

# 3D Modelling & Shop Detailing

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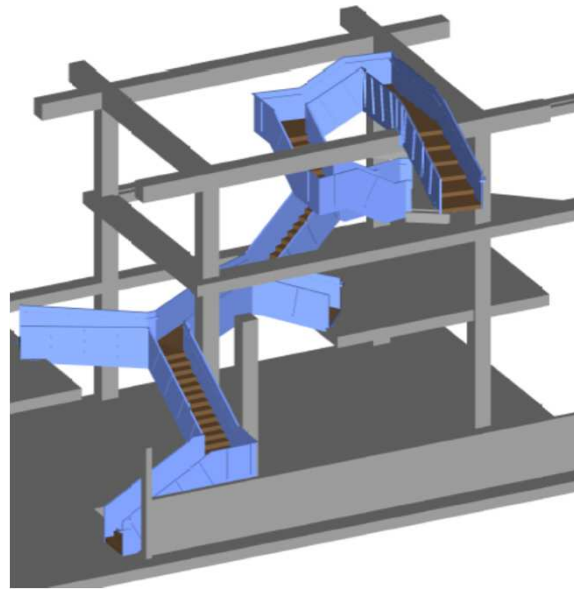
# Kore Drafting

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## About

- Located in Hobart, Tasmania
- Kore Drafting Established November 2011
- Formerly Siegraft Engineering & Drafting circa 1982
- Currently 9 Staff – 7 Experienced 3D Modelling users
- Have been using 3D software since early 2000's maybe 2002. A core 3D software is Prosteel.
- 2004 first full 3D Optimized project using output of NC & DXF for Beamline & Profile cutting of Steelwork
- Project types include residential, commercial, multi-story, heavy industrial, mining, on-shore/off-shore oil & gas....
- Area of service has been Papua New Guinea to the North , New Zealand to the East, Antarctica to the South & we even based in Applecross Perth for a long period to assist one of the largest BIM users PDC, which was a real eye opener.

