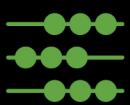


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Benchmark Apps - Parametric Models



benchmark
estimating software



Benchmark Apps – Parametric Models

User Manual

**This manual is designed to assist users in the day-to-day use
of the Parametric Models feature with Benchmark
Estimating Software.**

Version 7.85, April 2022

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Carriageway
Signs & Lighting

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Benchmark Apps - Parametric Models

Overview

Benchmark apps, built using Microsoft Power Apps, offer an intuitive, cloud-hosted solution for Parametric Models. This application allows Estimators to perform a two-step process, where:

- Estimators can input details about the works to be undertaken in a sophisticated app interface to produce the list of quantities and review these quantities.
 - These quantities are then priced in Benchmark i.e., the Bill of Quantity (BQ or BOQ) is then created back in Benchmark.
- Estimators can also view a summarised or full version of the BQ in the app. At this stage, the BQ in the app is read-only.

Prerequisites

To use the Parametric Models feature in Benchmark, you must have:

- Access to Microsoft Power Apps in your organisation.
- Permission to use the Parametric Models app in Power Apps.
- PowerApps URL configured in Administration > Integration Settings > PowerApps.
Contact your system administrator for more information.
- **Parametric Models Library** role-based or individual access. An administrator can provide the relevant level of this access to the estimator from the [Estimator Library](#) or [Role Based Access](#) windows.

Access	Role Based Access
Disallow change to Project status after Wo	No
Custom Export Library	Read, Edit, Add, Delete
Run Inactive Routines in a Project	No
Reports/Exports	View
Allow editing in Project Mark-up Calculato	Yes
Workflow	Read, Edit, Add, Delete
Mark-Up/On-Cost/TEF Calculation Library	Read, Edit, Add, Delete
Do not allow Project Client to be edited	No
Mark-Up/On-Cost/TEF Percentage Settings	Read, Edit, Add, Delete
Display Workbank on My Benchmark	Yes
Parametric Models Library	Read, Edit, Add, Delete

Accessing Parametric Models

You can access the Parametric Models app from the LoadSpring Homepage.

1. Go to the LoadSpring homepage.
2. From My Applications section, select Benchmark Apps - Parametric Models.
The app opens in your web browser.

Navigating the App

There are several model types available and in development for this feature. In this document, we will look at some of the implemented model types, such as Indirect Works and Regional Investment Programme (RIP).



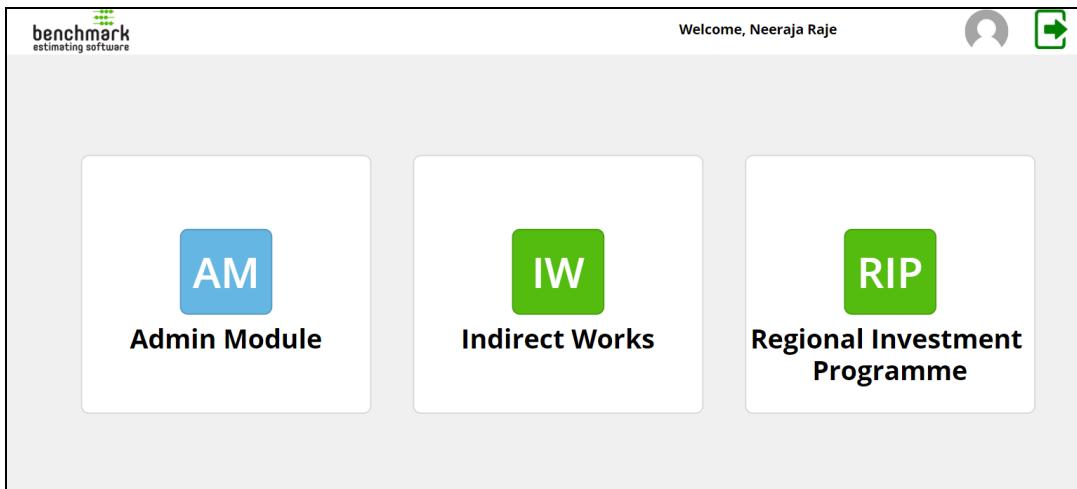
The Indirect Works model is also called the Preliminary model or Prelims model.

Landing Page

The app landing page allows you to select a model type to view the saved, submitted and archived model instances or create a new one.



Only users with an Administrator role for this application in Power Apps will have access to the Admin Module.



Summary Page

The screenshot shows the Summary Page of the Benchmark estimating software. At the top, there is a navigation bar with icons for Home (9), Welcome (1), Help (10), Logout (8), and Create New Model Instance (4). Below the navigation bar is a toolbar with buttons for Saved (2), Submitted, Archived, and a search field (3). A table displays a list of model instances with columns for Model Instance, Estimate, Date Created, Status, Scheme Name, Project Manager, Created By, and Action. The table includes rows for various models like 'New Preliminaries Model v1.7', 'New Preliminaries Model SAG', and 'HW Repairs_Updated'. Each row has a 'View' button (6) and an archive icon (7). A red box highlights the 'View' button for the second row. On the left side of the table, a red circle labeled '5' points to the table itself. A red box highlights the 'View' button for the second row.

Model Instance	Estimate	Date Created	Status	Scheme Name	Project Manager	Created By	Action
New Preliminaries Model v1.7		31/01/2022	Saved		Shailendra Mishra	View	
New Preliminaries Model SAG	PowerApps New	14/12/2021	Saved	Bypass	1dassa	Sagar Chavan	View
HW Repairs_Updated	Golden Quadrilateral	10/12/2021	Saved	Bypass	Joe	Neeraja Raje	View
New Preliminaries Model v1.5_V	Project V	10/12/2021	Saved	Widening	Joe	Vinodh KP	View
New Preliminaries Model v1.4	Golden Quadrilateral	08/12/2021	Saved			Neeraja Raje	View
New Preliminaries Model v1.3	Modified title	08/12/2021	Saved			Neeraja Raje	View
New Preliminaries Model v1.2	Load sections from library	08/12/2021	Saved			Neeraja Raje	View
New Preliminaries Model v1.1	Golden Quadrilateral	07/12/2021	Saved	CSB		Neeraja Raje	View
New Preliminaries Model v1.0	Highway Upgrade	02/12/2021	Saved	Junction Improvement	PM	Shailendra Mishra	View

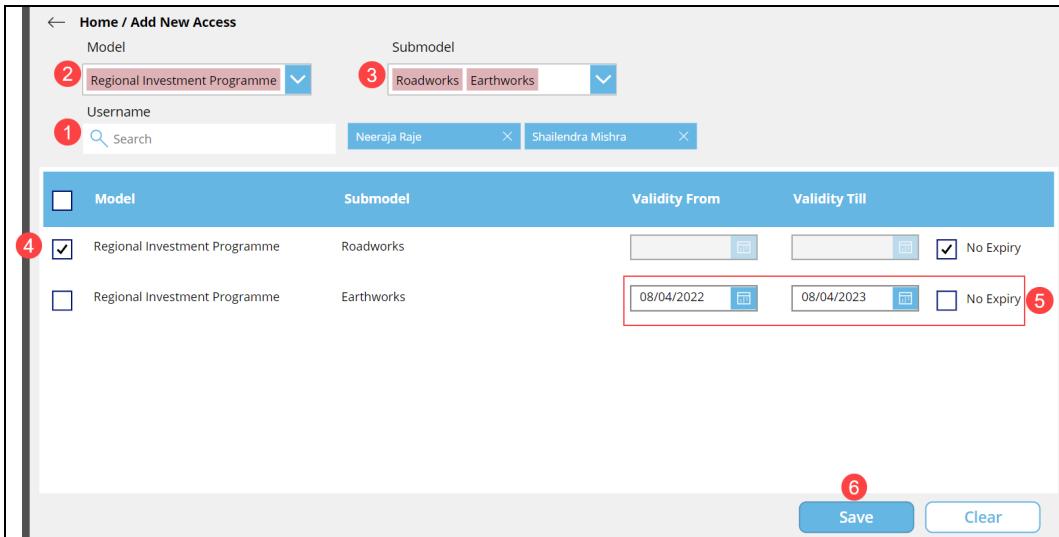
- 1 - Displays the name of the logged in user.
- 2 - Use this toggle to view the list of **Saved**, **Submitted** or **Archived** model instances.
- 3 - Search for model instances.
- 4 - Create new model instances.
- 5 - Displays key information for each of the model instances:
 - Model Name
 - Estimate Name
 - Date the instance was created
 - Status of the model instance – *Saved*, *Submitted* or *Archived*
 - Scheme Name
 - Name of the Project Manager
 - Name of the user who created the model instance
- 6 - View all the details for the selected model instance.
- 7 - Archive the model instance.
- 8 - Log out of the application.
- 9 - Go back to the Home (previous) screen.
- 10 - Open this Help document.

Managing User Access

Administrators must grant users access to the relevant model types and sub models. This access can be granted for a set duration, if required.

Setting Up New Access

1. [Open](#) the Parametric Models app.
2. Select Admin Module.
3. Select the New Access + button.

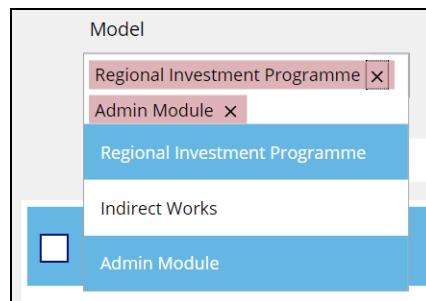


The screenshot shows the 'Add New Access' page. At the top, there are dropdown menus for 'Model' (set to 'Regional Investment Programme') and 'Submodel' (set to 'Roadworks, Earthworks'). Below these are two search input fields: 'Username' containing 'Neeraja Raje' and 'Shailendra Mishra', and 'Model' containing 'Regional Investment Programme'. The main table lists access details:

Model	Submodel	Validity From	Validity Till	
<input checked="" type="checkbox"/> Regional Investment Programme	Roadworks	<input type="text"/> 08/04/2022	<input type="text"/> 08/04/2023	<input checked="" type="checkbox"/> No Expiry
<input type="checkbox"/> Regional Investment Programme	Earthworks	<input type="text"/> 08/04/2022	<input type="text"/> 08/04/2023	<input type="checkbox"/> No Expiry

At the bottom right are 'Save' and 'Clear' buttons. Red numbered circles indicate specific steps: 1 points to the 'Username' search field; 2 points to the 'Model' dropdown; 3 points to the 'Submodel' dropdown; 4 points to the checked 'Regional Investment Programme' checkbox; 5 points to the 'No Expiry' checkbox for the second row; and 6 points to the 'Save' button.

