PORT of BRISBANE
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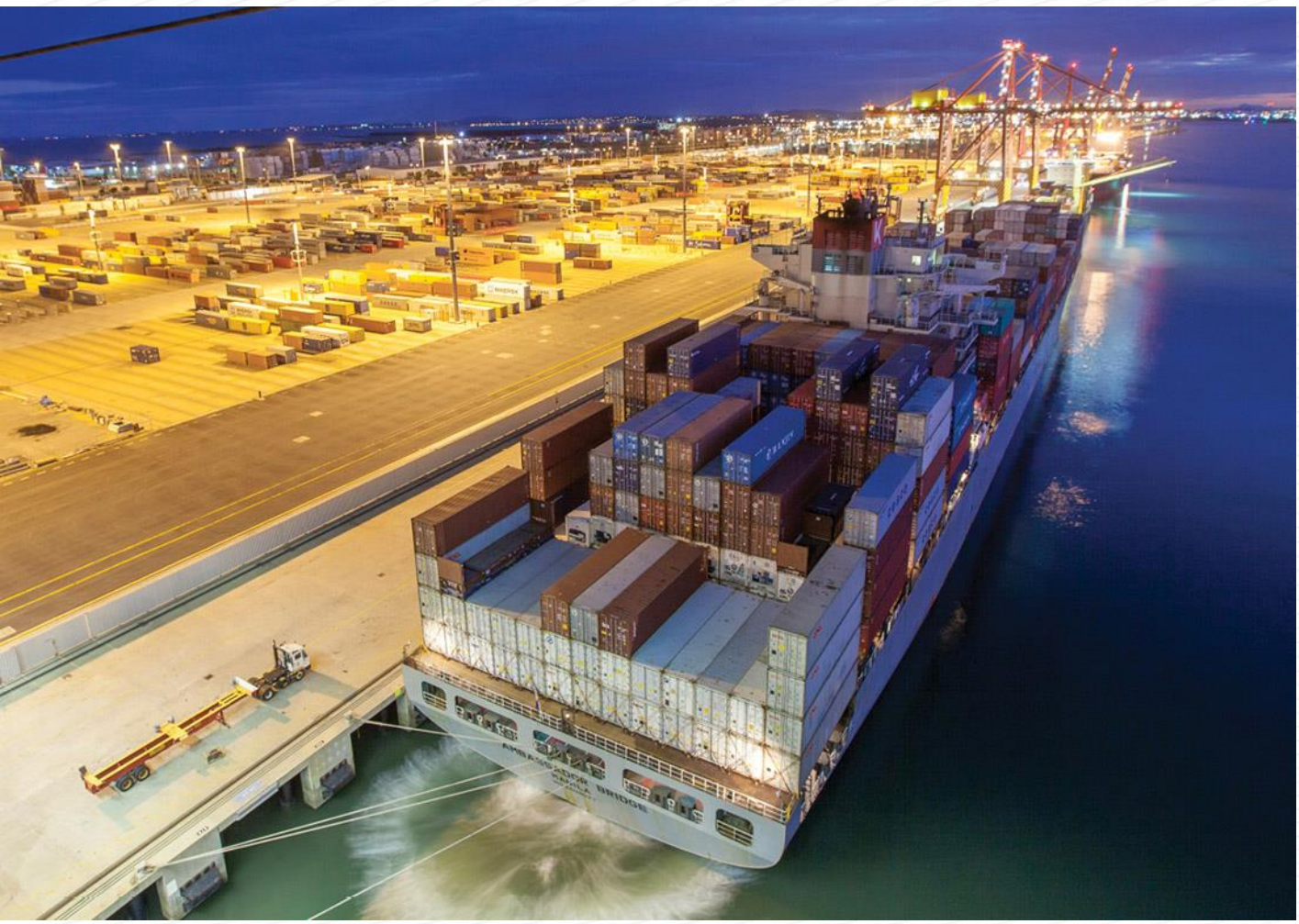
PORT OF BRISBANE
GUIDELINE FOR RECORDING INFRASTRUCTURE

20 MARCH 2020



CONTENTS

Introduction

This document is to be used by service providers, contractors, sub-contractors and any person or company engaged by the Port of Brisbane (PBPL) to undertake work on infrastructure on Port of Brisbane lands. This document outlines the differing levels of information and associated documentation required to populate and maintain the Port's Geographical Information System (GIS). The GIS is intended to be a reliable and current record of all assets that are maintained by the Port, for use internally, and selectively externally, for ongoing asset management. Whilst PBPL takes every opportunity to provide correct and complete information to our suppliers, we cannot guarantee or warrant the correctness, completeness, or currency of this data. However, with the assistance of those we engage, we hope to improve the reliability of the information provided, and ensure the GIS remains the useful tool it is intended to be.

