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Expert Management and Monitoring

Invasive Species Survey and Management Plan

Heywood Stores, Oldham

Trammel Crow

R-EE-6197-01

July 2022

Report Reference:	Invasive Species Survey and Management Plan Heywood Stores, Oldham
Report Reference:	R-EE-6197-01
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The information which we have prepared and provided is true and has been prepared and provided in accordance with the CIEEM's Code of Professional Conduct. We confirm that the opinions expressed are our true and professional bona fide opinions. This report does not constitute legal advice.

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Introduction

Ecological Estates Ltd was commissioned by Trammel Crow to provide an Invasive Species Survey and Management Plan for land at Heywood Stores, Oldham. The Site’s boundary indicating the areas surveyed is shown in Figure 1 below.

This survey report and management plan aim to identify the presence of invasive non-native species (INNS) on the site and provide information on how these can be controlled and managed through development in order to ensure compliance with relevant legislation and environmental responsibility.

The objectives of this plan are to:

- Confirm the surveyed extent of invasive non-native species (INNS) in relation to existing land use and proposed development plans;
- Set out clearly the obligations / requirements to manage INNS;
- Present a means by which INNS will be controlled and managed before, during and after development of the site for up to a period of 5 years.

Figure 1 Site red line boundary



Site Description

The Site is mostly comprised of large warehousing with associated access roads and car parking. Surrounding this are landscaped areas with lawn and managed shrub beds. There are some areas of more natural vegetation towards the north western boundaries where trees and scrub are present.

Survey method

The site was surveyed by walk-over observation of all accessible areas on the 25th May 2022 in order to identify and map the presence of INNS present within the site and its immediate surroundings. Results have been compiled in a geographical information system (GIS) in order to produce location plans. Scaled overlays allow identified infestations to be assessed in relation to existing land cover and planned development.

INNS species identified

Survey identified four plant species growing on the site that are designated under Schedule 9 of the Wildlife and Countryside Act (1981 - as amended) -

- Japanese knotweed (*Reynoutria japonica*)
- Himalayan Balsam (*Impatiens glandulifera*)
- Rhododendron (*Rhododendron ponticum*)
- Cotoneaster (*Cotoneaster sp.*)

There are 5 species of Cotoneaster listed under Schedule 9. The surveyed plants are assessed to be Scheduled species though identification to species level can be very difficult.

Survey results are presented on the following pages as mapped figures, photographs and descriptions of specific INNS stands identified during survey.

Limitations

This plan has been prepared with due care and attention, in accordance with industry best practice and guidance. The conclusions presented in this plan represent our professional judgement based upon the information available (or provided to us) and conditions existing on the date the site has been surveyed.

The Site was surveyed by a PCA certified surveyor. All accessible external areas were inspected, however some areas of dense vegetation were present which may have reduced the detectability of INNS plant growth in particular locations. The survey made an assessment of these areas by observation from surrounding vantage points.

Whilst every effort has been made to access and inspect the Site as thoroughly as possible, due to limited access, limited sight lines in certain areas, and the evidence of recent vegetation clearance, Ecological Estates cannot guarantee that the full extent of all INNS has been identified. Monitoring surveys carried out during and following treatment or control works can provide assurance that the occurrence of INNS on the site is identified at the earliest opportunity and can be effectively controlled.

Figure 2

Whole site: All INNS stands identified through survey



- Invasive Species
- × Himalayan balsam
 - Japanese knotweed (*Fallopia japonica*)
 - Rhododendron (*Rhododendron ponticum*)
 - Cotoneaster (*Cotoneaster* sp.)

Himalayan balsam mapped as points does not indicate individual plants but the location and relative density of growth pattern observed during survey.

