A12 Chelmsford toA120 widening scheme

TR010060

9.26 TECHNICAL NOTE GERSHWIN BOULEVARD BRIDGE

Rule 8(1)(k)

Planning Act 2008

Infrastructure Planning (Examination Procedure) Regulations 2010

Volume 9

09/03/2023

Infrastructure Planning

Planning Act 2008

The Infrastructure Planning
(Examination Procedure) Rules 2010

A12 Chelmsford to A120 widening scheme

Development Consent Order 202[ ]

Technical Note: Gershwin Boulevard Bridge

Regulation Number	Rule 8(1)(k)
Planning Inspectorate Scheme Reference	TR010060
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Author	A12 Project Team and National Highways

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Rev 1	09/03/2023	Final for Deadline 3

CONTENTS

1 Introduction

1.1.1 This technical note has been prepared in response to representations received from Interested Parties through the A12 Chelmsford to A120 Widening Scheme Development Consent Order Examination process, regarding the visual impact that would be caused by the proposed location of Gershwin Boulevard Bridge. Gershwin Boulevard Bridge would cross the A12 south of Witham as illustrated on Figure 1.

1.1.2 This technical note assesses the visual impacts that would be caused by the proposed A12 Chelmsford to A120 Widening Scheme in the vicinity of Gershwin Boulevard Bridge, during construction and operation. The viewpoints have been informed by the representations received during the Examination from Interested Parties.

1.1.3 This technical note also considers the alternative location for the new bridge suggested by Interested Parties. The suggested alternative location for the bridge is approximately 300 metres to the west of the proposed location, crossing the A12 from the south-eastern corner of the Maltings Lane development between Gershwin Boulevard to the north of the A12 and Howbridge Hall Road to the south of the A12. The suggested alternative location for the new footbridge is annotated on Figure 1.

1.2 Context: Proposed scheme

1.2.1 Gershwin Boulevard Bridge would comprise a new bridge for walkers. Olivers Drive is the location of an existing public right of way (PRoW) (footpath 121_95) that is bisected by the existing A12. Although a crossing over the A12 and a gap within the central reserve barrier exist at this location, crossing a high-speed dual carriageway with a high volume of traffic is not safe for either pedestrians or road users on the A12.

1.2.2 To the north of the existing A12, footpath 121_95 runs along Olivers Drive to provide local connectivity. A 3m wide path would be provided between Olivers Drive and the new Gershwin Boulevard Bridge to provide a connection between the existing footway along Gershwin Boulevard and footpath 121_95 south of the A12.

1.2.3 A bridge for walkers over the A12 is proposed to provide a safe crossing point over the A12 and remove the existing severance of footpath 121_95 by the A12.

1.2.4 To the south of the A12, the existing footpath 121_95 continues southwards to provide connectivity to Olivers Farm House and links with footpath 268_4.

1.2.5 South of the A12, a new connection would be provided from the existing southern length of footpath 121_95 to the proposed Gershwin Boulevard Bridge and its approach.

1.2.6 Replacement land is situated south of the A12 at Gershwin Boulevard Bridge, which would also provide a connection to Maldon Road via the open space to be provided.

2 Location and design of proposed bridge

2.1 Highway and public right of way design

2.1.1 The proposed Gershwin Boulevard Bridge's primary purpose is to reconnect the existing footpath 121_95 north and south of the A12 which was in effect severed by the construction of the Witham bypass section of the A12. Although an informal gap within the central reserve safety barrier of the A12, and steps allowing pedestrians to access the A12 main carriageway, still exist, as part of the proposed scheme's operational regime pedestrians will be banned from the A12 in this section. Taking Section 136 of the Planning Act 2008 into account, the Applicant is proposing that an alternative public right of way due to the legal severance of footpath 121_95 will be provided by this new bridge. Although shown to be designated as footpath on the relevant plans due to the classification of footpath 121_95 on either side, the proposed Gershwin Boulevard Bridge is designed to allow its reclassification to cycle track or bridleway in the future should the surrounding network be upgraded by the Local Highway Authority.

2.1.2 Footpath 121_95 continues south and merges with Maldon Road for a short length in the vicinity of a number of premises and residences, and then onto James Cooke Wood and footpath 268_7 which runs parallel to the River Blackwater.

2.2 Consideration of structural form

2.2.1 The existing ground level north of the A12 is significantly higher than the A12 itself. To achieve a subway with enough strength to take the loading of the A12 running above it, and provide adequate headroom for cyclists and horse riders, the surface of the subway would need to be approximately 4.9m below the lowest point of the A12, and approximately 7.4m below the existing ground north of the A12. Ramp gradients are typically limited to 5% to ensure ease of use by disabled users, therefore approximately a 150m length of excavation would be required to reach the subway surface level on the northern side with substantial retaining features to limit this land take.

2.2.2 To avoid an expensive tunnelling option, temporary carriageway widening would be required to enable two lanes of traffic to be maintained in each direction whilst creating verge and island worksites. These would be necessary to create the space to

construct the subway using either 'top down' techniques or open cut with in situ or precast structures installed. It is likely that additional traffic management phases would be required to create this subway potentially extending the overall construction programme. ,

2.2.3 There would be substantial long term challenges to drain the subway by gravity and a pumped system would be an ongoing maintenance liability.

2.2.4 For the above reasons, a bridge rather than subway has been proposed to re-connect these historically severed footpaths.

2.3 Operational road safety

2.3.1 Operational Road Safety (ORS) addresses the safety and accessibility of all road users including pedestrians, cyclists and equestrians, including those on Public Rights of Way and on highway and adjacent paths. It includes people of all ages and includes those with additional needs associated with visual, mobility or neurological conditions. It includes users of all motor vehicles, in addition to people whose work is on or adjacent to the highway, or others affected, such as people living alongside the road and who could be injured by a vehicle leaving the road for example.

2.3.2 The scheme's ORS provision been evaluated through three means:

- Design support: working within the design team, ORS specialists evaluate the impact of design options ad design issues to support early identification and resolution of hazards. This includes evaluation of any Departures from Standards, relaxations from desired criteria in design guidance, or design options which are otherwise not fully aligned with DMRB,
- Road Safety Audit evaluates the design to identify issues affecting road users as the scheme design affects them.
- Walking Cycling and Horse-riding (WCH) Review evaluates the design against previously identified opportunities to reduce features which deter people from using those modes at present. For example, PRoW which were affected by previous highway works and now cannot be used safely can be identified for the scheme to address.

2.3.3 In the Gershwin Boulevard Bridge area of the scheme, these evaluations assessed the design to support amendments to optimise accessibility and safety. This includes bridge ramp form; safety issues where new routes connect to existing roads, and clarity of routes for users. The design as proposed in the DCO does not have any outstanding problems which have not yet addressed and is considered to improve access between the two sides of A12 where previous alterations to A12 created severance.

