

RoadsBeSTand Simple

- Basic
 - SuDSor Roads Whole Life (and Carbon) Cost Tool
 - Overrun from S4Rds Project
 - 2010'ish
-

SuDS4ds - Whole Life Cost Tool

- Provides good indicative costs for SuDS
- Easy to learn and apply
- Useful carbon module as integrated benefit
- Not all SuDS - it's for roads, so no green roofs for example!

- Available at;
<http://www.scotsnet.org.uk/bestpractice.php>

Simple Index Assessment Tool

For Water Environment Quality & Protection

- SEPA Tool to assess adequate SuDS measures for water quality
- Basic scoring approach for hazard
- Countered by SuDS provisions
- Can be downloaded at;
http://www.susdrain.org/resources/SuDS_Manual.html

Designing for Water Quality - Simple Index Approach

- Land use defines Pollution Hazard Index
- Different SUDS have differing potentials to reduce different pollutants
- SuDS provide Mitigation index
- CIRIA HR Wallingford has developed an Excel tool to assist with the assessment

Table 26.2 Pollution hazard indices for different land use classifications

| Land use | Pollution hazard | Total suspended level | Metals solids (TSS) | Hydr |
|--|------------------|-----------------------|---------------------|------|
| 0.05 Residential roofs | | | 0.05 | 0.05 |
| 0.1 Individual property driveways – residential car parks (with traffic signs (e.g. no parking, no U-turns, etc.) and general access roads) and non-residential car parks with infrequent change (on public streets) | | | 0.1 | 0.1 |
| 0.2 Commercial yard and delivery areas – non-residential car-parking with trunk roads/motorways ⁽⁴⁾ | | | 0.2 | 0.2 |
| 0.4 | | | 0.4 | 0.4 |
| 0.6 | | | 0.6 | 0.6 |
| 0.7 | | | 0.7 | 0.7 |
| 0.8 | | | 0.8 | 0.8 |
| 0.9 | | | 0.9 | 0.9 |
| 1.0 | | | 1.0 | 1.0 |

(4) Motorway and trunk roads should follow the index of road pollution hazard as set out in HD 15/90 (4) (the current version 2002)

solution.

Table 26.3 Indicative SuDS mitigation indices for discharges to surface waters

| Type of SuDS component | Mitigation index (1) | | | |
|------------------------|----------------------|--------|------|------|
| | TSS | Metals | Hydr | Hydr |
| filter trench | 0.4 ⁽²⁾ | 0.4 | 0.4 | 0.4 |
| swale | 0.5 | 0.6 | 0.6 | 0.6 |
| system | 0.6 | 0.6 | 0.6 | 0.6 |
| bio-retention | 0.6 | 0.6 | 0.6 | 0.6 |

Total SuDS Mitigation Index \geq Pollution Hazard Index

(for each contaminant type)

(for each contaminant type)

$\text{MI}_n = \text{Mitigation Index}_1 + 0.5 (\text{Mitigation Index}_2)$

Index for Component 'n'

MI₁ = Mitigation Index for the reduced performance of secondary or tertiary components

MI₂ = Mitigation Index associated with already reduced inflow concentrations

Total SuDS Mitigation Index

Where:

Mitigation Index_n = Mitigation Index for Component 'n'

A factor of 0.5 is used to account for the reduced performance of secondary or tertiary components

- Expect source control in addition

[Simple Index Approach Tool](#)

