Appendix C

First Fix Alignment Workshop Agenda and Presentation Material

Agenda

Project title	A96 Dualling East of Huntly to Aberdeen	Job number	CO25000292
Meeting name and number	First Fix Alignment Workshop	File reference	TBC
Location	Argyle Room - Arup's Glasgow Office	Time and date	19 April 2018
Purpose of meeting	Workshop to review first fix appraisal and agree proposed second fix alignments		
Attendance	[redacted]		
Apologies			
Circulation	Those invited		

Action

1. Welcome & Safety Moment [redacted]

9:30 – 09:40

2. Agenda, Workshop Objectives, Appraisal Metrics and Process [redacted]

9:40 – 10:40

- Review of Corridor Options
- First Fix Development
- Appraisal Metrics – Eng/Env/Traffic
- Appraisal Process – Eng/Env/Traffic

3. Example review Corridor D01 – compete run through by Engineering and Environment [redacted]

10:40 – 11:30

- Engineering Appraisal
- Environment Appraisal

Prepared by [redacted]

Date of circulation 18/04/2018

- Traffic if required
- Alignment recommendation
- Example visualisations
- Present overall plan with all potential second fix alignments per corridor area

4. Remaining Corridor Options and Potential Alignments [redacted]

11:30 – 12:30

- Overview of key issues per corridor for engineering & environment that influenced selection of alignment/s
- Running order – OLN; CN01/2/3; OLC; CS02/BS01; OLS/I; B+/BN01; and D+/D02/3.
- Highlight key conclusions:
    - OLN – Introduce third alignment following challenge review
    - CN01 – take forward?
    - Pitcaple Area – opportunities to reduce impact?
    - Bennachie "pinch point"- opportunities to reduce impact ?
    - CS02/BS01 – take forward one alignment for option C and B south alignment adjustment for second fix
    - B+ - remove alignment
    - OLS – online option accepting below desirable minimum standard with options to address alignment/gradient at Tyrebagger
    - OLI – constrained section at Inverurie with feasible engineering option but viable to take forward?

5. Lunch

12:30-13:00

Agenda

Project title	Job number	Date of Meeting
A96 Dualling East of Huntly to Aberdeen	CO25000292	19 April 2018

6. Workshop Discussion [redacted] 13:00 – 14:30

- Focus on key areas/alignments highlighted from appraisal
- Confirm alignments to take forward to second fix and identify any sensitive locations requiring further workshop review.
- Confirm number of potential end to end alignments
- Potential locations to combine and rationalise end to end to alignments
- Potential Cross Links
- Outline design approach for second fix – junctions, environmental/engineering constraints, hazards

7. Summary/Conclusions and AOB [redacted] 14:30-1500

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A96 Dualling East of Huntly to Aberdeen
First Fix Alignments
Transport Scotland Workshop
19 April 2018