Based on the extent and scope of the work performed on an asset, the Port will require a record that shows the work performed, the details of the asset, and an accurate positional record of the work. Please utilise this document to know what information you need to receive from the Spatial Data team to help do the work, and to determine the minimum requirements to be supplied to satisfy our asset management register. It is recommended you review this document prior to commencement of work to ensure you can fulfil these requirements. Similarly, if the scope of work changes during the project, please ensure the correct level of information is administered.

Our GIS stores all known infrastructure, above and below ground, on all port owned lands, and to some extent, outside of our land for reference purposes. Each element has attributed data showing the specific details, plan references, and photo attachments where available. With this in mind, all information provided to us can be easily associated for future use and retrieval, to benefit us and future contractors. Examples of database attributes, plans and photos have been supplied at the end of this document.

Levels of information capture

Summary

Type of works performed	Definition	Levels of information capture summary
1. Minor installations/changes to existing assets	Installations minor in nature, that involve replacement, servicing, removal or repairs to existing infrastructure only.	A plan in PDF format, is required to be supplied back to us, with Company/Personnel details of the executer of works, date, and approved signature. Two (2) photos as a record of the work will also be supplied.
2. Minor new installations	A new installation, that involves less than six (6) components, and can be identified by measured offsets to existing assets.	A sketch mark-up on a plan (or GIS extract provided). Details of the fittings, photos and supplier details will also be required. An example of this might be a stop valve installation on an existing water pipe.
3. Major installations/changes to existing assets	Where there are changes to alignments of a linear asset, multiple installations or reconfigurations to an existing or new asset, or installations/ changes that do not have enough existing, definable offset measurements available.	A survey pickup for location, for the information to be supplied in ADAC XML format, DWG and a PDF of the plan that displays the information. Photos, certified plans and property details should be consistent with our guidelines. ▪ Technical Guidelines (2019) Appendix B - Supply of 'As Constructed Deliverables' ▪ Technical Guidelines (2019) Appendix C - PBPL ADAC Standards

Photo Records

With all levels of information capture, please take photo records of the works. When taking photos, be sure to have GPS coordinates enabled on your recording device. A guide for taking photos:

- If infrastructure is removed or replaced, please take before and after photos.
- If the location of the feature differs from expected or the GIS records indicate, please take an additional photo far enough away to include visible, static reference points, to assist future identification,
- If there are serial numbers, make and model, or any other distinguishable features that warrant recording, and these are not documented elsewhere, take a legible photo.

1. Minor installations/changes to existing assets

Supplied information

For work requests that involve minor installations or changes to existing assets, our GIS team can supply you with an extract from our records in the area, and you may utilise this to record the work completed. Figure 1: Extract from the GIS, an example highlighting a defective service to be replaced, provided by PBPL staff.Figure 1 and Figure 2 below are examples of information which can be provided by PBPL.

Figure 1: Extract from the GIS, an example highlighting a defective service to be replaced, provided by PBPL staff.

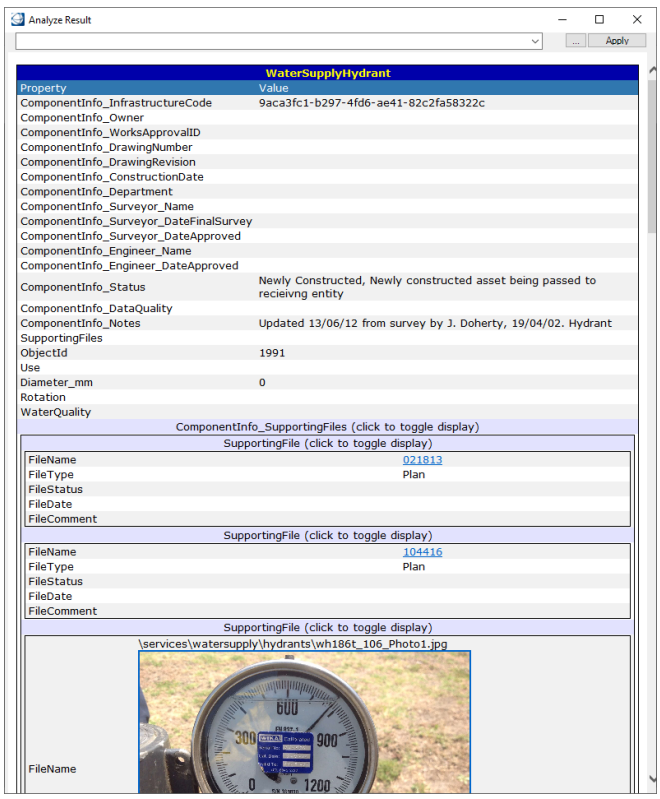


Figure 2: Extract of the item's associated database properties – provided by Spatial Data team.

