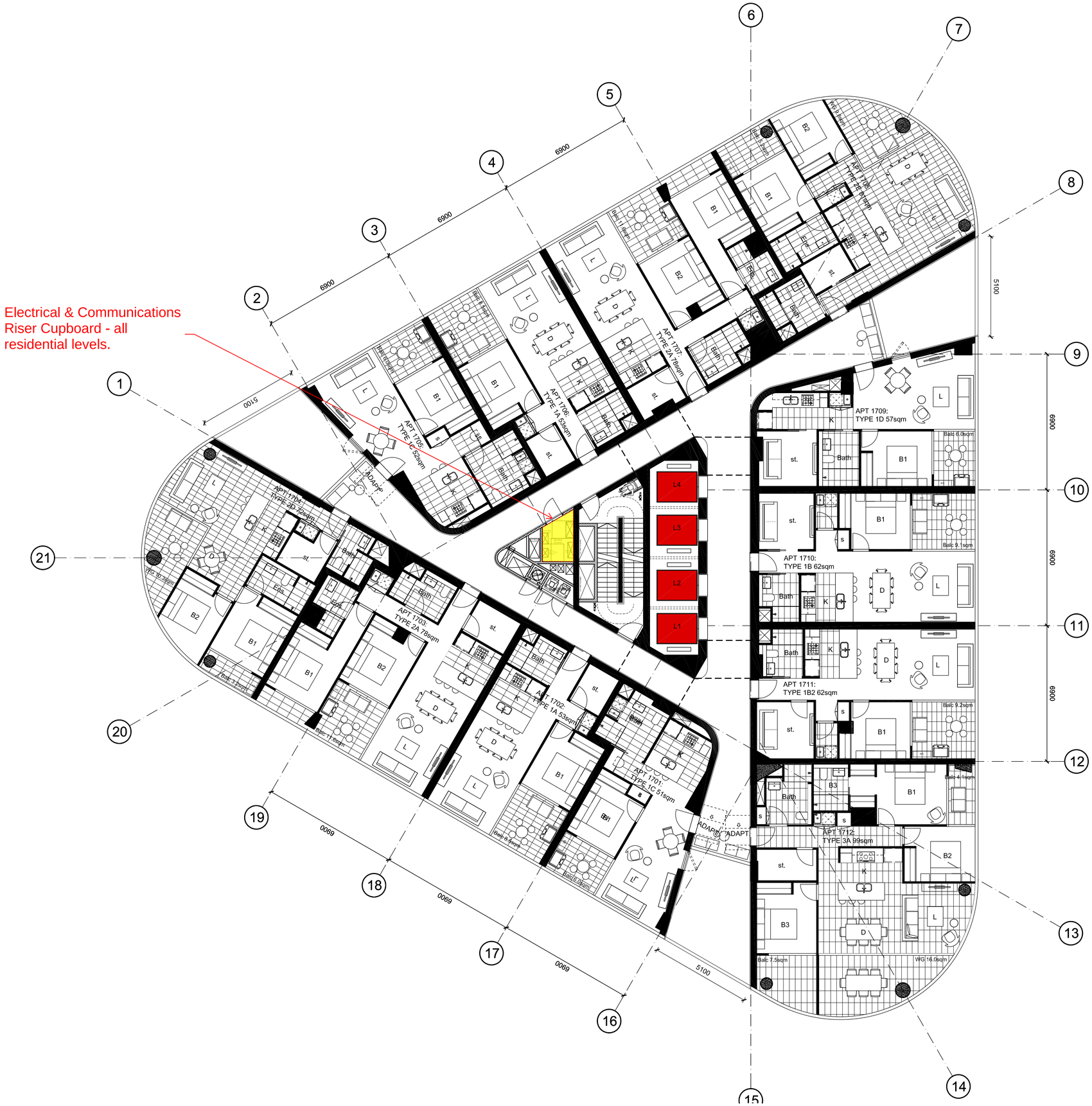

Revision Summary:

NOT FOR CONSTRUCTION

Revision	Date	Description	Initial	Checked
01	29.08.14	For Information	JC	MLS

Site 68
Sydney Olympic Park

General Arrangement Plan
Level 17-24

Scale	1:100 @ A1, 1:200 @A3
Drawn	Checked
Project No.	S11611
Status	DA
Plot Date	29/8/2014 6:23 PM
Plot File	S:\11600-11699\s11611_ecove_sopsite68\00_main\cad\plots\DA-... ...)DA02.17[01]x.dwg
Drawing No.	[Revision]

DA02.17[01]X

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17 September 2014

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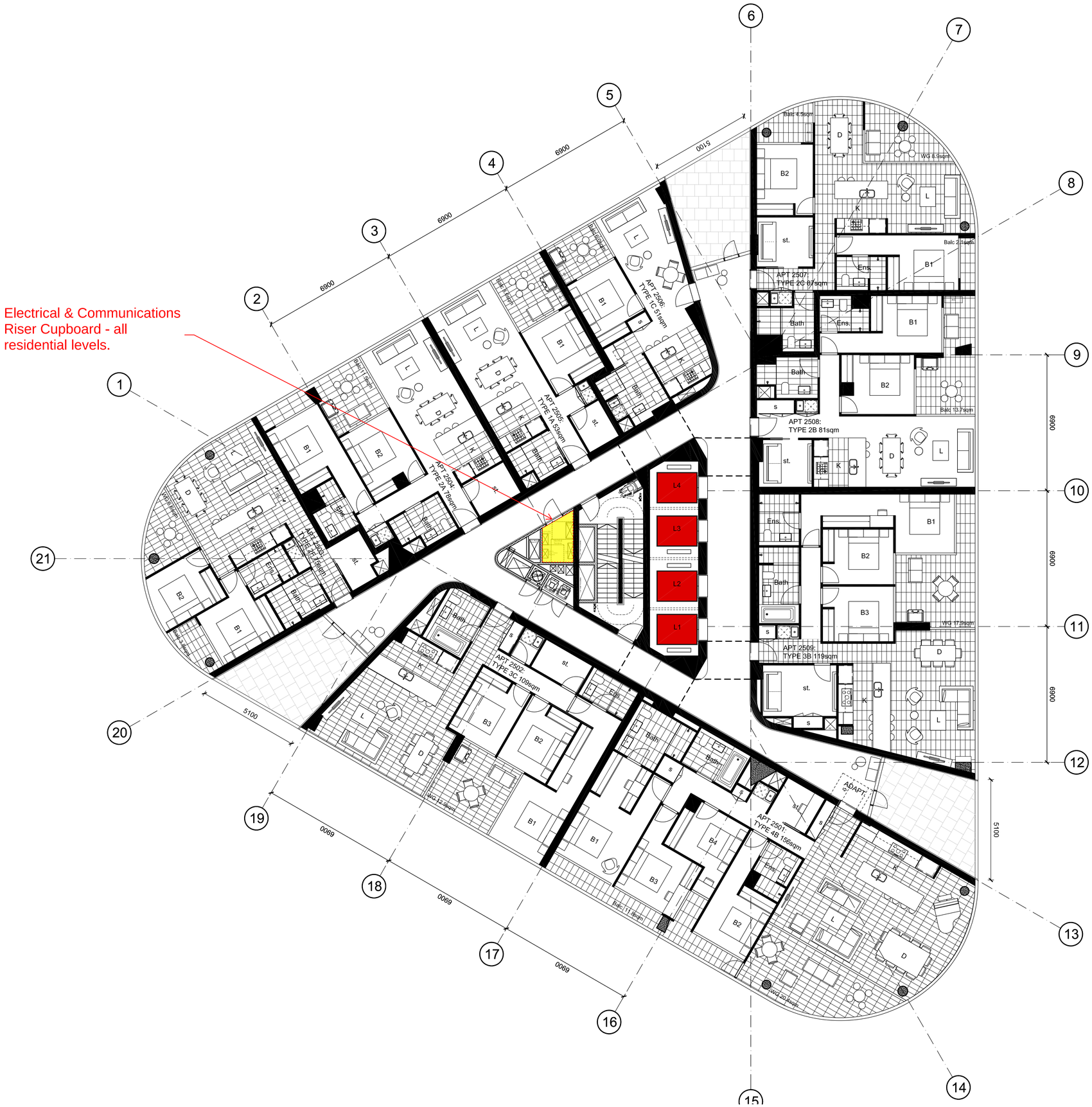

Check all dimensions and site conditions prior to commencement of any work, the purchase or ordering of any materials, fittings, plant, services or equipment and the preparation of shop drawings and/or the fabrication of any components.

