

Long Section Presentation

- Derek Hunter
- Matthew Bayes

Agenda:

- Introductions
- Purpose of Presentation
- Company Background

- Components of a Long Section
 - Data sources
 - Creating a Long Section
 - Live demo
 - Market Harborough

- Wishlist
- Q&A

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Introductions:

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- **Derek Hunter, Technical Director**
- **Matthew Bayes, Senior Developer**

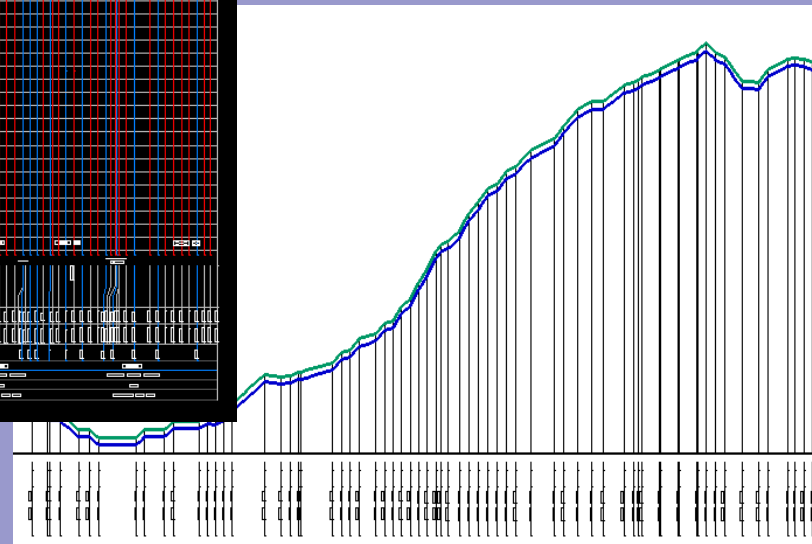
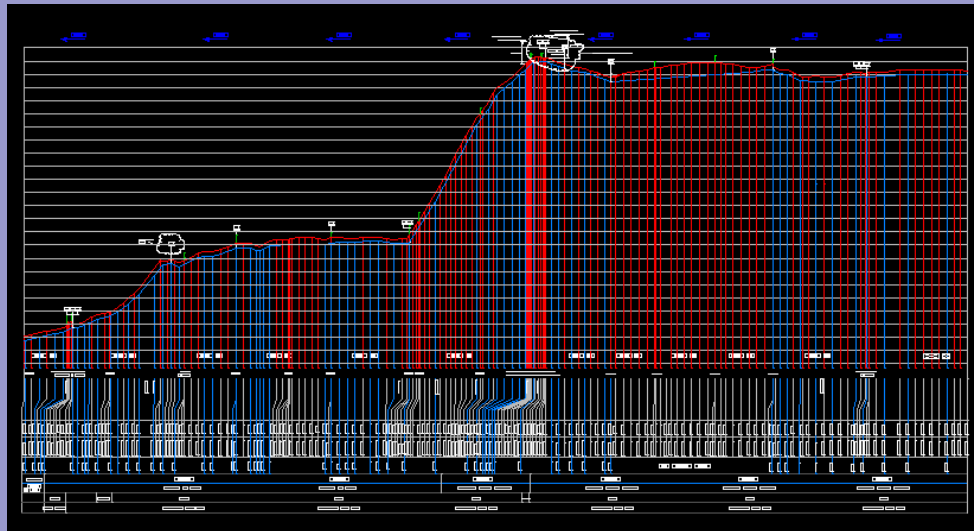
Purpose of Presentation

- Compare a hand-drawn Long Section with an automatic one
- Show the steps needed to create an automatic Long Section
- Show how quickly an automatic Long Section can be changed
- Explain the current limits of the automatic system
- Demonstrate how the Market Harborough data could be used
- Decide if the system is usable as it stands
- Discuss what needs to be done to make it usable or what can be done to improve it

Company Background

- In business since 1995
- Working together for 20 years
- Specialist engineering and mapping software
- Customers: Atkins, Balfour Beatty, Network Rail, Crossrail, Laing O'Rourke, Cable & Wireless, IBM, Texaco, Shell, Midlands Electricity, Western Power Distribution, YW, WW, TW, STW.
- 964 projects
- 842 software modules (ABMA to ZVI1)
- 2 million lines of source code

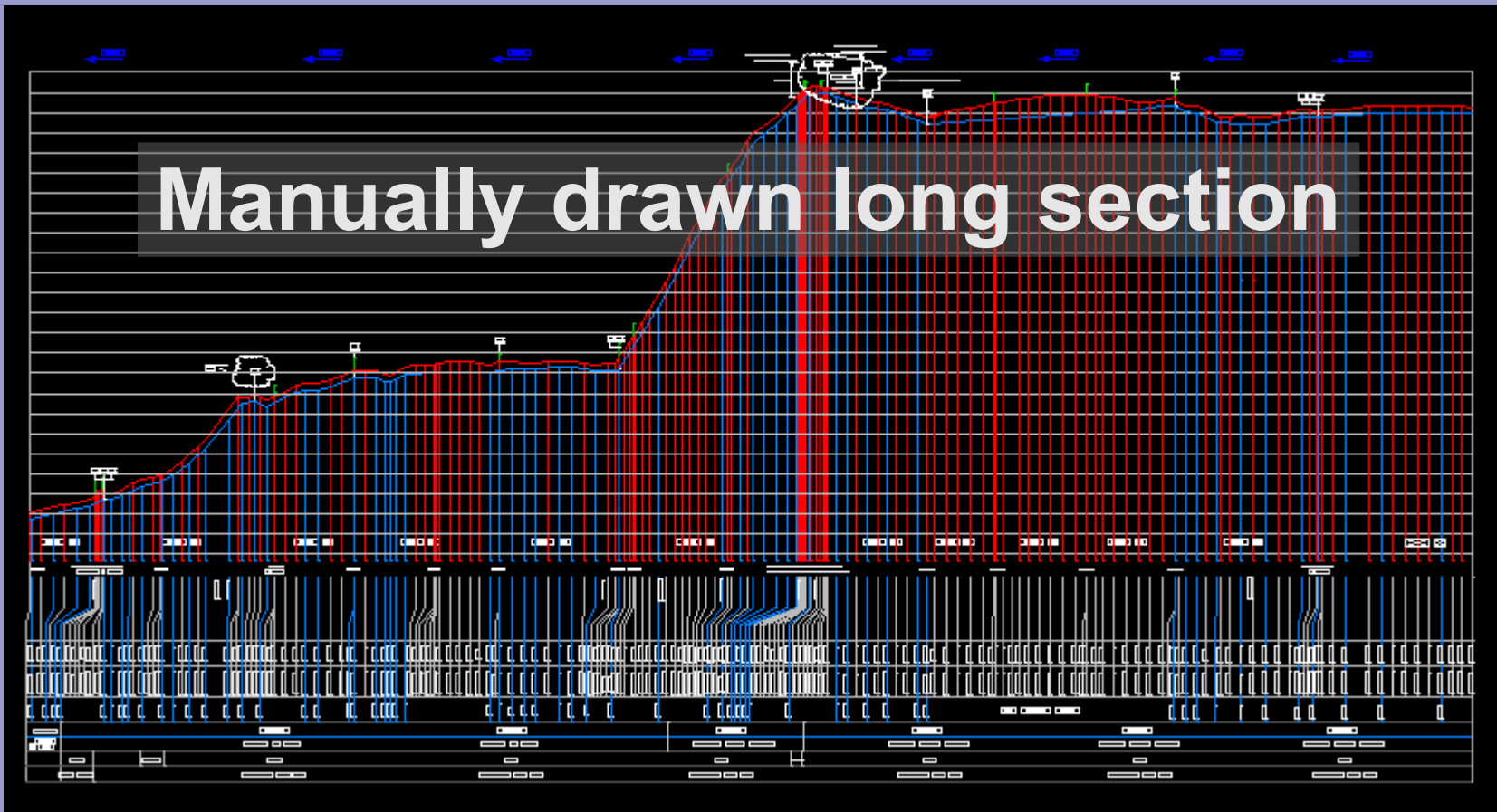
Components of a Long Section



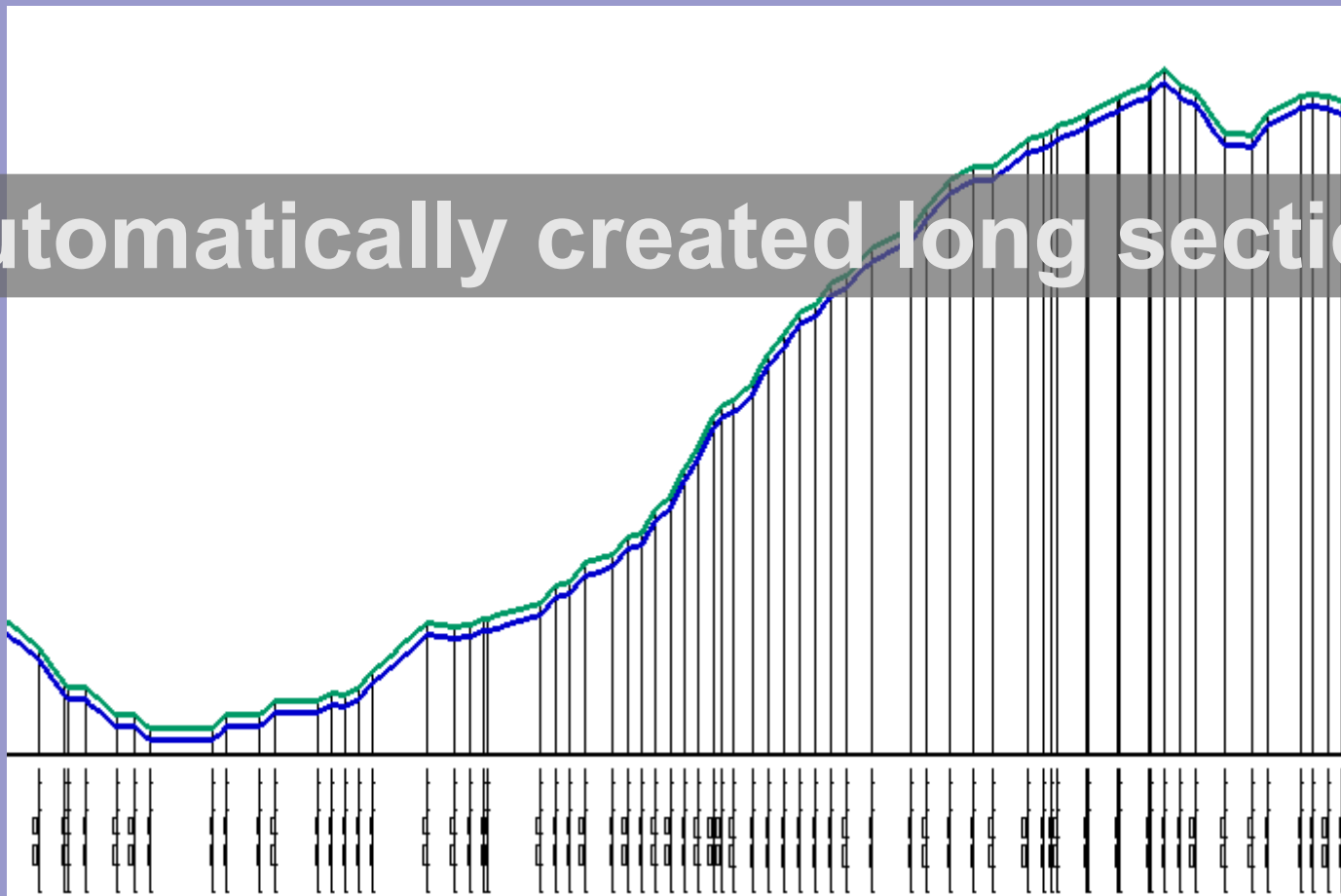
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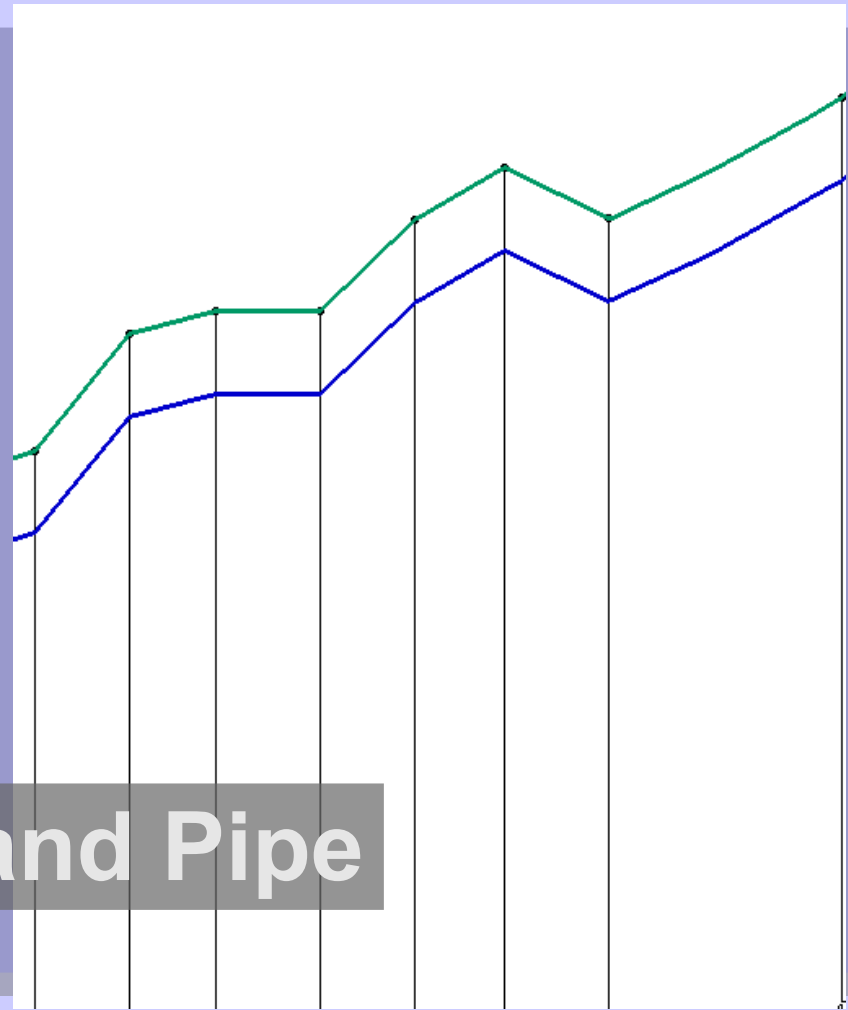
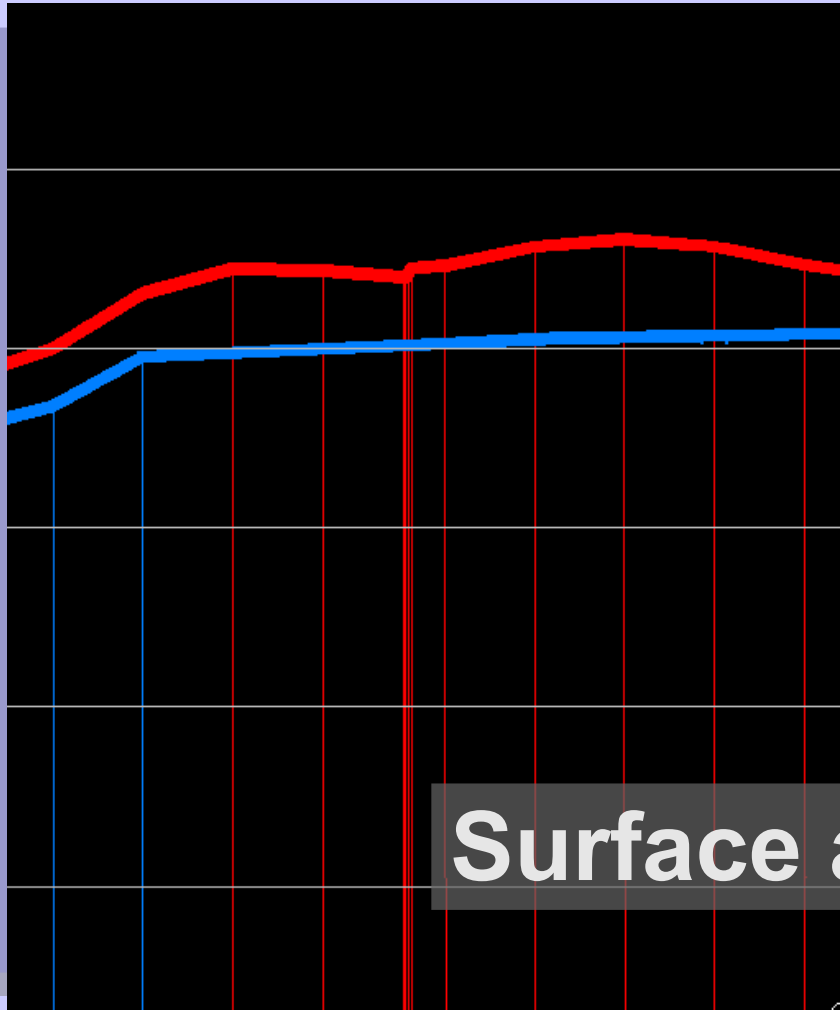
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Manually drawn long section



Automatically created long section





Surface and Pipe

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66.97	20495.575	68.478
66.66	20464.226	68.167
	20434.296	69.067
	20404.200	70.265
69.90	20374.209	71.400
69.93	20374.131	71.433
	20345.265	71.371
69.73	20320.033	71.435
68.89	20295.372	70.391
68.86	20284.865	70.365
69.34	20270.212	70.843
70.89	20245.345	72.390
	20220.234	73.070
	20195.041	73.018
	20172.334	72.861
	20171.693	72.852
	20170.878	72.964
	20170.083	73.116
	20169.887	73.478