2.4 Landscape and visual

2.4.1 The key visual receptors affected by the proposed Gershwin Boulevard Bridge and visual effects that would be caused by the proposed scheme are presented in Appendix A.

2.4.2 Mitigation measures for the proposed scheme relevant to landscape and visual effects are presented in full within Section 8.10 of Chapter 8: Landscape and visual, of the Environmental Statement [APP-075]. The following standard mitigation measures are of particular relevance to the proposed scheme at Gershwin Boulevard Bridge and this technical note. These mitigation measures are secured through the Register of Environmental Actions and Commitments [APP-185].

- LV4 - Existing vegetation within the Order Limits including within temporary works areas would be retained as far as reasonably practicable. Particular attention would be given to the retention of mature vegetation, including ancient, veteran and notable trees (both verified and potential), trees subject to TPOs, specimen trees, category A and B trees, important hedgerows and ancient woodland, which would be retained in accordance with, as a minimum, the Retained and Removed Vegetation Plans [APP-035 and APP-017]. Vegetation to be removed is shown on the same plan.
- LV4 - All trees to be retained would be protected throughout the construction period in accordance with BS 5837:2012 Trees in relation to design, demolition and construction – Recommendations (British Standards Institution, 2012).LV7 - Where it would be necessary to remove vegetation within temporary works areas, such as construction compounds, utility routes, haul roads and regrading areas, this would be replaced on completion of construction using the same or similar species to that removed where practicable (subject to restrictions to planting over and around pipeline easements and consideration of species with regards to climate change and resilience to pests and disease and landowner agreement). All land used temporarily would be restored and returned to an appropriate condition relevant to its previous use wherever practicable and appropriate, including the ripping, minor regrading and re-spreading of topsoil. Hedgerows, fences and walls would be reinstated to a similar style and quality to those that were removed with landowner agreement.
- LV11 - Temporary lighting would be provided to ensure safe working conditions and to maintain security within construction compounds and working areas. Best practice measures would be implemented where practicable to ensure temporary lighting is avoided or directed away from heritage assets, residential and/or ecological receptors such as watercourses, woodland, badger setts, bat roosts and important commuting habitats.

3 Consideration of alternative suggested location for the new footbridge

3.1.1 The suggested alternative location for the new footbridge suggested by Interested Parties is annotated on Figure 1. Photographs from illustrative viewpoints GB-VPA and GB-VPB are provided within Figure 2 to support the consideration of the alternative location for the new footbridge, suggested by Interested Parties.

3.2 Highway and public right of way

3.2.1 As part of the improvement works, the proposed scheme is designed to exclude pedestrians from the A12 between junctions 21 and 25. There is an existing public right of way which approaches the A12 in the vicinity of the proposed Gershwin Boulevard Bridge and then continues to Olivers Drive; this arrangement is shown on the Streets, Rights of Way and Access Plans [AS-027 and AS-028]. This proposed bridge connects these existing public rights of way as it would no longer be possible to cross the A12 at grade here once the proposed scheme is complete. An alternative, safe crossing will be provided.

3.2.2 Whilst the Applicant sees potential merit in the creation of a new footpath west of the proposed bridge as indicated by the Interested Parties, footpath 121_95 south of the A12 serves an area of Maldon Road with a number of premises and residences. The suggested route west of the bridge would ultimately connect to a section of Maldon Road remote from any built-up area, and no clear onward facility, and would not be considered by the Applicant to provide enhancement to the existing local Public Right of Way network, additionally relocating the proposed bridge to the alternative location would result in a further 550m of diversion to the existing Public Rights of Way.

3.2.3 As described in section 2.2, a subway would raise a substantial number of engineering, construction and maintenance challenges. These challenges remain at the alternative suggested location and as such only a footbridge has been considered at the alternative suggested location.

3.3 Operational road safety

3.3.1 There are no additional operational safety impacts of an alternative bridge location providing the route and bridge are designed in accordance with the same overall requirements set out above, to accommodate users including those with specific needs associated with disability (visual, mobility and/or neurological for example).

3.3.2 Overbridges and subways each have a mixture of merits and drawbacks in operational safety impacts. For example, subways, even if well lit, can have a more isolated character than an overbridge at the same location. Long subways – especially one under a 6-lane dual carriageway – can raise particular personal safety fears, leading to the facility not being used.

LTN 1/20 notes that *10.8.2: There can also be concerns over personal security on grade separated routes, particularly underbridges and subways.* Overbridges by contrast are naturally lit in the daytime and have a more open feel. On balance long overbridges are more likely to be well-used than a subway of a similar length.

3.4 Landscape and visual

3.4.1 Key visual receptors that would be affected by a footbridge at the suggested alternative location would comprise residents on the southern edge of Witham, primarily north of Gershwin Boulevard where it runs parallel with the A12 and at the southern end of Howbridge Hall Road.

3.4.2 Whether the proposed Gershwin Boulevard Bridge is provided in the proposed location or at the suggested alternative location, a similar amount of vegetation that screens the A12 would need to be removed. At the suggested alternative location, due to the presence of the Gershwin Boulevard and a lake north of it, there would be limited opportunity to replace lost vegetation and mitigate open views across the lake that would be experienced by residents in this area (refer to photograph from illustrative viewpoint GB-VPB in Figure 2). The Applicant's proposed location is adjacent to amenity land where it is proposed to provide tree and shrub planting to offset the lost vegetation and help mitigate views of the new bridge and the A12.

3.4.3 Whilst the landscape and visual effects of a bridge in either location would likely be comparable, there would be greater scope for landscape and visual mitigation at the location proposed by the Applicant.

4 Summary and conclusions

4.1.1 Gershwin Boulevard Bridge would provide a new bridge for walkers to provide a safe crossing point over the A12 and remove the existing severance of footpath 121_95 by the A12.

4.1.2 The ORS evaluations have assessed the design to support amendments to optimise accessibility and safety and is considered to improve access between the two sides of A12.

4.1.3 Footpath 121_95 continues south and merges with Maldon Road for a short length in the vicinity of a number of premises and residences, and then onto James Cooke Wood and footpath 268_7 which runs parallel to the River Blackwater whereas the suggested alternative location would ultimately connect to a section of Maldon Road remote from any built up area, and no clear onward facility, and would not be considered by the Applicant to provide enhancement to the existing local Public Right of Way network.

4.1.4 The proposed Gershwin Boulevard Bridge is assessed as having a very large adverse visual effect on the representative viewpoints presented in Appendix A Visual Impact Assessment during construction and in year 1. At year 15 when mitigation planting has established this would reduce to a

moderate adverse visual effect.