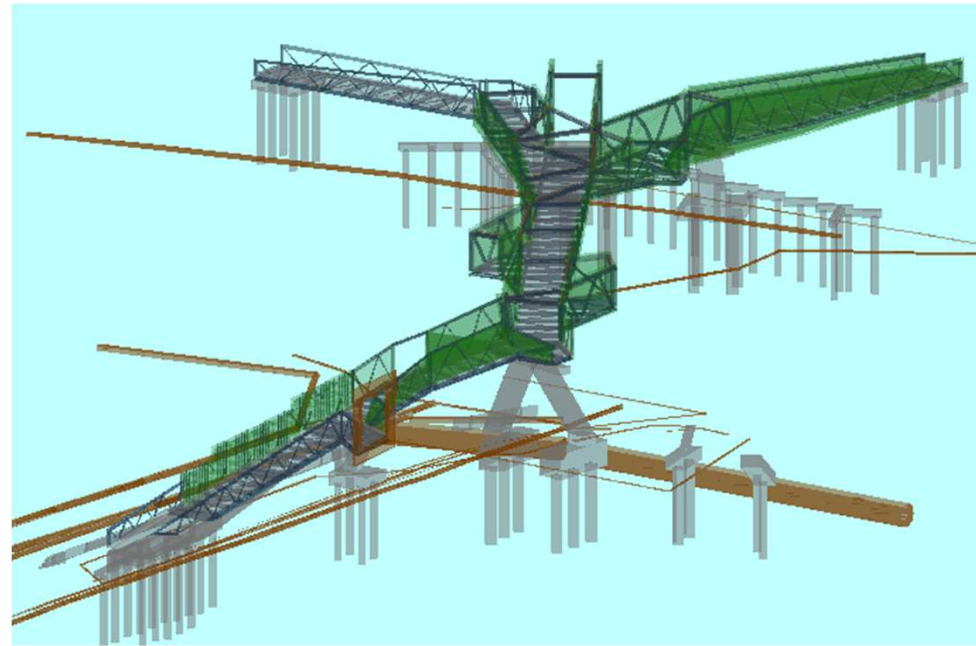
# 3D modeling

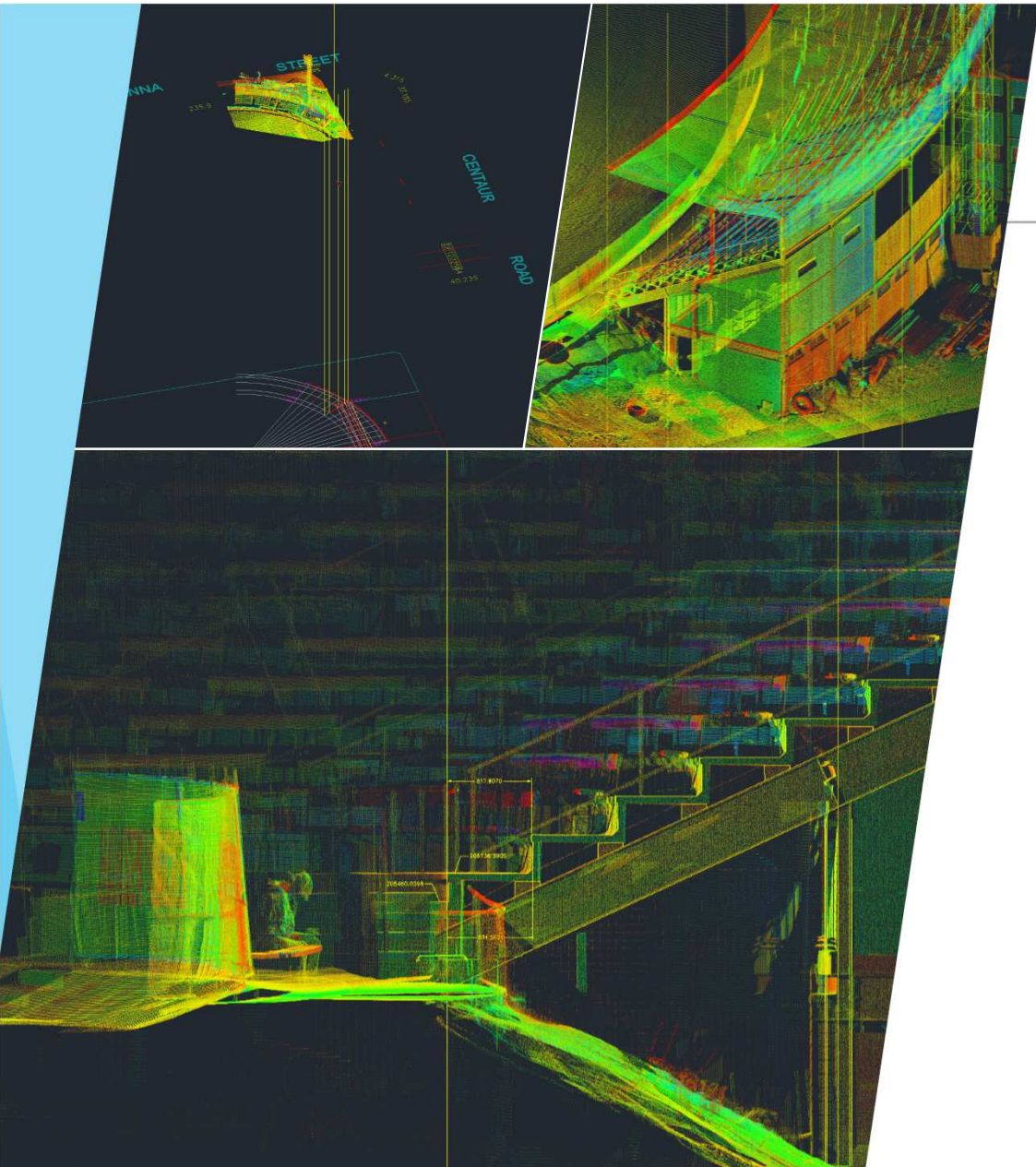


# Inside the Model

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- ▶ Civil
- ▶ Structural Steelwork
- ▶ Mechanical Steelwork
- ▶ Precast Concrete
- ▶ In situ Concrete/Structural Elements
- ▶ Piping
- ▶ Glazing/Tiles
- ▶ 3D Equipment - Motors