Annotation

554.741 83.000

566.518 83.000

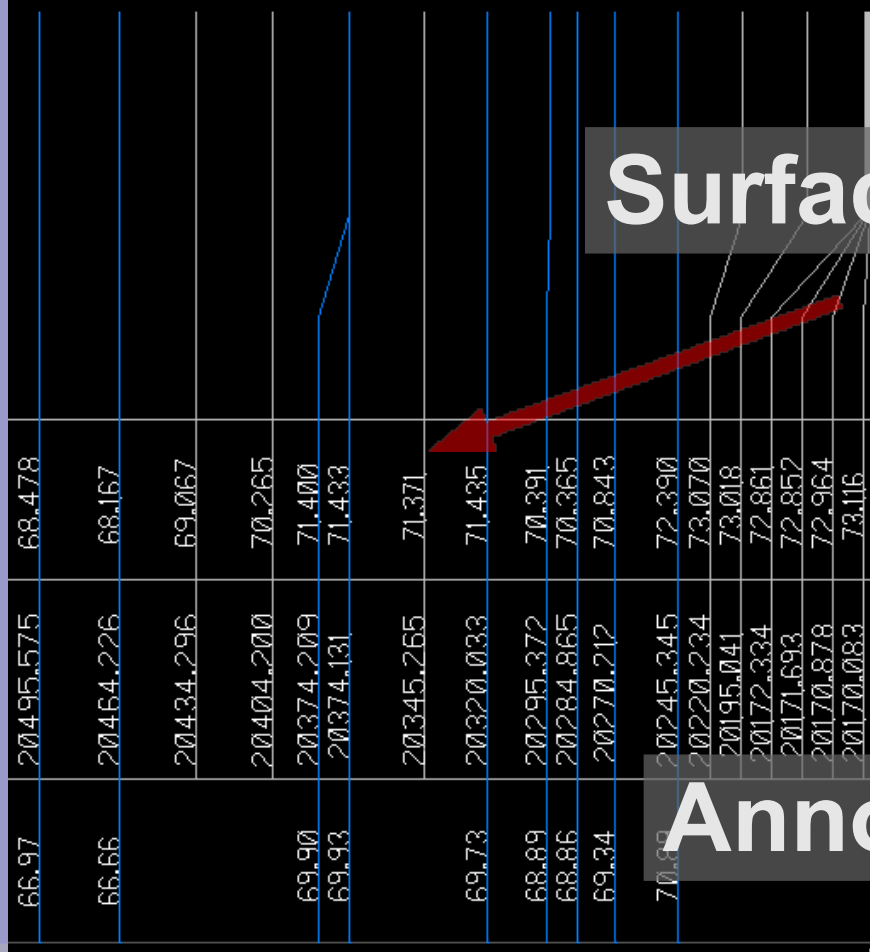
578.337 82.000

601.337 82.000

81.100 606.337 82.000

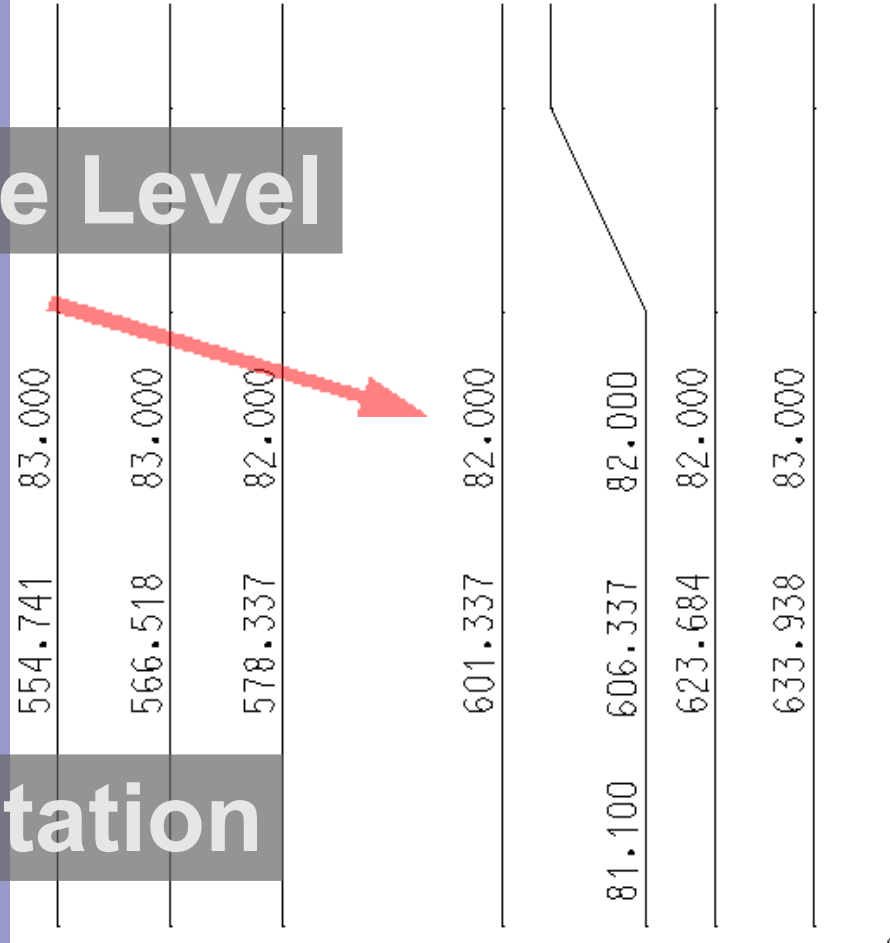
623.684 82.000

633.938 83.000



Surface Level

Annotation



66.97	20495.575	68.478
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	20169.287	73.278

Chainage

Annotation

	554.741	83.000
	566.518	83.000
	578.337	82.000
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Pipe Level on Pipe Features only

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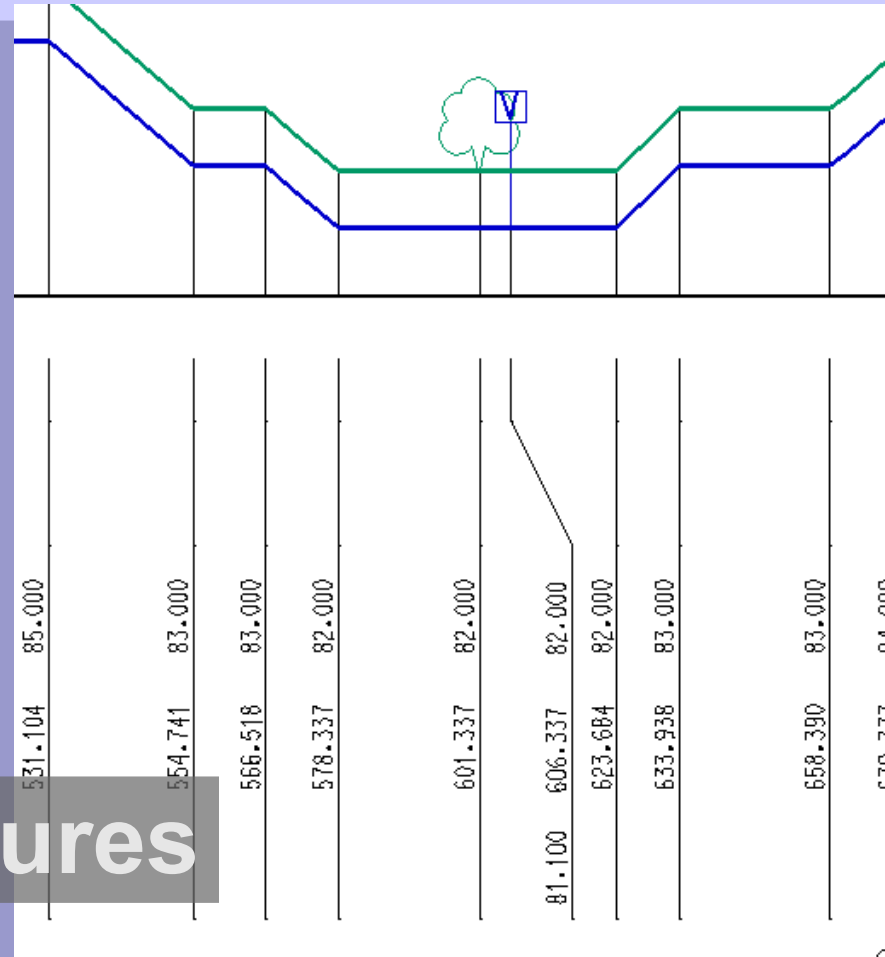
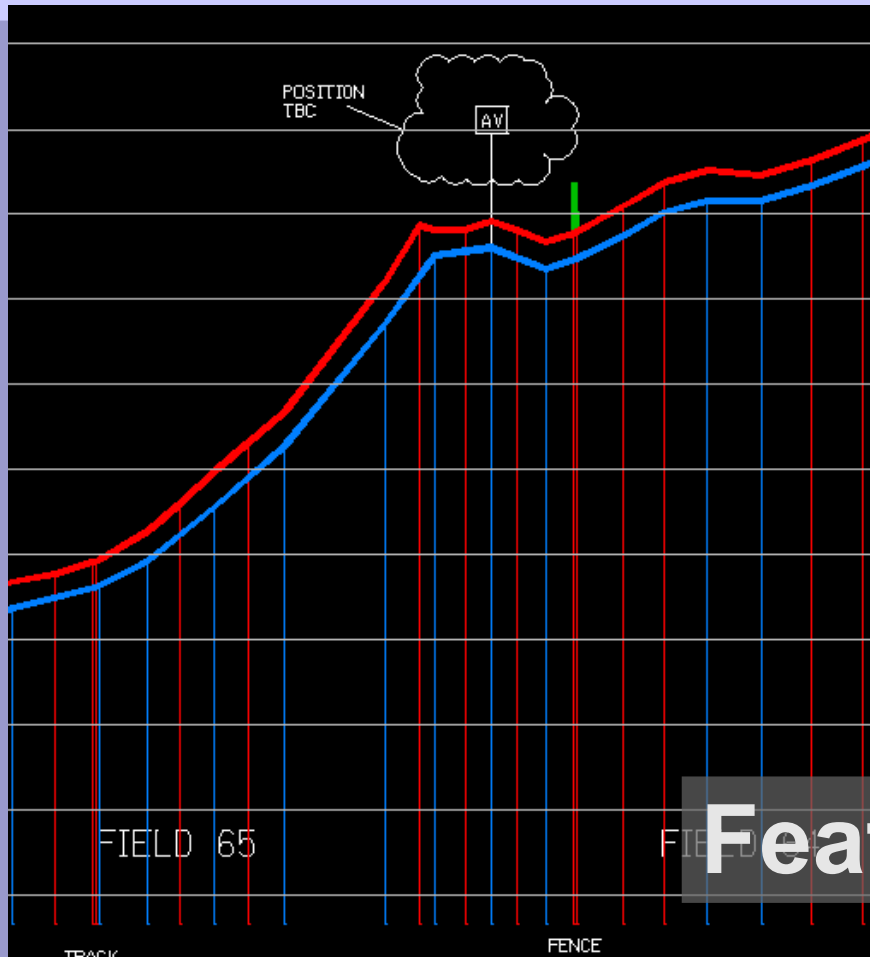
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Offset annotation

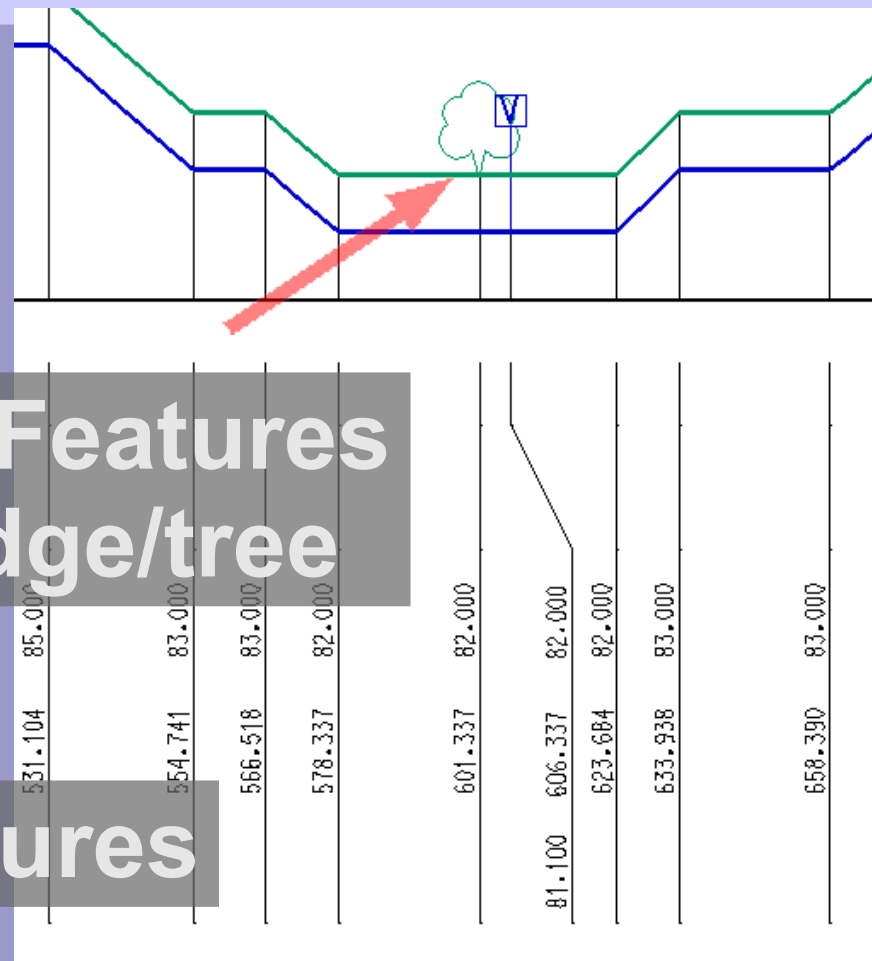
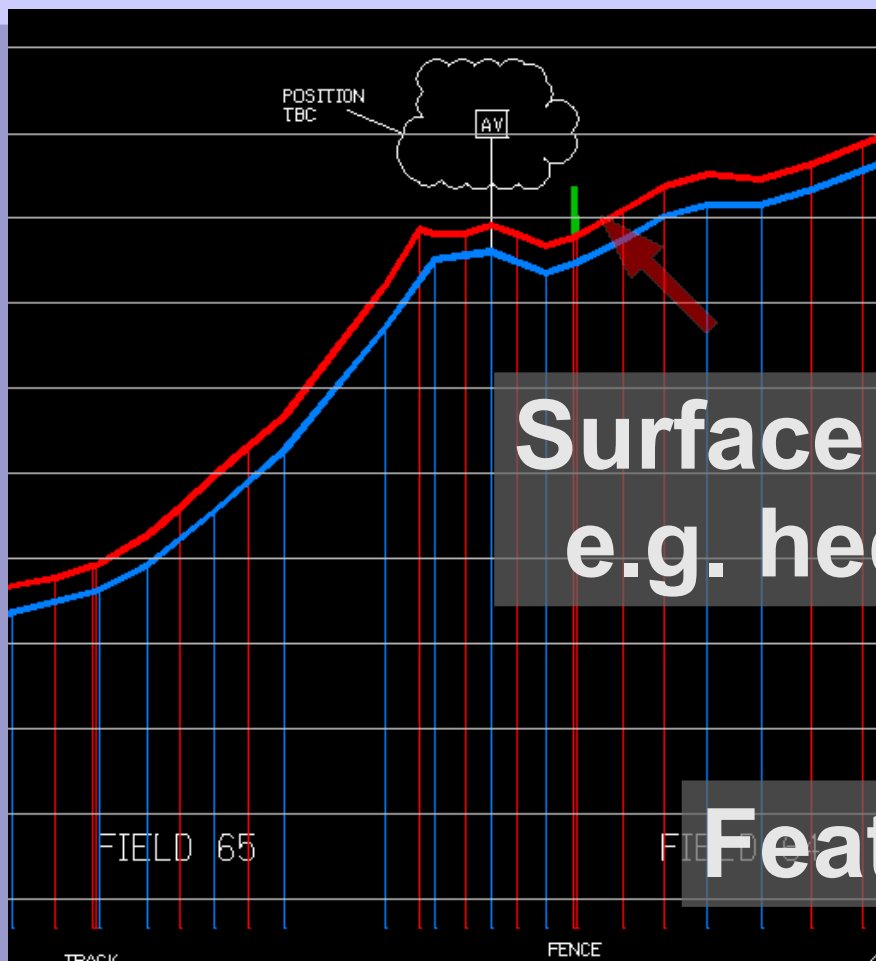
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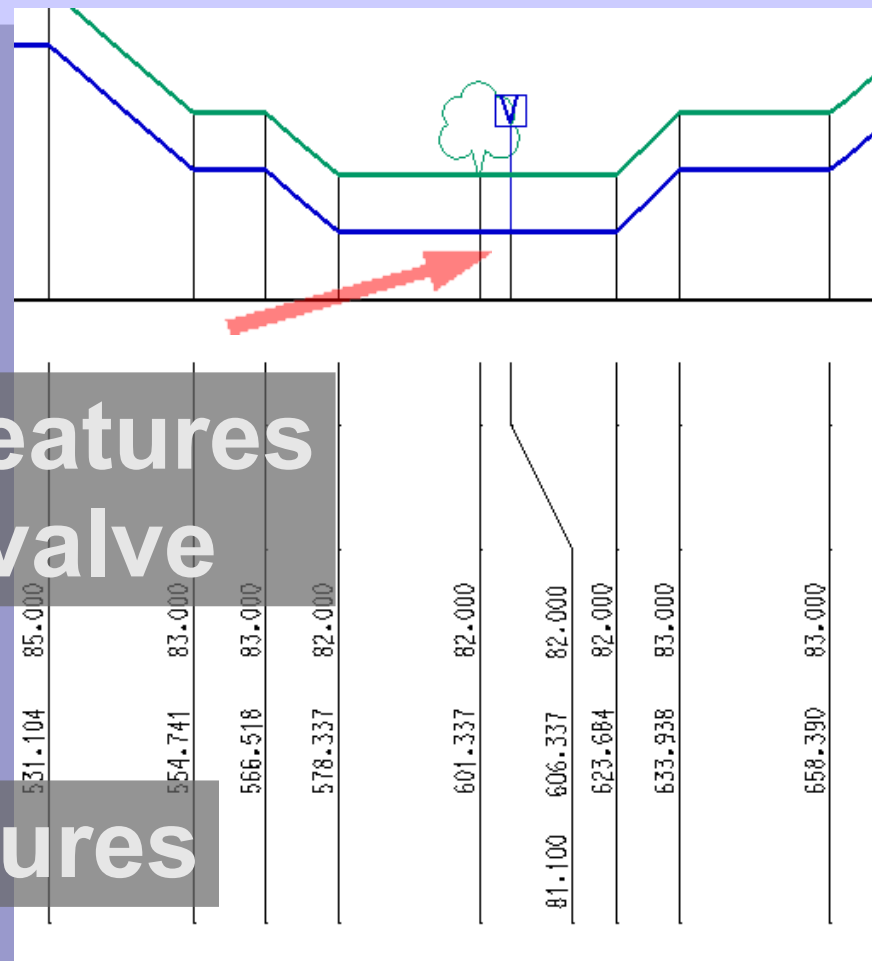
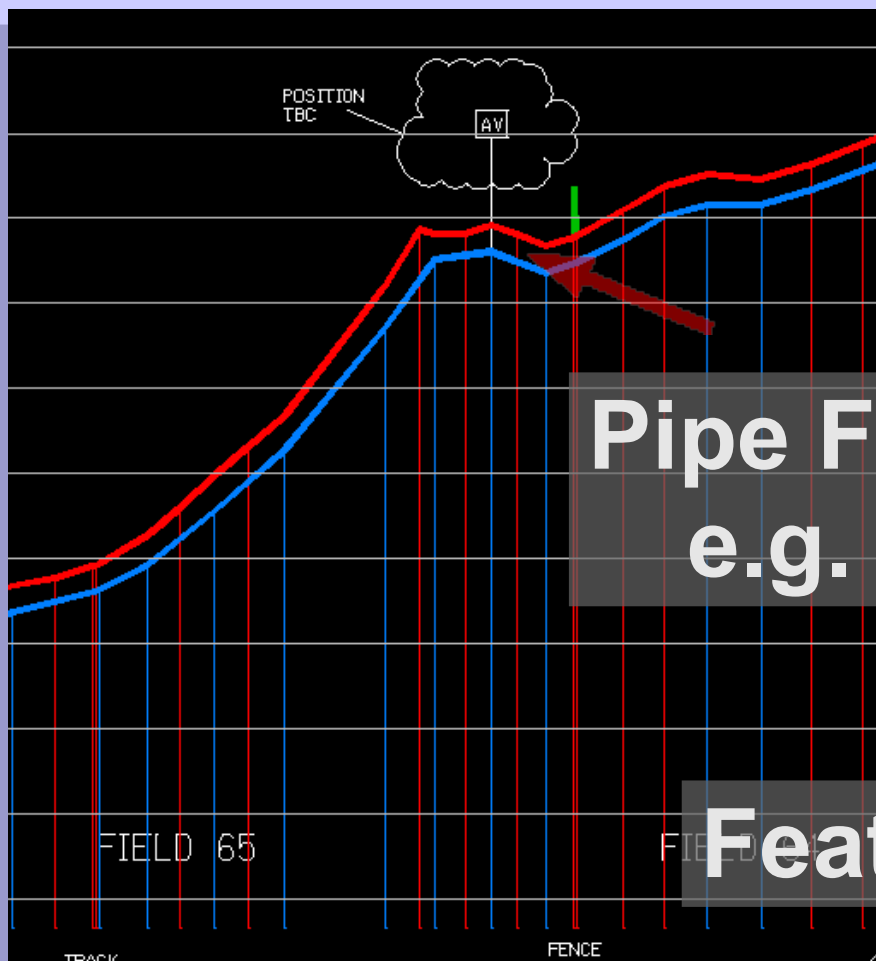