All drawings to be read in conjunction with all architectural documents and all other consultants documents.

Do not scale drawings - refer to figured dimensions only. Any discrepancies shall immediately be referred to the architect for clarification.

Revision Summary:

NOT FOR CONSTRUCTION

Revision	Date	Description	Initial	Checked
04	29.08.14	For Coordination	ML	ML
03	12.08.14	For Coordination	ML	ML
02	29.07.14	For Coordination / Review	ML	ML
01	02.07.14	For Information	JC	MLS

Site 68
Sydney Olympic Park

General Arrangement Plan
Levels 25-26

Scale	1:100 @ A1, 1:200 @A3
Drawn	Checked
Project No.	S11611
Status	DA
Plot Date	29/8/2014 6:16 PM
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DA02.25[01]X

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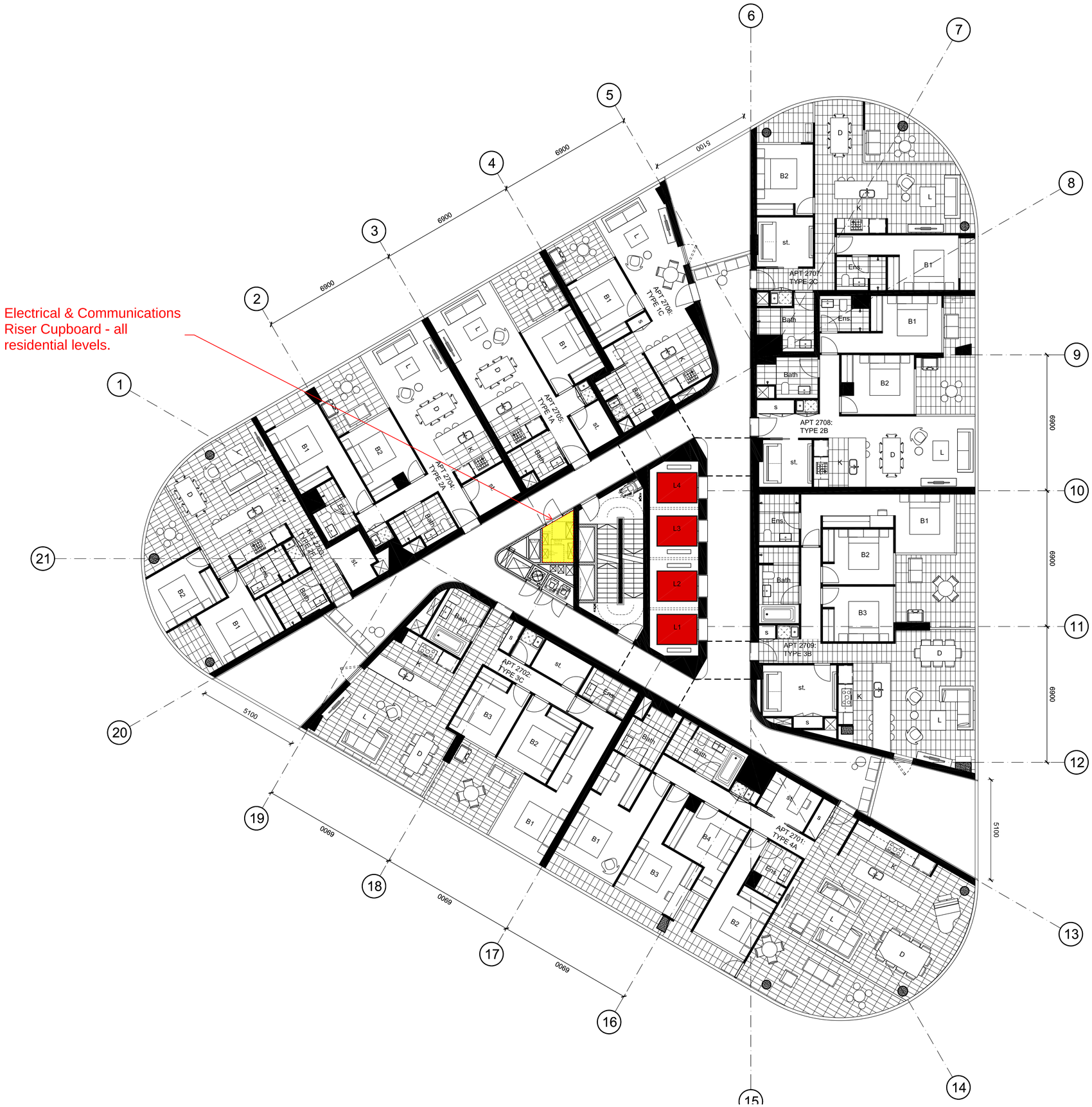

Revision Summary:

NOT FOR CONSTRUCTION

Revision	Date	Description	Initial	Checked
02	29.08.14	For Coordination	MLS	MLS
01	26.08.14	For Coordination	MLS	MLS

Site 68
Sydney Olympic Park

General Arrangement Plan
Levels 27-33

Scale	1:100 @ A1, 1:200 @A3
Drawn	Checked
Project No.	S11611
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Drawing No.	[Revision]

DA02.27[X]X

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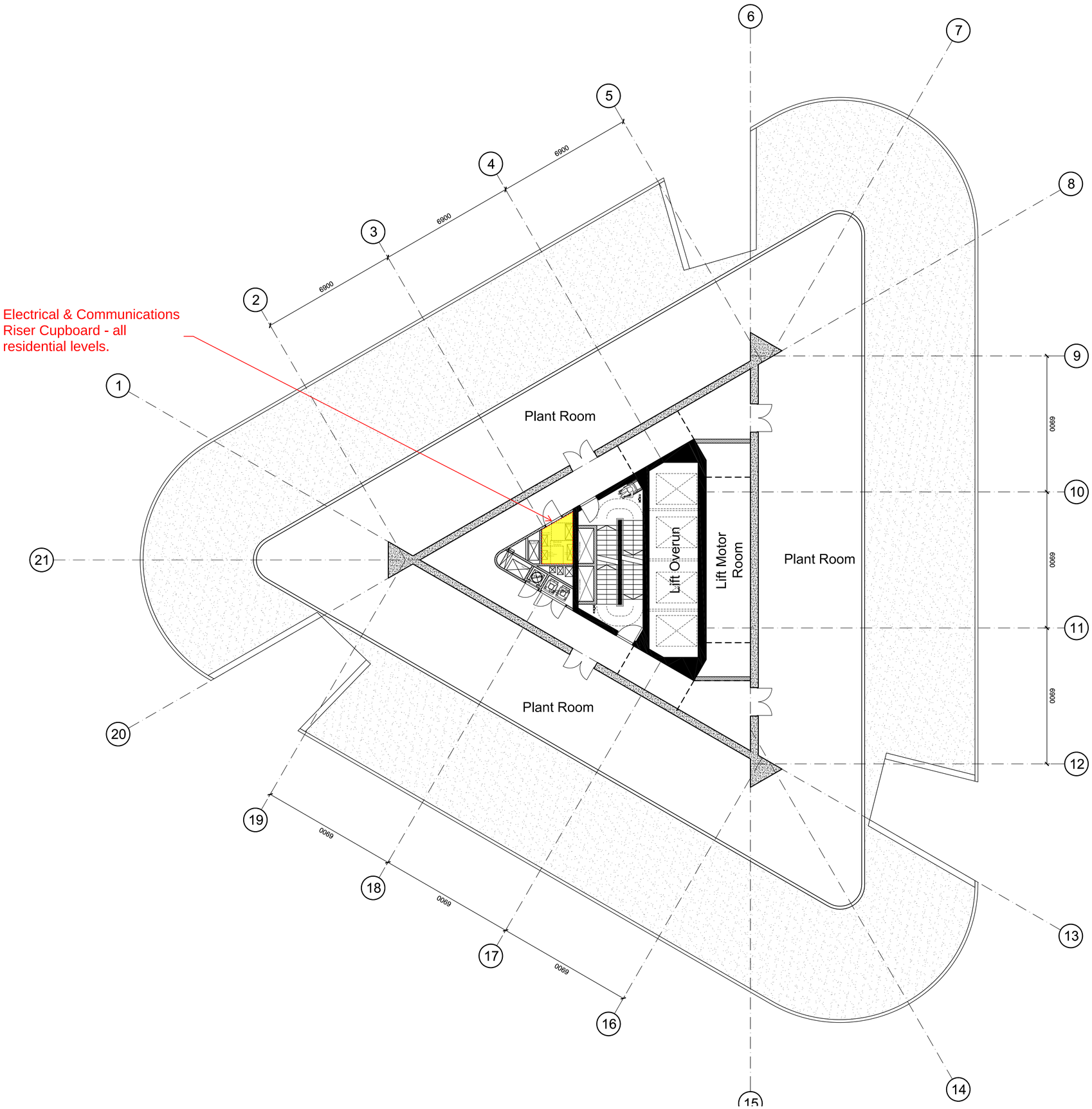