4. From the *Username* ① dropdown, search and select the relevant user(s).
To remove a selected user, select x in their username tab.
5. From the *Model* ② dropdown, select all the model types you want this user to be able to access.
For example, *Regional Investment Programme*.
To remove a selected model type, select x.



6. From the *Submodel* ③ dropdown, select all the sub models that you want this user to be able to access.

For example, if you select the model type *Regional Investment Programme*, then *Roadworks, Earthworks, Drainage, Carriageway, Signs & Lighting* will be the sub models available for selection.

To remove a selected sub model, select x.

7. All the selected models / sub models will be added to the grid, with a default validity of one year.
8. Select the relevant row (model / sub model) **4**
Alternatively, use the checkbox in the header to select all the rows.
9. To modify the default access duration, use the *Validity From* and *Validity To* calendar tools or check *No Expiry* **5**
10. Select Save **6**

Modifying User Access

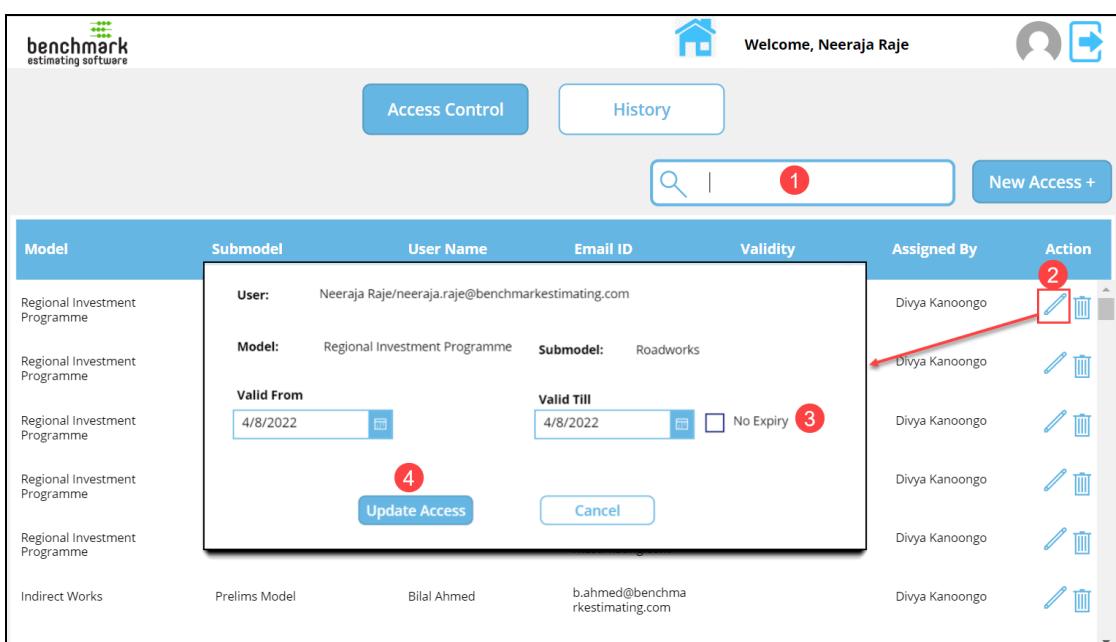
The Access Control tab lists all the users and their access within the application. Administrators can modify the duration for which users can access the assigned models/sub models.

1. In the Access Control tab, search **1** the relevant user.

You can also search by:

- Model
- Sub model
- Email
- User who assigned the access

2. Select the Edit **2** icon.
3. In the pop-up screen, modify the validity of the user's access to this model/sub model or select **No Expiry** **3**
4. Select Update Access **4**



The screenshot shows the Access Control tab in the benchmark estimating software. A user named Neeraja Raje is selected. A modal dialog is open for modifying her access. The dialog contains the following fields:

User:	Neeraja Raje/neeraja.raje@benchmarkestimating.com
Model:	Regional Investment Programme
Submodel:	Roadworks
Valid From:	4/8/2022
Valid Till:	4/8/2022
Validity:	<input type="checkbox"/> No Expiry 3

At the bottom of the dialog are two buttons: **Update Access** (with a red circle containing the number 4) and **Cancel**.

On the right side of the main interface, there is a list of users assigned to the model, each with edit and delete icons. One row for 'Divya Kanoongo' is highlighted with a red box and a red arrow pointing to the edit icon, indicating the step to click.

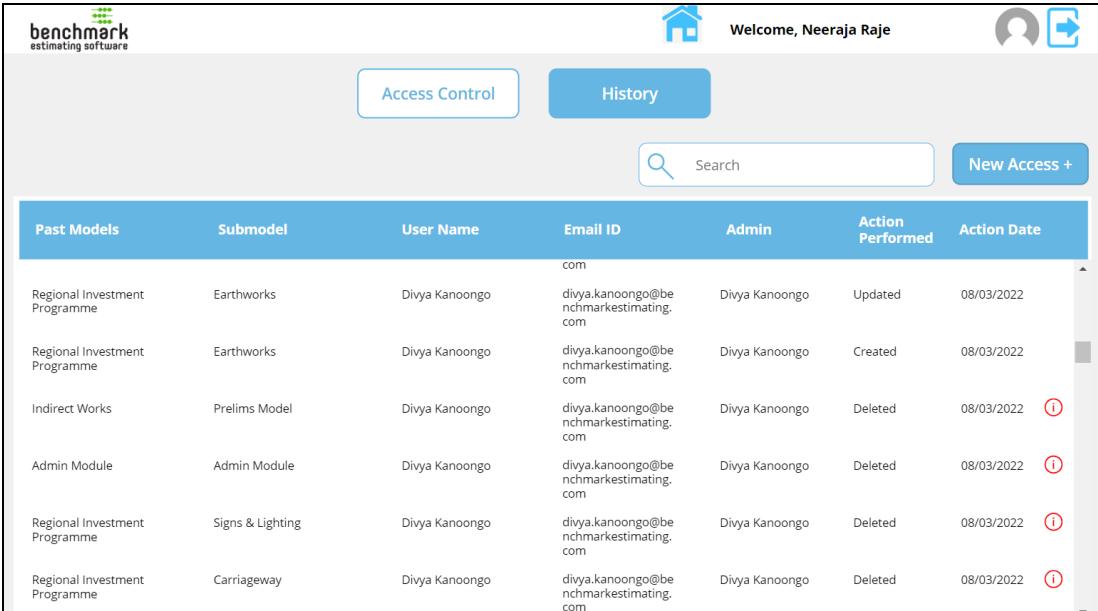
Deleting User Access

Administrators can revoke a user's access to the assigned models / sub models.

1. In the Access Control tab, search the relevant user.
2. Select the Delete icon  for the model / sub model you no longer want this user to access.
The following confirmation prompt displays:
"Are you sure you want to delete <Model Type – Sub Model Name> model access for <Username>?"
3. Enter comments in the text area within the prompt, if required.
4. Select Yes.

Viewing Access History

The History tab of the Admin Module shows all the access created, updated and deleted by Administrators.



Past Models	Submodel	User Name	Email ID	Admin	Action Performed	Action Date
Regional Investment Programme	Earthworks	Divya Kanoongo	divya.kanoongo@benchmarkestimating.com	Divya Kanoongo	Updated	08/03/2022
Regional Investment Programme	Earthworks	Divya Kanoongo	divya.kanoongo@benchmarkestimating.com	Divya Kanoongo	Created	08/03/2022
Indirect Works	Prelims Model	Divya Kanoongo	divya.kanoongo@benchmarkestimating.com	Divya Kanoongo	Deleted	08/03/2022 
Admin Module	Admin Module	Divya Kanoongo	divya.kanoongo@benchmarkestimating.com	Divya Kanoongo	Deleted	08/03/2022 
Regional Investment Programme	Signs & Lighting	Divya Kanoongo	divya.kanoongo@benchmarkestimating.com	Divya Kanoongo	Deleted	08/03/2022 
Regional Investment Programme	Carriageway	Divya Kanoongo	divya.kanoongo@benchmarkestimating.com	Divya Kanoongo	Deleted	08/03/2022 



An information icon  displays if a comment was added when deleting an access. Select the icon to view the comment.

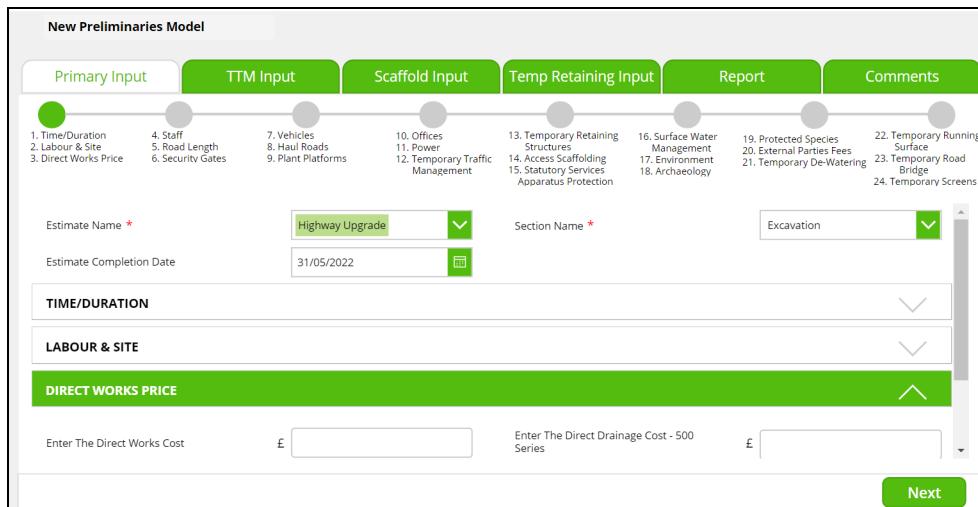
Creating New Model Instances

Indirect Works

1. [Open](#) the Parametric Models app.
2. Select Indirect Works.
3. Select Create New Model Instance.
4. In the Primary Input tab, select the *Estimate Name* and *Section Name*.