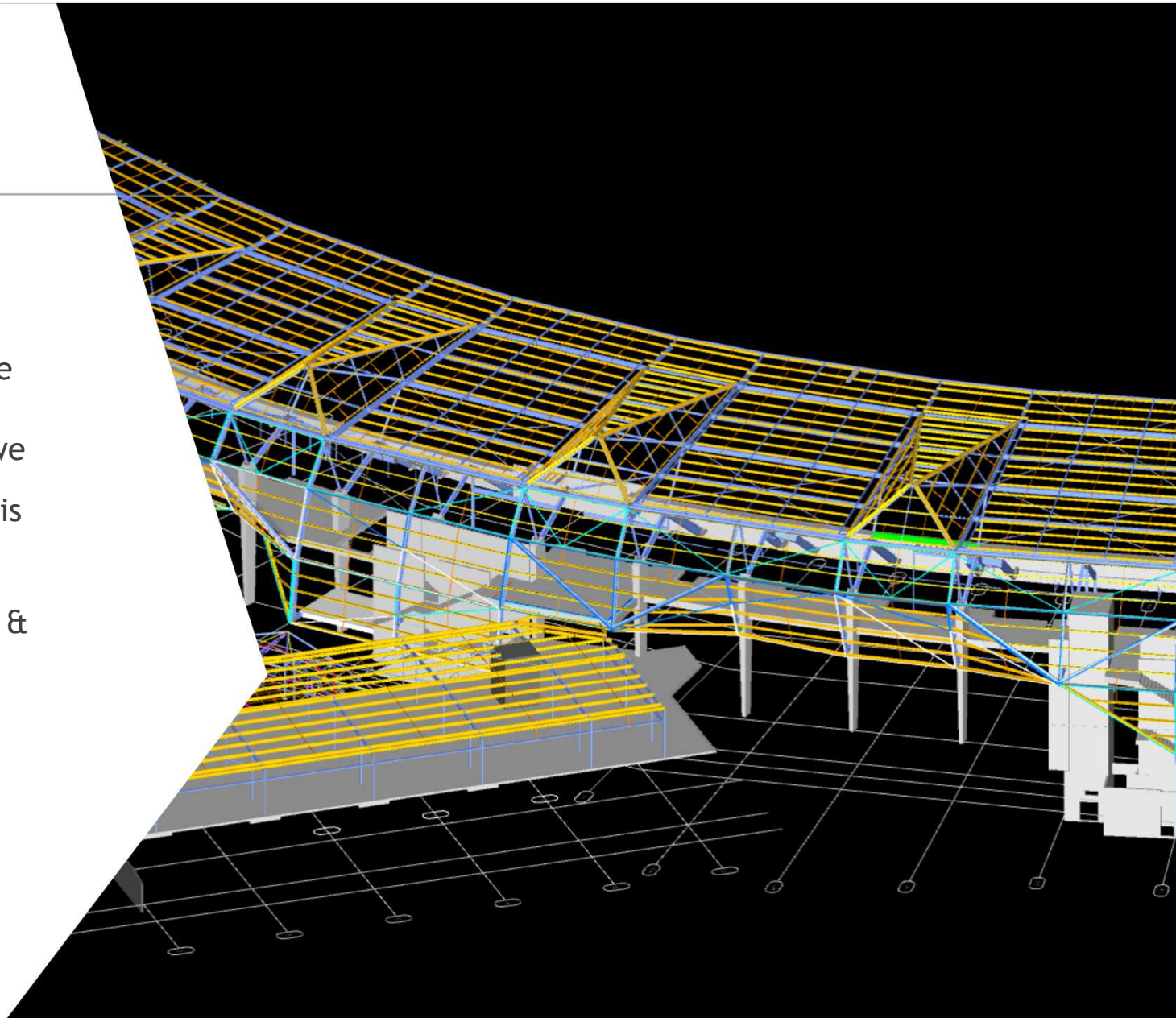


Point cloud



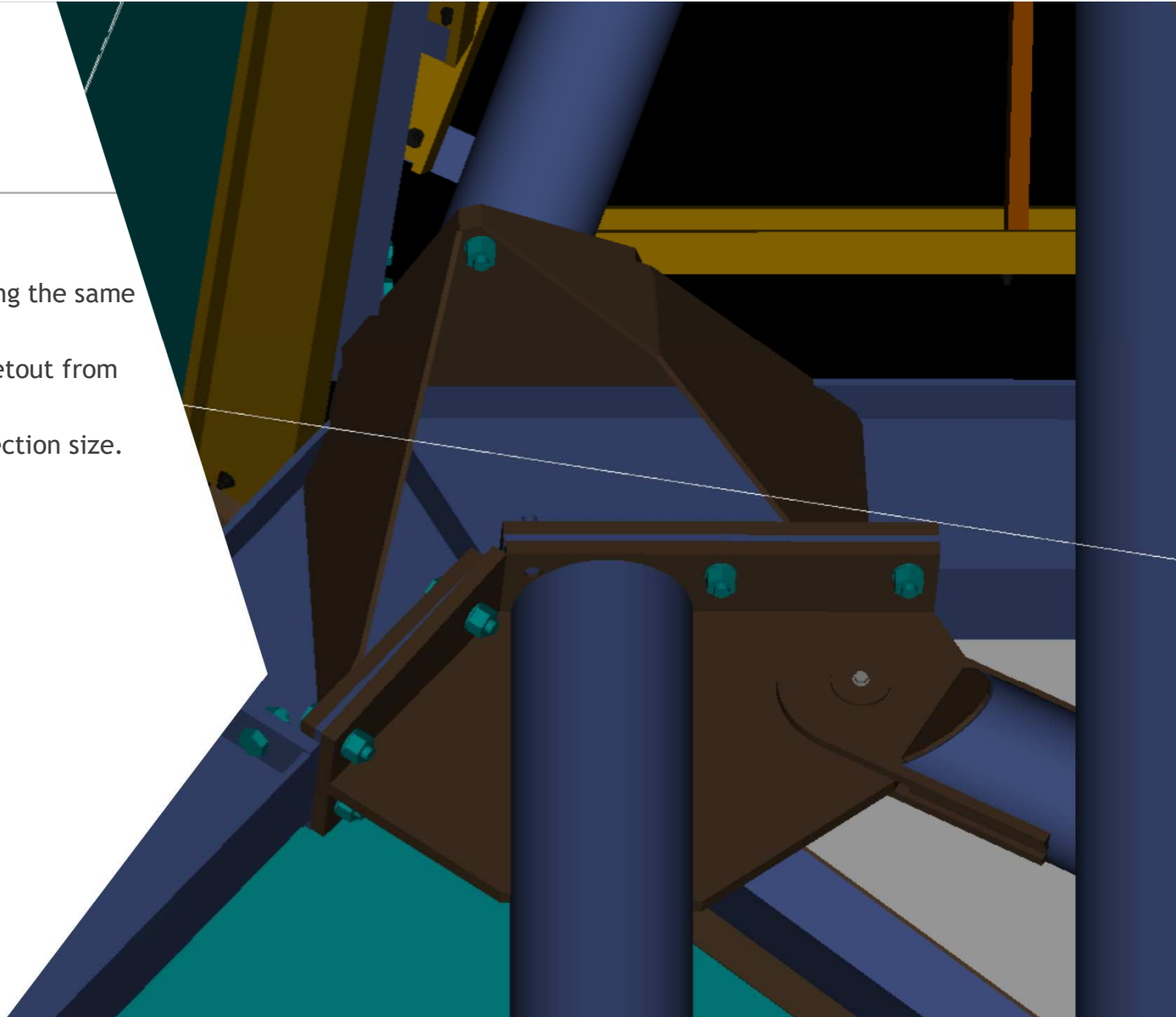
# Models

- ▶ Origin - Must have a known grid location & RL as people add to the main model. They could be external. Another key is distance to the origin (0,0,0)
- ▶ File Formats - there are many, we use .dgn & .dwg internally but tend to export & import .ifc. This is recognized in most design offices/software
- ▶ Clean Model - this helps for size & appearance.
- ▶ Clash Checks - one of the main benefits of 3D, this is why we model as much as we can to check for clashes.