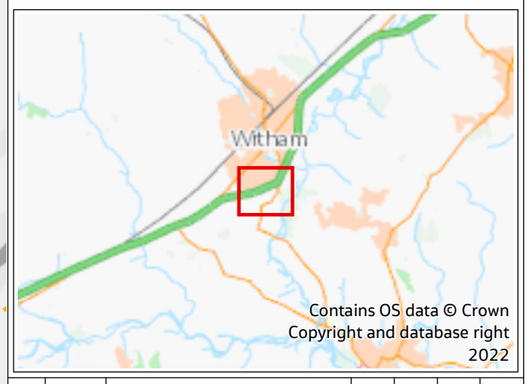
4.1.5 Landscape and visual effects of a bridge at the suggested alternative location would likely be comparable, however there would be greater scope for landscape and visual mitigation at the location proposed by the Applicant.

4.1.6 Overall, there is no clear benefit for the suggested alternative location on ORS or landscape and visual grounds. Both options would provide a solution to severance by the A12, although the suggested alternative location would not connect into the local footpath network.

Figure 1 of Document 9.26

Legend

- Order Limits
- Proposed Scheme
- PRoW (proposed diversion)
- PRoW (to remain unaffected)
- Viewpoints



Rev.	Rev. Date	Purpose of revision	Drawn	Check'd	Rev'd	Appr'd
P01	08/03/23	For Planning	HK	HB	HM	RM

Client

national highways

Project

REGIONAL DELIVERY PARTNERSHIP
A12 CHELMSFORD TO A120 WIDENING SCHEME

Drawing Title

TECHNICAL NOTE
GERSHWIN BOULEVARD BRIDGE: VIEWPOINTS

Drawing Status: S4 - SUITABLE FOR STAGE APPROVAL

Scale @ A3	1:5000	DO NOT SCALE
Jacobs No.	B36601D1	
Client No.	HE551497	Rev P01

Drawing Number: HE551497-JAC-ELS-5_SCHME-SK-GI-0001

N W E S

PROW 121_91
PROW 121_92
Dengie Cl
Town End Field
Maltings Court
Maltings La
Howbridge Hall Rd
Pelly Ave
Elza
Pitt Ave
Constance Cl
Market La
Ravel Ave
Lifchild Cl
Ponchonton Dr
Ashby Rd
Scarletts Cl
Berton Cl
Bliss Cl
Purcell Rd
Elgar Dr
Greenwell Rd
Mortimer Way
Britten Cres
Holst Ave
Morrison Dr
Hawkes Rd
Randall Cl
Baker Way
Starter Cl
Jovina Cl
Sparkey Cl
Gershwin Boulevard
PROW 121_101
PROW 121_102
PROW 121_95
GB-VP3
GB-VP1
GB-VPB
GB-VP4
B1018
Gershwin Boulevard Bridge
Dengie Farm
Alternative suggested location for the new footbridge
GB-VP2
GB-VPA
Howbridge Hall Rd
Olivers Farm
Maldon Rd
PROW 121_96
PROW 268_5

0 500 Metres

Indicative extent of Gershwin Boulevard Bridge

(Across and south of the A12)

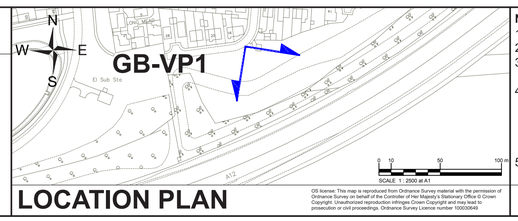
(North of the A12)

High sided vehicle on A12 behind bund

VIEWPOINT 1: Representative view from PRoW (footpath 121_95) north of the A12 facing south

Visualisation type: Type 1, annotated photograph (in accordance with *Visual Representation of Development Proposals Technical Guidance Note 06/19 (Landscape Institute 2019)*)
Date and Time of photograph: 23/02/2023 at 11:23
Season: Winter
OS grid reference: 582028, 213144
Projection: Cylindrical
Sheet size: A1

Enlargement factor: 96% @ A1
Camera type: Canon EOS 5D MARK III
Camera lens size: 50 mm
Camera height above ground level: 1.6 m
Horizontal field of view: 180°
Direction of view: Looking south



LOCATION PLAN

NOTES:

1) Existing features are annotated in black.
2) Indicative extent / location of proposed scheme is annotated in blue.
3) If using this image to judge scale, view at A1 sheet size. The A1 sheet should be viewed centrally at a comfortable arm's length.
4) The position and direction of the representative and illustrative viewpoints in the context of the proposed Gershwin Boulevard Bridge and alternative suggested location for the new footbridge are illustrated on Figure 1 of Document 9.26: Viewpoints. Environmental mitigation and replacement land in proximity to Gershwin Boulevard Bridge is illustrated on sheet 8 of the Environmental Statement [APP-086].
5) For extent of vegetation removal relevant to the proposed scheme, refer to Appendix 8.4 Arboriculture Impact Assessment of the Environmental Statement [APP-122].

Project
REGIONAL DELIVERY PARTNERSHIP
A12 CHELMSFORD TO A120 WIDENING SCHEME

Drawing Title
TECHNICAL NOTE GERSHWIN BOULEVARD BRIDGE
FIGURE 2 OF DOCUMENT 9.26
PHOTOSHEETS
REPRESENTATIVE VIEWPOINT 1
(SHEET 1 OF 8)

Jacobs No: B36601D1
Client No: HE551497
Drawing Number: HE551497-JAC-LDC-5_SCHW-PH-L-0002
Rev: P01

Rev.	Rev. date	Purpose of revision	Drawn	Check'd	Rev'd	Appr'd
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P01	28/02/23	For Planning	DR	HB	HM	RM

Drawing Status: S4 - SUITABLE FOR STAGE APPROVAL

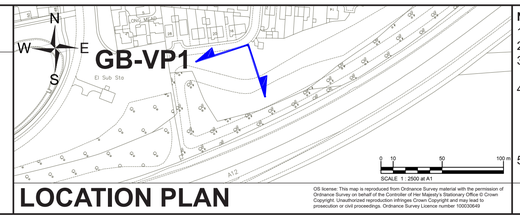
Scale: SCALE @ A1 | DO NOT SCALE

Client: national highways

VIEWPOINT 1: Representative view from PRoW (footpath 121_95) north of the A12 facing south

Visualisation type: Type 1, annotated photograph (in accordance with *Visual Representation of Development Proposals Technical Guidance Note 06/19 (Landscape Institute 2019)*)
Date and Time of photograph: 23/02/2023 at 11:23
Season: Winter
OS grid reference: 582028, 213144
Projection: Cylindrical
Sheet size: A1

