	<b>Tree Condition Inspections / Surveys Supply Chain Brief</b>		Ref: For issue	Ver: 1.8
			Date: 21/05/2020	
			Asset Delivery – South West	

## SWAD 2020 Tree Condition Surveys

### Phase 2: M5 Junction 9 (Tewkesbury) to Junction 31 (Exeter)

Excluding the SMART Motorway Zone

#### Background

The Highways England SWAD (South West Asset Delivery) contract is responsible for a defined arrangement of motorway and trunk road lengths that cover some 820km of the national Strategic Road Network (SRN).

Highways England has specific guidance within an Asset Delivery contract model for the inspection of network assets. These are detailed in GS801 'AD Asset Inspection Requirements'. The role of Highways England (Operations Directorate) is to manage and undertake the planning and delivery of surveys to meet GS801, which includes both safety and condition inspections.

GS801 specifies that tree condition inspections shall "assess and record condition of trees within the affected property and those within falling distance of the highway boundary – identified on a risk based approach, with at least 20% of trees inspected annually". These should capture all trees that are the responsibility of Highways England and trees which although the responsibility of others may present a hazard to the highway. However, it is not realistic or practical to assess every tree captured by such criteria and to assign a condition grade. The focus and aim of this survey is therefore to identify trees with safety critical defects or reactive defects, from which the service provider (the 'Consultant') should assess the defect(s) in order to recommend appropriate works or re-inspection requirements. The minimum level of assessment that should be carried out for trees or tree groups with identified defects is a 'detailed Technical Survey'.

#### Pre-requisites to Field Activity

##### Health & Safety / Safe System of Work

The following will apply:

- The *Consultant* is responsible to ensure that all field staff are appropriately inducted by a competent person on all activities required by the brief. The Highways England 'South West Network Induction' is available to support the *Consultant* with their induction. Evidence of staff induction is required.
- The *Consultant* must have in place Safe Systems of Work, Risk Assessments and a Method Statement that are specific to the activities proposed. These should be provided to the Highways England Technical Surveys Manager for review prior to any site activity.
- All field staff must have a MAPPA Motorway Pass, for which application details will be provided.
- The field survey team must not enter the M5 SMART Motorway Zone (sections under variable speed limits), which operates a 'Permit to Access' system. For the purpose of this brief, the exclusion extends between marker posts 130/4 and 135/9.
- The *Consultant* must place and be competent to place 'Surveying' signs on the network where field staff are visible to road users for periods exceeding 15 minutes. Such signs are considered to be information signs, not instruction signs, therefore the person(s) placing them do not require Chapter 8 sector scheme certification. Signs should be placed 1.2m away from traffic and facing oncoming traffic.
- If stopping or parking in the hard shoulder, verge or a maintenance hard standing space, the survey vehicle must be marked up appropriately for Highways Maintenance (Chapter 8 compliant). If an unmarked private vehicle is used, it may only be used in the same way as any other road user (i.e. no stopping or parking in the hard shoulder, on the verge, no parking within maintenance hard standings).
- If temporary traffic management is required to safely inspect / survey any trees, the road lengths will need to be identified by the *Consultant* and details provided to [SWSurveys@highwaysengland.co.uk](mailto:SWSurveys@highwaysengland.co.uk).
- Traffic management and road space booking will be arranged by the Highways England Technical Surveys Manager and provided by Highways England supply chain at no cost to the *Consultant*.
- Some 4 to 6 weeks is usually required to make the necessary arrangements for traffic management and it is subject to road space being available. The provider of traffic management would become Principal Contractor for these elements of the survey and their safety requirements will need to be complied with.
- It is a requirement that all persons working on the Highways England network wear high visibility long sleeved yellow jackets and trousers, and protective footwear at all times. Other personal protective equipment identified in the *Consultant's* Risk Assessment must also be worn as and when appropriate.
- It is prohibited to cross any live Highways England carriageway on foot, including slip lanes up to the node point where the SRN switches to County road. Crossing a live County road is not prohibited.

	<b>Tree Condition Inspections / Surveys Supply Chain Brief</b>	Ref: For issue	Ver: 1.8
		Date: 21/05/2020	
		Asset Delivery – South West	

- l) The Regional Operations Centre must be advised in advance of accessing the network, then at arrival on site and finally on departure from site.
- m) No access should be made onto private land without prior consent of the landowner / tenant / occupier.

### Competencies

The *Consultant* must have NHSS Sector Scheme 18A accreditation covering Arboricultural Activities.

Inspecting surveyors are required to have the following credentials:

- Professional Tree Inspectors (PTI) competence;
- Quantitative Tree Risk Assessment (QTRA); and
- CSCS / LISS Card.


### **Task Specific Brief – Phase 2**

This 'Supply Chain Brief' is for the following motorway length, of approximately 186.5km\*:

- M5 Junction 9 (Tewksbury) to Junction 31 (Exeter), being from Marker post 70/0 to 261/9.  
\* excludes the M5 SMART Motorway Zone taken as between MP 130/4 and MP 135/9.

