

B1 Preliminaries and General Construction



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1.1 COORDINATION

The Service Provider will be responsible for coordination with other development works that could impact on the Works. This includes commercial and residential developments as well as the City's other Works, maintenance and upgrading work by services authorities, and any other work that may interface with the Works.

The typical issues and specific interfaces that must be considered include:

- Timing of the development
- Special requirements of the development
- The extent, location and timing of the services to be coordinated as part of the development
- Scope of work to be carried out by the development (e.g. underground access)
- Site and construction access requirements and parking and access location(s)
- Liaison with owners and Service Providers for ongoing and new development works to avoid any potential conflicts.

These issues must be taken into consideration in the preparation of the construction program for the Works.

1.1.1 COMPLIANCE CERTIFICATES, APPROVALS AND LICENCES

The Service Provider must apply and obtain all necessary approvals and permits required from all relevant authorities that may be affected by the Works.

Relevant authorities may include:

- AGL (gas installations)
- Ausgrid (electrical services)
- NBN
- Railcorp
- RMS (roads)
- Sydney buses
- Sydney Water (stormwater drainage)
- Telstra

Service Providers at early stages of design shall liaise with the above relevant authorities and obtain current forms from them to be submitted as required by the relevant authorities.

The Service Provider must pay all required fees and charges, exhibit all required notices, and comply with the regulations and requirements of each authority

including the City's planning approval process. The Service Provider shall consider the timeframe required to obtain the approvals and permits to avoid delays of the Works.

ELECTRICAL SERVICES

Consultant's electrical certification

Electrical consultants engaged on the project must issue an electrical design and installation certification form. AS3000 certification for electrical installations works is necessary.

Contractor's electrical certification

For all electrical installation works, electrical contractors must issue a Certificate of Compliance for Electrical Work (CCEW) form. CCEW forms are available from the National Electrical and Communications Association (NECA). It is essential that the installation work complies with AS/NZS3000 Wiring Rules and any other relevant standard and is tested as required and certified as being safe.

LIGHTING

Consultant's lighting certification

Lighting engineers' certification must be supplied, confirming that the installed lighting complies with the design intent.

Structural certification for lighting footings by a practising structural consultant is required, stating that the installation is fit for purpose, and complies with the approved design and the site-specific underground obstructions and soil conditions.

Contractor's electrical certification

Electrical contractors must issue a Certificate of Compliance for Electrical Work (CCEW) form for all electrical installation works. CCEW forms are available from NECA. It is essential that the installation work complies with AS/NZS3000 Wiring Rules and any other relevant standard and is tested as required and certified as being safe.

Ausgrid certification

Provided shall be evidence of Ausgrid acceptance of street lighting upgrades on its network.

City of Sydney certification

Provided shall be the City's Test and Completion Certificate as per Annexure 2 in A5 Lighting Design of the Sydney Streets Technical Specifications.

Slip resistance testing and certifications

For trafficable surfaces, it is essential to get a slip resistance certificate from a NATA-approved laboratory. Two such certificates are required: before laying, after laying (if sealed) and after 12 months of use at the end of the Defects Liability Period.

Note that the supplier’s brochures will not be accepted and certificates need to be from a NATA-approved laboratory.

Material test results and certifications

For trafficable surfaces, glass walls and fire proofing, it is essential to get safety certificate(s) from a NATA-approved laboratory.

Geotechnical certification

If applicable and if the project calls for major excavations and/or exploration then soil environmental investigation and reporting will be necessary. Geotechnical certification is needed to report on the site’s environment before and during the Works. Certification will include soil classification, laboratory/field tests and reports.

Stormwater

The stormwater system in the city is owned in parts by Sydney Water and the City. Sydney Water owns a high percentage of small branch pipelines and pits. Sydney Water has specific requirements that must be met when upgrading or constructing new connections into their system.

The Service Provider shall consider the timeframe required to obtain the approvals and permits to avoid delays of the Works.

1.1.2 ROAD OPENING PERMITS

A Road Opening Permit is to be obtained by the Service Provider from the City prior to the commencement of any work within the public way. A Road Occupancy Licence will have to be obtained from RMS when working on a State Road, when affecting an intersection with traffic signals (typically within 50 metres of the intersection) or when advised by the City when applying for the Road Opening Permit.

Lead times to make such applications are to be managed by the Service Provider so that any delays from this process are minimised.

Any activities and restoration shall comply with *Part B12: Road Opening and Restoration* of the Sydney Street Technical Specifications.

1.1.3 CONSTRUCTION PROGRAMMING AND IMPLEMENTATION

The Service Provider is to plan and stage the Works so that they are carried out in normal working hours and as efficiently as possible.

Works near schools shall be conducted during school holidays unless otherwise approved by the City’s Representative.

The program must be developed taking all of the above-mentioned limitations into consideration and all the limitations must be clearly depicted in the program.

Notwithstanding the above-mentioned requirements and limitations, the Service Provider may perform work of an ancillary or minor nature (including defect rectification and clean up) within the project area provided that:

- The site and work being performed is safe and clean at all times
- The site on which the work is being performed is capable of being used as a safe pedestrian thoroughfare for the public
- Such work does not continue for a period beyond two (2) days
- Access to all premises is maintained at all times.

1.1.4 WORKING HOURS

The standard working hours applicable to the City are:

City centre

- 7am to 7pm, Mondays to Fridays
- 7am to 5pm, Saturdays (no work on Sundays or public holidays).

Pyrmont

- 7.30am to 5pm, Mondays to Fridays
- 7am to 3.30pm, Saturdays (no work on Sundays or public holidays).

All other areas

- 7.30am to 5.30pm. Mondays to Fridays
- 7.30am to 3.30pm, Saturdays (no work on Sundays or public holidays).

With the exception of emergency repairs, work outside these hours and weekends will only be permitted with the prior written approval of the City’s Representative.

Special time constraints may be applicable to certain special areas such as Martin Place and Pitt Street

Mall in order to not disturb trading activities and to cater for special events. Work must generally be carried out without disturbing trading activities and through-flow of traffic. In this respect, use of noisy equipment such as jackhammers and air compressors during lunch hour (12pm to 2pm) will not be allowed. In certain busy areas of the city such as Pitt Street Mall and Barrack Street, mufflers will have to be used on jackhammers and other equipment to minimise noise, in addition to any WorkCover requirements. Refer to the City's Code of Practice for Construction Hours/Noise within the Central Business District.

Certain annual events such as Anzac Day, City2Surf and Chinese New Year may restrict or deny access and available working hours in certain areas of the city during these events. The Service Provider may be required to be aware of the timing and extent of such events and program all Works to prevent any disruptions to them.

1.1.5 CONTINUITY OF CITY OPERATION

The Service Provider is responsible for maintaining all areas of work in a fully operational condition from the viewpoint of all road users including but not limited to:

- Pedestrians
- Cyclists
- Residents, shopkeepers and occupants of buildings
- Motorists
- Utility services
- RMS
- Sydney Buses
- Emergency services
- Maintenance workers
- Refuse collection.

The Service Provider may be required to provide all necessary temporary equipment to allow continuous operation and safety of the road users and general public during construction of the Works. This temporary equipment will include but is not limited to:

- Traffic lights
- Street lighting
- Road signs
- Lane marking, including sticks and stumps, and adjustment thereof
- Garbage bins
- Access to all properties
- Fences
- Safety barriers for vehicles
- Kerb ramps

All others as required for continuity of use of streets and footpaths safely and as directed by the City's Representative.

The Service Provider is responsible for minimising disruptions, delays, pollution and general nuisance to road users and the general public and particularly owners, tenants and occupants of adjacent buildings and properties during construction.

1.1.6 CITY-SUPPLIED ITEMS

The Service Provider may be required to develop a plan for coordination of City-supplied items. This plan may be required to include timing of the goods required relevant to each construction site, the nomination of external testing agencies who will be confirming product quality, and the applicable procedure of control of customer-supplied product.

The City-supplied items remain the property of the City at all times.

1.1.7 PROJECT MANAGEMENT PLAN

The Service Provider may be required by the City's Representative to lodge all or part of a Project Management Plan (PMP).

The Service Provider's PMP may be a controlled document, and will be updated (and developed as required) as site conditions evolve throughout the course of the construction. The PMP should incorporate the following as a minimum:

Corporate/Project Management System

- Explanation of and relationship to the Service Provider's corporate management system
- Organisational structure
- Statement of responsibilities for personnel appointed to the project
- Relevant corporate policies and procedures
- Project Program involving design, supply, construction planning and construction staging.

Construction Management Plan

Including a Pedestrian and Traffic Management Plan for the whole project as well as separate construction zones

- Services Management and Approval Plan
- Dilapidation Report.

Quality Plan

- Design Plan
- Documents and Records Management Procedure
- Procurement Plan
- Inspection and Test Plans
- Witness and Hold Point Schedule
- Plant and Equipment Register
- Control of Nonconforming Products Procedure
- Corrective and Preventive Action Procedure.