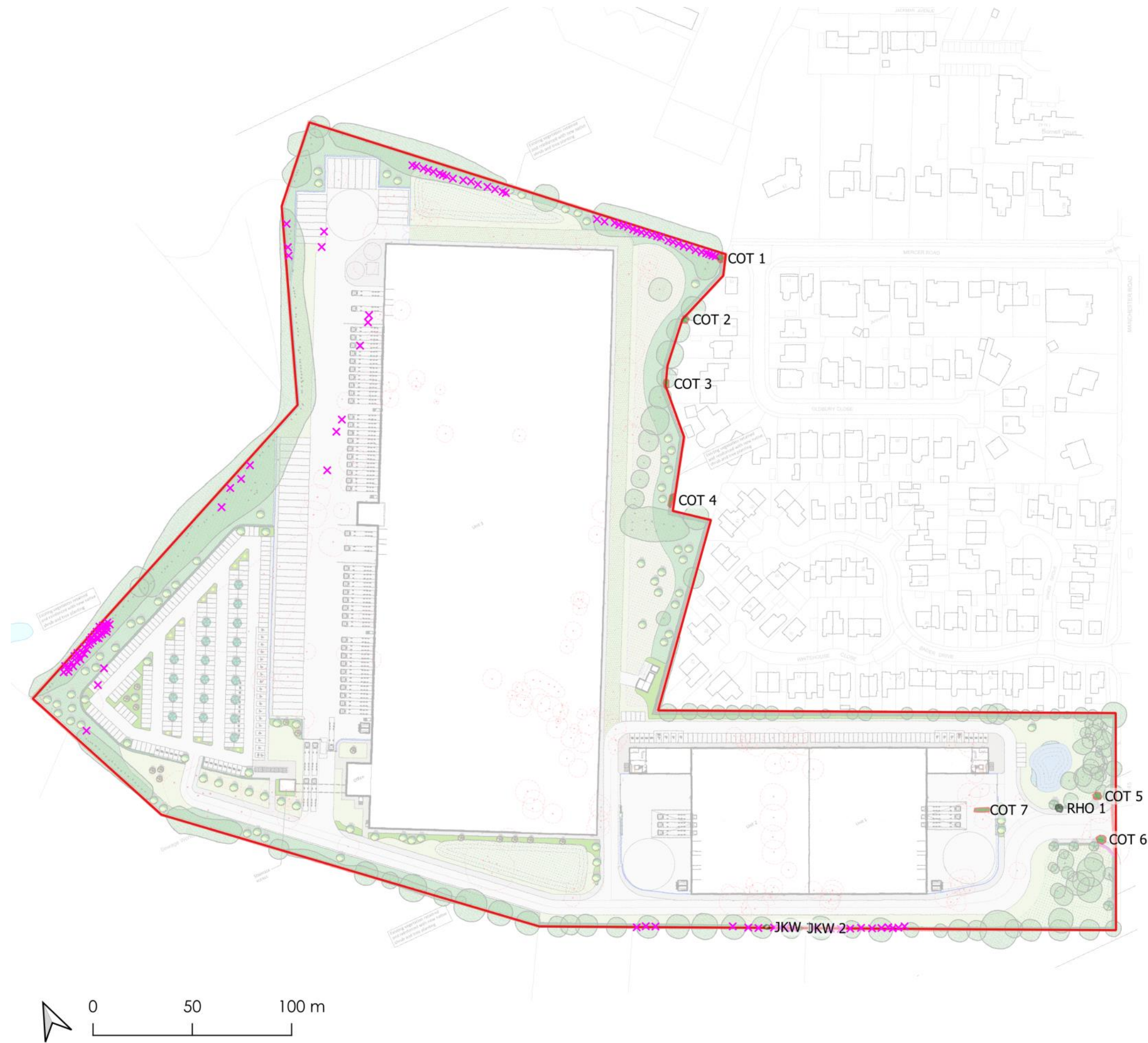


Figure 3
Whole site: All INNS stands identified through survey in relation to development landscape plan

- Invasive Species**
- × Himalayan balsam
 - Japanese knotweed (*Fallopia japonica*)
 - Rhododendron (*Rhododendron ponticum*)
 - Cotoneaster (*Cotoneaster* sp.)

Himalayan balsam mapped as points does not indicate individual plants but the location and relative density of growth pattern observed during survey.

Photographs



- Invasive species
-  Japanese knotweed (*Fallopia japonica*)
 -  Himalayan balsam

Ref.	Description and condition	
JKW 1	A very small patch of JKW < 1m2. Young shoots growing at the property boundary. Growth appears stunted and may be indicative of previous treatment with herbicide. Located between boundary fence and service signage.	 

Photographs



- Invasive species
-  Japanese knotweed (*Fallopia japonica*)
 -  Himalayan balsam

Ref.	Description and condition	
JKW 2	Not far from JKW 1 a very small stand (<1m²) of JKW shoots in a similar boundary position. These may represent regrowth from a historic patch of JKW that is present in this area and has been subject to some herbicide treatment to control its growth and further spread. Note many scattered Himalayan balsam plants also present within this boundary strip of soil as show indicatively in the plan above.	

