Tricks and Treats

Not-So-Scary

Roadsoft Tips

Jeanette Huang and Carla Schubert
\[ b\sqrt{2} \]
Treasure Maps
- Using External Map Layers

Stormy C’s
- Repurposing the Culvert Module

Mysterious Masks
- Using Memo Data Field Masks

Haunting Hyperlinks
- Adding Hyperlinked Word Docs
TREASURE MAPS

AERIALS
PROPERTY PARCELS
RAILROADS
CORPORATE BOUNDARIES
HYDROLOGY
ADDRESSES
FACILITIES
Point Pavement Markings
Identifying FACILITIES and COMMUNITY IMPACTS on Roads
Identify Facilities using LEGEND BUILDER
FROM THIS...
TO THIS!!!
ADDING MAP LAYERS

- Point Layers
  - Intersection
  - Sign
  - Addresses
SELECTING EXTERNAL MAP LAYER

Select external file to add to the map:

Note: You can also add layers by simply dragging-n-dropping them onto the map viewer, or the layers-list.

Tip: Dragging and dropping layers from Windows Explorer allows you to add multiple external layers at once.
ROADSOFT

Import SHAPEFILE as EXTERNAL MAP LAYER

Export Data to a SHAPEFILE
Map Layers

Point Layers
- Intersection
- Sign
- Addresses
- Culvert
- Point Pavement
- Traffic Count
- Crash

Line Layers
- 2014 Chip and Seal
- 2015 Chip and Seal
- 2017 Chip and Seal
- Railroads
- 2016 Chip and Seal
- 2016 Chip and Seal

Road Layer Properties

Rendering
- Pattern: Solid
- Style: Solid
- Width: 1

Outline
- Outline Color: Black
- Outline Pattern: Solid
- Outline Style: Solid
- Outline Width: 1

Selection
- Selection Color: Red
- Selection Opacity: 80

Selection Width
Sets the width of the outline or overlap for the selection (between 0 and 5)

Layer Display Name:
- Road
Static vs. Dynamic
Roadsoft + Map Layers
POP QUIZ!
This is to **CHECK** to see if you were paying attention: In Roadsoft, how do you make a map layer visible?

![Map Layers window pane](image)

In the Map Layers window pane, put a check in the box immediately in front of that map layer.
I’ve **SELECTED** this next question just for you! How do you make a map layer (**NAMELY**, the one that you **CLICKED** to make visible,) the *active* map layer?

Select that map layer by clicking on its name in the Map Layers window pane.
STORMY C'S

Using the
CULVERT MODULE
to collect
STORM DRAIN DATA
Bridge Inventory ID = B-123

Culvert Inventory ID = C-444

Storm Drain Inventory ID = SD-567
STORMY C’S STRATEGY

✓ WHICH DATA FIELDS SHOULD BE USED?

✓ HOW SHOULD THOSE DATA FIELDS BE USED?

✓ WHAT NEW FIELD VALUES ARE NEEDED FOR THE DATA FIELDS?
<table>
<thead>
<tr>
<th>City/Twp</th>
<th>Jefferson Twp</th>
</tr>
</thead>
<tbody>
<tr>
<td>Reference Int.</td>
<td>Alpha Dr</td>
</tr>
<tr>
<td>Reference Dist.</td>
<td>-0.018 mi. (-95 ft.)</td>
</tr>
<tr>
<td>Milepoint</td>
<td>0.320</td>
</tr>
<tr>
<td>Inventory ID</td>
<td>SD-2016-2713</td>
</tr>
<tr>
<td>Waterway</td>
<td>Storm Drain</td>
</tr>
</tbody>
</table>

**Culvert Information**

- **Description**: Southeast side of road
- **Type**: Catch Basin
- **Date Installed**: 1/1/1900
- **No. of Culverts**: 1
- **Shape**: Rectangular
- **Entrance Structure**: Curb Grate
- **Exit Structure**: Undefined
- **Skew Angle**: 0
- **Length**: 0.0 Undefined
- **Span**: 0.0 Undefined
- **Rise**: 0.0 Undefined
- **Depth of Cover**: 6.5 Feet
- **Height/Diameter**: 4.0 Feet
- **Width**: 0.0 Feet

