



SUPPLY OF “AS CONSTRUCTED” DELIVERABLES

Introduction

Port of Brisbane Pty Ltd (PBPL) has a responsibility to maintain reliable records for their plan register and Geographical Information System (GIS). This document is an outline of the acceptable standards and formats of the “As Constructed” deliverables. It is to be used as supplementary advice where not already stipulated, in conjunction with any other agreed Contract or Development Application.

For information regarding the supply of “As Constructed” **data** deliverables, please refer to the PBPL ADAC standards document “Guidelines for creation and Submission of ADAC XML files” (Appendix C of the Technical Guidelines)

Content of “As Constructed” Information

The documents included, but not limited to, as “As Constructed” information are:

1. Works Drawings / Construction Sets;
2. Services Coordination drawings;
3. Demolition and alterations drawings

The final “As Constructed” versions of these drawings will adhere to these guideline:

- “As Constructed” changes clearly marked in red and ‘clouded’, with revision letter adjacent;
- Changes to design or construction as a result of an RFI or discussion to be clearly shown on the face of the plan. RFI numbers or AsCon number to be displayed next to all changes;
- Details to be shown at a larger scale on plan where necessary. If there is insufficient room on the plan, provide additional plans clearly labelled “Detail A”, with the same plan number (see Plan Numbering section);
- Revision status in the title bar shall indicate “As Constructed” issue, and contain the Certification of the Provider. All other references to plan status to be removed;
- All redline mark ups are to be executed in the native CAD file, where possible, and not as comments or edits in the PDF.

If not already defined, details and/or supporting documentation relating to RFIs and AsCon numbers can be via an “As Constructed Register”. A sample of an “As Constructed Register” is shown in “Example A”. A sample of an anticipated final mark up Construction plan is shown in “Example B”.

On projects where existing infrastructure and/or utilities are demolished, services realigned, upgraded, changed or abandoned, a detailed drawing (or series of drawings) should be produced to reflect these changes. These drawings will display enough information to identify their location on the Works site, and their relative position to existing services.

A plan showing “As Constructed” survey pickups shall also be provided, including horizontal and vertical datum used, date of survey and company/surveyor details. This is in addition to information covered by other plans. All information contained in the survey pickup needs to be detailed on one or more of the other “As Constructed” documents. Where ADAC information has been supplied, this plan(s) will be a representation of the extent of ADAC pickup. In this instance, labelling of content will not be required as it will already be provided as database attributes in the ADAC XML submission.

Drafting

CAD Application

All drawings are to be provided to PBPL in CAD format. These plans, where applicable, shall be on our standard drawing template (see Plan Template). Our in-house CAD package is Bentley Microstation Connect edition(.dgn). Files are to be provided in this format, or any other suitable CAD format, such as AutoCad (.dwg).

Please ensure that all external reference files or images attached to the parent file are also provided. Any resource files such as custom line styles, font libraries, colour tables, ctb, cells, etc, will also need to be provided to ensure there is no loss of data in translation.

Seed files containing PBPL standards can be provided on request in Microstation dgn format.

GIS Application

The GIS package we use is Bentley Map. It is compatible with other GIS packages in that it can import shapefiles (.shp) and retain associated databases. Supplied Extensible Markup Language (XML) files are utilised in the Bentley Map application. We can supply an extract from our current GIS content as a KML or KMZ file to be used within Google Earth applications, on request.

Survey Control and Datum

From January 1st, 2017, PBPL uses two grid systems – on Fisherman Islands and off Fisherman Islands, denoted by the boat passage’s “Captain Bishop Bridge”.

Plans should specify details of the set-out control points / Permanent Survey Marks (PSMs) used for horizontal positioning.

On Fisherman Islands, our coordinate system is Fisherman Island Grid (FIG) which is a plane rectangular grid on a rotated alignment, running parallel to the wharves, on X and Y coordinates.

Off Fisherman Islands, the coordinate system to use is the Map Grid of Australia (MGA). Refer to Appendix A of the Technical Guidelines.