Photographs



- Invasive species
-  Rhododendron (*Rhododendron ponticum*)
 -  Cotoneaster (*Cotoneaster* sp.)

Ref.	Description and condition	
RHO1	Rhododendron (likely ponticum species) A large mature shrub in managed gardens at the site entrance.	

Photographs



- Invasive species
-  Rhododendron (*Rhododendron ponticum*)
 -  Cotoneaster (*Cotoneaster* sp.)

Ref.	Description and condition		
COT5	Cotoneaster (likely <i>horizontalis</i> sp.)		
COT 6	A number of low growing shrubs in managed gardens within beds at either side of the site entrance.		
COT 7	Cot 5 left photo Cot 6 right photo		

Photographs



Invasive species
Cotoneaster (Cotoneaster sp.)

Ref.	Description and condition	
COT 1	A number of Cotoneaster shrubs are present growing at the boundary to the side where it adjoins neighbouring back gardens. These are generally large and mature though confined to boundary areas with little incursion into the site. These are a large leaved variety—likely to be <i>Cotoneaster Simonsii</i> — although identification to species level can be hard to determine with horticultural cultivars.	
COT 2		
COT 3		
COT 4		

Photographs



x Himalayan balsam

Ref.	Description and condition	
HB	Himalayan Balsam is growing extensively throughout a linear ditch to the north eastern boundary. The growth is very dense in places and more scattered in others. Spread from the ditch into surrounding areas has likely been prevented due to regular seasonal mowing and management of the surrounding grassland that will prevent plants from growing and setting seed in these areas.	

Photographs



x Himalayan balsam

Ref.	Description and condition	
HB	Himalayan Balsam present within rough grass and scrub at the northern boundary. Much of the infestation is present at the boundary itself but a few plants were found to be growing adjacent to the access road as illustrated in the plan and photo.	

Photographs



× Himalayan balsam

Ref.	Description and condition	
HB	The most extensive growth of Himalayan Balsam was to be found at the rear of buildings to the north western corner boundary within scrub / woodland habitat. The infestation appears to be held in check by other dense vegetation such as bramble, nettle and willowherb growing nearer to the buildings although at boundaries some growth was noted.	

Photographs



× Himalayan balsam

Ref.	Description and condition	
HB	As previously noted in relation to Japanese knotweed growth, Himalayan Balsam is present along a thin strip of rough grassland and bare ground at the south western boundary. The majority of the plants are exterior to the fence line and managed grass within the site is preventing further growth within the site in these locations.	 

Risk assessment for INNS mapped by survey



Risks prior to or in the absence of development

All INNS species

General risks from the presence of invasive weeds are detailed in Appendix 1 and form part of this report. Where weeds are present at or across boundaries, collaboration with neighbouring landowners is recommended to mitigate the risks set out below where there may be a shared responsibility and interest.

Japanese Knotweed (JKW)

JKW is present at the site boundary where shown. Plants appear small and growth retarded in a way that may indicate previous treatment with herbicide. In the absence of any further treatment to control these stands it is anticipated they will increase in area as they extend underground rhizome into surrounding soils .

Risk of new JKW stands becoming established within the site is low due to surveyed stands being isolated and relatively undisturbed by human or animal activity. If shoots begin to emerge in the adjacent grass, mowing of this area may risk picking up fragments of viable stem which could be spread further within or from the site depending on how the arisings are disposed of. Ongoing control of the stands is advised.

Himalayan Balsam (HB)

Plants are present in boundary areas as mapped. It is highly likely that plants from these areas will have cast seed into surrounding areas in the past, but HB has not become established within the majority of the site as it has unfavourable ground conditions or competition from other vegetation.

The risk of causing or allowing Himalayan balsam to spread **into the wild** is relatively low due to the lack of natural habitat which could be colonised within the surrounding landscape. Since plants are present outside the site boundary, the risk of further spread should be seen as two-way, both from and into the site

Rhododendron and Cotoneaster

The presence on the site presents no legislative constraint in itself and ,in the absence of disturbance, the plants identified are at low risk of further spread into wild habitat areas due to their modes of reproduction, and their location within managed shrub borders.