In this example, you can see that the current information on the element is quite limited, as will be the case with a lot of the historical data in the GIS.

Required records

On completion of work, a plan in PDF format, is required to be supplied back to PBPL. The plan must include:

- Company/Personnel details of the executer of works,
- date, and
- approved signature.

Two (2) photos as a record of the work must also be supplied.

Information specific to the element being worked on must also be provided. The mandatory fields of information to be completed by the servicer are defined in the ADAC specifications document. In the example provided in Figure 3 below for a Water Hydrant, the mandatory field are 'Use', and 'Diameter_mm'.

Hydrant

Element Name	Mandatory (Y/N)
Use	Y
Diameter_mm	Y
Rotation	N

Figure 3: Example mandatory fields. Extract from the "Guidelines for Creation and Submission of ADAC XML files" (Page 59).

This does not mean the supplier needs to provide us with an ADAC file. It simply highlights the information we require back, whether written on the GIS extract, outlined in an email, or populated in a supplied Excel sheet. As the information being supplied to the Port is minimal, to replicate this information, by our staff, into the GIS is easily completed.

In addition to the element specifics, there is information regarding the service provider that is also stored in our GIS.

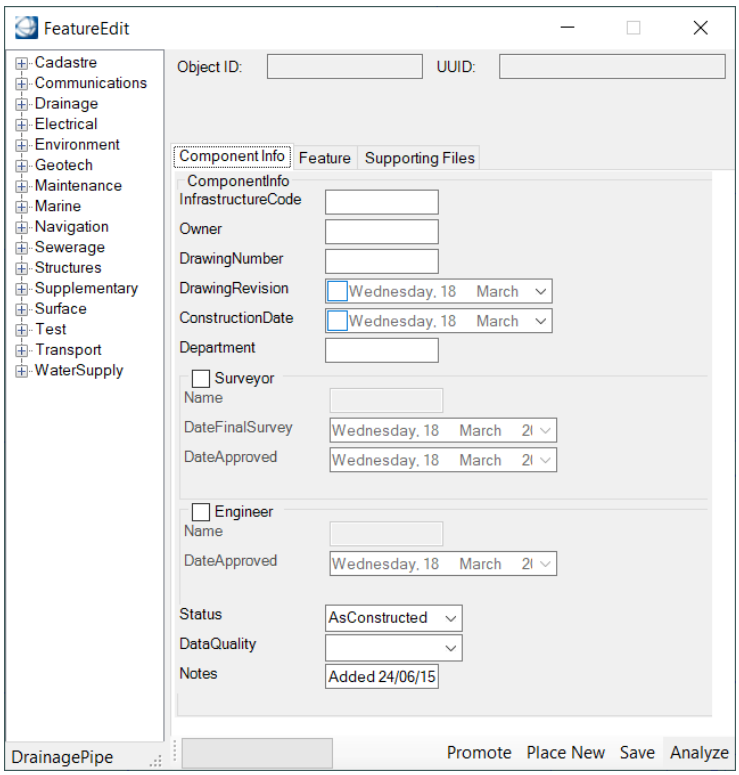


Figure 4: This property box shows the information regarding who captured the information.

Some of these may already be filled in, but the service provider will need to overwrite or populate the appropriate fields (Engineer's name, date, status, quality, notes)

Some of these have drop down menus; the options are outlined in the ADAC document also.

This information would generally be stored in a plan's title block, so if that is provided, these fields can be filled in there. Alternatively, we can provide this information as an Excel spreadsheet to fill out, and we can highlight the fields to update or complete.

Additional information

If the service provider attains additional information and can populate any of the 'blank' fields, this would be greatly appreciated. Additionally, if the GIS extract shows the element in a different spot from where it was found, please provide an offset distance to a visible feature until PBPL can arrange a survey pickup of this point in its coordinated maintenance schedule.

2. Minor new installations

When the work request involves installing new equipment or changing the existing installation to a new configuration, this will require a bit more information than the latter scenario.