These are mandatory fields.

If you have accessed the app from a Project Section, these fields will automatically populate the Project *Title* and Section *Description*, respectively from Benchmark.



Primary Input		TTM Input	Scaffold Input	Temp Retaining Input	Report	Comments
1. Time/Duration	4. Staff	7. Vehicles	10. Offices	13. Temporary Retaining Structures	16. Surface Water Management	22. Temporary Running Surface
2. Labour & Site	5. Road Length	8. Haul Roads	11. Power	14. Access Scaffolding	17. Environment	23. Temporary Road Bridge
3. Direct Works Price	6. Security Gates	9. Plant Platforms	12. Temporary Traffic Management	15. Statutory Services Apparatus Protection	18. Archaeology	24. Temporary Screens
Estimate Name *		Highway Upgrade	Section Name *		Excavation	
Estimate Completion Date		31/05/2022				
TIME/DURATION						
LABOUR & SITE						
DIRECT WORKS PRICE						
Enter The Direct Works Cost	£	Enter The Direct Drainage Cost - 500 Series	£			
Next						

5. Use the up and down arrows on the accordions to expand or collapse panels in the screen.




6. Enter / select details for all the relevant fields in each of the panels in the screen.

7. Select **Next** to continue proceeding to the next screens.

When you proceed from the first screen, you will be prompted to enter the model instance name.

8. Enter the name and select Continue.

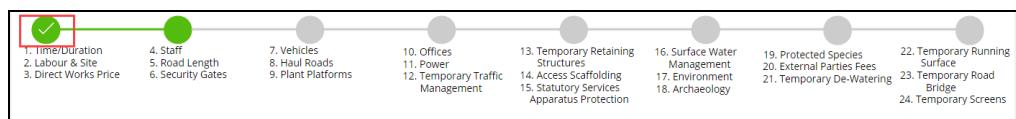


If required, you can edit this name in any of the screens using the Edit icon.

Then, Save the new name.

The screenshot shows the software's main menu bar with tabs: Primary Input, TTM Input, Scaffold Input, Temp Retaining Input, Report, and Comments. Below the menu is a horizontal progress line consisting of 24 numbered circles. The first circle (1. Project Information) has a green checkmark inside, indicating completion. The other 23 circles are grey, indicating they are pending completion. To the right of the progress line, there is descriptive text for each numbered item, such as '1. Project Information' through '24. Temporary Screens'.

Each completed screen is denoted by a tick within a green circle in the progress line. Active screens are denoted by a green circle. Screens pending completion are denoted by grey circles.



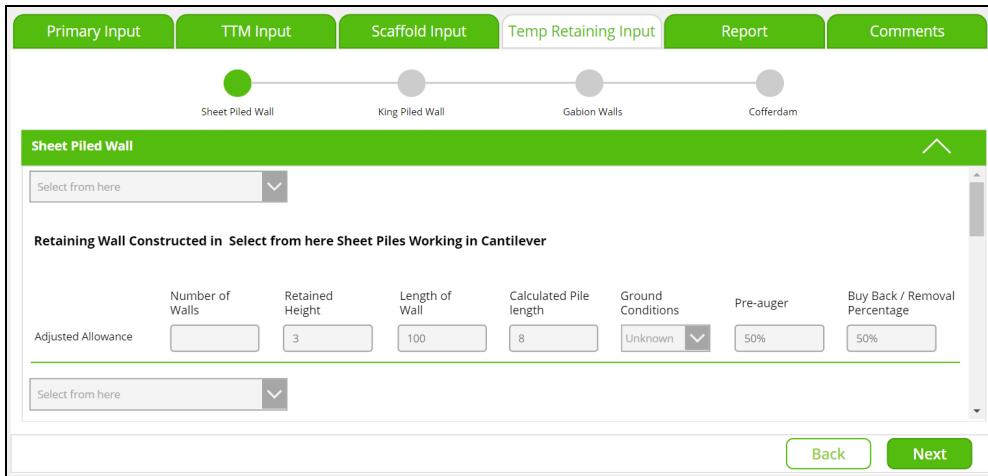
9. Enter / select details for all the relevant fields in each of the panels in the TTM Input tab.

10. Select Next to continue proceeding to the next screens.

You can select Back to return to the previous screen and make changes.

11. Enter / select details for all the relevant fields in each of the panels in the Scaffold Input tab.

12. Select **Next** to continue proceeding to the next screens.
13. Enter / select details for all the relevant fields in each of the panels in the Temp Retaining Input tab.



Sheet Piled Wall

Select from here

Retaining Wall Constructed in Select from here Sheet Piles Working in Cantilever

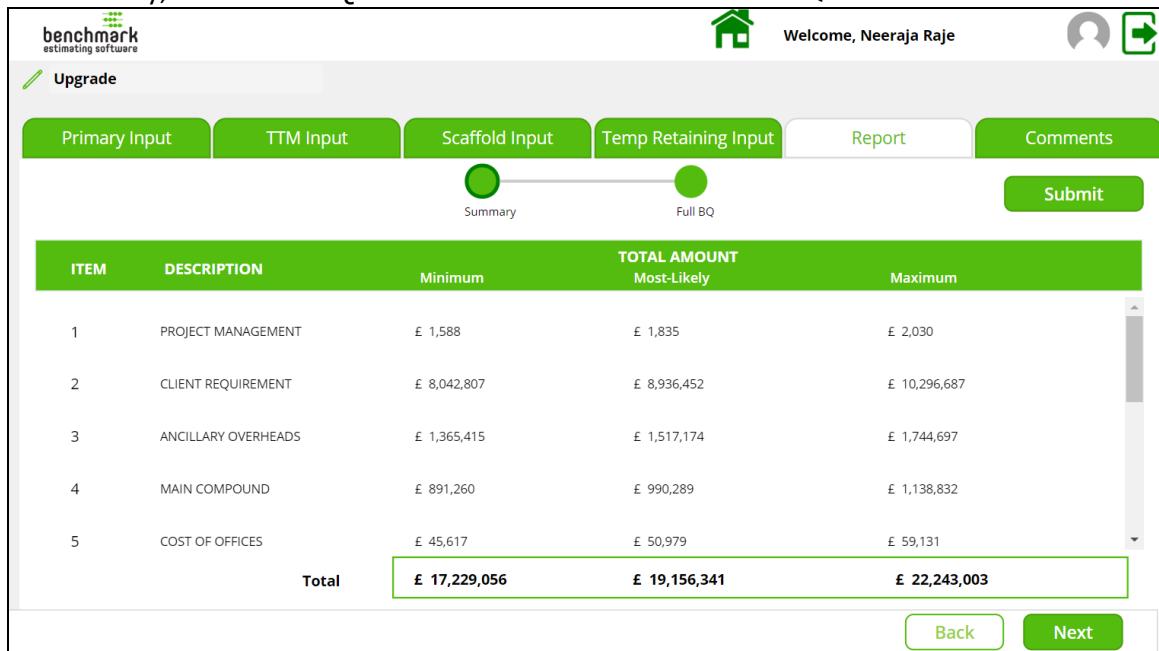
Number of Walls	Retained Height	Length of Wall	Calculated Pile length	Ground Conditions	Pre-auger	Buy Back / Removal Percentage
Adjusted Allowance	3	100	8	Unknown	50%	50%

Select from here

Back Next

14. Select **Next** to continue proceeding to the next screens.
15. In the **Report** screen, review the summary of the BQ.

Alternatively, select **Full BQ** to review all the details of the Bill of Quantities.



Welcome, Neeraja Raje

Primary Input TTM Input Scaffold Input Temp Retaining Input Report Comments

Summary Full BQ

Submit

ITEM	DESCRIPTION	Minimum	TOTAL AMOUNT		Maximum
			Most-Likely		
1	PROJECT MANAGEMENT	£ 1,588	£ 1,835		£ 2,030
2	CLIENT REQUIREMENT	£ 8,042,807	£ 8,936,452		£ 10,296,687
3	ANCILLARY OVERHEADS	£ 1,365,415	£ 1,517,174		£ 1,744,697
4	MAIN COMPOUND	£ 891,260	£ 990,289		£ 1,138,832
5	COST OF OFFICES	£ 45,617	£ 50,979		£ 59,131
Total		£ 17,229,056	£ 19,156,341		£ 22,243,003

Back Next

16. Select **Submit**.

The BQ will be created in Benchmark.

Viewing the BQ

When you submit a model instance from the Parametric Models app:

ITEM	DESCRIPTION	Minimum	TOTAL AMOUNT	
			Most-Likely	Maximum
1	PROJECT MANAGEMENT	£ 1,588	£ 1,835	£ 2,030
2	CLIENT REQUIREMENT	£ 8,042,807	£ 8,936,452	£ 10,296,687
3	ANCILLARY OVERHEADS	£ 1,365,415	£ 1,517,174	£ 1,744,697
4	MAIN COMPOUND	£ 891,260	£ 990,289	£ 1,138,832
5	COST OF OFFICES	£ 45,617	£ 50,979	£ 59,131
Total		£ 17,229,056	£ 19,156,341	£ 22,243,003

- A BQ is created back in Benchmark.
- BQ line items are created as part of a section or composite item.
- BQ line items with quantity and units are created as normal items.
- BQ line items without quantity and units are created as text items.
- BQ line items with 0 quantity are not created.

To view the BQ created in Benchmark:

1. Open the Project for which you created the BQ.
2. Select the relevant Section.

All the BQ line items are created as Project Items.

