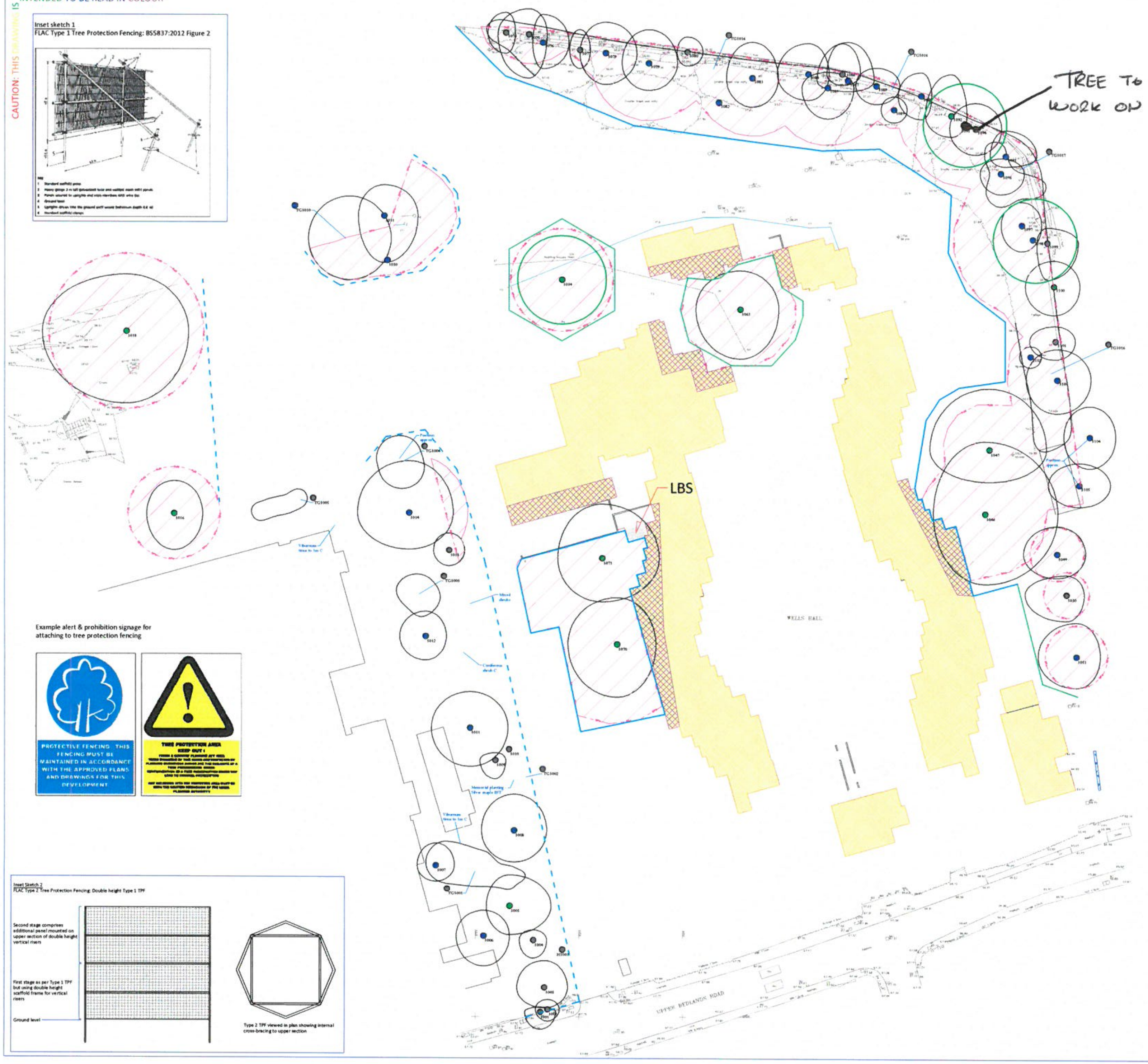
CAUTION: THIS DRAWING IS INTENDED TO BE READ IN COLOUR


Inset sketch 1
FLAC Type 1 Tree Protection Fencing: BS5837:2012 Figure 2
Example alert & prohibition signage for attaching to tree protection fencing
PROTECTIVE FENCING THIS FENCING MUST BE MAINTAINED IN ACCORDANCE WITH THE APPROVED PLANS AND DRAWINGS FOR THIS DEVELOPMENT
TREE PROTECTION AREA
KEEP OUT !
Inset Sketch 2
FLAC Type 2 Tree Protection Fencing: Double height Type 1 TPF
Second stage comprises additional panel mounted on upper section of double height vertical risers
First stage as per Type 1 TPF but using double height scaffold frame for vertical risers
Ground level
Type 2 TPF viewed in plan showing internal cross-bracing to upper section
TREE To WORK ON
LBS
WELLS HALL
UPPER REDLANDS ROAD