Work Health and Safety Plan

- Site office location, contact phone/email including 24-hour contact details of the Project Manager and Community Liaison Officer
- Compound plan
- Emergency response plan
- Induction procedure
- Plant and equipment inspection, testing and maintenance procedures
- Audit Plan
- Accessibility Plan
- Project Risk Assessment & Mitigation Plan
- Safe Work Method Statements
- Safety Data Sheets for hazardous chemicals and dangerous goods
- Incident Management
- WHS System Compliance
- Training Plan -- Relevant training of personnel and associated qualifications/certificates.

Environment Management Plan

- Waste Management Plan (including waste recovery and recycling)
- Asbestos Decontamination Procedure
- Hazardous Substances (including Fuel) Management
- Stormwater Management & Sediment Control Procedure
- Water Conservation Procedure
- Waste Removal Procedure
- Tree and other Vegetation Management
- Heritage and Archaeological Plan
- Vibration Management Procedure
- Noise Management Procedure
- Dust Minimisation Procedure.

Communications Plan

- Public liaison and issue-solving strategies including a complaints and suggestion register

- Authorities – Contact details for various approvals
- Signs and advertising details and locations

1.1.8 COMMUNICATION

1.1.8.1 COMMUNITY RELATIONS

The Service Provider is required to coordinate and conduct all communication with the property owners, tenants and public throughout the Works on a daily basis and shall be the first point of contact. The Service Provider recognises the importance to the City of maintaining good relations with the community and carrying out the Works with minimal disruption or disturbance to the community and undertakes to do all necessary to maintain such good relations.

1.1.8.2 COMMUNITY LIAISON OFFICER

The Service Provider may be required to appoint a full-time Community Liaison Officer who will maintain positive community relations in a proactive manner and will be the first point of contact for any property owner, tenant and general public enquiries and/ or complaints and their satisfactory resolution. The Service Provider and Community Liaison Officer will deal with and resolve complaints as a matter of urgency and all enquiries as a matter of priority. The Service Provider must do all that is necessary to resolve all issues quickly to the benefit of the property owner, tenant or the general public.

1.1.8.3 NOTICE TO OWNERS AND TENANTS

The Service Provider must be proactive in keeping the community informed about the future Works and changes to the ongoing Works. This information must be provided to the community through letter drops, a site information board or door-knocking (personal visits) or a combination of these. The Service Provider must provide notice as below (at a minimum) to owners and tenants of properties located within or around a work site prior to commencing any work:

- Existing Infrastructure Upgrade Notices – four weeks before those works/changes
- Renewal or Replacement Works Notices – two weeks before those works/changes including changes to the buses, relocation of bus stops, changes to parking and other access

Construction Detail – Reminder Notices – door-to-door information (through personal visits) to occupants, two (2) to four (4) business days prior to commencement of those Works.

The community must be updated when the planned work method and program changes.

All information and letter drops to the community must be approved by the City's Representative and must be provided to the City's Representative a minimum of two (2) business days in advance of the required distribution date.

1.2 SITE REQUIREMENTS

1.2.1 SITE INFORMATION

The Service Provider must remain fully aware of the site conditions before and during construction of the Works.

Any additional work requires approval by the City's Representative. The Service Provider is to advise the City's Representative of all consequences, including programming of rectification.

1.2.2 SITE CONSTRAINTS

Further to the constraints and considerations specified elsewhere, the Service Provider's program for the Works and methods of construction must also take into account the following constraints:

- Temporary items, such as interim street lighting and traffic lights, may need to be installed and maintained in an operational condition during the period between the demolition of existing infrastructure and the installation of new infrastructure
- Temporary traffic lights and street lighting may be required to be in accordance with the requirements of the relevant authorities
- Continuity of cycleway operation
- Safe and adequate access is to be maintained at all times for disabled persons along the footpath and to the occupied premises at all times, including wheelchair access
- Clearance must be provided for public transport buses, which may travel in the kerbside lane
- Provision for emergency egress is to be provided through the work area in the event of fire or any other emergency event
- Bus stops and taxi stands will continue to operate adjacent to the Works during the construction period. The Service Provider is to provide clear marking and signage designating the alternate location of bus stops and taxi stands

- The Service Provider is to ensure that access to all properties (residential, office, commercial and all others) affected by the Works is retained
- The operating hours of all businesses, including night-time entertainment facilities, adjacent to the Works must not be disrupted except with the written approval of the business owner
- Provision of any necessary Loading Zones for businesses affected by the Works
- Protection of street trees, buildings and landscaping.

1.2.3 SITE ACCESS AND LIMITATIONS

The Service Provider is required to contain the Works within fenced/barricaded areas that prevent access to the public. Materials and equipment must not be stored outside fenced/barricaded areas, without written approval by the City's Representative.

1.2.4 SITE COMPOUND

It is the Service Provider's responsibility to obtain approval for site compound locations from the City's Traffic Operations, Environmental and Construction & Regulation units, in addition to all other approvals required from other stakeholders, such as the RMS, NSW Police, adjacent land owners and businesses.

The Service Provider may be permitted to put mobile ablution cubicles, if required, along the project length (preferably on side streets), provided separate approval is obtained from the City's Environmental Unit.

The Service Provider may be permitted to store materials within the work site area if space can be made available and providing they can be adequately secured from pedestrians and clear of access paths. Approval must be obtained from the City's Representative and any other relevant Authority. The Service Provider is responsible for the security of all materials and assets in use or left at the work site during the course of the Works and must retain adequate insurances.

1.2.5 PRE-CONSTRUCTION AND OPERATIONAL REQUIREMENTS

1.2.5.1 DILAPIDATION REPORT

The Service Provider may be required to submit a completed Dilapidation Report for the work areas, its surroundings and each private property adjacent to which the work has to be carried out. No Works are to be started prior to the Dilapidation Report

being approved by the City. The Service Provider may be required to arrange for an inspection of the private property at a time that suits both the owner and Service Provider, which may be outside normal working hours. In the course of a single visit, the Service Provider is to obtain all the information required to prepare the Dilapidation Report.

The condition of the adjacent items prior to construction of the Works is to be recorded. The Service Provider shall liaise with owners and tenants of adjacent facilities during the preparation of the dilapidation survey and supply a copy of the survey of each facility to its owner and tenant.

Each Dilapidation Report supplied to the City may be required to contain an acknowledgment by the owner and/or tenant that they have received a copy.

The Dilapidation Report will take the form of a report with digital photographs and a video recording (on a DVD or USB) of all the items within and adjacent to the work and also including both the exterior and interior of neighbouring facilities, including tunnels, basements, and all pits (including interiors). All photos in the report must be suitably labelled with the date and time taken, a statement of the extent and severity of the defect, its exact location, street name, direction faced, and any other relevant comments annotated.

The Dilapidation Report must clearly state the exact location of the defects so that the records can be used efficiently on a later date by anyone. Video and still photography may be required to be of a high quality to show all defects clearly, and must be provided to the City's Representative in a format compatible with a DVD or generic media player or on a USB.

Any cracks that are identified in the Dilapidation Report will be measured and marked with glass 'tell tales' under the supervision of a structural engineer, engaged by the Service Provider.

Particular attention must be paid to the condition of basements, tunnels and waterproofing membranes. Any evidence of leakage or water damage must be recorded.

The Dilapidation Report on service pits will be used to determine entitlement or otherwise for costs associated with repairs to such pits (if required by the City). Repairs to service pits and any other items within and around the Works, resulting from damage caused by the Service Provider while undertaking the Works will not entitle the Service Provider to additional costs.

Scope of Dilapidation Report

The Dilapidation Report must cover the following items as a minimum:

- The complete external facades at the ground and first storeys of all buildings immediately adjacent to and opposite the work site, including buildings in the side streets
- Complete basements and basement skylights
- Trees, shrubs and grasses
- All shopfronts and awnings, air-conditioning units, lighting and other equipment and plant installed on the exterior of buildings
- The interior room surfaces (at minimum, but not limited to, the rear of the external facades)
- All existing street furniture and signage including seats, public telephones, post boxes, parking meters, and the like
- All existing lighting poles, traffic poles and signs
- All existing footpaths and kerbstones
- All existing services and utilities where recording is possible
- All existing pit covers that are to be re-used
- Interiors of all existing service pits
- Raingardens
- Traffic facilities such as thresholds and speed humps
- Particular reference to any infrastructure, which during the execution of the Works the Service Provider will be required to temporarily remove and reinstall or replace at a later date
- A record of the outcome of the inspection of the interior of all existing services and utility pits with the relevant utility authority representative.

The Dilapidation Report must cover any of the above items that are within 6 metres of the Works. Typically, the Dilapidation Report shall also include details of the following:

Materials of construction

- General condition of materials
- Location and description of any defects including structural defects
- Location, size and description of any cracking.

1.2.5.2 RECORD OF DAMAGE

The Service Provider is required to create a Record of Damage for the site which includes both photographs and a statement as to what was damaged, the extent

of damage and how it was caused. This is required to determine who is responsible for damage to City assets should matters be raised in the future. The Record of Damage must document any damage to private property or City assets within the extent of the area occupied by the Service Provider during the Works, or affected by the Works, including areas proposed for storage and floating of plant.

1.2.6 EXISTING SERVICES

Prior to the commencement of any Works, the Service Provider shall use the Dial Before You Dig service to obtain current underground location plans to provide an indication of the presence of underground plant and services in the area of the Works.

