



## Working with the updated RW2d.dgn Seed and Basic ProjectWise Workflow for Right of Way Engineering

- With recent Microstation updates, Digital Maps, and the implementation of ProjectWise our old workflow will need to change.
- We have updated the RW2d.dgn Seed file, and ODOT Cadastral.cel file.
- Working with the New workflow for ProjectWise brings up many questions.

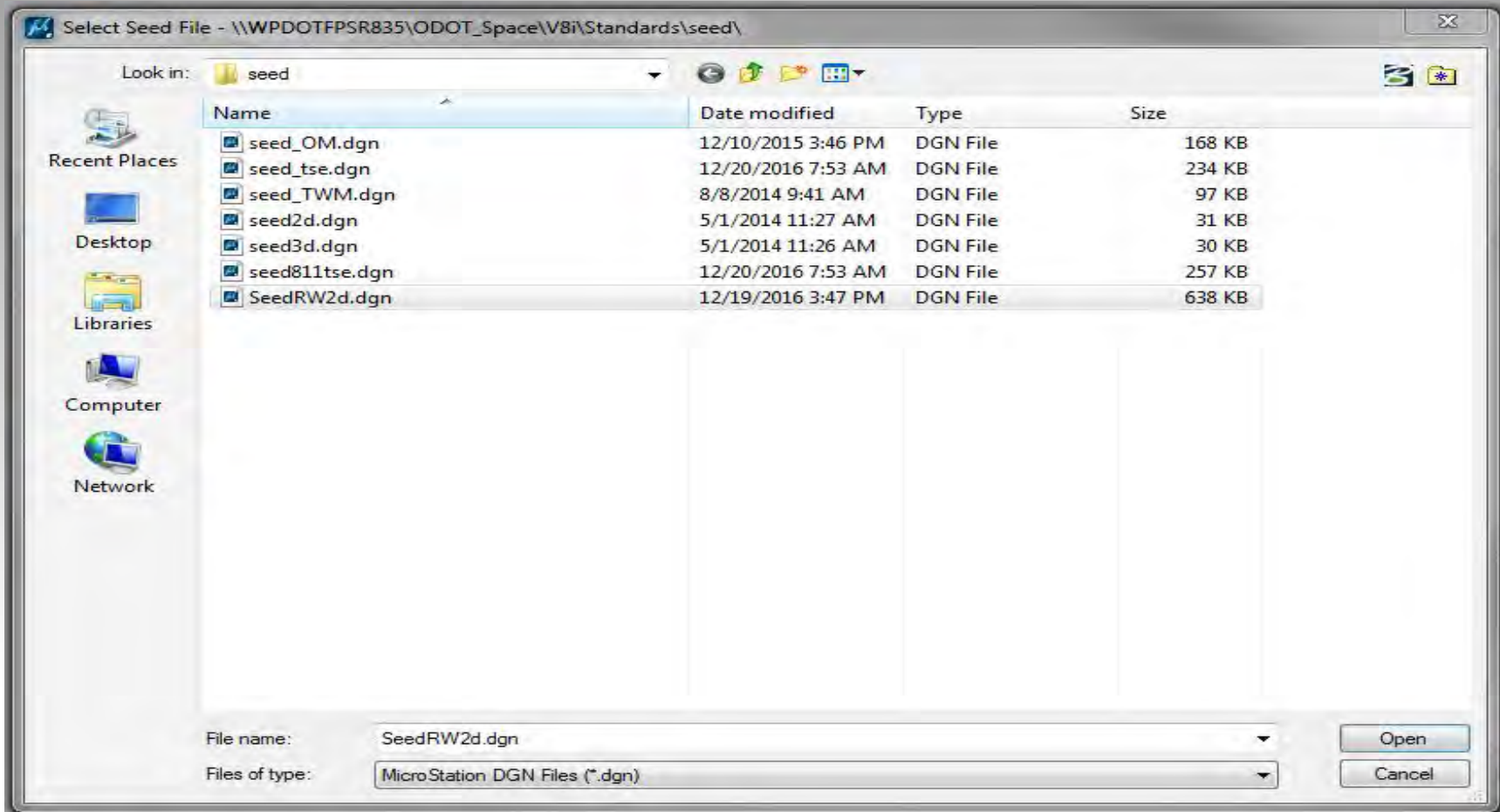
**Mike Fallert, PLS**  
**Rotation/Development Right of Way Surveyor**  
**Oregon Department of Transportation**  
**Engineering Automation Section**  
**Geometronics Unit**

**Scott Morrison PLS**  
**Lead Right of Way Surveyor**  
**Oregon Department of Transportation**  
**Engineering Automation Section**  
**Geometronics Unit**

**January, 2017**



SeedRW2d.dgn has been updated with “Lucida Sans True Type fonts” and now has “annotatable” cell map borders that are ready for any scale that is desired.





# Oregon Department of Transportation



**RW**  
**Engineering**

All Models are set at Full Size 1=1 so that they are ready to be set to the needed scale for your project.

A new Model “RW Base” has been added to accommodate the new ProjectWise workflow.

The screenshot displays a software interface with a toolbar at the top. The toolbar includes various icons for file operations, editing, and viewing. Below the toolbar, there is a 'Models' window with a table listing different model types and their associated design files. The 'RW Design' model is highlighted. To the right of the 'Models' window, there is an 'Element Selection' dialog box with several icons for selecting elements.

Type	2D/3D	Name	Description	Design File	Sheet Name
	<input type="checkbox"/>	1R3 Maps	1R-3 Sheet Border	F:\NODOT_DATA\Project...\SeedRW2d.dgn	
	<input type="checkbox"/>	1R4 Maps	1R-4 Sheet Border	F:\NODOT_DATA\Project...\SeedRW2d.dgn	
	<input type="checkbox"/>	B Maps	24" Wide Roll Map Bo...	F:\NODOT_DATA\Project...\SeedRW2d.dgn	
	<input type="checkbox"/>	A Maps	36" Wide Roll Map Bo...	F:\NODOT_DATA\Project...\SeedRW2d.dgn	
	<input type="checkbox"/>	BLM Plats	BLM Border	F:\NODOT_DATA\Project...\SeedRW2d.dgn	
	<input type="checkbox"/>	Notes	File Information Page	F:\NODOT_DATA\Project...\SeedRW2d.dgn	
	<input type="checkbox"/>	FS Plats	Forest Service Plat Bo...	F:\NODOT_DATA\Project...\SeedRW2d.dgn	
	<input type="checkbox"/>	Default	Master Model	F:\NODOT_DATA\Project...\SeedRW2d.dgn	
	<input type="checkbox"/>	RR Maps	Railroad Encroachmen...	F:\NODOT_DATA\Project...\SeedRW2d.dgn	
	<input type="checkbox"/>	RW Base	Resolved existing right...	F:\NODOT_DATA\Project...\SeedRW2d.dgn	
	<input type="checkbox"/>	Sketches	Sketch Map Borders	F:\NODOT_DATA\Project...\SeedRW2d.dgn	
	<input checked="" type="checkbox"/>	RW Design	Working design model ...	F:\NODOT_DATA\Project...\SeedRW2d.dgn	