REQUIREMENTS FOR TREE PROTECTION DURING DEMOLITION ARBORICULTURAL METHOD STATEMENT

A) PRELIMINARY MATTERS

1. Definitions

Root Protection Area
Critical area for protection in order to ensure the survival of retained trees
Primary Demolition
Demolition of non-retained superstructures
Secondary Demolition
Demolition of sub-structures, including redundant services, and non retained hard surfaces
Operational Exclusion Zone
Area within enclosure of tree protection fencing
Demolition Proximity Zone
Area within ca. 3m of the root protection area and / or near to the crown of retained trees
High Risk Operation
Operation undertaken near to above or below ground parts of retained trees which, if not undertaken with due care (i.e. in accordance with this Method Statement) could result in serious, possibly non-survivable damage to the tree or trees concerned

2. Prior to commencement of any work or operations on site, a pre-start site meeting shall be held between (as a minimum) FLAC, project manager and demolition contractors. This meeting shall:

i) Mark up on site the alignment for tree protection fencing
ii) Agree the scope of access facilitation pruning to trees 3048, 3063, 3070, 3071 and any others identified at the meeting as being at risk of impact damage due to branch proximity to non-retained structures
iii) Agree a method for removal of the large buried structure marked 'LBS' on this plan

3. A specification for tree work comprising approved tree removal (see FLAC dwg no. 31-1017.01-E), crown reduction to trees 3034, 3093, 3098, and access facilitation pruning, shall be prepared by FLAC and passed for implementation to tree contractors (not unskilled personnel) prior to the implementation of physical tree protection measures (see below)

NOTE: This specification is potentially subject to LPA approval pursuant to planning conditions, which could delay the start of demolition

4. The tree work shall be completed prior to any further operations on site. No plant access is permitted for tree work operations on unmade ground within the Operational Exclusion Zone (see below)

B) INSTALLATION OF PHYSICAL TREE PROTECTION MEASURES

5. Following completion of the tree work, physical tree protection measures shall be installed in line with the provisions of BS5837:2012. These measures comprise:

- Tree Protection Fencing (TPF) to **FLAC Type 1** (= BS5837:2012 Figure 2, see Inset Sketch 1) fitted with all-weather tree protection warning signs (see elsewhere on this plan for an example)
- **Either** Tree Protection Fencing to BS5837:2012 Figure 2 (see Inset Sketch 1) **or** site hoarding; in either case this shall also be fitted with all-weather tree protection warning signs
- Tree Protection Fencing to **FLAC Type 2** (see Inset Sketch 2) also fitted with all-weather tree protection warning signs

NOTE: See key for fencing types and locations

6. The TPF (or site hoarding where permitted) is to be set on the alignment shown on this plan, and as marked up on site at the pre-start meeting. **The TPF shall be checked & signed off on site by FLAC prior to any further site occupancy or operations**

C) PROHIBITIONS & PRECAUTIONS

7. The fencing and any existing hard surfaces within the root protection area comprise the Operational Exclusion Zone. Within this zone, the following activities are strictly prohibited during Primary Demolition (other than as described below):

- Excavation / lowering of levels into rootable soil: removal of surface organic matter using hand tools is acceptable; scraping or reduction in depth of topsoil is not
- 'Secondary Demolition'
- Operation, transit or storage of plant, and storage of materials, including demolition arisings
- Storage or handling of any chemical substance injurious to trees, including fuels, oils, lubricants and cement washings

9. The Operational Exclusion Zone shall be established site-wide as set out above, and shall remain in place throughout the demolition process. No elements of the physical tree protection shall be removed or altered without prior written consent from the local planning authority

10. Demolition of superstructures within 3m of tree canopies and / or the operational exclusion zone has a high potential to damage retention trees ('high risk operation'), and requires on-site arboricultural overwatch by FLAC

D) METHODS FOR TREE FRIENDLY WORKING

11. At all locations where Primary Demolition will occur close to retention trees, as identified on this plan (Demolition Proximity Zone: see key), demolition shall be undertaken from the far side of the structure relative to the tree or trees concerned. Superstructure demolition shall proceed by means of the 'top down, pull back' method. This is a high risk operation, requiring on-site overwatch by FLAC

12. Within or immediately adjacent to the Operational Exclusion Zone, Secondary Demolition are high-risk operations and shall be undertaken with site supervision by FLAC

13. Existing hard surfaces within the Operational Exclusion Zone shall be retained and not demolished / removed until completion of Primary Construction

14. Redundant services are preferably disconnected / backfilled and retained in situ; further advice must be sought from FLAC before consideration is given to grubbing them out