Line	Code	WBS	Description	Quantity	Unit	Rate	Cost	Sub Rate
1			Staff Daily Travel	0.54	Days	£0.00	£0.00	£0.01
2			Door Access, including swipe cards	2.00	units	£0.00	£0.00	£0.00
3			Gate Access	5.00	units	£0.00	£0.00	£0.00
4			Manager	4,528.30	hours	£0.00	£0.00	£0.01
5			CCTV Watchers Days	5,434.00	hours	£0.00	£0.00	£0.00
6			CCTV Watchers Nights	5,434.00	hours	£0.00	£0.00	£0.00
7			Staff Weekly Travel	0.49	Weeks	£0.00	£0.00	£0.00

You can also view these items in the app using the **Full BQ** option (read-only BQ) in the Report tab.



All the Items from the legacy Excel files will be displayed here. Only the non-zero quantity Items will be created in Benchmark.

Primary Input	TTM Input	Scaffold Input	Temp Retaining Input	Report	Comments
		Summary	Full BQ	Submit	
		DESCRIPTION	QUANTITY	UNIT	
PROJECT MANAGEMENT BQ	TRAVEL				
PROJECT MANAGEMENT BQ	Staff Daily Travel	.54	Days		
PROJECT MANAGEMENT BQ	Staff Weekly Travel	.49	Weeks		
PROJECT MANAGEMENT BQ	SUBSISTENCE				
PROJECT MANAGEMENT BQ	Regular Subsistence	.38	Weeks		

[Back](#)

Regional Investment Programme (RIP)

The RIP model includes the following sub models:

- Roadworks
- Earthworks
- Drainage
- Carriageway
- Signs & Lighting



This topic describes the process of creating a Roadworks submodel instance in the application to generate a Bill of Quantities (BQ). You can create other submodel instances following a similar process.

1. [Open](#) the Parametric Models app.
2. Select Regional Investment Programme.
3. Select Roadworks.
4. Select Create New Model Instance.
5. In the Options Parameters tab, select the *Estimate Name* and *Section Name*.

These are mandatory fields.

If you have accessed the app from a Project Section, these fields will automatically populate the *Project Title* and *Section Description*, respectively from Benchmark.



The Scheme Credentials panel will populate details for the Scheme that this Estimate (Project) is associated with in Benchmark.

6. Use the up and down arrows on the accordions to expand or collapse panels in the screen.

Site Information						
Existing Network		Length (Kms)	Standard	Elevated Sections (kms)	Grade Separated Interchanges (No)	At Grade Junctions (No)
Rural:		Primary 10	S2 (rural) 			2
		Secondary 10	S2 (rural) 			2

7. Select Next to continue proceeding to the next screens.

When you proceed from the first screen, you will be prompted to enter the model instance name.

8. Enter the name and select Continue.



If required, you can edit this name in any of the screens using the Edit icon.

Then, Save the new name.



Each completed screen is denoted by a tick within a green circle in the progress line. Active screens are denoted by a green circle. Screens pending completion are denoted by grey circles.



9. Enter / select details for all the relevant fields in each of the panels in the Detailed Parameters screen.

Pipelines

Save As Draft

Options Parameters	Detailed Parameters	Series Parameters	Full BQ	Comments			
1.Existing Infrastructure	2.Principal Routes	3.Grade Separated Interchanges	4.At Grade Junction	5.Side Roads	6.Side Road Junctions	7.Off-Line Tracks	8.Proposed Landscaping Bunds

Existing Infrastructure

Existing roads to be abandoned/upgraded		RURAL	URBAN	TOTAL	
Grade Separated Interchanges:	Donut	no	2	1	3
	Dumbell	no	2	1	3
	Half Dumbell	no			0
	Diamond	no			0

Back **Next**

10. Select **Next** to continue proceeding to the next screens.
You can select **Back** to return to the previous screen and make changes.
11. Enter / select details for all the relevant fields in each of the panels in the **Series Parameters** tab.

Pipelines

Save As Draft

Options Parameters	Detailed Parameters	Series Parameters	Full BQ	Comments									
1.Proportion of heavily wooded areas requiring clearance	2.Take down existing fences	3.Take down existing safety barriers	4.Take up existing kerbs and channels	5.Take up existing lighting columns	6.Take down existing traffic signs	7.Take down existing technology	8.Temporary Fencing (as specified and shown on the drawings)	9.Post and rail boundary fencing	10.Other fencing (excluding Environmental Barriers)	11.Environmental Barriers	12.LANDSCAPING & ECOLOGY Planting	13.Additional habitat creation	14.Temporary Reptile Fencing

Proportion of heavily wooded areas requiring clearance

Take down existing fences

Assumptions: All widening in RURAL locations require fences to be taken down on BOTH sides of existing highway boundary.
ADJUST for retained fencing associated with:

Areas of assumed take down both sides of road:	Proportion to be retained	Areas of assumed no fences taken down:	Proportion to be removed
Parallel widening	10% <input checked="" type="checkbox"/>	Symetric widening with no land take (rural)	20% <input checked="" type="checkbox"/>
Assymetric widening	10% <input checked="" type="checkbox"/>	Urban sections	25% <input checked="" type="checkbox"/>
Symetric widening with land take	5% <input checked="" type="checkbox"/>	Detrunked sections	5% <input checked="" type="checkbox"/>

Back **Next**

12. Select **Next** to continue proceeding to the next screens.

13. In the Full BQ tab, review all the details of the Bill of Quantities (BQ).

The screenshot shows the Benchmark estimating software interface. At the top, there is a header with the Benchmark logo, a house icon, the text "Welcome, Neeraja Raje", and a user profile icon. Below the header, the word "Pipelines" is displayed. A navigation bar contains five tabs: "Options Parameters", "Detailed Parameters", "Series Parameters", "Full BQ" (which is highlighted in green), and "Comments". To the right of the tabs is a "Submit" button. The main area features a table with columns: "Sr No", "Description", "Unit", and "Qty". The table lists six items:

Sr No	Description	Unit	Qty
1	General site clearance	ha	65.28
2	General site clearance - wooded areas	ha	6.95
3	General site clearance - removal of hedges	m	0.57
4	Demolition of buildings	no	0
5	Demolition of bridges	no	0
6	Demolition of retaining walls	no	0

14. Select Submit.

The following confirmation prompt displays:

"No changes to the model are permissible once you submit the item list to Benchmark. Please press Confirm to continue."

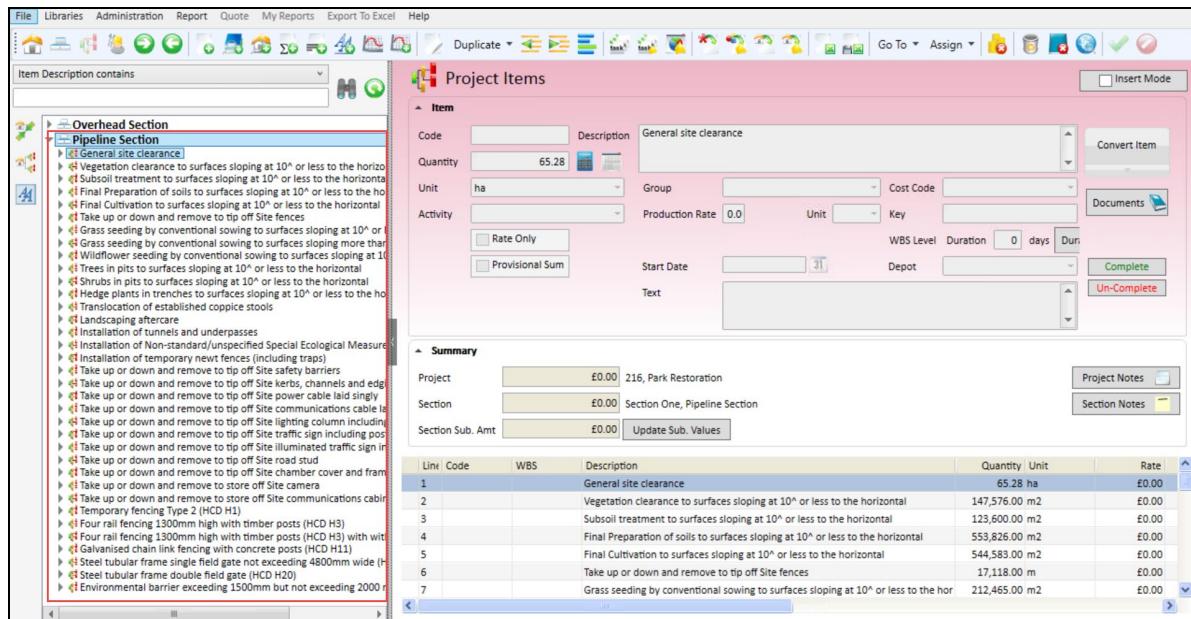
15. Select Confirm.

Viewing the BQ

To view the BQ created in Benchmark:

1. Open the Project for which you created the BQ.
2. Select the relevant Section.

All the BQ line items are created as Project Items.