Safety Moment

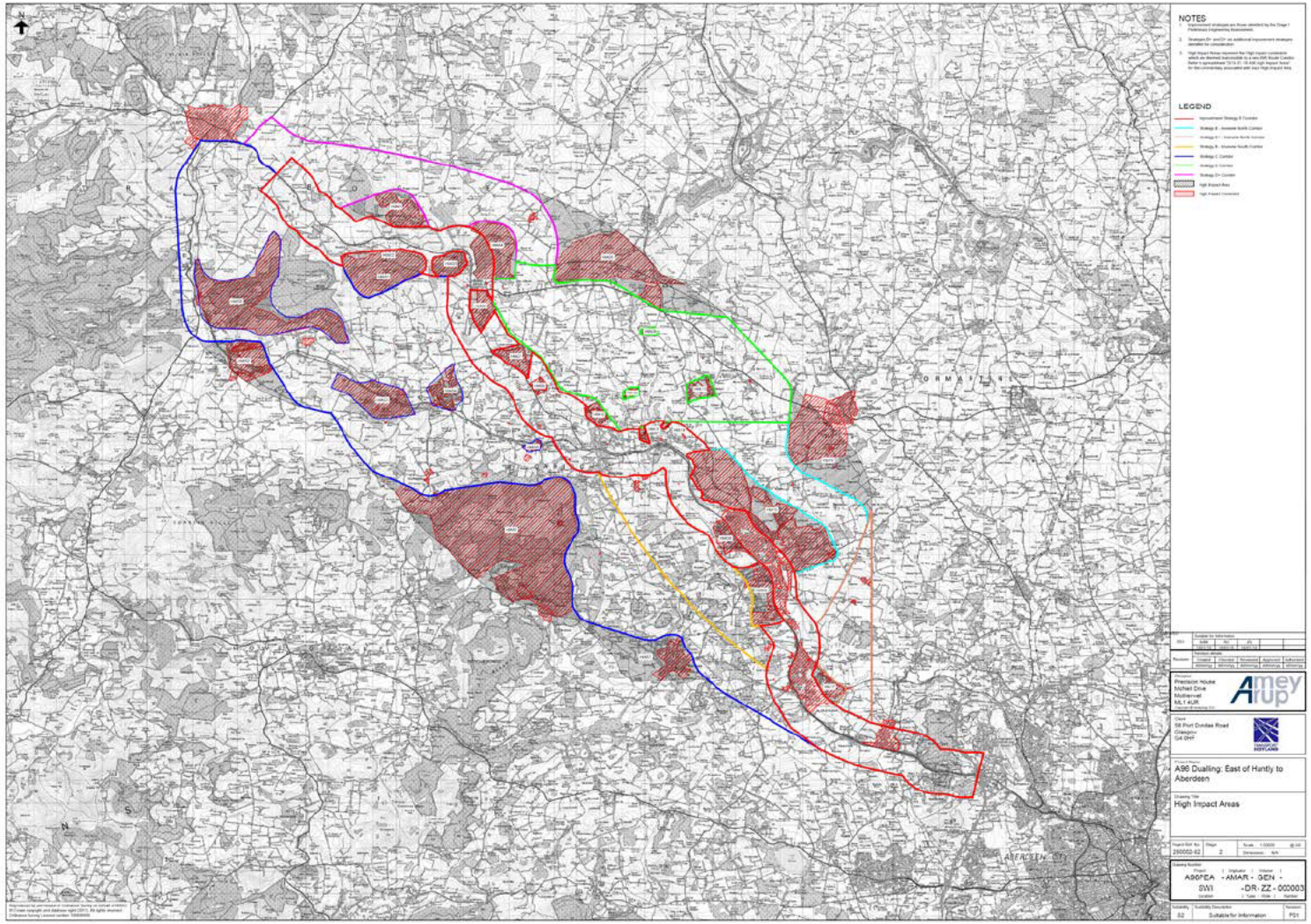
Agenda and Workshop Objectives

1. Introductions
2. Summary of project progress
3. Recap of conclusions of corridor options sifting
4. First Fix Alignment Development & Description
5. Appraisal Methodology and Metrics
6. Appraisal Results
7. Conclusions
8. Next stage