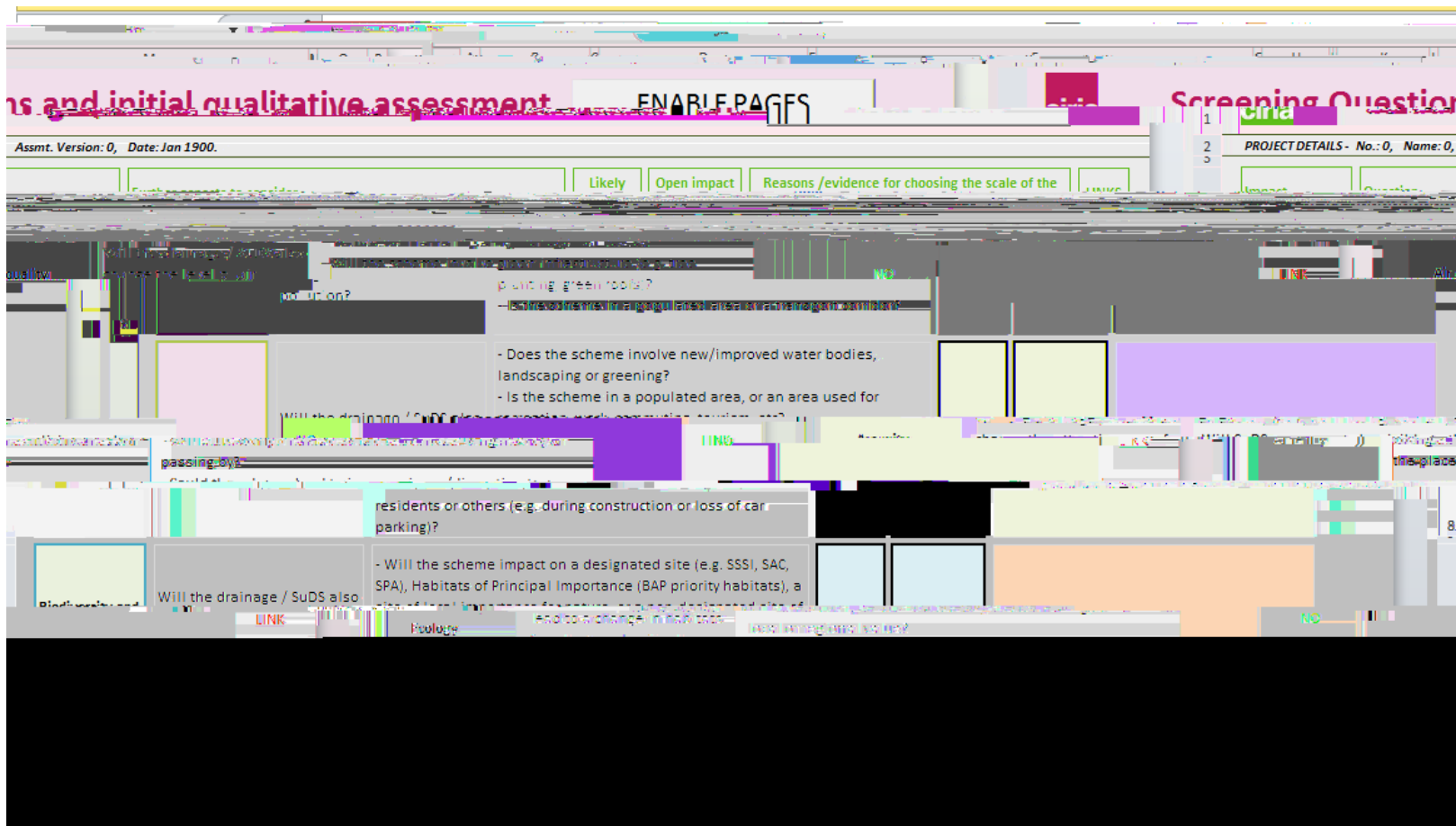
- RM08 to be changed
- Launched 12 November
-

Benefits of SuDS (BeST) Tool

- Very useful tool but takes time to grasp
- Comprehensive spreadsheet
- Better for real developments, i.e. serious proposals
- CIRIA development

BeSTTool

- Available free (but need to register) from;
[http:// www.susdrain.org/resources/best.html](http://www.susdrain.org/resources/best.html)



- Considers 19 possible “Impacts” that SuDS can provide benefits to

Glasgow SWMP Case Study

Available from website at

[http:// www.susdrain.org/files/re
sources/BeST/best_case_study_g
lasgow_swmp.pdf](http://www.susdrain.org/files/resources/BeST/best_case_study_glasgow_swmp.pdf)

Table 1: Summary of results

| Benefit | Cost | Total | Net | Present Value |
|-------------|-------------|------------|-----|---------------|
| 889,858,591 | 846,828,839 | 43,029,752 | 268 | 1,528,85,204 |