Features



Surface Features
e.g. hedge/tree

Features



Pipe Features
e.g. valve

Features

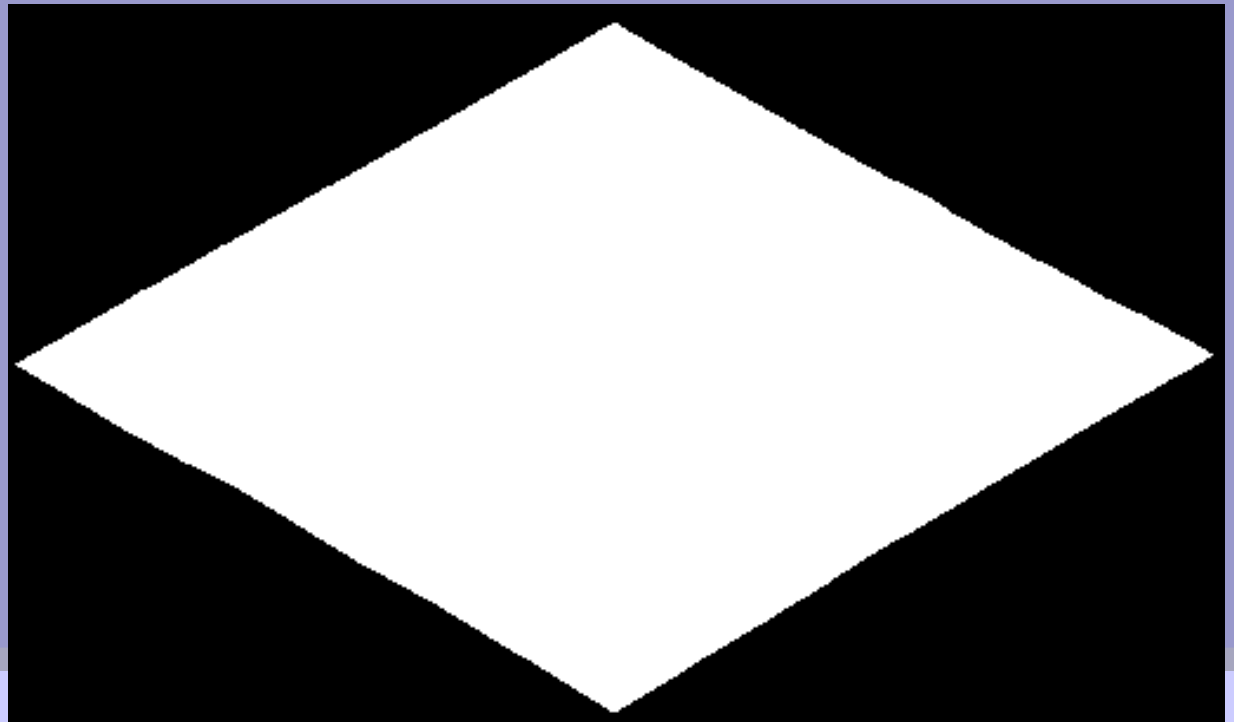
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Data Sources

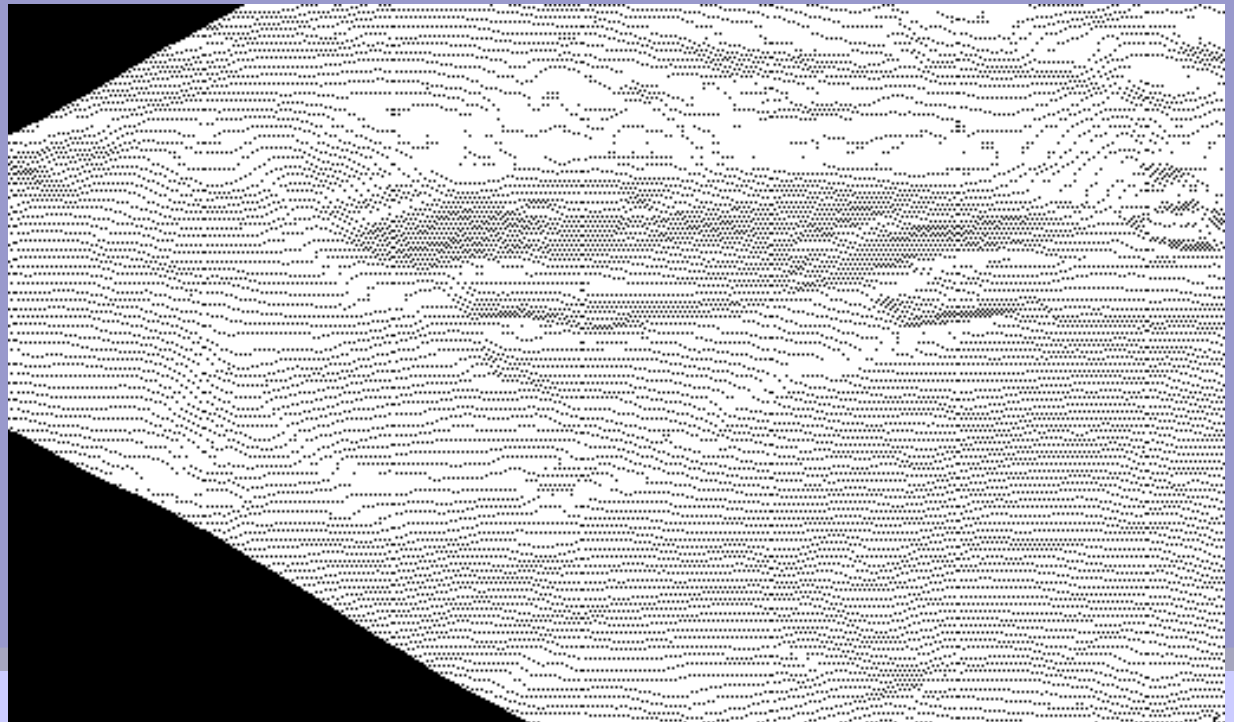
Data Sources

- Digital Terrain Model (DTM)



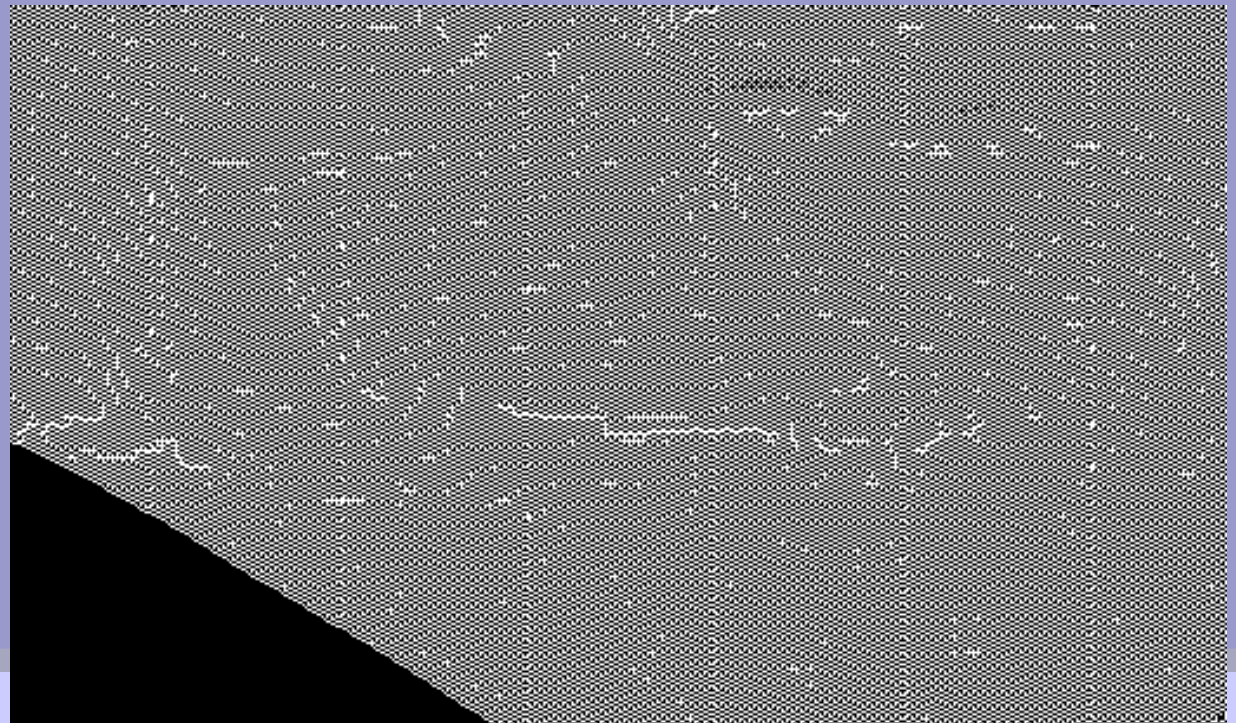
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- Digital Terrain Model (DTM)



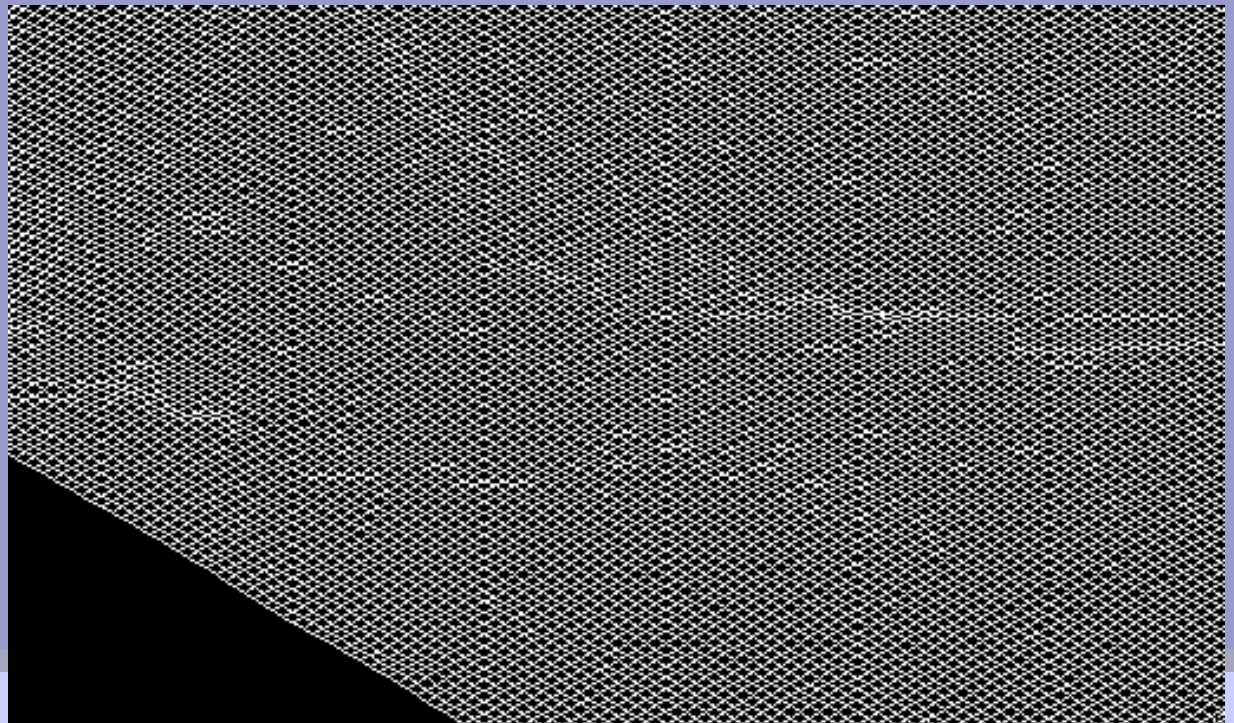
Data Sources

- Digital Terrain Model (DTM)



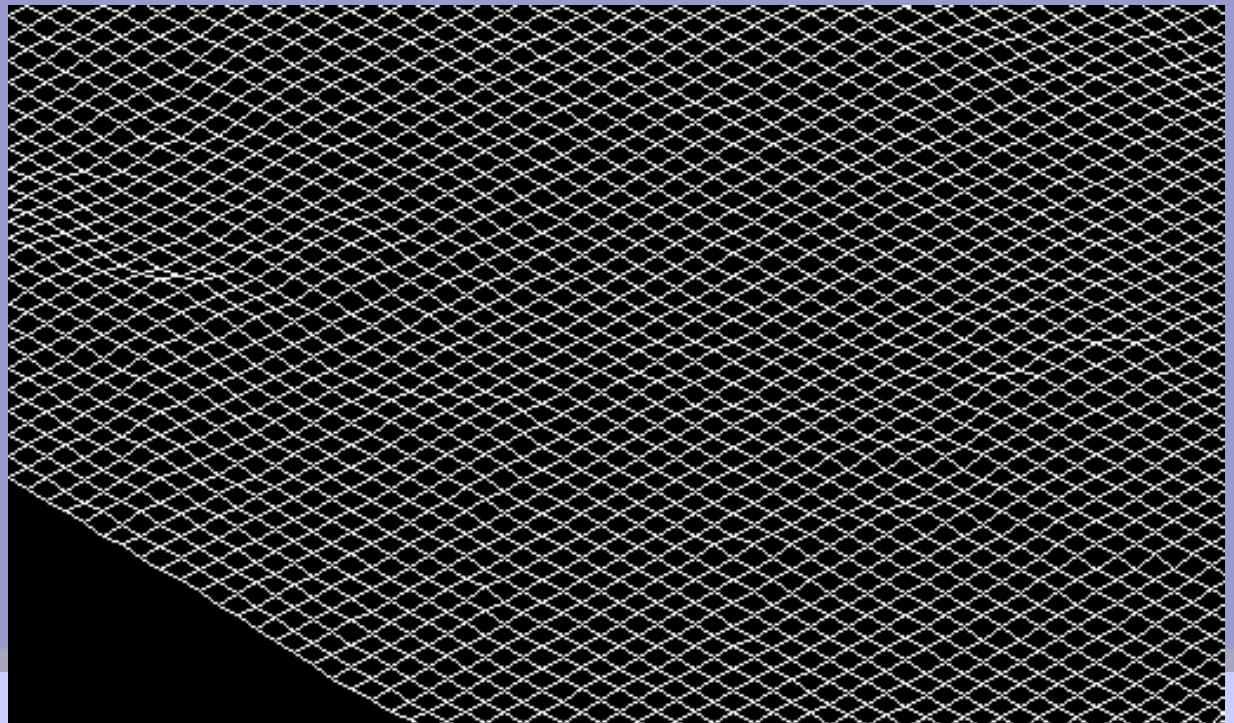
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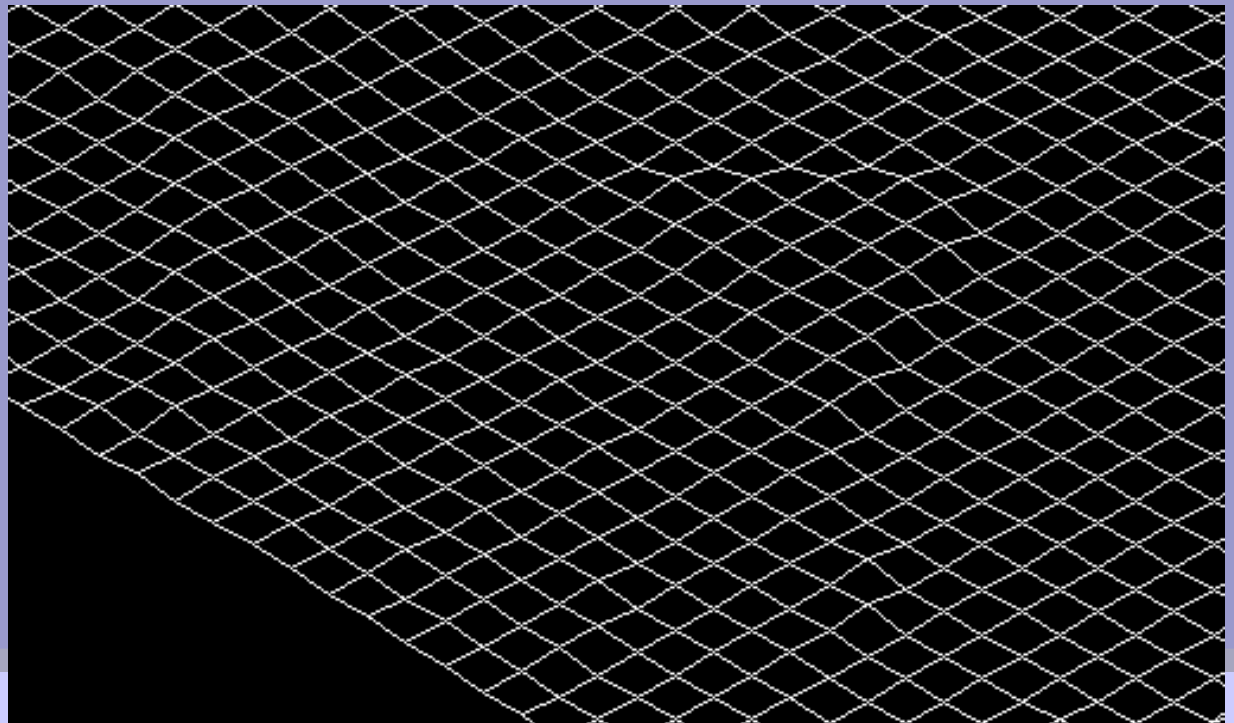
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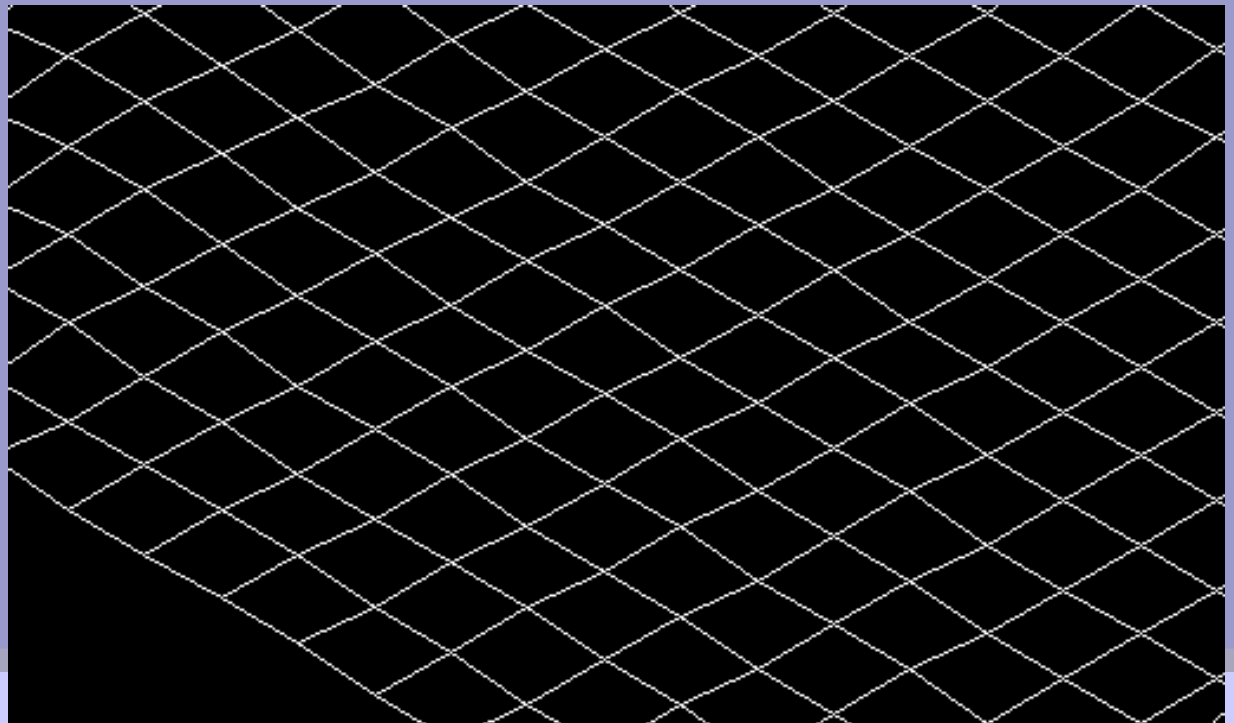
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Data Sources

