

04/02/2016

Savills Australia
Level 7, 50 Bridge Street
Sydney NSW 2000

enstruct group pty ltd

ABN 32 094 570 671
Tel: +61 2 8904 1444
Fax: +61 2 8904 1555
www.enstruct.com.au
Level 4, 2 Glen Street,
Milsons Point,
NSW, 2061,
Australia

For the attention of: **Jennifer Kay**

Dear Jennifer,

75-85 Harrington Street – Mixed Use Development

Addressing the following Secretary's Environmental Assessment Requirements (SEAR) Key Issues:

10 – Earthworks

11 – Water, Drainage, Stormwater and Groundwater

12 – Infrastructure Provision

15 – Sediment, Erosion and Dust Controls

Introduction

The proposed mixed use development, located within the City of Sydney LGA (henceforth Council), will involve the demolition of an existing building and the construction of a 9.5 storey mixed-use building with three levels of basement car parking. The proposed redevelopment site is bounded by Gloucester Street to the west, by Cambridge Street to the north, by Harrington Street to the east and the elevated Cahill Expressway to the south (refer Figure 1).

Aim

The aims of this report are to:

- Undertake an assessment of the proposed redevelopment against the civil engineering specific requirements outlined in the SEAR documentation;
- Identify any SEAR compliance issues that require resolution / attention for the proposed redevelopment for the DA submission; and
- Inform Council of the intentions to service the building as part of the Development Application (DA) submission for the project.