Revision Summary:

NOT FOR CONSTRUCTION

Revision	Date	Description	Initial	Checked
01	xx.07.14	For Information	JC	MLS

Site 68
Sydney Olympic Park

General Arrangement Plan
Level 34

Scale	1:100 @ A1, 1:200 @A3
Drawn	Checked
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Status	DA
Plot Date	29/8/2014 6:16 PM
Plot File	S:\11600-11699\s11611_ecove_sopsite68\00_main\cad\plots\DA... ... JDA02.34[01]x.dwg
Drawing No.	[Revision]

DA02.34[01]X

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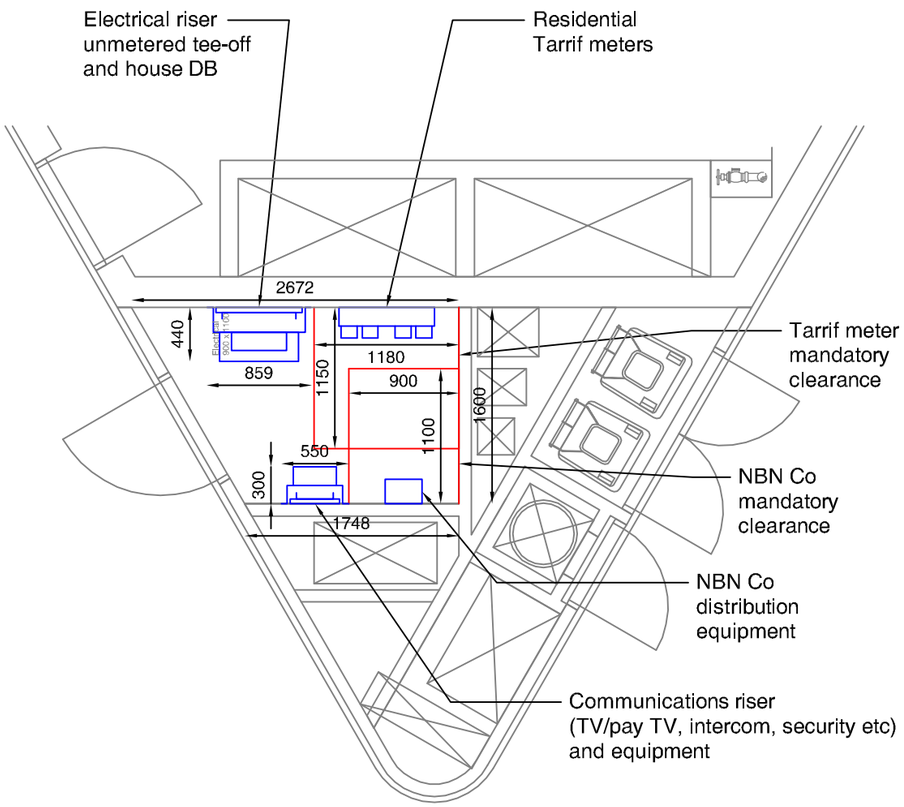
REFERENCE DOCUMENT REGISTER

DISCIPLINE	DRAWING No.	REVISION OR DATE
ARCH	DA02.01[01]X	05 29.08.14
HYDRAULIC		
MECH		
INTERIOR DESIGN		
OTHER		



Typical Riser Detail 1:50

NOTES :

1. Haron Robson is the owner of the copyright subsisting in these drawings and specifications which must not be reproduced or copied without prior written consent.
2. Do not scale drawing. Verify all dimensions on site.

A	DA ISSUE	12-09-14

Amendments:

Project:
SOPA Site 68

Architect:
BATES SMART

Client:
Australia Avenue Developments

Consultants; Lighting, Electrical and Audio Visual

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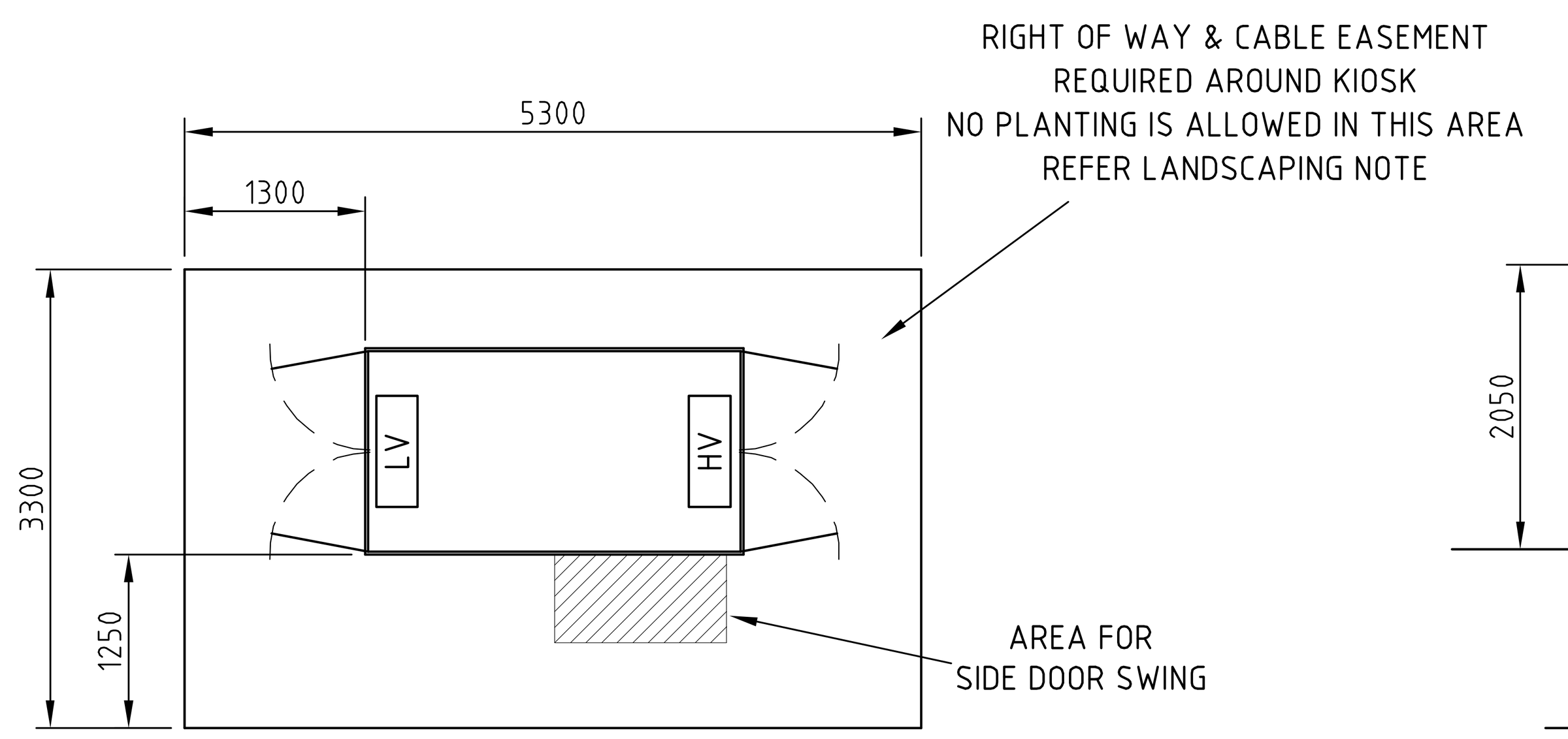
WE UNDERSTAND AUDIO VISUAL, LIGHTING, ENERGY AND
ELECTRICAL SYSTEMS AND ADVISE ON THESE ISSUES WORLDWIDE.

