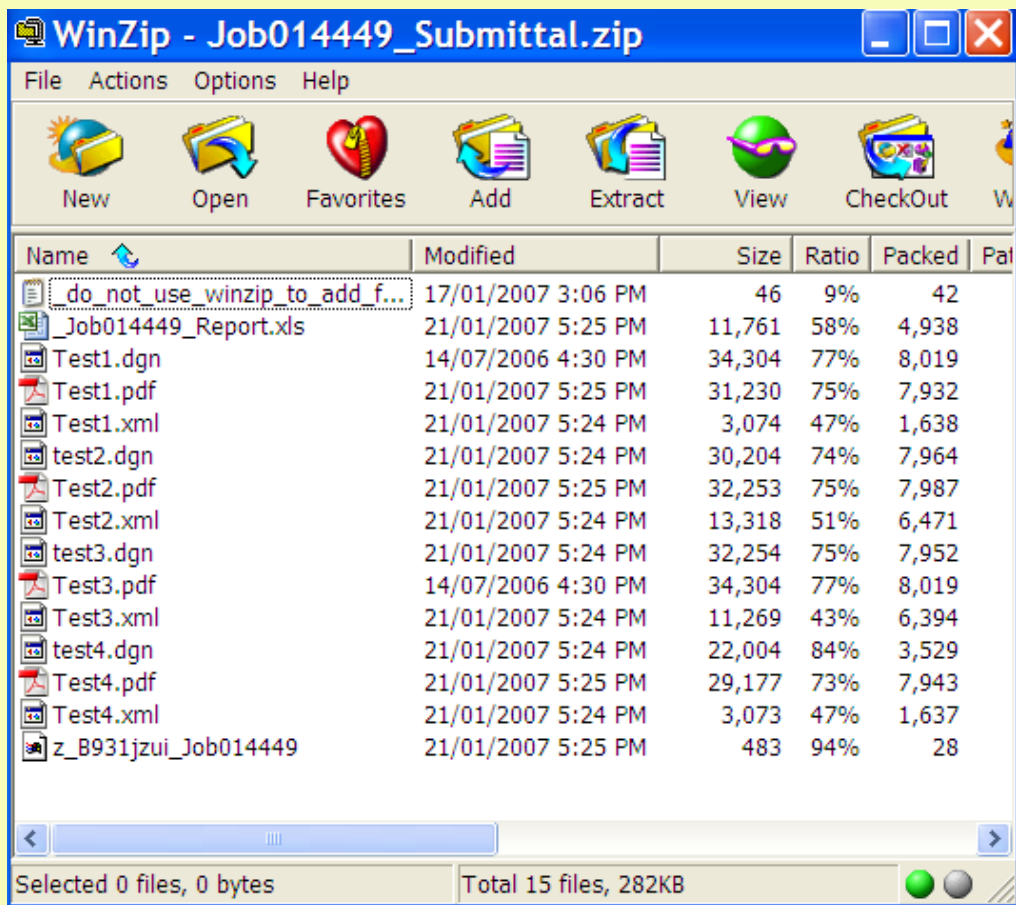
ControlCAD Submittal 0.0.81

File View Edit Attributes Checks Help

FileName	Type	Modified	Size	Cert Stamp	XML	PDF	PDF Sig	DGN Sig	Refs
bent_certify.dgn	DGN	02-May-06 14:22	117 Kb	No stamp	Missing	OK	n/a	n/a	Missing:eng_sheet.
bent_conform.dgn	DGN	23-Oct-06 13:55	110 Kb	No stamp	Missing	DGN mismatc...	n/a	n/a	OK
detsheet.dgn	DGN	23-Oct-06 14:01	73 Kb	No stamp	Missing	Missing	n/a	n/a	OK
eng_sheetwithwaterm...	DGN	05-Feb-07 17:36	74 Kb	OK	Missing	Missing	n/a	n/a	OK
eng_sheetwithwaterm...	DGN	05-Feb-07 17:30	74 Kb	Stamped Invalid	Missing	Missing	n/a	n/a	OK
test1.dgn	DGN	14-Jul-06 01:30	34 Kb	No stamp	OK	Missing	n/a	n/a	Missing:Testref.dgn