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RW  
Engineering

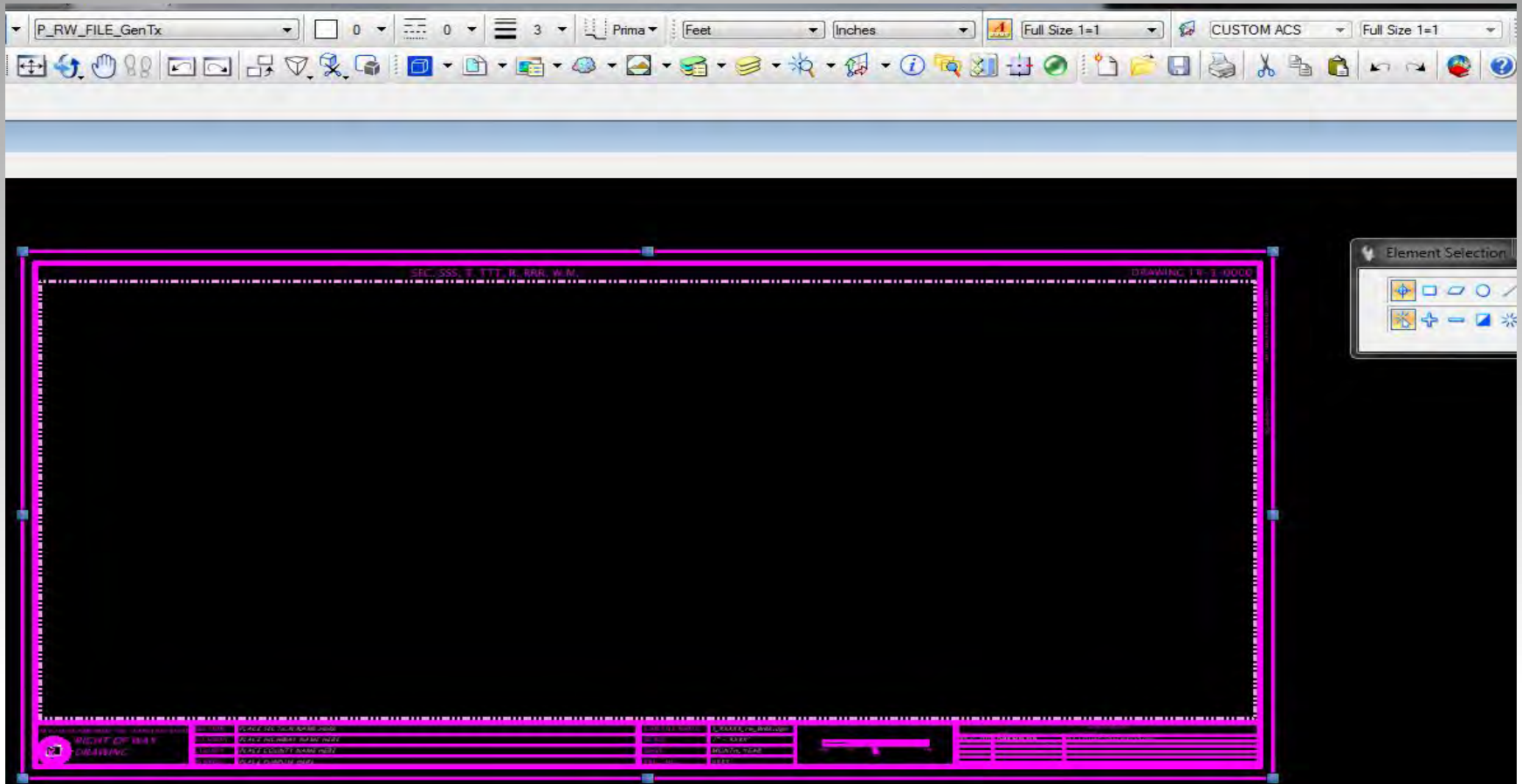
Updated and Streamlined “Notes Model” also a new “Flying T” the red color will print out when using the “rw” pen table.

OREGON DEPARTMENT OF TRANSPORTATION		
PROJECT NAME HIGHWAY NAME COUNTY NAME	KEY NUMBER: XXXXX R/W PROJECT NUMBER: XXXX RW DRAWING: XX-XX-XX FIELD BOOK NUMBER: XXXX CAD FILE: S_XXXXX_rw_WRK.dgn	
SCALE: 1" = XXX'		
RIGHT OF WAY DESIGNER: NAME		RIGHT OF WAY DESIGN LEADER: NAME
DRAWING STATUS		
<input type="checkbox"/> PRELIMINARY DRAWING: The R/W necessary to support the project design has not been fully determined and is subject to change		
<input type="checkbox"/> ACTIVE DRAWING: This drawing shows the proposed R/W needed to be acquired to support the project design and may be subject to change		
<input type="checkbox"/> RIGHT OF WAY DRAWING: The R/W shown on this drawing was acquired through the conveyance documents listed, but may be subject to change due to future acquisitions or sales		
<u>BASIS OF BEARING AND COORDINATES</u>		
<u>OREGON COORDINATE SYSTEM (OCS) NAD 1983</u>		
<input type="checkbox"/> NORTH ZONE LPDC FACTOR: XXXXXXXXXXX		
<input type="checkbox"/> SOUTH ZONE		
<u>OREGON COORDINATE REFERENCE SYSTEM (OCRS)</u>		<u>COUNTY SURVEY</u>
OCRS ZONE NAME		SURVEY NO.
<u>PRIOR ROW MAP</u>	<u>OTHER (SPECIFY)</u>	
DRAWING NO.	XXXXXX	



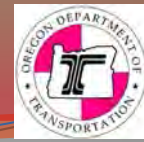


Annotatable Cells for all Map Borders. Again all models are set at Full Size 1=1.



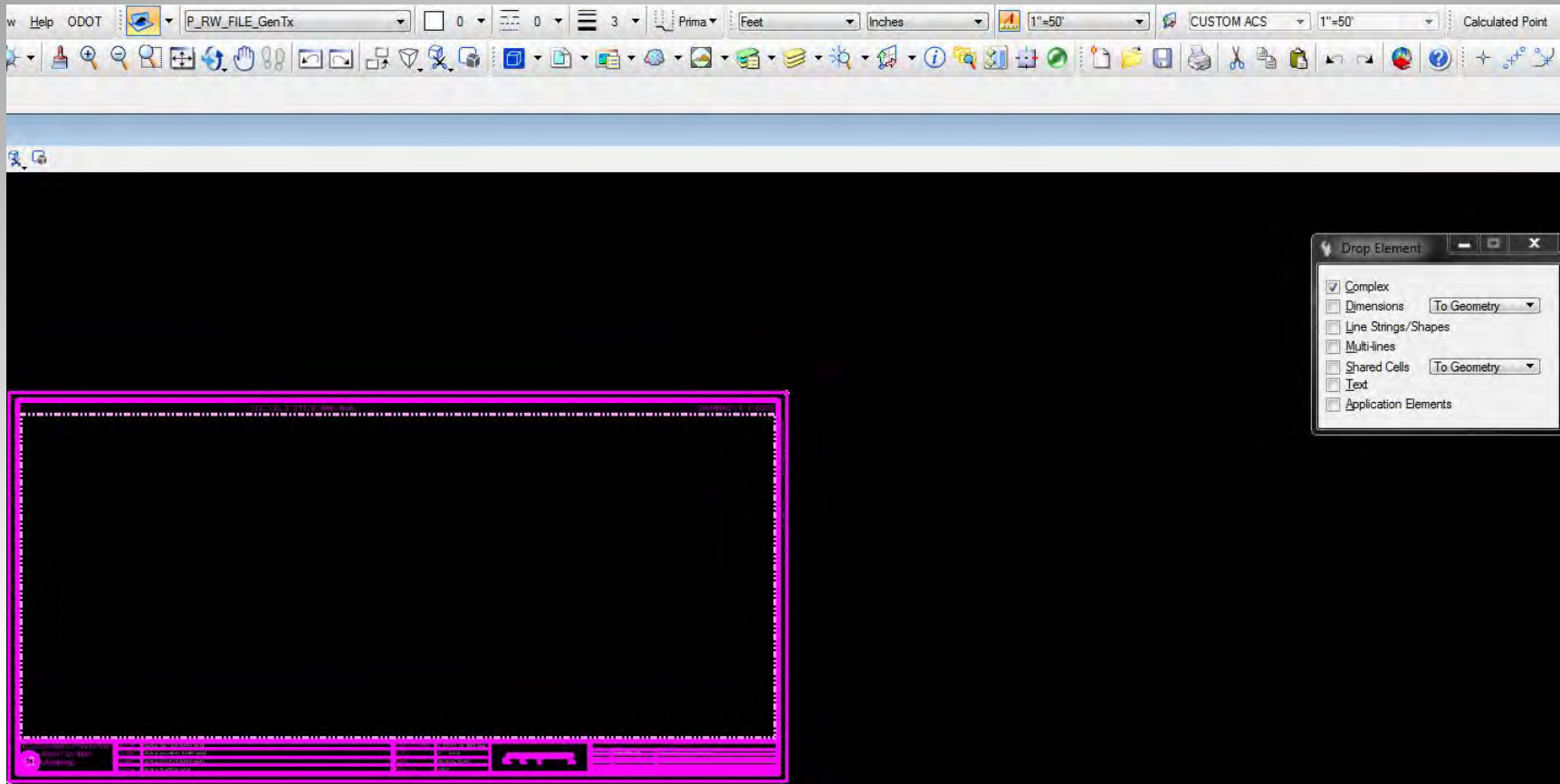


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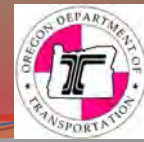


