



AVOIDING ASSET STRIKES IN HIGHLY CONGESTED PROJECTS

PROJECT: Fishing Boat Harbour Survey & Underground Service Investigation – Fremantle, Western Australia

CLIENT: Department of Transport, Maritime Western Australia

PROJECT BACKGROUND

Built in 1919, Fremantle Fishing Boat Harbour is a marina in Fremantle, Western Australia (WA). Today, the busy working port is a popular destination for locals and tourists, and features restaurants, attractions, and accommodation.

As part of the \$5.5 billion WA Recovery Plan (a program of works designed to drive economic and social recovery across the State, following COVID-19), replacement jetties, amenities buildings, and new pen holder facilities are planned. To support these new structures, significant upgrades to the ageing electrical infrastructure are required.

To prepare detailed engineering designs for the electrical infrastructure, the Department of Transport, Maritime Western Australia (DoT) required an accurate, detailed survey of the surrounding buildings and harbour area. This included above and below ground service information across the 18ha site. DoT stipulated

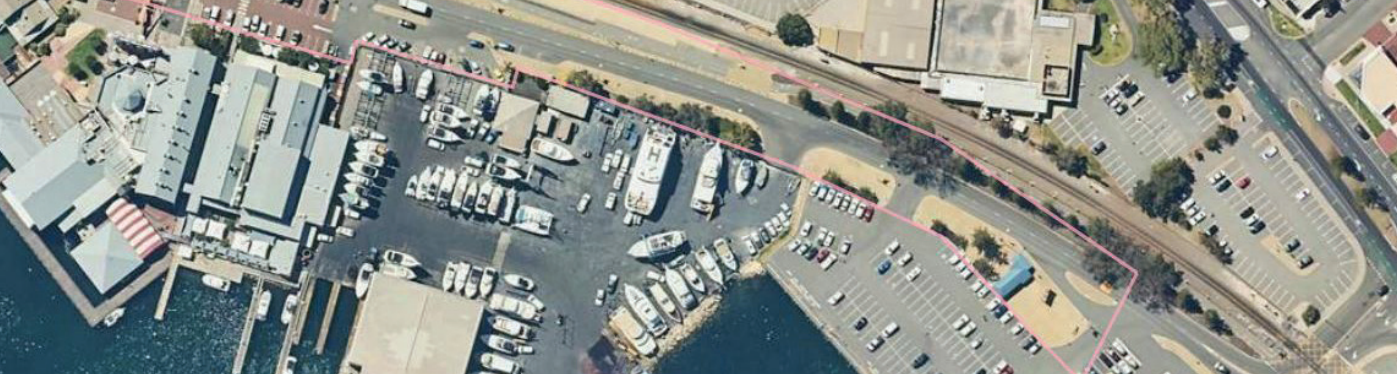
the survey should be undertaken in a safe, non-intrusive, and efficient manner. MNG was selected to provide this important support.

CHALLENGES

The site is a busy, fully operational port and key tourist destination, and the roadways are within high-traffic, vehicular and pedestrian corridors. Tenant and public safety were a priority... but also presented a logistical challenge.

Further, the subsurface utilities are located within the roadways sitting atop the breakwater surrounding the harbour. These areas are comprised of a large percentage limestone and reclaimed material which are typically highly compacted, making it a challenging environment for Ground Penetrating Radar (GPR).

MNG understood it was critical to capture all details in a safe and timely manner and ensure minimal disruption to roads, public areas, residents, tourists, and establishments.



SOLUTIONS

In consultation with DoT, MNG developed a program schedule to address these challenges and achieve the desired outcomes.

Here's what we did...

1. To minimise disruptions to leaseholders and patrons across the site, all surveying and locating activities were undertaken outside peak hours.
2. Working in alignment with DoT's maintenance contractor, MNG was granted predetermined access to confined areas such as service pits, trenches, and electrical switch-rooms to locate the multitude of services. This proactive, opportunistic approach streamlined works and reduced downtime.
3. MNG completed all works using mobile, non-invasive equipment such as GPR and Electromagnetic Induction. Where necessary, MNG recommended services be potholed to obtain a Quality Level-A identification of the service.
4. MNG identified interferences and potential clashes throughout the site and compiled detailed survey plans, including photographic records. The information was then provided to DoT in specified formats.
5. Utilising a two-person survey crew (with a robotic total station plus a single locator), ensured the project was undertaken in an expedient and safe manner. This also minimised the use of Traffic Management, which reduced the inconvenience to the general public.
6. As safety is paramount to DoT and MNG, it was imperative that all site personnel complete the required Occupational Safety and Health inductions, plus the mandatory "Take5" risk assessments, prior to commencing work.

Signage and hard barricading were also installed to clearly separate operational equipment from the public and ensure a safe working environment for all concerned.

7. To encourage collaboration and clear communication, the team provided DoT with weekly reports to keep them informed about the progress and advise of any unexpected challenges which arose within the project.

OUTCOMES

The survey gathered accurate information and identified all integral components of the surrounding area, according to scope. This information will be used in the development of detailed engineering designs, as part of the upgrade to high and low voltage electrical infrastructure at the Fremantle Fishing Boat Harbour.

MNG's support meant the client was able to:

- Reduce material waste;
- Reduce installation problems; and
- Avoid asset strike in the construction phase of the project.

MNG's efforts also expedited delivery of above and below ground service information, in a safe, non-obtrusive and efficient manner – a core requirement of the engagement.

The improvements will provide a more reliable electrical supply for tenants, increased capacity to power existing and future operations, and enhance safety conditions for maintenance crews.

TALK TO US

MNG provide innovative and personalised solutions for all projects. Talk with us today to find out more. Email info@mngsurvey.com.au or visit mngsurvey.com.au