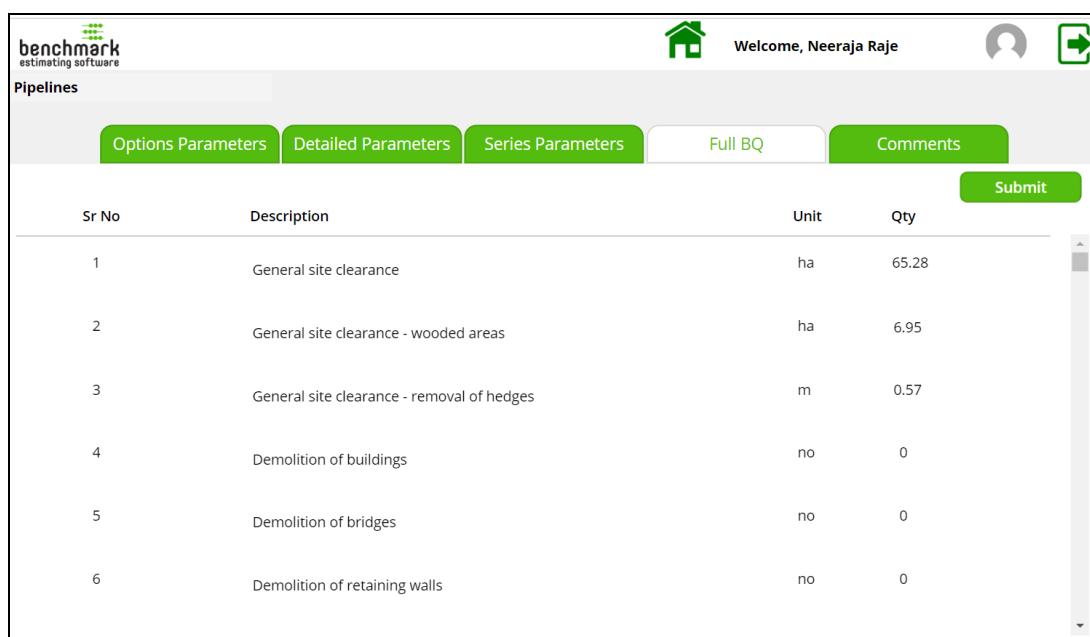


Line	Code	Description	Quantity	Unit	Rate
1		General site clearance	65.28	ha	£0.00
2		Vegetation clearance to surfaces sloping at 10° or less to the horizontal	147,576.00	m ²	£0.00
3		Subsoil treatment to surfaces sloping at 10° or less to the horizontal	123,600.00	m ²	£0.00
4		Final Preparation of soils to surfaces sloping at 10° or less to the horizontal	553,826.00	m ²	£0.00
5		Final Cultivation to surfaces sloping at 10° or less to the horizontal	544,583.00	m ²	£0.00
6		Take up or down and remove to tip off Site fences	17,118.00	m	£0.00
7		Grass seeding by conventional sowing to surfaces sloping more than 10° or less to the horizontal	212,465.00	m ²	£0.00

You can also view these items in the app using the **Full BQ** tab:



All the Items from the legacy Excel files will be displayed here. Only the non-zero quantity Items will be created in Benchmark.



Sr No	Description	Unit	Qty
1	General site clearance	ha	65.28
2	General site clearance - wooded areas	ha	6.95
3	General site clearance - removal of hedges	m	0.57
4	Demolition of buildings	no	0
5	Demolition of bridges	no	0
6	Demolition of retaining walls	no	0

Other Functions

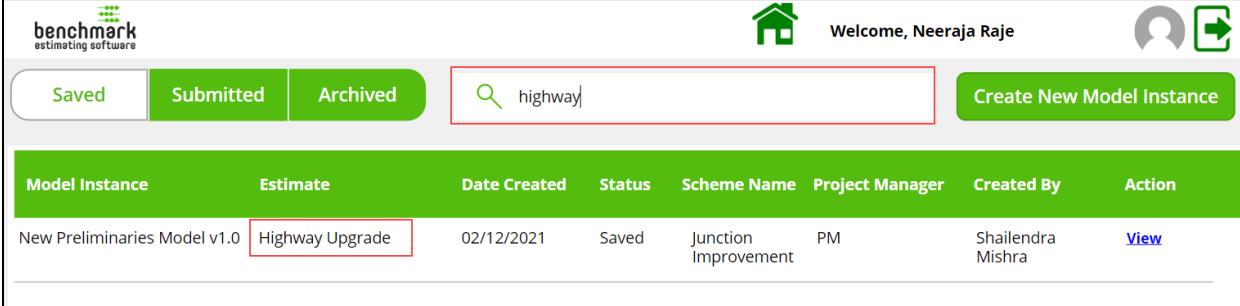
Searching Model Instances

You can search the model instances by the following search criteria:

- Model name
- Estimate name
- Creation date
- Scheme name
- Project manager
- User who created the model instance

In the example below, we will search the model instances by Estimate name:

1. [Open](#) the Parametric Models app.
2. Select the relevant model type.
For example, **Indirect Works**.
3. In the Search bar, enter the search term.
For example, Highway.
4. This displays the list of model instances containing the search term.



The screenshot shows the Parametric Models application interface. At the top, there is a navigation bar with the benchmark logo, a home icon, a user profile icon, and the text "Welcome, Neeraja Raje". Below the navigation bar, there are three buttons: "Saved" (highlighted), "Submitted", and "Archived". To the right of these buttons is a search bar containing the text "highway" with a magnifying glass icon. Next to the search bar is a green button labeled "Create New Model Instance". Below the search bar, there is a table header with columns: "Model Instance", "Estimate", "Date Created", "Status", "Scheme Name", "Project Manager", "Created By", and "Action". Under the "Model Instance" column, it lists "New Preliminaries Model v1.0". Under the "Estimate" column, it shows "Highway Upgrade" (which is highlighted with a red border). Under the "Date Created" column, it shows "02/12/2021". Under the "Status" column, it shows "Saved". Under the "Scheme Name" column, it shows "Junction Improvement". Under the "Project Manager" column, it shows "PM". Under the "Created By" column, it shows "Shailendra Mishra". Under the "Action" column, there is a blue link labeled "View".

Clear the search term to view the unfiltered list of model instances again.

Saving Model Instances

When working on a model instance, you can choose to save the details and submit it later.

1. Select **Save As Draft** to save the entered details.

New Preliminaries Model v1.4
Last Modified Date : 08/04/2022 Last Modified By : Neeraja Raje

Primary Input **TTM Input** **Scaffold Input** **Temp Retaining Input** **Report** **Comments**

STAFF

SUPPLIER STAFF PCF STAGE 6 & 7

Adjusted Supplier Staff Percentage (if known) Default Value is 20% Is The Supplier Providing Permanent Work Design ? YES

DISCIPLINE APORTIONMENT	MODEL DEFAULT %	ADJUSTED %	ADOPTED %
NON OVERHEAD DIRECTORS	4%	4%	4%
PROJECT MANAGEMENT	32%	32%	32%

Back **Next**

2. These drafts display with a status of **Saved** in the list of model instances.
3. Select **View** to open the draft.
4. Select **Modify** to continue working on the model instance.



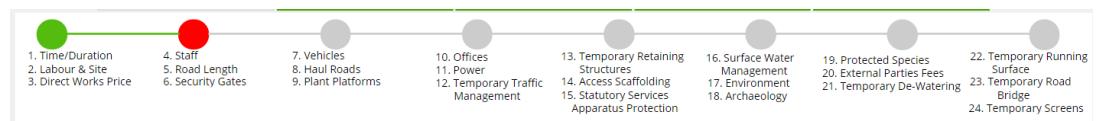
Modifying Model Instances

You can view but not modify the model instances created by other users.



Errors

A red circle denotes errors in the section. Go to the relevant section and rectify the error.

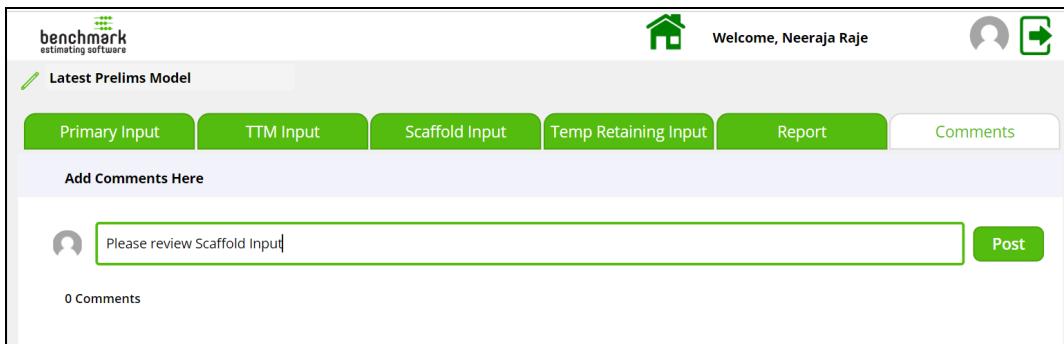


Adding Comments

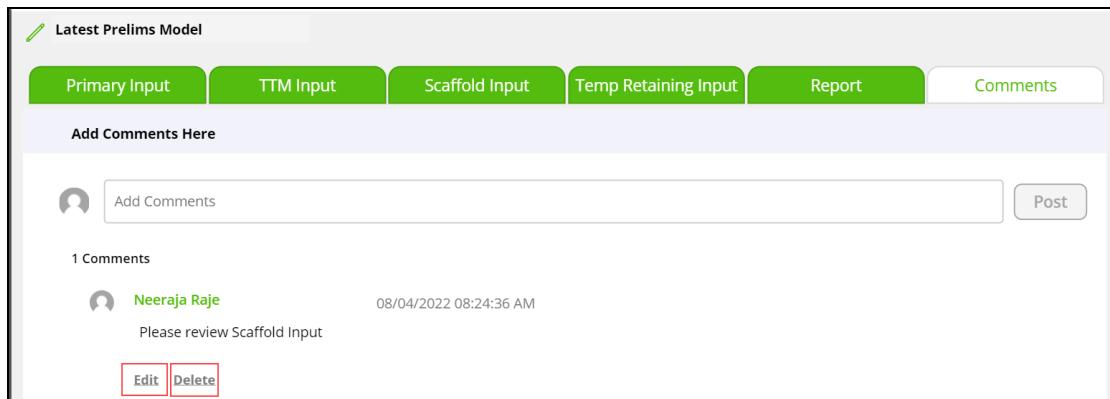
You can add comments to a model instance, when creating it or editing a saved draft. You can also add comments for the model instances created by other users.

To add comments:

- Select the Comment tab for the relevant model instance.



- Enter the comment and select Post.
- Once posted, the comment will be listed in the tab.
- Select:
 - Edit to modify and save your comment.
 - Delete to delete your comment.