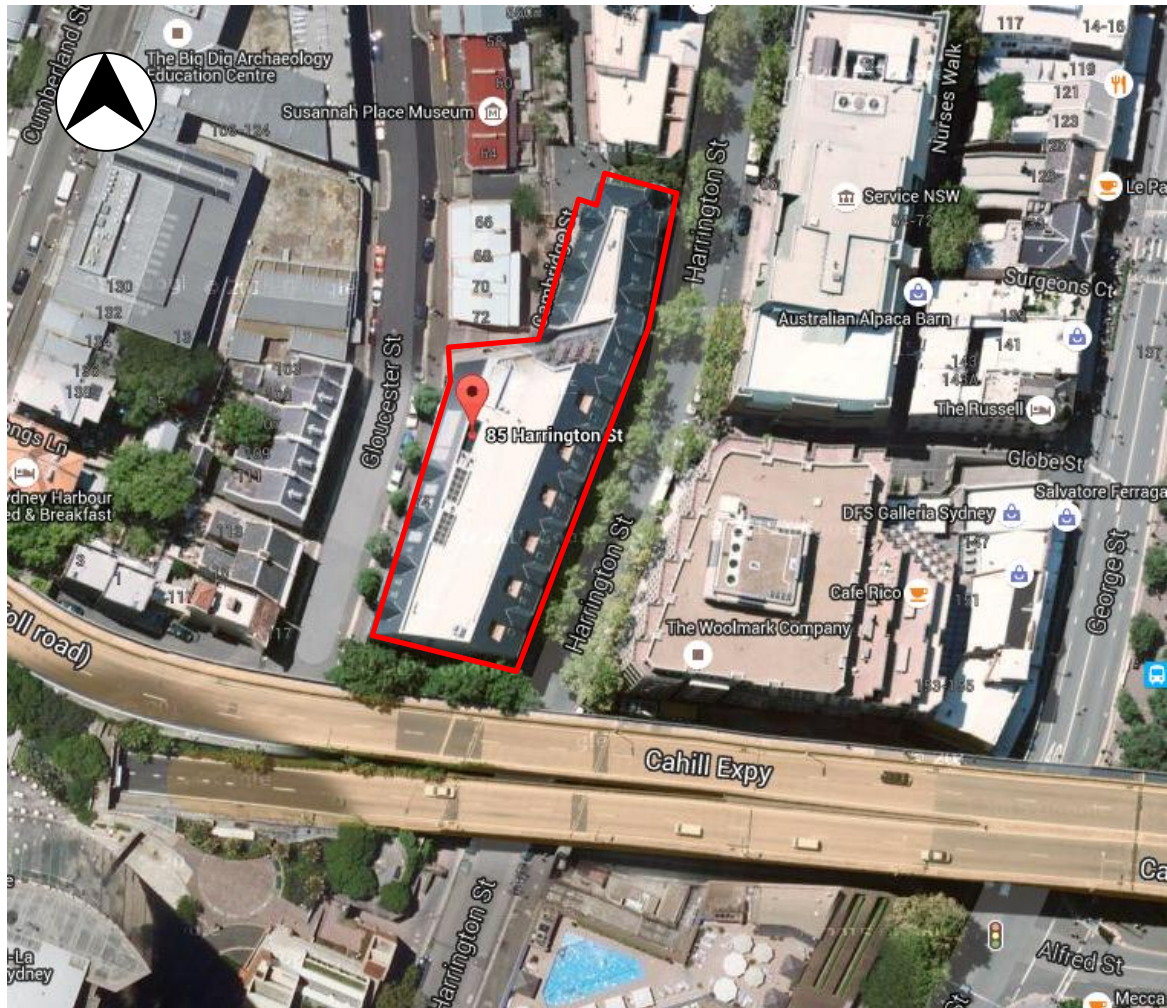


Figure 1. Location of the proposed redevelopment.

SEAR Issue No. 10 - Earthworks

- (1) Provide a detailed survey showing existing and proposed levels and proposal quantities of cut and fill necessary for the proposed works.**

enstruct had undertaken a bulk earthworks analysis to determine the volumes of cut and fill material required to achieve the proposed finish levels. The analysis indicates no fill is necessary as the proposed basement level of the new building is lower than the basement level of the existing development. The quantity of cut material is approximately 11,800 cubic metres. We note the existing and proposed bulk excavation levels were based on FJMT drawings SK150911[03] and DA-2013[F] respectively. enstruct's bulk earthworks plan 4977-CV-0300[01] is included herewith as Attachment 1 for reference.

- (2) Provide details of the fill, including types and materials and their source.**

Fill material will be for the blinding layer and sub-base placed underneath the basement slab. The fill materials to be used for this site need to comply with the following requirements:

- All imported fill material, including topsoil must satisfy the description for clean fill material in EPA Bulletin Publication No. 448 (Sep '95) and

subsequent revisions. The contractor shall provide verification including test certificates to the site engineer; and

- b. Base material shall be approved well graded slag aggregate or crushed rock (maximum size of 40mm) spread and compacted to 98% modified compaction as determined by test AS 1289.5.2.1 or 80% minimum density index for cohesionless soils.

(3) Provide details of the location for the disposal of excess cut and the methodology of transportation to this location.

Based on the recommendation mentioned in Douglas Partners' geotechnical report (Project No. 85061.00 Doc. No. 2), the following further investigations / actions are recommended for soil extracted from the site:

- a. Prior to any soil being removed from site a waste classification assessment must be undertaken to ascertain the contamination status of soil and the proper waste classification for disposal; and
- b. The disposal site for soil removal from site and truck route is to be submitted to and approved by the Council engineer or their representative in writing prior to commencement of any works. enstruct notes there are landfill sites within Sydney Metro that will cater to the disposal of contaminated soil or excavated material from the site.

(4) Provide a detailed survey plan showing the relationship of the proposed development with respect to Sydney Trains easement/stratum lot and tunnel location.

A review of the Sydney Trains Infrastructure documentation (Attachment 2) reveal at least a 30 m clearance between the proposed redevelopment and the existing Sydney tunnel.

Also, a CBD Rail Link has been proposed east of the site. As indicated in the attached CH2M drawing 482749-190[2] (Attachment 3), this new railway line is at least 42 m clear of the proposed redevelopment.

