BUSHY LEAZE HAVANT: PROPOSED SHARED FOOTPATH & CYCLEWAY

Arboricultural Impact Assessment and Method Statement.

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I have been requested by the Civil Engineering and Landscape Team at Havant Borough Council to provide this Impact Assessment and Method Statement.

The proposal is to construct a shared footpath and cycleway from the northern edge of Havant, to the outskirts of Waterlooville, largely following the course of the Hermitage Stream.

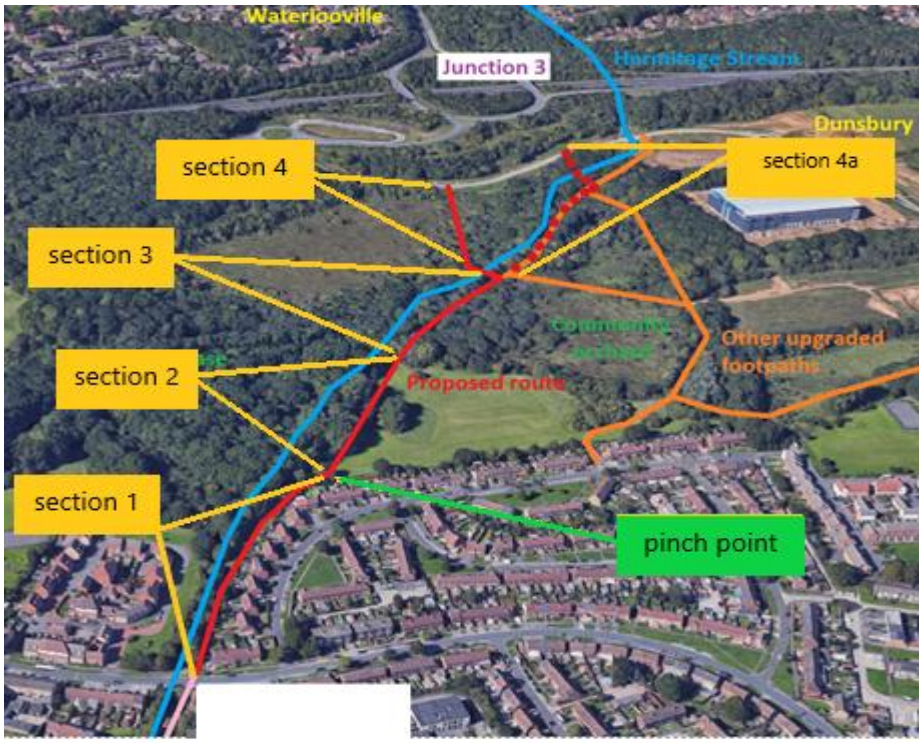
Starting from the Havant end, roughly two thirds of the route will be an upgrade of existing well used footpaths, then the route will bridge the Hermitage Stream and continue as a new path over grassland and scrub before connecting with Fitzwygram Crescent.

This is a highly important scheme in terms of enabling pedestrians and cyclists to get to the outskirts of Waterlooville avoiding the Hulbert Road, which is a 40mph, high traffic volume, partially unlit route with no footpaths.

The shared path will be 3m wide and requires 3m either side clear of trees and shrubs.

The preferred surface is tarmac but this is not an absolute requirement. I have not been advised of any proposed construction – for example drainage or lighting - other than the actual path.