Archiving Model Instances

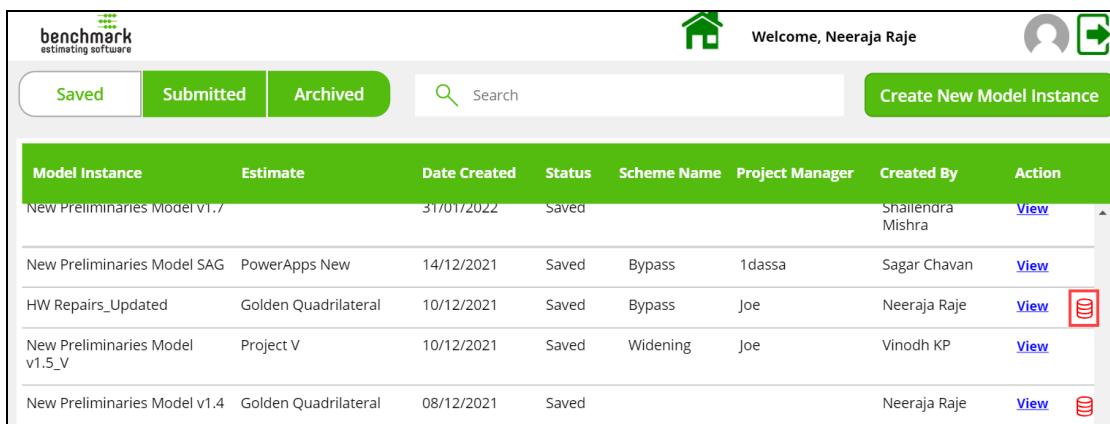
If you no longer need a model instance, you can archive it. This can be particularly useful when you need to manage a large list of model instances in the application.

You can only archive your saved model instances. You cannot archive:

- Your submitted model instances.
- The model instances created by other users.

To archive:

- Go to the Saved tab.
- Select the Archive Model icon for the relevant model instance.



The screenshot shows the Benchmark Estimating Software interface. At the top, there are tabs for 'Saved' (highlighted in green), 'Submitted', and 'Archived'. To the right of these are a search bar with a magnifying glass icon and a placeholder 'Search', and a button labeled 'Create New Model Instance'. The main area is a table titled 'Model Instances' with columns: Model Instance, Estimate, Date Created, Status, Scheme Name, Project Manager, Created By, and Action. The table contains five rows of data. The last row, 'New Preliminaries Model v1.4', has its 'Action' column highlighted with a red border around the 'Copy' icon.

Model Instance	Estimate	Date Created	Status	Scheme Name	Project Manager	Created By	Action
New Preliminaries Model v1.7		31/01/2022	Saved			Shailendra Mishra	View
New Preliminaries Model SAG	PowerApps New	14/12/2021	Saved	Bypass	1dassa	Sagar Chavan	View
HW Repairs_Updated	Golden Quadrilateral	10/12/2021	Saved	Bypass	Joe	Neeraja Raje	View 
New Preliminaries Model v1.5_V	Project V	10/12/2021	Saved	Widening	Joe	Vinodh KP	View 
New Preliminaries Model v1.4	Golden Quadrilateral	08/12/2021	Saved			Neeraja Raje	View 

The following confirmation prompt displays:

"Are you sure you want to archive <model instance name>?"

3. Add a comment within the text area in the prompt, if required.
4. Select Yes.

The model instance will be removed from the Saved tab, and added to the Archived tab.

You can view or [copy](#) these archived model instances, but not submit them.

Copying Model Instances

This functionality facilitates:

- Easy reuse of the same model instance between different estimates.
- Creation of multiple versions of the same model instance within the same estimate. Each version may be different from the other. Users can then compare these versions and submit the relevant model instance.



You can only submit one version per model instance. The others can be archived.

To copy a model instance:

1. From the list of saved/submitted/archived model instances, select View to open the model instance you want to copy.
2. Select Copy.

HW Repairs_Updated

Last Modified Date : 10/12/2021 Last Modified By : Vinodh KP

Copy **Modify**

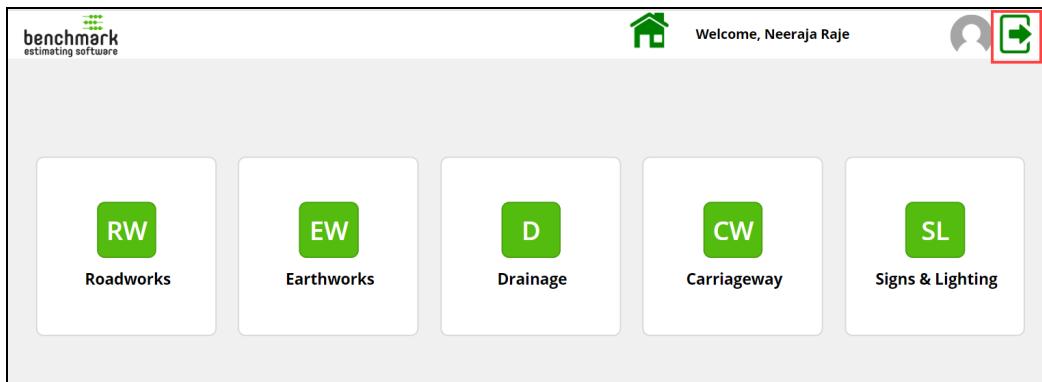
Primary Input	TTM Input	Scaffold Input	Temp Retaining Input	Report	Comments
1. Time/Duration 2. Labour & Site 3. Direct Works Price	4. Staff 5. Road Length	7. Vehicles 8. Haul Roads 9. Plant Platforms	10. Offices 11. Power 12. Temporary Traffic Management	13. Temporary Retaining Structures 14. Access Scaffolding 15. Statutory Services Apparatus Protection	16. Surface Water Management 17. Environment 18. Archaeology
19. Protected Species 20. External Parties Fees 21. Temporary De-Watering	22. Temporary Running Surface	23. Temporary Road Bridge	24. Temporary Screens		
Estimate Name *		Golden Quadrilateral		Section Name *	
Estimate Completion Date		10/12/2021		Repairs	
TIME/DURATION					
LABOUR & SITE					
DIRECT WORKS PRICE					

3. This creates a copy of the selected model instance.
4. Select the new Estimate Name and Section Name.
5. Enter/select details for the new model instance using standard functionality.

Logging Out

To log out of this application:

1. From any page within the application, select the Logout icon.



The following confirmation prompt displays:

“Are you sure you want to Logout?”

2. Select Yes.

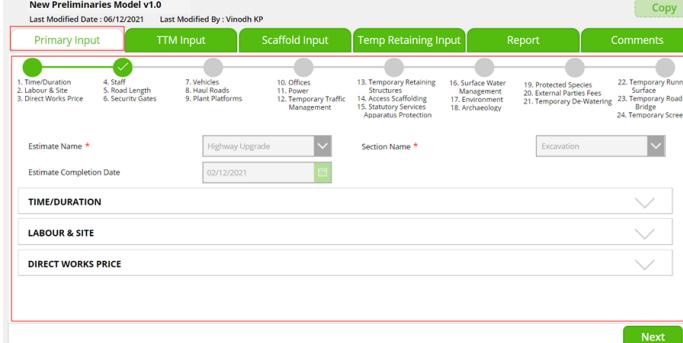
Appendix

The sections below map the input screens in the app to the relevant worksheets.

Indirect Works

Forms in the app user interface map to their corresponding Parametric Model worksheets (MP Model v51.5).

Primary Input



New Preliminaries Model v1.0
Last Modified Date : 06/12/2021 Last Modified By : Vinodh KP

Primary Input **TTM Input** **Scaffold Input** **Temp Retaining Input** **Report** **Comments**

1. Time Duration 4. Staff 7. Vehicles 10. Offices 13. Temporary Retaining Structures 16. Surface Water Management 19. Protected Species 22. Temporary Running Surface
2. Labour & Site 5. Road Length 8. Haul Roads 11. Power 12. Temporary Traffic Management 14. Construction 15. Statutory Services 20. External Parties Fees 21. Temporary De-Watering 23. Temporary Road Bridge 24. Temporary Screens

Estimate Name * Highway Upgrade Section Name * Excavation

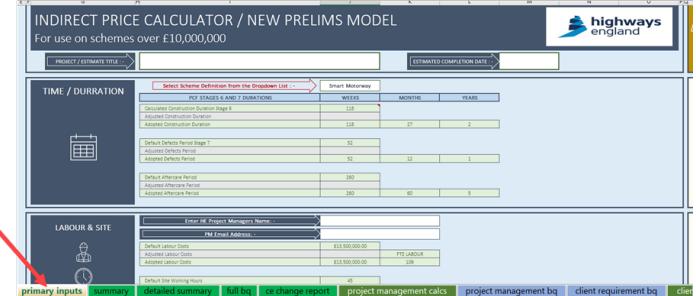
Estimate Completion Date 02/12/2021

TIME/DURATION

LABOUR & SITE

DIRECT WORKS PRICE

Next



INDIRECT PRICE CALCULATOR / NEW PRELIMS MODEL
For use on schemes over £10,000,000

PROJECT / ESTIMATE TYPE **ESTIMATED COMPLETION DATE**

Select Scheme Definition from the Dropdown List Smart Motorway
INT STAGES & DURATION WEEKS MONTHS YEARS
Calculated Construction Duration Stage 8 118 27 2
Adjusted Construction Duration 118 27 2

TIME / DURATION

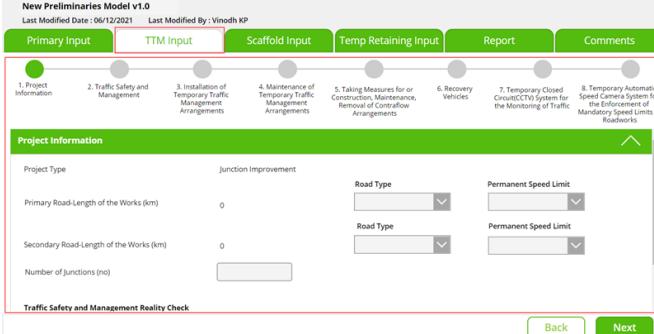
Default Defects Period Stage 7 52 1
Adjusted Defects Period 52 12 1
Default Aftercare Period 280 60 5
Adjusted Aftercare Period 280 60 5

LABOUR & SITE

Enter HE Project Managers Name
HE Email Address
Other Labour Costs
Adjusted Labour Costs
Adjusted Labour Costs

primary inputs summary **detailed summary** **full list** **ice change report** **project management calls** **project management b6** **client requirement b6** **close**

TTM Input



New Preliminaries Model v1.0
Last Modified Date : 06/12/2021 Last Modified By : Vinodh KP