There is a remnant risk of Cotoneaster dispersal by birds through ingestion of seeds when plants produce seed in late summer, however this may be assessed as a long term process within the context of the wider landscape, rather than a site specific constraint.

Risks from development of the site

Japanese knotweed

Should site development require excavation or disturbance to soils within 7 metres of stands JKW₁ and JKW₂ there would be a risk of plant material being spread within or from the site from which new infestations could arise, and be in potential breach of relevant legislation. Excavated soils containing viable JKW plant fragments would also constitute controlled waste and require disposal as such.

Himalayan balsam

With the exception of a small number locations within the property, HB plants, and soils within 6 metres of plants, are currently in areas that are not likely to require excavation for development—see Figures below—or are present in areas intended for future landscaping.

Soils containing HB plants and areas up to 6m surrounding must be considered potentially infected by HB seed to a depth of up to 500mm (though typically present in shallow soil 100-200mm).

Excavation or disturbance of infected soils poses a risk of spread within and from the Site. If soils are removed as waste they would require treatment and/or disposal as a controlled waste.

Rhododendron and Cotoneaster

The location of Cotoneaster presents low risk to development in boundary areas where these can be undisturbed by construction works. If present in areas required for excavation, plants would present a risk of spread and present a controlled waste issue unless adequately segregated and destroyed on site as part of clearance and enabling works.

Consequently, mitigation of the above risks through development requires controls that prevent disturbance to the affected areas (fencing or similar), and/or, removal / translocation and treatment of affected soils in key locations required by construction.



Figure 4
Whole site: Buffers to JKW (7m) and HB (6m) to show potential spread into surrounding soils, in relation to aerial photography

- Invasive species
- Japanese knotweed (*Fallopia japonica*)
 - Rhododendron (*Rhododendron ponticum*)
 - Cotoneaster (*Cotoneaster* sp.)
 - 7m buffer JKW
 - Himalayan balsam
 - 6m buffer HB

Himalayan balsam mapped as points does not indicate individual plants but the location and relative density of growth pattern observed during survey.



Figure 5
Whole site: Buffers to JKW (7m) and HB (6m) to show potential spread into surrounding soils, in relation to development plan.

- Invasive species
- Japanese knotweed (*Fallopia japonica*)
 - Rhododendron (*Rhododendron ponticum*)
 - Cotoneaster (*Cotoneaster* sp.)
 - 7m buffer JKW
 - Himalayan balsam
 - 6m buffer HB

Himalayan balsam mapped as points does not indicate individual plants but the location and relative density of growth pattern observed during survey.

INNS Management Plan

Aims

The Plan addresses the risks posed by INNS spreading further within or from the site, and sets out a strategy allowing development to proceed, ensuring compliance with legislation, and presenting options for treatment and disposal of arisings.

This management plan (the Plan) deals with risks identified in the survey report, and applies to the entire Site within the red line boundary in Figure 1. The rationale and choices to control and/or treat each of the mapped INNS infested areas are outlined below.

NB. This Plan focuses on effective control and mitigation of risk in relation to planned development of the site. Complete remediation of invasive species such as Himalayan balsam from a site which is open to the wider landscape can take many years and may not be achievable without a broader strategic approach involving external stakeholders.

Rationale for specific areas within or at the site boundary:

See Figure 6.

Japanese knotweed

The very small stands are present in relatively undisturbed areas at the site boundary. Stands can be fenced and signed to prevent disturbance while they are treated with herbicide. A single application of glyphosate at the peak of the growth phase (August/September) is recommended to be most effective. If full treatment is not confirmed by the time construction is required then an assessment of the need to excavate or exclude affected soils from works will be needed and an appropriate Method Statement agreed with the development main contractor on exclusion, excavation or disposal options..

Himalayan Balsam in construction area—dig and relocate within site

Where HB plants and soils within 6 metres of these overlap the construction zone these areas may be stripped of plants and affected soils up to a maximum depth of 0.5m to remove infestation. Where soils are relatively undisturbed seed will be contained within surface layers and a more shallow excavation may be permitted. On this site, removal of soils to a maximum 0.25m is assessed to be reasonable.

Excavated plants and soils can be relocated within the site and emergent plants treated as part of ongoing treatment of HB in other areas of retained habitat. Relocation and treatment within the site avoids creation of controlled waste which would otherwise require disposal to licenced landfill at much greater cost.