**RW**  
**Engineering**

To use the new borders Simply set your desired scale, then attach your “Self Referenced RW Design Model”. Now you can move the border to the “Coordinate Correct” area you are working in. If the scale will not work simply change it. Once all is where you want it Simply drop the complex of the cell and go to work.







One of the changes with the Annotation cell is that the “Scale Bar” is included. Once you have your scale set you will need to edit the “Scale Bar” appropriately.

PROJECT NO. EEEE

ACCESS CONTROL LINE 

CAD FILE NAME: LLL

DD-MMM-YYYY



*EDIT SCALE BAR FOR PROPER ANNOTATION SCALE OF DRAWINGS*

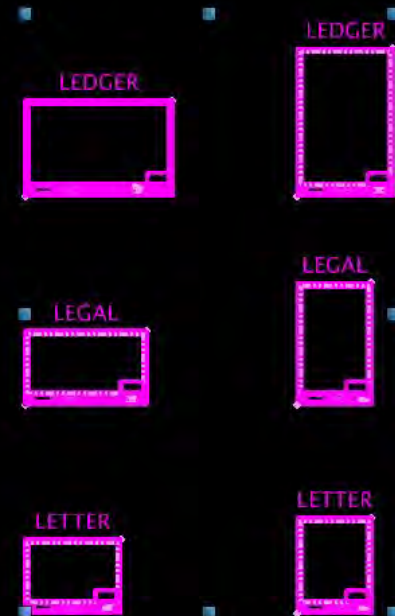




A highly used set of map borders is the “Sketches.” This set of 6 different borders are a single cell. Using these will require a new but easy workflow.

ALL BORDERS ARE A SINGLE CELL.  
SET ANNOTATION OF MODEL TO  
DESIRED SCALE THEN DROP STATUS(COMPLEX)  
SELECT WHOLE SHEET AND COPY/MOVE AS NEEDED.

\*\* MAY NEED TO COPY THE MODELS IF DIFFERENT  
SCALES ARE NEEDED(1"50', 1"100') PRIOR TO DROPPING STATUS! \*\*





Before you do anything with the Sketches you may want to copy the “Model” so that you can have multiple scales. By copying the model first the annotation cell is copied. This is new but allows you the ability to use the annotation capabilities for your different needs.

The screenshot shows the AutoCAD interface with the 'Copy Model' dialog box open. The dialog box has the following fields:

- Model to Copy: Sketches
- Name: Copy of Sketches
- Description: Sketch Map Borders 100
- Ref Logical: 1"=100'

Below the dialog box is the 'LEDGER' table, which lists various design files and their descriptions. The 'Sketches' row is highlighted.

2D/3D	Name	Description	Design File	Sheet Name
<input type="checkbox"/>	1R3 Maps	1R-3 Sheet Border	W:\ROWEngineer...\New_SeedRW2d.dgn	
<input type="checkbox"/>	1R4 Maps	1R-4 Sheet Border	W:\ROWEngineer...\New_SeedRW2d.dgn	
<input type="checkbox"/>	B Maps	24" wide Roll Map Bo...	W:\ROWEngineer...\New_SeedRW2d.dgn	
<input type="checkbox"/>	A Maps	36" Wide Roll Map Bo...	W:\ROWEngineer...\New_SeedRW2d.dgn	
<input type="checkbox"/>	BLM Plats	BLM Border	W:\ROWEngineer...\New_SeedRW2d.dgn	
<input type="checkbox"/>	Notes	File Information Page	W:\ROWEngineer...\New_SeedRW2d.dgn	
<input type="checkbox"/>	FS Plats	Forest Service Plat Bo...	W:\ROWEngineer...\New_SeedRW2d.dgn	
<input type="checkbox"/>	Default	Master Model	W:\ROWEngineer...\New_SeedRW2d.dgn	
<input type="checkbox"/>	RR Maps	Railroad Encroachment	W:\ROWEngineer...\New_SeedRW2d.dgn	
<input type="checkbox"/>	RW Base	Res.../Existing RW Base	W:\ROWEngineer...\New_SeedRW2d.dgn	
<input checked="" type="checkbox"/>	Sketches	Sketch Map Borders	W:\ROWEngineer...\New_SeedRW2d.dgn	
<input type="checkbox"/>	RW Design	Working design model	W:\ROWEngineer...\New_SeedRW2d.dgn	

**ALL BORDERS TOGETHER ARE A SINGLE CELL.  
SET ANNOTATION OF MODEL TO  
DESIRED SCALE THEN DROP STATUS(COMPLEX)  
SELECT WHOLE SHEET AND COPY/MOVE AS NEEDED.**

**\*\* MAY NEED TO COPY THE MODELS IF DIFFERENT  
SCALES ARE NEEDED(1"50', 1"100') PRIOR TO DROPPING STATUS! \*\***



Once you set your desired Model scale you may need to grab the “Model Note text” and move it back out of your way.



Type	2D/3D	Name	Description	Design File	Sheet Name
	<input type="checkbox"/>	1R3 Maps	1R-3 Sheet Border	F:\ODOT_DATA\...\sample_SeedRW2d.dgn	
	<input type="checkbox"/>	1R4 Maps	1R-4 Sheet Border	F:\ODOT_DATA\...\sample_SeedRW2d.dgn	
	<input type="checkbox"/>	B Maps	24" Wide Roll Map Bo...	F:\ODOT_DATA\...\sample_SeedRW2d.dgn	
	<input type="checkbox"/>	A Maps	36" Wide Roll Map Bo...	F:\ODOT_DATA\...\sample_SeedRW2d.dgn	
	<input type="checkbox"/>	BLM Plats	BLM Border	F:\ODOT_DATA\...\sample_SeedRW2d.dgn	
	<input type="checkbox"/>	Notes	File Information Page	F:\ODOT_DATA\...\sample_SeedRW2d.dgn	
	<input type="checkbox"/>	FS Plats	Forest Service Plat Bo...	F:\ODOT_DATA\...\sample_SeedRW2d.dgn	
	<input type="checkbox"/>	Default	Master Model	F:\ODOT_DATA\...\sample_SeedRW2d.dgn	
	<input type="checkbox"/>	RR Maps	Railroad Encroachmen...	F:\ODOT_DATA\...\sample_SeedRW2d.dgn	
	<input type="checkbox"/>	RW Base	Resolved existing right...	F:\ODOT_DATA\...\sample_SeedRW2d.dgn	
	<input type="checkbox"/>	Sketches	Sketch Map Borders	F:\ODOT_DATA\...\sample_SeedRW2d.dgn	
	<input checked="" type="checkbox"/>	Copy of Sketches	Sketch Map Borders 100	F:\ODOT_DATA\...\sample_SeedRW2d.dgn	
	<input type="checkbox"/>	RW Design	Working design model ...	F:\ODOT_DATA\...\sample_SeedRW2d.dgn	

LEADER

LEADER

LEGAL

LEGAL

LETTER

LETTER

\*\*\*BORDERS ARE A SINGLE CELL. LET ANNOTATION OF MODEL TO DESIRED SCALE THEN DROP STATUS(COMPLEX) SELECT WHOLE SHEET AND COPY/MOVE AS NEEDED.