It is the Service Provider's responsibility to visually expose the underground pipes and cables manually by hand digging or non-destructive digging techniques. The Service Provider shall take every precaution necessary to secure from damage all existing assets in, or adjacent to, the area of the work.

All damage caused in the execution of Works to any service or other existing Works shall be repaired as soon as possible. The Service Provider shall notify the City's Representative and the owner of the damaged service as soon as possible and at their own expense arrange and execute repairs to the satisfaction of the relevant authority. Where the relevant authority requires its own contractor to carry out repairs, the service provider will be responsible for payment of all costs incurred by the relevant authority in relation to the repairs.

1.2.7 RELOCATION AND ABANDONMENT OF SERVICES

The Service Provider shall notify the City's Representative immediately upon the discovery of services obstructing the Works. The appropriate service authority shall also be contacted if the service is not shown on the underground location plans obtained from the authority, or if they are shown at an incorrect location or depth. The obstructing service may need to be diverted, relocated, removed or abandoned, depending on whether it is live or disconnected. The Service Provider shall liaise with the City's Representative and the appropriate service authority to resolve the issue to their satisfaction.

When required, the Service Provider shall visually expose and clear around the services or other existing Works when and as directed. The removal, diversion or relaying shall be performed by the authorities, unless the Service Provider is directed by

the City's Representative that the work be performed by them under the supervision and satisfaction of the appropriate authority.

Any relocated or abandoned services are to be noted in the as-built drawings.

1.2.8 SUPERVISION AND CONTROL

It is the Service Provider's responsibility to ensure that all supervisory and control staff are aware of the accepted practice and methods to be used in undertaking the approved Works.

The Service Provider shall be required to provide a competent Supervisor to be present for the duration of all Works. The Supervisor must be able to effectively communicate in English both verbally and in writing. The Supervisor is required to ensure that the operation is efficiently organised and executed and that the site is safe and accessible in all weather conditions.

1.2.9 ACCESS TO AWNINGS

The Service Provider will conduct all consultation with property owners and tenants regarding any access that may be required to private awnings. The City provides no undertaking to the Service Provider as to the structural adequacy of awnings. Where access to an awning is intended, all the Service Provider's personnel involved in this activity are to be trained and certified in working at heights and have an appropriate safe work method statement for the WHS measures implemented.

1.2.10 PARKING OF VEHICLES

Apart from vehicles that are essential for the Works, no other vehicles may be parked on the site. The Service Provider is responsible for organising the removal of any unauthorised vehicles parked on the site. The Service Provider will be required to obtain all approvals from the City's Construction & Regulation and Traffic Operations units for any required changes to Loading Zones or the parking of residents' and traders' vehicles.

1.2.11 CITY RANGERS

The Service Provider shall keep a copy on site of all approvals and permits relevant to the work for reference by the City's Rangers as required. Any restrictions placed on the Service Provider by a City Ranger will not be a cause for an extension of time or variation.

1.2.12 PLANT AND EQUIPMENT MANAGEMENT

The Service Provider is responsible for the safety and security of all plant and equipment left on site, and the Service Provider may be required to document how it intends to store, secure and/or insure such items.

Materials and equipment may not be stored outside fenced and barricaded areas, without written approval by the City’s Representative.

1.2.13 CITY-SUPPLIED ITEMS

All City-supplied items must be marked by the Service Provider as “Property of City of Sydney”, and a schedule of supplied and stored items is to be provided to the City’s Representative in accordance with the contract provisions, where applicable.

1.3 TRAFFIC CONTROL

1.3.1 GENERAL

The Service Provider shall be required to comply with the requirements of the RMS publication *Traffic Control at Worksites Manual* and AS 1742.3 for the provision of all necessary signs, barricades, lights and personnel to safely direct vehicles and pedestrians around the site while work is in progress.

The Service Provider shall also be required to comply with traffic and pedestrian control requirements as specifically directed by the City’s Representative.

All site personnel employed by the Service Provider must understand and comply with the Traffic Control System being used at that site. All employees engaged in the preparation of Traffic Control Plans or onsite traffic control duties must hold the RMS Traffic Controller Certificate and any associated RMS Certificate as required for implementation of traffic control plans, including set-up, select/modify, and design/audit traffic control plans.

The Service Provider is responsible for monitoring and auditing traffic and pedestrian control at the site and ensuring that any deficiencies are promptly corrected.

The Service Provider is to actively liaise with the City’s Representative on traffic and pedestrian control procedures and all other safety matters and may include situations where it is appropriate to barricade, provide temporary safety barriers or provide containment fencing to isolate the work site.

The Service Provider shall notify all authorities listed below if affected by the proposed work:

- RMS
- NSW Police
- Emergency Services Authority (Fire and Ambulance Services)
- Sydney Buses, taxis and shared cars – where a bus route or a bus stop is affected.

1.3.2 TRAFFIC MANAGEMENT PLAN

The Service Provider may be required by the City’s Representative to prepare and obtain approval for a Traffic Management Plan for the Works.

The Traffic Management Plan, as a minimum, must include:

- Details of traffic staging arrangements associated with each Works’ phase and the associated time periods
- Copies of Road Opening Permits and any other approvals from relevant authorities
- Traffic Control Plans, indicating specific traffic control arrangements
- Vehicle Movement Plans indicating the proposed travel paths for vehicles to access the work site and to enter, leave or cross the traffic stream
- Provision of access to adjoining properties impacted by the Works
- Provision of safe access for pedestrians and cyclists
- Proposed parking restrictions, including details of existing parking provisions affected and allowances for buses and taxis if applicable
- Provision of proposed temporary bus zones and confirmation of agreement by Sydney Buses
- Details of any proposed detours
- Names and contact details of all nominated personnel responsible for the traffic control devices, including details of out-of-hours contacts.

The Service Provider is responsible for ensuring that the required approvals are obtained for any temporary diversion of traffic or temporary removal of kerbside parking.

The costs relating to the preparation and approval of Traffic Management Plans are to be covered by the Service Provider.

1.3.3 TRAFFIC CONTROL PLANS

The Service Provider shall prepare Traffic Control Plans (TCPs) in accordance with the *RMS Publication Traffic Control at Worksites Manual* and AS 1742.3 to warn and guide traffic around, past or through the work site and/or temporary hazard. The TCPs shall be approved by the City's Representative prior to the commencement of the work activity on site.

The selection and modification of standard TCPs or the design of project-specific TCPs shall be undertaken by personnel holding relevant RMS qualifications for Implement Traffic Control Plans or Prepare a Work Zone Traffic Control Plan respectively.

1.3.4 TEMPORARY FENCING AND BARRICADES

The type of temporary fencing to be used must be safe and suitable for the Works, workers and the public. The Service Provider must maintain the fencing to a high standard during construction by keeping it clean, tidy and free from posters and graffiti. Fencing shall be of the same colours and approved by the City's Representative. The feet on all temporary fencing must be oriented to not interfere with the safe passage of pedestrians. When temporary fencing is being used on an uneven surface or during windy conditions, the feet of the temporary fencing should be weighted down with sandbags or something similar to increase stability.

In areas of high pedestrian activity and upon approval of the City's Representative, plastic water filled devices may be used as a containment fence for workers or pedestrians.

1.3.5 SAFETY BARRIERS

Where required by the TCP, safety barriers shall be provided to protect work areas and pedestrian areas from the traffic. Only safety barriers listed on the RMS-accepted safety barrier systems register shall be used.

In accordance with the *RMS Traffic Control at Worksites Manual*, plastic water filler devices do not satisfy the requirements for use as a safety barrier and shall only be used as a containment fence for workers and pedestrians or as a delineation device. However, in accordance with the *RMS Technical Direction RTD 2011/001 Safety Barriers*, such devices, subject to compliance with usage and placement restrictions, may be appropriate for single shift usage. Any use of plastic water-filled devices must be approved by the City's Representative.

All barriers shall be correctly installed and maintained with holes to receive posts and chain mesh fencing.

Any temporary hoarding and scaffolding shall be designed and executed in accordance with the *City's Guidelines for Hoarding and Scaffolding*.

1.3.6 WORK ZONE CLEARANCE

Safe clearances between workers and through traffic shall be provided in accordance with the *RMS Traffic Control at Worksites Manual*.

The Service Provider shall allow for delineation devices, safety barriers, temporary speed limit reductions and the provision of a traffic controller as required to meet the requirements of the RMS manual.

1.3.7 SIGNAGE AND LIGHTING

The Service Provider shall provide signage on site in accordance with the approved Traffic Control Plan. Signs shall be erected and removed in sequence and as outlined in the *RMS Traffic Control at Worksites Manual*.

All signs are to be designed and manufactured in accordance with AS 1743.

Where there is no existing street lighting or it is deemed insufficient for night works, the Service Provider may be required to provide floodlighting of the worksite and/or the traffic controllers. The requirement for floodlighting shall be determined by the City's Representative or the Service Provider.

1.3.8 FOOTPATH ACCESS AND ACCESS TO PRIVATE PROPERTIES DURING CONSTRUCTION

A minimum 1.2-metre clear width must be maintained for pedestrian access at all times along footpaths or roadways, pedestrian and kerb crossings and connections to adjoining properties. A greater clear width will be required by the City's Representative where high levels of pedestrian traffic exist, such as in the Sydney CBD.