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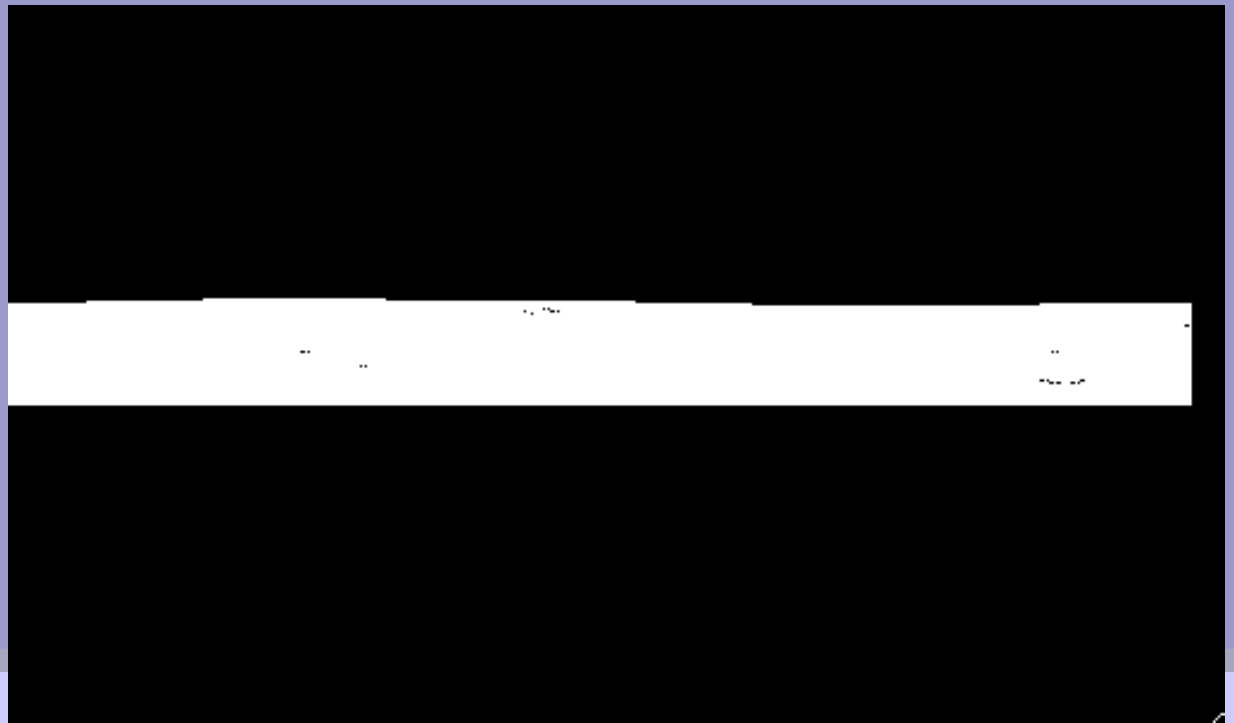
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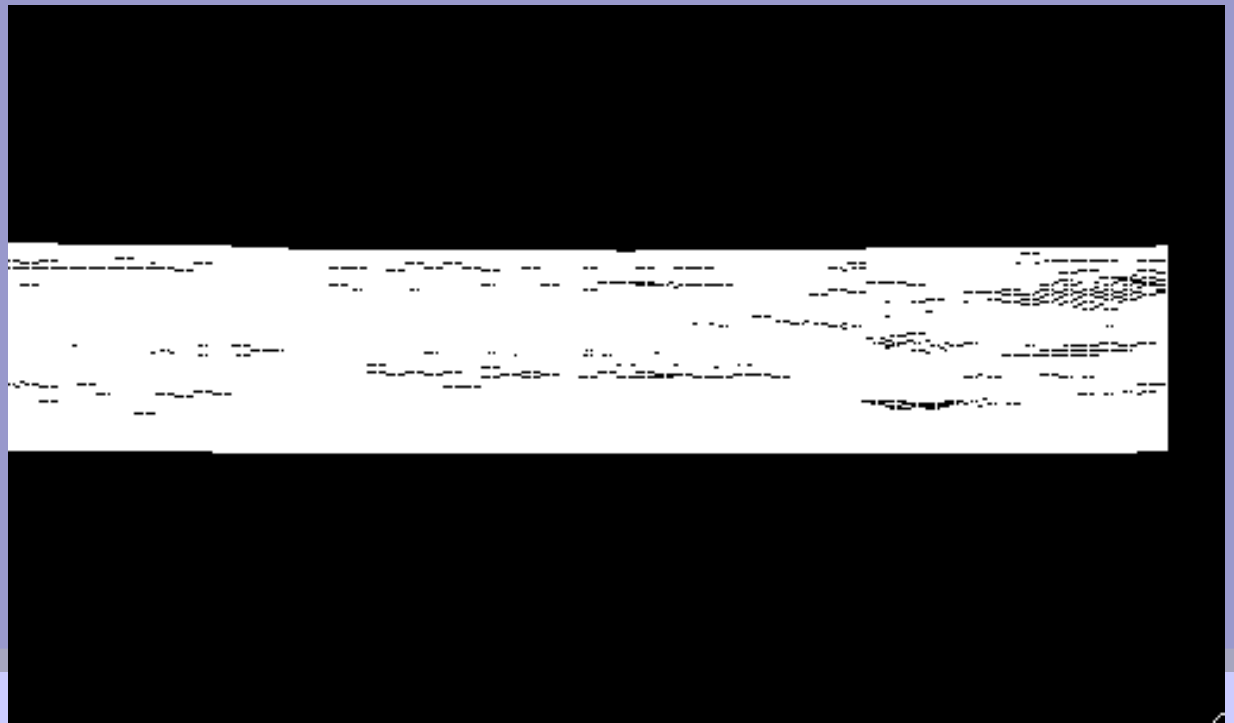
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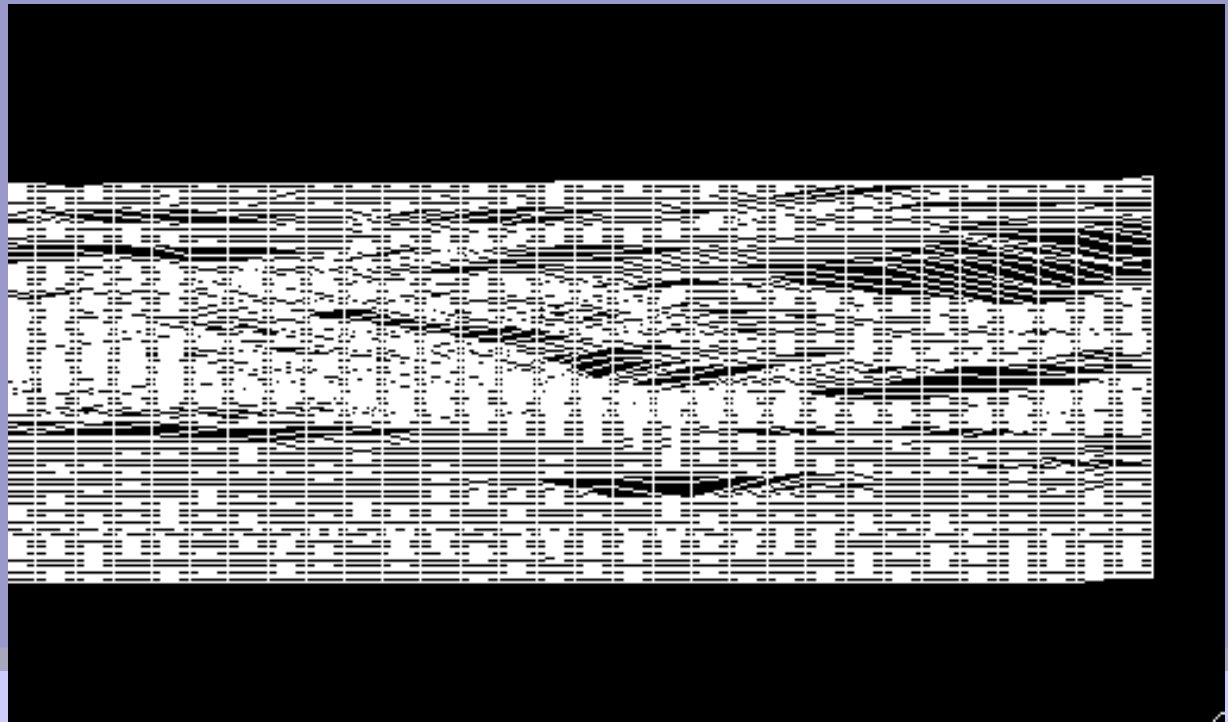
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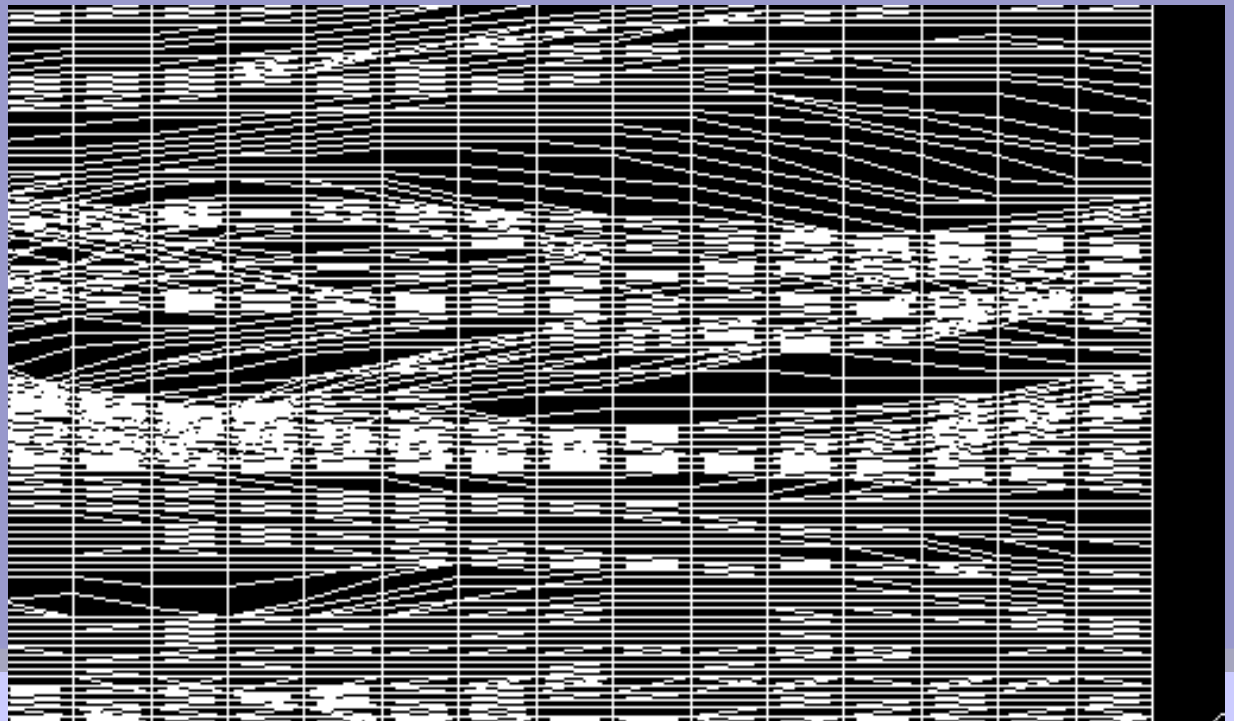
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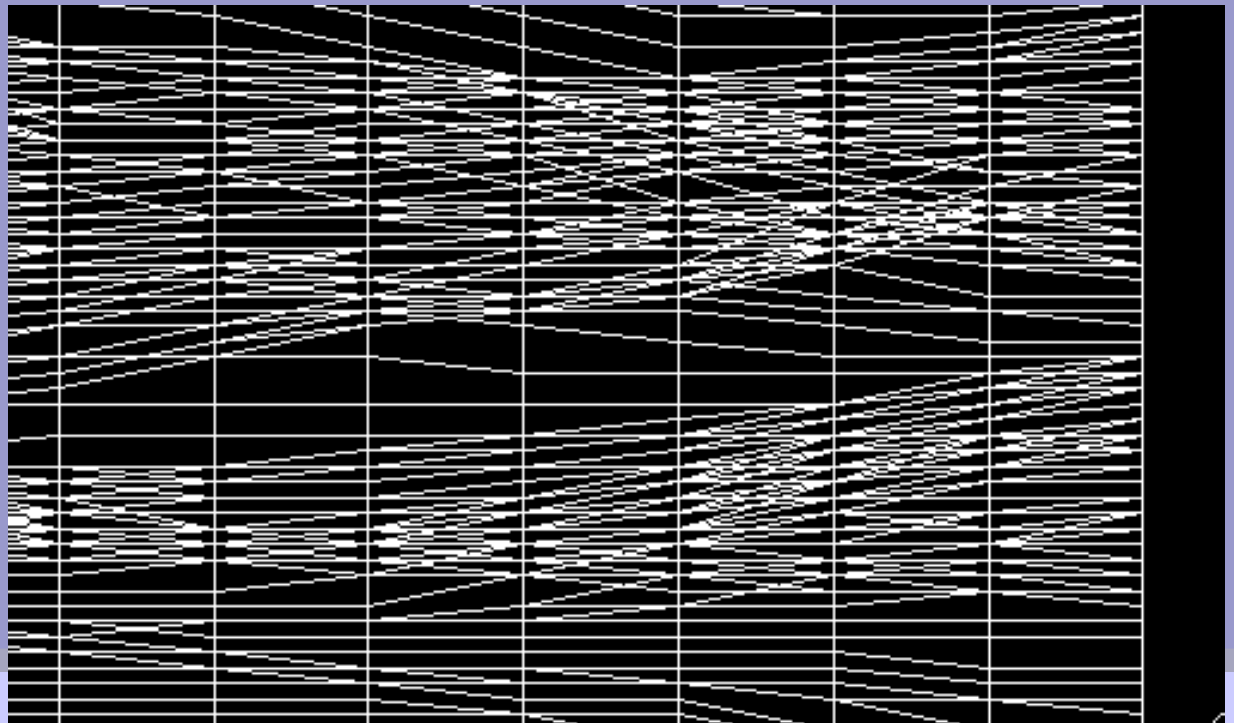
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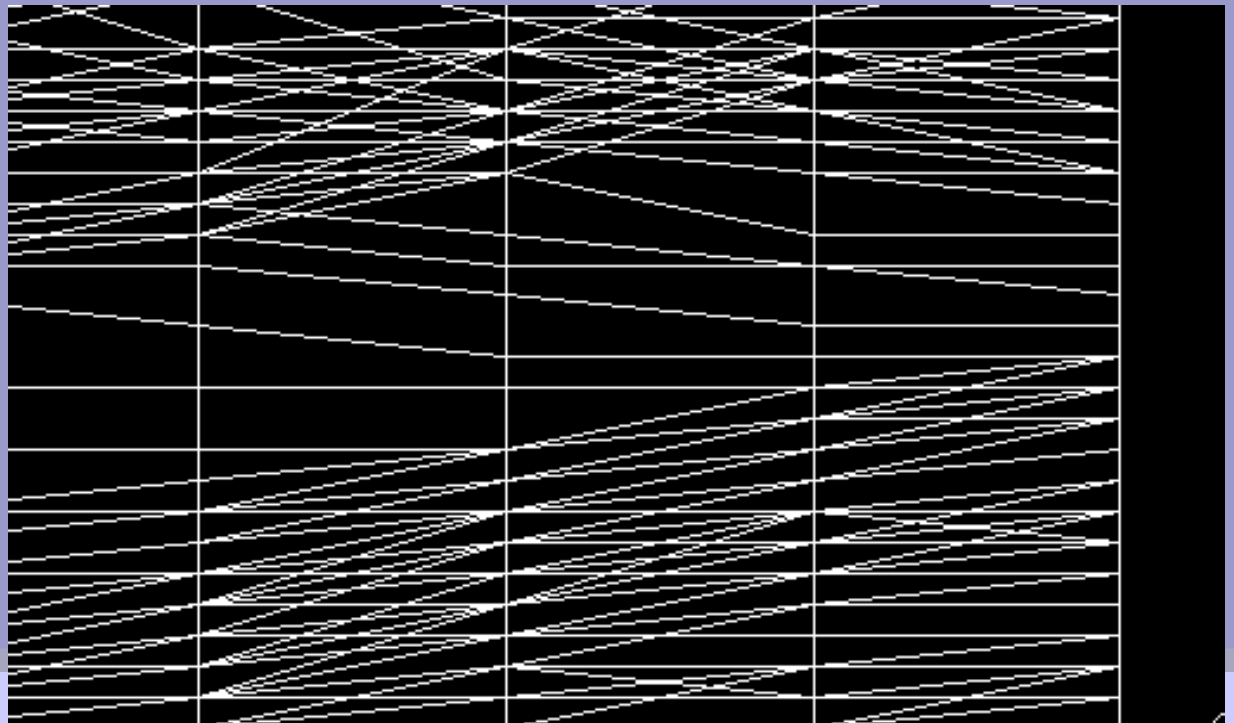
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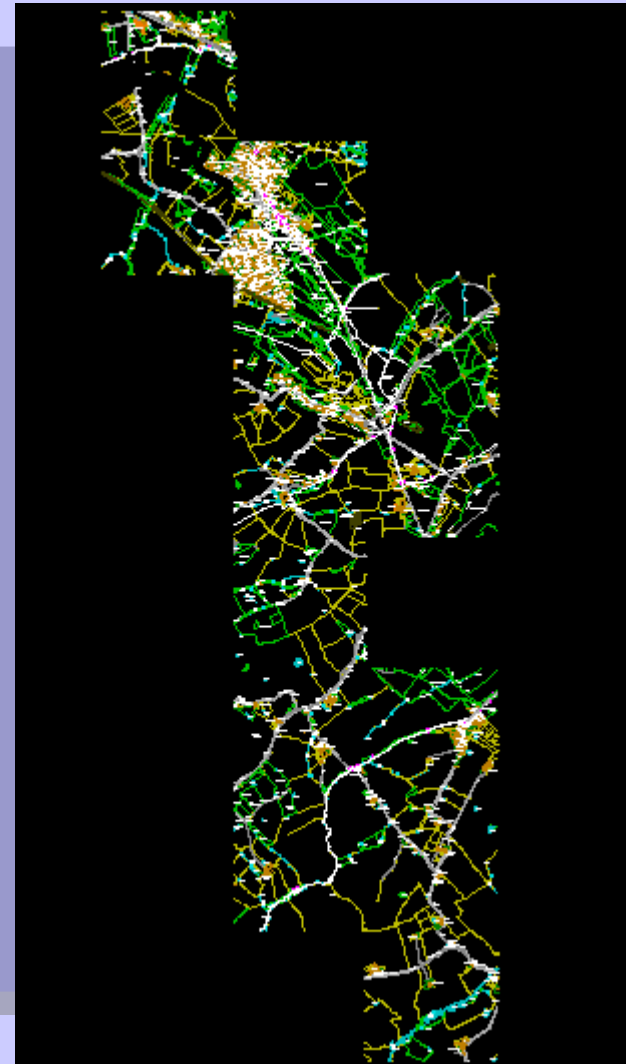
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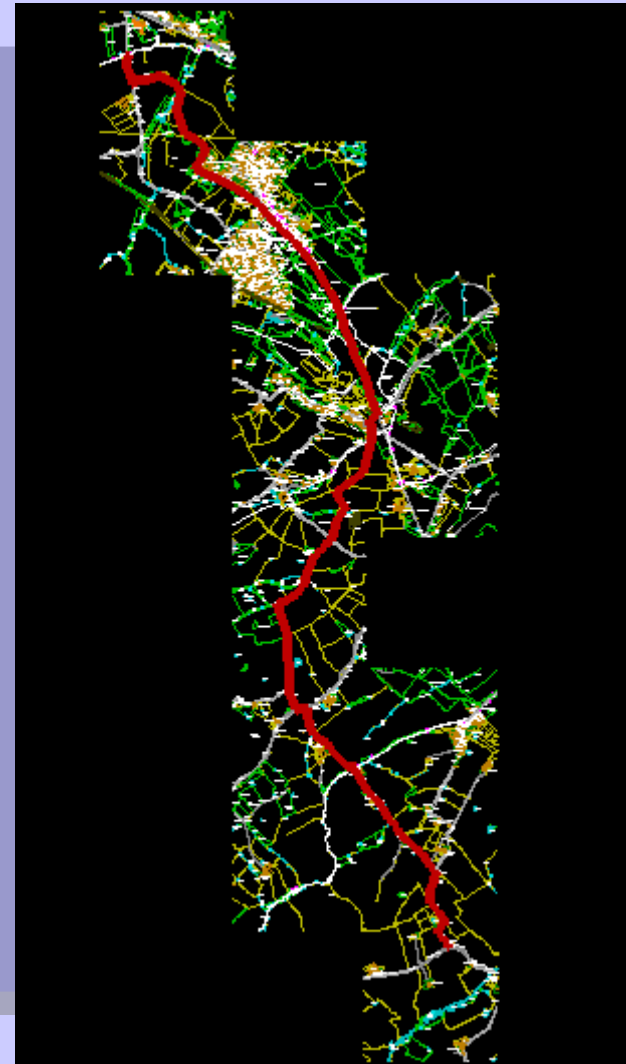
Data Sources

