

## 2. EIA METHODOLOGY

### Introduction

- 2.1 This chapter sets out the methodology used to prepare each chapter of the ES and describes its structure and content. In particular, it sets out the process of identifying and assessing the likely significant effects of the Development on the environment.
- 2.2 The ES has been prepared in accordance with the Town & Country Planning (Environmental Impact Assessment (EIA)) Regulations 2017 (as amended) (the “EIA Regulations”)<sup>i</sup>. Reference has also been made to currently available good practice guidance on EIA including the Planning Practice Guidance issued by the Ministry of Housing, Communities and Local Government<sup>ii</sup>.

### Scoping

- 2.3 The Development has been the subject of a scoping exercise to identify the likely significant effects on the environment that may arise from the demolition and construction and operational phases of the Development. An EIA Scoping Report (Appendix 2.1) was submitted to LBRuT on 14<sup>th</sup> January 2021 in support of a request for an EIA Scoping Opinion in accordance with Regulation 15 of the EIA Regulations. To date, no formal EIA Scoping Opinion has been issued by LBRuT.

### Disciplines Scoped In

- 2.4 Scoping identified that the following subject areas should be included in the ES:
- Townscape and Visual Effects;
  - Transport and Access;
  - Noise; and
  - Air Quality.

### Topics Scoped out of the ES

- 2.5 The scoping report (Appendix 2.1) also identified that the Development would not give rise to likely significant effects on the environment with respect to other technical disciplines, as discussed below.

### *Population and Human Health*

- 2.6 The Development will provide housing and construction employment opportunities. The scale of the Development is such that no significant effects on population and human health are anticipated. Standard mitigation measures, implemented through a detailed Construction Environmental Management Plan (CEMP) to be secured through a pre-commencement planning condition would also minimise potential health effects during the construction phase. Any requirement to mitigate effects of the development on the demand for school places and/or primary healthcare services would be mitigated through developer contributions and are not expected to be significant. Therefore, this topic has been scoped out of the ES.

### *Cultural Heritage*

- 2.7 The Site is not located within an Archaeological Priority Area. An Archaeological Desk Based Assessment has previously been prepared for the Site (refer to Appendix 2.2) which states that the Site has a medium to negligible potential for archaeological remains. However, the construction of previous buildings on the Site is considered to have had impacts upon sub-surface deposits, some of which may have had the potential to have effects on archaeological deposits. Therefore, the potential for significant effects on archaeology from the Development is very unlikely.
- 2.8 In terms of built heritage, there are no historical designations located on the Site. The nearest listed building to the Site is the Grade II Listed Heatham House, Walls, Entrance Gates and Piers, located approximately 400m to the east of the Site. The Grade II Listed Knowle House is located approximately 450m to the south of the Site and the Grade I Listed Church of All Hallows is located approximately 500m to the north east of the Site. The Site is not located within a Conservation Area. The nearest Conservation Area to the Site is Rosecroft Conservation Area, located approximately 250m to the west of the Site. Due to their distance from Site, there would be no direct effects from the Development on heritage assets.
- 2.9 On this basis, significant environmental effects in relation to cultural heritage are not anticipated and this topic has been scoped out of the ES.

### *Land Contamination*

- 2.10 A data search, desk study and Site walkover were undertaken as part of the ground conditions assessment which informed the ES undertaken for the outline planning consent (ref: 15/3038/OUT). The assessment identified some soil contaminants but levels were below

screening criteria for residential use of the Site, indicating that the Site is not heavily contaminated. However, prior to redevelopment of the Site, further Site investigation and soil testing will be undertaken to characterise the nature and extent of contamination followed by excavation and removal of contaminated soil for treatment off-site. All landscape areas would also be excavated and material replaced with clean sub-soil and topsoil. This would ensure that there would be no risk to future occupants and visitors to the Development from potential contamination sources. Any necessary remediation work would be secured through planning conditions. As such, this topic has been scoped out of the ES.