SEAR Issue No. 11 – Water, Drainage, Stormwater and Groundwater

(1) Prepare an Integrated Water Management Plan, detailing stormwater and wastewater management, including any re-use and disposal requirements, demonstration of water sensitive urban design and any water conservation measures, and identification of any appropriate water quality management measures.

enstruct has provided advice to VOS Group, the project's building hydraulic consultants, in regards to stormwater on-site detention (OSD). Considering a development area of approximately 1600 m², Sydney Water's OSD requirements applicable to the site are as follows:

OSD Tank Volume (min.)	25 m³
Permissible Site Discharge (max.)	59 l/s

Through initial consultation with Sydney Water, enstruct had attempted to remove the OSD requirements for this development considering that it is located close to the Sydney Cove and Circular Quay. Sydney Water, however, insisted that the site is still within part of the catchment where OSD is required.

In accordance with best management practice, discharge from the OSD tank should preferably be by gravity to make allowance for potential tank overflows or pipe blockages and to avoid the intricacies and consequences (in cases of failures) of pumped out systems. Based on this proposition, the OSD tank may be located (at the minimum) on the Ground Floor Level if discharging towards Harrington Street or on Level 3 (at the minimum) if discharging into Gloucester Street. At this stage, VOS Group has proposed for the OSD tank to be located beneath the stairs near Cumberland Place with discharge to the east. The base of the OSD tank will be at ground level of Harrington Street as indicated in VOS drawing H-SK-004[P1].

enstruct had also provided VOS group advice on the Council's water quality objectives that need to be met when configuring the treatment scheme for the proposed development. Refer to VOS DA report for more details on the treatment objectives and proposed treatment devices.

- (2) The Applicant shall provide information on the required water and waste water services and any augmentation of Sydney Water infrastructure that may be required for the proposed development.***

Refer to VOS Group DA Report.

SEAR Issue No. 12 – Infrastructure Provision

- (1) Detail any infrastructure proposed to service the development and demonstrate that the site can be suitably serviced.***
- (2) Detail the existing infrastructure on-site, and identify any possible impacts on infrastructure arising from the construction of the proposed works.***
- (3) Where the proposed works affect existing infrastructure, the application should detail any mitigation works proposed, including service relocations.***

In terms of stormwater drainage, the water leaving the site will be conveyed by a new pit and pipe system within Harrington Street footpath into the existing street drainage system. DBYD documentation indicates no existing utilities will obstruct the proposed drainage system. An existing Council-owned stormwater pit along Harrington Street has been identified as a potential discharge connection point for the proposed development. The 600 x 900 mm pit with an invert level estimated to be at RL 14.03 mAHD was found to be in good condition. Refer to enstruct drawing 4977-CV-0100[02] included herewith as Attachment 4.

With regards to vehicular access into the new building's basement car park, a new driveway will be built to replace two existing crossovers. The construction of the new driveway will require the removal of two trees, the demolition of affected footpath, kerb and gutter and the construction of realigned kerb and gutter. The new driveway needs to tie in well with the existing footpath levels. The two existing driveways will be demolished and replaced with new pavements that will smoothly tie in with existing pavement levels. Refer to enstruct drawing 4977-CV-0100[02] included herewith as Attachment 4.

SEAR Issue No. 15 – Sediment, Erosion and Dust Controls***(1) Identify measures and procedures to minimise and manage the generation and off-site transmission of sediment, dust and particles.***

In terms of managing the generation and transmission of waterborne sediments, enstruct proposes the following temporary measures to ensure the proposed works do not impact on the amenity and environment of the adjoining areas:

- a. Catch Drains – to intercept sediment-laden runoff;
- b. Sedimentation Pond – retain sediments and other materials during excavation works; clean water to be pumped out to pit at Harrington Street;
- c. Sand Bags – when provided around stormwater pits will prevent the ingress of sediments into the street drainage system; and
- d. Shaker Grids – when provided at construction entry points will help minimise the export of sediments into road areas by vehicles and construction machinery leaving the site.

enstruct has prepared a Sediment and Erosion Control Plan (Attachment 5) that shows where the abovementioned pollution control measures are located. The said plan has been prepared in accordance with Landcom's Managing Urban Stormwater – Soils and Construction.