Access to shops must be available for the public during business hours. Where excavation works limit accessibility to a shop during business hours, the Service Provider will provide safe and secure temporary access ramps of 1.2-metre clear width, incorporating handrails where considered necessary by the City's Representative.

To maintain safety and keep debris from the inside of properties, mats such as synthetic turf may be required to be securely placed in all footpath areas where the following circumstances prevail:

- A transition from a temporary ramp to a footpath or shop
- A temporary ramp from road level to footpath level
- Any unbound surface excavated as part of the Works.

All temporary ramps must be in accordance with current Disability Standards for Access, with no trip hazards.

Site management is to be in accordance with the requirements of the current edition of the RMS publication *Traffic Control at Work Sites*. With regard to separation of the pedestrians from the work site, there are two common standards:

- Areas outside of shops – the separation fence may be required to be water-filled plastic barriers
- For areas outside private residences – either as specified above or T-top portable orange bollards with 1-metre-high orange Parra webbing mesh.

In most cases, the Service Provider will be required to provide cold mix asphalt to join surfaces of different levels along the pedestrian/traffic pathways and remove any trip hazards as a temporary precaution.

Adequate vehicular access to properties shall be maintained at all times and may include the temporary installation of road plates where appropriate.

1.3.9 LOADING AND UNLOADING DURING CONSTRUCTION

Construction materials must be delivered during non-peak periods. It is the Service Provider's responsibility to obtain approval and permits for any such loading/unloading and barricading. Construction materials are to be stored only within the area under construction, and to the satisfaction of the City's Representative.

The following requirements apply:

- All loading and unloading associated with construction may be required to be accommodated on the site
- If, during excavation, it is not feasible for loading and unloading to take place on the site, the City may consider the provision of a

Work Zone. The Service Provider is responsible for applying to, and obtaining approval from the City, for a Work Zone

- The Service Provider must obtain approval from the City's Traffic Operations unit.

1.4 ENVIRONMENTAL PROTECTION

1.4.1 ENVIRONMENTAL PERFORMANCE

The City is committed to being a leading environmental performer in its operations and activities. The Service Provider may be required to maintain processes and procedures that demonstrably implement an environmental management systems approach to maintaining and enhancing environmental performance in accordance with the City's policies.

1.4.2 ENVIRONMENTAL MANAGEMENT SYSTEM

The City is committed to the protection of the local environment and the provision of safe conditions for the public. Breaches of environmental law will not be tolerated and may result in the City cancelling related agreements and/or contracts.

The Service Provider may be required by the City's Representative to demonstrate that it has a robust Environmental Management System that addresses the following environmental management considerations:

- Ensuring that Supervisors and personnel on the site are aware of the necessary environmental and safety protection requirements
- Ensuring that supervisors and personnel have adequate training in environmental management
- Having clear, documented and adopted environmental protection procedures in place
- Preventing pollutants from entering drains or waterways via drainage systems, e.g. via gutters, stormwater grates and stormwater pits
- Minimising the release of noxious gases to the atmosphere from plant and vehicles
- Minimising the release of dust into the environment
- Minimising the generation of excessive noise from plant and operations
- Avoiding the use of imported timber products that have no environmental certification

- Controlling and reducing waste by effective containment, separation, recycling and collection services
- Recording amounts of waste (sent to landfill) and recycled materials exported from the work site using waste data recording templates provided by the City when directed to do so
- Submitting waste and resource recovery data to the City in a satisfactory template format, including waste and recycling contractors used
- Provision of adequate protection to prevent sand, sediment and topsoil from being washed, carried or blown from construction and other work sites
- Demonstrating a clear preference for using recycled raw materials and products with recycled content rather than virgin materials
- Anticipate and plan for unexpected incidents
- Having a definite plan of action in the event of a pollution incident and the resources on hand to minimise environmental damage
- Provision of adequate protection to existing trees, raingardens and nature strips from being damaged or contaminated by construction activities
- Ensuring that worksites are maintained in such a condition as to provide a safe environment for pedestrians, personnel and passing vehicles
- Maintain infringement, penalty and provisional improvement notices issued by regulators (e.g. NSW EPA) and Corrective Action Notices issued
- A Principal Contractor may generally use their own systems, tools and forms (e.g. induction tools and training records) to meet the above responsibilities with the exception of documenting the amount of waste and recycled materials, for which the City's waste template must be used for reporting information.

1.4.3 ENVIRONMENTAL INITIATIVES AND TECHNOLOGY

The Service Provider is encouraged to submit best practice or novel environmental initiatives or advances in technology for inclusion in the Works for consideration and approval by the City's Representative.

1.4.3.1 SUSTAINABLE MATERIALS IN CONSTRUCTION

The City's Sustainable Sydney 2030 vision entails reducing its carbon footprint by 70 per cent by 2030. Therefore, minimising the greenhouse gas impact

associated with its operations and infrastructure is important. One of the key pathways to lowering the emissions associated with infrastructure is through the replacement of standard construction materials with more sustainable and lower embodied emission options.

There are standards and guidelines that cover the replacement of construction materials with more sustainable options. The City endorses the use of such materials and highly regards the use of innovative materials, products or processes that reduce environmental impact through, for example, less carbon-intensive manufacturing processes. Obviously, such materials are still required to meet, or exceed, the standards required for construction.

The reduction of standard construction volumes of material is an important method of reducing embodied emissions and other environmental impacts, and can be achieved through sophisticated design. In addition to method, material replacement with more sustainable options can also reduce impacts.

Further information about the combination of options available for material replacement can be found in relevant sections, though importantly, two main areas have been prioritised based on their contribution to overall infrastructure emissions. These are concrete (used in infrastructure such as paths, pipes, drains, kerb and guttering) and asphalt (used in items such as roads and some pathways).

Asphalt has a substantial level of embodied emissions and therefore the City would like to source projects that substitute it with more sustainable options for both the process temperature and the virgin aggregate components.

Additionally, the City would prefer and encourage recycled/reclaimed water (e.g. captured rainwater) to be used wherever possible in place of mains potable water in the proposed projects.

1.4.4 ENVIRONMENTAL PROTECTION

The Service Provider shall ensure at all times that the requirements of all relevant Acts concerning noise and air, water and any other pollutants are fully observed. Key legislation includes:

- *Protection of The Environment Operations Act, 1997*
- *Environmental Planning and Assessment Act, 1979*
- *Pesticides Act, 1999*
- *Contaminated Land Management Act, 1997*

- *Poisons Act, 1966*
- *Work Health and Safety Act, 2011*
- *Roads Act, 1993.*

The Service Provider is required to take all steps necessary to protect the environment and in particular to provide erosion and sediment control measures described on drawings and any other additional measures required by the Environment Protection Authority or the City or other relevant authorities.

1.4.5 WATER, STORMWATER AND SEDIMENT CONTROL

The Service Provider shall comply with the requirements and recommendations of the NSW Office of Environment and Heritage, *Managing Urban Stormwater: Soils and Construction* (commonly known as the “Blue Book”) published by the New South Wales Government, for the design and construction of erosion and sediment control measures. A sediment and erosion control plan shall be submitted to the City for approval prior to commencement of the Works or as part of the Construction Certificate approval package.

Stormwater and sedimentation control measures may be required to include, but are not be limited to, the following:

- The installation of sediment control measures at existing drainage inlet pits before the removal of topsoil or pavement materials and commencement of earthworks for formation within the catchment area of each inlet pit
- The prompt completion of all permanent and temporary drainage works, once started, to minimise the period of exposure of disturbed areas
- The limitation of areas of erodible material exposed at any time to those areas being actively worked
- The protection of all stockpile areas with diversion drains, spoil heap covers and/or sediment control fences that prevent the migration of sediment onto surrounding road or pedestrian pavements or stormwater drainage inlet pits.

Sediment control devices and their sediment contents shall be maintained in good order (emptied of sediment regularly) throughout the duration of Works and, where required, captured sediment may need to be disposed of offsite in an approved manner.

Works are to be planned and constructed so that drainage flow is maintained away from buildings and private properties at all times. This may involve

the use of temporary means to directly drain clean run-off to the stormwater system or to store and then discharge water, using pumps if required.

1.4.6 NOISE AND DUST

All work including demolition, excavation and building work must comply with the *City’s Code of Practice for Construction Hours/Noise 1992*, *Safe Work Australia Code of Practice for Managing Noise and Preventing Hearing Loss at Work 2015* and the *Australian Standard AS 2436-2010 Guide* to noise control on construction, demolition and maintenance sites, and any conditions of Development Consent.

The following appliances may not be used without written approval by the City’s construction regulation unit:

- Appliances that emit noise of a highly intrusive nature (such as pile drivers and hydraulic hammers)
- Appliances that are not listed in Groups B, C, D, E or F of Schedule 1 of the *City’s Code of Practice for Construction Hours/Noise 1992*, and *Australian Standard AS 2436-2010*.

It is the responsibility of the Service Providers and the contractors to obtain approval for any proposed variance to these noise levels from the City’s construction regulation unit.

Cutting of pavers must be carried out in such a manner that the impact of noise and dust pollution on the public is avoided. This may require cutting offsite or away from the Works area.