\*\*\*MAY NEED TO COPY THE MODELS IF DIFFERENT SCALES ARE NEEDED(1"=50' , 1"=100') PRIOR TO DROPPING STATUS! \*\*





Now that your all set just drop the complex status and the borders and their elements are ready to go to work as we always have. The benefit of the annotation is that the text, border size, scale bar etc. are all ready to work with.

Settings Tools Utilities Workspace Window Help ODOT Default 0 0 1 Prima Feet Inches 1"=100' CUSTOM ACS 1"=100'

Lat/Long Labeler

Sketches

Drop Element

- Complex
- Dimensions To Geometry
- Line Strings/Shapes
- Multi-lines
- Shared Cells To Geometry
- Text
- Application Elements

LEDGER LEDGER

LEGAL LEGAL

LETTER LETTER

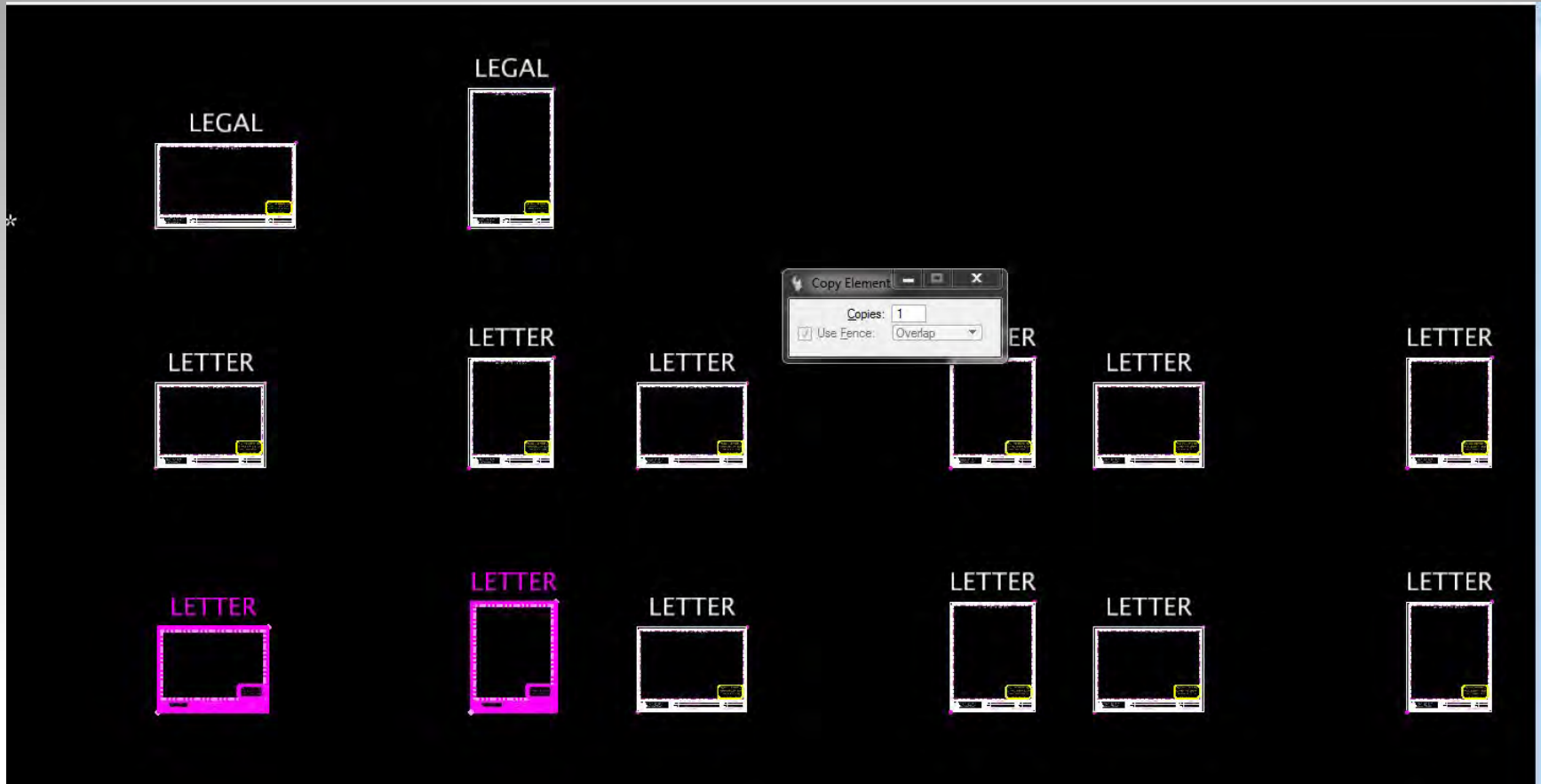
ALL BORDERS ARE A SINGLE CELL.  
SET ANNOTATION OF MODEL TO  
DESIRED SCALE THEN DROP STATUS(COMPLEX)  
SELECT WHOLE SHEET AND COPY / MOVE AS NEEDED.

\*\*MAY NEED TO COPY THE MODEL IF DIFFERENT  
SCALES ARE NEEDED(1"50', 1"100') PRIOR TO DROPPING STATUS! \*\*





Now that you have dropped status edit the project data etc. and simply select the “whole” border/borders and copy as many as you need and continue setting up your Sketches as usual.





# Oregon Department of Transportation



RW  
Engineering

This is just a “General” guidance for a ProjectWise workflow for RW Engineering projects. Follow all “Agency” directives for Naming files, importing, saving, and working within ProjectWise.

The screenshot shows the ProjectWise Explorer V8i interface. The left pane displays a project hierarchy for project K20391, including folders for 0\_Temp, 1\_Milestone\_Submiss, 2\_Plan\_Sheets, 3\_Base\_Files, 4\_Photos, Access\_Management, Contracts\_and\_Agree, Environmental, Erosion\_Control, Geotechnical, Hydraulics, ITS, Pavements, Project\_Management, Public\_Involvement, Right\_of\_Way, Roadside\_Developme, Roadway, Signals, Signing, and Survey. The right pane shows the Properties (Project Type - ODOT) tab, which lists various project attributes such as Key Number, Project Title, Project Description, Project Leader, Lifecycle Stage, Federal ID Number, Contract Number, Project Manager, Project Name (Internal), Project Number, Area Manager, Local Agency Liaison, Region Number, District Number, City, County, Bid Date, Completion Date, Route Number, Begin Mile Point, End Mile Point, State Highway Number(s), Highway Name, Work Type, and Other Project Number.

Name	Description	Region #	Key #
Project Properties			
Folder Properties			
Dependency Viewer			
Access Control			
Properties (Project Type - ODOT)			
Key Number			
Basic Key Number			
Project Title			
Project Description			
Project Leader			
Lifecycle Stage			
Lifecycle Stage Milestone			
Federal ID Number			
Contract Number			
Project Manager			
Project Name (Internal)			
Project Number			
Area Manager			
Local Agency Liaison			
Region Number			
District Number			
City			
County			
Bid Date			
Completion Date			
Route Number			
Begin Mile Point			
End Mile Point			
State Highway Number(s)			
Highway Name			
Work Type			
Other Project Number			





In the RW Base model of the wrk dgn self reference in your RW Design model after you have your “resolved” right of way established and ready to pass on to the design team.