Supplied information

An extract from the GIS will be provided as before, but the service provider will need to supply an additional sketch or plan that clearly defines the work undertaken and detailed descriptions of all the new components affected, with the corresponding mandatory fields completed (as per the first scenario, and referring to the ADAC guidelines).

The Spatial Data section can also supply the service provider with plans and photo references that may be associated with the subject elements – anything to help with the upcoming works.

You may be required to validate the stored information when carrying out the works, i.e. pipe size, material, and populate other fields that are available to you, such as "AverageDepth_m", "Protection", etc., to help the Port complete its' database record for future service providers.

Example:

A new water service is being installed along an existing line, and it will require a tee intersection, a stub service line - capped, and 2 water valves. The only existing information in this scenario is the existing water line. This information can still be recorded without the need for a survey pickup, so long as there is enough information to verify the location and position of the elements. Identifying visible existing features that a distance or offset can be measured from is suitable capture, accompanied with a sketch. Photos before and after installation to verify the works will also need to be submitted at completion. Be sure to capture all fixtures, which may be taper pieces, joints, etc. Refer to the ADAC spec on potential fittings that would be included in the works undertaken.

Figure 5 Supplied extract would show where the works were occurring.

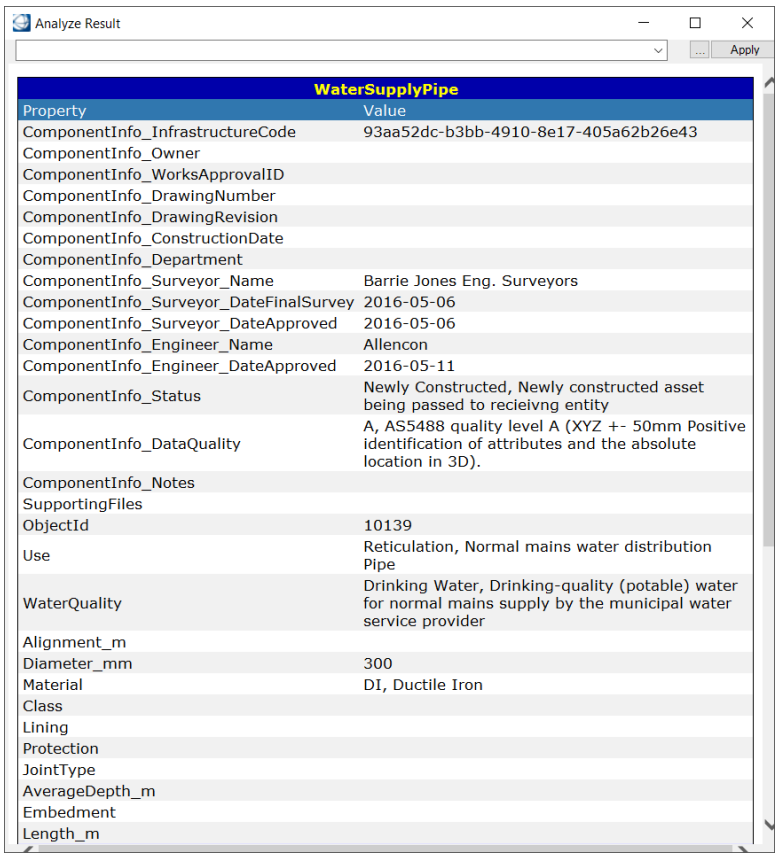


Figure 6 Extract from the GIS of the information the Port has on the existing line. Note this has been surveyed, so its location is accurate.

Required records

As for minor installations, Engineer (and Surveyor) details, dates and accuracy fields need completion by the provider.

Relevant feature information and mandatory property fields in this instance are shown in Figure 7 below.

Pipe

Element Name	Mandatory (Y/N)
Use	Y
Alignment_m	N
Diameter_mm	Y
Material	Y
Class	Y
Lining	N
Protection	N
JointType	Y
AverageDepth_m	N
Embedment	N
Length_m	N

Fitting

Element Name	Mandatory (Y/N)
Type	Y
Material	Y
Lining	N
Protection	N
BodySize_mm	Y
BranchSize_mm	N
Rotation	N

Valve

Element Name	Mandatory (Y/N)
Use	Y
Type	Y
Diameter_mm	Y
Manufacturer	N
ModelNumber	N
Rotation	N

Figure 7: Example mandatory fields.