- Digital Terrain Model (DTM)
- Maps



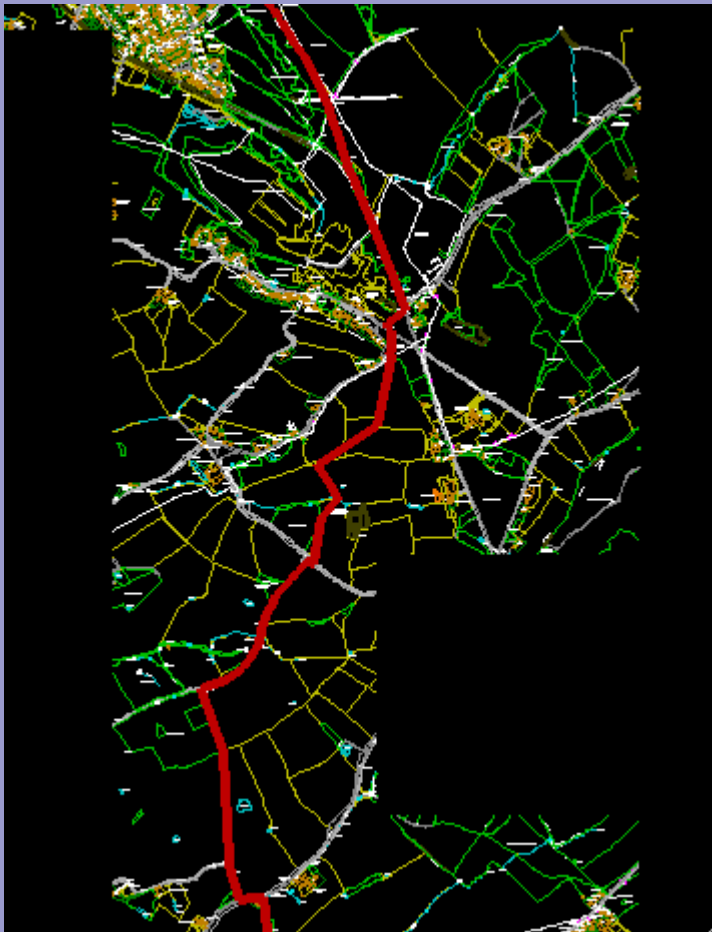
Data Sources

- Digital Terrain Model (DTM)
- Maps
- Route



Data Sources

- Digital Terrain Model (DTM)
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Data Sources

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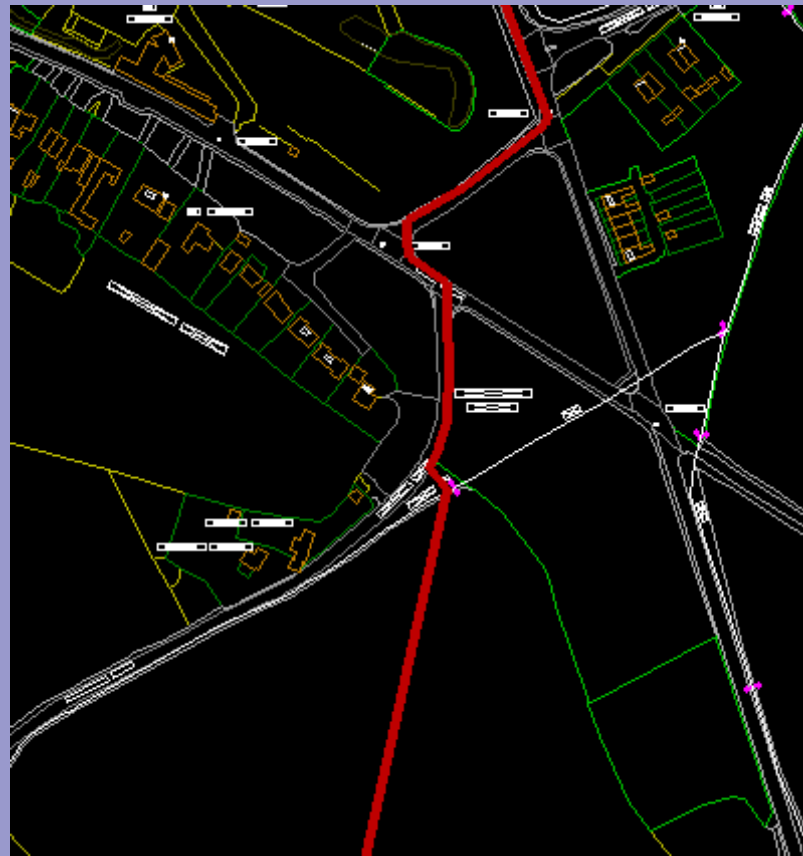
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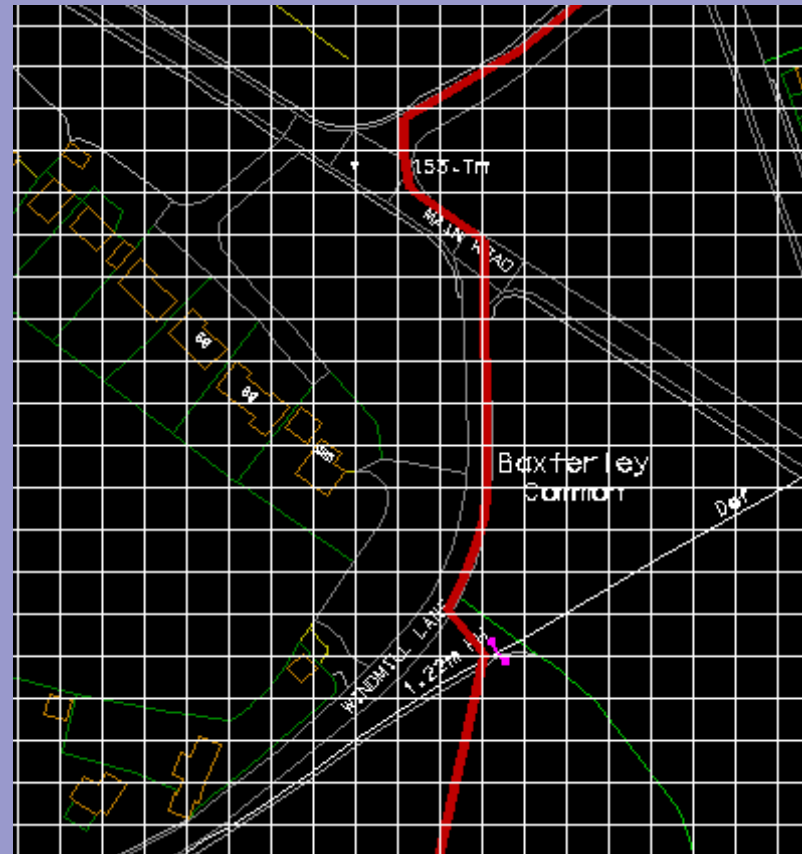
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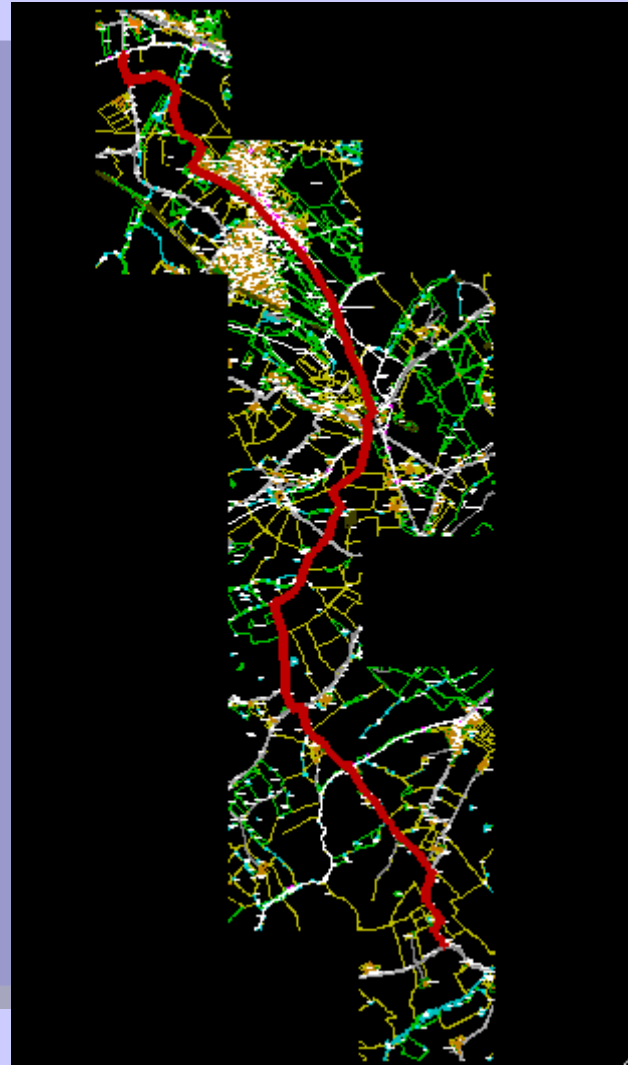
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Creating a Long Section

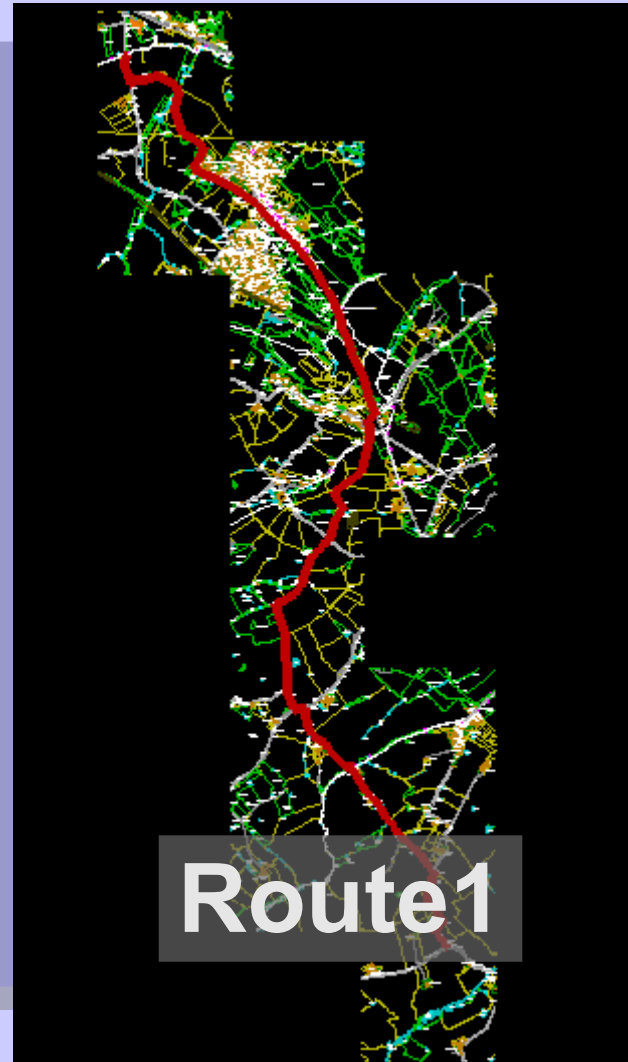
Creating a Long Section

- Give the route a name



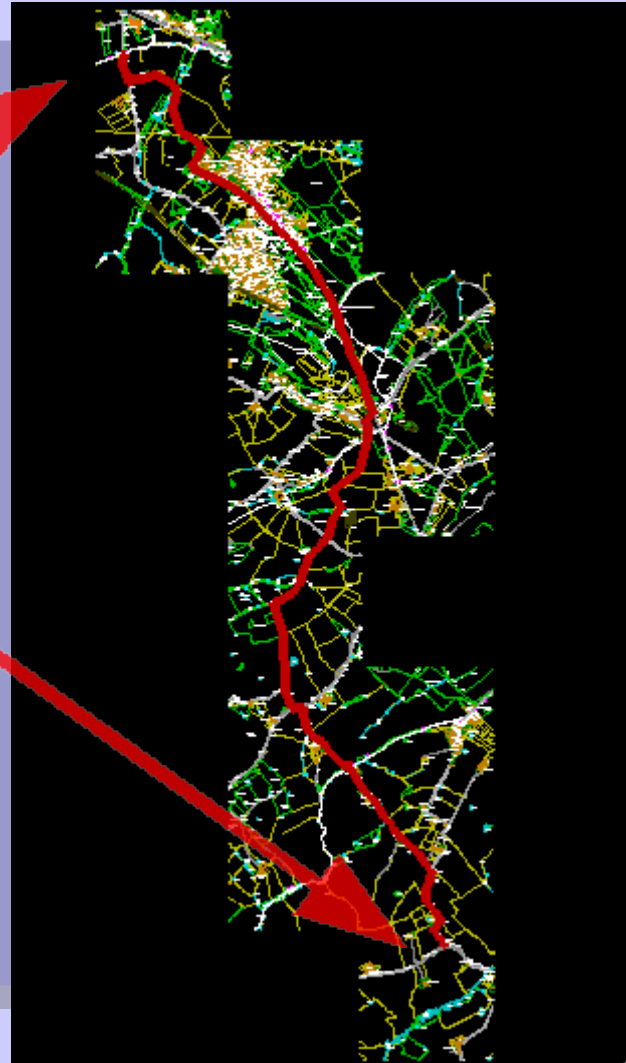
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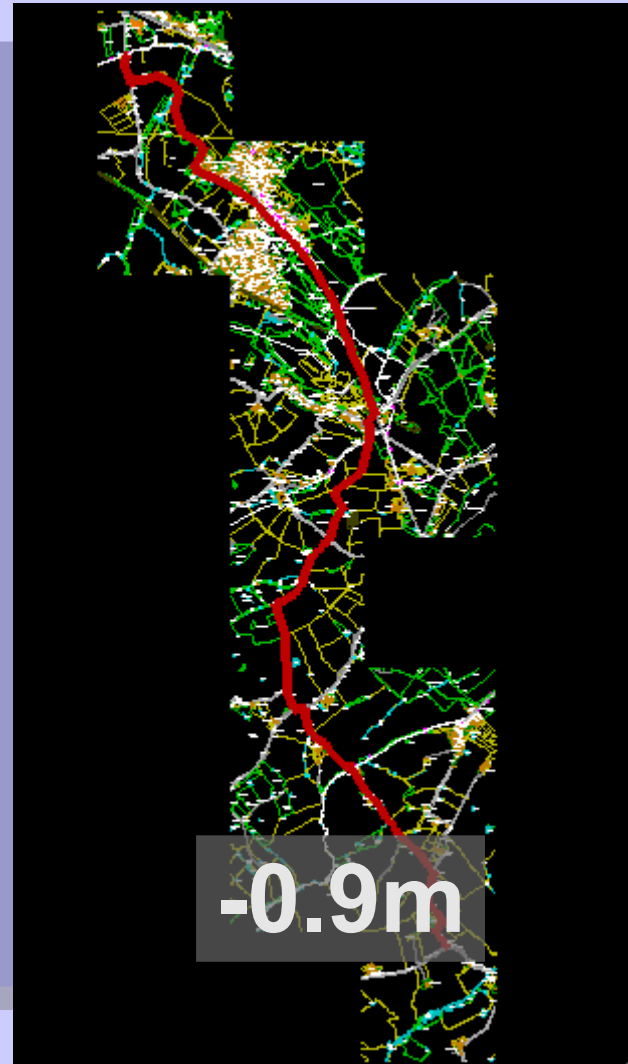
Creating a Long Section

- Give the route a name
- Select the route



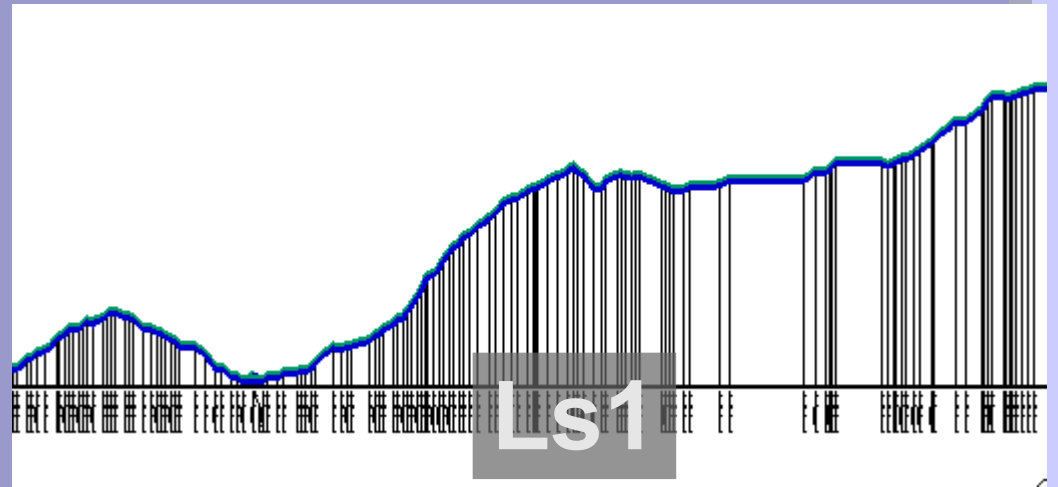
Creating a Long Section

- Give the route a name
- Select the route
- Create a pipe by offsetting the surface