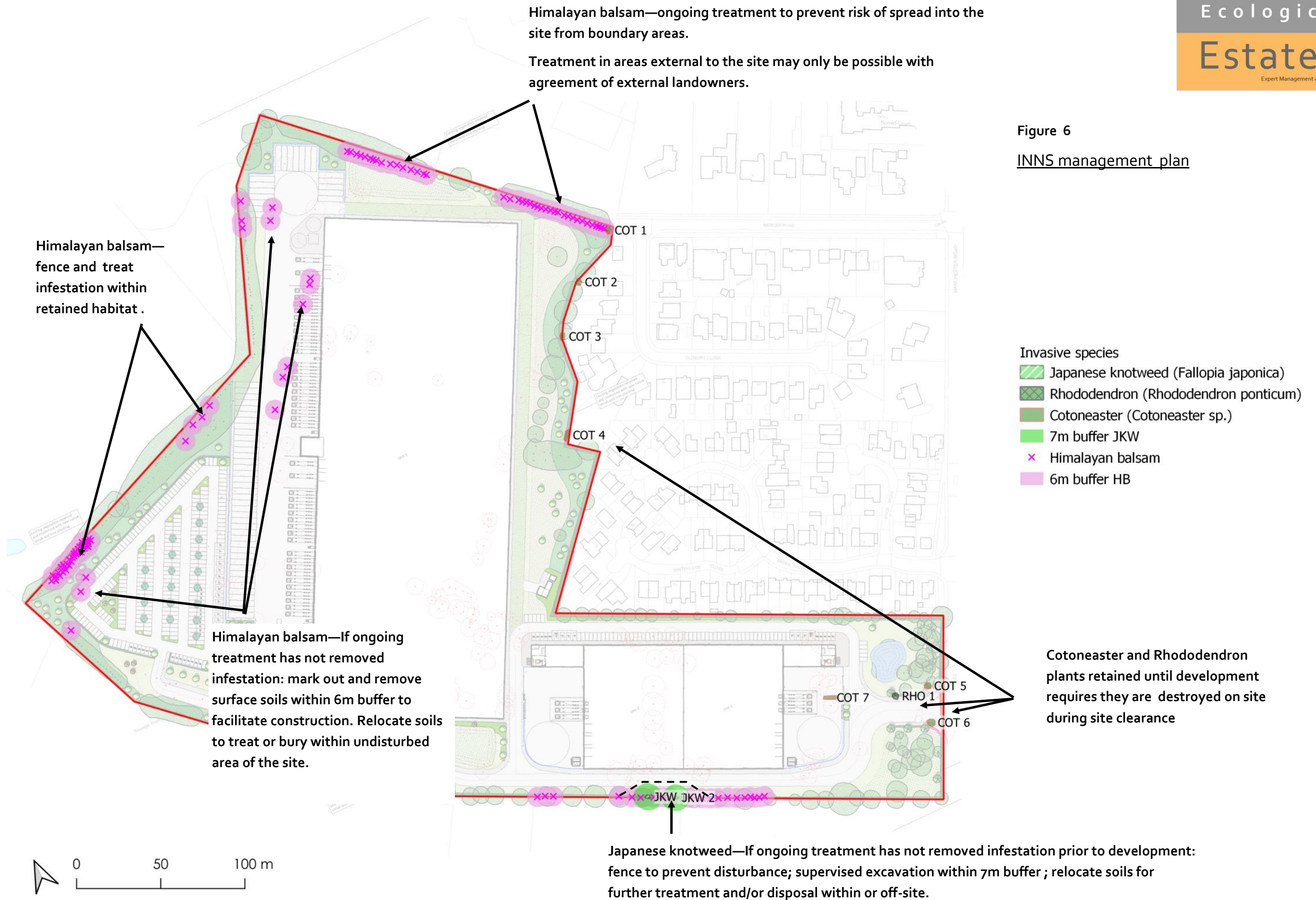
Himalayan Balsam outside construction areas—control and treat

Control of plants in retained and boundary areas of the site is typically achieved through uprooting plants by hand, strimming to ground level, or application of a non-persistent herbicide, the choice dependant on the extent and location of plants. Herbicide should be avoided where surrounding natural vegetation may be adversely impacted.

As individual plants naturally die off over winter, the aim of treatment is to treat plants before they set seed in the current season. Over time this will deplete the viable seed in the soil and prevent further plants emerging.

