



Collaboration, Innovation and Resilience: Championing a Digital Generation

Brisbane, Australia 6-10 April

Modelling 3D Legal Boundaries for Urban Infrastructure in a BIM Environment: Case Studies in Queensland, Australia

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Background

- Cadastre 2034 - a digital representation of the real world that is survey accurate, 3D and dynamic.
- Building Information Models (BIM) help visualise and examine projects in 3D in all stages of its lifecycle.
- Queensland – Building Format & Volumetric Format plans.
- Building Format plans investigated previously.
- Volumetric Format plans in BIM using Autodesk Revit.





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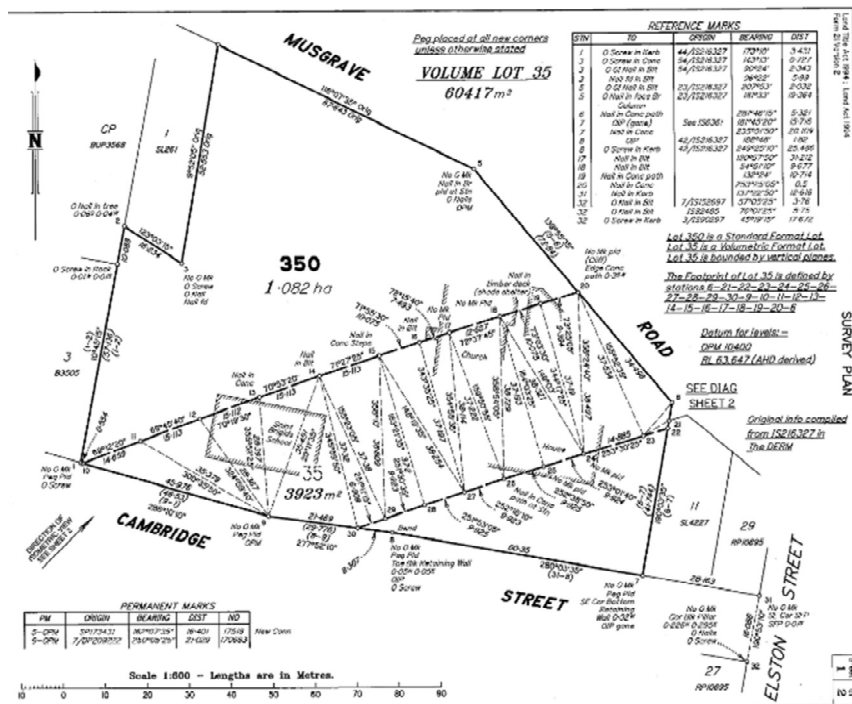
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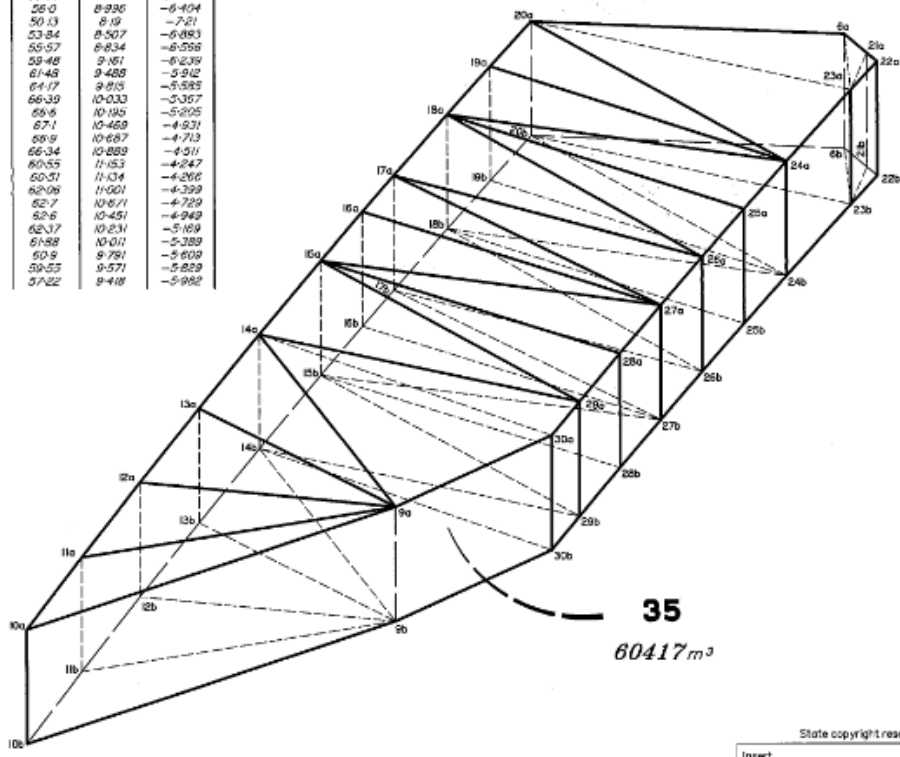
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2D Plans