In terms of airborne dust and particles, measures and procedures need to be implemented by the parties involved during demolition, excavation and construction to minimise the generation and transmission of such pollutants into the surrounding areas.

Conclusion

A review of the SEAR key issues 10, 11, 12 and 15 was undertaken and appropriate responses have been stated as above and measures have been proposed to ensure compliance of the proposed redevelopment with the said requirements.

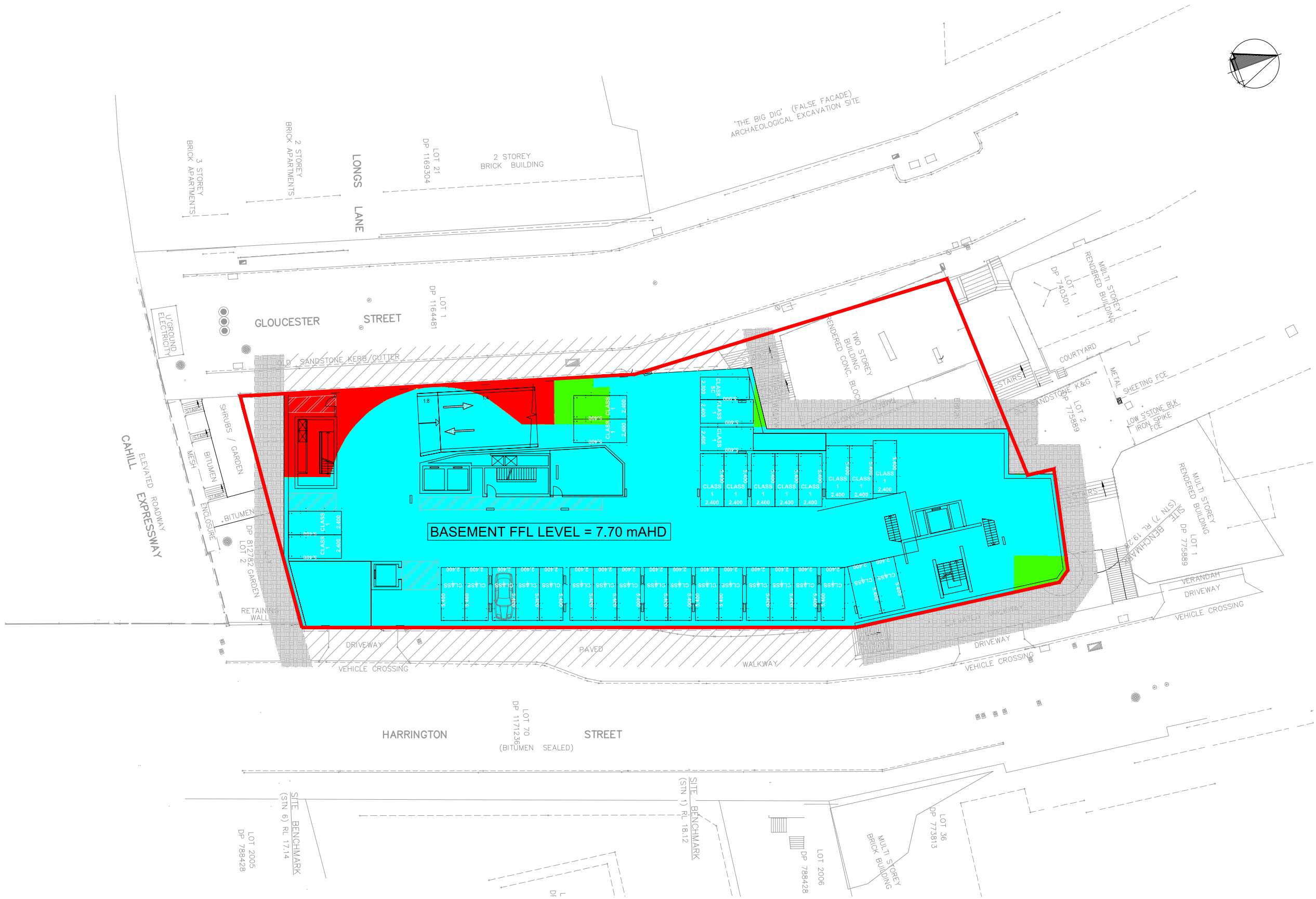
We trust that the information provided in this letter report could give you a good understanding of how the identified SEAR issues have been addressed. However, should you require further assistance from us or if you have any questions on this regard, please do not hesitate to contact us.