test2.dgn	DGN	23-May-06 14:37	117 Kb	No stamp	OK	Unrecognized	n/a	n/a	Missing:eng_sheet.
watermark-test.dgn	DGN	03-Feb-07 18:55	0.2 Mb	File Modified	Missing	Missing	n/a	n/a	Missing:BIOA1_v4.
bent_certify.pdf	PDF	05-Feb-07 11:12	0.2 Mb	n/a	Missing	n/a	n/a	n/a	n/a
bent_conform.pdf	PDF	05-Feb-07 11:12	0.2 Mb	n/a	Missing	n/a	n/a	n/a	n/a
test2.pdf	PDF	21-Jan-07 02:25	30 Kb	n/a	OK	n/a	n/a	n/a	n/a
test1.xml	XML	07-Feb-07 13:54	1 Kb	n/a	n/a	n/a	n/a	n/a	n/a
test2.xml	XML	04-Feb-07 00:20	1 Kb	n/a	n/a	n/a	n/a	n/a	n/a

SCRL OVR

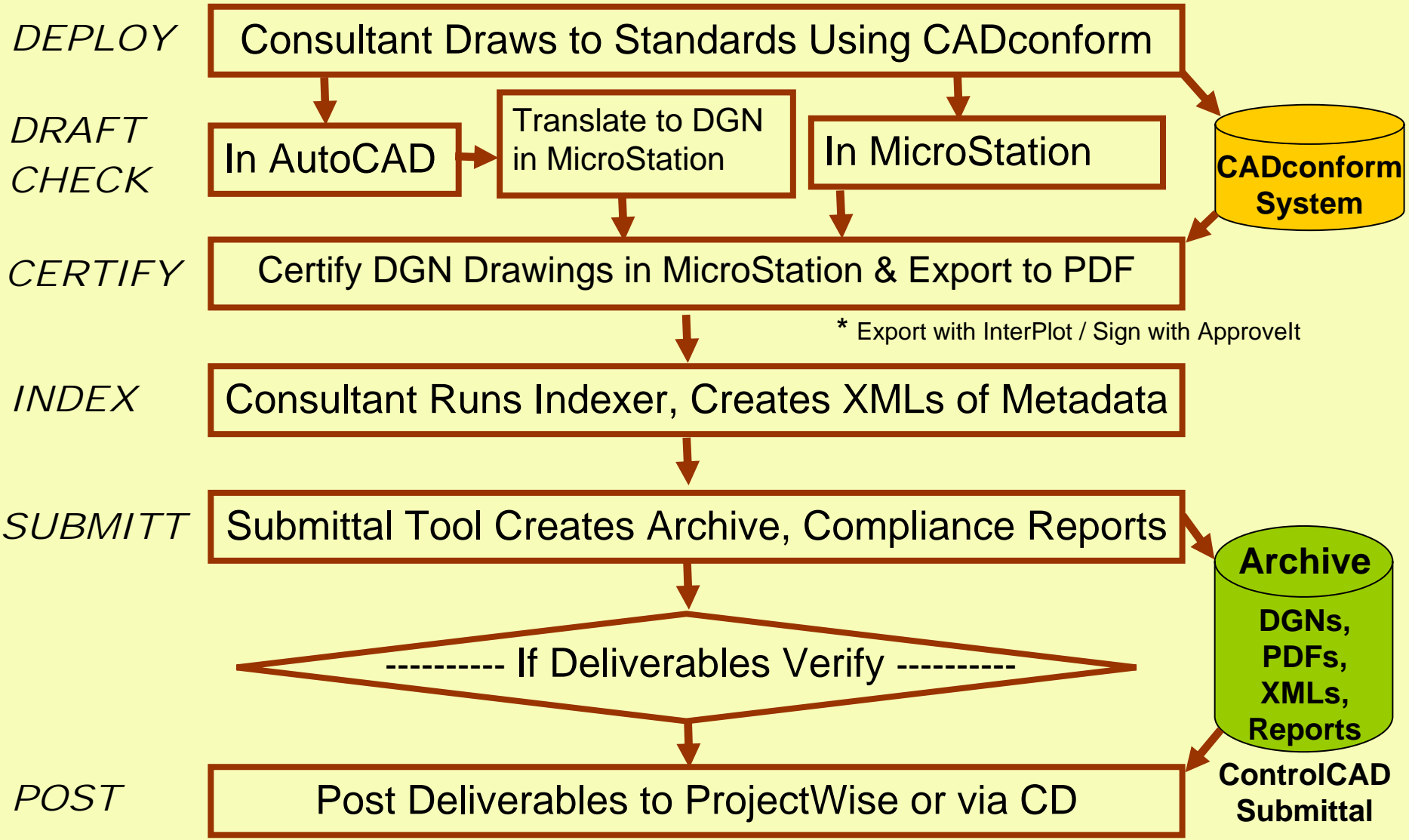
Checks Submittal Against Compliance Settings