Cotoneaster and Rhododendron—leave until development commences then uproot and destroy

When development required it, these ornamental shrubs can be dug up to remove the entire plant. Plants can be destroyed within the site by chipping, burning plants, or thorough drying of the root mass if retained above ground.



INNS Management Plan



Treatment programme

Ongoing treatment and control

Rationale

Ongoing treatment and monitoring to control Japanese Knotweed and Himalayan balsam growth in retained habitat areas mitigates the identified risks. On this site control of HB is recommended through mechanical removal (strimming) and uprooting by hand prior to plants setting seed. Japanese knotweed requires treatment with herbicide during the growing season.

Agreement with neighbouring land owners on strategy for control, monitoring and payment of costs is recommended.

Treatment programme

Appropriate treatment is summarised in Table 2.

Monitoring in subsequent years will inform requirements for continued treatment. Control of HB can be confirmed when 12 months absence of regrowth can be confirmed through survey—or 2 seasons no regrowth for JKW.

On completion of treatment, areas should be restored with native vegetation cover through seeding or plug planting in accordance with development landscape plans or, if outside the property, agreed with neighbouring landowners.

Tree protection

All treatment and excavation must comply with requirement for protection of tree root zones for trees and habitat areas identified for retention within development.

Biosecurity

For all areas during treatment operations a biosecurity protocol must be followed to minimise risk of spreading associated INNS within and from the site—typically requires effective signage / fencing and washing off footwear and vehicle wheels/ tracks to avoid spread of plant material from the infected area during operations.

Table 1 Treatment Summary

Year	Activity	Timing	Estimated Outline costs*
Prior to development works	Monitoring - Annual monitoring surveys and reporting to identify seasonal extent of infestation and possible re-growth from JKW and HB treated areas .	May—July	£500 /yr
	Treatment		
	HB: Seasonal treatment to remove HB plants within the retained habitat and any treatment area for relocated soils prior to plants setting seed. Strimming to ground level or uprooting and composting in situ.	3 visits May/June June/ July August/ September	£1500 / visit
	Control of HB areas is achieved when 12 months absence of HB regrowth can be confirmed—or 2 seasons absence of growth for JKW.		
	JKW: Foliar application of glyphosate based herbicide once at the peak of the growing season	August / September	£500—£1000 / visit
	Control of JKW stands is achieved when 2 seasons absence of growth is confirmed by survey.		
	Cotoneaster and Rhododendron do not require treatment if maintained and undisturbed in their present locations.	-	-

*Indicative costings are provided as a guide to budgeting and decision making in relation to treatment options. Quotes in relation to the works outlined in the plan should be obtained from suitably qualified / licensed contractors for itemised pieces of work and may be significantly more than the costs estimates provided here. Costings are provided without prejudice and should not be used for property valuation purposes, as these can change depending on Site conditions or market conditions which cannot be anticipated.

INNS Management Plan



Treatment programme

Enabling works

Rationale

Fencing and excavation of affected soils provide immediate mitigation of risk from the target species in areas required for construction

Treatment programme

Enabling works are summarised in Table 1.

Year 1 controls objectives are to:

- Fence and control JKW and HB stands prior to excavation. Under a suitable Method Statement, excavation of affected soils and relocation for treatment or disposal within the site (where space is available), or to off-site licenced landfill.
- Commence treatment of HB in fenced off habitat areas within site.
- Kill off Cotoneaster and Rhododendron within construction zone.

Following initial works to facilitate construction, ongoing treatment to control HB or remnant JKW infestation will be required in retained habitat areas in subsequent growing seasons.

Tree protection

All treatment and excavation must comply with requirement for protection of tree root zones for trees and habitat areas identified for retention within development.

Biosecurity

For all areas during treatment operations a biosecurity protocol must be followed to minimise risk of spreading associated INNS within and from the site—typically requires effective signage / fencing and washing off footwear and vehicle wheels/ tracks to avoid spread of plant material from the infected area during operations.