Yours Sincerely,



for
enstruct group pty ltd

Eric Ruiz
Senior Engineer

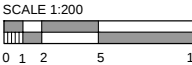


Surface Analysis: Elevation Ranges			
	Colour	Minimum Elevation (m)	Maximum Elevation (m)
CUT		-13.500	-12.000
		-12.000	-10.500
		-10.500	-9.000
		-9.000	-7.500
		-7.500	-6.000
		-6.000	-4.500
		-4.500	-3.000
		-3.000	-1.500
		-1.500	0.000

- NOTES
- HATCHED AREA INDICATES THE EXTENT OF CUT AND FILL WORKS TO ACHIEVE COMPLIANT GRADIENTS
 - CUT AND FILL VOLUME ESTIMATES INDICATE THE DIFFERENCES BETWEEN EXISTING AND PROPOSED FORMATION LEVELS AND DO NOT ACCOUNT FOR NEW PAVEMENT CONSTRUCTION, TRENCHING, SUB-BASE RECTIFICATION OR CONTAMINATE REMOVAL.
 - THE VOLUMES PROVIDED HERE ARE INDICATIVE ONLY AND BASED ON RECORD DRAWING INFORMATION WHICH HAS NOT BEEN VERIFIED. THE FIGURES ARE PRESENTED AS A HIGH LEVEL ESTIMATE ONLY
 - BASED ON INFORMATION PROVIDED IN THE DOUGLAS PARTNERS REPORT (DATED 17/09/15). THE EXCAVATION WILL INVOLVE THE REMOVAL OF 1.5m OF FILL FOLLOWED BY THE MEDIUM TO HIGH STRENGTH SANDSTONE. APPROPRIATE PLANT AND EXCAVATION TECHNIQUES SHALL BE UTILISED. REFER TO THE DOUGLAS PARTNER'S GEOTECHNICAL REPORT FOR FURTHER DETAILS.

EARTHWORKS CUT/FILL	
CUTTING	11,810m³
FILLING	N/A
NET	11,810m³ (EXCESS CUT)