Delivers Drawings, XML Index Files and Report
(Tampering with ZIP file after creation will invalidate.)



Electronic Deliverable Verification





Consultant Benefits

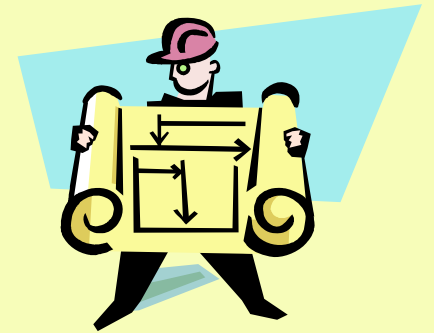
- **Quicker setup for new projects.**
- **Instantaneous CAD work production environment**
- **No more digging through standard manuals.**
- **Easier to integrate new drafters.**
- **Lower cost drafting.**
- **Faster delivery times.**
- **Assured data quality.**
- **Higher customer satisfaction.**
- **Lower liability.**



LADOTD Benefits

- **Better collaboration with Consultants**
- **Significant cost reduction in drafting & checking.**
- **Faster delivery times through automation.**
- **Assured data quality and security.**
- **Instant access to CAD and published data.**

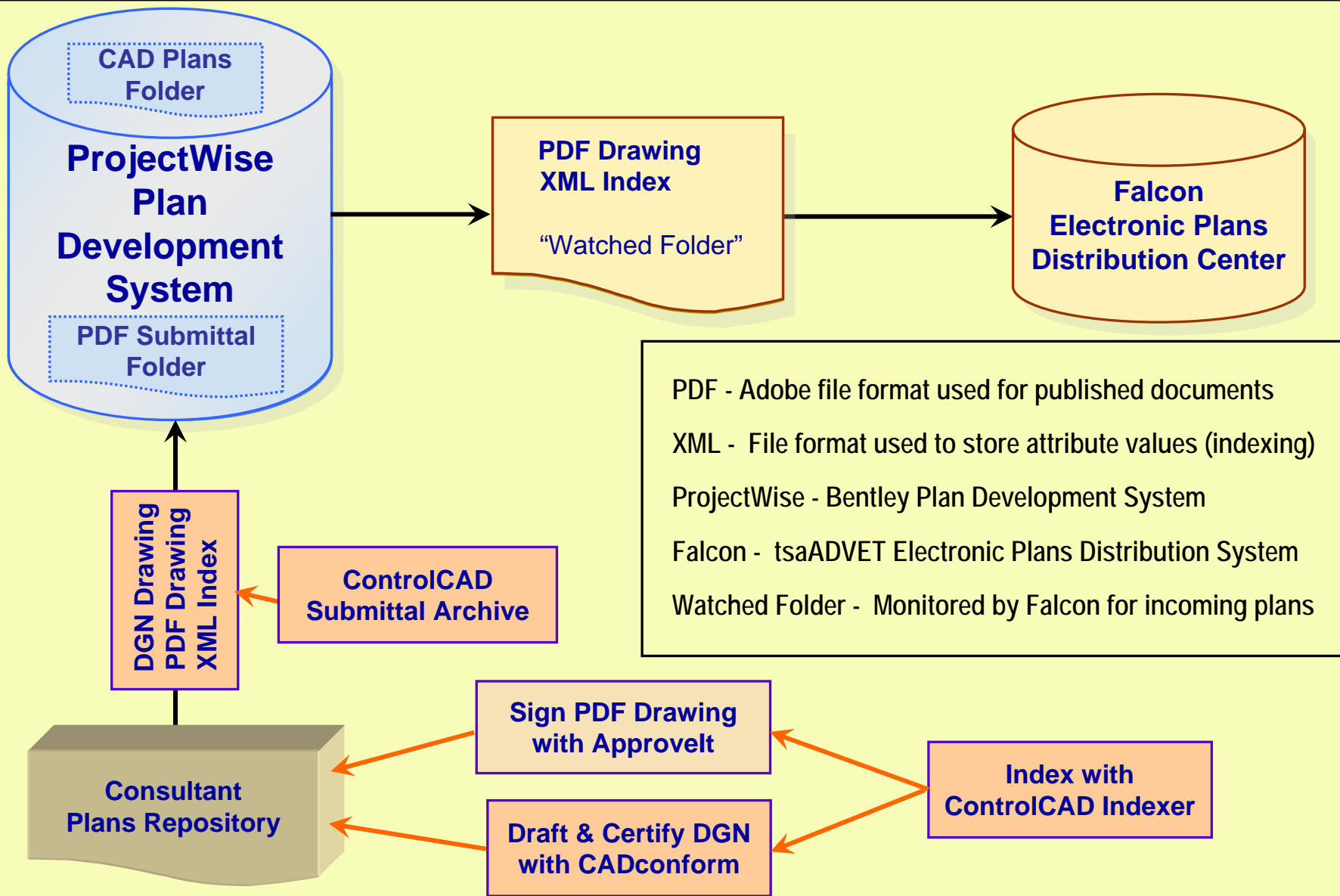
Putting it all Together



*Hollis Ward – Louisiana DOTD
Design Automation Manager*



Consultant Plan Delivery



PDF - Adobe file format used for published documents