Stage 2 Process – Phases of Option Development

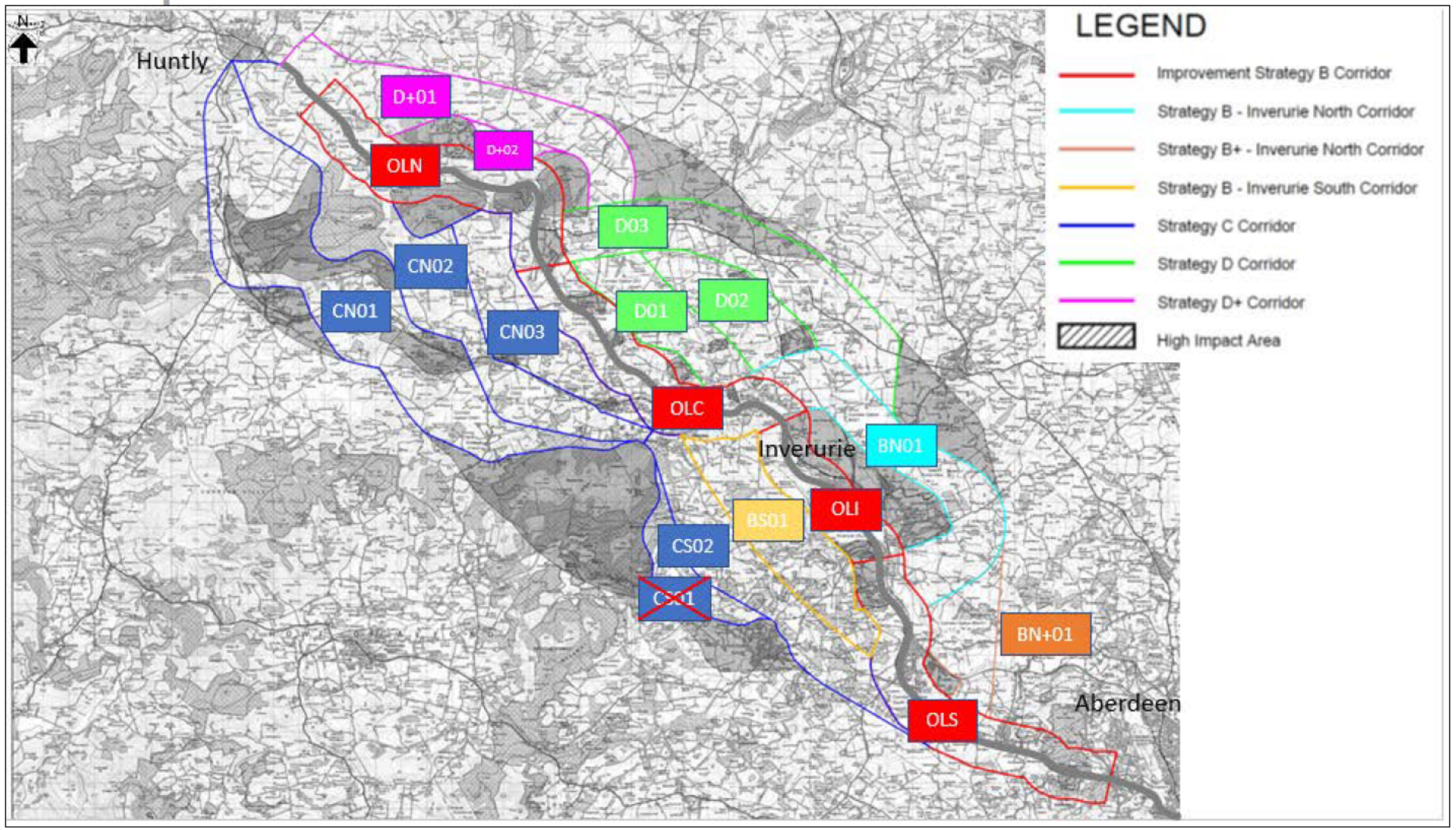
- Corridor Areas - Improvement Strategies progressed from DMRB Stage 1 Assessment used to generate wide areas within which potential corridors can be established.
- Corridor Options – subdivision of corridor areas into corridor options, guided by major constraints. Appraisal of options to identify poorly performing options and sift out where possible
- First Fix - Development of alignments within Corridor Options. Appraisal of First Fix Alignments and sifting out of poorly performing options.
- Second Fix - Generation of end-to-end route alignments from better performing First Fix Alignments. More detailed appraisal of end-to-end routes and identification of better performing options for presentation at Public Exhibition.
- Stage 2 Assessment – Comparative DMRB Assessment of the better performing end to end routes.

High Impact Areas



- The proposed Local Development Plan 2017 settlements (which should include future housing and employment sites)
- Existing Settlements
- Topography
- Gardens and Designed Landscapes
- Sites of Special Scientific Interest (SSSI – geological and biological)
- Historic Battlefields
- Scheduled Monuments
- Grade A Listed Buildings