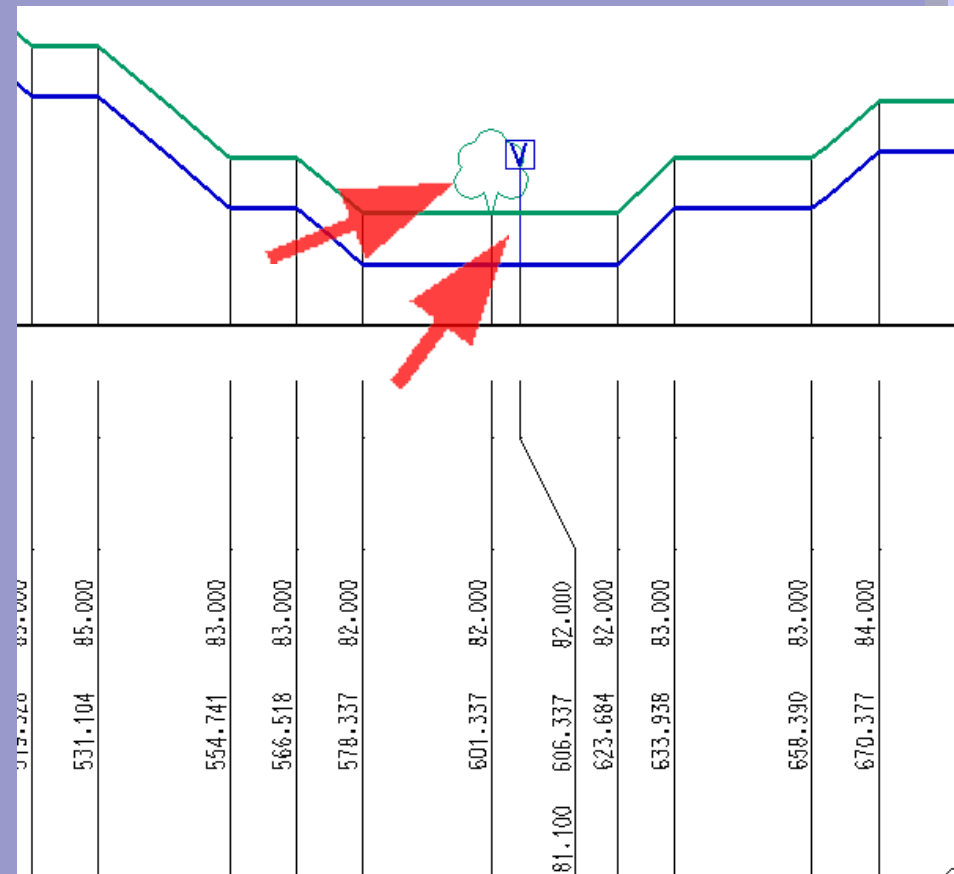
Creating a Long Section

- Give the route a name
- Select the route
- Create a pipe by offsetting the surface
- Create a named long section



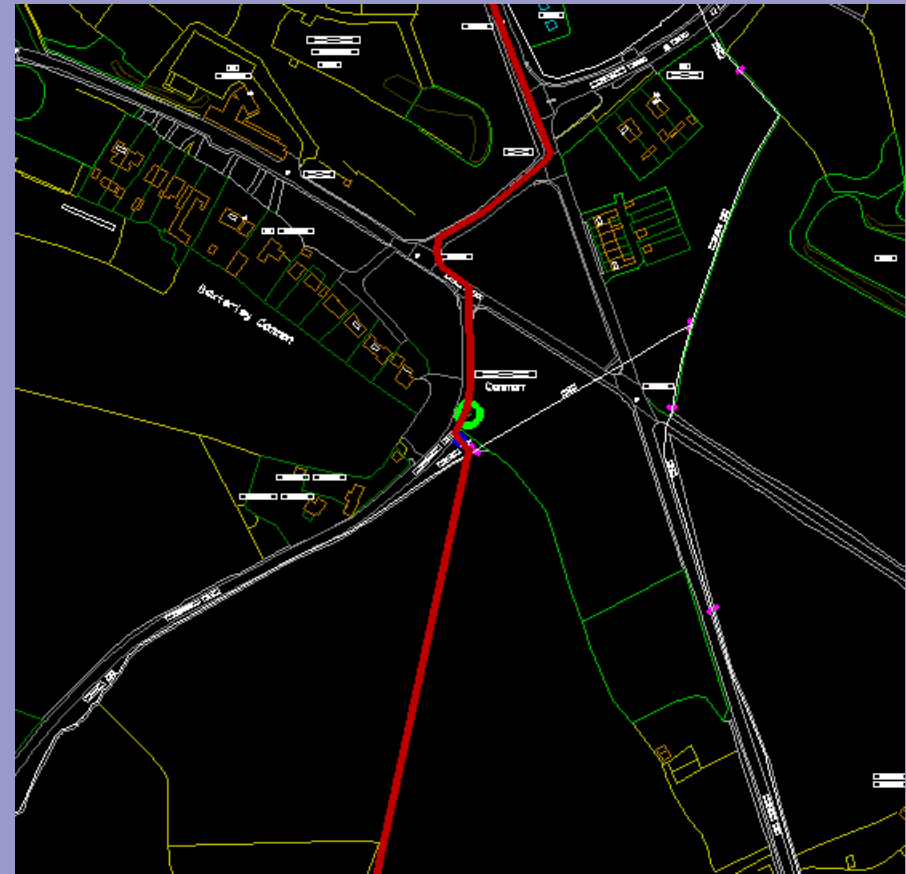
Creating a Long Section

- Give the route a name
- Select the route
- Create a pipe by offsetting the surface
- Create a named long section
- Add features in the long section



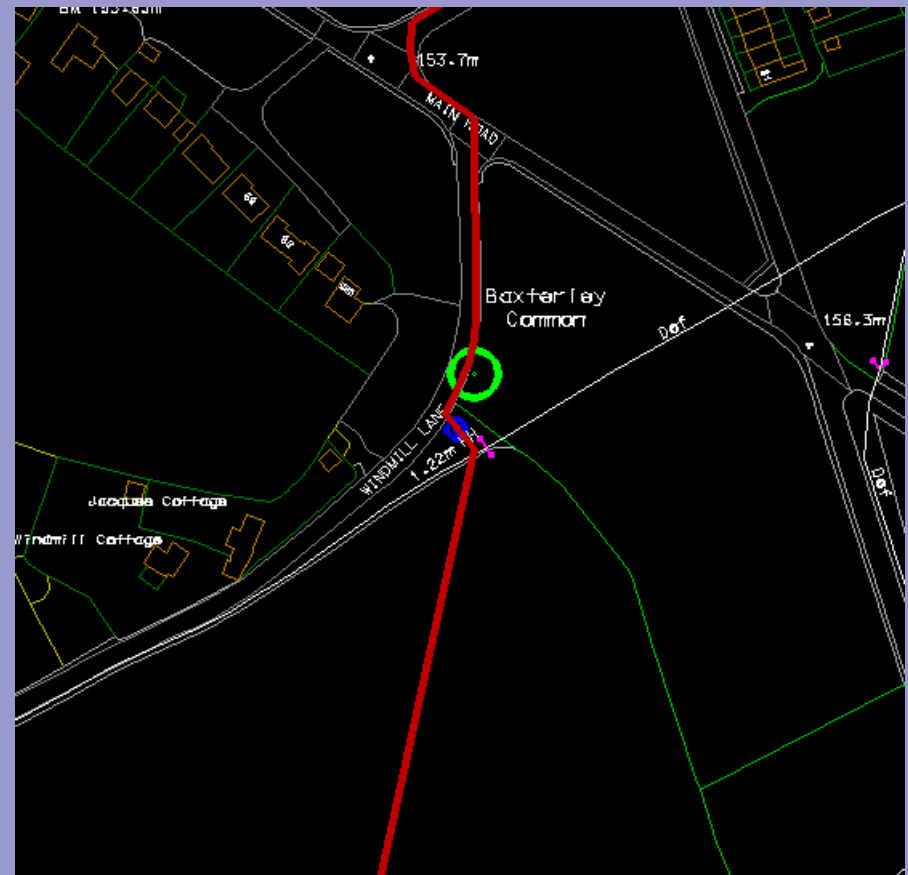
Creating a Long Section

- Give the route a name
- Select the route
- Create a pipe by offsetting the surface
- Create a named long section
- Add features in the long section
- Or in the route



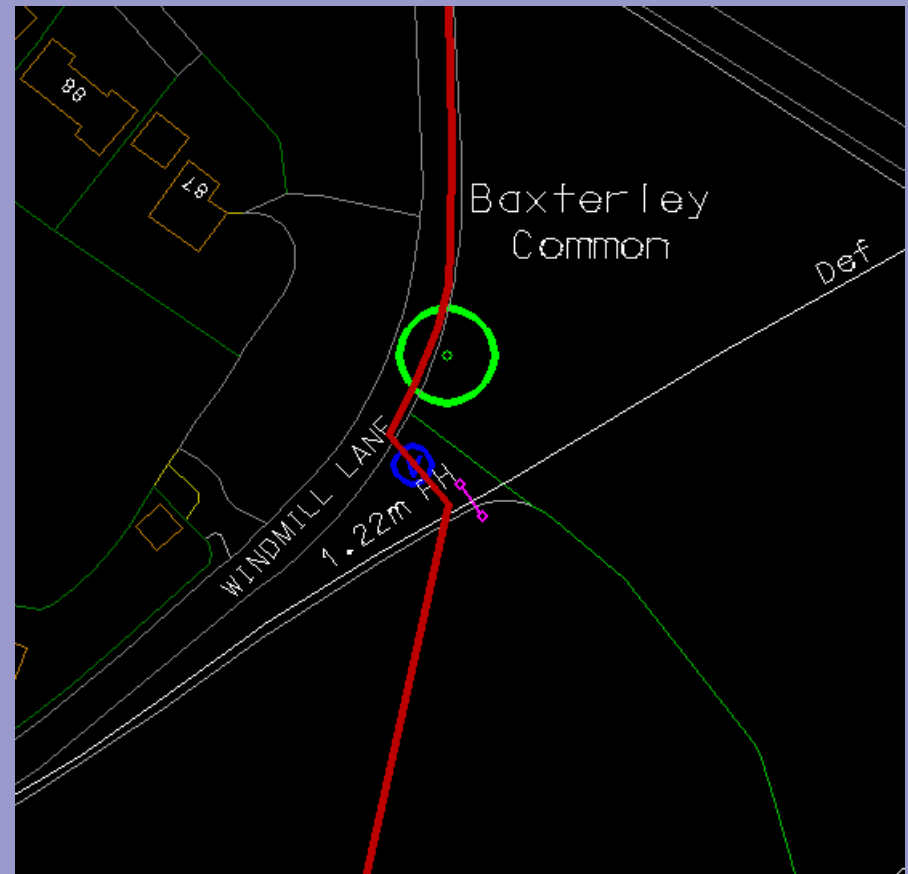
Creating a Long Section

- Give the route a name
- Select the route
- Create a pipe by offsetting the surface
- Create a named long section
- Add features in the long section
- Or in the route



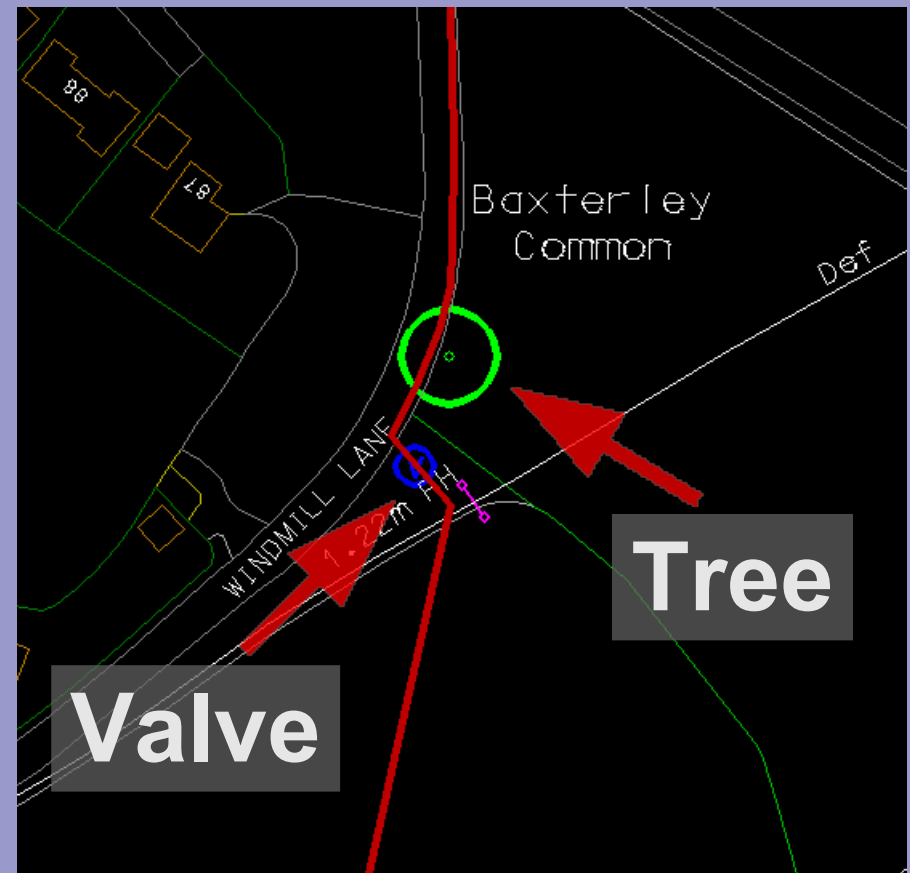
Creating a Long Section

- Give the route a name
- Select the route
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- Add features in the long section
- Or in the route



Creating a Long Section

- Give the route a name
- Select the route
- Create a pipe by offsetting the surface
- Create a named long section
- Add features in the long section
- Or in the route



Summary

- You need a DTM, some kind of mapping and a route
- Initially derive a pipe from the surface
- Create many routes in one drawing
- Create many long sections from one route
- Place surface and/or pipe features in a long section or the route
- Adjust annotation
- Adjust the pipe
- Add or remove sections to the route
- All features in all long sections are updated automatically

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Live Demo...

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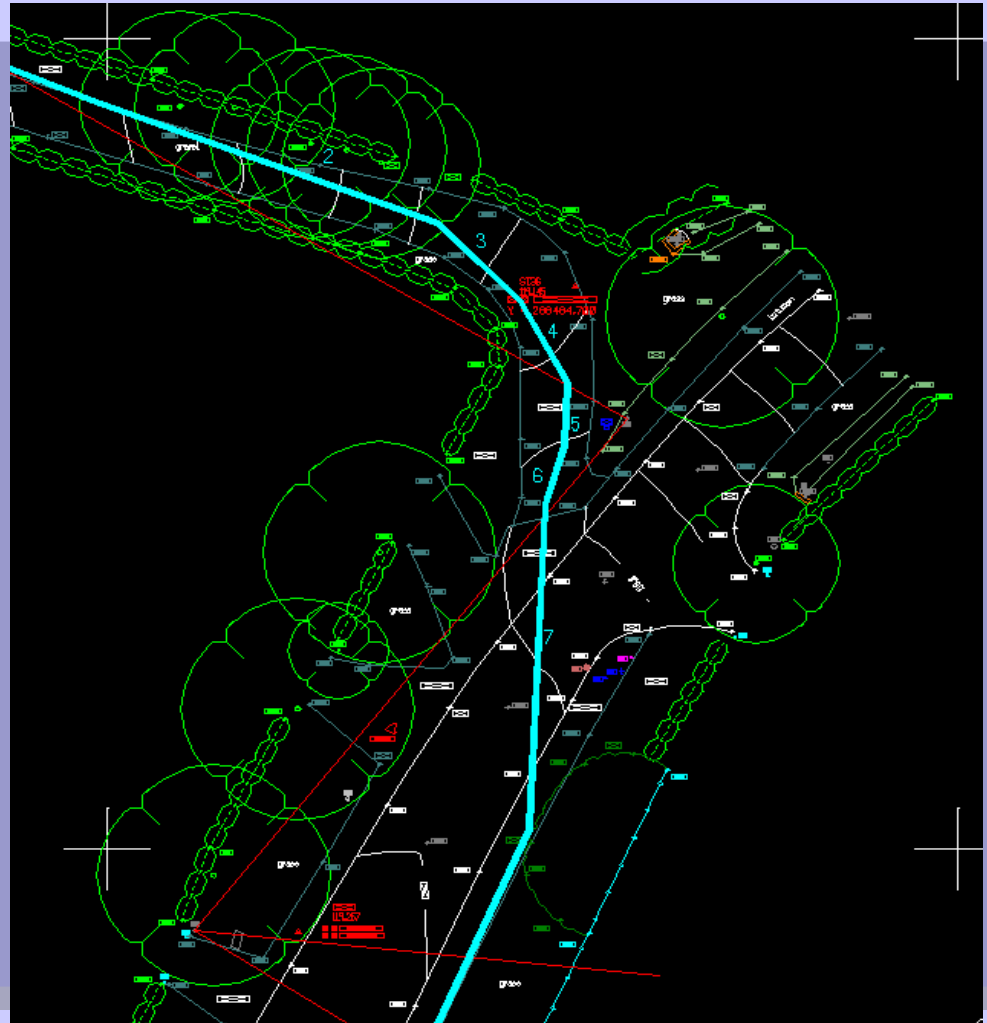
Market Harborough

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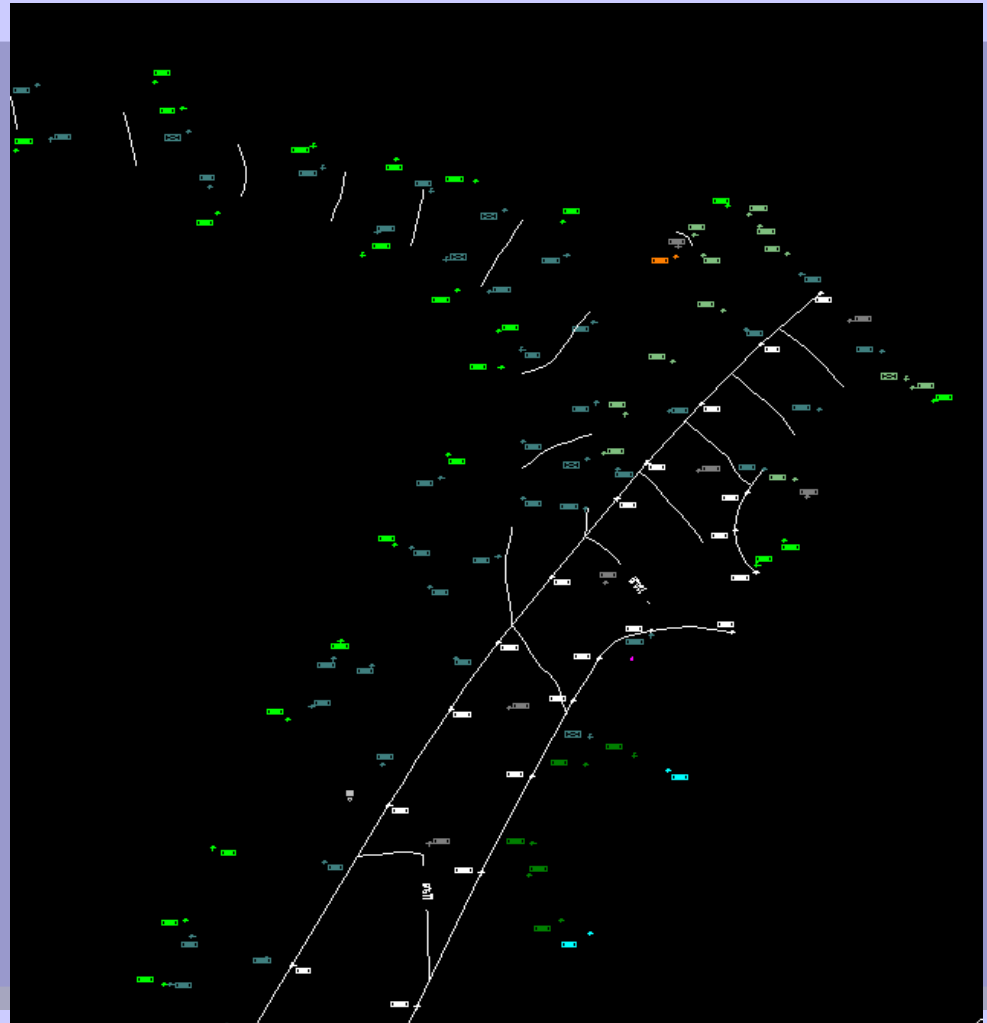
Market Harbourough