TRAVERSES ETC			
STN	GROUND LEVEL	a	b
6	60.66	11.185	-4.805
9	58.0	8.990	-6.404
10	50.13	8.19	-7.21
11	53.84	8.507	-6.883
12	55.57	8.634	-6.558
13	59.48	9.181	-6.139
14	61.48	9.488	-5.912
15	64.17	9.813	-5.585
16	66.39	10.033	-5.357
17	68.6	10.195	-5.205
18	67.1	10.469	-4.931
19	68.9	10.687	-4.713
20	68.34	10.889	-4.511
21	60.55	11.153	-4.247
22	60.51	11.134	-4.266
23	62.06	11.001	-4.399
24	62.7	10.871	-4.329
25	62.6	10.451	-4.949
26	62.37	10.231	-5.169
27	61.88	10.011	-5.389
28	60.9	9.791	-5.609
29	59.53	9.571	-5.829
30	57.22	9.418	-5.982



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Project Aim

- Model cadastral boundaries in Volumetric Format plans in BIM
- International 3D Geospatial Standard





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Methods

- Volumetric plans selected – above ground and below ground
- Listech NEO – Surveying Software
- AutoCad Revit
 - Topo-solid
 - In-place mass
 - Attributes
 - Mapping
- Solibri Model Viewer
- Listech NEO