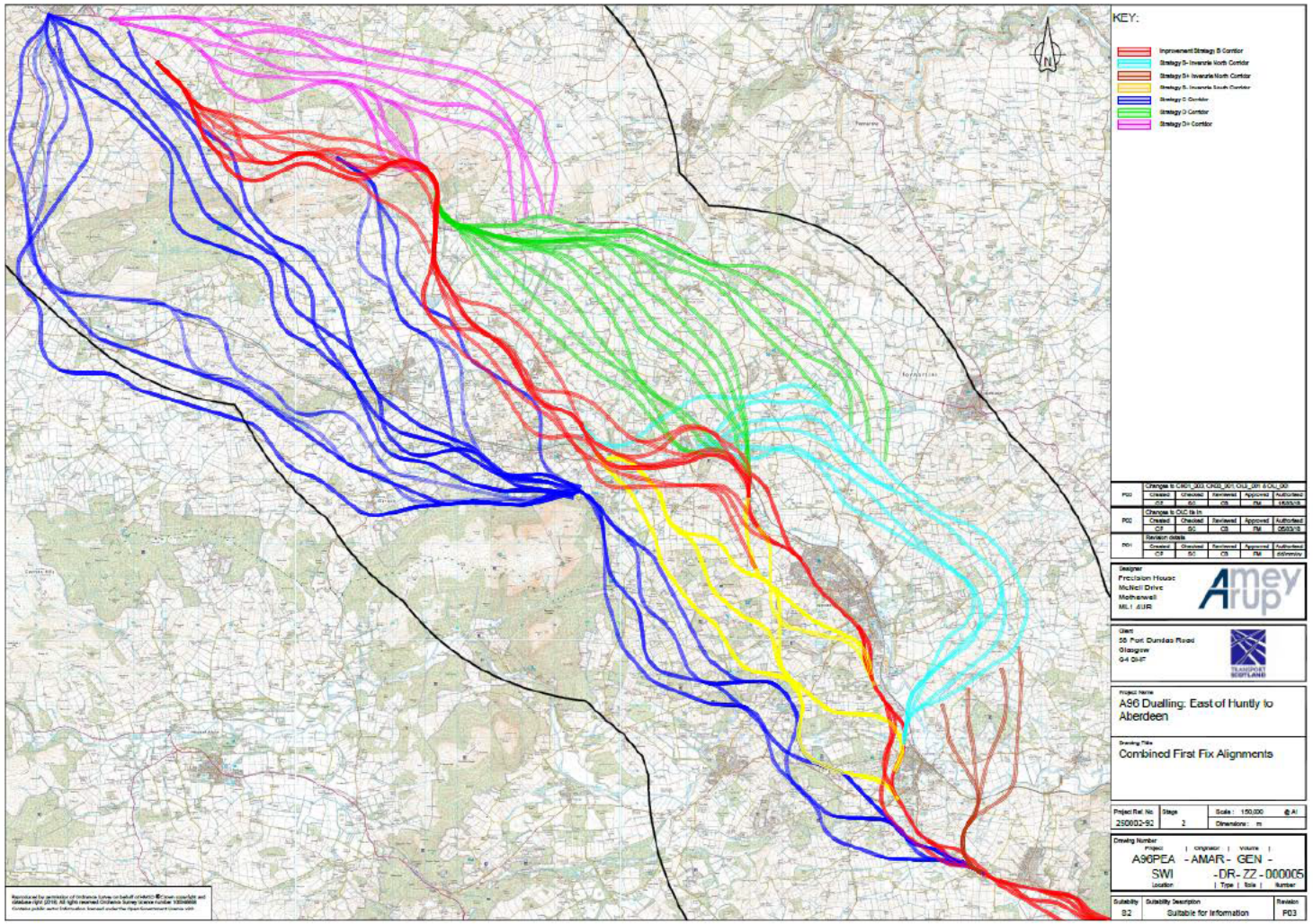
Corridor Options



First Fix Alignment Development

- One alignment is unlikely to offer the best end to end solution within a corridor
- A range of alignments are needed to find the better sections of alignment within a corridor and test the Engineering and Environmental constraints of an area.
- Alignments developed:
  - Avoid remaining high impact constraints where possible
  - Comprise fully compliant horizontal and vertical geometry
  - Represent a geographical spread across the corridor
  - Avoid onerous engineering elements wherever possible
  - Avoid unnecessary social impacts where possible

First Fix Alignment Development



- 16 Corridors
- 80 alignments
- 1,010 km of alignments created and appraised
- Plan and Longitudinal section drawings
- Alignments analysed within GIS
- 3D Visualisations of key points to produced to assist Landscape assessment