Drawing Title:
ELECTRICAL SERVICES
Typical Electrcial Riser Detail

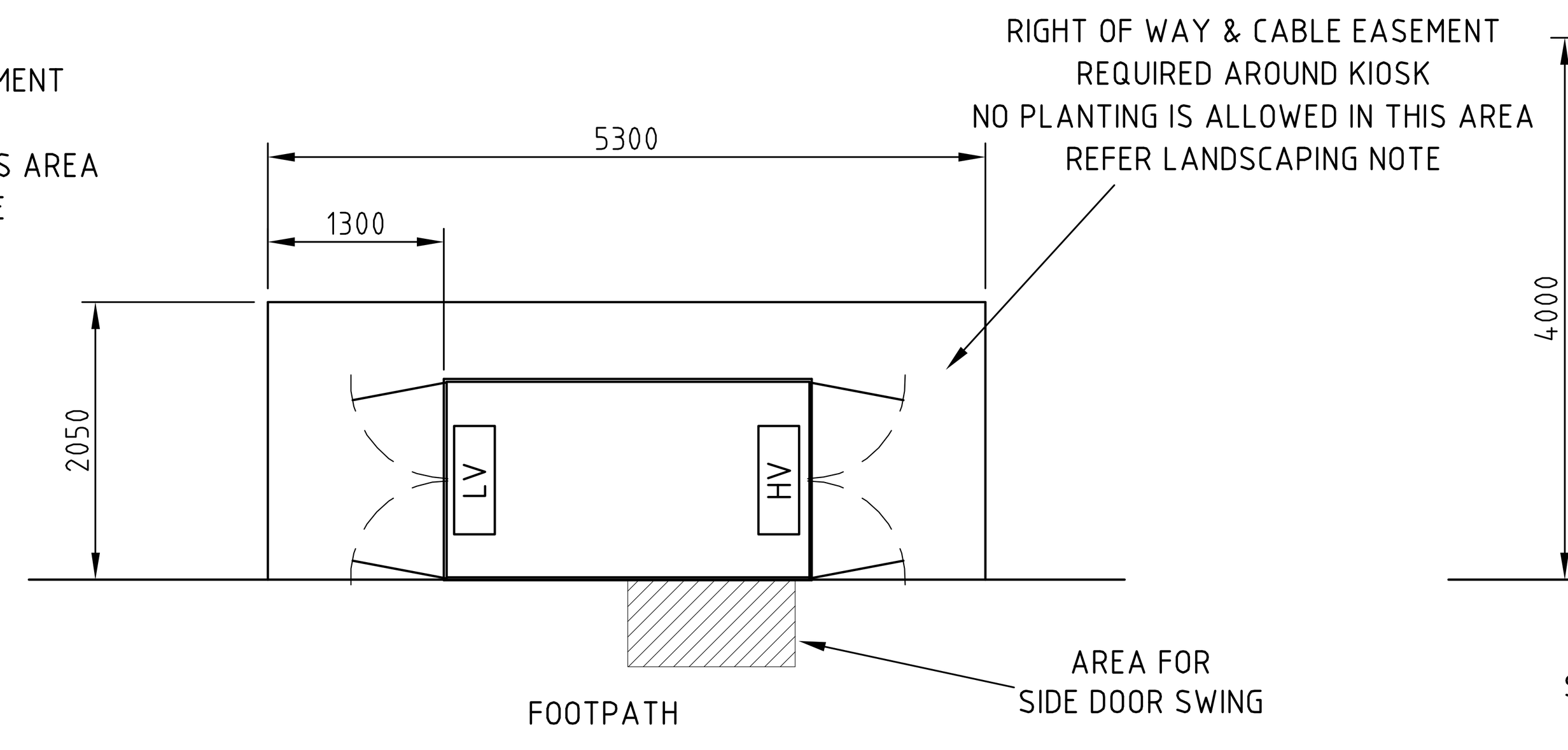
Date Printed:	Scale:	Sht Size:	Drawn:	Chkd:	Date:
12:28 12-09-14	1:50	A3	GR		