Primary Input **TTM Input** **Scaffold Input** **Temp Retaining Input** **Report** **Comments**

1. Project Information 2. Traffic Safety and Management 3. Installation of Temporary Traffic Management Arrangements 4. Maintenance of Temporary Traffic Management Arrangements 5. Traffic Measures for Construction, Maintenance, Removal of Controlflow Arrangements 6. Recovery Vehicles 7. Temporary Closed Circuit TV System for the Monitoring of Traffic 8. Temporary Automatic Speed Camera System for the Enforcement of Mandatory Speed Limits at Roadworks

Project Information

Project Type Junction Improvement

Primary Road-Length of the Works (km) 0 Road Type Permanent Speed Limit

Secondary Road-Length of the Works (km) 0 Road Type Permanent Speed Limit

Number of Junctions (no)

Traffic Safety and Management Reality Check

Back **Next**



TEMPORARY TRAFFIC MANAGEMENT INPUT SHEET

Project Information

Project Type Smart Motorway
Primary Road Length of the Works (km) 0
Secondary Road Length of the Works (km) 0
Number of Junctions (no) 0

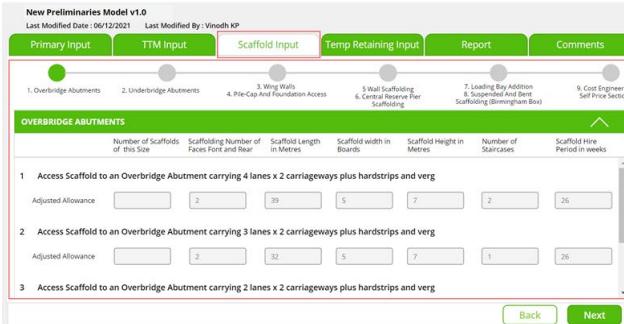
Road type Permanent speed limit

Traffic Safety and Management Reality Check

Direct Cost of Construction £30,000,000
Direct Labour Costs £15,000,000

Back to main menu **item 10** **item 11** **item 12** **item 13** **item 14** **item 15** **item 16** **item 17** **item 18** **item 19** **item 20** **item 21** **item summary** **itm input** **itm**

Scaffold Input



New Preliminaries Model v1.0
Last Modified Date : 06/12/2021 Last Modified By : Vinodh KP

Primary Input **TTM Input** **Scaffold Input** **Temp Retaining Input** **Report** **Comments**

1. Overbridge Abutments 2. Underbridge Abutments 3. Wing Walls 4. Pile-Cap And Foundation Access 5. Wall Scaffolding 6. Cantilever Pier Scaffolding 7. Loading Bay Addition 8. Specialised Scaffolding (Birmingham Box) 9. Cost Engineer Self Price Section

OVERBRIDGE ABUTMENTS

Number of Scaffolds of this Size	Scaffolding Number of Faces Front and Rear	Scaffold Length in Metres	Scaffold width in Boards	Scaffold Height in Metres	Number of Staircases	Scaffold Hire Period in weeks
2	2	39	5	7	2	26

1. Access Scaffold to an Overbridge Abutment carrying 4 lanes x 2 carriageways plus hardstrips and verg.
Adjusted Allowance 2 39 5 7 2 26

2. Access Scaffold to an Overbridge Abutment carrying 3 lanes x 2 carriageways plus hardstrips and verg.
Adjusted Allowance 2 32 5 7 1 26

3. Access Scaffold to an Overbridge Abutment carrying 2 lanes x 2 carriageways plus hardstrips and verg.
Adjusted Allowance 2 26 5 7 1 26

Back **Next**



SCAFFOLDING INPUT

Overbridge Abutments

Number of Parks of this Size	Number of Rows of this Size	Number of Posts per Row	Number of Beams per Post	Number of Verticals per Beam	Number of Horizontal per Vertical	Number of Staircases	Number of Staircases per Staircase	Total Price	Max				
1	1	1	1	1	1	1	1	1	1	1	1	£ 29,000.00	£ 43,454.00

1. Access Scaffold to an Overbridge Abutment carrying 4 lanes x 2 carriageways plus hardstrips and verg.
Default Allowance 1 26 5 7 1 26
Adjusted Allowance 1 26 5 7 1 26
2. Access Scaffold to an Overbridge Abutment carrying 3 lanes x 2 carriageways plus hardstrips and verg.
Default Allowance 1 32 5 7 1 26
Adjusted Allowance 1 32 5 7 1 26
3. Access Scaffold to an Overbridge Abutment carrying 2 lanes x 2 carriageways plus hardstrips and verg.
Default Allowance 1 26 5 7 1 26
Adjusted Allowance 1 26 5 7 1 26
4. Access Scaffold to an Underbridge Abutment carrying 4 lanes x 2 carriageways plus hardstrips and verg.
Default Allowance 1 26 5 7 1 26
Adjusted Allowance 1 26 5 7 1 26
5. Access Scaffold to Underbridge Abutment carrying 3 lanes x 2 carriageways plus hardstrips and verg.
Default Allowance 1 32 5 7 1 26
Adjusted Allowance 1 32 5 7 1 26
6. Access Scaffold to Underbridge Abutment carrying 2 lanes x 2 carriageways plus hardstrips and verg.
Default Allowance 1 26 5 7 1 26
Adjusted Allowance 1 26 5 7 1 26

scaffold input **priced page** **data sheet** **pricing summary** **dropdowns** **input power** **grid calculator** **generator calculator** **water & sewage** **business**

Temp Retaining Input

New Preliminaries Model v1.0
Last Modified Date : 06/12/2021 Last Modified By : Vinodh KP

Primary Input TTM Input Scaffold Input **Temp Retaining Input** Report Comments

Sheet Piled Wall King Piled Wall Gabion Walls Cofferdam

Sheet Piled Wall

Select from here

Retaining Wall Constructed in: Select from here Sheet Piles Working in Cantilever

Number of Walls	Retained Height	Length of Wall	Calculated Pile length	Ground Conditions	Pre-auger	Buy Back / Removal Percentage
Adjusted Allowance	3	100	8	Unknown	50%	50%

Select from here

Back Next

Back to Input sheet

Retaining Solutions Input

Sheet Piled Wall

Length of Wall	Calculated pile length	Ground Conditions	Pre-auger	Buy Back / Removal Percentage
100	6	unknown	50%	50%
200	6	unknown	50%	50%
100	8	unknown	50%	50%
300	8	unknown	50%	50%
100	9	unknown	50%	50%
100	9	unknown	50%	50%
100	10	unknown	50%	50%
100	10	unknown	50%	50%

temp retaining inputs scaffold input priced page data sheet piling summary dropdowns input power grid calculator 1 generator calculator 1 watt ...

Regional Investment Programme (RIP)

Roadworks

Forms in the app user interface map to their corresponding Parametric Model worksheets (DWCM – Roadworks General – BW - v1.3).

Options Parameters

New Roadworks Model

Save As Draft

Options Parameters Detailed Parameters Series Parameters Full BQ Comments

1.Scheme Credentials 2.Site Information 3.Scheme Requirement 4.Site Clearance 5.Fencing 6.Landscaping & Ecology 7.Archaeology

Site Information

Existing Network Length (Kms) Standard Elevated Sections (Kms) Grade Separated Interchanges (No) At Grade Junctions (No) Side Roads (No)

Rural:	Primary				
	Secondary				
Urban:	Primary				
	Secondary				

Back Next

Scheme Credentials

Scheme name Project Manager Cost Manager PDF Stage of Scheme Estimate Reference Date of Estimate Scheme Type Site Information

Existing Network	Length (Kms)	Standard	Elevated Sections (Kms)	Grade Separated Interchanges (No)	At Grade Junctions (No)	Side Roads (No)
Rural:	Primary	Secondary				
Urban:	Primary	Secondary				

Geography

RURAL URBAN

Terrain Ground conditions (stability) Predominant land use

Scheme Requirements

New principal route: Version Control Grand Summary

Options Parameters Detailed Parameters Series Parameters Cost Plan BC ...

Detailed Parameters

New Roadworks Model

Options Parameters **Detailed Parameters** Series Parameters Full BQ Comments

1.Existing Infrastructure 2.Principal Routes 3.Grade Separated Interchanges 4.At Grade Junction 5.Side Roads 6.Side Road Junctions 7.Off Line Tracts 8.Proposed Landscaping Bunds

Existing Infrastructure

Existing roads to be abandoned/upgraded RURAL URBAN TOTAL

Donut	no			0
Dumbell	no			0
Half Dumbell	no			0
Diamond	no			0

Grade Separated Interchanges:

Existing roads to be abandoned/upgraded	RURAL	URBAN	TOTAL
Donut	no		0
Dumbell	no		0
Half Dumbell	no		0
Diamond	no		0

Back Next

EXISTING INFRASTRUCTURE:

Existing roads to be abandoned/upgraded	RURAL	URBAN	TOTAL
Grade Separated Interchanges:	Donut	no	0
	Dumbell	no	0
	Half Dumbell	no	0
	Diamond	no	0
At grade junctions:	I/I	no	0
	Roundabout	no	0
	Crossroads	no	0
	T-junction	no	0
Side roads (crossings)	Single	kms	0
	Dual	kms	0
Off-line tracks	De-trunking	kms	0

PRINCIPAL ROUTES

Proposed Cross Connection	Existing Section	Start Chainage	End Chainage	Length (m)	Alignment	New road Type	Hardscape(s)/Shoulder (per carriage way)	C/Res width	Verge width (per carriage way)
Link 1	0	0	0	0					
Link 2	0	0	0	0					
Link 3	0	0	0	0					
Link 4	0	0	0	0					
Link 5	0	0	0	0					
Link 6	0	0	0	0					
Link 7	0	0	0	0					
Link 8	0	0	0	0					
Link 9	0	0	0	0					
Link 10	0	0	0	0					

Version Control Grand Summary Options Parameters Detailed Parameters Series Parameters Cost Plan BC ...