**Waterway = Storm Drain**

**Type = Catch Basin**

**Entrance Structure = Curb Grate**

**Depth (of cover) = 6.5 Feet**
STAGGER THE LOCATIONS OF OPPOSING STORM DRAINS
AERIAL MAP OF STORM DRAINS FOR CONTRACTOR
### Available Fields to Export

<table>
<thead>
<tr>
<th>Field Name</th>
<th>Field Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>DateBuilt</td>
<td>Date Built</td>
</tr>
<tr>
<td>DnslnElev</td>
<td>Downstream Culvert Invert Elevation</td>
</tr>
<tr>
<td>DnslRSElev</td>
<td>Downstream Road Surface Elevation</td>
</tr>
<tr>
<td>InLakesAct</td>
<td>Inland Lakes Act</td>
</tr>
<tr>
<td>ChnnlRating</td>
<td>Latest Channel Rating</td>
</tr>
<tr>
<td>Rating</td>
<td>Latest Culvert Rating</td>
</tr>
<tr>
<td>WtrwayRtg</td>
<td>Latest Waterway Rating</td>
</tr>
<tr>
<td>Milepoint</td>
<td>Milepoint</td>
</tr>
<tr>
<td>RefMiles</td>
<td>Reference Miles</td>
</tr>
<tr>
<td>Rise</td>
<td>Rise</td>
</tr>
<tr>
<td>NumCulvs</td>
<td>Number of Culverts</td>
</tr>
<tr>
<td>SkewAngle</td>
<td>Skew Angle</td>
</tr>
<tr>
<td>Span</td>
<td>Span</td>
</tr>
<tr>
<td>ApprchLenL</td>
<td>Stm Cross-Approach Length Left</td>
</tr>
<tr>
<td>ApprchLenR</td>
<td>Stm Cross-Approach Length Right</td>
</tr>
<tr>
<td>AprSlopeL</td>
<td>Stm Cross-Approach Slope Left</td>
</tr>
<tr>
<td>AprSlopeR</td>
<td>Stm Cross-Approach Slope Right</td>
</tr>
<tr>
<td>AdjLandown</td>
<td>Stm Cross-Adjacent Landowner</td>
</tr>
<tr>
<td>BackWtr</td>
<td>Stm Cross-Backwatered</td>
</tr>
<tr>
<td>BackWtrCmt</td>
<td>Stm Cross-Backwatered Comment</td>
</tr>
<tr>
<td>CalcPass</td>
<td>Stm Cross-Calculated Passability</td>
</tr>
</tbody>
</table>

### Fields to Export

<table>
<thead>
<tr>
<th>Field Name</th>
<th>Field Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>RdCityTwp</td>
<td>ROAD: City/Township ownership</td>
</tr>
<tr>
<td>Memo</td>
<td>Memo</td>
</tr>
<tr>
<td>UserCrvtNo</td>
<td>User Culvert Number</td>
</tr>
<tr>
<td>PRName</td>
<td>PR Name</td>
</tr>
<tr>
<td>Descript</td>
<td>Description</td>
</tr>
<tr>
<td>Type</td>
<td>Type</td>
</tr>
<tr>
<td>EntrStruct</td>
<td>Entrance Structure</td>
</tr>
<tr>
<td>Latitude</td>
<td>Latitude</td>
</tr>
<tr>
<td>DepCovr</td>
<td>Depth of Cover</td>
</tr>
<tr>
<td>IntName</td>
<td>Intersection Name</td>
</tr>
<tr>
<td>Longitude</td>
<td>Longitude</td>
</tr>
<tr>
<td>ExitStruct</td>
<td>Exit Structure</td>
</tr>
<tr>
<td>Length</td>
<td>Length</td>
</tr>
<tr>
<td>Width</td>
<td>Width</td>
</tr>
<tr>
<td>HeightDiam</td>
<td>Height or Diameter</td>
</tr>
<tr>
<td>PRNo</td>
<td>PR Number</td>
</tr>
<tr>
<td>Shape</td>
<td>Shape</td>
</tr>
</tbody>
</table>