XML - File format used to store attribute values (indexing)
ProjectWise - Bentley Plan Development System
Falcon - tsaADVET Electronic Plans Distribution System
Watched Folder - Monitored by Falcon for incoming plans



ControlCAD Submittal Reports

	A	B	C	D	E	F	G
1	LaDOTD Submittal: Summary						
2							
3	Archive TestArchive.Zip	created on 10-Jan-2007 by Fred					
4							
5		Type	Modified	Size	Watermark	XML	PDF
6	elevpiledata1A.dgn	DGN	14/07/2006 12:15	34 kB	OK	OK	OK
7	elevpiledata1B.dgn	DGN	14/07/2006 12:15	34 kB	Missing	OK	OK
8	elevpiledata1C.dgn	DGN	14/07/2006 12:15	34 kB	OK	OK	OK
9	elevpiledata2A.dgn	DGN	14/07/2006 12:15	34 kB	OK	Missing	OK
10	elevpiledata2B.dgn	DGN	14/07/2006 12:15	34 kB	OK	OK	Missing
11	elevpiledata2C.dgn	DGN	14/07/2006 12:15	34 kB	OK	OK	Missing
12	elevpiledata1A.xml	XML	14/07/2006 12:15	34 kB	n/a	n/a	n/a
13	elevpiledata1B.xml	XML	14/07/2006 12:15	34 kB	n/a	n/a	n/a
14	elevpiledata1C.xml	XML	14/07/2006 12:15	34 kB	n/a	n/a	n/a
15	elevpiledata2B.xml	XML	14/07/2006 12:15	34 kB	n/a	n/a	n/a