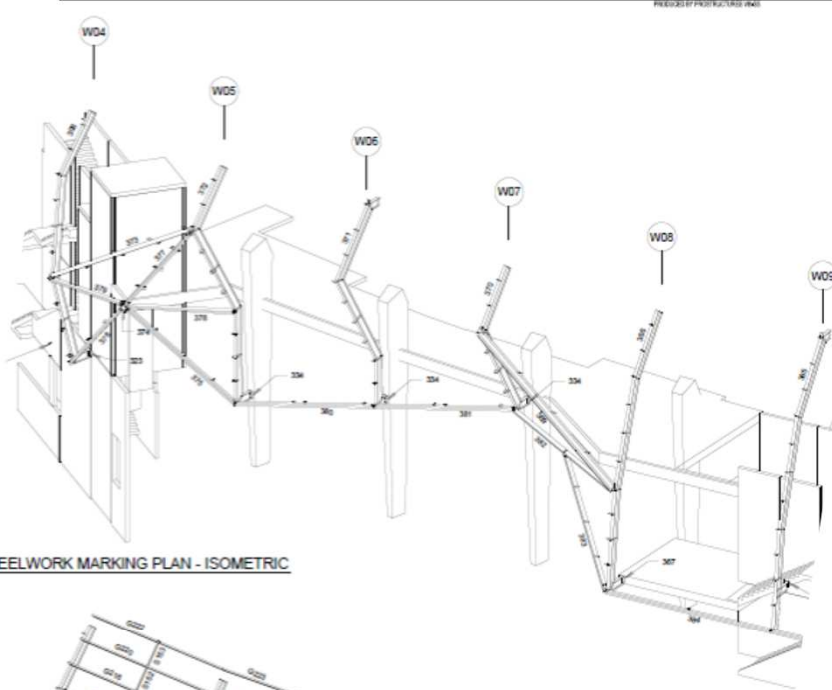
# Modeling process

- ▶ Define Origin & Setup Grid
- ▶ Import any survey data/point cloud using the same agreed origin
- ▶ Bring in a BIM model/Architects plan/setout from scratch
- ▶ Shape Insertion to known positions & section size.
- ▶ Connection & Modification
- ▶ Collision Detection
- ▶ Grouping
- ▶ Display & Area Classes
- ▶ Material Checks
- ▶ Positioning

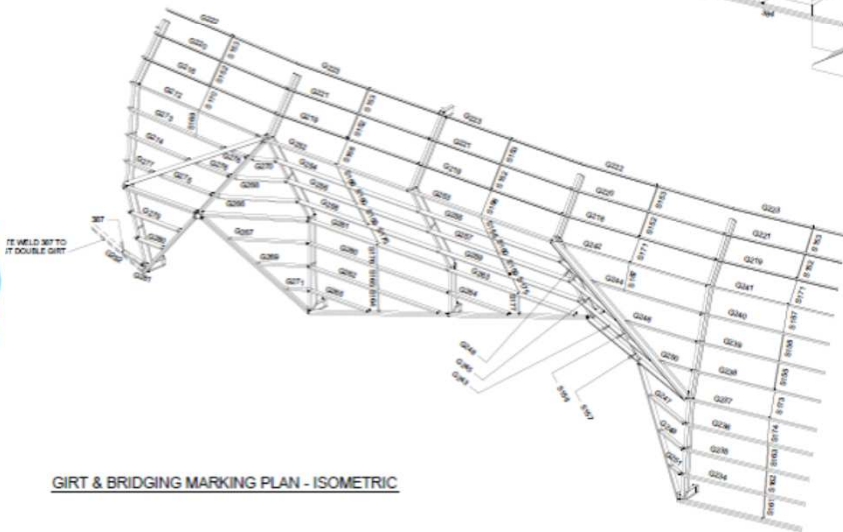


# Detail Process

- ▶ Single Parts
- ▶ Group Assemblies
- ▶ Marking Plans
- ▶ Parts lists (MTO's/BOM's)
- ▶ DXF/NC1 Data
- ▶ Transmittals