A detailed description of the FIG translation, and previously used local grids prior to 2017, can be provided on request.

Vertical level Datum for the Port of Brisbane (Fisherman Islands) is Port Datum (which is LAT). This datum is 1.243m higher than Australian Height Datum (AHD). All other sites managed by PBPL are based on AHD.

Plan Numbering

A PBPL sequential 6-digit number is assigned to all plans, and you will be supplied a number allocation when you are able to define the extent of your drawing list. Please supply a spreadsheet (.xls) of the complete drawing list which we can append the number to. A sample of the format of this spreadsheet is provided in Example C.

This number will reside in the CAD file, in the designated area of the drawing template title block “PBPL Plan Ref:” prior to PDF creation. When the PBPL plan number has been provided, the subsequent CAD file name will change accordingly. For example, if a CAD file contains 1 plan, it will have a file name of “123456.dgn”. If there are 3 sheets in the CAD file, it can be named “123456-123458.dgn”

PBPL plan numbers need to be incorporated on all plans supplied to the port, even if the contractor or sub-contractor title sheets have been used. This can be placed near the title block or our logo, in red, at a legible scale, as “PBPL Ref:<number>”.

Submission of Drawings

All drawings will be provided to PBPL in the following formats:

1. Native CAD file (.dgn, .dwg, .dxf); and
2. PDF format – file generated at the same page size as the intended printed output

Additionally upon request from PBPL, a hardcopy of the plans may be required. This may be, but is not limited for, records requiring original signatures.

All drawings shall be accompanied by a drawing transmittal notice, including the following details:

1. Drawing Number (PBPL number or otherwise)
2. Drawing Title
3. Revision
4. Release Date
5. Status (ie. Construction Issue, As Built)

Electronic files must only contain relative information and be compressed to reduce file size wherever possible. Any additional files required for reproducing the information should also be provided.

Electronic files can be provided via:

1. Email attachments;
2. Client Dropbox site;
3. USB, CD or DVD

Options may be limited depending on number and size of files being provided. A Maximum of 10Mb is allowable through our Mail Server.

