**GUIDANCE NOTE: LANDSCAPE SURVEY AND DRAWING REQUIREMENTS**

Pre-development or disturbance surveys are required as well as final ‘As-built’ surveys as a part of project delivery. All survey files must conform to the University’s CAD Standards[[1]](#footnote-2) (unless contradicted below) and be uploaded to the University’s nominated document management system ‘Lunr’ per the CAD Standards, and comply with the following requirements:

## SURVEY EXTENTS

* Site boundaries must include all areas where the landscape or biodiversity may be impacted directly by a project including any proposed site access routes and entrances.
* The survey area should extend at minimum 20m past the identified site boundary.
* The survey area must incorporate at least three permanent or temporary benchmarks.

## SURVEY FILE FORMAT

* AutoCAD dwg file. 2D drawing scaled at 1:1 in meters in EPSG: 7855 (GDA 2020 Zone 54/55).
* .dwg file is to be compatible with AutoCAD version 2010.
* Name individual layers clearly and legibly following the convention of the 2018/19 Parkville F&L Survey.
* Electronic files larger than 8MB must be zipped for transmission purposes only. Final uploads to Lunr must be submitted as individual files per the CAD Standard requirements.
* All surface area types must be drawn with enclosed polylines and hatched for easy visual delineation and exporting to GIS for analysis.
* All trees/plants must have point symbology for plant centres and an indicative shape for canopy spread at installation, 5 years, and maturity.

## SURVEY INCLUSIONS

The survey shall pick up, and provide spot levels for, all existing features within the specified site including, but not necessarily limited to:

### 3.1 Outdoor Infrastructure

“Outdoor Infrastructure” includes but is not limited to: all overhead and underground services including water, electricity and gas pit covers, meters piping and associated infrastructure as well as signage, bin cages, bins, drain grate covers, drains, outdoor furniture, hydration stations, emergency blue phones, public telephone booths, bike repair stations, poster poles, bike hoops, barbeques, compost bins, water features, pots, bollards, bird baths, water features, irrigation assets including sprinklers, gas, water and electricity meters, control boxes, speed bumps, hydrants, taps, fences, gates etc.

* The Consultant shall conduct all investigations (including Dial Before You Dig and electronic service detection and location) required to accurately locate all services within the site.
* Pit/ drain covers shall be identified based on the type of service or drainage cover.
* All infrastructure types must be separated into appropriately labelled layers with either intuitive point symbology for small assets (footprint <30cm2 in size, e.g. road sign) or enclosed continuous polylines for larger assets (footprint >30cm2 in size e.g. 1m2 service pit cover).

### 3.2 Hard Landscape Features

* All hard landscape features including paths, fence‐lines, gateways and access points, furniture, retaining walls, kerb and channel, buildings (including entries), and any other structures within the site boundary.
* Extent and descriptions of all paving and hard surface materials, with each paving material to be assigned to an individual layer. Line marking on surfaces like road lines or playing courts are to be included in a separate layer.
* Extent of all stairs and ramps located outside of any building with the description of the respective surface or paving material.
* Extent and description of all pots, including dimensions and material.
* Levels and locations of all details from the property boundary line on one side of the street to the property boundary line on the opposite side of the street.
* Kerb and channel, path edges and centre median details.
* Pedestrian crossings and entrances such as doorways, gates, driveways and garages.
* All intersecting roads within and beyond the limit of works are also to be surveyed for a length of 20 metres from the property boundary of the road being surveyed.
* All feature types must be separated into appropriately labelled layers with continuous enclosed polylines for larger assets (footprint >30cm2 in size e.g. surface materials) to enable easy hatching and export to polygon shapefiles for analysis in GIS.

### 3.4 Soft Landscape Features

* All landscape features including informal path edges, trees and garden beds.
* Extent and description of all unsealed soil types as per the following definitions, which are to be assigned to separate layers:
	+ Garden Bed: non-containerised planted area.
	+ Containerised Garden Bed: a planted area that is contained by a hard surface material along the sides and bottom of the area.
	+ Lawn: any area that is predominantly planted with turf.
	+ Ponds: any water body where there is contact with the soil profile.
* All vegetation above 1m in height including the extent of formally hedges and shrubs and tree canopies (enclosed polyline/ circles, if irregular show shape and extents). Where vegetation takes the form of large areas of massed shrubs and small trees with a continuous canopy, the Consultant shall represent the extent of the canopy. Where numbers of individual plants can be identified these shall be included with that information.
* All feature types must be separated into appropriately labelled layers with enclosed continuous polylines for larger assets (footprint >30cm2 in size e.g. unsealed soil types) to enable easy hatching and export to polygon shapefiles for analysis in GIS.

### 3.5 Level Information

* Place survey points every 10m to produce an accurate contour plan, at 0.1m/1m intervals across each site.
* The 1.0m intervals shall be placed on a separate layer and differentiated by pen weight.
* Level information of all spot levels and features shall also be graphically shown on the plan.
* The survey must accurately represent the ground surface topography including all horizontal and vertical distortions.
* Additional spot heights are required in areas where there is a depression or obvious change in grade/material.

1. <https://about.unimelb.edu.au/__data/assets/pdf_file/0025/74833/University_CAD_standards-V3.2.pdf> [↑](#footnote-ref-2)