Supplied by the service provider back to the Port will be either:

- Supplied GIS extract with comments and mark-ups to reflect the work (see Figure 8 below as an example);
- Sketch showing distances and offsets, and a word document or spreadsheet covering all the required fields of information; or
- CAD file in MGA coordinates, or approved equivalent, that displays the new works and element points, with labels or tags covering the required fields of information.

The Port's Spatial Data services team is willing to assist in coordinating the best and easier way to transfer the information between the parties involved.

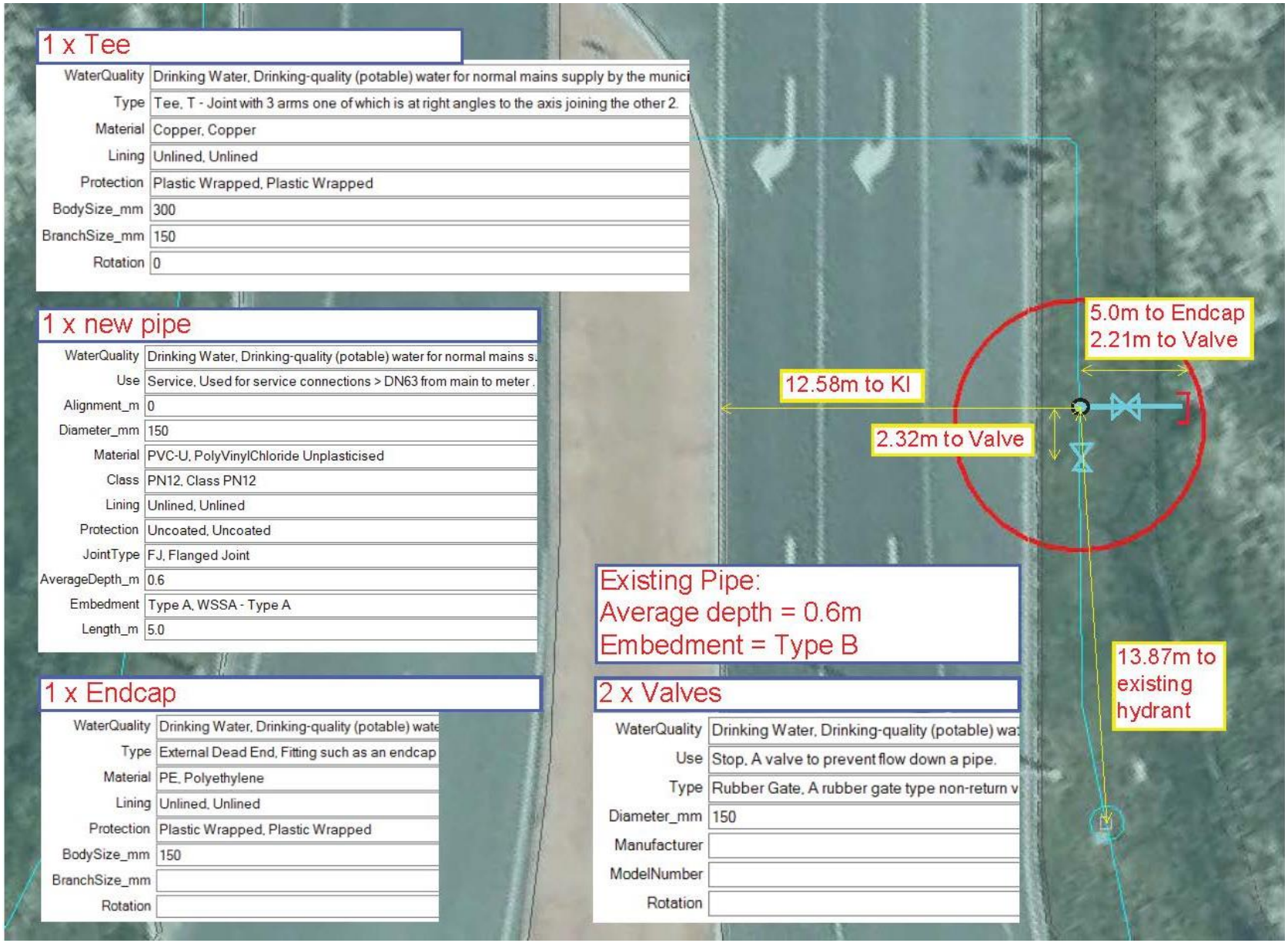


Figure 8: Example GIS extract with comments and mark-ups

3. Major installation / changes to existing infrastructure

For Minor new installations, there was only a handful of new elements being installed, but it can still be time consuming when you need to record the works. When the works involved require multiple changes to the existing infrastructure, or substantial installations of new, then this would be classified as a standard ADAC submission.