Reference Attachment Settings for SeedRW2d.dgn

File Name: SeedRW2d.dgn  
Full Path: \Projects\New\_RW\_Seod\_PW\_WF\SeedRW2d.dgn  
Model: RW Design  
Logical Name:  
Description: Working design model for existing and proposed RW

Orientation:

View	Description
Coincident	Aligned with Master File
Coincident - World	Global Origin aligned with Master File
Standard Views	
Saved Views (none)	
Named Fences (none)	

Detail Scale: 1"=100'  
Scale (Master:Ref): 1.000000 : 1.000000

Named Group:  
Revision:  
Level:

Nested Attachments: No Nesting Nesting Depth: 1  
Display Overrides: Allow  
New Level Display: Use MS\_REF\_NEWLEVELDXY  
Global LineStyle Scale: Master  
Synchronize View: Volume Only

Toggles

Drawing Title  
 Create  
Name: Drawing

OK Cancel

of 0 listed Point Clouds (0 of 0 listed)

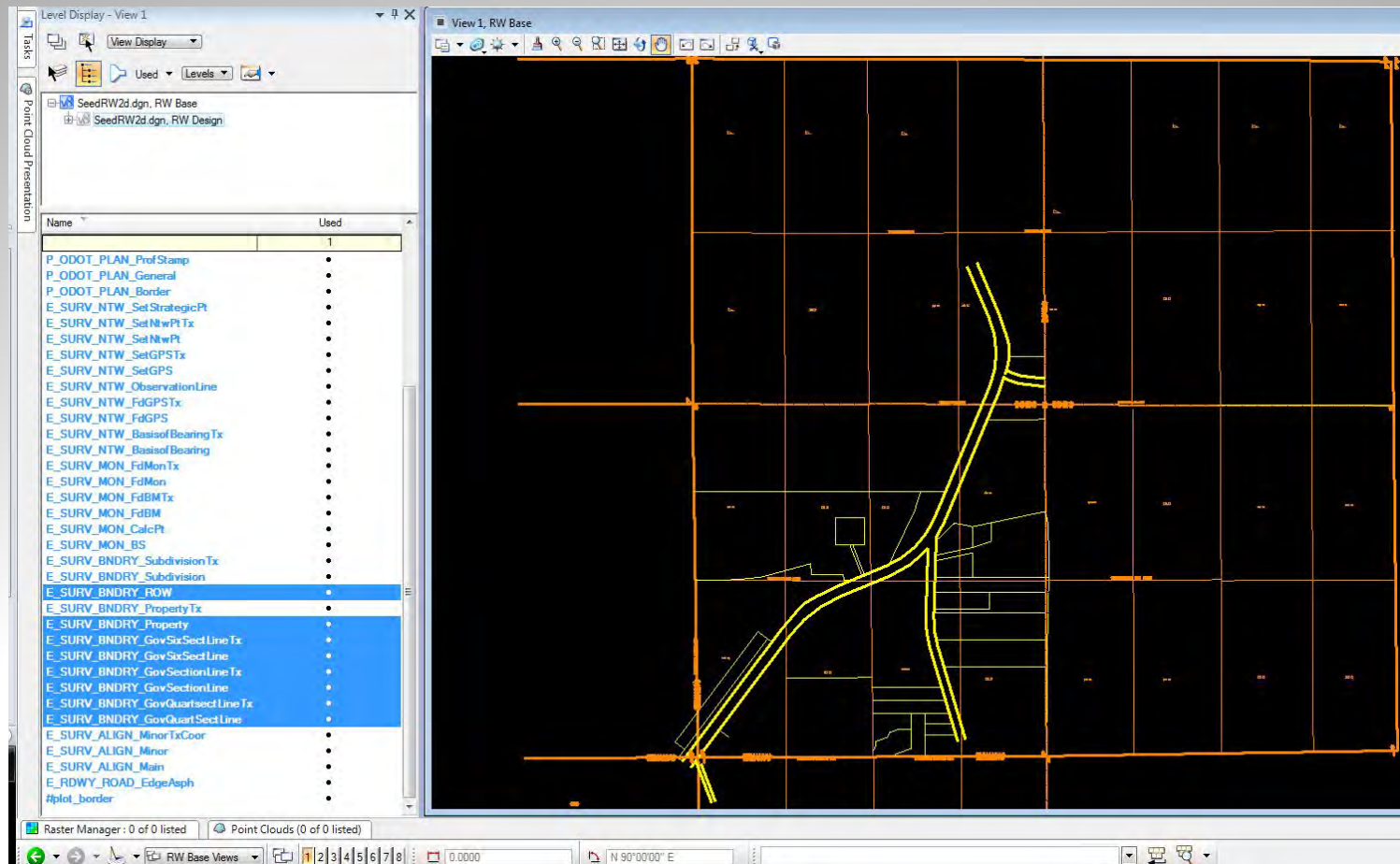
RW Base Views 2 3 4 5 6 7 8 0.0000 N 90°00'00" E

element to add to set Reference attached P\_RW\_PLANS\_Symbo



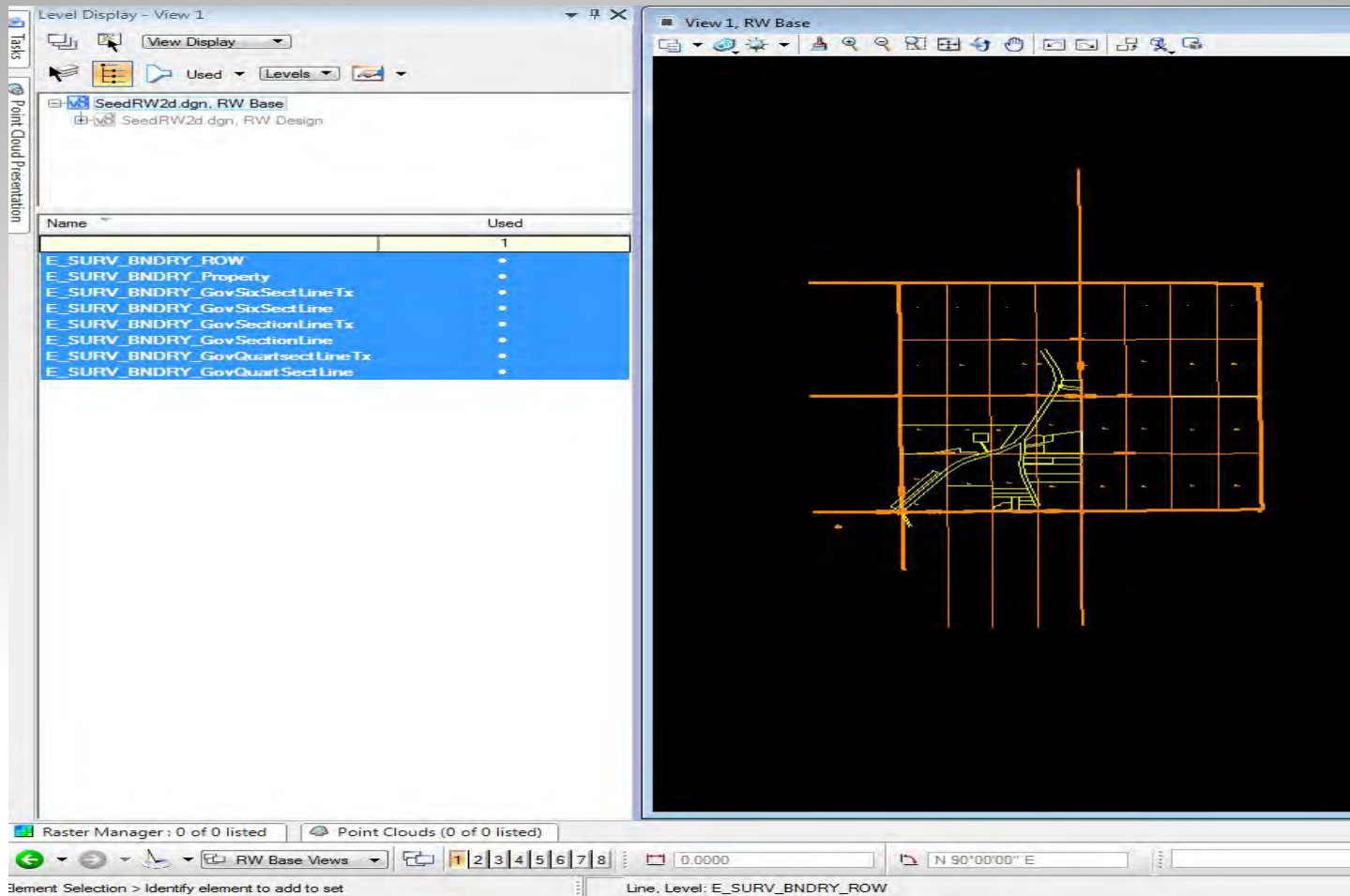


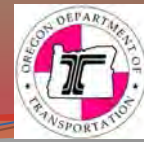
Once your RW Design model is attached use a filter or turn off all data except resolved/existing RW lines, property lines, and PLS data. Do not include any property text, RW text etc. This is done to create a “clean” useable dgn for drafters and designers to use.