**Export Type:** CSV - Comma-Separated Values file

**Export Path:** `S:\Engineering\ROADSOFT\CULVERT MODULE\SPECIAL REPORTS\2017`

**File Name:** Culvert

**Current Filter:** Concord #6 - Pine Crest
In EXCEL, sort the CSV file by:

1. ROAD NAME
2. INVENTORY ID NUMBER
### Storm Drain Details

<table>
<thead>
<tr>
<th>Inventory ID Number</th>
<th>Road Name</th>
<th>Location Description</th>
<th>Entrance Structure</th>
<th>Type (Catch Basin, Dry Well, Inlet, Manhole, Other - Specify)</th>
<th>Gallons of Water Removed</th>
<th>Debris Removed</th>
<th>Maintenance Date</th>
<th>Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td>SD-2016-1728</td>
<td>Grandview Ct</td>
<td>West side of road</td>
<td>Curb Grate</td>
<td>Please Specify:</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>SD-2016-1729</td>
<td>Grandview Ct</td>
<td>East side of road</td>
<td>Curb Grate</td>
<td>Please Specify:</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>SD-2016-1730</td>
<td>Grandview Ct</td>
<td>West side of road</td>
<td>Curb Grate</td>
<td>Inlet</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>SD-2016-1731</td>
<td>Grandview Ct</td>
<td>East side of road</td>
<td>Curb Grate</td>
<td>Please Specify:</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>SD-2016-1732</td>
<td>Grandview Ct</td>
<td>West side of road</td>
<td>Curb Grate</td>
<td>Please Specify:</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>SD-2016-1733</td>
<td>Grandview Ct</td>
<td>East side of road</td>
<td>Curb Grate</td>
<td>Inlet</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>SD-2016-1734</td>
<td>Grandview Ct</td>
<td>West side of road</td>
<td>Curb Grate</td>
<td>Please Specify:</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>SD-2016-1735</td>
<td>Grandview Ct</td>
<td>East side of road</td>
<td>Curb Grate</td>
<td>Please Specify:</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>SD-2016-1736</td>
<td>Walton Dr</td>
<td>East side of road</td>
<td>Curb Grate</td>
<td>Please Specify:</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>SD-2016-1721</td>
<td>Walton Dr</td>
<td>West side of road</td>
<td>Curb Grate</td>
<td>Inlet</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>SD-2016-1722</td>
<td>Walton Dr</td>
<td>East side of road</td>
<td>Curb Grate</td>
<td>Inlet</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>SD-2016-1723</td>
<td>Walton Dr</td>
<td>West side of road</td>
<td>Curb Grate</td>
<td>Inlet</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>SD-2016-1724</td>
<td>Walton Dr</td>
<td>East side of road</td>
<td>Curb Grate</td>
<td>Inlet</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>SD-2016-1725</td>
<td>Walton Dr</td>
<td>West side of road</td>
<td>Curb Grate</td>
<td>Inlet</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>SD-2016-1737</td>
<td>Walton Dr</td>
<td>West side of road</td>
<td>Curb Grate</td>
<td>Inlet</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>SD-2016-1726</td>
<td>Walton Dr S</td>
<td>North side of road</td>
<td>Curb Grate</td>
<td>Please Specify:</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>SD-2016-1727</td>
<td>Walton Dr S</td>
<td>South side of road</td>
<td>Curb Grate</td>
<td>Please Specify:</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### Maintenance Details (please specify):

- Cleaning Services
- Inspection
- Data Collection

**Signature(s):**

**Date:**
<table>
<thead>
<tr>
<th>Gallons of Water Removed</th>
<th>Debris Removed</th>
<th>Maintenance Date</th>
<th>Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td>100 gal</td>
<td>1/40 yrd</td>
<td>8/3</td>
<td>4' 6&quot; deep 3' wide</td>
</tr>
<tr>
<td>100 gal</td>
<td>1/40 yrd</td>
<td>8/3</td>
<td>4'6&quot; deep 3' wide</td>
</tr>
<tr>
<td>100 gal</td>
<td>1/40 yrd</td>
<td>8/3</td>
<td>4'6&quot; deep 3' wide</td>
</tr>
<tr>
<td>100 gal</td>
<td>1/40 yrd</td>
<td>8/3</td>
<td>4'6&quot; deep 3' wide</td>
</tr>
<tr>
<td>100 gal</td>
<td>1/40 yrd</td>
<td>8/3</td>
<td>4'6&quot; deep 3' wide</td>
</tr>
</tbody>
</table>
### MAINTENANCE and RATING RECORDS