Summary Report / XML

Documents Conformance to Submittal Settings for each CAD and PDF File



ControlCAD Submittal Reports

T5 fx

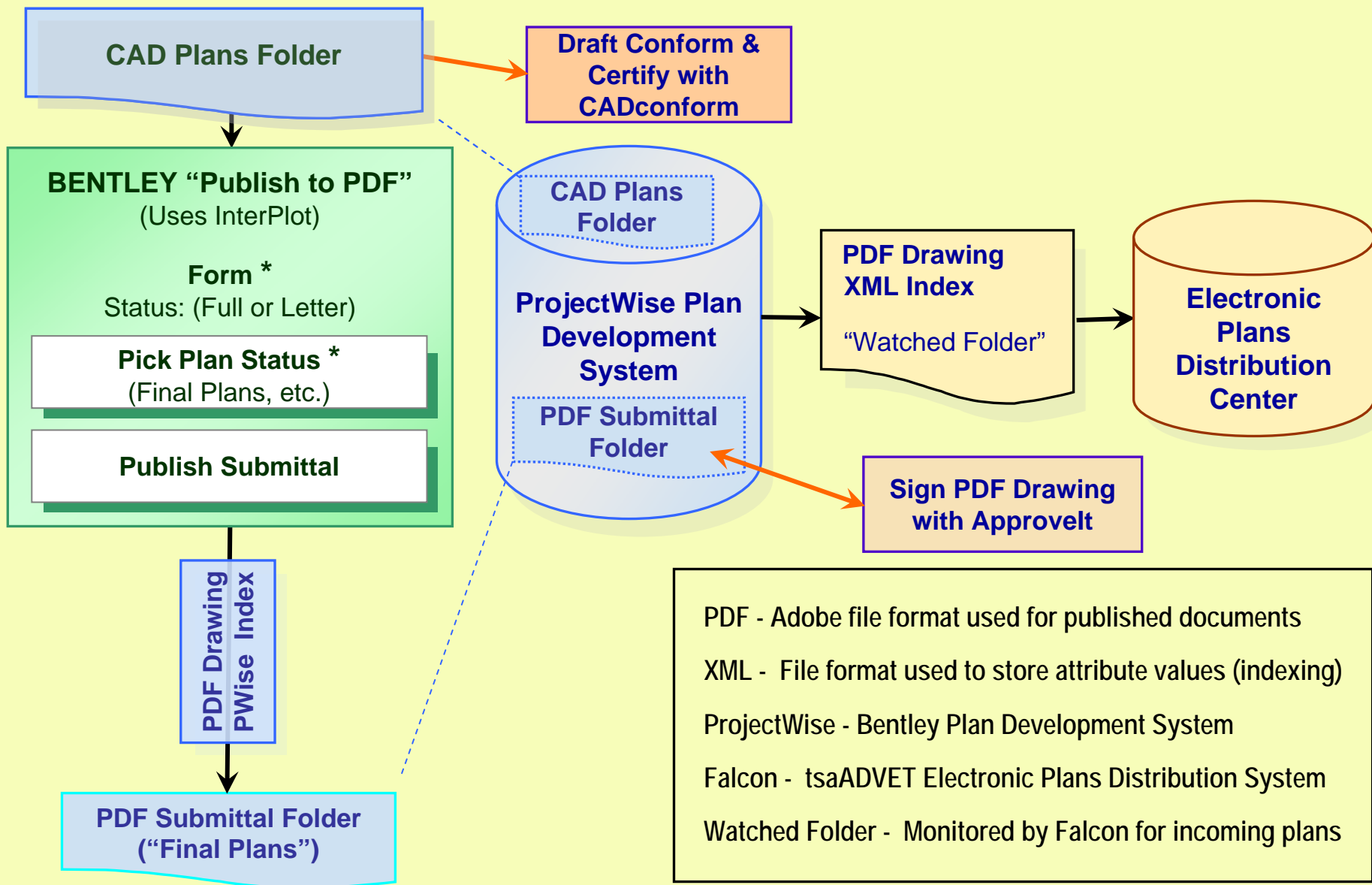
File Name	Lead Project Number	Document Class	Drawing Category	Drawing Type	Design Criteria	Discipline	Plan Status	Sheet Number	Series Number	Title
test1.dgn	380-03-0013	Project Drawings	Roadway	Typical Sections and Details		Roadway	Approved Permit Request	3	1	Main title
test2.dgn	380-03-0013	Project Drawings	Roadway	Typical Sections and Details		Roadway	Approved Permit Request	4	1	This is also a test
test3.dgn	380-03-0013	Project Drawings	Roadway	Typical Sections and Details		Roadway	Approved Permit Request	2	1	another test
test4.dgn	380-03-0013	Project Drawings	Roadway	Typical Sections and Details		Roadway	Approved Permit Request	1	1	another test