As Constructed Checklist

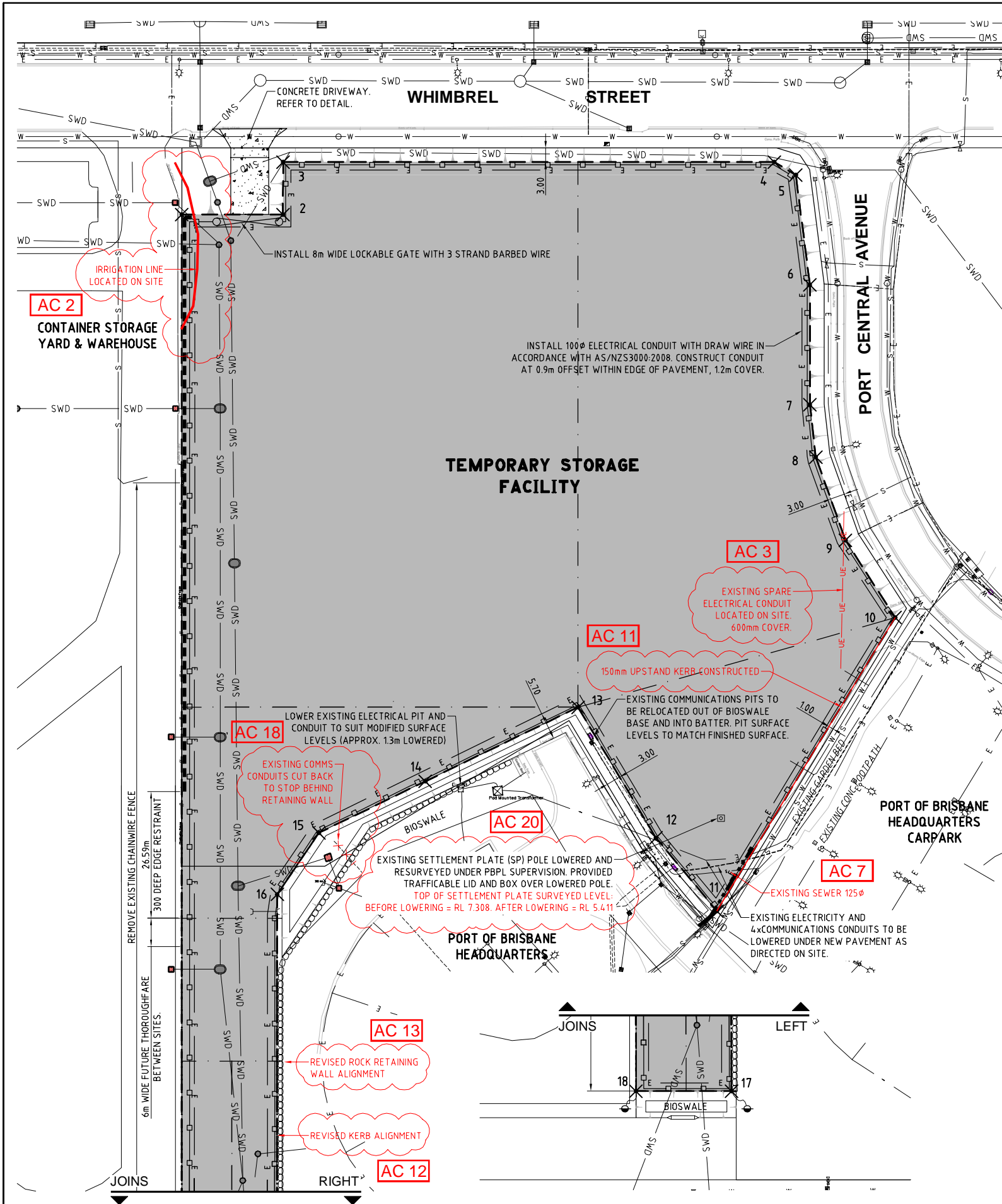
A Microsoft Excel spreadsheet has been provided as an easy reference for supply of information. (See AsCon Checklist).

Example A

WHIMBREL ST - 'AS CONSTRUCTED' DRAWING REGISTER

AS CON NO.	DRAWNG NO.	REVISION	COMMENTS	ENGINEER TO UPDATE	SURVEYOR TO UPDATE
1	127603	C	For the Retaining wall along the Southern side of the Property, the Lease boundary has now been shifted to the centre of the wall. Amendment to set out advised by Angel on 15/5/13, at site meeting (Angel, Pete Mason, Clint Mason, Clint, Dave, Michael) Refer to attached drawing. (See attached Sketch)	○	
2	127603	C	Irrigation Line along Southern boundary. Surveyor to pick up location of line and add to As Constructed Drawings.		○
3	127603	C	Communication conduits that Brimar Electrical have placed in the ground beside the POB car park (in our site). The conduit is 600mm below the existing surface. Surveyors to pick up exact location of conduit and add to As Constructed Drawings		○
4	127605 & 127606	D	500mm Subgrade Replacement beneath SW Pipes. Replacement with 20mm Aggregate along twin 1500 line with geo fabric. HP580 Woven Fabric from CH0 -28 then A44 non woven fabric onwards.	PM SKETCH	
5	127603	C	Reinforcing steel in top course of retaining wall southern boundary changed from single N16 bar to twin N12 bars running horizontal through top of wall. Also N16 'Dropper bars' placed next to every starter bar (200 centres) to allow for higher block wall. (See attached Sketch)	PM SKETCH	
6	127606	D	Stormwater Road Crossing pavement Reinstatement. Please see attached sketch Plan	PM SKETCH	
7	127605	D	Refer surveyor plan for existing services (sewer / comms) in southern corner near POB Car park.		○
8	127605	D	Pit Lids (MH2.1, 2A, 2B, 3A, 3B, 4A) have additional Reinforcing placed in them. (See attached Sketch / Form 15)	ENGINEER SKETCH PLAN	
9	127602	C	Installation of 100mm socked agg drain connected to Manhole 1A and 3A as per the drawing + backfill up the wall with 20mm drainage gravel (in lieu of 10mm noted on drawings) to the western boundary block retaining wall on Whimbrel Street	PM SKETCH	
10	127606	D	Removal of Electrical Services on the creek side of Lucinda Drive. Please see attached sketch of the extent of removal.	PM SKETCH	
11	127605	D	150mm upstand kerb installed along SE South East Boundary. Surveyor to show on As Cons.		○
12	127619	D	Car park kerb alignment pulled in 1m from that shown of plans - as requested		○
13	127619	D	Retaining Rock Wall around the Bio-retention Pond and continuation towards Lucinda Dr.		○