### *Biodiversity*

- 2.11 There are no statutory ecological designations located on or adjacent to the Site. Ham Lands Local Nature Reserve (LNR) is located approximately 1km to the southeast of the Site. Richmond Park, which is designated as a Special Area of Conservation (SAC), and National Nature Reserve (NNR) is located approximately 2.75km to the east of the Site.
- 2.12 A Preliminary Ecological Appraisal (PEA) has been undertaken for the Site (refer to Appendix 2.3). The Site is of low ecological value, and is largely occupied by buildings and hardstanding. Habitats on the Site include some scattered coniferous and broadleaved trees, introduced shrubs, intact species poor hedgerow, dense scrub and amenity grassland. With the exception of trees along the eastern boundary being retained, all of the trees, introduced shrubs and other vegetation on Site will be cleared. However, the Development will feature landscaping including amenity planting adjacent to the new buildings, as well rain gardens, and ecological corridor planting along the northern and eastern boundaries. Several trees are also proposed across the Site. This will enhance the biodiversity value of the Site.
- 2.13 In terms of the potential for protected/notable species, the trees, dense scrub and introduced shrubs on Site offer nesting opportunities for birds. The majority of these habitats will be lost as a result of the Development. However, mitigation will be put in place prior to vegetation clearance and building demolition to ensure that no nesting birds are harmed and replacement nesting opportunities will be incorporated into the Development to compensate for the loss of trees and other nesting habitats.
- 2.14 Six buildings were assessed as having moderate bat roost potential, whilst two buildings were assessed as having low bat roost potential. Further surveys will be conducted prior to the Development to establish if these buildings are used by bats and the extent of their use. Six trees on Site were assessed as offering low bat roost potential. A precautionary approach will be applied to the felling of the trees to ensure that no bats are harmed during the demolition

and construction works. In addition, bat boxes will be incorporated into the Development to ensure that roosting opportunities are available for bats.

- 2.15 In light of the above, biodiversity has been scoped out of the ES.

#### *Water Resources and Flood Risk*

- 2.16 According to the Gov.uk website, the Site is located in Flood Zone 1 and is at a low risk of flooding from rivers and seas. No historical flood events have been recorded from these sources as affecting the Site or immediate surrounding area. The Site is also not located within a groundwater Source Protection Zone (SPZ) and there are no waterbodies on the Site. A large part of the Site is already covered in buildings and hardstanding and therefore significant effects are not anticipated in respect of flood risk or water resources. A Flood Risk Assessment (FRA) and Drainage Strategy has been prepared (refer to Appendix 2.4) which demonstrates the management of surface water runoff on-site including through the use of Sustainable Drainage Systems (SuDS) (Green roofs and permeable paving are proposed on parts of the Site which will provide treatment to some surface water runoff). The surface water drainage strategy for the Development also includes an allowance for climate change in accordance with the NPPF. This topic has therefore been scoped out of the ES.

#### *Vibration*

- 2.17 Due to the nature of the Development, there are not expected to be any significant sources of vibration, neither is the Site subject to any existing sources of vibration that could have amenity implications. Nevertheless, standard best practice mitigation measures would be implemented during construction in accordance with the detailed CEMP, to minimise potential temporary vibration from construction plant and activities. Therefore, this topic has been scoped out of the ES.

#### *Daylight, Sunlight and Overshadowing*

- 2.18 The scale and massing of the Development will not cause changes to daylight or sunlight availability or cause overshadowing of residents or amenity space. This topic has therefore been scoped out of the ES. A Daylight and Sunlight Assessment has been submitted as part of the planning application.

### *Wind Microclimate*

- 2.19 Due to the low-rise nature of proposed buildings, likely significant wind effects are not anticipated and thus, this topic has been scoped out of the ES.

### *Agricultural Land*

- 2.20 The Site has previously been developed and there will be no loss of agricultural land. This topic has therefore been scoped out of the ES.

### *Lighting*

- 2.21 The Site is located in Twickenham and adjacent to residential areas which are already well lit. In addition, lighting will be designed carefully in accordance with relevant British Standards and Institute of Lighting Professionals (ILP) (2011) Guidance Notes for the Reduction of Obtrusive Light. Therefore, the Development is not anticipated to produce a significant lighting impact. Where appropriate, lighting has been considered within the ES, within Chapter 6 Townscape and Visual Effects. Lighting has therefore been scoped out of the ES.