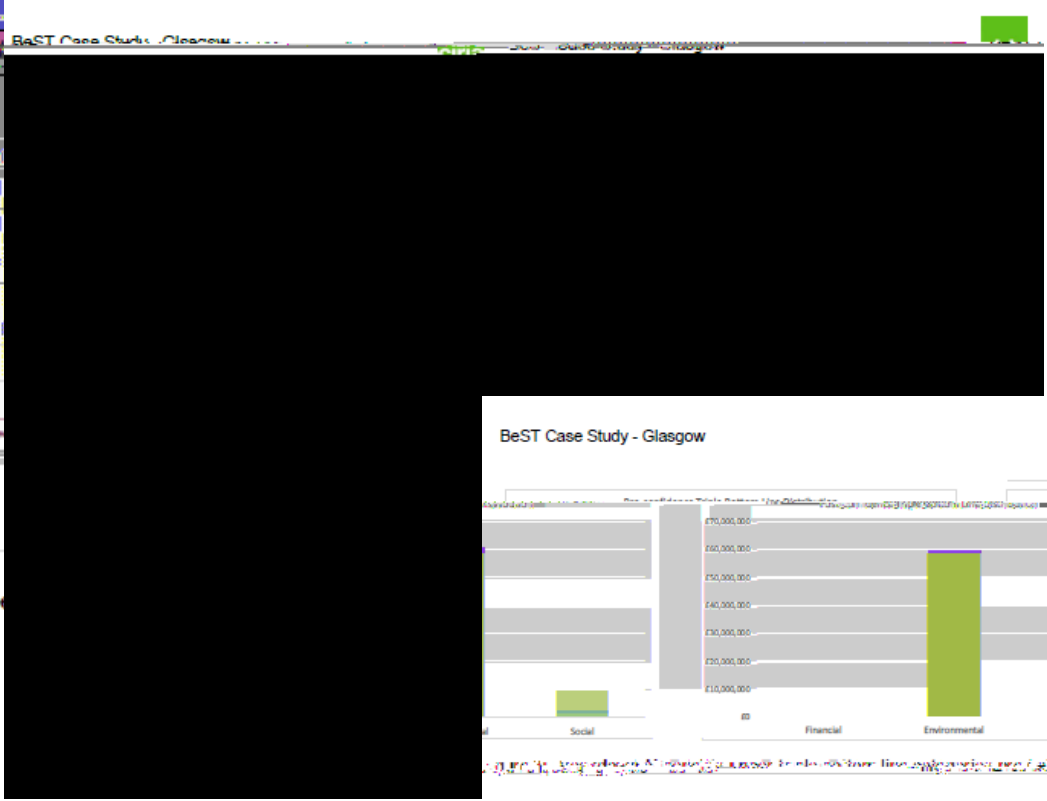
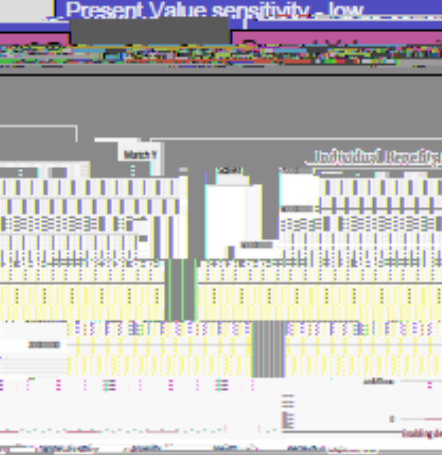
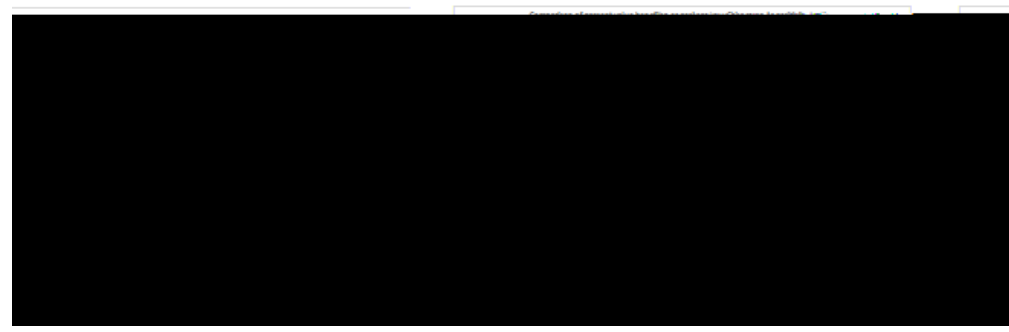
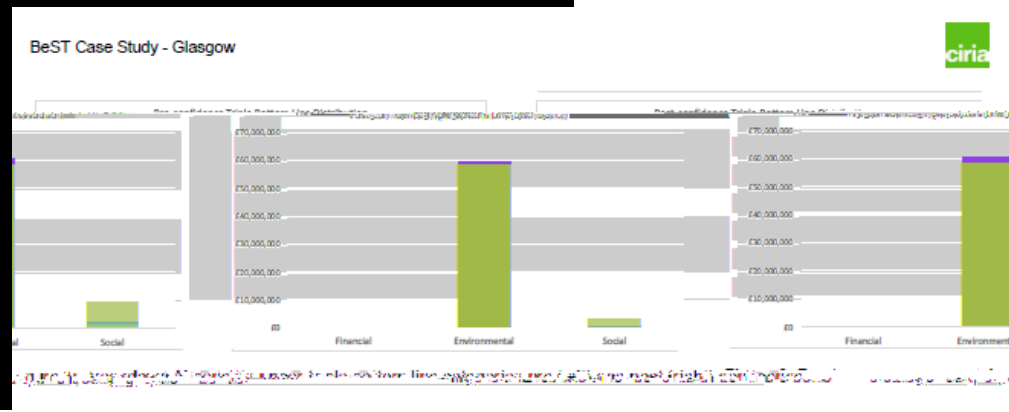