Works required at this level would involve certified design drawings, and therefore would need to meet our plan and CAD standards, as well as minimum survey requirements. Please refer to the "Supply of As Constructed deliverables" document for information on these requirements.

The Spatial Data team will provide the service provider with an "Existing Services" plan of the works area, to assist the design process (in PDF and DWG). Other extract formats, such as KML files, and support documents, such as plans and photos, may also be provided to assist in the design.

Whether the works are carried out over one utility or many, please ensure you follow the ADAC specifications regarding the method of capture, the points of interest, the properties the fill in, and be sure to include all the information in the ADAC XML file. We would also encourage photos to be taken on the works, prior to backfill or removal, with GPS coordinates enabled on the device used.

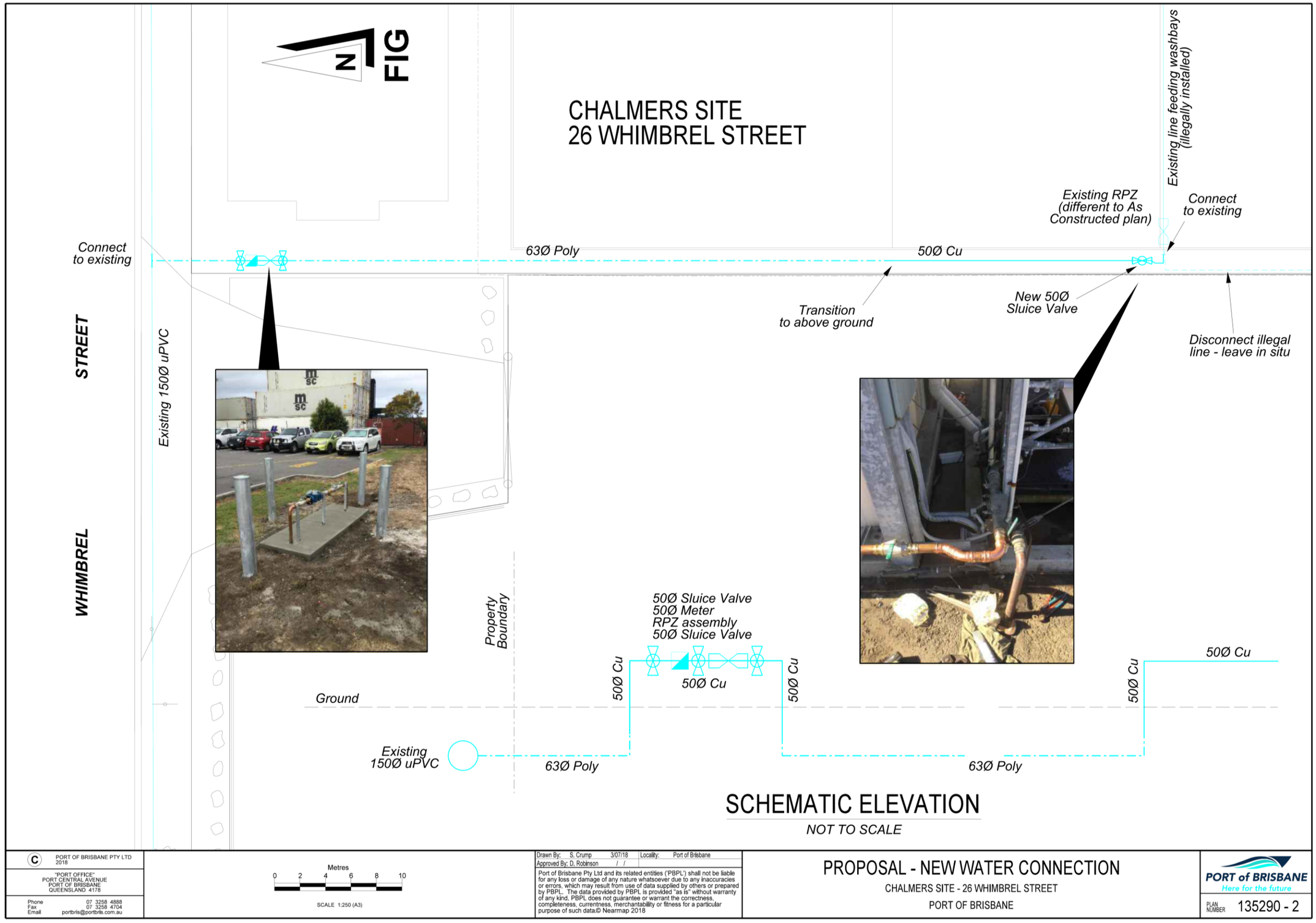
A quick checklist prior to works:

- Have design drawings ready to record all changes that may occur during installation, ready for supply of "As Constructed" plans back to the Port;
- Identical records between the ADAC submission and the final "As Constructed" plans;
- Photos (before and after) to validate the information provided;
- Surveyors understanding and recording of coordinate system used – on plans and in ADAC XML;

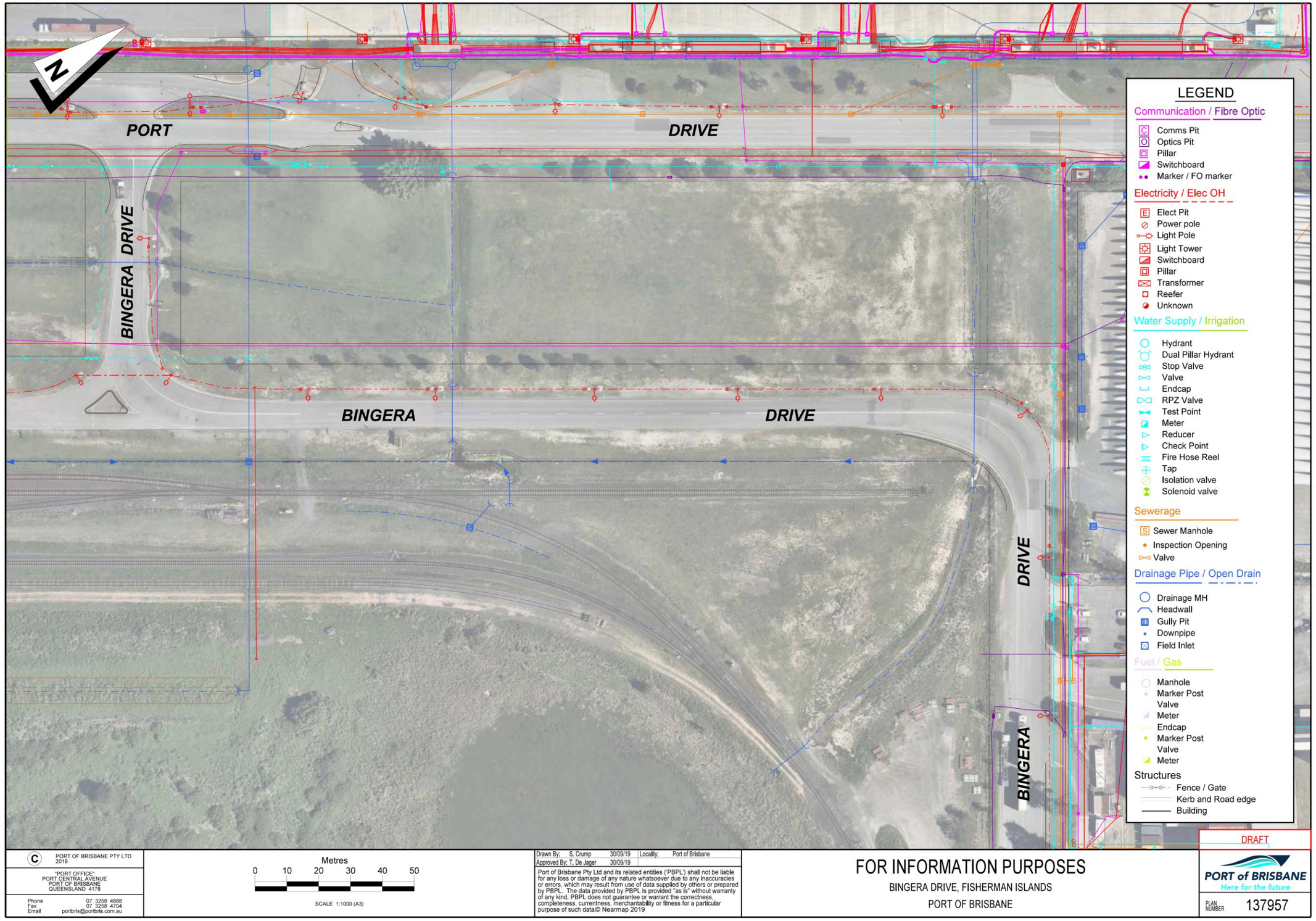
Examples of this level of information can be found in the following appendices

Appendix 1: Proposed installation request from PBPL to service provider.