Settings / Report / XML

Red Indicates Incomplete Document Index and Missing Attributes

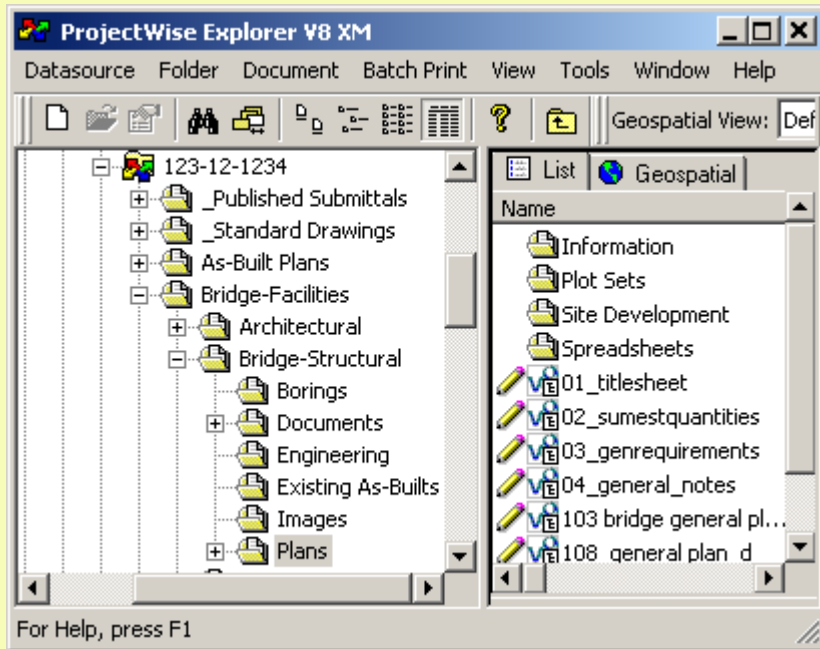


DOTD Internal Plan Delivery

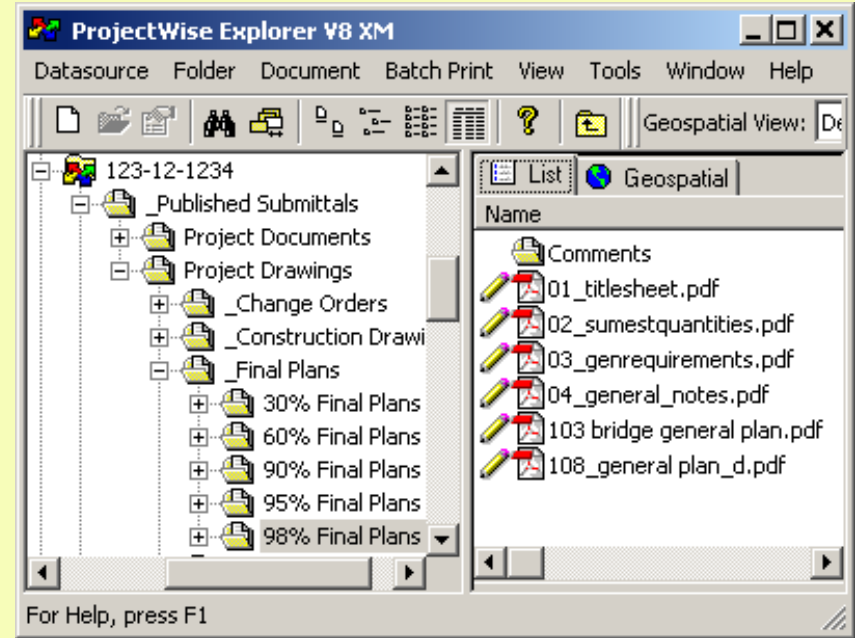




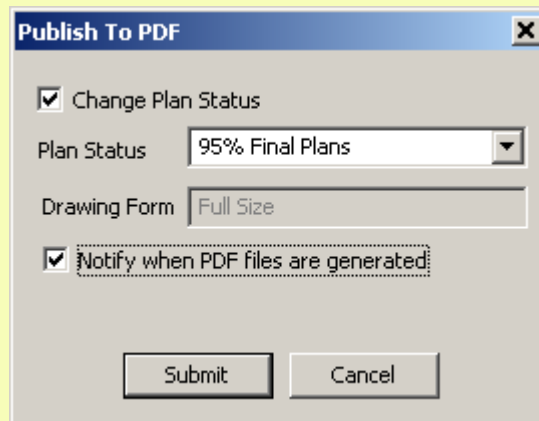
Publish to PDF Input/Output



Input DGN



Output PDF





ProjectWise Attributes Page

218_emergency crossover span_a

General Security Attributes More Attributes Audit Trail Geospatial

Lead Project Number	Project Name	Plan Phase		
450-17-0025	I-10 BRIDGE OVER LAKE PONTCHARTRAIN	ACP Plans		
District/Section	Parish	Route		
02	36	I-10		
Design Dist/Sect	Discipline	Sys. of Measure		
25	Bridge	English		
Revision Date				
Document Title	EMERGENCY CROSSOVER SPAN_A			
Description	135' Emergency Crossover Span			
Remarks				
Document Class	Sheet Number	Series Number	Standard Designation	
Project Drawings		1 of 4		
Drawing Category	Misc. Design Criteria		Design Criteria Value	
Bridge Superstructure	Special Feature 1			
Drawing Type	Special Feature 2			
Span				
Subtype				
Bent Type	Girder Type	Span Type	Clear Roadway	Geometry
	PPC Type BT	Girder Span	Other	Straight
Bent Detail Type	Girder Spacing	Span Length	Spans Per Unit	
	Other	135'	1	
Support Type	Skew Angle	Deck Thickness		
	90°	8"		

Save Undo Close k < 83/107 > >|

Publish to PDF Copies DGN
Search Attributes to PDF



ControlCAD in ProjectWise

ProjectWise Attributes Page

ControlCAD Indexer Provides Alternate Indexing Interface



ControlCAD in ProjectWise

ControlCAD “Check Attributes” Report

Index	CAD Stamp	FileName	LeadProjectNumber	sheetNumber	SeriesNumber	Title	Description	Discipline