15. Excavated removal of foundation footings adjacent to trees 3048, 3063, 3070, 3071 is a particularly sensitive operation (though not to the north of tree 3071) and shall proceed strictly according to the following method:

Case A: Where unmade ground abuts the building
i) The building's floor slab and foundations shall be removed up to the limit of the Demolition Proximity Zone
ii) Once step (i) is complete, the adjacent tree protection fencing shall be temporarily removed adjacent to the former wall to enable formation of an access trench for root pruning
iii) The access trench comprises excavation into unmade ground on the tree side of the footing, along the line of the wall adjacent to the footing's invert depth. It shall be undertaken using compressed air soil displacement to form a trench approximately 150200mm wide. Exposed roots shall be managed as follows:

BS5837:2012 7.2.2 ff

7.2.2 *Roots, whilst exposed, should immediately be wrapped of covered to prevent desiccation and to protect them from rapid temperature changes. Any wrapping should be removed prior to backfilling, which should take place as soon as possible.*
7.2.3 *Roots smaller than 25mm diameter may be pruned back, making a clean cut with a suitable sharp tool (e.g. bypass secateurs or handsaw), except where they occur in clumps. Roots occurring in clumps or of 25mm diameter and over should be severed only following consultation with an arboriculturist, as such roots might be essential to the tree's health and stability.*
7.2.4 *Prior to backfilling, retained roots should be surrounded with topsoil or uncompacted sharp sand (builders' sand should not be used because of its high salt content, which is toxic to tree roots), or other loose, inert granular fill, before soil of other suitable material is replaced. this material should be free of contaminants and foreign objects potentially injurious to tree roots.*

NOTE: Where the text above states 'should' for the purposes of this Method Statement the interpretation is 'shall'

iv) On completion of root pruning, the building side of the trench (i.e. adjacent to the footing) shall be boarded off with shuttering ply or similar. The shuttering ply shall stand out of the ground by ca. 500mm as a marker to the limit of excavation v) Once the shuttering ply is in place, a screened topsoil backfill shall be applied to the trench
vi) The tree protection fencing shall be reinstalled prior to step (vii) below
vii) The remaining floor slab and footing shall be removed carefully in stages, by means of an excavator standing on / within the footprint of the demolished building. **The excavator shall not work in the protected rooting soil of the RPA**, i.e. soil lying beyond the line of the shuttering ply

Case B: Where a hard surface abuts the building
i) The building's floor slab and foundations shall be removed up to the limit of the Demolition Proximity Zone; this may proceed expeditiously using heavy equipment as required
ii) The remaining floor slab and footing shall be removed carefully in stages, by means of a mini-excavator and hand-held breakers standing on or used from / within the footprint of the demolished building. **The excavator shall not work in the protected rooting soil of the RPA**, i.e. that lying beyond the line of the tree protection fencing
iii) If, during this operation, it is found by FLAC that tree roots have not proliferated adjacent to the footing, its removal may proceed with heavy equipment providing that the soil within the Operational Exclusion Zone is left undisturbed

16. Throughout the the demolition process, the following recommendations shall be strictly observed:

BS5837:2012 6.2.4.1

6.2.4.1 *Planning of site operations should take sufficient account of wide loads, tall loads and plant with booms, jibs and counterweights (including drilling rigs), in order that they can operate without coming contact with retained trees. Such contact can result in serious damage to the trees and might make their safe retention impossible. Consequently, any transit or traverse of plant in proximity to trees should be conducted under the supervision of a banksman, to ensure that adequate clearance from trees is maintained at all times. Access facilitation pruning should be undertake where necessary to maintain this clearance*

Note: In some instances local planning authority consent for pruning might be required

NOTE: Where the text above states 'should', for the purposes of this Method Statement the interpretation is 'shall'

FORBES-
LAIRD
ARBORICULTURAL
CONSULTANCY

Client
University of Reading

Instruction
Wells Hall

Instruction ref.
CC31-1017

Dwg title
Tree Protection Plan
(DEMOLITIONS)

Dwg no.
31-1017.04

Date
12.10.12

Scale
1:250 @ A0

Key

- Indicative tree root protection area
- ○ Extent of proposed crown reduction to imbalanced trees
- ☐ Type 1 Tree Protection Fencing
- ⬚ Type 1 Tree Protection Fencing or site hoarding
- ☐ Type 2 Tree Protection Fencing
- ▨ Demolition Proximity Zone: special precautions required
- ■ Non-retained structures comprising Primary Demolition

General notes

1. Do not scale off dwg:

i) Refer to tree survey data schedule for crown spreads etc and prove on site
ii) Refer to dimensions on plan for TPF setting out

2. Tree group outlines follow the topo survey and must be proved on site

3. Drawn to N

[illegible]
[illegible]
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[illegible]

5m 10m 20m