Project No.:	No. In Set/Drawing No.:	Issue:
14074	SKE01	A

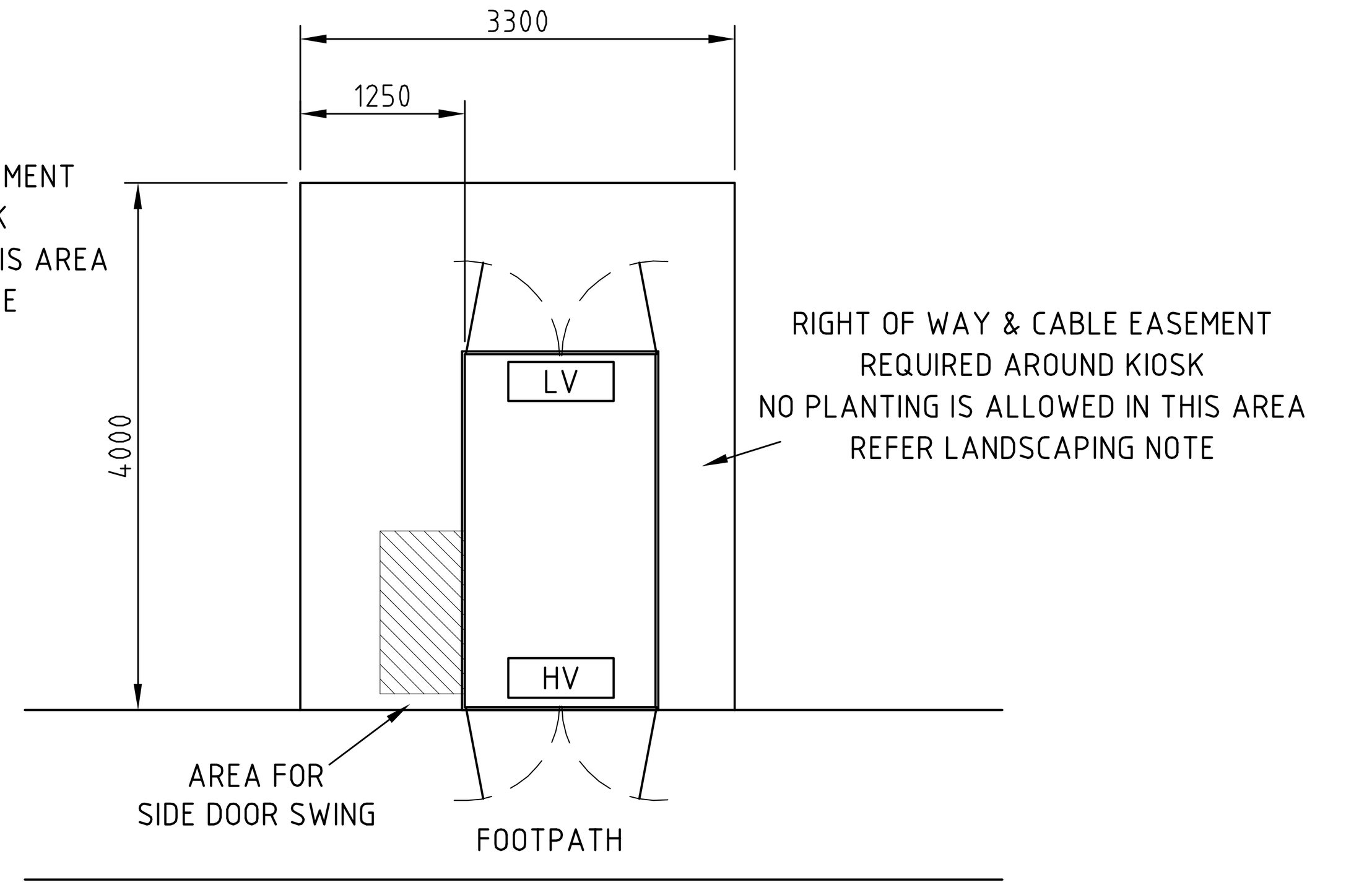
ALTERNATE SITE PLANS



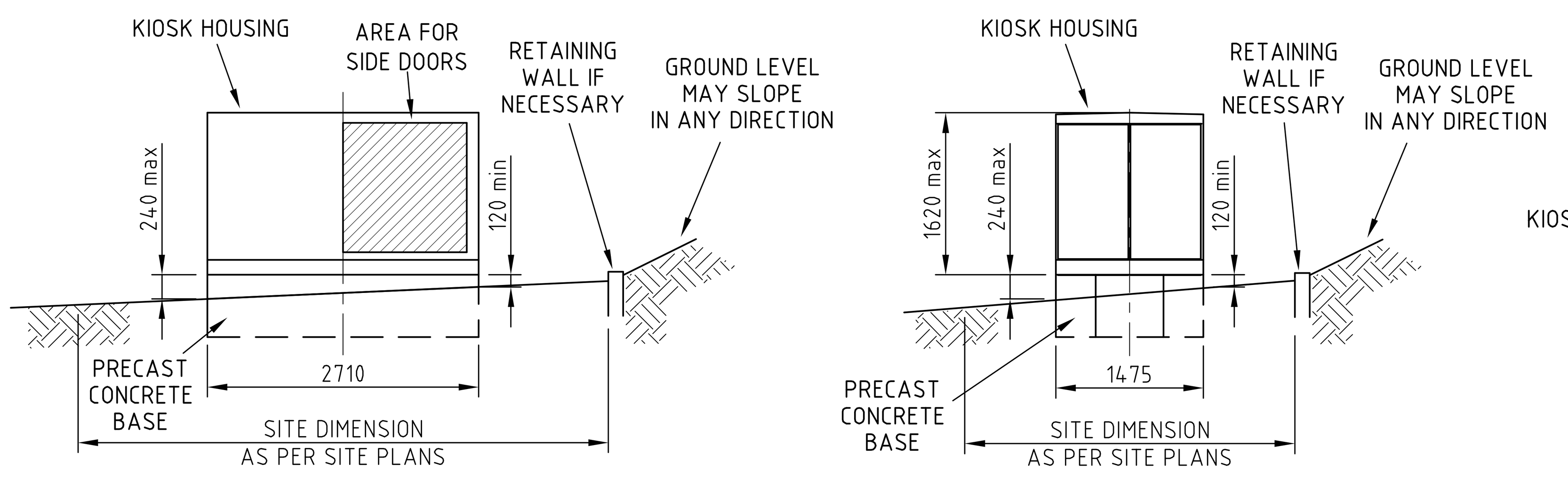
SITE PLAN A
Scale 1:50



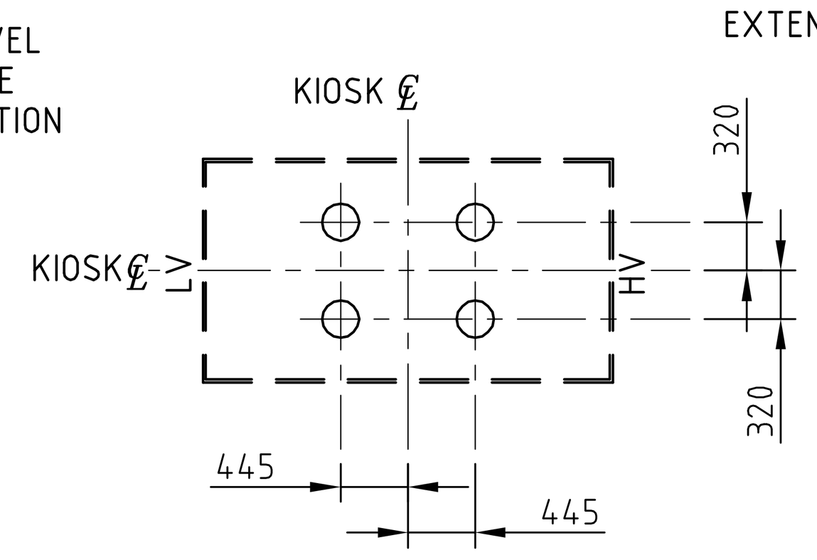
SITE PLAN B
USED IN URD AREAS ONLY
Scale 1:50



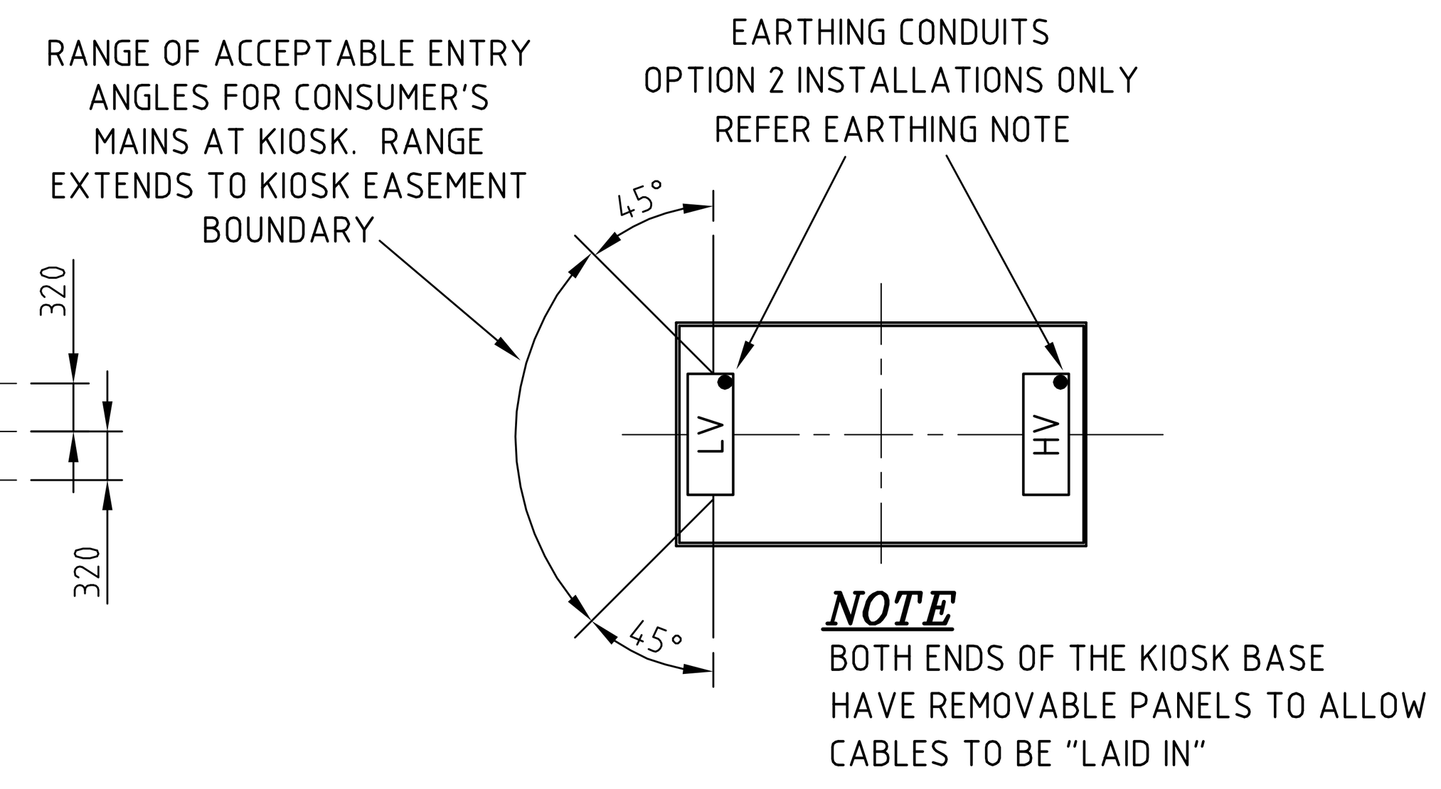
SITE PLAN C
USED IN URD AREAS ONLY
Scale 1:50