#### 7/20/2017

<table>
<thead>
<tr>
<th>Activity</th>
<th>Vactor/Jet Cleaned</th>
</tr>
</thead>
<tbody>
<tr>
<td>Activity Type</td>
<td>Maintenance</td>
</tr>
<tr>
<td>Authorization</td>
<td>Engineering Department</td>
</tr>
</tbody>
</table>
| Memo           | National Industrial Maintenance, Inc.  
|                | Debris removed: 1 yard     |
|                | Water removed: 200 gallons |

#### 8/7/2017

<table>
<thead>
<tr>
<th>Culvert Rating</th>
<th>8 - Generally Good</th>
</tr>
</thead>
<tbody>
<tr>
<td>Channel Rating</td>
<td>10 - Excellent</td>
</tr>
<tr>
<td>Waterway Rating</td>
<td>9 - Good</td>
</tr>
<tr>
<td>Memo</td>
<td></td>
</tr>
<tr>
<td>Inventory ID Number</td>
<td>Latitude Longitude</td>
</tr>
<tr>
<td>---------------------</td>
<td>--------------------</td>
</tr>
<tr>
<td>SD-2015-1521</td>
<td>41.70280208</td>
</tr>
<tr>
<td>SD-2015-1522</td>
<td>41.7079603</td>
</tr>
<tr>
<td>SD-2015-1523</td>
<td>41.70293137</td>
</tr>
<tr>
<td>SD-2015-1524</td>
<td>41.70293360</td>
</tr>
<tr>
<td>SD-2015-1525</td>
<td>41.69685129</td>
</tr>
<tr>
<td>SD-2015-1526</td>
<td>41.69685338</td>
</tr>
<tr>
<td>SD-2015-1530</td>
<td>41.69614802</td>
</tr>
<tr>
<td>SD-2015-1531</td>
<td>41.69615454</td>
</tr>
<tr>
<td>SD-2017-613</td>
<td>41.7029233</td>
</tr>
<tr>
<td>SD-2017-614</td>
<td>41.65900000</td>
</tr>
<tr>
<td>SD-2015-1537</td>
<td>41.6988278</td>
</tr>
<tr>
<td>SD-2015-1528</td>
<td>41.69862451</td>
</tr>
<tr>
<td>SD-2015-1529</td>
<td>41.69855570</td>
</tr>
</tbody>
</table>

**Note:** Car point. 100 PL
CULVERT RATING:
SURROUNDING PAVEMENT AREA
CHANNEL RATING:
CONDITION OF THE INTERNAL CHANNEL
WATERWAY RATING:
CONDITION OF THE GRATE STRUCTURE
CURB TURNOUT INVENTORY ID = CT-
REPURPOSING CONTENT CONSISTENTLY AND STRATEGICALLY = CONTENT EFFICIENCY!
QUIZ TIME!
If a specific field is not available in Roadsoft, other than the MEMO field, what field(s) might be available in some modules for a USER to use and DEFINE for his/her needs?

USER DEFINED FIELDS!
Name a type of **FILE** format in which Roadsoft data (no matter what **SHAPE** the data may be in) can be exported.

- ✓ Shapefile – ESRI Shapefile
- ✓ KML – Google Earth Keyhole Markup Language File
- ✓ CSV – Comma-Separated Values File
- ✓ TXT – Tab-Delimited Text File
- ✓ DBF – Database File
- ✓ XML – Extensible Markup Language File
MYSTERIOUS MASKS

Using MEMO

Data Field Masks
Phone Number: 111-111-1111
Cell Number: (222) 222-2222
Birth Date: 33/33/3333
RULES

1. Entering Data
2. Punctuation
3. Abbreviations
4. Format
To be counted in 2020

CR 31 between CR 34 and CR 36

*** 2017 ACTUAL COUNT ***

67th Percentile: 44.7
85th Percentile: 48.4
Upper Pace Speed: 47.5
Peak AM Hour: 11:45 AM
Peak AM Count: 72.0
Peak PM Hour: 3:00 PM
Peak PM Count: 167.0
Northbound Percentage: 54.1%
Southbound Percentage: 45.9%
FILTER TO FIND ALL TRAFFIC COUNTER STATIONS TO BE COUNTED IN 2018