Table 2 Treatment Summary

Year	Activity	Timing	Estimated Outline costs*
Year 1 (growing season prior to start of works)	Pre-treatment update survey to mark out affected zones and areas to be treated.	Prior to disturbance of the affected areas May to September when plants are visible.	£600
	Installation of secure fencing as required to prevent unauthorised vehicle or pedestrian access to JKW and HB infected buffer zones within the construction zone.	As required as part of site clearance and enabling works	At contractor cost
	JKW and HB: Treatment and excavation of stands if required to facilitate works. Excavation of plants and affected soils within the construction zone under supervision of an INNS surveyor—in accordance with an agreed Method Statement.	As required as part of site clearance and enabling works	Method Statement £900 Surveyor Supervision at £60 / hr
	Relocation and subsequent treatment or burial of affected soils—to an area that will remain undisturbed through development, or to licenced landfill.		Excavation and relocation at contractor cost
	Cotoneaster and Rhododendron: Uproot and destroy through chipping or burning in situ, or to a temporary secure stockpile within the site for subsequent destruction.		
Year 2+	Monitoring and ongoing treatment works as outlines in Table 1 to control remaining infestations	See Table 1	See Table 1

*Indicative costings are provided as a guide to budgeting and decision making in relation to treatment options. Quotes in relation to the works outlined in the plan should be obtained from suitably qualified / licensed contractors for itemised pieces of work and may be significantly more than the costs estimates provided here. Costings are provided without prejudice and should not be used for property valuation purposes, as these can change depending on Site conditions or market conditions which cannot be anticipated.

Appendix 1

General Risks from the presence of INNS

1. The mapped species are listed under Schedule 9 of the Wildlife and Countryside Act (1981) as amended.
2. For Schedule 9 species their presence on the site prior to any proposed development is not in itself a contravention of legislation; however, to inform land management and where development is planned the following legal constraints are relevant and may require action to ensure compliance.

General risks

Risks associated with the presence of invasive non-native species (INNS) fall into the following broad categories:

Offences in relation to wildlife / environmental legislation

Invasive species have long been controlled on the basis of the threat they pose to our native wildlife, reflected through controls provided in the Wildlife and Countryside Act (1981) amended by later Acts such as the Natural Environment and Rural Communities Act (2006) and the Countryside and Right of Way Act (2000). This legislation makes it an offence **“to plant or otherwise cause to grow in the wild”** any plant listed on Schedule 9 of the Act.

The protection of biodiversity from invasive or alien species has been strengthened by EU Regulation 1141/2014. This sets out targets for pre-emptive action, reporting and larger scale actions but also states that you must not **“allow or encourage (listed INNS species) to spread outside your land”**. Where this cannot be guaranteed it is required that the plant in question be controlled or removed.

The costs of enforced action

The Infrastructure Act (2015) allows government agencies to enter into Species Control Agreements (SCA’s) or to enforce Species Control Orders (SCO’s) with / on landowners. These are likely to change significantly the ability of local authorities to negotiate with landowners in reducing issues of invasive species, and may lead to local authorities taking a more directed and prescriptive approach to dealing with problem species in particular cases.

Claims by third parties

The potential of invasive species to cause a private nuisance, or to result in damage to the property of others, is recognised in both the Common Law of Private Nuisance, and the Anti-Social Behaviour, Crime and Policing Act (2014), and can result in court orders or community protection notices requiring action or the payment of damages or fines. Recent case law (Waistell vs Network Rail) has demonstrated the ability of claimants to secure damages and compensation in relation to damage to property (and value of).

The Property Care Association (PCA) and the Royal Institute of Chartered Surveyors (RICS) provide guidance on the potential of JKW and other INNS to result in a private nuisance causing damage to the structure or value of property.



Offences relating to disposal and treatment of invasive species

Disposal of invasive species and soils containing their propagules (seed or rhizome) may be classed as ‘controlled waste’ and subject to relevant clauses of the Duty of Care Regulations (1991) under Part II of the Environmental Protection Act (1990). Only properly licensed organisations may remove this waste from a property, and they must take it to appropriately licensed waste facilities. The removal of contaminated or infected soil can result in the removal of very large amounts of material from a Site at considerable cost.

Damage to property from Japanese knotweed (JKW)

In the UK Japanese knotweed (JKW) spreads through vegetative propagation from the growing rhizome (root system), or stem. It can also grow from small fragments of these present in the soil. Individual plants may live for many decades, and rhizome can survive in a dormant yet viable state within soil for many years. As such JKW can be hard to control and eradicate.