The Service Provider is to use all means necessary to reduce and avoid dust and noise pollution. The Service Provider may be required by the City’s Representative to monitor noise levels associated with work being undertaken and to provide reports at their own expense.

1.4.7 PROTECTION OF TREES

The Service Provider must comply with the City’s Tree Management Controls contained within the Development Control Plan and Local Environment Plan, Street Tree Master Plan and/or any Interim Development Order. The Service Provider shall plan all operations to ensure that there is no damage to any trees outside the limits of approved clearing or trimming specified or directed by the City’s Representative. No trees shall be removed, damaged or pruned by the Service Provider or subcontracted Service Providers other than those specified in the approved construction documentation and those indicated by the City’s Representative.

Where branches intrude on the working area, any necessary trimming shall only be carried out by a qualified arborist approved by the City's Representative. Separate approval for pruning and trimming may be required from the City before the work is carried out.

Service Providers should consider and apply tree protection as described in the Street Tree Master Plan, which includes specific measures such as trunk wrapping with hessian where this can enhance the level of protection provided to the trees

If any tree is damaged during construction activities, see 1.4.7.8 Damage to trees during construction, for guidance.

1.4.7.1 STAFF TRAINING AND INDUCTION ON TREE PROTECTION

All staff working on the contract shall be adequately inducted to ensure they are aware of the relevant tree protection requirements.

1.4.7.2 TRUNK PROTECTION

Trunk and major limb protection shall be installed to any tree within 5 metres of the work site prior to any delivery of machinery or Works commencing, and shall remain in place for the duration of the Works. It shall consist of wrapping of each tree trunk and any major branches within the work area with hessian or similar material to limit damage, then spacing planks (50mm x 100mm or similar), at 100mm intervals, fixed against the trunk with tie wire or strapping. The trunk protection shall not be fixed to the tree in any instance, or in any fashion, e.g., no nails or screws are to be used.

1.4.7.3 TRENCHING AND EXCAVATION NEAR TREES

During any trenching or excavation works, the use of mechanical equipment must stop if tree roots greater than 50mm diameter are encountered. Approval must be sought from the City of Sydney Street Tree Coordinator (phone number 02 9265 9333) to cut any root greater than a 50mm diameter.

Excavation shall be done by hand, or other approved non-destructive method, in any area known to, or suspected of having roots larger than 50mm in diameter.

1.4.7.4 PRUNING

The Contractor shall not undertake pruning of any branch of any street tree without permission. If pruning or small branches or limbs are required for machinery access, or any other reason, contact the City's Street Tree Coordinator.

1.4.7.5 KERB REMOVAL ADJACENT TO TREES

Existing sections of kerbs adjacent to any street tree shall not be removed without approval from the Street Tree Coordinator. Removal of kerbs adjacent to mature trees can cause trees to become unstable and fail.

1.4.7.6 SIGNS – TREE PROTECTION

Temporary signs, or any other items, shall not be fixed or attached to any street tree.

1.4.7.7 STOCKPILING AND STORAGE OF MATERIALS

Fuel or any type of liquid waste shall not be stored or disposed of at the base of any street tree.

1.4.7.8 DAMAGE TO TREES DURING CONSTRUCTION

Any damage sustained to any street trees is to be immediately reported to the City's Street Tree Contract Coordinator, to determine the appropriate response for maintaining the health and structural integrity of the tree/s. Should any damage occur to the City's trees and not be rectified by the Contractor to a satisfactory standard, as directed by the City's Street Tree Coordinator, the City will undertake the necessary works, which may include the full replacement of trees, and all associated costs will be recovered. Damage to street trees may also result in prosecution being sought under Sections 626 and 629 of the Local Government Act for an offence where such damage occurred willfully or negligently. Significant financial penalties can be imposed for such offences.

1.4.8 WATER DAMAGE

All necessary action shall be taken by the Service Provider to prevent excessive surface and/or sub-soil water from interfering with the progress of the Works. The work area shall be kept free from such water.

All reasonable measures shall be taken to prevent any damage to the Works by water due to flood, seepage or other causes.

Any work or material damaged by water from any source shall be removed, replaced with fresh material and reconstructed by the Service Provider.

Provision shall be made for the temporary drainage of any road boxing excavation or pavements in the event of rain. The Service Provider shall ensure that this temporary drainage does not cause erosion or siltation of any existing drainage works.

Appropriate arrangements must be made to provide anti-siltation measurements to prevent any harmful matters entering the stormwater system.

1.4.9 BURNING

No fires or burning of cleared material or rubbish will be permitted under any circumstances.

1.5 WORK HEALTH AND SAFETY (WHS)

1.5.1 WORK HEALTH AND SAFETY

Service Providers, working as contractors on behalf of the City, will be engaged in accordance with requirements defined in the City's *WHS Policy* and its Safety Management System Procedures.

The Service Provider holds full responsibility for site personnel, members of the public and all WHS issues arising in relation to the Works.

The Service Provider may be appointed by the City as the Principal Contractor for the purposes of the *Work Health and Safety Act and Regulations 2011*.

1.5.2 RISK MANAGEMENT

The Service Provider must manage risks to health and safety associated with the following:

- The storage, movement and disposal of construction materials and waste at the site
- The storage of plant on site that is not in use
- Traffic in the vicinity of the site that may be affected by construction work carried out in connection with the Works
- Essential services at the site.

When the Service Provider's or a subcontractor's tools and forms are used, documented evidence

shall be maintained on site and made available for inspection by the City's Representative during routine WHS compliance checks.

1.5.3 PRINCIPAL CONTRACTOR

A Principal Contractor is required for any site where Works:

- Exceed a value of \$250,000; or
- Do not exceed a value of \$250,000 but involve high-risk construction work; or
- Involve demolition or asbestos removal for which a licence is required under Chapter 8 of *NSW Work Health and Safety Regulation 2011*.

1.5.3.1 PRINCIPAL CONTRACTOR REQUIREMENTS (CONSTRUCTION)

The Service Provider will be appointed by the City as the Principal Contractor where required at clause 1.6.3. The Service Provider as Principal Contractor must comply with all WHS laws and legislative responsibilities and duties.

For sites where the City has control or where the contract does not stipulate who is the Principal Contractor, the City will assume the role of Principal Contractor for the purposes of meeting WHS legislative requirements in relation to construction work. The City will provide the Service Provider with written confirmation in cases where it assumes the role of Principal Contractor.

Where a designated major project is undertaken, the Principal Contractor will have the capacity to engage the services of subcontractors and/or suppliers to meet project requirements.

A pre-commencement meeting between the City's Representative and Principal Contractor will take place to determine and agree on the monitoring and verification activities to be conducted for the duration of the contract. The type and frequency of monitoring and verification activities is subject to the risk level of the contract. The agreed arrangements will be documented and maintained in accordance to SMS System Procedure Document Management.

1.5.3.1.1 MINIMUM REQUIREMENTS

A Principal Contractor will be required to perform the following minimum tasks:

- Conduct a risk assessment for the Works and forward it to the City's Representative
- Develop, implement, maintain and keep up to date a Work Health and Safety Management

Plan (WHSMP) that complies with the City's Safety Management System requirements

- Provide the City's Representative with a copy of the WHSMP for review
- Develop and maintain an up-to-date hazard or WHS risk register for the Works. This may include copies of hazards identified through risk assessments undertaken or Safe Work Method Statements (SWMS)
- Provide the City's Representative with copies of the high-risk SWMS for review by the City, which must comply with the SWMS Review form
- Maintain a register of hazardous chemicals and copies of current safety data sheets
- Maintain a register of plant and equipment including records of inspection, testing and maintenance activities
- Maintain a register of Personal Protection Equipment issued to staff
- Keep records of any atmospheric testing or health surveillance undertaken for a period of 30 years (where required, typically for asbestos decontamination)
- Ensure all workers on site have completed the General Induction for Construction Work in NSW (White Card) training, or the equivalent
- Conduct and keep induction records for all persons carrying out construction work on the site, including:
 - Copies of records for General Induction for Construction Work in NSW (White Card), or the equivalent
 - Evidence of health and safety induction training related to the work activity.
- Conduct and record site-specific WHS induction training for all persons who enter the site
- Conduct and record daily pre-work briefings and toolbox talks
- Record and maintain workplace incident and investigation reports
- Maintain infringement, penalty and provisional improvement notices issued by regulators (e.g. SafeWork NSW) and Corrective Action Notices issued by the City
- Provide a copy of the City's Contractor Safety Handbook outlining the City's onsite requirements
- Keep copies of induction training records and site-specific induction topics covered for a period of three (3) years after the completion of the contract.

The Principal Contractor may use their own systems, tools and forms (e.g. induction tools or forms) to meet the above responsibilities.

1.5.3.1.2 DISPLAY SIGNAGE

The Principal Contractor must ensure signs are installed that:

- Show the Principal Contractor's name and telephone contact numbers (including an after-hours telephone number)
- Show the location of the site office for the project, if any
- Are clearly visible from outside the site, or the general area where the work is being undertaken.