STEELWORK MARKING PLAN - ISOMETRIC

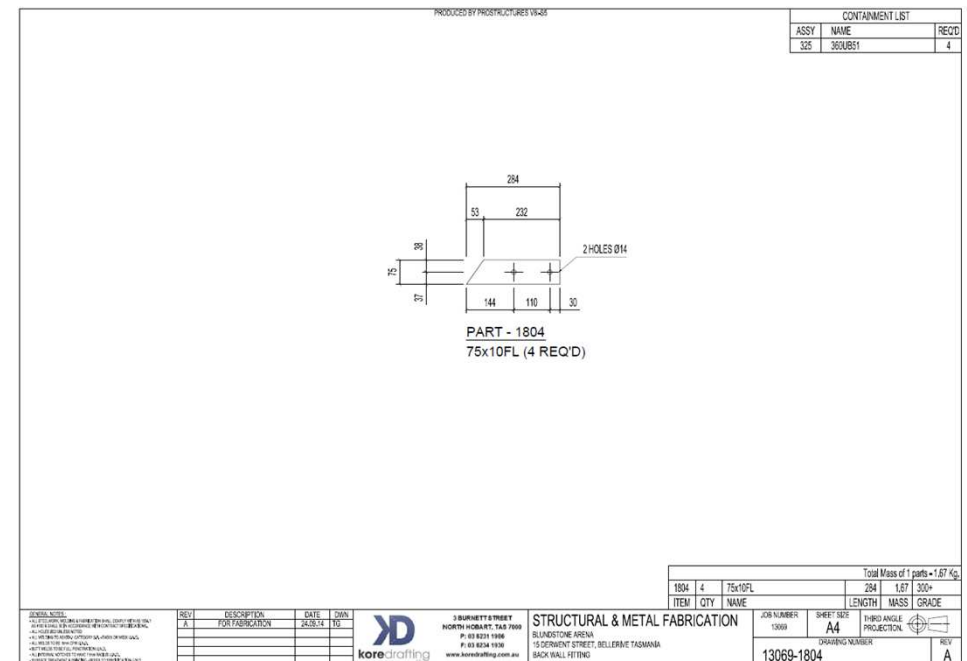


GIRT & BRIDGING MARKING PLAN - ISOMETRIC



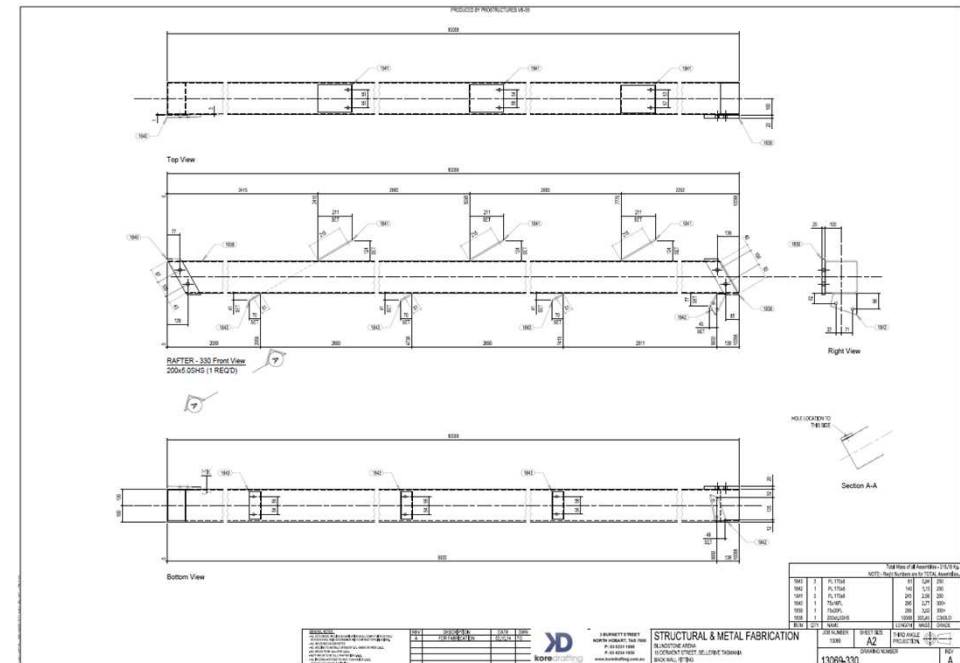
# Single Part

- ▶ Used for fabrication of a single part, could be a Rolled Section or Plate, accompanied by a DXF or NC1 file
- ▶ Each part has a containment list to show which member it belongs to.
- ▶ Generally 1000's of single parts in a project so we start numbering at 1000.