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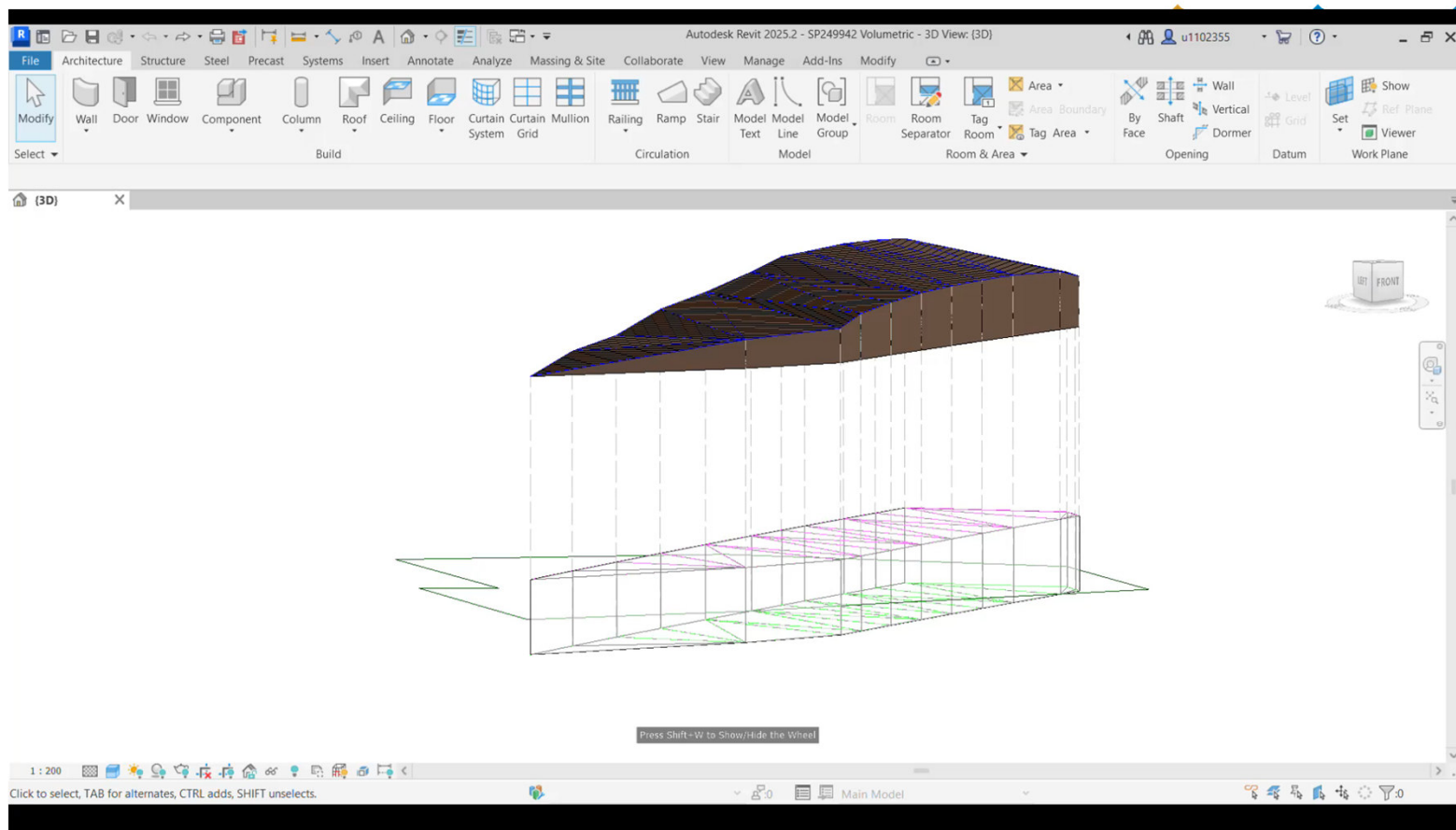
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Results – Revit Model



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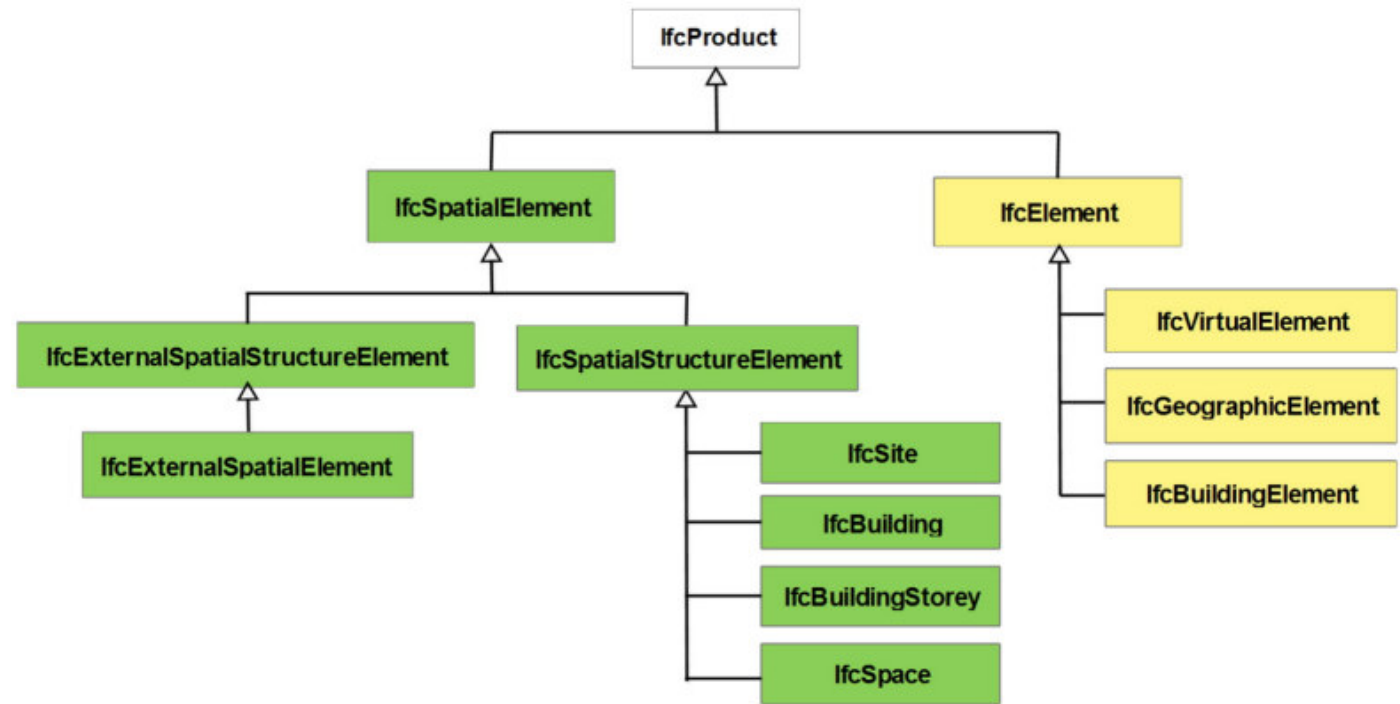