1.5.3.1.3 RISK MANAGEMENT

The Principal Contractor must manage risks to health and safety and the environment. In particular, the risks associated with the following must be managed:

- The storage, movement and disposal of construction materials, hazardous materials and waste
- The storage of plant on site that is not in use
- Traffic in the vicinity of the site that may be affected by construction work carried out in connection with the Works
- Essential services at the site.

Where a Service Provider or subcontractor's tools and forms are used, documented evidence shall be maintained on site and made available for inspection by the City's Representative during routine WHS compliance checks.

The City's Representative must ensure that the supervisory personnel from the Principal Contractor are inducted using the "Principal Contractor Induction Form" and be provided with the City's Work Health and Safety Standards – Construction document.

1.5.3.2 WORK HEALTH AND SAFETY MANAGEMENT PLAN

The Principal Contractor shall provide a compliant Work Health and Safety Management Plan (WHSMP) to the City's Representative for review at the time the contract is signed and revisions shall be submitted as required.

- The WHSMP shall comply with the City's Work Health and Safety Management Plan form

- The WHSMP shall be maintained and kept up to date at all times
- Any updates shall be forwarded to the City's Representative within 48 hours
- The WHSMP will provide guidance for workers to comply with City's Work Health and Safety Standards – Construction requirements.

The minimum information that must be defined in the WHSMP includes:

- Project description
- Responsibilities
- High-risk construction work
- A risk management methodology and risk assessment
- Arrangements for ensuring compliance (e.g. inspection and testing)
- Arrangements for induction and safety training
- Arrangements for traffic management
- Arrangements for consultation and communication
- Emergency management
- Health and safety performance monitoring
- Managing of incident recording and investigation
- Site safety rules
- Safe Work Method Statements and procedures for the type of work being performed.

1.5.3.3 SUPPLY OF DOCUMENTATION

At a minimum, the following documents shall be made available on site for inspection by the City's Representative during the project:

- Work Health and Safety Management Plan
- Safe Work Method Statements (SWMS)
- Plant registers
- Hazardous substance registers (including Safety Data Sheets)
- Induction records
- Site inspection results
- Emergency plans and evacuation procedures
- Traffic management plan
- Daily pre-work briefings and toolbox talks
- Records of training and/or competency
- Incident and investigation reports
- Infringement/penalty notices issued by regulators.

1.5.4 CONTRACTOR REQUIREMENTS (CONSTRUCTION) – NOT REQUIRING A PRINCIPAL CONTRACTOR

Workplaces where the City has control over the workplace and where the contract does not stipulate the requirement for a Principal Contractor, the City will assume the role of controller of the work premises (refer to the definition section) for the purposes of meeting WHS legislative requirements in relation to construction work.

These contractors shall:

- Conduct a risk assessment for the task/project
- Prepare site-specific Safe Work Method Statements or operational procedures for the Works to be undertaken which meet the requirements required by the City
- Provide the City's Representative with copies of the high-risk SWMS for review by the City, which must comply with the Safe Work Method Statement Review form
- Provide site-specific induction training and supervision for the duration of the task.

1.5.5 RISK MANAGEMENT WORKSHEET

A Risk Management Worksheet (RMW) will be completed by the City to identify general WHS and environmental impact issues relating to the Works.

The RMW does not reduce the duties of the selected Service Provider under the WHS Regulations in identifying the hazards and eliminating or controlling the risks during construction works.

The RMW has been provided as a pre-tender inclusion to detail the specific requirements of the City and those control measures to be considered and/or applied during the Tender and Construction Phase of the Works.

1.5.6 SAFE WORK METHOD STATEMENTS

The Principal Contractor must prepare Safe Work Method Statements (SWMS) for all high-risk construction work activities as defined in Part 6 of the WHS Regulation 2011.

The SWMS must:

- Be site- and task-specific
- Be developed in consultation with workers and their representatives
- Clearly describe the high-risk construction work being done

- Break the work activity into a step-by-step sequence
- Assess the risk associated with each hazard by ranking it using a matrix that contains both likelihood and consequence
- Propose control measures to mitigate the identified hazards appropriate to the risk level and who is responsible to implement it
- State the training courses, qualifications, permits and licences required to do the task
- Make reference to applicable legislation, codes of practice and Australian Standards
- List the plant and equipment that will be used for the work
- Specify the inspection, testing and maintenance requirements for plant and equipment used in the task
- Factor in other surrounding work that may affect the way the work is carried out
- Identify the personal protective equipment required to be worn while performing the task.

The contractor/service provider must ensure that workers carry out their work in accordance with the SWMS.

For projects with a Work Health and Safety Management Plan, the SWMS must take into account all relevant matters within the plan.

The City's Representative will review all high-risk SWMS to verify compliance with the above-listed items prior to the work commencing. The review will be undertaken using the Safe Work Method Statement Review form. The City's Representative will provide recommendations for improvement where a SWMS does not meet the above criteria.

If subcontractors are engaged, the Service Provider must ensure that before commencing work, a written Safe Works Method Statement is provided by each subcontractor before the Works are carried out.

1.5.7 CONTRACTOR SITE INDUCTION

The Service Provider is responsible for providing a site-specific induction for all workers prior to the commencement of work activity.

The induction will include as a minimum: hazards specific to the area, tasks to be undertaken and where applicable in line with the SWMS, site rules, incident and hazard-reporting processes, emergency response information (exits, extinguishers, wardens and first aid personnel) and the location of amenities.

Construction site inductions shall be conducted in accordance with the requirements set out in the *Safe Work Australia Model Code of Practice – Construction Work*.

Confirmation of this induction will be provided to the City's Representative for inclusion on the project file.

1.5.8 ACCIDENTS AND INCIDENTS

The Service Provider is required to notify the City's Representative as soon as possible if the following occurs:

- A notifiable incident as listed under Part 3 of the *WHS Act 2011*
- Accidents involving loss of time or workers on alternative duties
- Near-miss incidents with accident potential such as equipment failure, slides and cave-ins
- City of Sydney property damage
- Pollution incidents.

The Principal Contractor shall notify Workcover and the City of all reportable incidents. The City's Representative will initiate an investigation to identify the root cause of the incident and where necessary, recommend appropriate corrective and preventative actions for the Service Provider to implement.

1.5.9 SUBCONTRACTORS AND LABOUR HIRE

The Principal Contractor is responsible for ensuring the health and safety of all site personnel including subcontractors and labour hire. As required, Subcontractor Agreements shall include clauses to cover:

- Details relating to the provision of risk assessments in relation to the task or activities to be conducted
- Provision of induction, training and supervision for personnel working on City workplaces/sites
- Provision of security checks for personnel working in sensitive areas such as childcare and/or cultural centres
- The carrying of a document detailing the qualifications and security checks and inductions undertaken by the carrier.

The Contractor is responsible for the coordination, management, site supervision, protection of all subcontractors and labour hire under the contract.

1.5.10 CIVIL WORKS SAFETY

1.5.10.1 PEDESTRIAN AND PUBLIC SEGREGATION

The construction site must be separated from the public at all times. The Service Provider must use fencing that complies with the Australian Standard AS 4687-2007 *Temporary fencing and hoardings*.

Signs are to be clearly visible from each accessible boundary. Signs must include emergency after-hour telephone numbers of the Service Provider, as required under Clause 308 of WHS Regulation 2011.

Controls shall be considered, such as localised barriers and mesh, for Works that may produce projectiles (including sawcutting and the breaking of concrete).

The Service Provider must provide suitable surfaces on all public access ways affected by the Works, to prevent trip and slip hazards and ensure all temporary paths shall meet disabled access requirements.

Access and egress into commercial and non-commercial properties will be provided at all times, and the routes and public access ways shall remain clear.

1.5.10.2 PERSONAL PROTECTIVE EQUIPMENT

The Service Provider must ensure that each worker is provided with, and wears at all times, all necessary and appropriate Personal Protective Equipment (PPE). Staff must be informed of any limitations of the equipment provided with the instruction and training necessary to ensure that the equipment controls the risk for which it is provided.

1.5.10.3 NOISE AND DUST CONTROL

The construction noise levels shall not reach or exceed the exposure levels, as detailed in Part 4.1 of the WHS Regulation 2011. The Service Provider must ensure the construction noise levels meet the requirements and levels detailed within the City Centre – Construction Hours/Noise Code of Practice 1992.

Contractors and Service Providers must plan work so noisy activities are minimised in public areas and ensure the control measures developed shall meet the requirements of AS 2436-2010 *Guide to noise control on construction, demolition and maintenance sites* (i.e. localised noise boxes or barriers) and the Safe Work Australia Model Code of Practice for

Managing Noise and Preventing Hearing Loss at Work 2015.

Mesh fabrics, vacuum systems and water controls (spraying, damping down) can be used to prevent dust escape to public areas. However, the use of water must not create stormwater pollution via carriage of sediment into drainage systems (gutters, grates and stormwater pits).

Noise levels must be reduced and controlled to required levels. Acoustic reducers can be used to minimise the noise. Noise levels must not go over peak exposure (140dB[C]) and the daily average (85dB[A]).

1.5.10.4 LIVE SERVICES

Where possible, services will remain live during the Works, e.g. smartpoles and phone lines. The Service Provider must implement suitable controls to reduce the risk, including keeping copies of up-to-date drawings, applying permit to dig procedures and hand digging near live services.