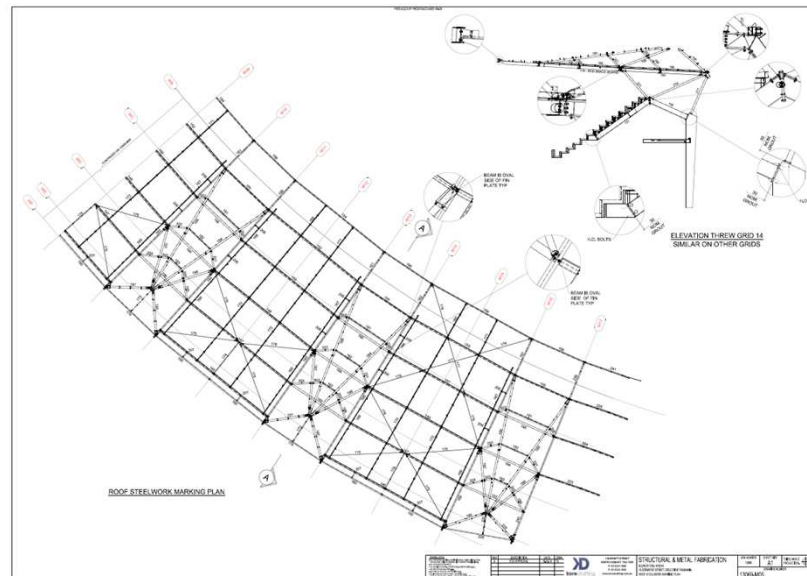
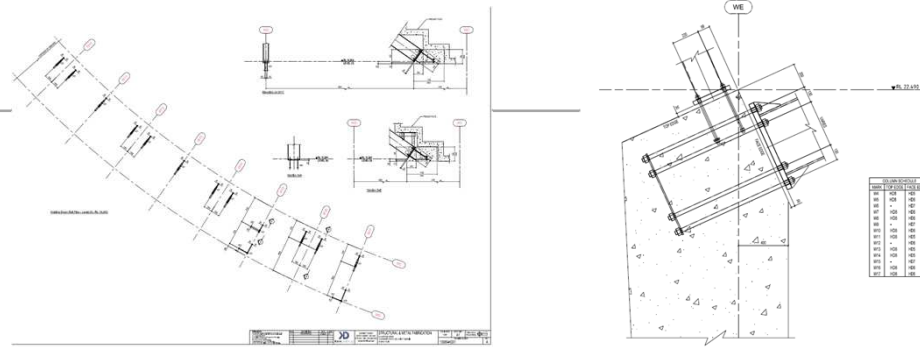
# Group Assembly

- ▶ This is where we bring all the single parts together to make a single fabricated group.
- ▶ Dimensioned accordingly to enable a fabricator to locate all parts on a main shaft
- ▶ Should have any weld procedures applicable for each weld
- ▶ Punchmark for site orientation.
- ▶ Generally hundreds of group parts within a structure so first group part is Mk.100



# Marking Plans

- ▶ Locate H.D. Bolts or Cast in Plates
- ▶ Locate Columns
- ▶ Locate Ferrules / Chemsets
- ▶ Locate and orientate all Steel Group Parts
- ▶ Locate Purlins, Girts & Bridging
- ▶ Plans, elevations, details, 2D & 3D



# Partlists

- Order List
- Bolt Location List
- Paint/Galvanizing List
- Bridging/Purlin List
- Shipping List
- Customized Lists.....

BRIDGING ORDER LIST

FOR ORDER & SHIPMENT - USE FOR BRIDGING REFERENCE

Page 1 of 2

<b>CLASIC STRUCTURAL &amp; METAL FABRICATION</b>	<b>PROJECT INFORMATION</b>
BLUNSTONE ARENA	STRUCTURAL & METAL FABRICATION
15 DARWIN STREET, BELLERIVE TASMANIA	PROJECT NO: 13063
BRIDGING MATERIALS	DATE: 04 Apr 2014

BRIDGING

BRIDGING TYPE	CODE	PURLIN SIZE	QTY	LENGTH	ITEM	SET ANGLE
Intermediate Bridging - Bolt/Bolt	BBB150	150	4	1441	B100	0.0
Intermediate Bridging - Bolt/Bolt	BBB150	150	2	1460	B101	0.0
Intermediate Bridging - Bolt/Bolt	BBB150	150	4	1437	B102	0.0
Intermediate Bridging - Bolt/Bolt	BBB150	150	2	1436	B103	0.0
Intermediate Bridging - Locator/Clamp	BLC150	150	2	1499	B104	0.0
Intermediate Bridging - Locator/Clamp	BLC150	150	1	1498	B105	0.0
Intermediate Bridging - Locator/Clamp	BLC150	150	16	1441	B106	0.0
Intermediate Bridging - Clamp/Bolt	BCB150	150	2	1441	B107	0.0
Intermediate Bridging - Locator/Clamp	BLC150	150	8	1440	B108	0.0
Intermediate Bridging - Clamp/Bolt	BCB150	150	1	1440	B109	0.0
Intermediate Bridging - Locator/Clamp	BLC150	150	8	1437	B110	0.0
Intermediate Bridging - Locator/Bolt	BLB150	150	2	1437	B111	0.0
Intermediate Bridging - Locator/Clamp	BLC150	150	2	1436	B112	0.0