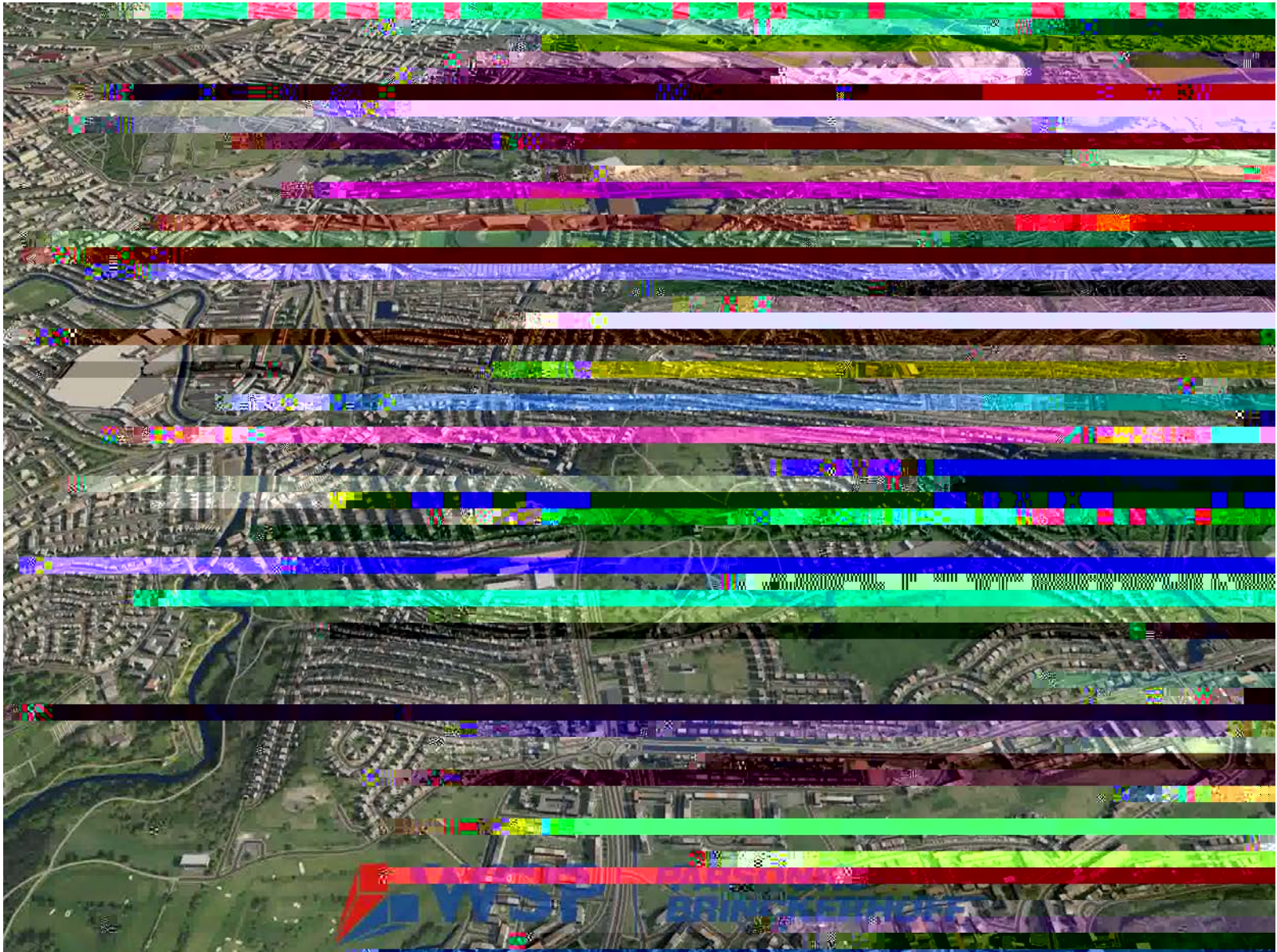


Figure 1: Breakdown of b



Visualisation Tools

Good for Community Engagement and Elected Member Sessions



Questions?

Discussion?

Notes?