Enlargement factor: 96% @ A1
Camera type: Canon EOS 5D MARK III
Camera lens size: 50 mm
Camera height above ground level: 1.6 m
Horizontal field of view: 180°
Direction of view: Looking south



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S4 - SUITABLE FOR STAGE APPROVAL

Scale: SCALE @ A1
DO NOT SCALE

Client
national highways

VIEWPOINT 2: Representative view from PRoW (footpath 121_95) south of the A12 facing north

Visualisation type: Type 1, annotated photograph (in accordance with *Visual Representation of Development Proposals Technical Guidance Note 06/19 (Landscape Institute 2019)*)
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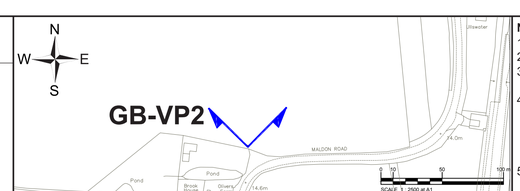

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REPRESENTATIVE VIEWPOINT 1
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Jacobs No: B36601D1
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Scale: SCALE @ A1 | DO NOT SCALE

Client: national highways

Indicative extent of Gershwin Boulevard Bridge

(Across and south of the A12)

A12 behind bund

VIEWPOINT 3: Representative view from publicly accessible amenity land, south of housing at Halfacres north of the A12 facing south-west

Visualisation type: Type 1, annotated photograph (in accordance with *Visual Representation of Development Proposals Technical Guidance Note 06/19 (Landscape Institute 2019)*)
Date and Time of photograph: 23/02/2023 at 11:33
Season: Winter
OS grid reference: 582126, 213179
Projection: Cylindrical
Sheet size: A1

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Camera lens size: 50 mm
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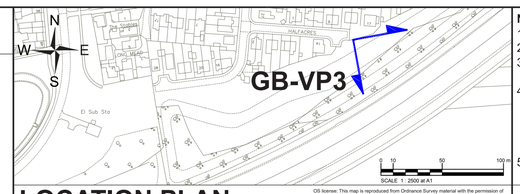
Direction of view: Looking south-west



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REPRESENTATIVE VIEWPOINT 1
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Scale: SCALE @ A1 | DO NOT SCALE

Client: national highways

VIEWPOINT 3: Representative view from publicly accessible amenity land, south of housing at Halfacres north of the A12 facing south-west

Visualisation type: Type 1, annotated photograph (in accordance with *Visual Representation of Development Proposals Technical Guidance Note 06/19 (Landscape Institute 2019)*)
Date and Time of photograph: 23/02/2023 at 11:33
Season: Winter
OS grid reference: 582126, 213179
Projection: Cylindrical
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Enlargement factor: 96% @ A1
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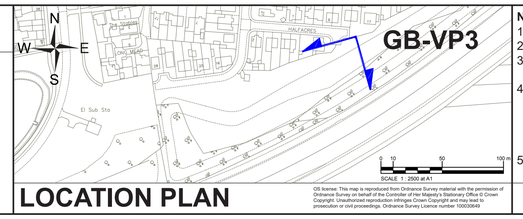

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Jacobs No: B36601D1
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Drawing Status: S4 - SUITABLE FOR STAGE APPROVAL

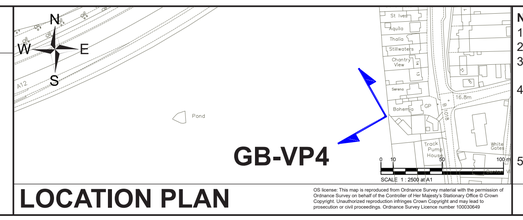
Scale: SCALE @ A1 | DO NOT SCALE

Client: national highways

VIEWPOINT 4: Representative view from private arable land at the rear of housing along Maldon Road, south of the A12 facing west

Visualisation type: Type 1, annotated photograph (in accordance with *Visual Representation of Development Proposals Technical Guidance Note 06/19 (Landscape Institute 2019)*)
Date and Time of photograph: 23/02/2023 at 8:57
Season: Winter
OS grid reference: 582327, 213007
Projection: Cylindrical
Sheet size: A1

Enlargement factor: 96% @ A1
Camera type: Canon EOS 5D MARK III
Camera lens size: 50 mm
Camera height above ground level: 1.6 m
Horizontal field of view: 90°
Direction of view: Looking north-west



LOCATION PLAN

NOTES:
1) Existing features are annotated in black.
2) Indicative extent / location of proposed scheme is annotated in blue.
3) If using this image to judge scale, view at A1 sheet size. The A1 sheet should be viewed centrally at a comfortable arm's length.
4) The position and direction of the representative and illustrative viewpoints in the context of the proposed Gershwin Boulevard Bridge and alternative suggested location for the new footbridge are illustrated on Figure 1 of Document 9.26: Viewpoints. Environmental mitigation and replacement land in proximity to Gershwin Boulevard Bridge is illustrated on sheet 8 of the Environmental Statement [APP-086].
5) For extent of vegetation removal relevant to the proposed scheme, refer to Appendix 8.4 Arboriculture Impact Assessment of the Environmental Statement [APP-122].

Project: REGIONAL DELIVERY PARTNERSHIP
A12 CHELMSFORD TO A120 WIDENING SCHEME

Drawing Title: TECHNICAL NOTE GERSHWIN BOULEVARD BRIDGE
FIGURE 2 OF DOCUMENT 9.26
PHOTOSHEETS
REPRESENTATIVE VIEWPOINT 1
(SHEET 6 OF 8)

Jacobs No: B36601D1
Client No: HE551497
Drawing Number: HE551497-JAC-LDC-5_SCHW-PH-L-0002
Rev: P01

Rev.	Rev. date	Purpose of revision	Drawn	Check'd	Rev'd	Appr'd
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P01	28/02/23	For Planning	DR	HB	HM	RM

Drawing Status: S4 - SUITABLE FOR STAGE APPROVAL

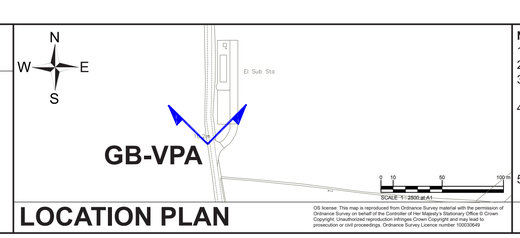
Scale: SCALE @ A1 | DO NOT SCALE

Client: national highways

VIEWPOINT A: Illustrative view from track defined as 'other route with public access' on Ordnance Survey mapping, south of the A12 facing north