### *Waste*

- 2.22 Waste will be generated during the demolition phase of the Development from the removal of existing buildings and infrastructure; through the construction phase of the Development from disused construction materials; and through the operational phase from the proposed residential land use.
- 2.23 Construction waste will be disposed of in accordance with measures set out in the Outline Construction Environmental Management Plan (CEMP) (refer to Appendix 5.1). The plan describes the strategy concerning construction waste generation, storage, handling and collection requirements.
- 2.24 Operational waste would be disposed of in line with LBRuT requirements and managed in accordance with all applicable legislation.
- 2.25 On this basis, the likely significant effects of waste generation during the construction and operational phases of the Development are not considered to be significant and therefore waste has been scoped out of the ES.

### *Climate Change and Greenhouse Gases*

- 2.26 Climate change and greenhouse gases, as a separate chapter, has been scoped out of the ES. Chapter 3 Site and Development Description summarises the findings of the ES relevant to climate change and the climate change adaptation measures integrated into the Development. This draws upon technical chapters and reports, including the FRA (Appendix 2.4), Energy and Sustainability Statement (Appendix 3.2), and Transport Assessment (Appendix 7.1) and summarises the sustainability and energy provisions included within the Development, setting out how the Development would mitigate and adapt to climate change. This is considered a suitably proportionate approach.

### *Accidents and Natural Disasters*

- 2.27 The Development is residential in nature and does not include uses which are considered to be hazardous, nor is the Site in a location which is at risk of disasters such as flooding, land instability or earthquakes. During construction, which is considered the only element which could be considered as hazardous, all applicable health and safety legislation will be complied with, in accordance with the detailed CEMP. No likely significant effects are anticipated and therefore this topic has been scoped out of the ES.

### **Consultation Process**

- 2.28 The planning application is the culmination of an extensive design process which has involved extensive consultation with LBRuT, statutory consultees, the local community and other local stakeholders.
- 2.29 A variety of methods of engagement were applied to raise awareness of the Development. These included:
- Website: A project website (accessed at [www.clarionrichmondcollege.co.uk](http://www.clarionrichmondcollege.co.uk)) went live on 15<sup>th</sup> January 2021, dedicated to the consultation and engagement process. The website contained key information on the Development, a pre-recorded presentation and detailed images;
  - Email and telephone: A dedicated email address ([clarionrichmond.college@bartonwillmore.co.uk](mailto:clarionrichmond.college@bartonwillmore.co.uk)) and telephone number were set up at the start of the project, to provide direct contact points for enquires and to submit feedback throughout the consultation;
  - Publicity: Leaflets were sent to local residents and businesses to publicise the public

consultation website. A press advert was also placed in the local newspaper at the end of January 2021, alerting readers to the consultation event that was taking place.

- 2.30 Public exhibition webinars were held on the 25<sup>th</sup>, 26<sup>th</sup> and 30<sup>th</sup> January 2021. A series of presentation boards were presented live during the virtual public exhibitions, allowing attendees to learn about the Development. Attendees were able to provide feedback by completing a feedback form on the project website and could also contact the project team after the event via email. All consultation materials were made available on the project website prior to the exhibition. Pre-recordings of the webinars were also available to stream or download from the website.
- 2.31 In addition to the virtual public exhibitions, focussed engagement has also taken place with local councillors, groups and organisations. An online session was arranged for 28<sup>th</sup> January 2021 with Ward Councillors to allow questions to be put to the Applicant regarding the Development. Online sessions were also organised with Friends of the River Crane Environment (FORCE) on 2<sup>nd</sup> February and 3<sup>rd</sup> March 2021, to allow the organisation to set out its aspirations for the wider area around Richmond College and for the Applicant to discuss the Development in greater detail and explain the extent to which the planning application might be able to support FORCE in the delivery of its aspirations for the area. The Applicant also attended the Richmond College Development Group meeting on 23<sup>rd</sup> February 2021 to provide an update on the Development.
- 2.32 Chapter 4 Alternative and Design Evolution of the ES summarises how the views of the local community have been taken into account in the design evolution of the Development. Further details of the consultation undertaken and a full analysis of the comments received is contained for the Development is contained in the Statement of Community Involvement (SCI), submitted separately in support of the planning application.
- 2.33 In addition to consultation with LBRuT (various departments), consultation has been undertaken with the following statutory consultees:
- Natural England;
  - Environment Agency;
  - Historic England;
  - Greater London Authority (GLA);
  - Thames Water;
  - Transport for London (TfL);
  - Heathrow Airport; and

- Community Groups and Local stakeholders.