Attachment 1



NOT FOR CONSTRUCTION

rev	date	description	dm	ch/k
1	11/12/15	FOR INFORMATION	CF	DC

rev	date	description	dm	ch/k

GOLDEN AGE & HANNAS THE ROCKS	
-------------------------------	--

enstruct group pty ltd

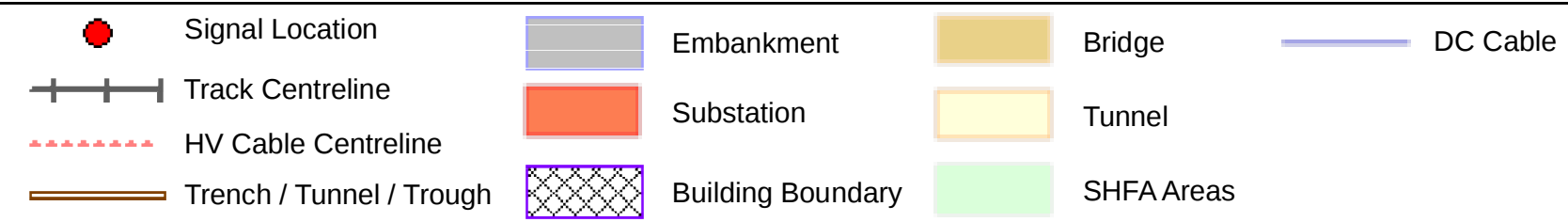
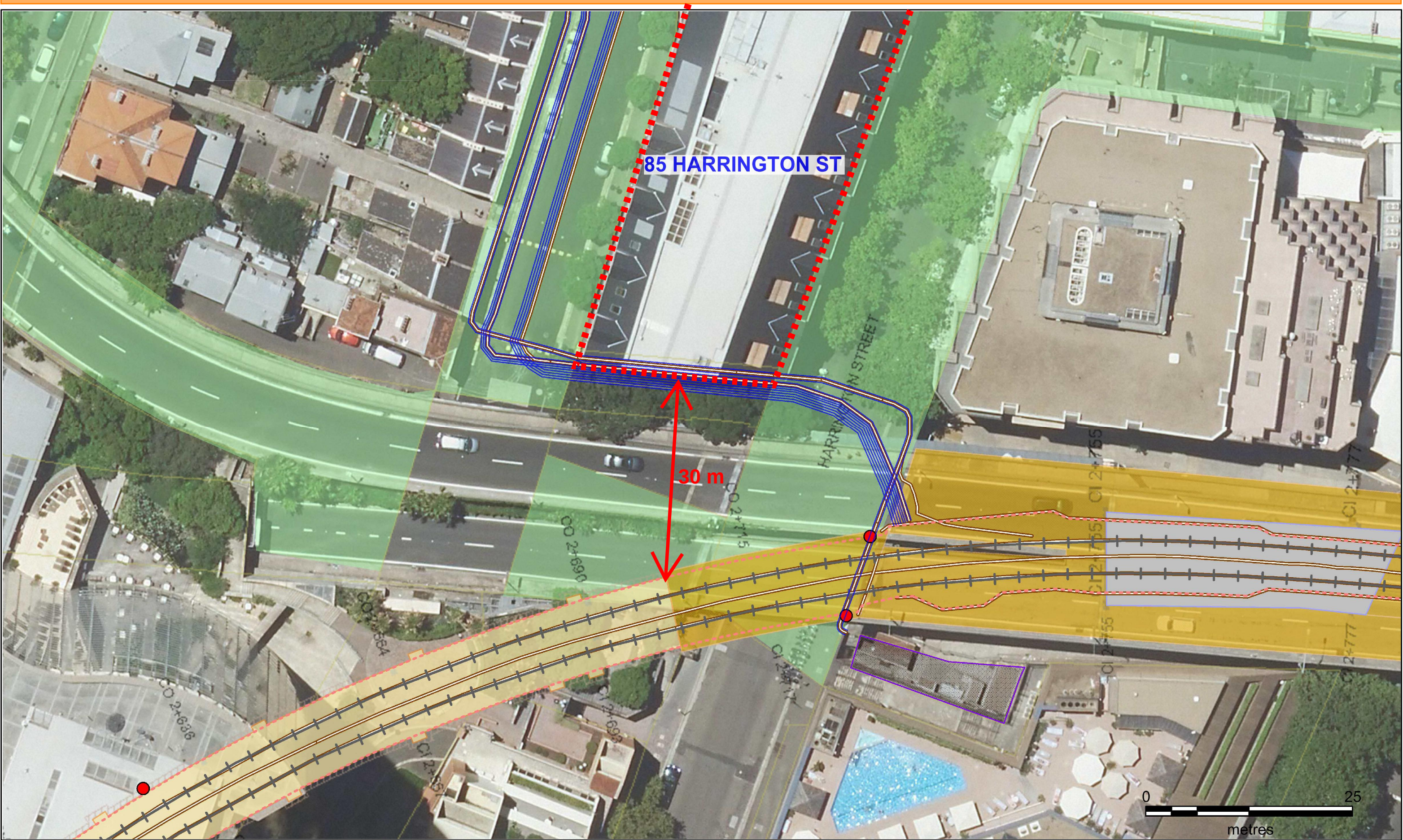
Level 4, 2 Glen Street
Milsans Point NSW 2061
Australia