OPTION 1.
INSTALLATION DIRECT ON GROUND
Scale 1:50

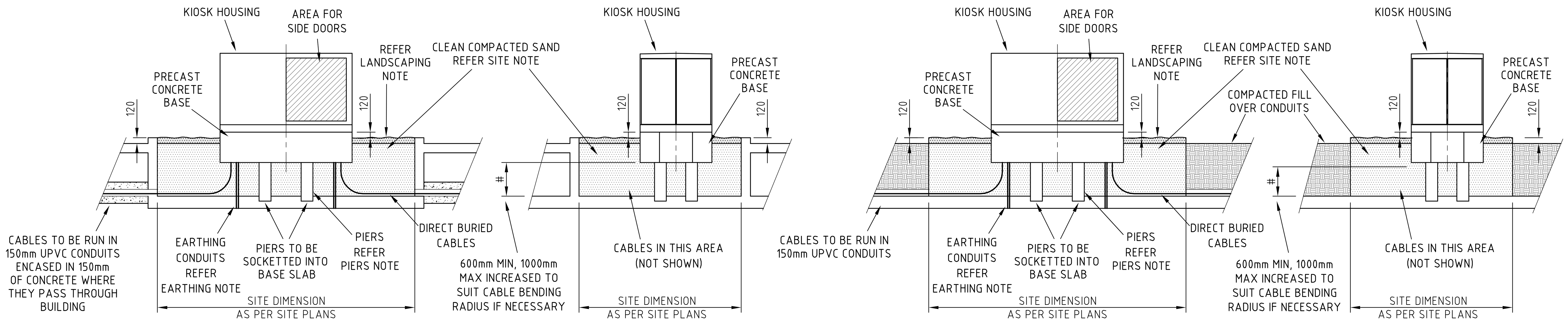


PIER LAYOUT
Scale 1:50



NOTE
BOTH ENDS OF THE KIOSK BASE
HAVE REMOVABLE PANELS TO ALLOW
CABLES TO BE "LAID IN"

CABLE ENTRY
TO KIOSK BASE
Scale 1:50



OPTION 2a

OPTION 2b

INSTALLATION OVER A SUPPORTING STRUCTURE
Scale 1:50

REFERENCES	
AUSGRID'S NETWORK STANDARDS	NS 0141 NS 0117 NS 0130 NS 0116
KIOSK SUBSTATION COMBINED EARTHING DRAWING	167433
KIOSK SUBSTATION SEGREGATED EARTHING DRAWING	167434

NOTES

SITE
ALL DIMENSIONS SHOWN ARE MINIMUM REQUIREMENTS.
THE SITE MUST BE LEVEL AND CLEAR OF ALL CONSTRUCTION AND ACCESSIBLE FOR EQUIPMENT INSTALLATION AND MAINTENANCE. NO SERVICES SUCH AS DRAINS, HIGH OR LOW PRESSURE PIPES, ELECTRICAL OR COMMUNICATION CABLES, WATER PIPES etc ARE TO BE LOCATED WITHIN THE AREA SHOWN ON THE SITE PLAN.
ANY FILL USED WITHIN THE AREA SHOWN ON THE SITE PLAN IS TO BE CLEAN COMPACTED SAND.

ACCESS
PROVISION MUST BE MADE FOR ALL WEATHER ACCESS TO THE KIOSK SITE BY HEAVY MOBILE CRANE AND TRUCK.
WHERE STEPS ARE REQUIRED FOR PERSONNEL ACCESS, THEY MUST BE PROVIDED EXTERNAL TO THE KIOSK SITE.

PIERS
PIERS ARE TO BE CONSTRUCTED IN THE LOCATIONS SHOWN FOR ALL KIOSK SITES.
THE PIERS SHOWN ON THIS DRAWING WILL BE SUITABLE. FOR USE AT MOST SITES, HOWEVER AT SOME SITES WHERE THE GROUND IS FOUND TO BE FILLED OR UNSTABLE, PIERS ARE TO BE DESIGNED BY A QUALIFIED AND PRACTISING STRUCTURAL ENGINEER TO CARRY A TOTAL LOAD OF 7350kg.
VERIFICATION IS ALSO REQUIRED THAT THE BEARING OF ANY PIER USED ON THE KIOSK SITE AT ITS FOUNDATION DEPTH HAS A CAPACITY OF 300kPa.
DRAWINGS OF THE KIOSK SITE AND PIERS ARE TO BE SUBMITTED BEFORE CONSTRUCTION COMMENCES.