### Approach to Technical Studies

- 2.34 The EIA studies commenced at an early stage in the development process. The findings of these baseline environmental studies have played an important role in the design of the Development by defining the environmental sensitivities, constraints and opportunities associated with the Site.
- 2.35 The technical studies have been undertaken in accordance with current best practice. Specific guidance used is referenced within each of the respective assessment chapters. The majority of assessments involved consultations with statutory and non-statutory bodies, desk-based research, Site inspections and surveys, impact prediction and mitigation.
- 2.36 The assessment and conclusions of the ES are based on the description of the Development provided in Chapter 3 Site and Development Description and accompanying figures. Chapter 5 Construction Methodology and Phasing sets out details of the demolition and construction phases of the Development, on which the ES is based.

### Structure of Technical Chapters

- 2.37 Each technical chapter of the ES (Chapters 6-9) has been set out in line with Table 2.2 below. Chapter 5 Construction Methodology and Phasing provides information to allow the construction phase of the Development assessed by the disciplines set out in chapters 6-9.

**Table 2.2: Structure of the Technical Chapters**

Heading	Content
Introduction	Each of the technical chapters begins with an introduction providing context to the EIA completed.
Policy Context	This section includes a summary of policies of relevance to the environmental discipline and explains its purpose in the context of the Development and the ES.
Assessment Methodology	This section describes the method and approach employed in the assessment of likely significant effects, the criteria against which the significance has been evaluated, the sources of information used and any technical difficulties encountered. Relevant legislation is also identified.
Baseline Conditions	This section describes and evaluates the baseline environmental conditions i.e. the current situation and anticipated changes over time assuming the Site remains undeveloped.
Likely Significant Effects	This section identifies the likely significant effects on the environment resulting from the Development during construction and operational phases. A description of the likely significant effects of the Development and an assessment of their predicted significance is provided.
Mitigation Measures	This section describes the measures which would be implemented to mitigate against potential adverse impacts. Where possible, enhancement measures have also been proposed.



Heading	Content
Residual Effects	The residual effects, i.e. the remaining effects of the Development assuming implementation of the proposed mitigation measures, have been estimated and presented.
Cumulative Effects	This section considers the cumulative effects of the Development with committed developments identified within the vicinity of the Site. Any likely significant effects on the environment arising in this respect are set out in this section.
Summary	Each technical chapter concludes with a brief summary outlining the potential residual effects for the construction phase (short/medium) and operation (medium/long-term) phase of the Development.

### Likely Significant Effects

- 2.38 The assessment of impact significance has been undertaken using appropriate national and international quality standards. Where no such standards exist, the judgments that underpin the attribution of significance are described. The guidelines, methods and techniques used in the process of determining significance of effects are contained within each of the technical chapters presented.
- 2.39 Criteria for determining magnitude, sensitivity and significance are set out in Tables 2.3 to 2.5 below. For some subject areas, other references have been incorporated to reflect established thresholds of impact upon sensitive receptors.
- 2.40 Any significance criteria used is explained under the Assessment Methodology section of each chapter and takes account of the following factors:
- The value of the resource (international, national, regional and local level importance);
  - The magnitude of the impact;
  - The duration involved;
  - The reversibility of the effect; and
  - The number and sensitivity of receptors.

### Magnitude

- 2.41 The methodology for determining the scale, or magnitude, of effect is set out in Table 2.3 below.

**Table 2.3: Methodology for Assessing Magnitude**

Magnitude of Impact	Criteria for Assessing Effect
Major	Total loss or major/substantial alteration to key elements/features of the baseline conditions such that the post Development character/composition/attributes will be fundamentally changed.

Magnitude of Impact	Criteria for Assessing Effect
Moderate	Loss or alteration to one or more key elements/features of the baseline conditions such that post Development character/composition/attributes of the baseline will be materially changed.
Minor	A minor shift away from baseline conditions. Change arising from the loss/alteration will be discernible/detectable but not material. The underlying character / composition / attributes of the baseline condition will be similar to the pre-Development circumstances/situation.
Negligible	Very little change from baseline conditions. Change barely distinguishable, approximating to a 'no change' situation.

### Sensitivity

- 2.42 The sensitivity of a receptor is based on the relative importance of the receptor using the scale in Table 2.4 below.