The following activities are to be carried out to meet the Tree Condition Survey requirement:

- 1) Inspect all trees alongside the stated Phase 2 motorway length where they are considered to be within falling distance of the carriageway, and in addition inspect all trees within Highways England soft estate that are within falling distance of the estate boundary or have the potential to affect pathways used by the public within plots. Undertake a detailed Technical Survey for all trees with identified hazards and / or defects, to assess the level of risk and make management recommendations including any treatments and re-inspection frequencies if different to the stated 5 year requirement.
- 2) The inspection / survey should record and report on any observations of Ash Dieback (*Chalara fraxinea*), *Phytophthora ramorum* or Chestnut Blight (*Cryphonectria parasitica*) as a defect, although it is not required to survey specifically or exhaustively within large plots for symptoms of these infections.
- 3) For those trees which require treatment action and/or increased survey frequencies, identify / confirm the landowner (and the tenant, if applicable) for each tree / tree group.
- 4) For each tree / tree group that requires treatment action or an increased survey frequency, prepare a 'Tree Survey Sheet' in a format suitable for issue to Highways England contractors / third party land owners / local authority Tree Officer's, as appropriate. The example format given in Appendix A can be assumed as a minimum requirement, providing:
  - Name, address and contact details of land owner(s) and tenant(s);
  - Location plan / map, description of location of tree(s), marker post and Grid reference;
  - Tree species and description, with colour photograph(s) to identify tree(s) and location / situation;
  - Tree tag number, for identifying trees on Highways England land;
  - Description of tree defect(s), with Health Class for trees with Ash Dieback (refer Appendix B);
  - Description of required treatment and/or frequency of survey, as appropriate;
  - Urgency / priority of treatment, as follows: Safety Critical Defects would require a 24-hour Response. Reactive Defects are divided into High priority – within 28 days, Medium priority - within 6 months, Low priority - within 12 months.
  - Bat potential for those trees requiring treatment action; and
  - Any other supporting detail, as appropriate.
- 5) If the marking of trees on private land is advantageous to assist future identification, this should be agreed with the landowner (and tenant, if applicable) in the first instance.
- 6) For trees with a Safety Critical Defect, details should be notified immediately to the Regional Operations Centre, and advised at soonest opportunity to the Highways England Environmental Manager. This should inform which part of the tree requires treatment to make it safe. A two-stage approach may be adopted if the removal of specific branches or the top of the tree would make it safe in the interim, followed up if necessary, by a Reactive Defect action.

	<b>Tree Condition Inspections / Surveys Supply Chain Brief</b>	Ref: For issue	Ver: 1.8
		Date: 21/05/2020	
		Asset Delivery – South West	

- 7) High priority Reactive Defects should be advised weekly to the Highways England Service Manager, copied to the Highways England Environmental Manager. Again, a two-stage approach may be recommended so the tree is made safe initially, then remaining works undertaken as Medium priority.
- 8) As field activity progresses the *Consultant* must inform the Highways England Environmental Manager fortnightly of percentage completion along the route, and provide the Environmental Manager with a summary of all defects monthly and then a final summary on completing the survey.
- 9) A report should be prepared for the route entitled “Highways England SWAD 2020 Tree Condition Surveys – Phase 2: M5 Junction 9 (Tewksbury) to Junction 31 (Exeter) - excluding SMART Motorway”. This should be submitted to the Highways England Environmental Manager in draft by no later than 12<sup>th</sup> October 2020 and as a final report by no later than 2<sup>nd</sup> November 2020.

### Safety Critical Defects

Safety Critical Defects are those that require prompt attention because there is an immediate or imminent risk of either one or more of the following:

- Injury to any party using or repairing the network;
- Significant disruption to the normal flow of traffic through the network;
- Structural deterioration of part of the Network;
- Damage to a third party's property or equipment;
- Damage to the environment;
- Liable to leave Highways England in breach of one or more of his statutory duties;
- Failure to effectively enforce the legality of an asset that has a mandatory or prohibitory function;
- Failure of an asset to fulfil its intended function where such an asset protects the road user and/or facilitates the safe use of the network; or
- Offence to road users from graffiti that is obscene, blasphemous or otherwise offensive.

### South West Operational Estate

This survey requires knowledge of the Highways England operational estate. The extent of the estate should be taken from the latest base layer of EnvS (Highways England Environmental Information System). The soft estate layer and road marker post layer will be provided by the Highways England Environmental Manager.

### OS Mapping

The Highways England [GeoStore](#) website enables the OS base mapping required for this project to be requested and downloaded, subject to initial registration and then approval on application for specific data.