A96 DUALLING
EAST OF HUNTLY TO ABERDEEN

Amey Arup

TRANSPORT SCOTLAND

Appraisal Methodology

Criteria

- Scheme Objectives
- STAG
  - Environment
  - Safety
  - Economy
  - Integration
  - Accessibility & Social Inclusion
  - Feasibility (Engineering Assessment)
  - Affordability
  - Public Acceptability

Scoring – 7 point scale

Colour Coding	Assessment
	Major Adverse Impact
	Moderate Adverse Impact
	Minor Adverse Impact
	Neutral Impact
	Minor Beneficial Impact
	Moderate Beneficial Impact
	Major Beneficial Impact

Spreadsheet based approach using colour coding to score each corridor accompanied by QUALITATIVE commentary

Appraisal Metrics

- Interpret the scheme objectives by discipline and sub discipline
- Define and measure compliance with the scheme objectives
- Review and challenge of metrics across disciplines
- Metrics are designed to be:
  - Proportionate to the size of the scheme
  - Aligned with regulatory requirements and risk
  - Aligned with construction and maintenance complexity and cost
  - Aligned with Health, Safety and Environmental risk
  - Aligned with viability of mitigation of impact

Appraisal Process

1. Appraise all alignments against the metrics for compliance with Scheme objectives and developed STAG criteria
2. Map the results of Engineering and Environmental appraisals.