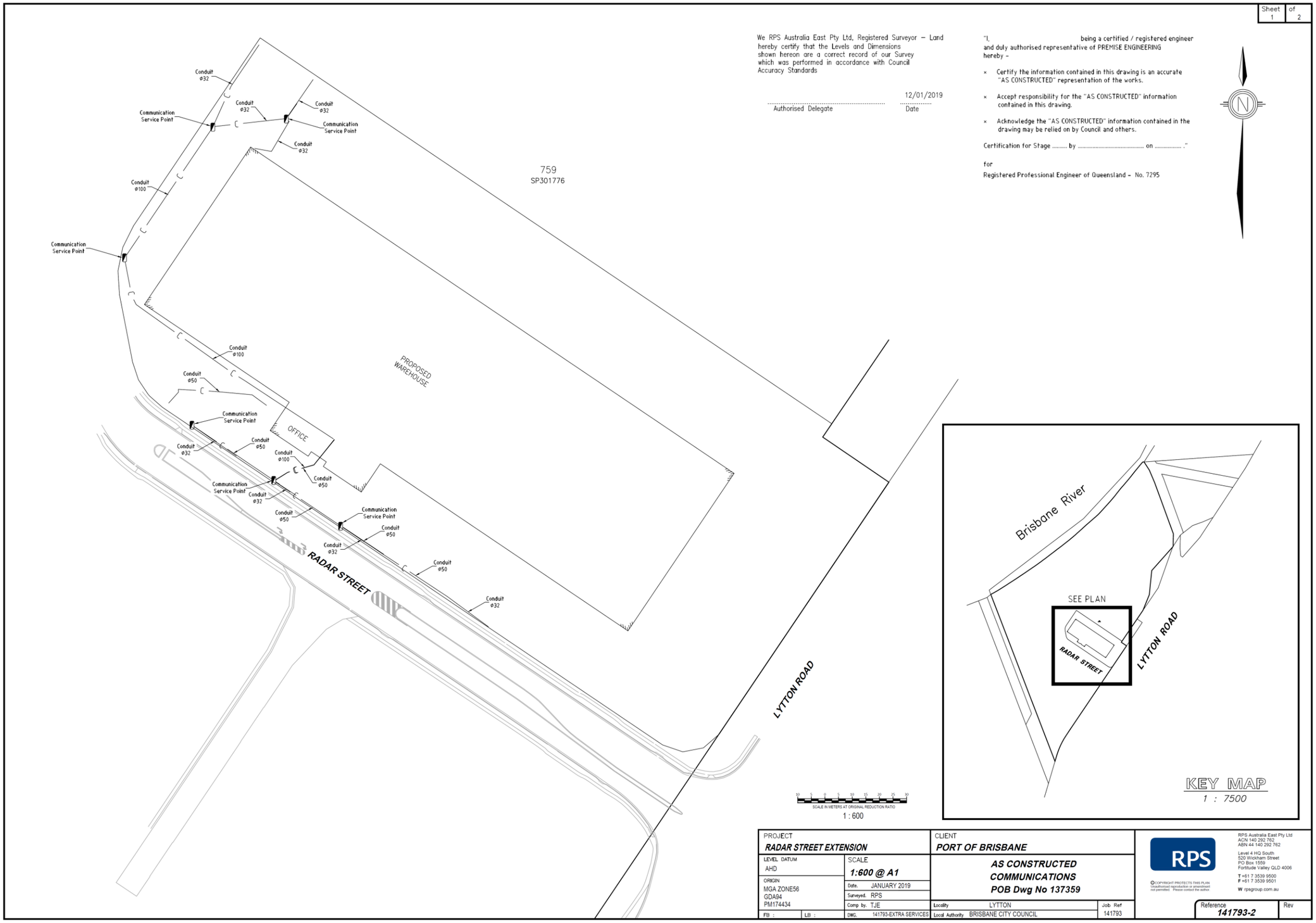
Photos were added to the plan on completion - provider to supply ADAC XML file on completion of works.



Appendix 2: Existing services extract provided from PBPL, prior to works.



Appendix 3: Extents of survey capture for service, provided by the surveyors



Appendix 4: ADAC XML supplied

This example extract from the XML file shows the relevant fields completed, relating to the coordinate system adopted, and who completed the works.

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