Telephone (02) 8904 1444
Facsimile (02) 8904 1555
www.enstruct.com.au

project	85 HARRINGTON STREET, THE ROCKS
---------	------------------------------------

drawing title	BULK EARTHWORKS PLAN
---------------	-------------------------

status				FOR INFORMATION ONLY
scale at A1	drawn by	checked	date	
1:200	CF	DC	DEC-15	
project no.	drawing no.	rev.		
4977	CV-0300	01		

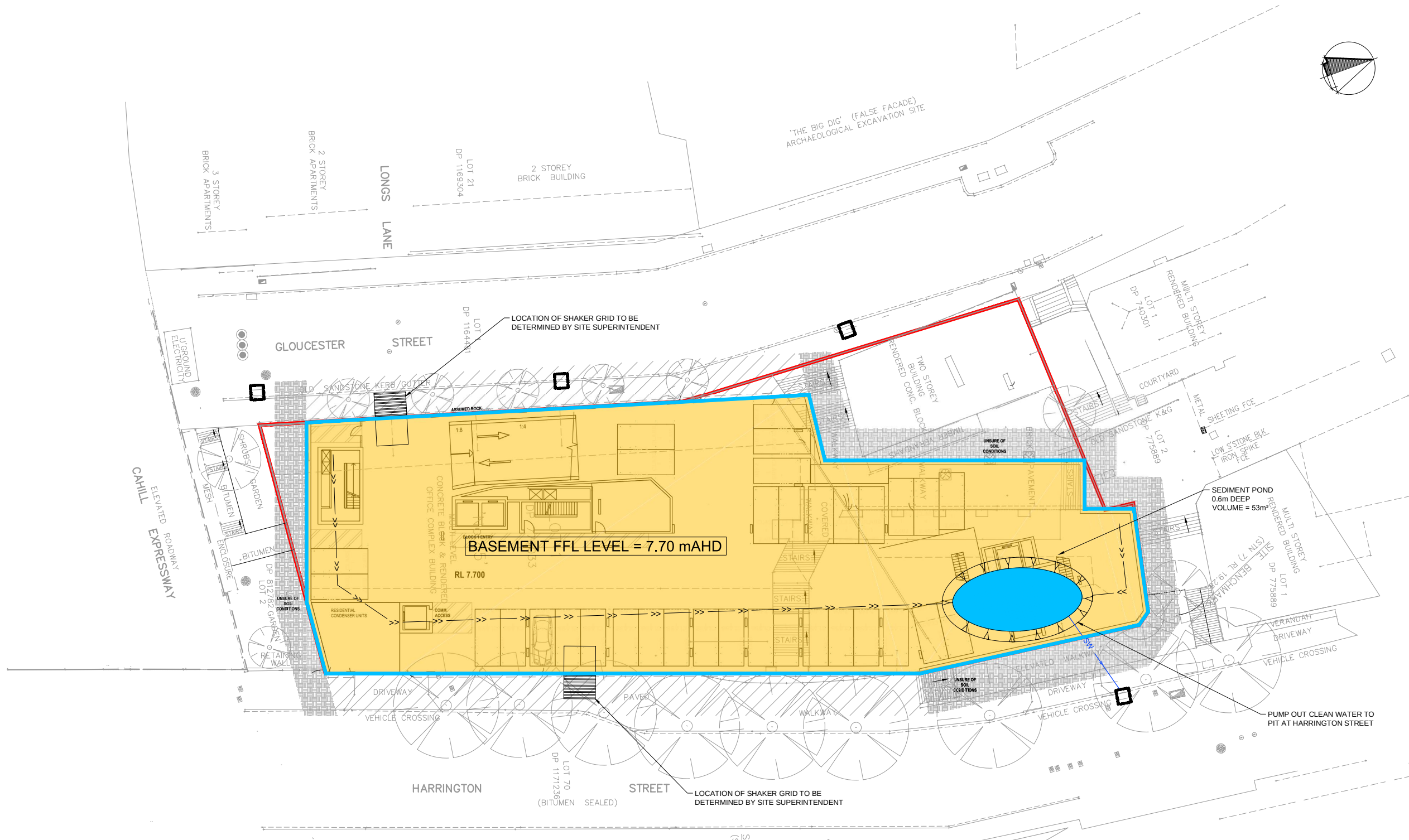


Attachment 2



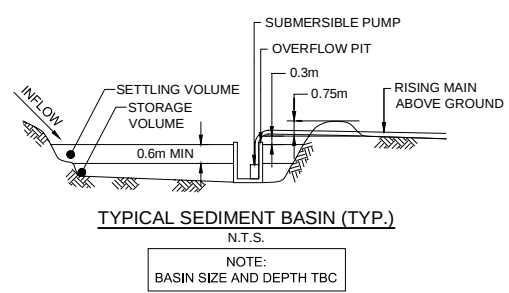
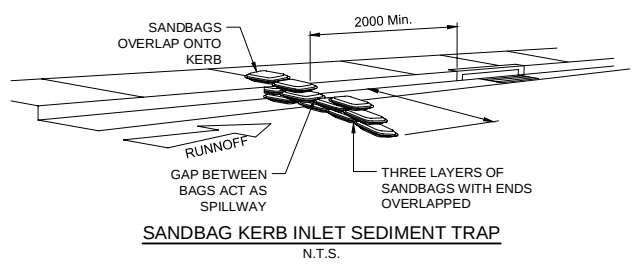
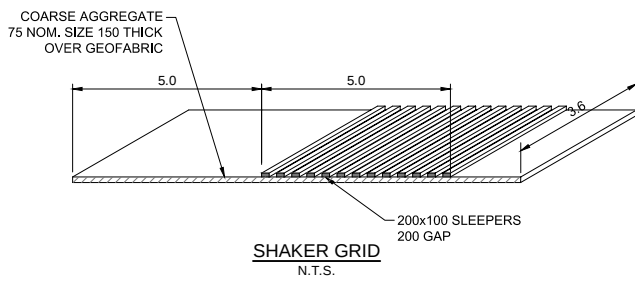
NOT FOR CONSTRUCTION

project no.	drawing no.	rev.
4977	CV-0100	02

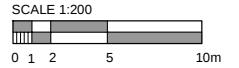


- LEGEND
- SITE BOUNDARY
 - PROPOSED SHAKER GRID AND WASH DOWN FACILITY
 - PROVIDE TEMPORARY SANDBAGS AROUND PITS:
1. AFTER PAVEMENT WORKS ARE COMPLETE IF WORKS ARE ONGOING UPSTREAM
2. TO EXISTING GRATED PITS DOWNSTREAM OF CONSTRUCTION WORKS
 - PROPOSED TEMPORARY SEDIMENT BASIN
 - BASEMENT EXTENT
 - PROPOSED TEMPORARY CATCH DRAIN

NOTE:
REFER TO ARCHITECTURAL PLANS FOR DETAILED FINISHED LEVELS.



Attachment 5



NOT FOR CONSTRUCTION

rev	date	description	dm	ch/k
1	04/12/15	FOR INFORMATION	CF	ER

rev	date	description	dm	ch/k



enstruct group pty ltd
Level 4, 2 Glen Street
Milsons Point NSW 2061
Australia
Telephone (02) 8904 1444
Facsimile (02) 8904 1555
www.enstruct.com.au



project
85 HARRINGTON STREET,
THE ROCKS
GOLDEN AGE &
HANNAS THE ROCKS

drawing title
SEDIMENT & EROSION
CONTROL AND
BULK EARTHWORKS PLAN

FOR INFORMATION ONLY			
scale at A1 1:200	drawn by CF	checked ER	date DEC-15
project no. 4977	drawing no. CV-0400	rev. 01	