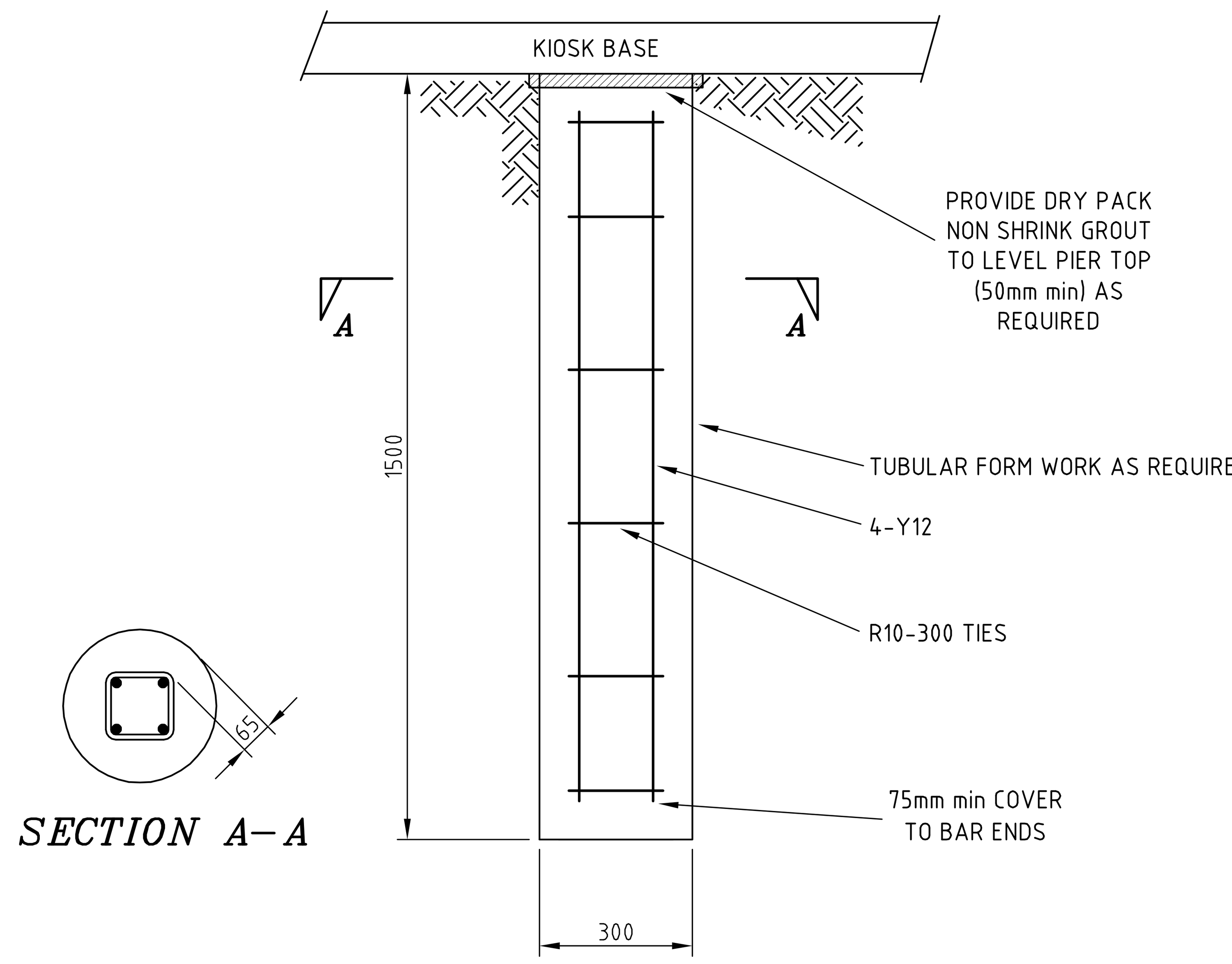
EARTHING
EARTHING IS TO BE INSTALLED AFTER THE SITE IS CLEARED AND PIER CONSTRUCTION COMPLETED.
TYPICAL EARTHING DETAILS FOR KIOSK SUBSTATIONS ARE SHOWN ON DRAWINGS 167433 AND 167434. HOWEVER INFORMATION SHOWN ON THESE DRAWINGS IS INDICATIVE ONLY AS EACH KIOSK SITE REQUIRES A SPECIFIC EARTHING DESIGN TO BE UNDERTAKEN AS INDICATED IN NETWORK STANDARD NS116.
EARTHING FOR SITES USING OPTIONS 2a AND 2b IS TO BE UNDERTAKEN USING THE METHODS SHOWN ON DRAWING 25121 FOR EARTHING CONDUITS AND EARTH ROD INSTALLATION UNDER ANY CONCRETE FLOOR.

CABLE AND CONDUIT INSTALLATION
CABLES AND CONDUITS ARE TO BE INSTALLED TO NETWORK STANDARD NS130.
WHERE THE COVER CANNOT BE ACHIEVED OR THE CABLES PASS UNDER AN AREA WHICH CANNOT BE READILY EXCAVATED IN THE FUTURE, A BANK OF ø125mm ORANGE LD RIGID UPVC PIPE CONFORMING TO AS 2053 PART 2, MAY BE REQUIRED TO BE INSTALLED TO A 1500mm² EXCAVABLE AREA SUITABLE FOR LOCATING CABLE JOINTS. THIS AREA IS TO BE IN A POSITION AGREED BY THE BOTH THE BUILDER AND AUSGRID.
WHERE CONDUITS SUPPLYING THE KIOSK SUBSTATION PASS UNDER A ROADWAY OR A BUILDING THEY ARE TO BE CONCRETE ENCASED.

PROTECTION OF KIOSK FROM VEHICLE DAMAGE
IT IS THE CUSTOMER'S RESPONSIBILITY TO PROVIDE ADEQUATE PERMANENT PROTECTION IF THE KIOSK IS LOCATED IN THE VICINITY OF AREAS USED BY VEHICLES.
ANY FORM OF PROTECTION USED SHOULD MEET THE REQUIREMENTS STATED IN AS/NZ 1170.1 AND CAN TAKE THE FORM OF BOLLARDS OR CRASH BARRIERS.

REINSTATEMENT OF VEHICULAR ROADWAY OR CABLE EASEMENT
THE CUSTOMER IS RESPONSIBLE FOR ALL REINSTATEMENT.

LANDSCAPING THE SITE
AFTER THE EQUIPPING CONTRACTOR HAS INSTALLED THE KIOSK AND THE CUSTOMER'S CABLES HAVE BEEN INSTALLED, THE BUILDER MAY COVER THE SUBSTATION AREA WITH EITHER MEDIUM TO LARGE PINE BARK CHIPS, BLUE METAL, LAWN, WOODCHIPS, REMOVABLE PAVERS OR DECORATIVE GRAVEL, TO A DEPTH OF 120mm..
PLASTIC SHEETING IS NOT TO BE USED UNDER THE COVER AND NO PLANTING IS ALLOWED IN AREA SHOWN ON THE SITE PLAN.



SECTION A–A

TYPICAL REINFORCED PIER
Scale 1:10

THE PIER SHOWN ABOVE IS TYPICAL ONLY
AND MAY NOT BE SUITABLE FOR
THE KIOSK INSTALLATION BEING PROPOSED.
REFER TO PIERS NOTE FOR FURTHER INFORMATION

CAD DRAWING – DO NOT MANUALLY AMEND
AMENDMENTS
13 NEW DRAWING MADE. SITE PLANS B&C DESIGNATED FOR URD AREAS. KIOSK HOUSING UPDATED TO MANUFACTURER'S DETAILS. KIOSK IN OPTIONS 2a&2b RAISED 120mm ABOVE LANDSCAPING. NOTES UPDATED. TITLE MODIFIED. PM PM-2-2013-4-2012 P.JARVIS 21.6.13 CHECKED: P.TURRIN APPROVED: P.TURRIN

CONSTRUCTION

NETWORK STANDARD
Ausgrid
DISTRIBUTION OPERATIONS & RELIABILITY
LOGISTICS AND DISTRIBUTION ENGINEERING
25-27 POMEROY STREET, HOMEBUSH

SCALE	AS SHOWN
DESIGNED	
DRAWN	
CHECKED	
APPROVED	
DATE	
PROJECT NUMBER	
PROJTRAK NUMBER	

SIGNED ON ORIGINAL

TYPE "L" KIOSK
LAYOUT OPTION PLAN

SIZE B1 | DRAWING No 151572 | SHEET 1 | AMD 13

20110714

2 GENERAL ARRANGEMENTS

2.1 Kiosk Types

This Network Standard refers to kiosk types J, L and K. These kiosks are for installation throughout Ausgrid's area, subject to the limitations indicated in Clause 2.2.

Refer to Network Standard NS117, for details of the equipment installed in these kiosks, including transformers, high voltage switchgear, distributors and electrical protection equipment.

These kiosks are completely assembled and delivered by the manufacturer to a previously prepared site. The manufacturer's representative will contact the Service Provider regarding access to the site and provision of a crane, if required.

2.2 Limitations on Usage, Siting and Installation of Kiosk Types

The following kiosk usage, siting and installation limitations apply:

(a) J type kiosks must be installed as specified in Drawing 151573.

(b) L type kiosks must be installed as specified in Drawing 151572.

(c) K type kiosks must be installed as specified in Drawing 151190.

(d) K type kiosks are not permitted on footpath sites.

(e) Various other usage and siting limitations apply, as specified in Sections 3, 4, 5, 6 and Appendix A.

In addition, Network Standard NS109 *Design Standards for Overhead Developments* includes electrical supply limitations and limitations on usage of the various kiosk types.