- Complex drawing



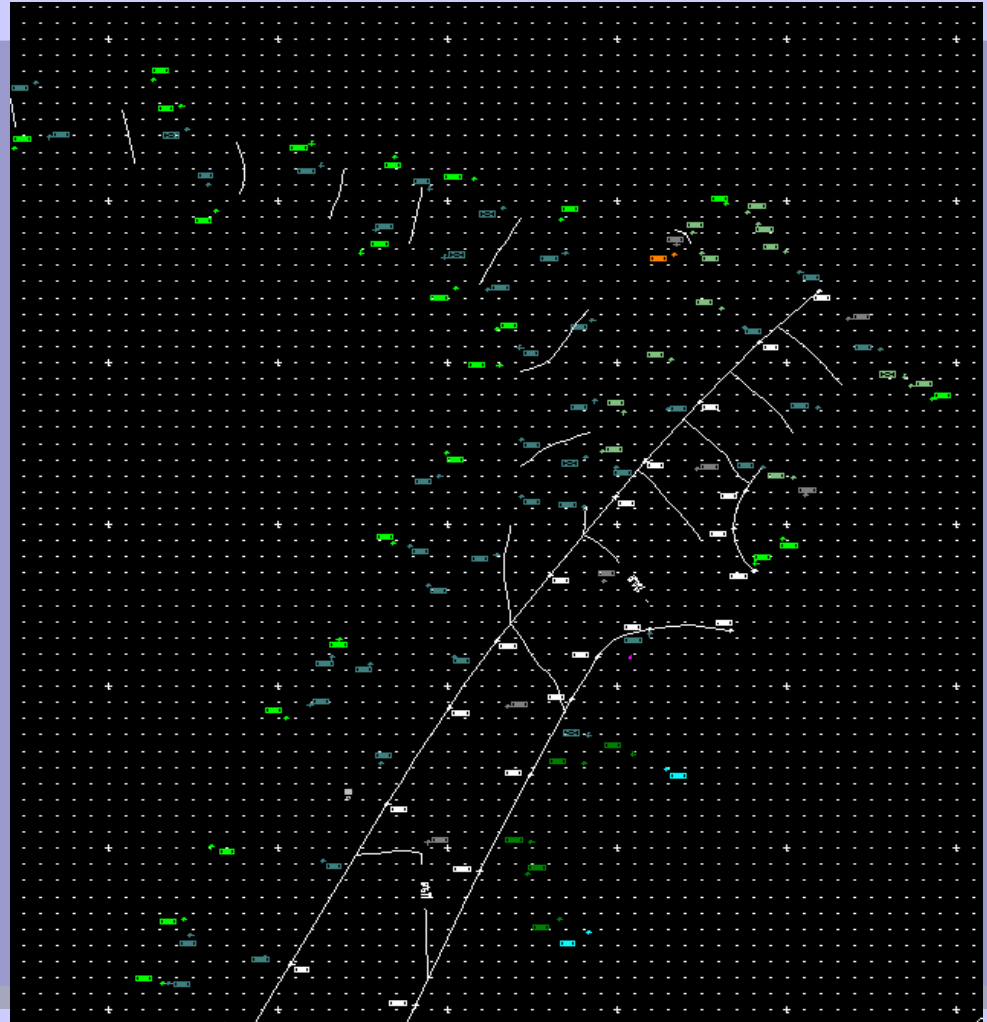
Market Harbourough

- Complex drawing
- Contains all height information



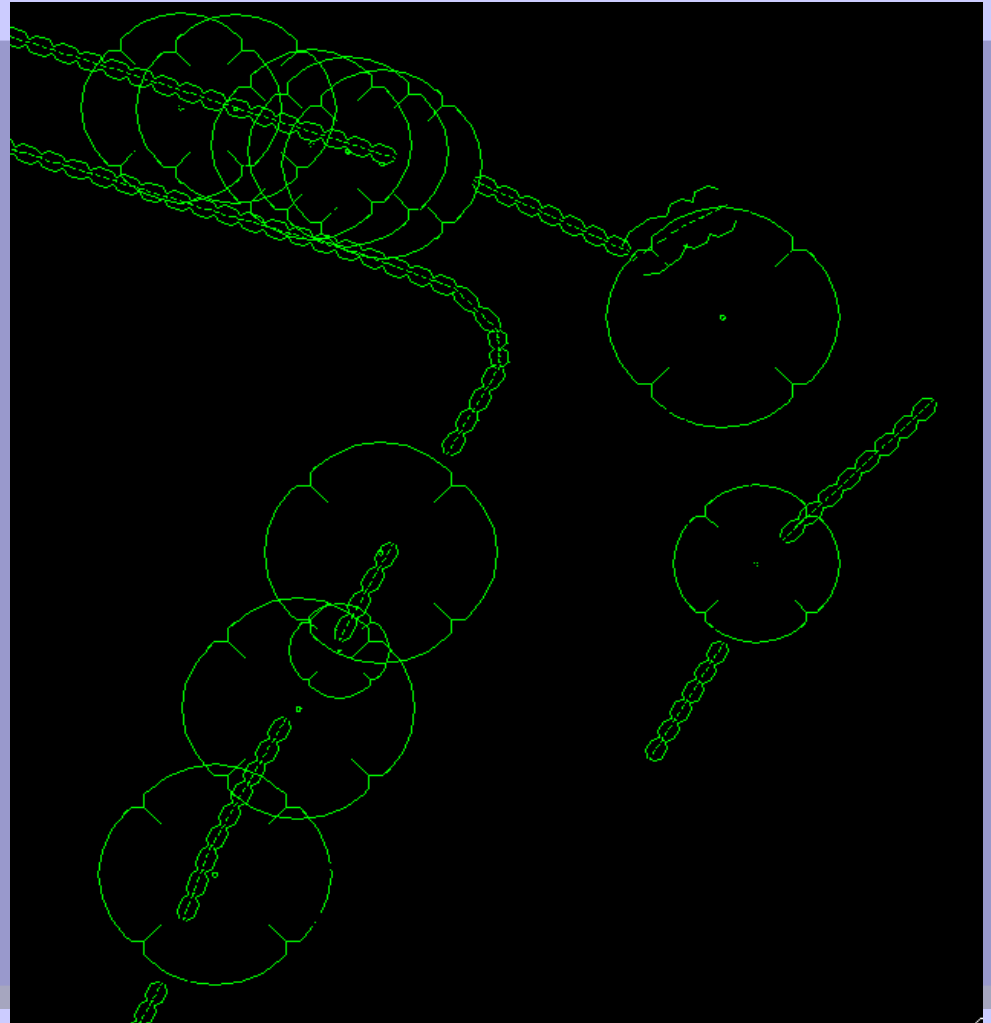
Market Harbourough

- Complex drawing
- Contains all height information to create a DTM



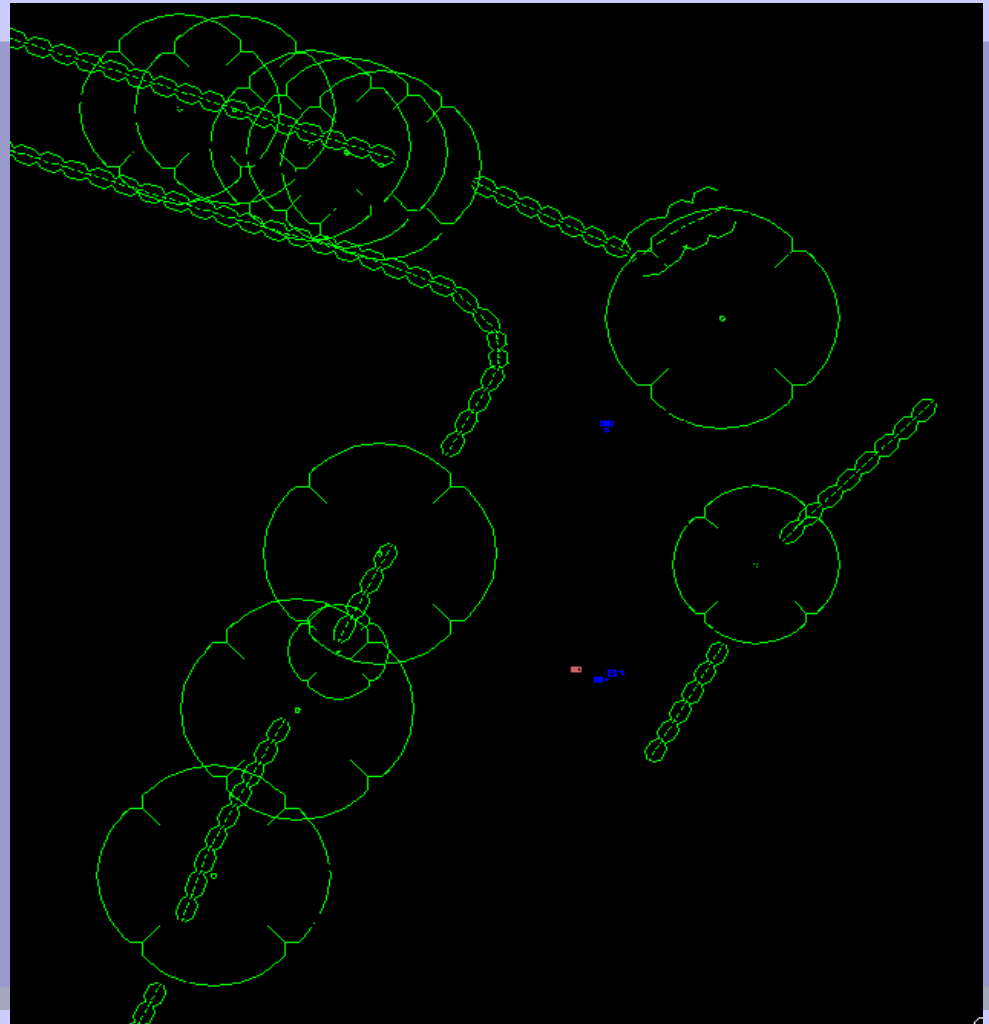
Market Harbourough

- Complex drawing
- Contains all height information to create a DTM
- Surface features



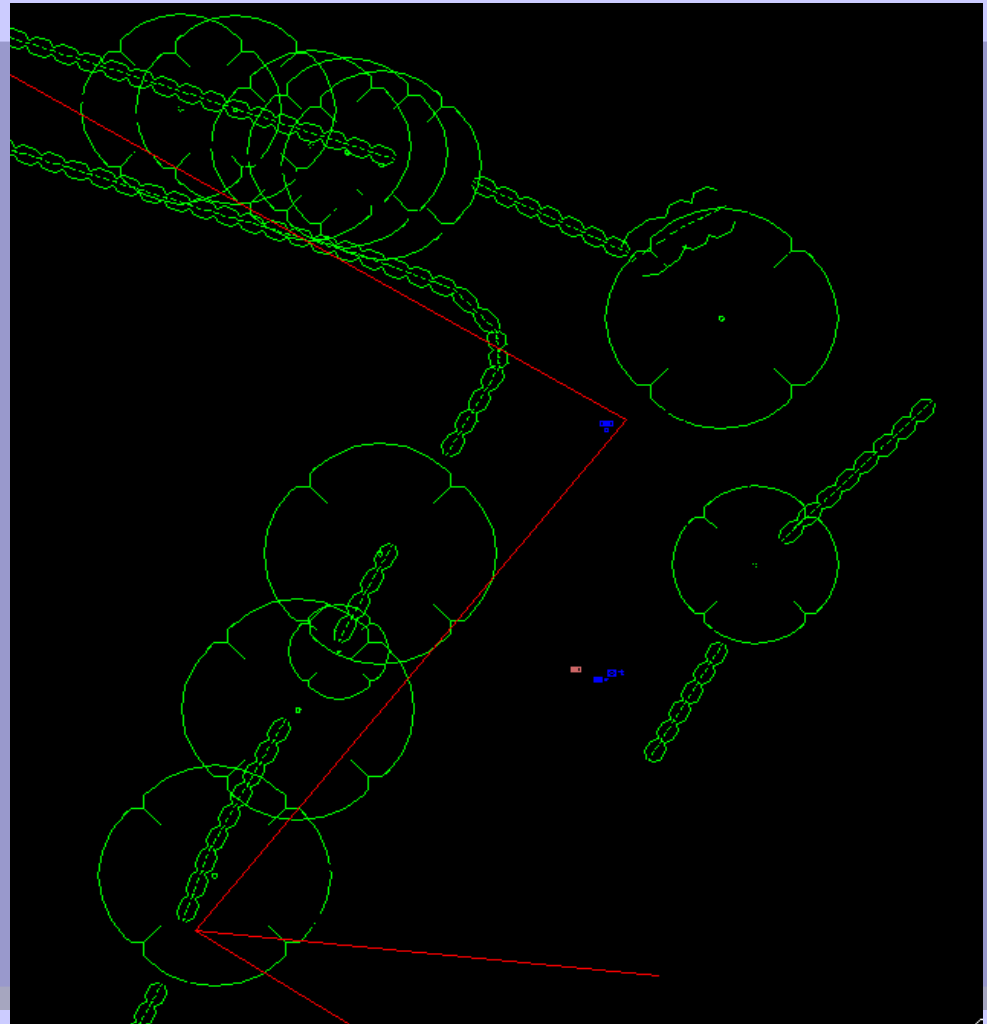
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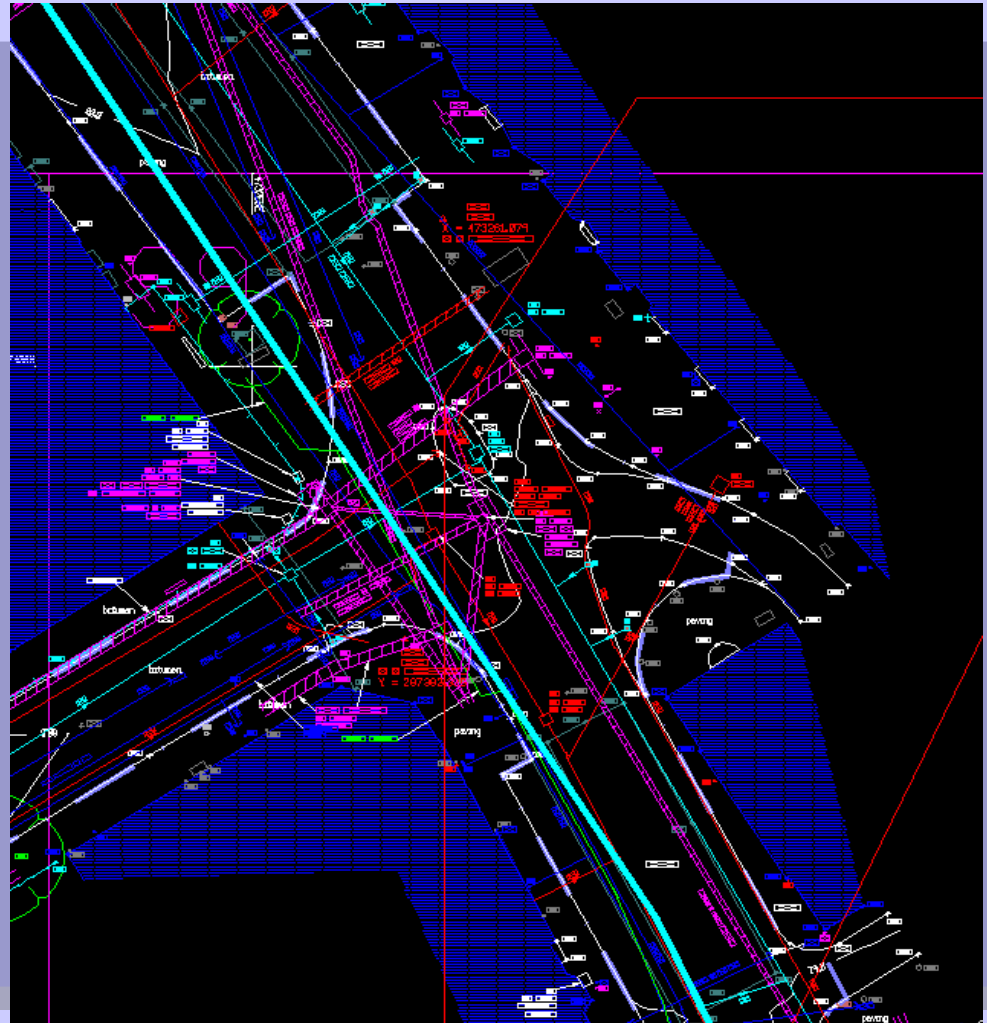
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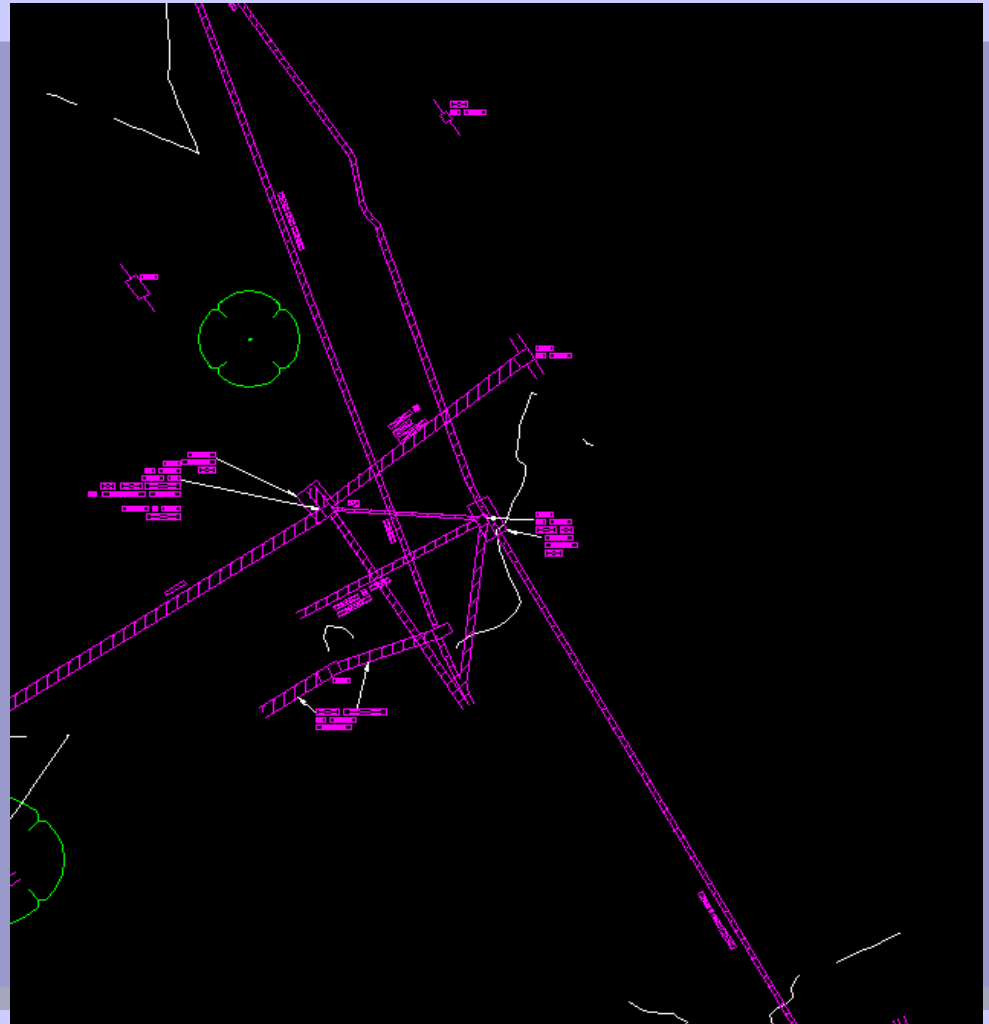
Market Harbourough