Incomplete	missing	01_titlesheet.dgn	450-05-0042	BLANK	BLANK	BLANK	01_titlesheet	Electrical
Incomplete	missing	02_sumestquantities.dgn	450-05-0042	BLANK	BLANK	BLANK	02_sumestquantities	Electrical
Incomplete	missing	03_genrequirements.dgn	450-05-0042	BLANK	BLANK	BLANK	03_genrequirements	Electrical
Incomplete	missing	04_general_notes.dgn	450-05-0042	BLANK	BLANK	BLANK	04_general notes	Electrical
Incomplete	missing	103_bridge_general_plan.dgn	BLANK	BLANK	BLANK	BLANK	bridge general plan	BLANK
Incomplete	missing	108_general_plan_d.dgn	450-17-0025	108	4 of 11	108_GENERAL PLAN_D	BLANK	Bridge
Complete	missing	109_general_plan_e.dgn	452-17-0025	109	5 of 11	109_GENERAL PLAN_E	general plan	Bridge

- Documents Indexing (Complete or Incomplete)
- Documents status of individual attributes
- Documents CAD Certification Status



Falcon Publishing System

EPDC Search Form - Windows Internet Explorer

http://www9.dotd.louisiana.gov/scripts/falcon/dmslogin2.exe?cmd=loginProject&sessionID=82A11

EPDC Search Form

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La DOTD Home

search louisiana.gov GO

Electronic Plans Distribution Center

[?](#) Help [Logout](#)

Project Number	<input type="text" value="450-17-0025"/>
Document Class	<input type="text" value="special details"/> <input type="button" value="P"/>
Drawing Category	<input type="text" value="traffic special details"/> <input type="button" value="P"/>
Drawing Type	<input type="text"/> <input type="button" value="P"/>
Sheet Number	<input type="text"/>
Drawing Title	<input type="text"/>
Description	<input type="text"/>
<input type="button" value="Submit Search"/>	