**Table 2.4: Methodology for Assessing Sensitivity**

Sensitivity	Examples of Receptor
High	The receptor/resource has little ability to absorb change without fundamentally altering its present character, or is of international or national importance.
Moderate	The receptor/resource has moderate capacity to absorb change without significantly altering its present character, or is of high importance.
Low	The receptor/resource is tolerant of change without detriment to its character, is of low or local importance.

### Significance

- 2.43 The significance of an environmental effect is determined by the interaction of magnitude and sensitivity, whereby the impacts can be beneficial or adverse. Table 2.5 below shows how magnitude and sensitivity interact to derive effect significance.

**Table 2.5: Methodology for Assessing Significance**

Magnitude	Sensitivity		
	High	Moderate	Low
Major	Major Adverse/Beneficial	Major - Moderate Adverse/Beneficial	Moderate - Minor Adverse/Beneficial
Moderate	Major - Moderate Adverse/Beneficial	Moderate - Minor Adverse/Beneficial	Minor Adverse/Beneficial
Minor	Moderate - Minor Adverse/Beneficial	Minor Adverse/Beneficial	Minor Adverse/Beneficial - Negligible
Negligible	Negligible	Negligible	Negligible

- 2.44 The above magnitude and significance criteria have been provided as a guide for technical specialists to assess impact significance. Where discipline specific methodology has been applied that differs from the generic criteria above, this has been clearly explained within the given chapter under the heading of Assessment Methodology.

## Mitigation

- 2.45 Any adverse environmental effects have been considered for mitigation at the design stage and, where practicable, specific measures have been put forward. Measures have been considered based on the following hierarchy of mitigation:
- Avoidance;
  - Reduction;
  - Compensation;
  - Remediation; and
  - Enhancement.
- 2.46 Where the effectiveness of the mitigation proposed has been considered uncertain, or where it depends upon assumptions of operating procedures, data and/or professional judgement has been introduced to support these assumptions.
- 2.47 Mitigation recommended during the construction phase would be set out in the detailed CEMP to be agreed with LBRuT prior to the commencement of work and implemented throughout the duration of the works. Outline mitigation measures are set out in Chapter 5 Construction Methodology and Phasing.
- 2.48 Mitigation to be implemented during the operational phase would be secured through planning conditions and obligations.

## Residual Effects

- 2.49 The likely significant effects on the environment, assuming the successful implementation of mitigation measures proposed, have been identified within each chapter.

## Cumulative Effects

- 2.50 The ES considers the potential for likely significant cumulative effects on the environment.
- 2.51 Schedule 4 of the EIA Regulations requires consideration of a proposed development cumulatively with other existing and/or approved development. The assessment has been informed by Regulation 5(e) of the EIA Regulations which states:

"A description of the likely significant effects of the development on the environment resulting from, inter alia:

....

(e) the cumulation of effects with other existing and/ or approved projects..."

- 2.52 The ES duly considers the potential for likely significant effects on the environment resulting from 'existing and/or approved' developments in the area coming forward at the same time as the Development. In addition, schemes which may not yet have received planning permission but which may come forward in the lifetime of the Development have been included in the assessment.
- 2.53 Three schemes have been identified that could have the potential to lead to likely significant cumulative effects on the environment. Table 2.6 provides details and the location of the scheme is shown on Figure 2.1. These schemes have been agreed for assessment with LBRuT through the Scoping process.