Example B



LEGEND

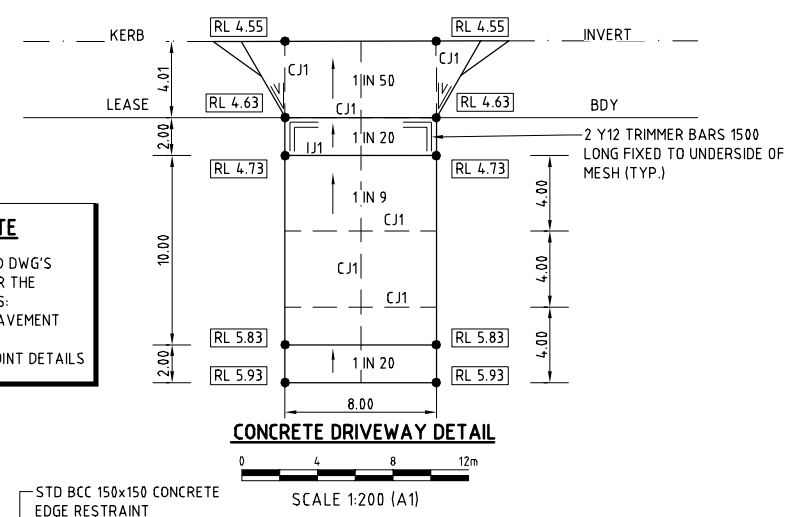
- CONCRETE PAVEMENT EDGE RESTRAINT (RAISED)
- CONCRETE PAVEMENT EDGE RESTRAINT (FLUSH)
- CHANGE IN EDGE RESTRAINT TYPE
- EDGE OF PAVEMENT SETOUT POINT
- PAVEMENT. REFER DETAIL.
- 100mm Ø ELECTRICAL CONDUIT WITH DRAW WIRE
- BLACK 1.8m HIGH CHAINWIRE FENCE WITH 3 STRANDS BARBED WIRE. REFER BCC STD DWG UMS 243 FOR DETAILS.
- STORMWATER
- EXISTING STORMWATER
- BATTER - 1 IN 2 MAX
- EXISTING KERB
- EXISTING WATER
- EXISTING SEWER
- EXISTING ELECTRICITY
- EXISTING COMMS
- CONCRETE BLOCK RETAINING WALL. REFER EARTHWORKS PLAN FOR DETAILS
- CONCRETE SLEEPER RETAINING WALL. REFER EARTHWORKS PLAN FOR DETAILS
- ROCK BOULDER RETAINING WALL