Proposed route and existing paths

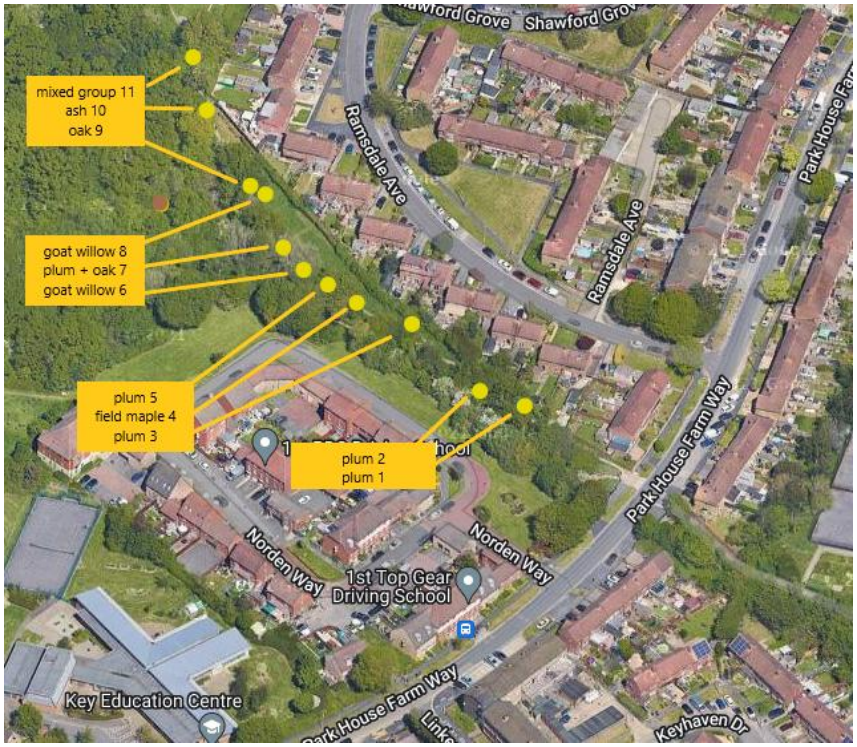


Proposal is in four sections; there are two possible final sections, 4 and 4a

Arboricultural Impact Assessment

The proposal – subject to the provisions of the Arboricultural Method Statement (AMS) - will have a minor impact and I am able to fully support the proposal, whether the option is for section 4 or section 4a.

- If section 4 is used, up to approximately 41 trees will have to be removed mostly in section 3, this figure includes approx. 12 trees in "mixed group 11". If section 4A is used, an additional 12 trees will have to be removed and an additional 28 hazel clumps. In terms of BS5837, with the exception of one category B tree, all trees are lower than category A or B. This number of tree removals represents only a minor reduction of the total tree cover across the area the route passes through. The remaining woodland both sides of the path (sections 3 and 4A) should rapidly backfill itself as tree canopies spread to fill the spaces created by removal of trees.
- Extensive amounts of scrub will be removed in section 3;
- Substantial tree pruning will be required in section 1 and minor amounts elsewhere;
- Damage to roots will significant in section 1, 3 and 4A where only low grade trees will be affected and "collective resilience" (see elsewhere in this report) will exist.



Section 1

This section is 213m in length starting at Park House Farm Way and ending at a pinch point at the entrance to a meadow. The existing path is of porous aggregate construction. At the start this section is 4-5m wide, opening up after a steel barrier to a maximum of 17m then narrowing to 6m at the pinch point. On the left is a continuous belt of shrubs and trees - dogwood, wild plum, hawthorn, goat willow and ash - behind chain link fencing defining the Hermitage Stream corridor. This belt has what I will call collective resilience - it is a dense unbroken mass of scores of individual trees and shrubs. If individuals are removed or harmed above or below ground, other surrounding trees and shrubs will backfill any lost vigour or growth where necessary. A simile is that when a bucket of water is taken out of a pond this does not leave a hole.

At the pinch point, on the right is a mixed deciduous group. There are no significant trees in the gardens of Ramsdale Avenue. Between the steel barrier and the pinch point, on the right, are generous amounts of dogwood forming a solid clump that provides valuable screening for residents.

I have identified in this section 10 trees and 1group:

ID	***recommended***	***notes***
Plum 1	fell	overhead obstruction could injure path users by impact
Plum 2	crown raise to 3m and remove 1 primary stem	overhead obstruction could injure path users by impact
Plum 3	remove 1 primary stem	overhead obstruction could injure path users by impact
Field Maple 4	crown raise to 3m	to provide clearance over path
Plum 5	fell	partially collapsed, unsafe
Goat Willow 6	fell	insecure multi stem - unsafe
Plum + oak 7	crown raise to 3m	to provide clearance over path
Goat Willow 8	fell	leaning 45 degrees over route
Oak 9 (12 stems)	crown raise to 3m;	to provide clearance over route
Ash 10	no work required	extensive ash dieback
Group 11: ash 4 stems max dia 300mm at 1.5m with significant ash dieback; Field Maple; hawthorn; dogwood	remove most of this group	to create sufficient width for path

On the narrower sections a general hard cutback to the chain link fencing will be needed.

Section 2

Section 2 is 211m in length, from the pinch point, along the edge of a recreational meadow to the edge of woodland. To the left is continuous tree and shrub cover – hawthorn, dogwood, hazel, ash, oak - mostly within the Hermitage Stream fencing but spilling over the fence line into the meadow in places. On the right is a large round clump of mostly willow and poplar with some oak and other deciduous species.

Individual features identified in section 2 are:

ID	***recommended***	***notes***
ash group 12 – six or so large mature trees	no work required	well established ash dieback
oak 13	no work required	
clump 14 – willow, poplar, oak, other deciduous	clear away fallen poplar remains	may obstruct route
oak 15	no work required	
ash 16	may require light crown lift over route	

Section 3

This is 250m or so in length, starting at the edge of the wooded area and ending at the point where the path will bridge the stream, which is close to where a stone path branches off to the right – see figure 1.