The controls shall meet the requirements of Clause 304 of the *WHS Regulations 2011*.

1.5.10.5 BUSINESS EMERGENCY CONTROL ITEMS

The Service Provider will ensure no fire doors or emergency equipment are blocked or obstructed during the Works.

The Service Provider must, in consultation with the City's Representative, the building occupant or Strata Management and emergency services, provide suitable alternatives where required.

1.5.10.6 HAZARDOUS CHEMICALS

Hazardous chemicals must be managed on site. The Service Provider will undertake a risk assessment for all hazardous chemicals used or stored on site and ensure hazardous chemicals are stored in suitably labelled containers, with safety data sheets available and locked in a storage facility when not in immediate use and at the end of each day's work.

Controls must be developed to reduce uncontrolled exposure and release of hazardous substances into the environment, including gaseous release into the atmosphere.

The Service Provider must separate Works involving the use of or exposure to hazardous substances from the public and non-work-related employees at all

times and comply with the requirements of Chapter 7 of the *WHS Regulations 2011* for the use and identification of hazardous substances on site.

(Note: The definition of hazardous chemicals includes those detailed in the *National Occupational Hazardous Substances Information System, List of Designated Hazardous Substances (NOHSC:10005)*).

1.5.10.7 ASBESTOS CONTAMINATION

If hazardous materials (including but not limited to asbestos) are not specified in the Contract Documents but are identified on site, the Service Provider must notify the City's Representative immediately and advise the type of substance and location as part of the notification.

This notification will include hazardous materials relating to in-ground service utility pipes, ducts and service pits (including but not limited to electricity, telecommunication, water and gas). It will also include any hazardous materials relating to awnings.

The Service Provider must control access to the area and organise for the decontamination of the area in consultation with the City's Representative.

The Service Provider must prepare a plan to manage the asbestos on site until it is removed. They shall engage a licensed removalist and provide a copy of the license to the City's Representative.

NSW WorkCover must be notified prior to removal of the asbestos and provide a copy of the notification to the City's Representative. The Contractor or Service Provider is responsible for sending the notifications to the City and the residence where required.

The Service Provider will be responsible for engaging a reputable contractor licensed by the Environmental Protection Authority of NSW to remove and dispose of asbestos ("the removalist"). A copy of the removalist's licence must be provided to the City Representative and a copy must be kept on site while decontamination and removal works are in progress.

All asbestos must be handled, isolated, removed and disposed of in accordance with all statutory requirements. A register is to be kept of all movements of the asbestos from the site to the disposal destination.

The Service Provider must obtain a clearance certificate from WorkCover prior to the reoccupation of the area and a copy of the certificate is to be provided to the City's Representative prior to Works recommencing.

The Service Provider must request the removalist ensure that original tip dockets issued by designated tips and machine-imprinted with the vehicle registration number, weight of load, load code and tipping date are retained and provided to the City's Representative.

The Service Provider must ensure that if asbestos removal or other activities are required to decontaminate asbestos from the site, all activity is carried out in a manner which minimises impacts on the community, including minimising disruption to everyday activities

All Works involving the removal of asbestos must comply with Chapter 8 of the *WHS Regulations 2011*.

1.6 QUALITY MANAGEMENT

The Service Provider shall plan, establish, implement and maintain a Quality System for the Works in accordance with the requirements of this section of the Technical Specifications. The Service Provider may require a Quality System that meets the requirements of *AS/NZS ISO 9002:1994 Quality systems – Model for quality assurance in production, installation and servicing*.

The Service Provider shall undertake and bear all costs of all independent and internal inspections and testing, surveillance of all manufacturing, construction and commissioning processes, and quality system audits.

A Quality Management Plan shall be prepared and presented for approval to the City's Representative prior to the commencement of work.

The Principal may, at their discretion, carry out audits and surveillance as appropriate.

1.6.1 CONFORMITY RECORDS

The Service Provider may be required to maintain (and issue on request) copies of conformity records as specified, including:

- Completed Inspection and Test Plans and associated checklists (including inspection and certification of formwork and scaffolding)
- Test results obtained from testing laboratories and the like
- Quality or test records obtained from manufacturers and suppliers

- Service Provider's certification of quality conformity and performance
- As-built documents (including operation and maintenance manuals/work as executed drawings)
- Service Provider Subcontractors' quality management systems that meet the requirements of the Service Provider's Quality Management System.

1.6.2 MATERIALS AND WORKMANSHIP

The City expects a high level of workmanship in all aspects of the Works.

The finished product must be of a quality satisfactory to the City's Representative and may be required to have an expected life of 20 years.

Upon request by the City's Representative, the Service Provider may be required to demonstrate that the Works, materials and workmanship have been undertaken in accordance with this specification and/or approved drawings.

The process for quality management is to be submitted with the Quality Management Plan.

1.6.3 INSPECTION

Unless otherwise stated in the schedule, the Service Provider may be required to provide two (2) working days' notice of the Witness Points and two (2) working days for Hold Points.

1.6.3.1 HOLD POINTS

AS/NZS ISO 8402:1994 – Quality management and quality assurance – Vocabulary defines a hold point as a point, defined in an appropriate document, beyond which an activity shall not proceed without the approval of a designated organisation or authority.

The approval to proceed beyond a hold point is usually given in written form, but it may be given by any other agreed system of authorisation.

For the purposes of this specification, hold points will apply at the points defined in the approved Project Management Plan, and also at any point at which non-conformance is detected and as outlined in Section 1.11 Hold and Witness Points.

1.6.3.2 WITNESS POINTS

A witness point is a point, defined in an appropriate document, which provides an opportunity for the

designated organisation or authority to witness an inspection, or test an aspect of the Works, at their discretion.

The witness points also apply to the installation of traffic and pedestrian management devices for each stage of the Works, including protection devices for people and property, and as defined in Section 1.11 Hold and Witness Points.

1.7 ALIGNMENT AND SETTING OUT OF WORKS

1.7.1 SETTING OUT

The City will only provide the level and coordinates of Permanent Marks.

The Service Provider shall provide all labour, materials and other assistance that the City may require at any time to check the setting out or to make progress measurements of the work.

The Service Provider is to engage a registered surveyor to set out the Works including but not limited to the following:

- Kerb locations
- Lane widths
- Road levels
- Footpath levels
- Tangent points at intersections, as required for the setting out of paving, tree pits, traffic lights, smartpoles and any other items including street furniture.

The Service Provider is also to engage a registered surveyor to certify that the Works are within the site boundaries and not encroaching onto adjacent properties.

The Service Provider will be responsible for all other levels and coordinates from the design documentation and their coordination with existing levels and coordinates. The Service Provider is to notify the City's Representative of any discrepancy in the City-supplied survey levels or the design levels, in particular where design levels match existing levels, prior to construction of that element of work (such as kerbs and gutters, and footpath base slabs).

The Works are set out to the Australian Mapping Grid (AMG) and Australian Height Datum (AHD).

1.7.2 PRESERVATION OF PERMANENT MARKS

Permanent survey marks defining the position of street alignments are not to be removed or damaged without the specific permission of the City's Surveyors. If a mark cannot be retained or is in danger of being disturbed, a minimum of two weeks' notice must be given in writing to the Senior Surveyor prior to the commencement of Works.

Permanent marks within the City will generally comprise of either a brass disc marked State Survey Mark set in concrete or a brass bolt, stainless-steel bolt or brass pin-in lead plug fixed in the concrete road base and covered by a cast iron box marked MCS Survey, CCS Survey or similar.

Any activities in the vicinity of the survey permanent marks shall be undertaken in accordance with B11 Permanent Survey Marks.

1.7.3 RECOVERY OF SURVEY MARKS

On the recommendation of the City's Surveyors, the Service Provider may be required to engage a registered surveyor to recover all survey marks (including any alignment pins, permanent marks and cadastral survey marks) and to prepare a plan for information purposes only to be forwarded

to the Senior Surveyor. Survey Azimuth must be on MGA and all measurements must be of sufficient accuracy to redefine adjacent cadastral boundaries.

Depending upon the scale of Works, the Service Provider may also be required to lodge such a plan with Land and Property Information (LPI) for registration. Prior to any such lodgement with the LPI, the plan is to be submitted to the City's Surveyors for approval.

Where possible after the completion of Works, all infrastructure relating to any destroyed survey mark is to be reinstated to the satisfaction of the City's Surveyors. This may include (but is not limited to) construction and installation of a replacement cover box and concrete road base in the same position as the destroyed mark or in another location as determined by the City's Surveyors.

All permanent survey mark recovery activities shall be undertaken in accordance with *Part B11: Permanent survey marks* in the Sydney Streets Technical Specifications.

The Service Provider is to coordinate all Works and stages of Works with the City's Representative.

1.7.4 AS-BUILT DRAWINGS

As-built drawings are prepared to show changes made to the project during construction, and are the official records of the project at the time of construction completion. All additions, deletions and other changes made during construction are indicated by modifying the original contract drawings.

All changes and/or required additions shall be clearly identified in colour that contrasts with blue or black, preferably red. The as-built drawings shall be annotated in as much detail as necessary to clarify exactly what construction changes were performed.