- NOTES**
- ALL WORK IS TO BE CARRIED OUT IN ACCORDANCE WITH CURRENT BRISBANE CITY COUNCIL STANDARD DRAWINGS AND METHODS (U.N.O.).
 - NOTWITHSTANDING THE LIMITS OF CUTTING AND FILLING SHOWN ON THE DRAWINGS, THE ACTUAL LIMITS SHALL BE DETERMINED ON SITE BY THE SUPERINTENDENT DURING CONSTRUCTION AND SIMILARLY THE FINISHED SURFACE CONTOURS MAY BE ADJUSTED BY WRITTEN DIRECTION OF THE SUPERINTENDENT DURING CONSTRUCTION.
 - THE CONTRACTOR IS TO ASCERTAIN THE EXACT LOCATION OF ALL EXISTING SERVICES PRIOR TO COMMENCEMENT OF CONSTRUCTION AND SHALL BE RESPONSIBLE FOR THE COST OF RECTIFICATION OF ANY DAMAGES TO EXISTING SERVICES WHICH MAY OCCUR. THE LOCATION OF EXISTING SERVICES SHOWN ON THESE DRAWINGS ARE APPROXIMATE ONLY.
 - ALLOTMENT FILLING TO BE COMPACTED TO 95% (min) OF THE R.D.D. (AS 1289 - TESTS E11, E4.1).
 - SUBGRADE TEST RESULTS TO BE FORWARDED TO SUPERINTENDENT FOR DETERMINATION OF BOX DEPTHS PRIOR TO EXCAVATION. TESTS SHALL INCLUDE SOAKED CBR AND/OR OTHER TESTS AS REQUESTED BY THE SUPERINTENDENT.
 - GEOTECHNICAL TESTING FOR PAVEMENT CONSTRUCTION IS TO BE CARRIED OUT IN ACCORDANCE WITH THE PROJECT SPECIFICATION. TEST CERTIFICATES ARE TO BE PREPARED BY A REGISTERED N.A.T.A. LABORATORY AT THE CONTRACTORS COST AND SHALL BE PROVIDED TO THE ENGINEER PROGRESSIVELY THROUGH THE WORKS. THE CONTRACTOR IS TO NOTIFY THE ENGINEER OF ANY NON-CONFORMANCES. ALL NON CONFORMING WORK IS TO BE RECTIFIED AS DIRECTED BY THE ENGINEER.
 - LEVELS AND GRADIENTS AT JUNCTIONS WITH EXISTING WORKS MAY BE VARIED AS APPROVED BY THE SUPERINTENDENT TO ACHIEVE SATISFACTORY CONNECTION TO THE EXISTING WORKS.

DRIVEWAY NOTE

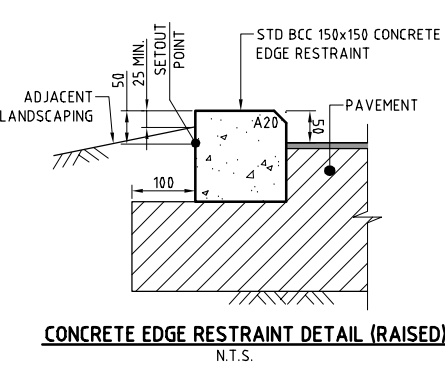
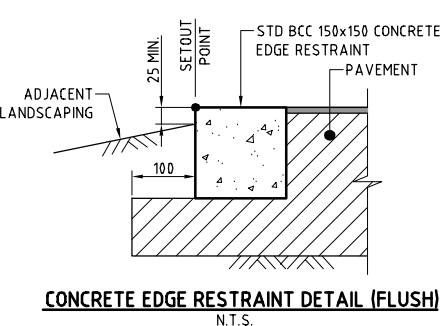
REFER TO PBPL STD DWG'S 112029 & 112405 FOR THE FOLLOWING DETAILS:

- CONCRETE PAVEMENT DETAILS
- CONCRETE JOINT DETAILS



PAVEMENT EDGE SETOUT TABLE

POINT	X CO-ORD	Y CO-ORD
1	2509.028	3054.962
2	2530.249	3054.962
3	2530.250	3065.996
4	2633.277	3065.996
5	2637.794	3063.289
6	2640.735	3040.184
7	2640.735	3015.059
8	2641.982	3004.108
9	2648.199	2986.640
10	2658.635	2970.443
11	2621.236	2908.853
12	2608.463	2924.203
13	2592.110	2951.603
14	2560.088	2936.079
15	2537.767	2925.258
16	2529.040	2912.348
17	2529.040	2838.546
18	2509.030	2838.546