To left, the Hermitage meanders through dense scrub and semi-woodland. To the right is woodland which can almost – not quite – be described as scrubby. Nonetheless it is woodland and has good potential. This is new woodland that seems to have naturally established over the last 30 years or so and is predominantly oak. Other frequent tree species are ash, hawthorn, plum, Goat Willow and other willows. There are two large swathes cut through this woodland under two sets of overhead power lines.

There is no option than to cut a 9 metre wide swathe through this woodland to accommodate the path. A very large amount of scrub and bramble will have to be cleared almost all the way along both sides. Then there are numerous specific trees that will have to be removed, approximately 24 in all, all mature or semi mature. These trees are not plotted or marked but are noted from the point where, a few metres into the wood there is a mature willow on the right.

Referenced to this willow I recommend the following trees require removal (although as highlighted some removals may be optional):

On Right or Left	*Reference Point*	*Details + approx dia at 1.5m*
R	20m on from reference willow R plum 3 stems	Plum 3 stems
R?	4m further on from previous tree	Hawthorn multi
R	Between the 2 sets of overhead lines	Oak 250mm
R	Between the 2 sets of overhead lines	Oak 300mm
L	Between the 2 sets of overhead lines and opposite the two previous oaks	Plum x 2 5 stems 100mm avg
L	Right under second set of overhead lines	Plum, 3 stems all 100mm dia avg Oak 150mm Oak 2 stems, 100mm+150mm
R	Just after second set of overhead lines	Oak 150mm
R	10m on from previous oak	Hazel multi
L	8m layer on from previous hazel	Oak 200mm Oak 100mm Oak 125mm
R	13m on from previous 3 oaks	Hazel multi x 2
R	6m on from previous hazel x 2	Oak 400mm 'B' category KEEP – may be within 3m
R	8m on from previous oak	Oak 125mm Oak less than 125mm
R	4m on from previous oak x2	Oak 200mm could keep?
L	Opposite previous oak	Oak 125mm Hazel multi
L+R	8m on from previous oaks and hazel Oak on L leans, 300mm, right on bank and Oak opp 200mm but 9m between the two;	Oak on L 300mm leaning, right on stream bank Oak on R 200mm keep one of these?
R	14m on from previous 2 oaks	oak 300mm badly damaged
R	8m on from previous oak	Oak 300mm keep? May push path too close to stream?
R	10m on from previous oak, after side path to R	Fallen mass of willow

The cutting of this 9m swathe is quite a significant action but no trees of individual high quality will be removed and and the total area of woodland will only be slightly reduced.

Orchids in grassland below Fitzwygram Crescent

Section 4

Section 4 is a length of 218m from the bridge to where the path will terminate at Fitzwygram Crescent. Providing the bridge crossing is at the point I have recommended, this section of the path is entirely across grassland and scrub. I was unable to identify the exact route the path will take, due to the density of scrub and the generally difficult terrain. Subject to seeing the route marked out in this section, I can advise that there are no arboricultural implications because as yet, no significant trees have established. Although not in my remit, I can advise that this section appears to be across an area of very high ecological importance – predominantly wild grassland, albeit turning to scrub which in turn will progress to woodland. Expert ecological management of this area may be a high priority.

Section 4a

Section 4a is an alternative to section 4. Instead of turning west at the end of section 3 then crossing the stream, the 4a section will continue to follow the existing Right of Way for 100m or so, diverging away from the stream by approximately 80m, then turning west back to and crossing the stream before bridging a swale and crossing a small width of grassland to join Fitzwygram Crescent. This section is through low grade woodland of an identical nature to which section 3 runs through but just coming marginally into a mature high quality woodland with a typical hazel coppice under mature oak and ash canopy structure. This route requires the removal of additional sub standard trees along the Right of Way, set out below.