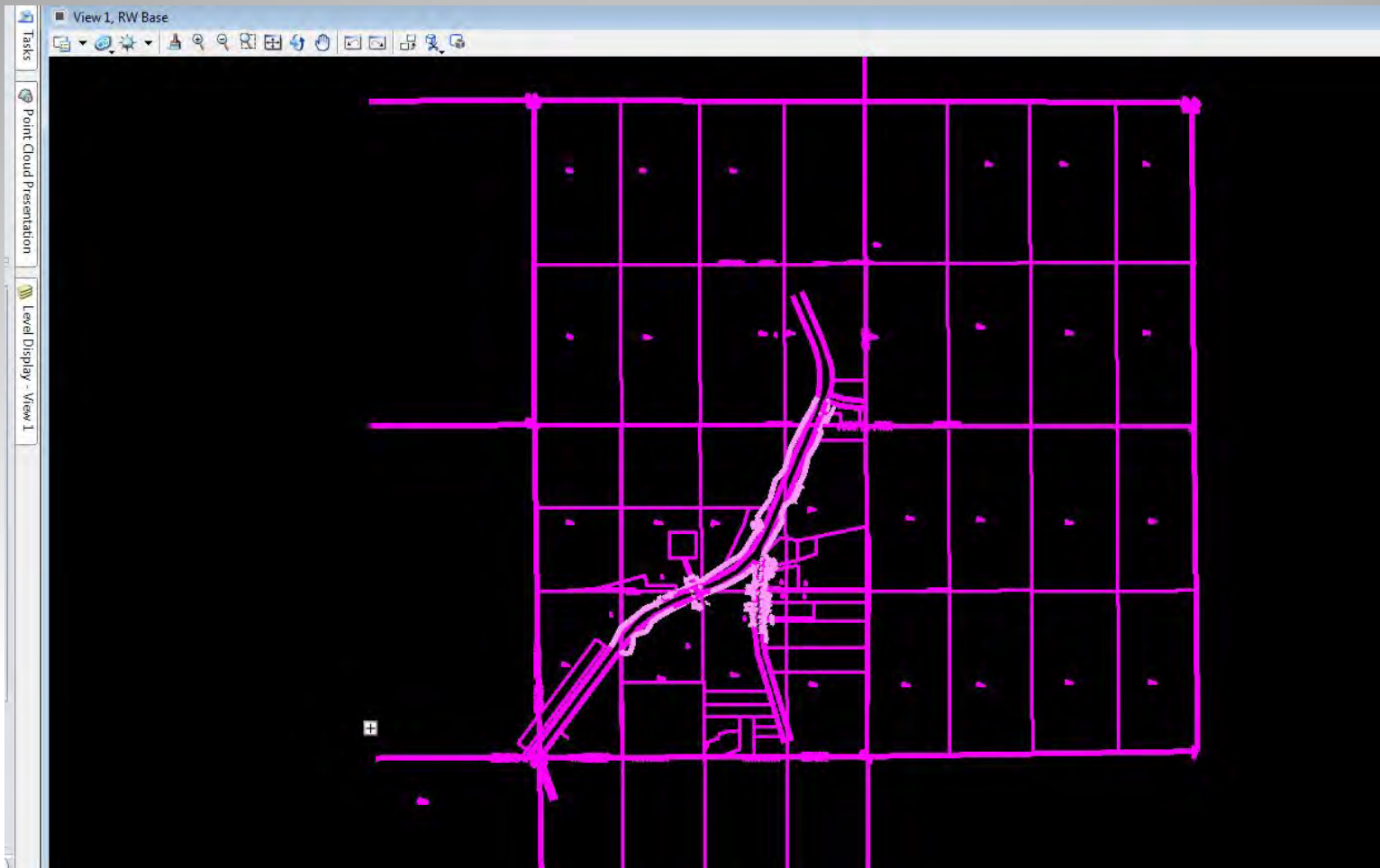


Now select your filtered graphics and copy into your RW Base model. You now can turn off the reference or detach it. You see that there's only the few "survey" levels which makes it very easy for other disciplines to work with. This model is now ready to be "Imported" into the Base dgn you created.





Now when “Proposed RW” design is complete and you’re ready to upload that data to the Base dgn just repeat the process but add in the new Proposed RW lines and Easement text only! You can blow away all the old or just bring in the new?







At this time and in this model “May” be a good time and place to follow the Tech Bulletin from December 22, 2016 that directs us to “break” the “existing RW” and “property lines” that are within the “New RW”



**Oregon Department of Transportation**  
**Technical Services Branch**  
**Engineering Automation Section/Geometronics Unit**

#### **SUBJECT**

With the implementation of Project Wise and the use of common shared CAD files among the disciplines, an issue has come up with how we depict existing property lines in our right of way file. Typically, the drafters preparing the contract plan sheets would copy the right of way CAD file and clip delete all existing property and right of way lines within the new acquired right of way, showing just the new lines. With Project Wise, shared files are not meant to be copied or modified and a request has come to alter the work flow in the Survey Group to clip and change the level of the existing lines so that level can be turned off.

A new level does not need to be created to accomplish this request; we can use the E\_SURV\_BNDRY\_SROW level found on the Cadastral task menu under Extg. RW > Survey Filing Map. This level was developed by Region 2 to manually place the resolved right of way lines at a heavy weight, rather than using the pen tables set up for survey filing maps to plot existing right of way lines at the required line weight. This level can then be turned off when exporting right of way to the existing right of way base CAD.

#### **EFFECTIVE DATE**

Immediately for projects within Project Wise.

#### **PURPOSE**

To allow drafters to reference the existing right of way base file into the contract plans without copying the file or modifying it.

#### **GUIDANCE**

In the Resolved Existing model in the right of way CAD, clip all existing right of way and property lines at the intersection with the new right of way. Change only the level for all existing right of way and property lines that fall within the new proposed right way to E\_SURV\_BNDRY\_SROW. All other symbology associated with these lines will remain as they were originally drafted.

Line work affected by this change:

- Extg. Hwy. RW Line (level: E\_SURV\_BNDRY\_ROW)
- Extg. Street RW Line (Level: E\_SURV\_BNDRY\_CROW)
- Extg. Access Control (E\_SURV\_BNDRY\_AccessControl)
- Property Line (E\_SURV\_BNDRY\_Property)

#### **RESPONSIBILITIES**

Region Survey Managers and Survey Leads – Ensure all survey personnel drafting right of way maps are familiar with the requirements of this bulletin.

ODOT Surveyors – Read and comply with the requirements of this bulletin.

#### **ACTION REQUIRED**

Comply with this bulletin while working with projects in Project Wise as this constitutes a necessary change to facilitate work with Project Wise. In six months we will evaluate this process and discuss whether to modify it.