### Reporting

Contents of the report must include but is not limited to a brief introduction, scope, methodology, survey limitations, a brief summary of the survey findings, survey results in the form of summary tables, and overview plans of the route showing tree locations referenced to the summary tables. The overview plans and aforementioned ‘Tree Survey Sheets’ must be presented in appendices. The summary tables, overview plans and ‘Tree Survey Sheets’ must separate carriageway direction and be presented in the direction of travel, adopting the convention that the first direction reported is implicit in the survey title.

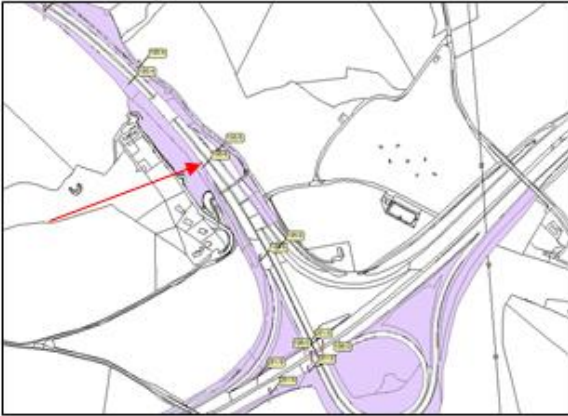

One hard copy and an electronic copy of the final report should be issued to the Highways England Environmental Manager. An unlocked Excel spreadsheet of the summary tables presented in the report should also be provided so Highways England can develop the necessary follow up actions. All information obtained and issued in delivery of these surveys will become the property of Highways England and may be stored or used by Highways England or its agents for the purpose of managing the Strategic Road Network.

### Highways England contacts





Environmental Manager: Peter Williams, Ash House, Exeter. Tel 0300 470 1959; Mob 07841 066685  
 Technical Surveys Manager: Mike Best, Chelston Outstation, Wellington. Tel 07841 067293  
 Regional Operations Centre: Duty Officer, Bristol. Tel 0117 316 5717  
 M5 Jn 9 to Jn 20 Service Manager: Steve Pearson, Brunel House, Almondsbury. Tel 07841 066834  
 M5 Jn 20 to Jn 31 Service Manager: Gavin Johnson, Chelston Outstation, Wellington. Tel 07841 067083

	<b>Tree Condition Inspections / Surveys Supply Chain Brief</b>		Ref: For issue	Ver: 1.8
			Date: 21/05/2020	
			Asset Delivery – South West	

## Appendix A: 'Tree Survey Sheet' – example format

Tree Condition Inspections 2017	
Tree Inspection Sheet: A30 Devon westbound	
<b>Owner/Tenant/Agent</b> Highways England	
<b>Tree Number</b> 0007	
<b>Grid ref</b> SX927881	
<b>Marker post</b> 195/6	
<b>Location</b> Woodland adjacent to Little Silver Lane, west of footbridge	Location of tree (arrowed)
<b>Species</b> Elm	<b>Description</b> Single medium sized tree
<b>Defects</b> Dead tree which may break up into carriageway	
<b>Treatment</b> Remove tree	<b>Priority</b> Medium
	



Canopy Condition*				
	<b>Ash Health Class 1</b> 1% - 25% Canopy Loss	<b>Ash Health Class 2</b> 26% - 50% Canopy Loss	<b>Ash Health Class 3</b> 51% - 75% Canopy Loss	<b>Ash Health Class 4</b> 76% - 100% Canopy Loss
Highways England owned tree	No action	Record presence	Instruct works (likely to be part of programmed works)	Instruct works (likely to be reactive, increasingly urgent works)
Privately owned tree with public target – owner identified and able / willing	No action	Make aware, recommend professional advice is sought and action taken	Requires action (likely to be formal request /notification)	

\*images sourced from Suffolk County Council Ash Health Assessment System (©Gary Battell)

When assessing what action is necessary / appropriate, fully assess the condition of the crown and how likely a part is to fail onto a target, think about:

- how long has the tree/affected limb been dead, is there twig structure still present, is there dead / flaky bark associated?
- are there large lesions or bark dysfunction girdling stems / limbs, has major deadwood formed and where is this in relation to the target?
- is there evidence of basal lesions or secondary infection / pathogens?

When confident of the likelihood of failure apply the tree risk matrix, and action according to the defect category and response times. Follow appropriate flows for highway and environment tree defects. **Where we are requiring action from landowners within specified time frames and utilising statutory powers, officers must be certain this is both appropriate and necessary!!**

**Note.** At 51% - 75% canopy loss (i.e. Ash Health Class 3) wood is becoming brittle and a pathway for secondary infections, such as those caused by honey fungus (*Armillaria sp*) which can significantly increase mortality rates and increase the occurrence of root heave. Impacting upon the safety of stakeholders, operatives, etc and upon both cost/methods of working, wherever possible remedial works should be initiated at the earliest opportunity. **Once crown dieback is within Class 3 as shown above the tree is unsafe for a climber to climb and requires removing by mechanical means, i.e. a MEWP, tree shear, etc. which increases the cost of works.**