Visualisation type: Type 1, annotated photograph (in accordance with *Visual Representation of Development Proposals Technical Guidance Note 06/19 (Landscape Institute 2019)*)
Date and Time of photograph: 23/02/2022 at 10:25
Season: Winter
OS grid reference: 581854, 212824
Projection: Cylindrical
Sheet size: A1

Enlargement factor: 96% @ A1
Camera type: Canon EOS 5D MARK III
Camera lens size: 50 mm
Camera height above ground level: 1.6 m
Horizontal field of view: 90°
Direction of view: Looking north



LOCATION PLAN

NOTES:

1) Existing features are annotated in black.
2) Indicative extent / location of proposed scheme is annotated in blue.
3) If using this image to judge scale, view at A1 sheet size. The A1 sheet should be viewed centrally at a comfortable arm's length.
4) The position and direction of the representative and illustrative viewpoints in the context of the proposed Gershwin Boulevard Bridge and alternative suggested location for the new footbridge are illustrated on Figure 1 of Document 9.26: Viewpoints. Environmental mitigation and replacement land in proximity to Gershwin Boulevard Bridge is illustrated on sheet 8 of the Environmental Statement [APP-086].
5) For extent of vegetation removal relevant to the proposed scheme, refer to Appendix 8.4 Arboriculture Impact Assessment of the Environmental Statement [APP-122].

Project
REGIONAL DELIVERY PARTNERSHIP
A12 CHELMSFORD TO A120 WIDENING SCHEME

Drawing Title
TECHNICAL NOTE GERSHWIN BOULEVARD BRIDGE
FIGURE 2 OF DOCUMENT 9.26
PHOTOSHEETS
REPRESENTATIVE VIEWPOINT 1
(SHEET 7 OF 8)

Jacobs No: B36601D1
Client No: HE551497
Drawing Number: HE551497-JAC-LDC-5_SCHW-PH-L-0002
Rev: P01

Rev.	Rev. date	Purpose of revision	Drawn	Check'd	Rev'd	Appr'd
--	--		-	-	-	-
P01	28/02/23	For Planning	DR	HB	HM	RM

Drawing Status
S4 - SUITABLE FOR STAGE APPROVAL

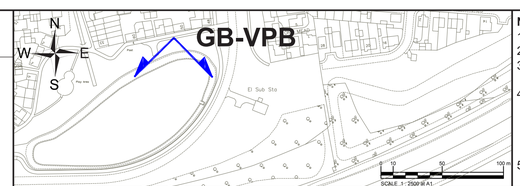
Scale: SCALE @ A1 | DO NOT SCALE

Client: national highways

VIEWPOINT B: Illustrative view from publicly accessible amenity land south of housing at Gershwin Boulevard, north of the A12 facing south

Visualisation type: Type 1, annotated photograph (in accordance with *Visual Representation of Development Proposals Technical Guidance Note 06/19 (Landscape Institute 2019)*)
Date and Time of photograph: 23/02/2023 at 11:55
Season: Winter
OS grid reference: 581827, 213167
Projection: Cylindrical
Sheet size: A1

Enlargement factor: 96% @ A1
Camera type: Canon EOS 5D MARK III
Camera lens size: 50 mm
Camera height above ground level: 1.6 m
Horizontal field of view: 90°
Direction of view: Looking south



LOCATION PLAN

NOTES:
1) Existing features are annotated in black.
2) Indicative extent / location of proposed scheme is annotated in blue.
3) If using this image to judge scale, view at A1 sheet size. The A1 sheet should be viewed centrally at a comfortable arm's length.
4) The position and direction of the representative and illustrative viewpoints in the context of the proposed Gershwin Boulevard Bridge and alternative suggested location for the new footbridge are illustrated on Figure 1 of Document 9.26: Viewpoints. Environmental mitigation and replacement land in proximity to Gershwin Boulevard Bridge is illustrated on sheet 8 of the Environmental Statement [APP-086].
5) For extent of vegetation removal relevant to the proposed scheme, refer to Appendix 8.4 Arboriculture Impact Assessment of the Environmental Statement [APP-122].

Project: REGIONAL DELIVERY PARTNERSHIP
A12 CHELMSFORD TO A120 WIDENING SCHEME

Drawing Title: TECHNICAL NOTE GERSHWIN BOULEVARD BRIDGE
FIGURE 2 OF DOCUMENT 9.26
PHOTOSHEETS
REPRESENTATIVE VIEWPOINT 1
(SHEET 8 OF 8)

Jacobs No: B36601D1
Client No: HE551497
Drawing Number: HE551497-JAC-LDC-5_SCHW-PH-L-0002
Rev: P01

Rev.	Rev. date	Purpose of revision	Drawn	Check'd	Rev'd	Appr'd
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P01	28/02/23	For Planning	DR	HB	HM	RM

Drawing Status: S4 - SUITABLE FOR STAGE APPROVAL

Scale: SCALE @ A1 | DO NOT SCALE

Client: national highways

Appendix A – Visual impact assessment

A.1 Methodology

A.1.1 The methodology used to assess visual effects within this technical note is based on the requirements of Design Manual for Roads and Bridges (DMRB) LA 107 Landscape and Visual Effects, Revision 2 (Highways England, 2020), DMRB LA 104 Environmental Assessment and Monitoring (Highways England, 2020) and guidance within Guidelines for Landscape and Visual Impact Assessment, Third Edition (GLVIA3) (Landscape Institute and Institute of Environmental Management and Assessment, 2013) (which has influenced the development of DMRB LA 107). Photographs have been taken in accordance with Visual Representation of Development Proposals Technical Guidance Note 06/19 (Landscape Institute, 2019). The methodology applied is consistent with the methodology for assessing visual impacts detailed within Section 8.5 of Chapter 8: Landscape and visual, of the Environmental Statement [APP-075].

A.1.2 DMRB LA 107 differentiates between the different viewpoint types which have been applied to this technical note as follows:

- *'Representative viewpoints - represents the experience of different types of visual receptors, where large numbers of viewpoints cannot be included individually, with similar (unlikely to differ) significant effects'*
- *'Illustrative viewpoints - to demonstrate a particular effect or specific issue'*

A.1.3 The representative viewpoints assessed within this technical note and presented under 'Visibility and visual receptors' have been informed by the representations received during the Examination from Interested Parties. The purpose of the illustrative viewpoints identified under 'Visibility and visual receptors' is not to assess the visual effects that would be caused by the proposed scheme, but to support the consideration of the alternative location for the new footbridge presented within Section 3.4.