PAVEMENT NOTES

- REFER TO GOLDER GEOTECHNICAL REPORT NO. 127632012-014-REV 1 FOR SITE GEOLOGY AND ACCEPTABLE SETTLEMENT LIMITS.
- SETTLEMENT RATES SHALL BE LIMITED TO 150mm IN 20 YEARS AS SPECIFIED IN THE GOLDER GEOTECHNICAL REPORT.
- SERVICE LOADS SHALL NOT EXCEED 20 KPA.
- FINISHED SURFACE LEVELS (FSL) AS SHOWN ON DRAWING 127603 SHALL APPLY.
- NO ADDITIONAL FILL ABOVE THE PROPOSED FSL CAN BE PLACED WITHOUT PRIOR GEOTECHNICAL APPROVAL.
- EXISTING CBR TO BE CONFIRMED PRIOR TO PAVEMENT CONSTRUCTION. AN EXISTING SUB GRADE OF CBR 15 HAS BEEN ASSUMED.
- PAVEMENT DESIGN IS BASED ON 1.0 x 10⁶ ESA'S DESIGN TRAFFIC WITH A MINIMUM 20 YEAR DESIGN LIFE.
- REFER TO PAVEMENT DESIGN DETAILS.

PAVEMENT DESIGN DETAIL

N.T.S.

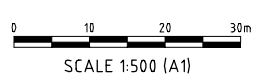
Company details that executed the "As Constructed" mark ups

AS CONSTRUCTED

PBPL APPROVED	DATE
ETS APPROVED	DATE
ALAN SVILIC KEITH HOWELLS	RPEQ 8369 RPEQ 7265

E	DESIGN AMENDMENTS MADE DURING CONSTRUCTION PHASE	KPH	05/05/14	
D	CONSTRUCTION ISSUE – AMENDED LAYOUT WITH ADDITIONAL STORAGE AREA	KPH	14/05/13	
G	REVISED AS CONSTRUCTED – MINOR CHANGES REQUESTED BY PBPL	PP	17/06/14	
F	REVISED AS CONSTRUCTED	PP	20/05/14	
REV.	AMENDMENTS	INIT.	APP.	DATE

Text in red



COMPANY LOGO HERE

AUSTRALIA

BRISBANE LVL 25, 288 EDWARD STREET
BRISBANE 4000
P: (07) 3371 7000 F: (07) 3371 5679
E: mail@etsgroup.net.au

SUNSHINE COAST 20 INNOVATION PARKWAY
BIRINYA QLD 4575
P: (07) 5438 8100 F: (07) 5438 8200
E: mail.sc@etsgroup.net.au

ARCHITECTS - CIVIL & STRUCTURAL ENGINEERS

PBC APPROVED by: Date:

HORIZ DATUM

FIG

VERT DATUM

PORT

PREPARED by MM Date: 03/13

CHECKED by Date:

APPROVED by Date:

TEMPORARY STORAGE COMPOUND

LOCATION WHIMBREL STREET, PORT OF BRISBANE

SHEET TITLE STORAGE FACILITY LAYOUT

RPEQ No: © PORT OF BRISBANE PTY. LTD. 2013

PORT OF BRISBANE PTY. LTD.