On Right or Left	***Reference Point***	***Details + approx dia at 1.5m (mm)***
L		hawthorn
L		Willow 250 + 150 falling over path
L		Willow 300 + 250 falling/fallen over path
L		Willow mass 200 x 2 fallen over path
R		Oak at fork in path 150
R		Willow mass 250 and smaller broken/fallen over path *habitat in crevices*
R		Willow mass 250 and smaller fallen
R		Willow mass 100 and smaller
R		Willow mass 100 and smaller (in pref to removing oak opposite)
L		Willow 400 fallen over path
L		Plum mass 200 and smaller
R		Oak 200

Route 4a also requires the removal of 28 small trees and hazel clumps to create the route from the Right of Way westwards to the stream crossing point. This stretch of approximately 70m length is within the high quality mature hazel and oak woodland. The path will pass close by a number of high quality mature and veteran forest trees, in order from the RoW westwards:

Veteran oak by ditch on RoW	500mm dia at 1.5m
Veteran oak	500mm dia at 1.5m

Veteran oak	900mm at 1.5m
Veteran oak	1000mm at 1.5m
Mature oak	400mm at 1.5m
Mature oak	900mm at 1.5m
Veteran ash	100mm at 1.5m

At the crossing point a mature multi stem alder and a mature alder are situated on the east bank 6m apart. There is room for the path to pass between these two trees but the design at this point, where the path will merge onto the bridge, must take into account the need to avoid root damage to these two important trees.

This section 4a brings the path to a bridging point level with the outfall at the upper end of the swale where a second bridge is envisaged and across a short section of open grassland – no trees or shrubs - onto Fitzwygram Crescent. Well established new tree planting exists on this grassland but there is a 20m wide gap from level with the outfall, to the next new tree downstream.

Method Statement – actions to minimise impact on trees.

General

Construction type: in the woodland section 3 the construction should be entirely built-up no-dig and I recommend a porous rolled stone finish. The route should centre on the existing path to minimise the need for felling and scrub clearance. Reason: whilst the woodland has collective resilience, vast amounts of root would be severed, which may have a detrimental effect on adjacent trees and would be likely to draw severe criticism from the public for this reason. If section 4A is chosen, I recommend built-up no-dig construction continuing along the RoW from section 3, for the same reasons as above. However, where section 4A enters the hazel/oak/ash woodland and turns west to cross the stream, this 80m section MUST be built-up no-dig because the route will then be within the Root Protection Areas of large mature high quality oak and ash. Construction of the bridge on the 4A section must be planned so as to not damage the root systems of the two alders on the eastern stream bank – these are mentioned in the specific section "section 4A" below. Elsewhere my view is that no-dig construction is not essential because of the very low risk of significant damage to tree roots.

Protective fencing: in my view protective fencing for retained trees would not be mandatory due to the low risk of damage to above-ground parts of trees but I recommend Heras type mesh panels should be considered as continuous precautionary protection along both sides of the woodland section 3 and section 4A

Surfacing: I recommend no tarmac surfacing is used for section 1, 3, 4A due to the likelihood of the tarmac being disrupted by roots over time. A stone topped path is more able to accommodate root expansion and is relatively easy and inexpensive to repair. Tarmac may be preferred on section 2 and 4 where the risk of root disruption may be lower.

Ecology: all tree removals and pruning and scrub removal must be carried out in the winter months and I strongly recommend this work is limited to December and January.

Bridge: If the stream crossing can be pushed to 15m beyond the side path, the section 4 bridge will be constructed at a point where there is a wide break in the tree cover. No trees would need to be removed to accommodate the bridge at this point but the bridge would not cross the stream at right angles so a longer span would be needed. If the bridge cannot be placed at this point, an amendment to the impact assessment would be required. Specific comment relating to the optional section 4A bridge is elsewhere in this report.

Section 1:

- Set the path as far away from the tree belt as space and other factors permit. Reason: to minimise the need for cutting back of the tree belt and to minimise root damage.
- Fence off the dogwood on the right. Reason: to prevent accidental damage during construction – not a tree species but is ecologically valuable, provides screening for residents, provides opportunities for tree species to establish

Section 2

- Set the path as far away from trees on the left, as possible. I recommend pushing the path so the left edge is 3m outside the general extent of the shrub layer canopy. Setting it 3m outside the branch tips of the larger trees would push the path too far from the existing route and would not be necessary in any case as a tree protection measure;
- Route the path at the mid point between the tree belt on the left and the clump 14. The trees either side at this point have collective resilience;

Section 3

- Use a no-dig built-up construction throughout
- Consider the use of continuous Heras type fencing both sides

Section 4

- No tree protection measures required.

Section 4A

- Use a no-dig built-up construction throughout
- Consider the use of continuous Heras type fencing both sides
- Continuous Heras type fencing both sides and no-dig construction is a MUST on the east to west section at the north end of 4A. Regular Heras will not be practicable on the east bank of the stream so a method of protecting the two alders on the east stream bank from accidental above-ground impact must be submitted.
- The anchoring of the bridge on the east side of the stream must be designed to as to not damage the two alders and a design must be submitted for this aspect.