ProjectWise Passes Attribute Values to Falcon
(used for document searches)



Falcon Publishing System

EPDC Search Results - Windows Internet Explorer

http://www9.dotd.louisiana.gov/scripts/falcon/dmswebs2.exe?cmd=search

EPDC Search Results

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Back Select All Deselect View PDF Search Help Search Results: 3 matches

Options	Filename	Rev.Date	Sht#	Series#	Drawing Title	Description
<input type="checkbox"/>	sheet 0020.tif	2/27/2006	20		Special Details: Traffic Control	
<input type="checkbox"/>	sheet 0021.tif	2/27/2006	21		Special Details: Traffic Control	
<input type="checkbox"/>	sheet 0022.tif	2/27/2006	22		Special Details: Traffic Control	

← Back

Search Results in Falcon



Altiva and DOTD

Altiva Brings Serious CAD Management to DOTD

- ❖ Ten years together innovating CAD standards delivery
- ❖ Provides DOTD with opportunity to be creative
- ❖ Always reasonable and easy to do business with
- ❖ Always responsive to DOTD's needs and goals
- ❖ Meets the most complex challenges
- ❖ Provides creative, simple solutions
- ❖ Provides solutions that compliment other systems
- ❖ Enables reasonable goal of 100% Compliance !

Questions & Answers



Altiva Overview

- **Spin-off of a 15 year veteran of the CAD industry**
- **Dedicated to CAD standards management**
- **Products have been commercial over 10 years**
- **Offices covering US*, Europe, and Asia/Pacific**
- **Grown to 9 developers, with 24 hour support**
- **Autodesk / Bentley / Microsoft Development Partners**
- **First and only to be licensed and delivering the US National CAD Standard™**



Altiva Customer Sampling

Alaska Native Consortium
Allessa Chemie
Amcad
Argyle Diamond Mines
Arkansas DOT
Aucoin & Assoc.
Babbage
Baseline Corporation
Bechtel Limited
BHP Shared Business
Binkley & Barfield
Bosch Sicherheitssysteme
Brandi IGH Ingenieure GmbH
Brisbane Airport
Busing Ingenieure GmbH
CADD Centers of Florida
Cadeng
CAD-Wartke
Calibre Global
Chevron Texaco Australia
Dannenbaum Engineering
David Evans & Associates
DTE Energy
EPIC GmbH
E-Plan GmbH
Florida DOT
Fluor Australia
Ford Motor Company
Fraport AG
GRD Minproc

H.W. Lochner
Hamersley Iron
HNTB Corporation
Houston METRO
I S Systems Pty Limited
IDS
Inco / CVRD
Ingenieurburo Arndt Feltens
Iowa DOT
Kansas DOT
Kellogg Brown & Root
Konstruktionsburo fur
Los Alamos National Labs
Louisiana DOTD
Maunsell Australia
Metso Minerals
Michigan DOT
Military Works of the UAE Army
Milton Hershey School
Mine & Port Developments
National Electrical Wholesalers
Nebraska DOR
NEK Beratende Ingenieure
NTA Mainz GmbH
NTH Consultants
OFM Communications
Optus
Oregon DOT
Parsons Management Consultants
Powerlink

Proteus Engineers
PT Petrosea
Resource Engineering and Design
Rice Associates
Roberts & Schaefer
SAN GmbH
Sandia National Labs
Schad-Holzel & Partners
Schmidt Reuter, Koln
Sinclair Knight Merz
So-Deep, Inc.
South Carolina DOT
Stadtwerke Mainz AG
Sydney RailCorp
Sylvester Clark
T.Y. Lin International
Texas Gas Transmission
ThyssenKrupp Engineering
Torti Gallas and Partners, Inc.
TransGrid
Tuck Mapping Solutions, Inc.
USA_26th ASG DPW
US Army Corp of Engineers
VHB, Inc
Virginia DOT
WA Dept. Planning & Infrastructure
Western Power
Wilcox Professional Services
WorleyParsons
Wyoming DOT