#### **Joseph R. Thomas, PLS**

Geometronics Manager/Chief of Surveys  
Engineering Automation Section/Geometronics Unit  
(503) 986-3316  
[joseph.r.thomas@odot.state.or.us](mailto:joseph.r.thomas@odot.state.or.us)

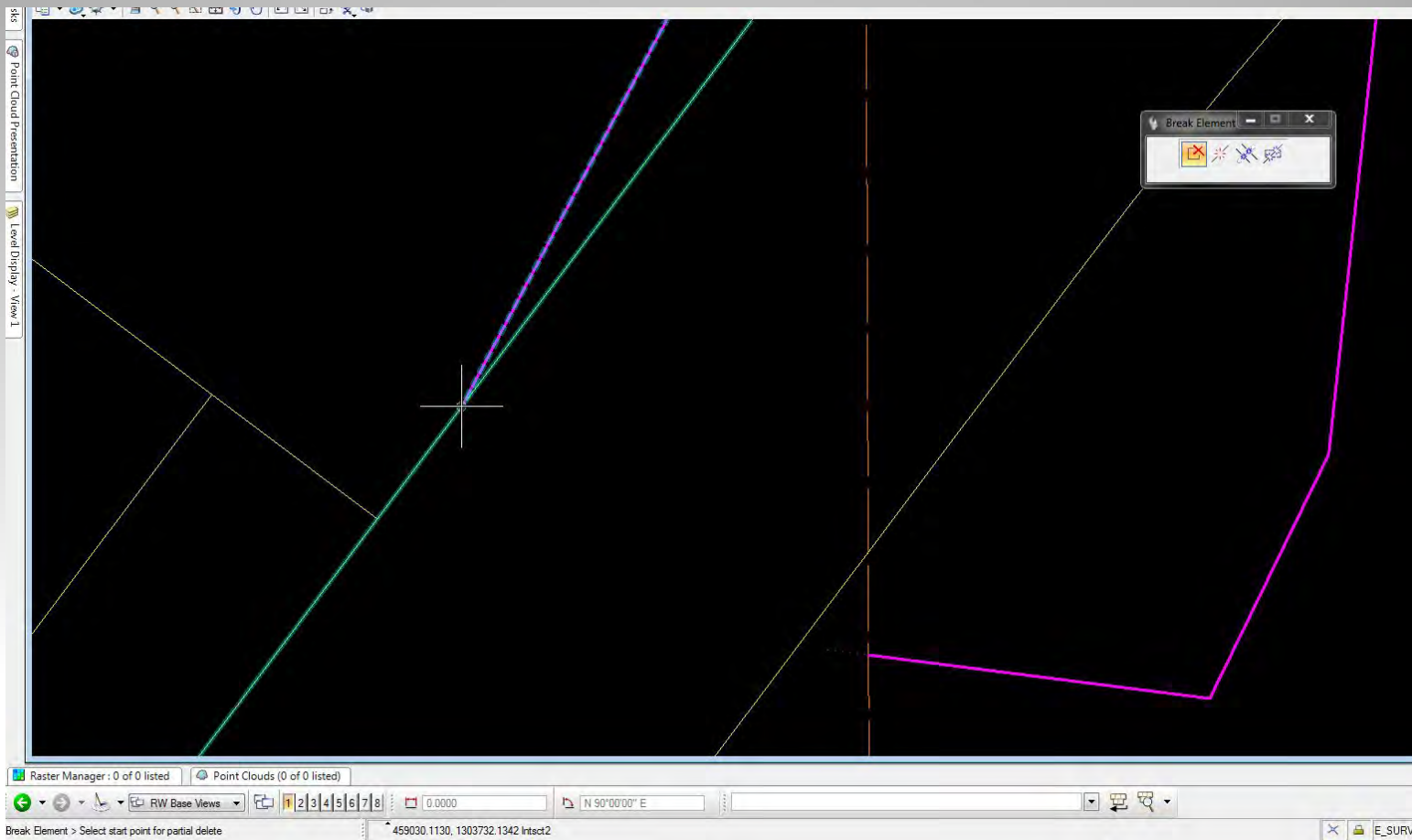
#### **Scott Morrison, PLS**

Lead Right of Way Surveyor  
Engineering Automation Section/Geometronics Unit  
(503) 986-3672  
[scott.r.morrison@odot.state.or.us](mailto:scott.r.morrison@odot.state.or.us)



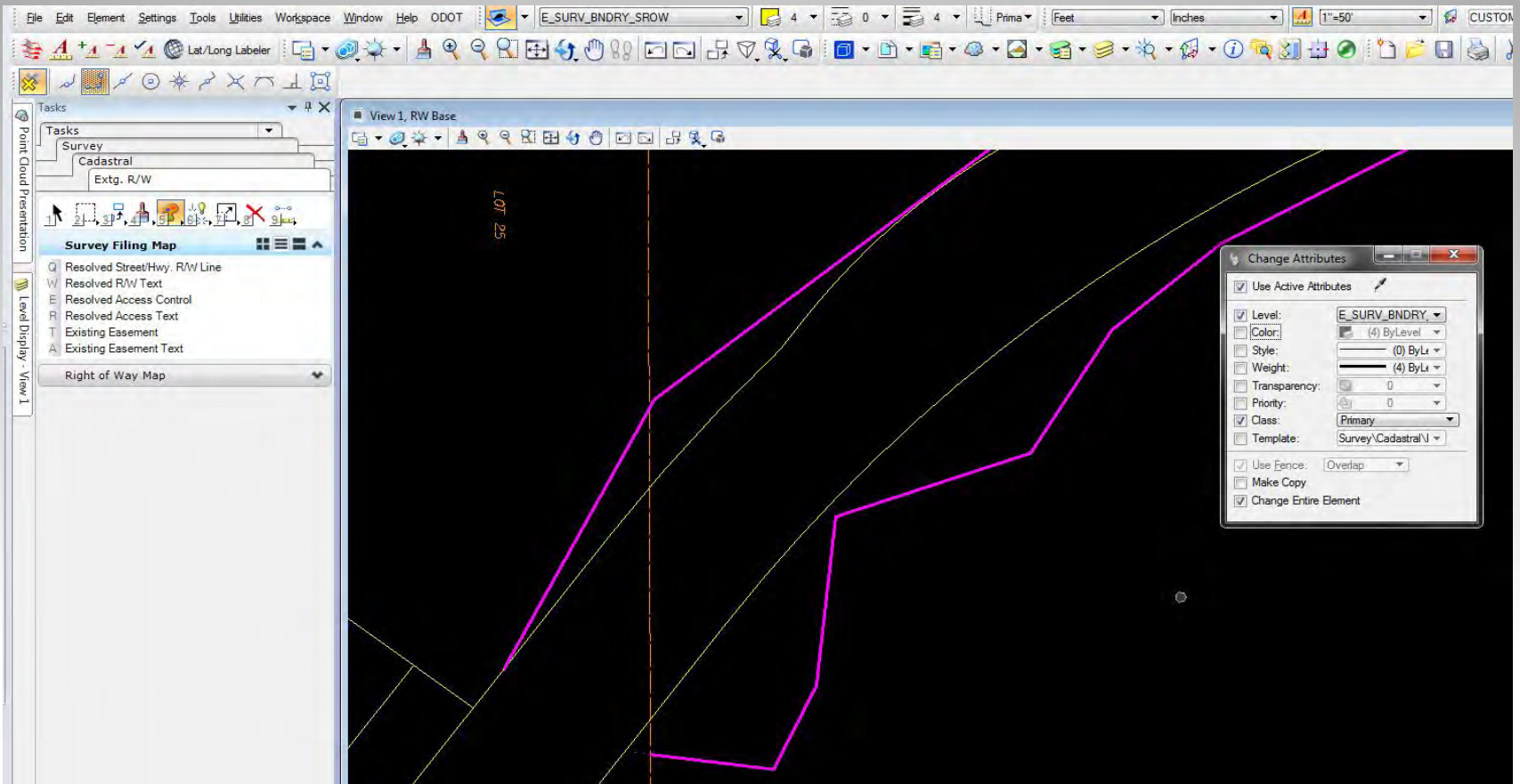


One way to accomplish this by using the “Break element” tool and “Intersection snap.” Or your desired method. Do this for the whole project.