A.1.4 Visual effects have been assessed at the following timeframes, in accordance with DMRB LA 107:

- Construction phase: Considers construction activities, temporary works (including compounds and haul roads) and construction traffic during the construction of the proposed scheme. Assessments for each visual receptor during the construction phase have been made at a time during construction when impacts are likely to be most significant for the individual receptor.
- Operation year 1 (opening year): Considers a winter and summer scenario during year 1 following completion of all construction, when

planted mitigation would not yet have taken effect. Both the completed scheme and the traffic using it have been considered.

- Operation year 15 (design year): Considers a winter and summer scenario in the fifteenth year after opening, when planted mitigation would have taken effect. Both the completed scheme and the traffic using the A12 have been considered.

A.1.5 The assessment of effects during construction has assumed the worst-case during winter, when existing vegetation is not in leaf. Both day and night-time changes for visual receptors are considered.

A.1.6 A site survey was carried out on 23 February 2023 to take photographs and assess the visual impact of the proposed scheme, including Gershwin Boulevard Bridge, from the representative viewpoints identified on Figure 1. Photographs from the representative viewpoints are presented within Figure 2. Photographs from illustrative viewpoints towards the alternative location for the new bridge suggested by the Interested Parties are also included within Figure 2. These photographs support the consideration of the alternative location for the new footbridge, suggested by Interested Parties.

A.2 Assumptions and limitations

A.2.1 Assumptions and limitations applied to this technical note are consistent with those recorded within Section 8.6 of Chapter 8: Landscape and visual, of the Environmental Statement [APP-075].

A.2.2 Loss of existing vegetation is shown on sheet 8 of the Retained and Removed Vegetation Plans [APP-035]. To assume a worst case, all trees at risk of removal have been assumed lost within this technical note.

A.2.3 Figure 1 illustrates the viewpoints in the context of the proposed Gershwin Boulevard Bridge and alternative suggested location for the new footbridge. Environmental mitigation and replacement land in proximity to Gershwin Boulevard Bridge is illustrated on sheet 8 of Figure 2.1 of the Environmental Statement [APP-086]. Mitigation planting in proximity to Gershwin Boulevard Bridge would include woodland planting of trees and shrubs to the north and south of the A12 and sections of hedge with intermittent trees.

A.2.4 Visual effects at the alternative suggested location for the new footbridge cannot be assessed from illustrative viewpoints GB-VPA and GB-VPB in the absence of a proposed design of the structure, details relating to loss of vegetation and mitigation planting. However, likely landscape and visual effects that would be caused by a footbridge at the alternative suggested location have been considered to allow comparison between the two locations in Section 3.4, based on professional judgement.

A.3 Visibility and visual receptors

A.3.1 Key visual receptors of Gershwin Boulevard Bridge comprise users of PRoW (footpath 121_95) which runs north and south of the A12, residents within private properties and users of the publicly accessible amenity land on the southern edge of Witham, north of the A12, and residents along Maldon Road, south of the A12. Wider views towards Gershwin Boulevard Bridge would be restricted by the southern residential extent of Witham to the north of the A12, properties along Maldon Road to the east and intervening field boundary vegetation to the south and west, south of the A12.

A.3.2 This technical note assesses visual effects that would be caused by the proposed scheme, including Gershwin Boulevard Bridge, from the following representative viewpoints, informed by the information received during the Examination from Interested Parties:

- Representative viewpoint GB-VP1: From PRoW (footpath 121_95) north of the A12 facing south
- Representative viewpoint GB-VP2: From PRoW (footpath 121_95) south of the A12 facing north
- Representative viewpoint GB-VP3: From publicly accessible amenity land, south of housing at Halfacres, north of the A12 facing south-west
- Representative viewpoint GB-VP4: From private arable land at the rear of housing along Maldon Road, south of the A12 facing west

A.3.3 Photographs from the following two illustrative viewpoints have also been taken to support the consideration of the alternative location for the new footbridge, suggested by Interested Parties.

- Illustrative viewpoint GB-VPA: From Howbridge Hall Road, south of the A12 facing north
- Illustrative viewpoint GB-VPB: From publicly accessible amenity land south of housing at Gershwin Boulevard, north of the A12 facing south.

A.4 Value, susceptibility and sensitivity of visual receptors

A.4.1 Table A4.1 presents the value, susceptibility and sensitivity of the visual receptors at the representative viewpoints identified. The value, susceptibility and sensitivity of the visual receptors at the illustrative viewpoints has not been assessed, because the purpose of the illustrative viewpoints is not to assess the visual effects that would be caused by the proposed scheme, but to support the consideration of the alternative location for the new footbridge presented within Section 3.

Table A4.1 Value, susceptibility and sensitivity of visual receptors

Viewpoint	Receptor type	Value, susceptibility and sensitivity
Representative viewpoint GB-VP1: From PRoW (footpath 121_95) north of the A12 facing south	Users of PRoW (public footpath)	**Value:** Medium – view across open greenspace, where glimpses of vehicles passing along the A12 through intervening vegetation presents a visual detractor, and where there are no known formal indicators of value. **Susceptibility:** High – users of public amenity land and PRoW, whose attention is likely to be focused on the view. **Sensitivity:** High overall because the PRoW runs through public open space, and users of public open space and PRoW are of high susceptibility.
Representative viewpoint GB-VP2: From PRoW (footpath 121_95) south of the A12 facing north	Users of PRoW (public footpath)	**Value:** Medium – view across open arable farmland, where glimpses of the A12 through intervening vegetation presents a visual detractor, and where there are no known formal indicators of value. **Susceptibility:** High – users of PRoW, whose attention is likely to be focused on the view. **Sensitivity:** High overall because this is a largely rural view where the existing A12 and associated traffic is partially screened by highway vegetation, and because users of PRoW are of high susceptibility.
Representative viewpoint GB-VP3: From publicly accessible amenity land, south of housing at Halfacres, north of the A12 facing south-west	Users of publicly accessible amenity land and residents within private properties at Halfacres, Witham	**Value:** Medium – view across open greenspace, where glimpses of vehicles passing along the A12 through intervening vegetation presents a visual detractor, and where there are no known formal indicators of value. **Susceptibility:** High – users of public amenity land and residents, whose attention is likely to be focused on the view. **Sensitivity:** High overall because this comprises public open space, and users of

		public open space and residents are of high susceptibility.
Representative viewpoint GB-VP4: From private arable land at the rear of housing along Maldon Road, south of the A12 facing west	Residents within private properties along Maldon Road	**Value:** Medium – views across open arable farmland towards the existing A12, where glimpses of the A12 through intervening vegetation presents a visual detractor, and where there are no known formal indicators of value. **Susceptibility:** High – residents, whose attention is likely to be focused on the view. **Sensitivity:** High overall because this is a largely rural view where the existing A12 and associated traffic is partially screened by highway vegetation, and because residents are of high susceptibility.