3. Determine which alignment, or combination of alignments best satisfies the Scheme Objectives and STAG via the metrics

Engineering Analysis process.pdf

Appraisal Process - Environmental

- Nine disciplines – each assessing alignments using 7 point scale & metrics
- Two outputs:
  - Each alignment given an overall colour / score for each discipline - colour coded spreadsheet
  - Mapped assessment, to highlight the key issues / constraints (red & amber only)
- The mapped outputs are key to directing the engineers to arriving at optimal hybrid(s) to take forward to 2nd fix
- 'Significant environmental issues' identified in some locations – multiple 'red criteria'

Appraisal Metrics - Environmental

Red Sifting Criteria

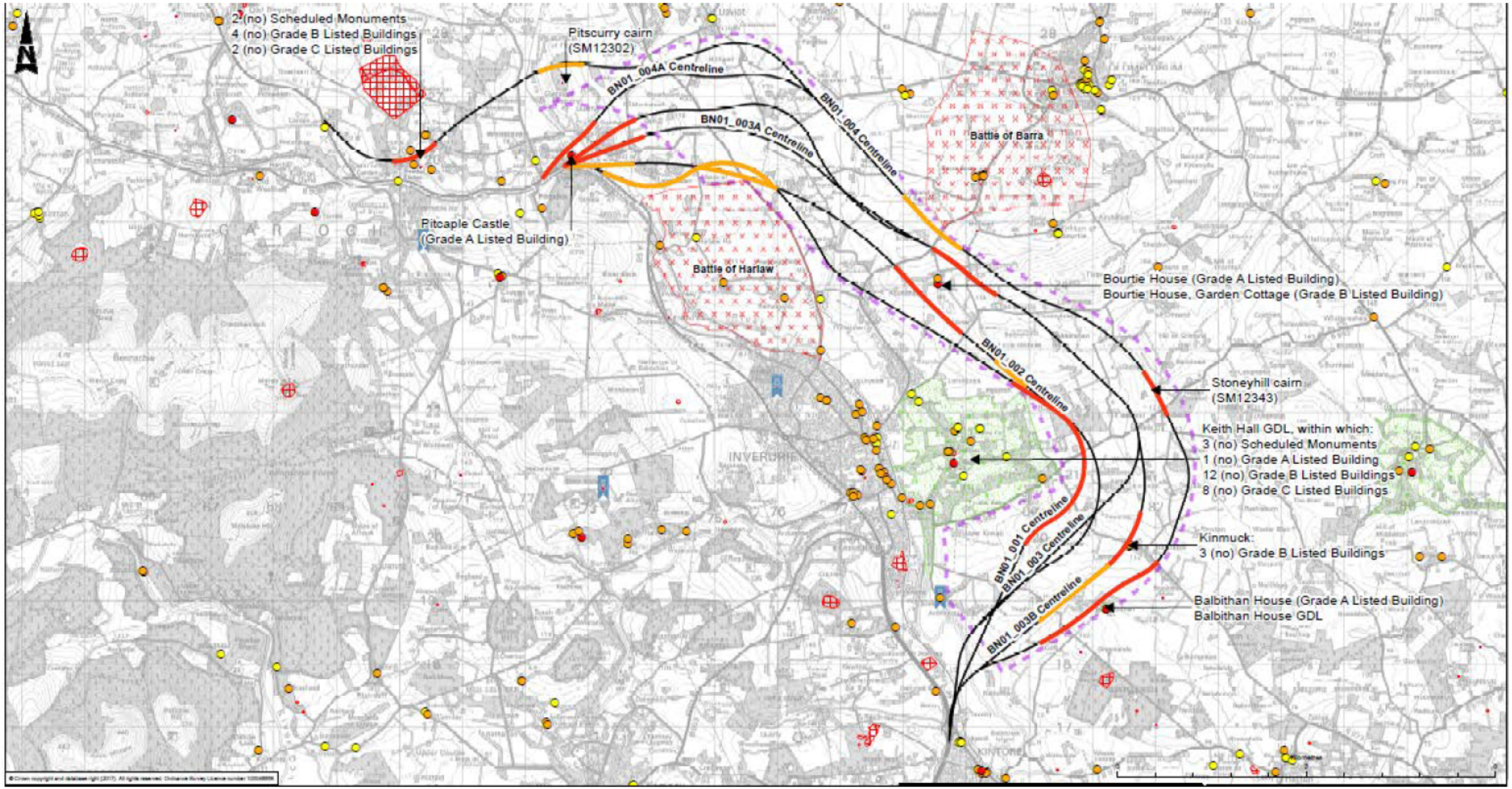
- Landscape and visual - long length of alignment within SLA/GDL, >50% within high sensitivity landscape, substantial impact on setting of SLA/GDL, poor fit with topography
- Cultural heritage - a change to the fabric or setting of heritage assets that leads to a substantial environmental effect;
- Planning and policy - alignments which pass through land subject to LDP allocations and/or land subject to local or major development planning permission.
- People & communities - demolition of important community facility (e.g. hospital, school, doctor surgery, church, aged person home); demolition of large clusters of properties.