Particularly for drainage and electrical assets, which are covered over, accurate as-built drawings are very important for asset management, operation and maintenance.

The Service Provider shall transfer the changes from the marked-up prints to the original electronic CAD files.

Certification, either by contractor or consultant, shall be placed on the as-built drawings and shall include a statement that the drawings were checked in the field and are a true representation of the improvements.

1.7.4.1 PHOTOGRAPHIC RECORD OF ALL WORKS PRIOR TO COVERING UP

The Service Provider is required to keep a detailed digital photographic record of all Works prior to covering up. The Service Provider must provide an electronic copy in JPEG format within 28 days of covering up of that work. The electronic record must clearly show and describe the date the photo was taken, the location and the nature of the work.

1.7.4.2 ASSET DATA SHEETS

In the Asset Data Sheets, among other items as shown below, the Service Provider is required to provide the levels and coordinates (complete position) of all completed Works including items on the roads and footpaths in MGA coordinate system in three dimensions on AutoCAD model.

As-built documents shall comply with a data entry system such as IPWEA ADAC system (Asset Design as Constructed) to ensure seamless integration of new assets into the City's GIS environment.

Service Providers at early stages of construction shall liaise with Asset Managers to obtain site codes and the like. The Asset Data Sheets shall be supplied at Practical Completion. For more information, refer to *Asset Data Sheets for Various Types of Assets* in the Annexures.

As an example, a typical Asset Data Sheet for cycle rack will include:

517292	SITE_CODE
Cycle Rack	FEATURE_ID
Any identifier attached to the asset	IDENTIFIER
Information about the location	LOCATION_NOTES
When constructed	START_DATE
CPMS	FEATURE_TYPE_CODE
FN-Bike Maintenance Stand	FEATURE_TYPE
Coordinate in GDA94	EASTING
Coordinate in GDA94	NORTHING
URL	PHOTO
How long will this asset last (years)	DESIGN_LIFE
Years/months from construction	DEFECT_LIABILITY
URL but will need to be a TRIM link	MAINT_MANUAL_LINK
URL but will need to be a TRIM link	AS_BUILT_LINK
OWCS – City of Sydney	Owner
Aluminium	Material

1.8 HERITAGE AND ARTEFACTS

1.8.1 HERITAGE CONSIDERATIONS

The Service Provider may be requested to prepare and implement a heritage and archaeological plan for the work. This plan will address the processes to adopt where Works are required in the vicinity of a heritage element, or otherwise in the event of the discovery of an archaeological item. Heritage works may be performed by suitably qualified and City-approved heritage conservators to ensure that heritage protocols are observed and that heritage elements are appropriately protected, removed, stored, conserved and reinstated as specified.

For locations of work that involve heritage items identified during the course of Works outside heritage-listed buildings, the Service Provider may be required to notify the City's Representative immediately so the issue may be addressed accordingly.

1.8.2 TRACHYTE AND SANDSTONE KERB CONSERVATION

Trachyte and sandstone kerb and gutter must be left in its original position unless otherwise specified by the City's Representative. Trachyte kerbs will remain the property of the City. If removed, the Service Provider will deliver them in good, clean condition to the City's store located within 20 kilometres of the CBD. The Service Provider shall submit records of all trachyte kerbs removed for verification by the City's authorised person. The Service Provider will be responsible for ensuring a suitable method is implemented when removing and transporting trachyte kerbs to minimise the risk of damage.

1.8.3 TRAM TRACKS

Tram tracks must be left in their current location and sealed over, where possible. However, some disturbance may be proposed and necessary in which case a basic digital photographic archival recording must be prepared for any uncovered sections of tram tracks prior to removal. A copy of this archival recording must be provided to the City's Representative.

1.8.4 OTHER ARCHAEOLOGICAL RELICS

In the event of any early brick drains or other relics being uncovered, Works must cease immediately and the City's Representative shall be contacted for advice of the requirements of the City's urban design and heritage section or the NSW Office of Environment and Heritage.

1.8.5 OTHER CULTURAL MATTERS

If, during Works, any suspected Aboriginal objects are found, Works shall cease immediately and the Service Provider must contact the City's Representative and the NSW Office of Environment and Heritage.

1.9 REINSTATEMENT OF DAMAGED INFRASTRUCTURE

Prior to final inspection by the City, all surplus material and rubbish shall be removed and the whole site left in a neat, tidy and fit-for-purpose condition.

Any City assets disturbed or damaged during construction shall be made good as directed by the City's Representative. Alternatively, any remediation works may be organised by the City's Representative at the Service Provider's expense.

The whole site shall be left in a neat, tidy and fit-for-purpose condition at the end of the Defects Liability Period.

1.10 HOLD AND WITNESS POINTS

Preliminaries	
1. Process Held	Sediment Control
Submission Details:	At least two (2) working days prior to setting up sediment control on site.
Release of Hold Point:	The City's Representative will inspect the sediment control, prior to authorising the release of the Hold Point.
2. Process Held:	Service Investigation
Submission Details:	At least two (2) working days prior to excavation works.
Release of Witness Point:	The City's Representative will confirm that all relevant service investigation has been undertaken, prior to authorising the release of the Witness Point unless advised otherwise.
3. Process Held:	Tree Protection
Submission Details:	At least two (2) working days before starting work near a tree.
Release of Witness Point:	The City's Representative will inspect the tree protection, prior to authorising the release of the Witness Point unless advised otherwise.
4. Process Held:	Safe Work Method Statements (SWMS)
Submission Details:	At least two (2) weeks before site establishment all SWMS shall be submitted to the City's Representative.
Release of Witness Point:	The City's Representative will review the SWMS, prior to authorising the release of the Witness Point unless advised otherwise.
5. Process Held:	Identification of Unsuitable Material or Soft Spots in Subgrade
Submission Details:	At least two (2) working days before removal or treatment of the unsuitable material.
Release of Witness Point:	The City's Representative will inspect the subgrade prior to releasing the Witness Point.
6. Process Held:	Smartpole Foundation Type
Submission Details:	At least two (2) working days before excavating the foundation.
Release of Witness Point:	The City's Representative will review the proposed foundation type for each Smartpole installation prior to releasing the Witness Point.
7. Process Held:	Smartpole Foundation Construction
Submission Details:	At least two (2) working days before installation of formwork and reinforcement.
Release of Hold Point:	The City's Representative shall inspect the formwork and reinforcing prior to releasing the Hold Point.
8. Process Held:	Subgrade/Fill Conformance
Submission Details:	At least two (2) working days prior to placing kerb and gutter footing, Smartpole footing, service pit and pavement base.
Release of Witness Point:	The City's Representative shall review the subgrade/fill testing report prior to releasing the Witness Point.

1.10 HOLD AND WITNESS POINTS, CON'T

Preliminaries	
9. Process Held:	Concrete Formwork and Reinforcement
Submission Details:	At least two (2) working days prior to installation of the formwork and reinforcement.
Release of Hold Point:	The City's Representative will inspect the installed formwork and reinforcement prior to releasing the Hold Point.
10. Process Held:	Tree Removal
Submission Details:	At least two (2) working days prior to the removal of any trees.
Release of Hold Point:	The City's Representative will inspect the trees marked for removal prior to releasing the Hold Point.
11. Process Held:	Site Protection
Submission Details:	At least two (2) working days prior to any demolition works.
Release of Hold Point:	The City's Representative will inspect the site prior to demolition to ensure all items to remain in place are adequately identified and protected prior to the release of the Hold Point.
12. Process Held:	Excavation to Required Levels
Submission Details:	At least two (2) working days prior to final excavation.
Release of Witness Point:	The City's Representative will inspect the excavation at finished level prior to release of the Witness Point.
13. Process Held:	Density Testing and Proof Rolling
Submission Details:	At least two (2) working days prior to testing and rolling.
Release of Witness Point:	The City's Representative will inspect the site during density testing and final proof rolling prior to releasing the Witness Point.
14. Process Held:	Service Trench – prior to laying of service
Submission Details:	At least two (2) working days prior to the laying of the service.
Release of Witness Point:	The City's Representative will inspect the excavated service trench prior to the laying of the service before releasing the Witness Point.
15. Process Held:	Service Trench – prior to backfill
Submission Details:	At least two (2) working days prior to backfilling of the service trench.
Release of Witness Point:	The City's Representative will inspect the laid service prior to backfilling of the trench before releasing the Witness Point.
16. Process Held:	Underground Structures
Submission Details:	A minimum of one (1) working day after demolition activities are undertaken above an underground structure.
Release of Witness Point:	The City's Representative will inspect the underground structure following demolition works above, prior to the release of the Witness Point.

1.11 ASSET HANDOVER

The City must be provided with accurate documentation describing how the assets have been constructed upon completion of works.

This information will be used to up-date the City's asset register which will help us to better manage our assets and provide quality information to others.

The following is a list of documents that must be supplied as a minimum:

- As-built drawings
- Asset data sheets
- Licences and approvals
- Operational and maintenance manuals
- Safety audits – if applicable
- Certifications and warranties
- CCTV for stormwater infrastructure – if applicable
- Dilapidation reports
- Construction and after photographs

The Asset Handover process is currently being reviewed and will be included in the next revision of this document.