A.5 Visual effects

A.5.1 Table A5.1 presents the visual effects that would be caused by the proposed scheme, including the Gershwin Boulevard Bridge, on the four identified representative viewpoints at the three assessment timeframes. Photographs from the representative viewpoints are presented within Figure 2.

Table A5.1: Visual effects

Representative viewpoint	Approx distance to Gershwin Boulevard Bridge	Receptor type and visual sensitivity	Existing view	Assessment timeframe	Description of effect	Magnitude of effect	Significance of effect
Representative viewpoint GB-VP1: From PRoW (footpath 121_95) north of the A12 facing south	45m	Users of PRoW (public footpath) High sensitivity	Views across open amenity land, scattered with a few individual trees. The view is framed by highway planting to the south and east and woodland planting to the west. The extent of views are limited by the landform which rises to the south, the extent of vegetation and residential buildings on the southern edge of	Construction	There would be foreground views of construction activity, including removal of established highway planting along the existing A12, earthworks to accommodate online widening, and construction of Gershwin Boulevard Bridge with associated lay down area and construction lighting. Overall, construction works would become the dominant	Major adverse	Very large adverse

Representative viewpoint	Approx distance to Gershwin Boulevard Bridge	Receptor type and visual sensitivity	Existing view	Assessment timeframe	Description of effect	Magnitude of effect	Significance of effect
			Witham. The existing A12 is behind bund at this location, however glimpses of taller vehicles passing along the A12 are visible through the vegetation along the highway.		feature of the view. The significance of effect would be very large adverse rather than large adverse because of the proximity of the visual receptors to the construction activities.		
				Year 1 – summer and winter	The PRoW would be realigned on the western end of Olivers Drive. Loss of vegetation north of the A12 would make traffic on the widened highway more noticeable, and taller vehicles clearly visible. Although set within the context of the A12 and the residential edge of Witham, Gershwin Boulevard Bridge, with lit handrails, would become a new feature in the view.	Major adverse	Very large adverse

Representative viewpoint	Approx distance to Gershwin Boulevard Bridge	Receptor type and visual sensitivity	Existing view	Assessment timeframe	Description of effect	Magnitude of effect	Significance of effect
					The significance of effect would be very large adverse rather than large adverse because vegetation loss would exacerbate views of traffic on the A12 and because Gershwin Boulevard Bridge would form a new permanent feature in the view.		
				Year 15 – summer and winter	Mitigation planting including woodland planting of trees and shrubs would have established to reinstate the filtered view towards the widened A12 corridor and to soften views of Gershwin Boulevard Bridge. However, Gershwin Boulevard Bridge would form a noticeable feature within the view from the realigned PRoW, especially in winter.	Moderate adverse	Moderate adverse

Representative viewpoint	Approx distance to Gershwin Boulevard Bridge	Receptor type and visual sensitivity	Existing view	Assessment timeframe	Description of effect	Magnitude of effect	Significance of effect
					The significance of effect would be moderate adverse rather than large adverse because of the effectiveness of mitigation planting once established, and because Gershwin Boulevard Bridge would be set within the context of the A12 and the residential edge of Witham.		
Representative viewpoint GB-VP2: From PRoW (footpath 121_95) south of the A12 facing north	230m	Users of ProW (public footpath) High sensitivity	Views across open arable farmland, framed by the A12 embankment and highway vegetation to the north, residential properties along Maldon Road to the east and an electricity substation with hedgerows around it to the west. Traffic along the A12 is visible, especially where highway planting is	Construction	There would be open views of construction activity, including removal of established highway planting along the existing A12, earthworks to accommodate online widening, construction of Gershwin Boulevard Bridge and associated lay down area and construction lighting, movement of construction vehicles along the haul road, excavation of	Major adverse	Very large adverse

Representative viewpoint	Approx distance to Gershwin Boulevard Bridge	Receptor type and visual sensitivity	Existing view	Assessment timeframe	Description of effect	Magnitude of effect	Significance of effect
			sparser, although evergreen planting blocks views of a section of the A12 to the north-east. To the north of the A12, glimpses of residential properties on the southern edge of Witham, at Halfacres, Olivers Drive and north of Gershwin Boulevard are visible. Traffic on the A12, the electricity substation to the west and overhead telegraph poles to the east are detractors in the view.		an attenuation pond and ecology ponds and temporary soil storage areas. Overall, construction works would become the dominant feature of the view. The significance of effect would be very large adverse rather than large adverse because of the extent of construction activities and the proximity of the visual receptors.		
				Year 1 – summer and winter	Loss of vegetation along the A12 would exacerbate the prominence of highway infrastructure and the residential edge of Witham to the north of the A12. Gershwin Boulevard Bridge, with lit handrails, would become a new feature in the view. A new attenuation pond and ecology ponds would be	Major adverse	Very large adverse

Representative viewpoint	Approx distance to Gershwin Boulevard Bridge	Receptor type and visual sensitivity	Existing view	Assessment timeframe	Description of effect	Magnitude of effect	Significance of effect
					visible on the western side of the field, as well as occasional maintenance vehicles along the access road to the attenuation pond. The significance of effect would be very large adverse rather than large adverse because vegetation loss would exacerbate views of the A12, and Gershwin Boulevard Bridge, the attenuation pond and access road and ecology ponds would form new permanent features in the view.		
				Year 15 - summer and winter	Mitigation planting south of Gershwin Boulevard Bridge, including woodland planting of trees and shrubs and hedges with trees, would have established to soften views of the bridge.	Moderate adverse	Moderate adverse

Representative viewpoint	Approx distance to Gershwin Boulevard Bridge	Receptor type and visual sensitivity	Existing view	Assessment timeframe	Description of effect	Magnitude of effect	Significance of effect
					However, Gershwin Boulevard Bridge would remain perceptible, especially in winter. Established woodland planting of trees and shrubs to the north of the A12, and established hedges with intermittent trees along the southern side of the A12 corridor, would help to integrate the widened highway corridor and embankment into the landscape, and to reinstate the view towards the A12 and residential area to the north of it. Intermittent trees and shrubs and individual trees around the attenuation pond and ecology ponds would have established to soften views of the new features in the field and occasional maintenance		

Representative viewpoint	Approx distance to Gershwin Boulevard Bridge	Receptor type and visual sensitivity	Existing view	Assessment timeframe	Description of effect	Magnitude of effect	Significance of effect
					vehicles and would help to further filter views of traffic. Overall, the proposed scheme would result in a noticeable change in the view from the PRoW, which context would change from crossing the middle of a large arable field to being on the western edge of a smaller arable field. . The significance of effect would be moderate adverse rather than large adverse because Gershwin Boulevard Bridge would be perceived within the existing context of the A12 and residential area to the north of it and established mitigation planting to the west of the PRoW would help to integrate the ecology ponds		