Appraisal Metrics - Environmental

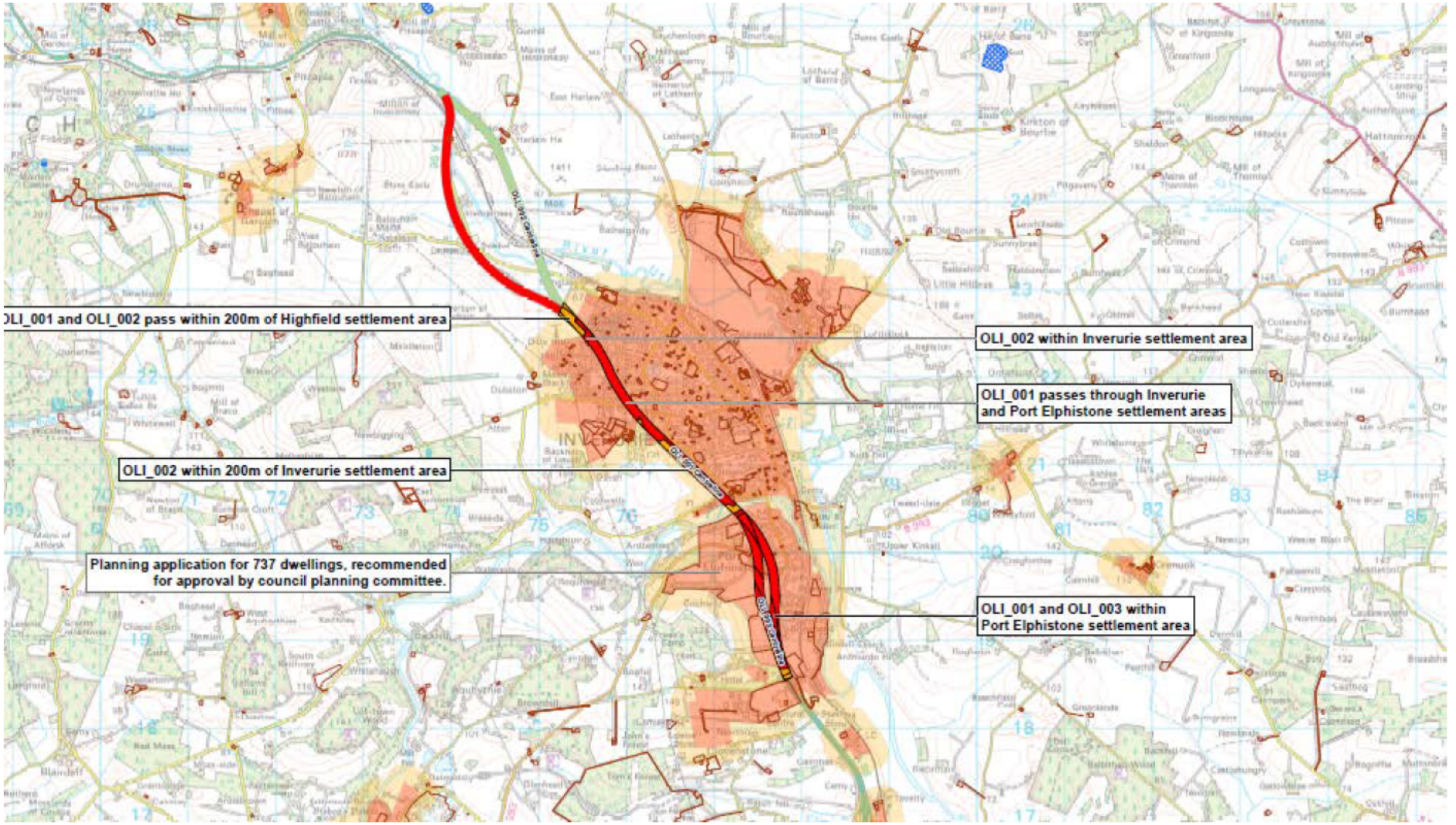
Red Sifting Criteria

- Water environment - Alignment passes through an area of extensive functional floodplain and is not perpendicular to direction of flow.
- Geology and soils – Alignment has geological SSSI or three or more of the metrics (prime agricultural land, sand and gravel resource, contaminated land, high quality aquifers, peat)
- Air quality - introduction of roads > decrease of AQ to large population count/density
- Noise and vibration - introduction of roads > increase of noise to large population count/density
- Ecology - wildcat priority area, SSSI or other nationally designated site
- Materials - scoped out of 1st fix appraisal