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Results – International Standards

- Industry Foundation Classes (IFC)
- IfcSpace



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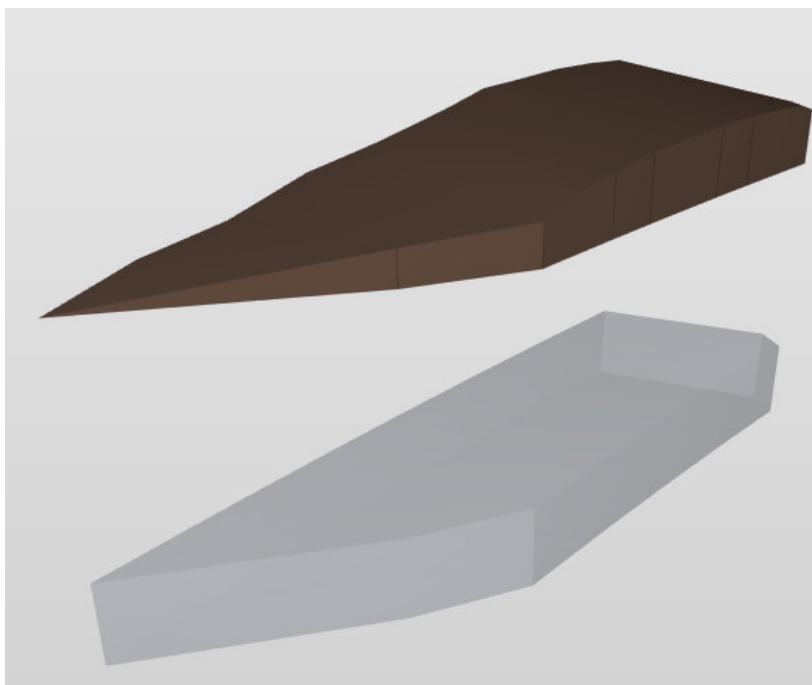


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Results – Interoperability

- Solibri Model Viewer
- Listech NEO



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Discussion

- Survey observations in BIM
- Digital Twins/Parcel Fabric
- Digital Lodgement



City of Moreton Bay



3D model submission - City of Moreton Bay

[Visit >](#)

The below information provides technical guidance for 3D model submission so that the development application assessment can be incorporated into Council's 3D ...

The most relevant SDGs related to the presentation and theme of this session

9 INDUSTRY, INNOVATION
AND INFRASTRUCTURE



1st relevant
SDG

11 SUSTAINABLE CITIES
AND COMMUNITIES



2nd relevant
SDG

8 DECENT WORK AND
ECONOMIC GROWTH



3rd relevant
SDG

**SUSTAINABLE
DEVELOPMENT GOALS**

International Federation of Surveyors supports the
Sustainable Development Goals