Memo Like “To be counted in 2018”
=CONCATENATE
("67th Percentile: ",R24,
", 85th Percentile: ",R26,
", Upper Pace Speed: ", R28,
", Peak AM Hour: ",Q1,
", Peak AM Count: ",O1,
", Peak PM Hour: ",Q2,
", Peak PM Count: ",O2,
", Northbound Percentage: ",O14,
", Southbound Percentage: ",O17)
Railroad ID Number: 536361 M
Train Volume: 6
Train Speed: 60
Number of Train Tracks: 1
Railroad Crossing Guard: Automated Signal
PLAT INFORMATION:
Subdivision 1: Elkhart East – Area “D” – Phase One
Subdivision 2: Elkhart East – Area “D” – Phase Two
Plat 1: 1806
Plat 2: 2042
END OF PLAT INFORMATION
Culvert Memo

Inspection Schedule: 3 Years

Guardrail Inventory ID: G-079A, G-079B
✓ CONSISTENT, STRUCTURED DATA
✓ LIMITED RESPONSE OPTIONS
Driveway ID Number: DR17-12345
Date Issued: 06/02/2017
Zoning Number: BR-0333-12345
Township: Harrison
Subdivision: Weaver Woods, Lot 12345
Location: South side of Basswood Dr, west of Weaver Woods Dr, south of CR 28, east of CR 15
Fee: $45.00
Contact Person: K. McGuire, G.R. Builders
Phone: 555-555-5555
Fax: n/a
Email: kmcg@grbuilders.com
Mailing Address: 12345 Eisenhower Dr N, Goshen, IN 46526
Note: This permit includes sidewalks and curb ramps constructed within the right-of-way and are to be constructed in accordance with Figure 15 and ADA requirements (see attachments and tutorial for ADA Focused Construction Inspection web link at http://www.in.gov/dot/div/contracts/tutorial/CurbRampConstruction.pdf). Your plan to resolve the storm grate in front of the driveway has been approved by installing a "Roll Type Curb" grate or a flat grate with no curb box in the back as long as it matches the geometry of the curb per JAG on 5/25/17. See Figure 4 for road patch details. Please notify us when the driveway, curb ramps, and sidewalks are complete.
Inspection: 08/30/17 pre-inspection request from E.G with G. R. Builders to compare the new approved casting to the existing casting. Per T's observations reviewed with R.C., engineer, the current casting is the same as the approved casting and does not need to be replaced. Other observations concluded that the casting location was in the radii of the driveway that will most likely have low traffic when entering and exiting over the top of the casting.
Inspection Date: 10/03/2017
Inspection Results: Passed
CONSISTENCY!
Name an OPERATOR word that would most LIKELY be used in the FILTER BUILDER for a MEMO field (instead of a mathematical symbol, such as =, > or <).
When available within a Roadsoft module, under which tab will you find a list of your attached **DOCUMENTS**?

The **DOCUMENTS** TAB!
HAUNTING HYPERLINKS
#1: Attach each file directly to its asset.

**PROS**

- Select and open up a file directly from Roadsoft

**CONS**

- Size of database grows substantially
- Number of attachments per asset becomes cumbersome
#2: Attach a hyperlinked WORD DOC for each of an asset’s documents.

**PROS**
- Requires very little space on the database

**CONS**
- Requires time-consuming hyperlinks to every file
- Inflexible to asset file changes
#3: Attach only one hyperlinked WORD DOC for each asset’s main folder.

**PROS**

• Requires only one hyperlink per asset
• No changes to hyperlink required if files are added, renamed or deleted
• Requires very little space on the database

**CONS**

• Requires navigation or “drilling down” to specific file
KEEP CALM!
IT IS ONLY A QUIZ!
What color is typically used for HYPERLINK text?

BLUE!
Besides color, what other text property is typically used for HYPERLINKS?

UNDERLINE!
- Use External Map Layers
- Repurpose Fields and Modules
- Use Memo Data Field Masks for Structured Data
- Add Attached Documents and Hyperlinked Word Docs for Expansive Comments
ONE SIZE FITS ALL
CREATIVE & CONSISTENT WINS THE RACE.
QUIZ
TIME!
What word (or one of its derivatives) has **CONSISTENTLY** been used throughout this presentation?

WELL,

**CONSISTENCY**
ANY
QUESTIONS?
Thank You!

Jeanette and Carla