- Complex drawing
- Contains all height information to create a DTM
- Surface features
- Underground features



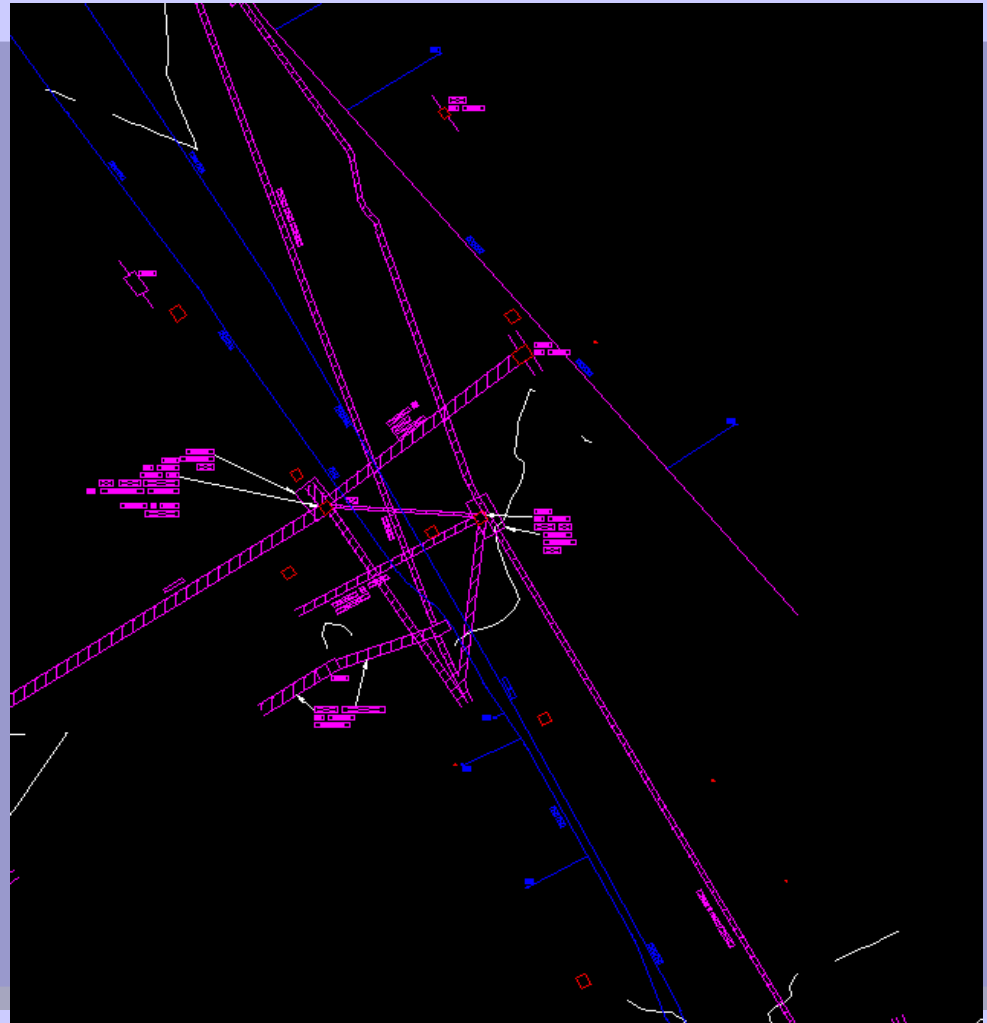
Market Harbourough

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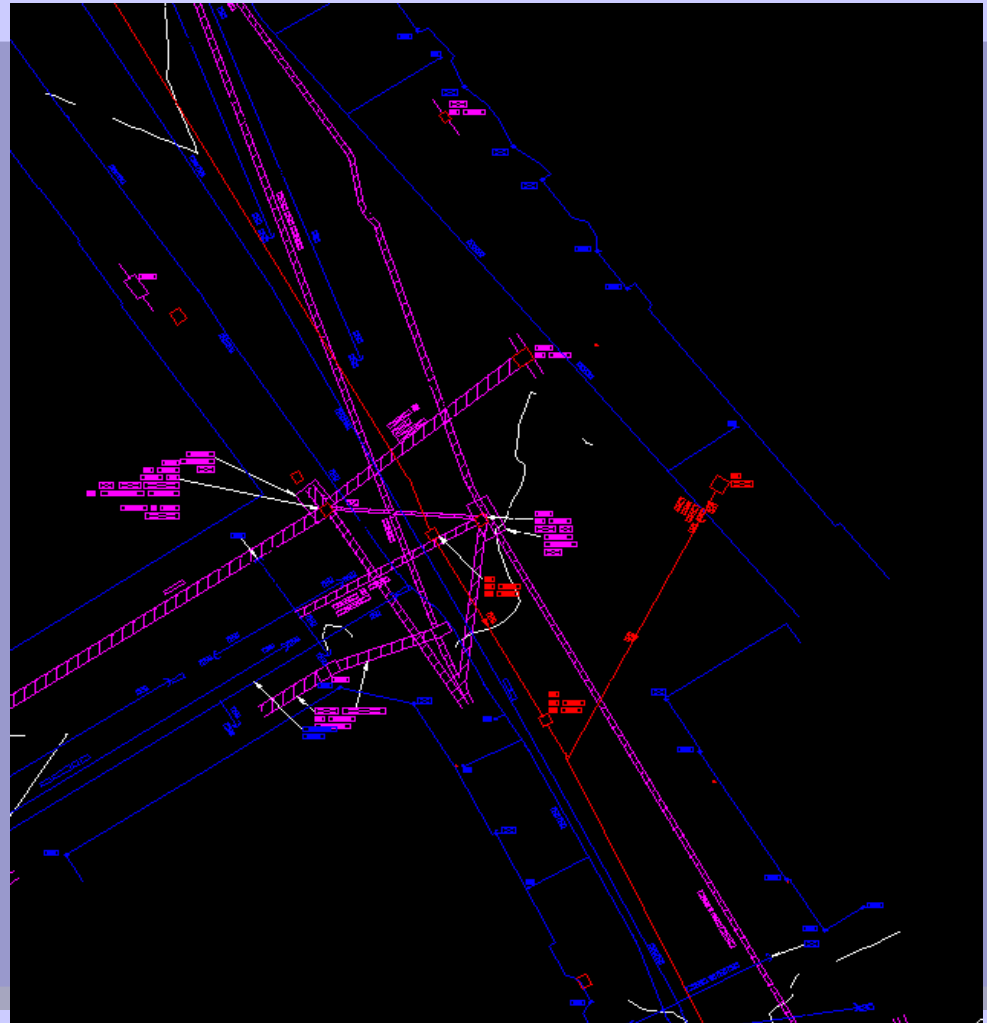
Market Harbourough

- Complex drawing
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- Surface features
- Underground features



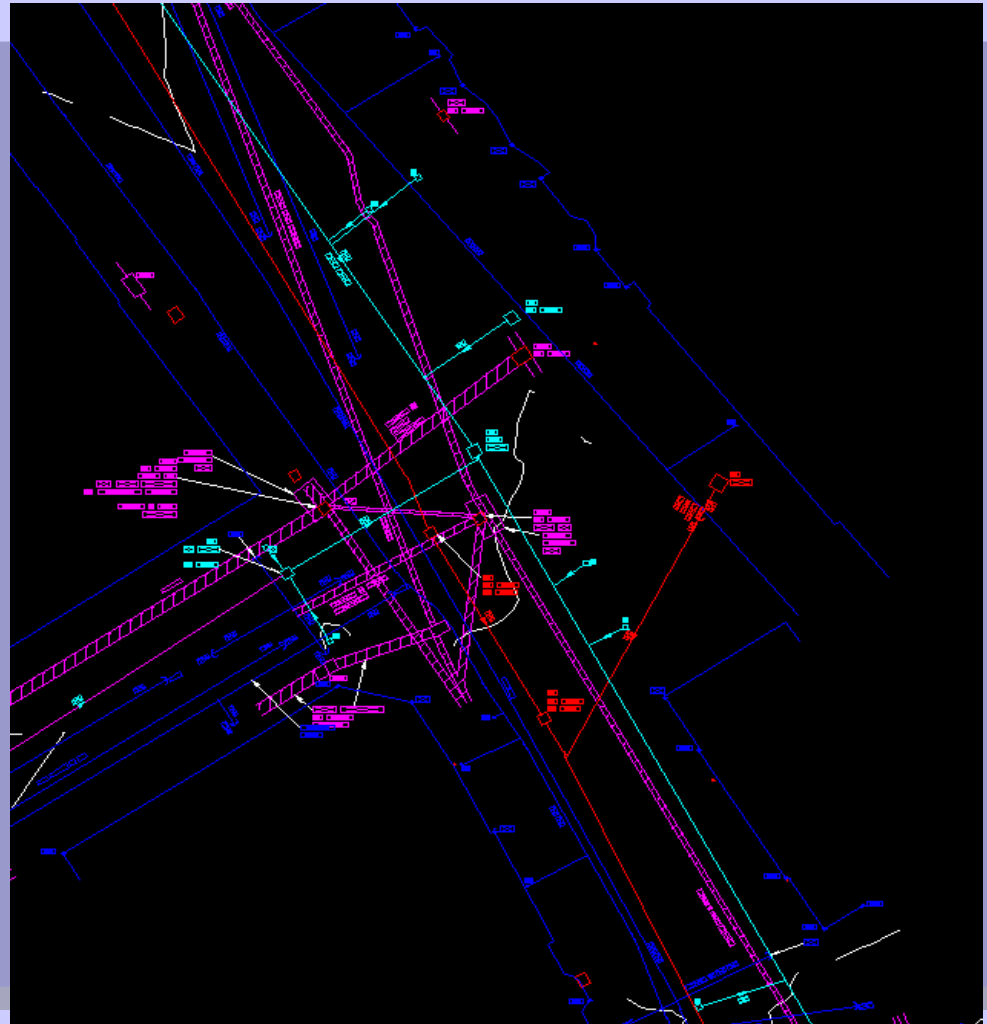
Market Harbourough

- Complex drawing
- Contains all height information to create a DTM
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Market Harbourough

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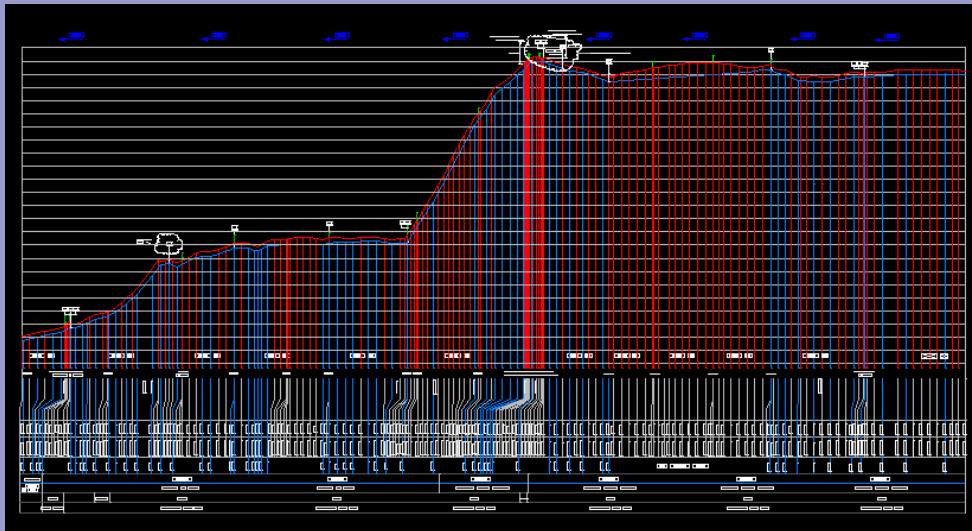
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Laing O'Rourke Long Section

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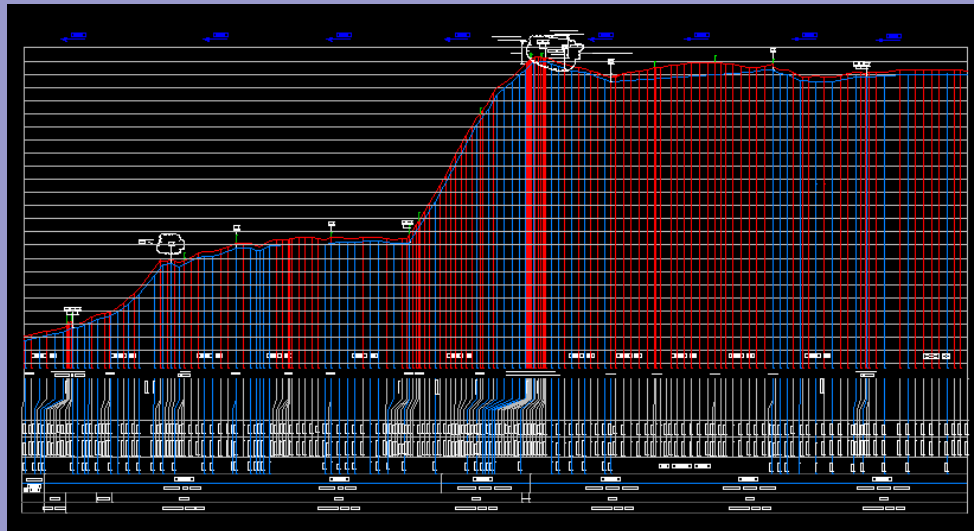
Laing O'Rourke Long Section



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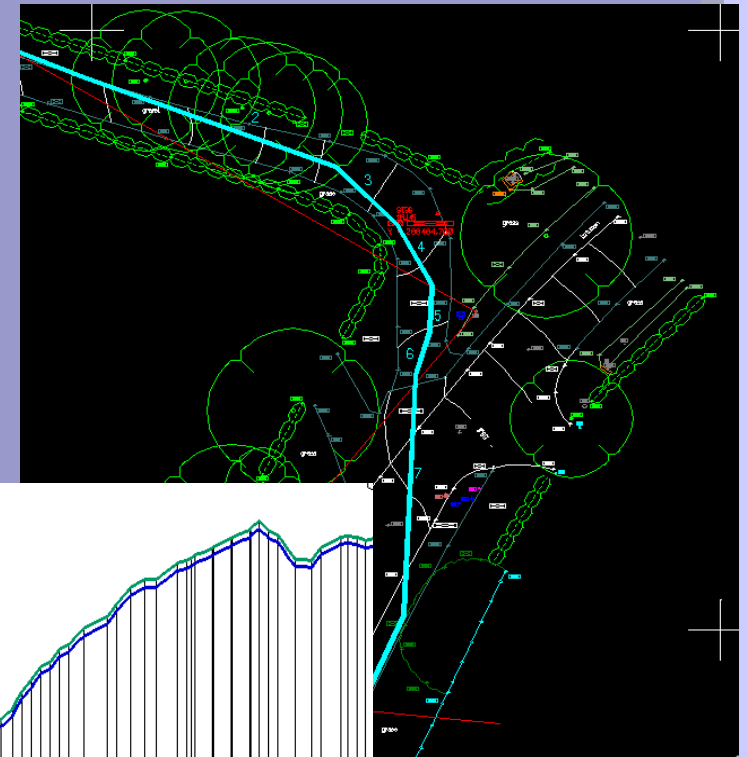
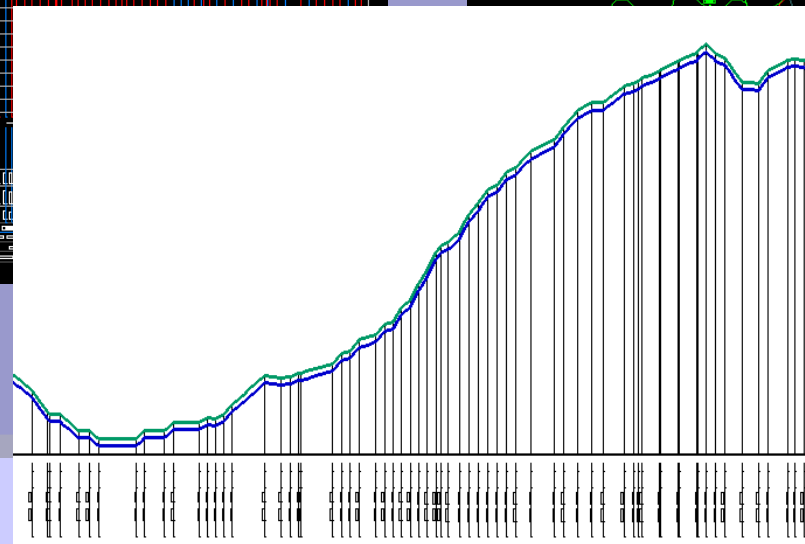
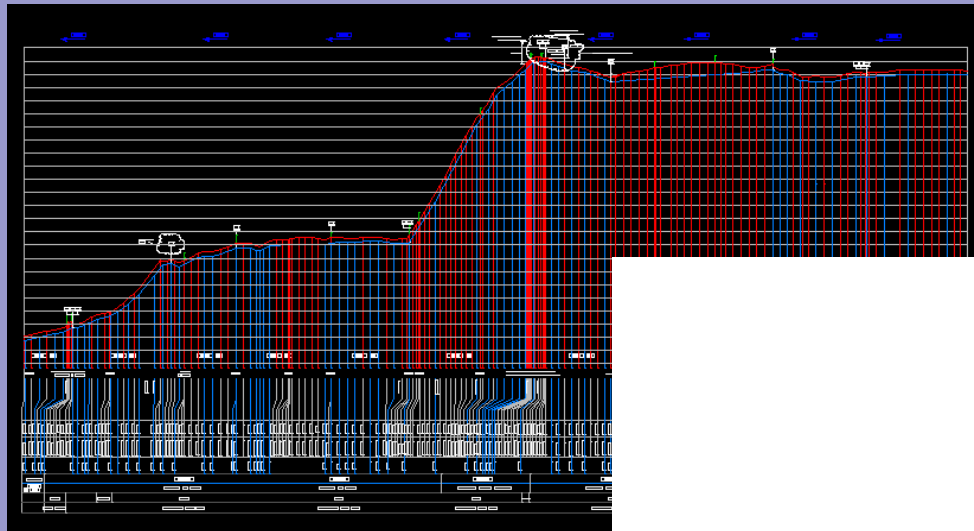
Laing O'Rourke Long Section



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Laing O'Rourke Long Section



Future Add-ons

- DTM from Market Harbrough data
- Change symbology
- Dialog interface instead of just key-ins
- Undo

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Question and Answers