NEW PORT OFFICE
PORT CENTRAL AVENUE
PORT OF BRISBANE
QUEENSLAND 4178

Phone 07 325648
Fax 07 3256411
Email port@portofbrisbane.com.au

Dwg. No. 127602

Re G

Example C


A-08-11	6	132144	DOOR SCHEDULE	ARCHITECTURAL
A-08-15	6	132145	GLAZING SCHEDULE - SHEET 01	ARCHITECTURAL
A-10-01	6	132146	PERSPECTIVES	ARCHITECTURAL
S-00-01	2	132147	STRUCTURAL NOTES - SHEET 1	STRUCTURAL
S-00-02	2	132148	STRUCTURAL NOTES - SHEET 2	STRUCTURAL
S-01-01	2	132149	EXTERNAL PT SLAB ON GROUND PLAN - SHEET 1.	STRUCTURAL
S-01-03	1	132151	EXTERNAL PT SLAB ON GROUND PLAN - SHEET 3	STRUCTURAL
S-01-11	1	132153	FOOTING AND SLAB ON GROUND PLAN - WAREHOUSE AND OFFICE - SHEET 2	STRUCTURAL
S-03-01	1	132156	ROOF FRAMING PLAN - WAREHOUSE AND OFFICE - SHEET 1	STRUCTURAL
S-03-0A	1	132158	OVERALL STEELWORK SCHEDULES	STRUCTURAL
S-03-0B	1	132159	DETAILED STEELWORK SCHEDULES	STRUCTURAL
S-04-01	1	132160	OVERALL TILT PANEL PLAN AND SCHEDULES	STRUCTURAL
S-05-02	1	132162	ELEVATIONS AND SECTIONS - WAREHOUSE AND OFFICE - SHEET 2	STRUCTURAL
S-05-03	1	132163	ELEVATIONS AND SECTIONS - WAREHOUSE AND OFFICE - SHEET 3	STRUCTURAL
S-08-01	1	132171	FRAMING PLANS AND ELEVATIONS - TRUCK WASH	STRUCTURAL
S-08-02	C	132172	FRAMING PLANS AND ELEVATIONS - PUMP ROOM	STRUCTURAL
S-08-03	1	132173	FRAMING PLANS AND ELEVATIONS - INTERNAL WAREHOUSE OFFICE	STRUCTURAL
C-00-01	2	132174	LOCALITY PLAN DRAWINGS INDEX AND GENERAL NOTES	CIVIL
C-01-01	2	132175	EROSION AND SEDIMENT CONTROL LAYOUT PLAN	CIVIL
C-01-02	2	132176	EROSION AND SEDIMENT CONTROL NOTES	CIVIL
C-02-01	2	132177	BULK EARTHWORKS LAYOUT PLAN - SHEET 1 OF 3	CIVIL
C-02-02	2	132178	BULK EARTHWORKS LAYOUT PLAN - SHEET 2 OF 3	CIVIL
C-02-03	2	132179	BULK EARTHWORKS LAYOUT PLAN - SHEET 3 OF 3	CIVIL
C-04-01	2	132180	PAVEMENT LAYOUT AND LEVELS PLAN - SHEET 1 OF 3	CIVIL
C-04-02	2	132181	PAVEMENT LAYOUT AND LEVELS PLAN - SHEET 2 OF 3	CIVIL
C-04-03	2	132182	PAVEMENT LAYOUT AND LEVELS PLAN - SHEET 3 OF 3	CIVIL
C-04-04	2	132183	PAVEMENT JOINTING LAYOUT PLAN	CIVIL
C-04-05	2	132184	PAVEMENT AND JOINT DETAILS	CIVIL
C-06-01	2	132185	STORMWATER LAYOUT PLAN - SHEET 1 OF 3	CIVIL
C-06-02	2	132186	STORMWATER LAYOUT PLAN - SHEET 2 OF 3	CIVIL
C-06-03	2	132187	STORMWATER LAYOUT PLAN - SHEET 3 OF 3	CIVIL
C-06-04	2	132188	STORMWATER DETAILS - SHEET 1 OF 3	CIVIL
C-06-05	2	132189	STORMWATER DETAILS - SHEET 2 OF 3	CIVIL
C-06-06	2	132190	STORMWATER DETAILS - SHEET 3 OF 3	CIVIL
15137-C001	B	132191	SEWER RETICULATION LAYOUT PLANS AND DETAILS	CIVIL
15137-C010	B	132192	WATER RETICULATION LOCALITY PLAN AND NOTES	CIVIL