**Table 2.6: Cumulative Schemes**

Scheme Name & Application Number	Scheme Details	Planning Status	Approximate Distance from the Site
<b>Approved Applications</b>			
Land At Junction Of A316 And Langhorn Drive And Richmond College Site (Including Craneford Way East Playing Fields And Marsh Farm Lane) Egerton Road Twickenham  (Ref: 15/3038/OUT)  A subsequent reserved matters approval was granted by LBRuT on 2 <sup>nd</sup> August 2019 for 180 residential units within the site (Ref: 18/4157/RES)	Outline application for the demolition of existing college buildings, removal of hardsurfacing, site clearance and groundworks together with the redevelopment of the site to provide: 1) A new campus for education and enterprise purposes, comprising; Replacement College (Use Class D1) of up to 16,000sqm to accommodate up to 3,000 FTE day time students, as well as evening and weekend use; A Science, Technology, Engineering and Maths (STEM) Centre (D1 Use Class) of up to 6,100sqm; 2) A new Secondary School (D1 Use Class) of up to 7,000 sqm for up to 750 students; 3) A new Special Educational Needs (SEN) School (D1 Use Class) of up to 4,000sqm for up to 115 students; 4) A new ancillary 'Technical Hub' for Haymarket Media (B1 Use Class) of up to 1,700sqm; 5) Replacement on-site sports centre (D2 Use Class) of up to 3,900sqm to serve both the college, schools and wider community; 6) The upgrading of existing Craneford Way playing fields for use by the college, schools and local community; 7) Alterations to existing means of access for vehicles, pedestrians and cyclists from the A316 involving the creation of a signalised junction, alterations to the A316 footbridge and minor realignment of Langhorn Drive, alterations of existing vehicular access points on Egerton Road as well as the upgrading of Marsh Farm Lane	Granted in August 2016 (under construction)  To date the replacement College building, Secondary school building and SEN school have been built out and are therefore included as part of the current surrounding baseline.	Adjacent to the north of the site

Scheme Name & Application Number	Scheme Details	Planning Status	Approximate Distance from the Site
<b>Approved Applications</b>			
	footpath; 8) Provision of on-site parking (non-residential) for up to 230 vehicles, open space and landscaping, and 9) A new residential development of up to 180 units together with associated parking for up to 190 vehicles, open space and landscaping.		
Lockcorp House, 75 Norcutt Road, Twickenham, TW2 6SR  (Ref: 19/2789/FUL)	Demolition of existing commercial building and erection of building to provide 15 affordable residential units, together with 12 parking spaces and communal amenity space.	Granted in June 2020	Approximately 100m south of the Site.
Ryde House, 391 Richmond Road, Twickenham, TW1 2EF  (Ref: 16/2777/FUL)	Demolition of existing building. Construction of a new mixed use development comprising a food store (1,123m <sup>2</sup> sales area) and primary school with associated car parking (55 spaces allocated to food store and 1 space allocated to school); alterations to Site entrance, landscaping and associated works.	Granted in September 2017	Approximately 2km east of the Site.
<b>Pending Consideration</b>			
Old Station Forecourt Railway Approach, Twickenham, TW1 4LJ  (Ref: 19/3616/FUL)	Proposed redevelopment of existing car park to provide a new building of 5 to 6 storeys, comprising 46 no. residential units (Use Class C3), disabled car parking, cycle parking, landscaping, enhancements to public realm and associated works.	Pending Consideration	Approximately 600m south east of the Site.

2.54 Each technical chapter (Chapters 6-9) has assessed the potential for likely significant effects on the environment as a result of the above committed and reasonably foreseeable developments. The interrelationship between likely significant effects (interactive effects) is included in Chapter 10 Summary and Residual Effects.

### Assumptions and Limitations

2.55 The principal assumptions that have been made and any limitations that have been identified in preparing the ES are set out in each technical chapter. General assumptions include the following:

- Assessments assume the baseline conditions at the time of ES preparation (2020 and 2021) unless otherwise stated in the technical chapter.
- It is assumed that current surrounding land uses do not change, with the exception of the committed and reasonably foreseeable developments identified;
- Assessments are based on published sources of information and primary data collection.

- Sources are provided as necessary; and
- Assessments are based on the description of development set out in Chapter 3 (Site and Development Description) and the anticipated construction methodology and phasing described in Chapter 5.

### Objectivity

- 2.56 The technical studies undertaken within the ES have been progressed in a transparent, impartial and unbiased way with equal weight attached, as appropriate, to beneficial and adverse effects. Where possible, this has been based upon quantitative and accepted criteria together with the use of value judgments and expert interpretations.
- 2.57 The assessment has been explicit in recognising areas of limitation within the ES and any difficulties that have been encountered, including assumptions upon which the assessments are based. Where appropriate, the assessment of significance has been given confidence levels to give a judgement to the likelihood of an effect occurring.

## REFERENCES

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<sup>i</sup> The Town and Country Planning (Environmental Impact Assessment) Regulations 2017 (2017 No. 571) (as amended) (2018 No. 695) and (2020 No.505)

<sup>ii</sup> <https://www.gov.uk/guidance/environmental-impact-assessment>