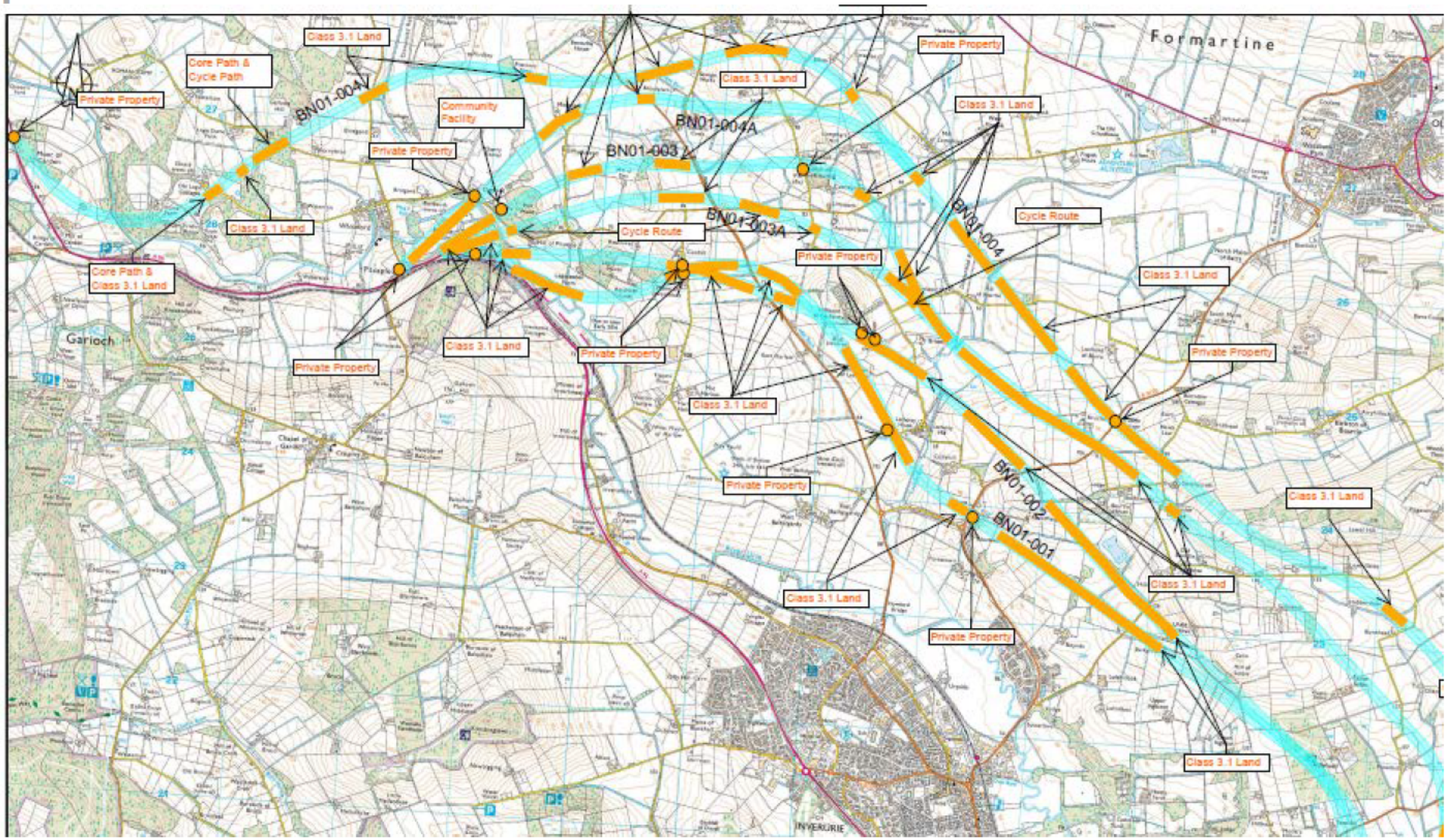
Appraisal Process - Environmental



Appraisal Process - Environmental



Appraisal Process - Environmental



Traffic Appraisal – Overall Performance

- Scheme Objectives - All alignments neutral to major beneficial
- Dual carriageway aligns with scheme objectives by offering:
  - Improved road geometry
  - Higher speed limit
  - Reduced journey times and improved journey time reliability
  - Improved overtaking opportunities
  - Improved road user safety
  - Potential to improve access and separate local traffic from strategic journeys
- STAG Criteria - Public Acceptability varies between alignments

Traffic Appraisal - Summary

- Very little differentiation between alignments within a corridor
- Alignments remote from A96 less likely to attract traffic from communities along the corridor
- Alignments through local communities, landmarks, habitats and scenic areas likely to be less acceptable to the public
- Alignments close to LDP allocations could stimulate development in these areas
- Offline alignments - de-trunked sections could be used for local access, and improvements to NMU and public transport facilities
- Online alignments - could maximise use of existing infrastructure

Appraisal Results Presentation

Corridor D01 – Presentation of results and TS questions

Appraisal Results Presentation

Presentation of overall summary of results

Presentation of results for other corridors

OLN; CN01, CN02; CN03;

OLC; CS02, BS01; OLI; OLS;

BN01; BN+; D02, D03, D+01 & 02

Conclusion - Engineering and Environmental Review process

Key outcomes from First Fix Discipline Reviews

- Each alignment was subject to Environmental, Engineering and Traffic appraisal
- ‘Better performing’ alignments and/ or sections of alignments identified to be taken forward to 2nd fix development
- Links between corridors identified to facilitate end to end route development. Links workshop before second fix.
- Complex and challenging areas identified for further detailed consideration to verify viability.

Review of today

1. Summary of project progress
2. Recap of conclusions of corridor options sifting
3. First Fix Alignment Development & Description
4. Appraisal Methodology and Metrics
5. Appraisal Results
6. Conclusions
7. Next stage
8. Client feedback