AsCon Checklist

AS CONSTRUCTED INFORMATION CHECKLIST - Items listed in order of importance

IN GROUND SERVICES - connecting to existing	Contractor (Company) Name / Drawn by	To be completed by Project Manager						by PBPL
		Surveyed	3D	DWG	PDF	PAPER	Plan Reference / Number	Satisfied
Water								
Electrical								
Communications								
Stormwater Drainage								
Sewerage								
Irrigation								
CIVIL WORKS - site services and layout								
Site layout and Pavement details (kerbs, fences, linemarking, signs)								
Electricals (pits, transformers, lighting)								
Stormwater Drainage (including open drainage)								
Fire services								
Hydraulics (domestic water, sewer)								
Communications / Data cables								
Building extents and offsets								
Terrain (Levels, Spot heights, embankments)								
ARCHITECTURAL WORKS - per Building or improvement								
Location on site, Floor Plans								
Electricals (including distribution boards, etc)								
Drainage (roofwater, tanks, etc)								
Fire Protection / Sprinklers								
Air Conditioning								
Irrigation								
Landscaping								
STRUCTURAL WORKS - per Building or improvement								
Footings / slab details								
Framing Plans and Elevations								
Roof Framing								
Fabricated Items								

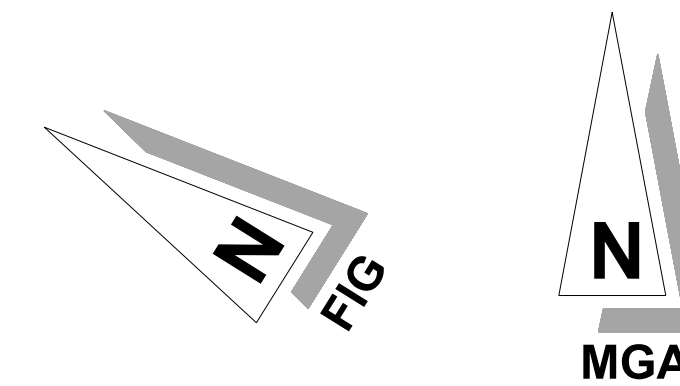
Please Note: Surveyed information on site does not replace the "As Constructed" release of any other set of plans. All plans that form part of the works on site need to be final "As Constructed/ As Built" versions, marked up accordingly to show any changes, additions or deletions during the construction phase.

 Denotes minimim requirement

If you require any more information regarding acceptable formats for documentation, please do not hesitate to contact our Spatial Data Section

As Constructed Checklist_Rev B.xls

Plan Template



THIS IS AN
EXAMPLE
LEGEND
ONLY

EXISTING SERVICES KEY

Communication	(Comms Pit)
Fibre Optic	(Comms Pit)
Electricity	(Street Light, Elect Pit, Pole)
Elec OH	(Pole, Elect Pit)
Water Supply	(Fire Hydrant, Stop Valve, RPZ Valve, Water Meter)
Irrigation Line	(Stop Valve, Solenoid Valve, RPZ Valve)
Sewerage	(Sewer Manhole)
Stormwater Pipe	(Manhole, Pit, Headwall)
Open Drain	(Headwall)
Fuel Line	
Gas Line	

Legend for existing services:

- Communication:** Solid green line with a green square symbol.
- Fibre Optic:** Solid green line with a green square symbol.
- Electricity:** Solid red line with a red square symbol.
- Elec OH:** Dashed red line with a red square symbol.
- Water Supply:** Solid blue line with a blue circle symbol.
- Irrigation Line:** Dashed green line with a green circle symbol.
- Sewerage:** Solid orange line with an orange square symbol.
- Stormwater Pipe:** Dashed blue line with a blue square symbol.
- Open Drain:** Dashed blue line with an arrowhead symbol.
- Fuel Line:** Solid purple line.
- Gas Line:** Solid yellow line.

STATUS

PORT OF BRISBANE PTY. LTD.
 NEW PORT OFFICE:
 PORT CENTRAL AVENUE
 PORT OF BRISBANE
 QUEENSLAND 4178

Phone 07 32584988
 Fax 07 32584704
 Email portbris@portbris.com.au

Dwg. No.

Rev.

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BPBL Plan Ref: 000000