Representative viewpoint	Approx distance to Gershwin Boulevard Bridge	Receptor type and visual sensitivity	Existing view	Assessment timeframe	Description of effect	Magnitude of effect	Significance of effect
					and attenuation pond in the view.		
Representative viewpoint GB-VP3: From publicly accessible amenity land, south of housing at Halfacres, north of the A12 facing south-west	90m	Users of publicly accessible amenity land and residents within private properties High sensitivity	Views across a linear area of open amenity land, scattered with a few individual trees. The view is framed by highway planting to the south and east, and woodland planting to the west. The extent of views are limited by the landform which rises to the south, the extent of vegetation and residential buildings on the southern edge of Witham. The existing A12 is behind a bund at this location, however glimpses of taller vehicles passing along the A12 are visible	Construction	There would be views of construction activity, including removal of established highway planting along the existing A12, earthworks to accommodate online widening, and construction of Gershwin Boulevard Bridge with associated lay down area and construction lighting. Overall, construction works would become the dominant feature of the view. The significance of effect would be very large adverse rather than large adverse because of the proximity of the visual receptors to the construction activities.	Major adverse	Very large adverse

Representative viewpoint	Approx distance to Gershwin Boulevard Bridge	Receptor type and visual sensitivity	Existing view	Assessment timeframe	Description of effect	Magnitude of effect	Significance of effect
			through the vegetation along the highway.	Year 1 – summer and winter	Loss of vegetation north of the A12 would make traffic on the widened highway more noticeable. Although set within the context of the A12 and the residential edge of Witham, Gershwin Boulevard Bridge, with lit handrails, would become a new feature in the view looking to the south-west. The significance of effect would be very large adverse rather than large adverse because vegetation loss would exacerbate views of traffic on the A12 and because Gershwin Boulevard Bridge would form a new permanent feature in the view.	Major adverse	Very large adverse

Representative viewpoint	Approx distance to Gershwin Boulevard Bridge	Receptor type and visual sensitivity	Existing view	Assessment timeframe	Description of effect	Magnitude of effect	Significance of effect
				Year 15 - summer and winter	Mitigation planting including woodland planting of trees and shrubs would have established to reinstate the filtered view towards the widened A12 corridor and to soften views of Gershwin Boulevard Bridge, which would be perceptible, especially in winter. Overall, the proposed scheme and Gershwin Boulevard Bridge would be perceptible behind the established mitigation planting, but would not alter the overall balance of features and elements that comprise the existing view in the context of the existing A12. The significance of effect would be moderate adverse rather than slight adverse because Gershwin	Minor adverse	Moderate adverse

Representative viewpoint	Approx distance to Gershwin Boulevard Bridge	Receptor type and visual sensitivity	Existing view	Assessment timeframe	Description of effect	Magnitude of effect	Significance of effect
					Boulevard Bridge would form a new permanent feature in the view.		
Representative viewpoint GB-VP4: From private arable land at the rear of housing along Maldon Road, south of the A12 facing west	165m	Residents within private properties High sensitivity	Views across open arable farmland, framed by the A12 embankment and highway vegetation to the north, vegetation along Maldon Road to the south-east, field boundary vegetation to the south-west and west. Traffic along the A12 is visible to the north-west, especially where the highway planting is sparser, although evergreen planting blocks views of a short section of the A12 to the north. Localised lighting columns along Gershwin Boulevard and the roofs	Construction	There would be foreground views of temporary large soil storage areas. Behind them, construction activity, including removal of established highway planting along the existing A12, earthworks to accommodate online widening, construction of Gershwin Boulevard Bridge and associated lay down area and construction lighting, movement of construction vehicles along the haul road, excavation of an attenuation pond and ecology ponds would be visible. Overall, construction works would become the dominant	Major adverse	Very large adverse

Representative viewpoint	Approx distance to Gershwin Boulevard Bridge	Receptor type and visual sensitivity	Existing view	Assessment timeframe	Description of effect	Magnitude of effect	Significance of effect
			of residential buildings north of it are also visible. To the west, an electricity substation on the western edge of the arable field is visible. Behind it, more arable fields and Dengie Farm are visible in the distance. Traffic on the A12, the electricity substation to the west and overhead telegraph poles crossing the arable field from north to south are detractors in the view.		feature of the view. The significance of effect would be very large adverse rather than large adverse because of the extent of construction activities and the proximity of the visual receptors.		
				Year 1 – summer and winter	Loss of vegetation along the A12 would exacerbate the prominence of highway infrastructure and the residential edge of Witham to the north of the A12. Gershwin Boulevard Bridge, with lit handrails, would become a new feature in the view. A new attenuation pond and ecology ponds would be visible in the distance on the western side of the field, as well as occasional maintenance vehicles along	Major adverse	Very large adverse

Representative viewpoint	Approx distance to Gershwin Boulevard Bridge	Receptor type and visual sensitivity	Existing view	Assessment timeframe	Description of effect	Magnitude of effect	Significance of effect
					the access road to the attenuation pond. The significance of effect would be very large adverse rather than large adverse because vegetation loss would exacerbate views of the A12, and Gershwin Boulevard Bridge, the attenuation pond and access road and ecology ponds would form new permanent features in the view.		
				Year 15 - summer and winter	Mitigation planting south of Gershwin Boulevard Bridge and along the southern side of the A12, including woodland planting of trees and shrubs and hedges with trees, would have established to soften views of the bridge, filter views of traffic on the A12 visible to the north-west and help to	Minor adverse	Moderate adverse

Representative viewpoint	Approx distance to Gershwin Boulevard Bridge	Receptor type and visual sensitivity	Existing view	Assessment timeframe	Description of effect	Magnitude of effect	Significance of effect
					integrate the widened highway corridor and embankment into the landscape. However, Gershwin Boulevard Bridge would remain perceptible, especially in winter. Hedges with intermittent trees, intermittent trees and shrubs and individual trees around the attenuation pond and ecology ponds would have established to screen distant views of the new features and occasional maintenance vehicles. Overall, the proposed scheme would be perceptible but would not alter the overall balance of features and elements that comprise the existing view. The significance of effect would be moderate adverse rather than slight adverse because		

Representative viewpoint	Approx distance to Gershwin Boulevard Bridge	Receptor type and visual sensitivity	Existing view	Assessment timeframe	Description of effect	Magnitude of effect	Significance of effect
					Gershwin Boulevard Bridge would form a new permanent feature in the view, although perceived within the existing context of the A12 and residential area to the north of it.		