310	1	360UB51	4131	198	4188	388	REFER SPECIFICATION
311	1	200A-05H5	8933	361	231	318	REFER SPECIFICATION
312	1	200A-05H5	10047	369	231	318	REFER SPECIFICATION
313	1	200A-05H5	9111	354	231	295	REFER SPECIFICATION
314	1	C200A	8850	278	203	134	REFER SPECIFICATION
315	1	C200A	8850	247	201	131	REFER SPECIFICATION
316	1	C200A	8710	240	201	130	REFER SPECIFICATION
328	1	200-0PL	300	300	110	10	REFER SPECIFICATION
329	1	200-0PL	290	290	110	8	REFER SPECIFICATION

BOLTING LIST

FOR ORDER & SHIPMENT

Page 1 of 1

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BLUNSTONE ARENA	STRUCTURAL & METAL FABRICATION
15 DARWIN STREET, BELLERIVE TASMANIA	PROJECT NO: 13063
BOLTING MATERIALS	DATE: 04 Apr 2014

ITEM	QTY	NAME	BRIDGE	LENGTH	BOOK	NOTES
1	4	150 HSA M20x170	8.8	140		

ITEM	QTY	NAME	BRIDGE	LENGTH	BOOK	NOTES
2	2	150 HSA M20x170	8.8	170		

ITEM	QTY	NAME	BRIDGE	LENGTH	BOOK	NOTES
3	12	M20 x 55.8.9.5 GALV	8.8	150		

ITEM	QTY	NAME	BRIDGE	LENGTH	BOOK	NOTES
4	12	M20 x 55.8.9.5 GALV	8.8	150		

ITEM	QTY	NAME	BRIDGE	LENGTH	BOOK	NOTES
5	14	M20 x 55.8.9.5 GALV	8.8	150		

ITEM	QTY	NAME	BRIDGE	LENGTH	BOOK	NOTES
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ITEM	QTY	NAME	BRIDGE	LENGTH	BOOK	NOTES
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ITEM	QTY	NAME	BRIDGE	LENGTH	BOOK	NOTES
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ITEM	QTY	NAME	BRIDGE	LENGTH	BOOK	NOTES
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ITEM	QTY	NAME	BRIDGE	LENGTH	BOOK	NOTES
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ITEM	QTY	NAME	BRIDGE	LENGTH	BOOK	NOTES
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12	2	M20 x 55.8.9.5 GALV	8.8	150		

ITEM	QTY	NAME	BRIDGE	LENGTH	BOOK	NOTES
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ITEM	QTY	NAME	BRIDGE	LENGTH	BOOK	NOTES
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ITEM	QTY	NAME	BRIDGE	LENGTH	BOOK	NOTES
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ITEM	QTY	NAME	BRIDGE	LENGTH	BOOK	NOTES
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ITEM	QTY	NAME	BRIDGE	LENGTH	BOOK	NOTES
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ITEM	QTY	NAME	BRIDGE	LENGTH	BOOK	NOTES
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ITEM	QTY	NAME	BRIDGE	LENGTH	BOOK	NOTES
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ITEM	QTY	NAME	BRIDGE	LENGTH	BOOK	NOTES
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ITEM	QTY	NAME	BRIDGE	LENGTH	BOOK	NOTES
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ITEM	QTY	NAME	BRIDGE	LENGTH	BOOK	NOTES
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ITEM	QTY	NAME	BRIDGE	LENGTH	BOOK	NOTES
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ITEM	QTY	NAME	BRIDGE	LENGTH	BOOK	NOTES
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ITEM	QTY	NAME	BRIDGE	LENGTH	BOOK	NOTES
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ITEM	QTY	NAME	BRIDGE	LENGTH	BOOK	NOTES
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ITEM	QTY	NAME	BRIDGE	LENGTH	BOOK	NOTES
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ITEM	QTY	NAME	BRIDGE	LENGTH	BOOK	NOTES
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ITEM	QTY	NAME	BRIDGE	LENGTH	BOOK	NOTES
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ITEM	QTY	NAME	BRIDGE	LENGTH	BOOK	NOTES
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BRIDGING ORDER LIST

FOR ORDER & SHIPMENT

Page 1 of 3

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41	2	M20 x 55.8.9.5 GALV	8.8	150		
42	2	M20 x 55.8.9.5 GALV	8.8	150		

Remo Paint Area 19 / 155.15 m<sup>2</sup> Prepared by Perforbrans V&S

Reviewed by Remo Trading

Shipping Mass

5763.39 Kg



# Thankyou

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