2.3 Multiple Kiosks

In some cases, Ausgrid may approve installation of more than one kiosk at a premises. Where approval is given, each installation must comply with the requirements of this Network Standard. Each individual kiosk site must also comply with the site dimensions required in Appendix A and each kiosk must be positioned within its individual site so as to achieve the specified minimum clearances to its site boundary. Unless agreed otherwise by Ausgrid, the HV ends shall be located facing each other (where kiosks are positioned end-to-end), or at the same end (where kiosks are positioned side-by-side).

Where blast resisting barriers are necessary in accordance with the requirements of Section 6, or where the customer requires blast resisting barriers between or beside kiosks, the blast resisting barriers must be constructed in accordance with Section 6 of this Network Standard and must not encroach into the clearance space required around each kiosk.

AS/NZS 2229.2 – Fuel Dispensing Equipment for Explosive Atmospheres.

AS/NZS 2430 – Classification of Hazardous Areas.

Refer to Section 6 regarding fire segregation requirements including requirements relating to locations near gas meters/regulators.

It should be noted that in accordance with AS 2419.1:2005 – Fire Hydrant Installations – Part 1 System Design, Installation and Commissioning – external fire hydrants are required to be located in a position not less than 10m from any high voltage electrical distribution equipment such as transformers (kiosks) and distribution boards to avoid potential electrical hazards."

Kiosk substations must not be sited under overhead high voltage power lines of nominal voltage 22 kV or above. Kiosk substations should not be sited under overhead 11 kV power lines, unless there is no reasonable alternative. Kiosk substations must not be sited closer than 20 metres to a structure carrying 132 kV overhead power lines and where 132 kV overhead power lines are constructed along a public roadway, kiosk substations should not be located on the footpath on the same side.

Kiosk substations must not be sited on land owned or controlled by a rail authority, excepting where the kiosk site is approved by the rail authority and is required to provide supply for that authority or for installations approved by that authority. A kiosk substation sited on land owned or controlled by a rail authority must not be used for supply to an installation external to that land without Ausgrid's special approval and conditions, including special earthing arrangements.

For URD areas in particular, during the initial selection of kiosk sites at the subdivision stage, the likely future locations for swimming pools should be considered. For off-footpath sites, locations adjoining residential backyards or at corner allotments should be avoided.

All kiosk substation sites must comply with relevant Australian Standards and Standards Australia Handbooks including:

- SAA HB 100 – 2000 (CJC 4) Co-ordination of Power and Telecommunications: Manual for the establishment of safe work practices and the minimisation of operational interference between power systems and paired cable telecommunications systems.

Refer also to Network Standard NS116 *Design Standards for Distribution Earthing* for further information on clearance requirements from telecommunications pits and pillars.

3.2 Site Selection

Kiosk substation sites must also comply with the relevant requirements in the following sub-sections for off-street locations or footpath sites.

3.2.1 Off-Street Locations

The minimum site dimension requirements for the types of kiosk substations covered by this Network Standard are as indicated in Appendix A. (Attention is drawn to the Notes in Appendix A, which indicate restrictions on some of the siting options.)

The overall area of land required for the substation site includes sufficient area around the actual kiosk for personnel access, for cable routes, for installation of earthing electrodes and for hinged or removable doors to be opened or removed. The required substation site is therefore much larger than the actual kiosk enclosure footprint.

Refer to Clause 3.8 for details of site tenure requirements.

3.3 Site Plans and Site Preparation

3.3.1 General

In addition to the requirements of this Network Standard, kiosk substations must be installed in accordance with the relevant drawing:

- for J kiosk – drawing 151573
- for L kiosk – drawing 151572
- for K kiosk – drawing 151190.

For contestable work, the developer/customer is responsible for all substation site preparation to the satisfaction of Ausgrid and for all associated costs, including piers, retaining walls and excavation of rock for the kiosk base and cable entries.

Site plans or sketches of each individual substation site must be submitted for approval by Ausgrid, as part of the Design Certification process and before construction proceeds.

Site plans must show existing or proposed structures for a radius of 10 m from the kiosk, the street location name and the name of nearest cross street, the north point and the scale of the plan.

For J and L type kiosks, site contours must be such that the top of the kiosk base is not lower than 120 mm and not more than 240 mm above finished ground level. Refer to the relevant drawings indicated above for details and requirements for K type kiosks.

The kiosk site should not retain surface water and should not be in a location where sub-surface drainage will collect. If this is likely, it will be necessary for a sub-surface drainage system to be installed to the satisfaction of Ausgrid.

Unless specified otherwise by Ausgrid, kiosks installed on footpath sites should be oriented with the high voltage end facing the oncoming traffic i.e. such that the side door (HV connection / tap changer access) is on the property side of the kiosk - not on the road side.

3.3.2 Retaining Walls and Batter

Sites where retaining walls and/or batter would be required should be avoided unless there are no reasonable alternatives.

Where retaining walls and/or batter are necessary, they must comply with the following requirements:

- Retaining walls, including foundations and batter must be external to the minimum overall dimensions of the substation site.
- They must be constructed to the engineering requirements of the local council and the relevant Australian Standards (including AS 3798 and AS 4678). An Engineer's Certificate is to be supplied by the Service Provider on request.
- They must be suitably drained away from the site.
- They must be constructed of non-perishable material such as concrete or brick.
- Backfill must be compacted and be of suitable clean material free from large solid material over 50 mm in diameter.
- If a retaining wall is used, a handrail may also be required.
- In ground other than rock, the level at the top of the foundations for retaining walls must be at or below the level at the bottom of excavations for the installation of cables and / or conduits.

- for K kiosk – drawing 151190

The minimum depth for kiosk piers is the greater of:

- 1000 mm below the underside of the kiosk base level,
- 500 mm below the level of the ground that will be disturbed during excavation for installation of the cables,
- 500 mm below the bottom of any other service line (eg water, sewer, gas, telecommunications, stormwater) within 2000 mm of any one of the piers.

The maximum *length for kiosk piers complying with the design specifications in the above drawings shall not exceed 1500 mm. If it is necessary for piers to exceed 1500 mm in length to satisfy particular site conditions, as indicated below, a site specific design by a qualified structural engineer will be required.

(*length = depth of pier from underside of kiosk base)

Some kiosk site conditions may require pier design to exceed the minimum specifications indicated in the drawings and pier length to exceed 1500 mm. Examples include terraced sites or sites cut into sloping ground, or sites near other large services, such as large water, stormwater or sewer mains. The Service Provider is responsible for ensuring that pier foundations are stable and adequate and for engaging a qualified structural engineer to design pier foundations where necessary. A structural engineer's report may be required in such cases.

Where pier foundations are installed for J, L and K type kiosks, the area around the piers must be backfilled after installation of the piers with sand and compacted to remove voids under the area where the kiosk base will be installed. Excavations under and around the kiosk base for cable installations must also be backfilled with sand and compacted to remove voids.

The kiosk piers must be allowed at least seven days for the concrete to cure before the kiosk base is installed on the piers and before cables are installed in the kiosk base footprint area.

After completion of the installation, the area around the kiosk must be backfilled, compacted and restored to the finished surrounding site level.

3.5 Avoiding Services and Encroachments

For off-street locations, services such as drains, sewers, pipes and wiring, must not pass through or under the kiosk substation overall site area. For exact dimensions, refer to minimum site requirements in Appendix A and the drawings indicated in Clause 3.3.1. Refer also to the above drawings for the range of acceptable entry angles for consumers' mains at the kiosk.

For footpath sites it is generally not possible to have a site, the size of a standard kiosk easement, which is clear of other services. Therefore, instead of the arrangements discussed above, the following requirements shall apply which are in addition to the requirements outlined in Clause 3.2.2:

- there should be no other services directly beneath the footprint of the kiosk,
- there should be sufficient space around the kiosk to allow cables to be connected to the kiosk without encroaching on minimum separations to other services. Minimum separations are generally as follows, however in each case these should be confirmed with the other Utility/Service Providers in accordance with the NSW Streets Opening Conference Guide to Codes and Practices for Streets Opening:
  - Gas pipes ≤ 75mm: 150mm minimum to LV cables, 300mm minimum to HV cables