JKW can cause damage to property although the risks of this can often be exaggerated and damage to the fabric of houses themselves is very rare. There can be a structural risk to drains, walls, outbuildings and conservatories from established JKW and its subsequent spread in to new areas if not adequately managed.

If JKW affects a property it must be notified in purchase documents such as TA6 and can affect mortgage insurance unless treatment plans are in place.

The Royal Institute of Chartered Surveyors (RICS) sets out a framework for objectively assessing and reporting the risk posed to a property by the presence of JKW. This assists home-owners, purchasers and lenders in making informed decisions. This widely recognised framework categorises the risks posed to property by JKW as outlined in the table on the following page.

NB. The chart and associated Management categories are intended for RICS surveyor assessment and provided here for information. They are separate to the risks assessed within this report.

References

RICS (2022) Royal Institution of Chartered Surveyors .Japanese Knotweed and Residential Property. RICS guidance note, UK 1st edition, January 2022

Property Care Association (2014) *PCA Guidance Note on Japanese Knotweed Control: Guidance Notes for Herbicide Treatment*. Last accessed online June 2018.

Property Care Association (2014) *PCA Guidance Notes - The problems of Japanese knotweed - Advice for Developers*. Last accessed online June 2018.

Property Care Association (2018) *Practical Management of Invasive Non-Native Weeds in Britain and Ireland*. Packard Publishing.

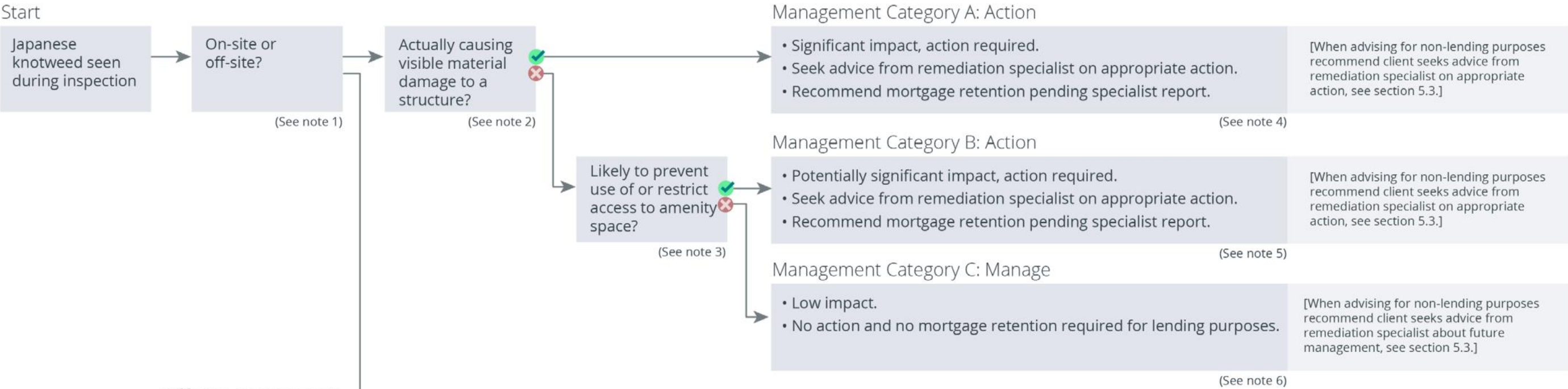
RICS assessment process and management categories

RICS (2022) Royal Institution of Chartered Surveyors .Japanese Knotweed and Residential Property. RICS guidance note, UK 1st edition, January 2022

Important notes

1. This chart is primarily intended for providing advice to lending institutions.
2. The chart must be read in conjunction with the accompanying notes.
3. The assessment framework is intended to provide guidance but should not be regarded as definitive. The valuer or surveyor must use their professional judgment when faced with circumstances that do not fit neatly into the framework and apply whichever Management Category they consider appropriate.

On-site assessment



[When advising for non-lending purposes recommend client seeks advice from remediation specialist on appropriate action, see section 5.3.]

[When advising for non-lending purposes recommend client seeks advice from remediation specialist on appropriate action, see section 5.3.]

[When advising for non-lending purposes recommend client seeks advice from remediation specialist about future management, see section 5.3.]

[When advising for non-lending purposes recommend client to seek advice from remediation specialist about possible encroachment, see section 5.4.]

[When advising for non-lending purposes the detail of any reporting will be determined by the type of inspection and report and the nature of the infestation.]