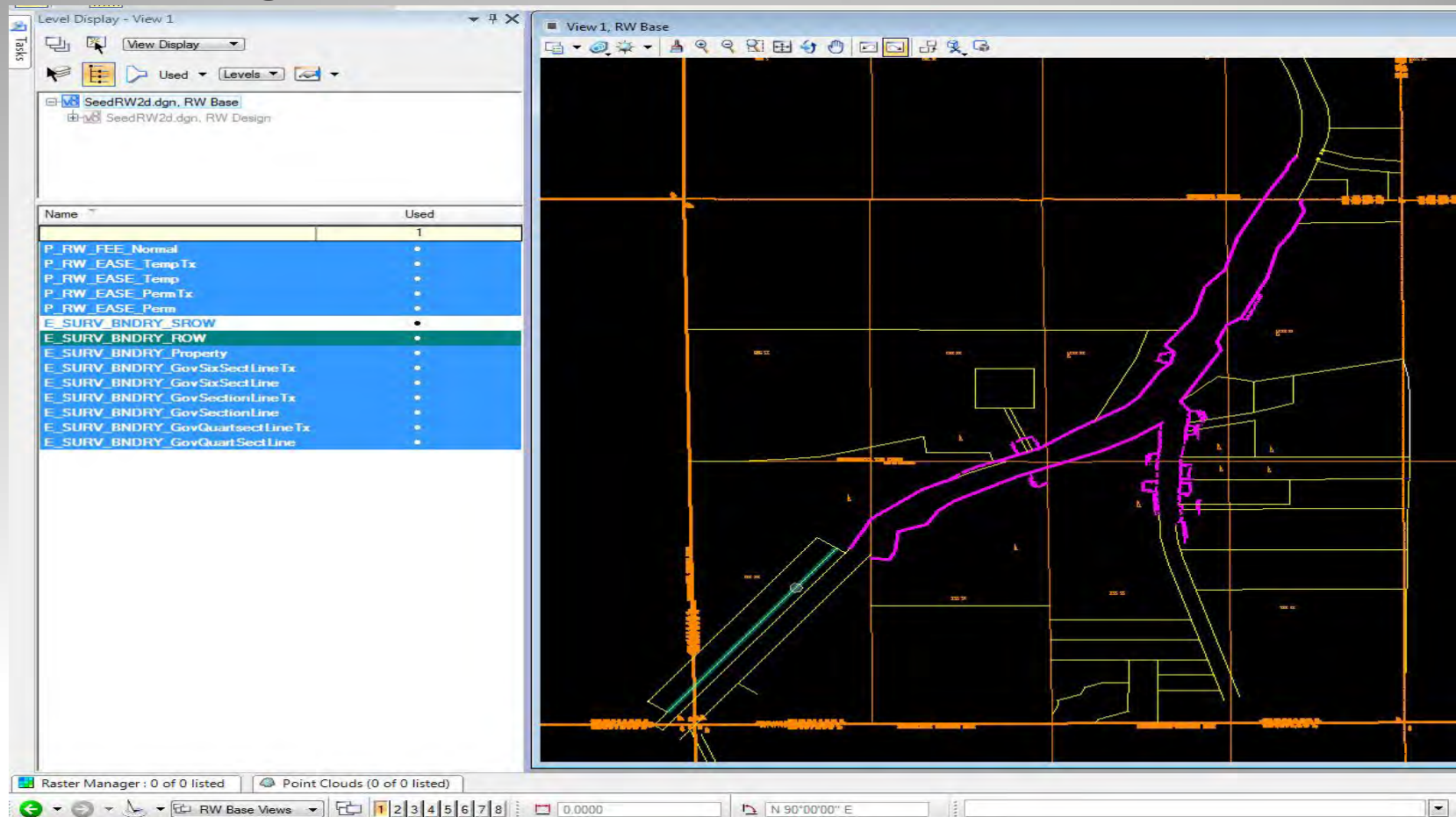
Once you have all the lines “Broke/Separated” you can change just the level of the lines inside of the “New RW”





Now the plans drafter and designers can “Simply and Cleanly” display the “New RW” for their plan sheets etc.

The Model is now ready to be “Imported” into the Base dgn and override the old data. Both the “Existing” and “New” RW can live in one model for the team to use.







# Oregon Department of Transportation



RW  
Engineering

Last but not “Least” We have updated the “Cadastral.cel” library. This included “Cleaning out” old cells that are no longer needed or duplicates from ODOT.cel, and updating all the font to Lucida Sans “True Type”.

Cell Library: [...\V8\standards\cell\Cadastral.cel]

File

Use Shared Cells  Display All Cells In Path

Display: Wireframe

Name	Description	Type	Where
ACCESS	ACCESS POINT SYMBOL	Grph	Lbry
ANGLE	ANGLE SYMBOL	Grph	Lbry
ANGLPT	ANGLE POINT SYMBOL ...	Grph	Lbry
APAR	AREA PARCEL CIRCLE	Grph	Lbry
BASIS	SURVEY BASIS OF BEAR...	Grph	Lbry
BREAK1	BREAKLINE SYMBOL	Grph	Lbry
BREAK2	ALT BREAKLINE SYMBOL	Grph	Lbry
CALCPT	CALCULATED POINT	Grph	Lbry
CARDINAL	DIRECTIONAL CALLS F...	Grph	Lbry
CONTBL	SURVEY CONFIDENCE ...	Grph	Lbry
CTRSEC	CENTER SECTION CIRCLE	Grph	Lbry
DESBM	SURVEY DESTROYED ...	Grph	Lbry
DESGPS	DESTROYED GPS STA...	Grph	Lbry
DESMON	SURVEY DESTROYED ...	Grph	Lbry
DESNW	SURVEY DESTROYED ...	Grph	Lbry
DESSTRAT	DESTROYED STRATEG...	Grph	Lbry
EXTGRW	SURVEY EXISTING R W ...	Grph	Lbry
FDBM	SURVEY FOUND BENCH...	Grph	Lbry
FDGPS	SURVEY FOUND GPS S...	Grph	Lbry
FDMON	SURVEY FOUND MONU...	Grph	Lbry
FDNTW	SURVEY FOUND NETW...	Grph	Lbry
FDSTRAT	FOUND STRATEGIC POINT	Grph	Lbry
FENSYM	SURVEY FENCE SYMBO...	Grph	Lbry
GPSTBL	SURVEY GPS POINT DA...	Grph	Lbry
HOOK	PROPERTY HOOK	Grph	Lbry
HOOK1	PROPERTY HOOK	Grph	Lbry

Active Cells

Placement NONE Point NONE Edit... Delete

Terminator NONE Pattern NONE Create... Share





Any Questions, Comments or Concerns Please Contact RW  
Engineering Section at:

**Scott Morrison, PLS**

Lead Right of Way Surveyor  
Oregon Department of Transportation  
Geometronics Unit  
4040 Fairview Industrial Drive S.E., MS-4  
Salem, OR 97302-1142  
Voice 503.986.3672  
[Scott.R.MORRISON@odot.state.or.us](mailto:Scott.R.MORRISON@odot.state.or.us)

**Paul J. Morin, PLS**

*Engineering Automation Section  
Geometronics Unit  
Right of Way Engineering Group*  
4040 Fairview Industrial Drive SE, MS #4  
Salem, OR 97302-1142  
Phone: (503) 986-3034  
[paul.j.morin@odot.state.or.us](mailto:paul.j.morin@odot.state.or.us)

**Michael R. Fallert P.L.S.**

Rotational Development Right of Way  
Surveyor  
Oregon Department of Transportation  
Geometronics Unit  
4040 Fairview Industrial Drive S.E., MS-4  
Salem, OR 97302-1142  
(503)986-7143  
[Michael.Fallert@odot.state.or.us](mailto:Michael.Fallert@odot.state.or.us)