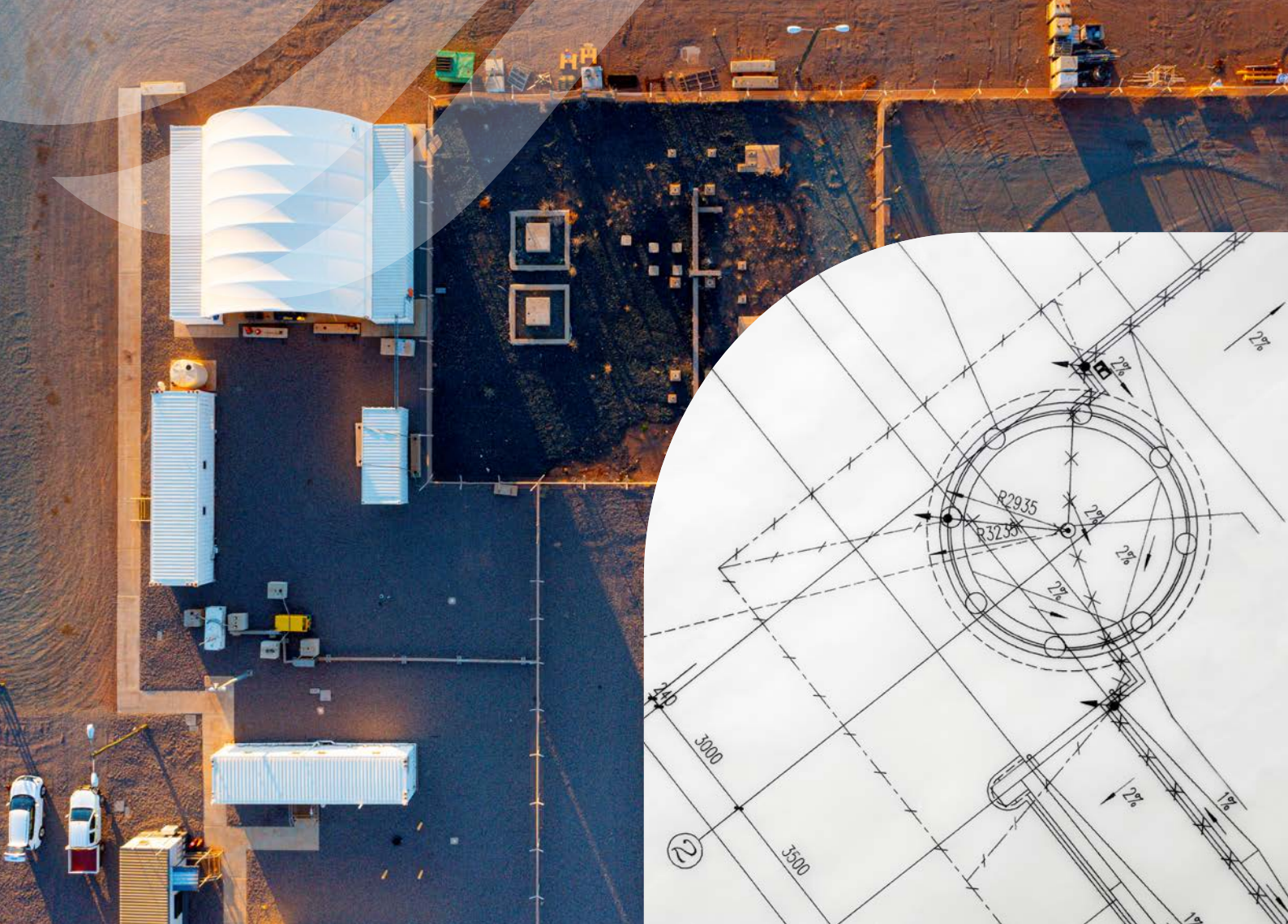




PORT DEVELOPMENT GUIDELINES

Appendix G
Spatial Data
Technical Standards

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1. APPLICATION OF THIS DOCUMENT

The standards and deliverables outlined in this document are intended to be applied to any spatial data provided to Pilbara Ports and will be used to review the quality and standard expected.

2. DEFINITIONS

Refer to the PDG Application Guide for definitions and acronyms.

3. TECHNICAL STANDARDS

The following technical standards provide proponents with information to address the performance criteria in relation to spatial data.

Also refer to the PDG Appendix F - Land Survey Technical Standards for standards on land and/or boundary survey works.

These technical standards may not be applicable to your development or operations. If you are unsure about the applicability of specific advice in the technical standards, please contact the Pilbara Ports' [Port Development](#) team.

3.1 Spatial data deliverables

All spatial data must be provided to Pilbara Ports, in accordance with these requirements:

- Spatial data – must be geo-referenced and provided to Pilbara Ports upon request to an agreed accuracy standard.
- GIS data – unless otherwise specified by Pilbara Ports, data must be provided in the ESRI shapefile or geodatabase formats. GIS data must include comprehensive and accurate attributes detailing feature specific information.
- CAD data – must be provided in geo-referenced native format (DWG, DXF is acceptable upon agreement with Pilbara Ports).
 - All data must be organised into a logical, named layer structure to facilitate feature conversion by layer, with only relevant data associated with each layer name.
 - All line-work is to be continuous, and polygons closed wherever possible.
 - All CAD files should be purged of unnecessary data before transfer, and all relevant reference files merged into the main file.
 - AutoCAD Civil 3D DWG format preferred for 3D CAD data.

- Raster data (imagery, elevation models, analysis results)
 - raster data must be provided in a commonly used format (such as ECW, TIFF, JPEG, or DEM) with accurate geo-referencing, e.g. including world file.
- BIM data – must be provided in IFC or RVT format with an agreed LOD and coordinate reference system.
- Reality modelling data – to be confirmed with Pilbara Ports, the preferred format is OSGB. ESRI SLPK format is also supported. Pilbara Ports can provide detailed reality modelling: technical specifications as required.
- LiDAR data – must be supplied in accordance with ICSM LiDAR Acquisition Specifications and include classification to an agreed level with Pilbara Ports, as LAS and DEM formats.
- Hydrographic survey data – must be provided in accordance with PDG Appendix C - Hydrographic Survey Technical Standards.

3.2 Metadata

Metadata must be provided for all digital data detailing at a minimum:

- Statement of accuracy.
- Author, including contact details.
- Horizontal and vertical datum, including any transformation methodology details (if applied).
- Source of information, including date of capture/acquisition.
- Restrictions on use.
- Data classification.

An attached metadata file must be provided with all data, metadata details may be held in title block for CAD files, if appropriate. If data generated from survey, including airborne, details from a survey report must be included in metadata, refer to PDG Appendix F - Land Survey Technical Standards.

3.3 Coordinate reference system and datum

All spatial data must be geo-referenced to GDA2020, utilising a known project grid, as sourced from Landgate such as Port Hedland grid 2020 or Karratha grid 2020. Map grid of Australia, zone 50, is acceptable for lower precision data, on agreement with Pilbara Ports.

If a local or plant grid is used with prior agreement by Pilbara Ports, all projection parameters must be provided.

All terrestrial elevation data must be captured and presented using the Australian Height Datum (AHD).

All hydrographic depth data must be captured and presented using the relevant ports chart datum (CD).

Document amendment table

VERSION	PREPARED BY	DATE	AMENDMENT DETAILS
V3	Pilbara Ports	5/7/2024	Replaces Appendix 4 Land Survey Standards and Deliverables V2 2/7/2020.

Document owner

The Developments Manager is responsible for the Port Development Guidelines.

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