Series Parameters

New Roadworks Model

Options Parameters		Detailed Parameters		Series Parameters		Full BQ		Comments	
1 Proportion of heavily wooded areas requiring clearance. 2 Take down existing traffic signs and markings. 3 Take up existing kerbs and channels. 4 Take up existing lighting columns and signs. 5 Take down existing traffic signs and markings. 6 Take up existing kerbs and channels. 7 Take down existing traffic signs and markings. 8 Fencing (as specified and shown on the drawings). 9 Post and rail boundary fencing (excluding Environmental Barriers). 10 Environmental Barriers (excluding ECOLOGY PLANNING). 11 Environmental Barriers (excluding ECOLOGY PLANNING). 12 Additional habitat creation. 13 Temporary habitat creation. 14 Temporary habitat creation.									
Proportion of heavily wooded areas requiring clearance									
Principal route	Link 1	Link 2	Link 3	Link 4	Link 5	Link 6	Link 7	Link 8	Link 9
Location									
Start Chainage									
End Chainage									
Extent of heavily wooded areas	<input checked="" type="checkbox"/>								

Back Next

SITE CLEARANCE:								
Proportion of heavily wooded areas requiring clearance								
Principal route	Link 1	Link 2	Link 3	Link 4	Link 5	Link 6	Link 7	Link 8
Location	0	0	0	0	0	0	0	0
Start Change	0	0	0	0	0	0	0	0
End Change	0	0	0	0	0	0	0	0
Extent of heavily wooded areas	0	0	0	0	0	0	0	0
Name	0	0	0	0	0	0	0	0
Mainline Change	0	0	0	0	0	0	0	0
Side Roads	0	0	0	0	0	0	0	0
The Change	0	0	0	0	0	0	0	0
End Change	0	0	0	0	0	0	0	0
Extent of wooded areas	0	0	0	0	0	0	0	0
Side Roads (cont'd)	0	0	0	0	0	0	0	0
Start Change	0	0	0	0	0	0	0	0
End Change	0	0	0	0	0	0	0	0
Extent of wooded areas	0	0	0	0	0	0	0	0

Take down existing fences. Version Control Grand Summary Options Parameters Series Parameters Cost Plan BQ ...

Earthworks

Forms in the app user interface map to their corresponding Parametric Model worksheets (DWCM – BW – Earthworks - v1.2).

Options Parameters

Earthworks Model

Options Parameters		Detailed Parameters		EWKS Parameters		Full BQ		Comments	
1 Scheme Credentials 2 Site Information 3 Scheme Requirement 4 Earthworks									
Site Information									
Existing Network	Length (kms)	Standard	Elevated Sections (kms)	Grade Separated Interchanges (No)	At Grade Junctions (No)	Side Roads (No)			
Rural:									
Secondary:									
Urban:									
Primary:									
Secondary:									

Back Next

Scheme Credentials									
Scheme name									
Project Manager									
Cost Engineer									
PCF Stage of Scheme									
Delivery Reference									
Date of Commence									
Scheme Type									
Site Information									
Existing Network	Length (kms)	Standard	Elevated Sections (kms)	Grade Separated Interchanges (No)	At Grade Junctions (No)	Side Roads (No)			
Rural:									
Urban:									
Primary									
Secondary									
Geography									
Terrain									
Ground conditions (stability)									
Precipitant land use									
Scheme Requirements									
New principal route:	Sheet 1	Subcontract Library	Options Parameters	Length (kms)	No. of Links	Standard			

... Subcontract Library Options Parameters EWKS Parameters Summary Earthworks Schedule Detailed Parameters

Detailed Parameters

New Earthworks Model

Options Parameters		Detailed Parameters		EWKS Parameters		Full BQ		Comments	
1 Existing Infrastructure 2 Principal Routes 3 Grade Separated Interchanges 4 At Grade Junction 5 Side Roads 6 Off-line Tracks 7 Off-line Roads 8 Proposed Landscaping Bunds									
Existing Infrastructure									
Existing roads to be abandoned/upgraded	RURAL	URBAN	TOTAL						
Donut	no			0					
Dumbell	no			0					
Grade Separated Interchanges:									
Half Dumbell	no			0					
Diamond	no			0					

Back Next

EXISTING INFRASTRUCTURE:									
Existing roads to be abandoned/upgraded	Donut	no	RURAL	URBAN	TOTAL				
Grade separated interchanges:	Donut	no				0			
Dumbell	no					0			
Half Dumbell	no					0			
Diamond	no					0			
LUD	no					0			
Roundabout	no					0			
Crossroads						0			
1 junction						0			
Single						0			
Dual						0			
Off-line Tracks						0			
On-line tracking						0			

... Subcontract Library Options Parameters EWKS Parameters Summary Earthworks Schedule Detailed Parameters

PRINCIPAL ROUTES:									
Proposed Connection	Existing Section	Start Chainage	End Chainage	Length (m)	Alignment	New Road Type	Harddrop(s)/shoulder (per carriageway)	C/Fres width	Verge width (per carriageway)
Link 1		0	0	0					
Link 2		0	0	0					
Link 3		0	0	0					
Link 4		0	0	0					
Link 5		0	0	0					
Link 6		0	0	0					
Link 7		0	0	0					
Link 8		0	0	0					
Link 9		0	0	0					
Link 10		0	0	0					

... Subcontract Library Options Parameters EWKS Parameters Summary Earthworks Schedule Detailed Parameters

EWKS Parameters

New Earthworks Model

Options Parameters		Detailed Parameters		EWKS Parameters		Full BQ		Comments	
1 Topsill Strip 2 Excavation of unacceptable materials 3 Excavation of hard material 4 Balancing Ponds 5 Starter layer 6 Removal of existing drains									
Topsill Strip									
Principal Route	Link1	Link2	Link3	Link4					
Location									
Start Chainage									
End Chainage									
Predominant Land Use	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>					
Average Depth of Topsill Strip (mm)	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>					

Back Next

BULK EARTHWORKS:								
Topsoil Strip								
Principal route	Link 1	Link 2	Link 3	Link 4	Link 5	Link 6	Link 7	Link 8
Location	0	0	0	0	0	0	0	0
Start Change	0	0	0	0	0	0	0	0
End Change	0	0	0	0	0	0	0	0
Predominant land use								
Average depth of topsoil strip (mm)								
Interchanges:								
Grade Separate Interchanges								
Name	0	0	0	0	0	0	0	0
Mainline Change	0	0	0	0	0	0	0	0
Predominant land use								
Average depth of topsoil strip (mm)								
Side Roads:								
Side Roads (cont'd):								
Start Change	0	0	0	0	0	0	0	0
End Change	0	0	0	0	0	0	0	0
Predominant land use								
Average depth of topsoil strip (mm)								
Side Roads (cont'd):	0	0	0	0	0	0	0	0
Start Change	0	0	0	0	0	0	0	0
End Change	0	0	0	0	0	0	0	0
Predominant land use								
Average depth of topsoil strip (mm)								

... Subcontract Library Options Parameters EWKS Parameters Summary Earthworks Schedule Detailed Parameters

Drainage

Forms in the app user interface map to their corresponding Parametric Model worksheets (DWCM – RIP Drainage - v1.2).

Options Parameters

New Drainage Model

Save As Draft

Options Parameters **Detailed Parameters** **Specifics Parameters** **Full BQ** **Comments**

1.Scheme Credentials 2.Site Information 3.Scheme Requirement

Site Information

Existing Network	Length (Kms)	Standard	Elevated Sections (kms)	Grade Separated Interchanges (No)	At Grade Junctions (No)	Side Roads (No)
Rural:	Primary	<input type="text"/>	<input checked="" type="checkbox"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>
	Secondary	<input type="text"/>	<input checked="" type="checkbox"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>
Urban:	Primary	<input type="text"/>	<input checked="" type="checkbox"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>
	Secondary	<input type="text"/>	<input checked="" type="checkbox"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>

Back **Next**

Scheme Credentials							
Scheme name							
Project Manager							
Design Manager							
PCI Stage of Scheme							
Estimate Reference							
Date of Estimate							
Scheme Type							
Site Information							
Existing Network	Length (kms)	Standard	Elevated Sections (kms)	Grade Separated Interchanges (No.)	At Grade Junctions (No.)	Side Roads (No.)	
Rural:							
Primary							
Secondary							
Urban:							
Primary							
Secondary							
Geography							
Terrain							
Ground conditions (stability)							
	RURAL			URBAN			
	Primary	Secondary		Primary	Secondary		
Scheme Requirements							
New principal route:							
Rural - <input checked="" type="checkbox"/> Bypass sections							
<input type="checkbox"/> Widened sections (A)							
<input type="checkbox"/> Widened sections (B)							
Urban - <input type="checkbox"/> bypass sections							
Length (kms)	No. of Links		Standard				
			<input checked="" type="checkbox"/>				
... Subcontract Library	Option Parameters		Detailed Parameters	Specifics	Historic Key Items	Tables	Drainage Factors

Detailed Parameters

New Drainage Model

Options Parameters	Detailed Parameters	Specifics Parameters	Full BQ	Comments			
<input checked="" type="radio"/> 1 Existing Infrastructure	<input type="radio"/> 2 Principal Routes	<input type="radio"/> 3 Grade Separated Interchanges	<input type="radio"/> 4 At Grade Junction	<input type="radio"/> 5 Side Roads	<input type="radio"/> 6 Side Road Junctions	<input type="radio"/> 7 Offline Tracks	<input type="radio"/> 8 Proposed Landscaping Bunds
Existing Infrastructure							
Existing roads to be abandoned/upgraded		RURAL	URBAN	TOTAL			
Grade Separated Interchanges:	Donut	no	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	
	Dumbbell	no	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	
	Half Dumbbell	no	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	
	Diamond	no	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	

Specifics Parameters

New Drainage Model

Options Parameters	Detailed Parameters	Specifics Parameters	Full BQ	Comments																																										
<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>																																										
1:Proposed Highway Geometry	2:Grade Separated Interchanges	3:At Grade Junctions	4:Side Roads																																											
<h3>Proposed Highway Geometry</h3> <table border="1"> <thead> <tr> <th colspan="2">Principal Route</th> <th colspan="4">Drainage Method Allocation</th> </tr> <tr> <th>New Road Type</th> <th>Length(m)</th> <th>Kerb & Gully</th> <th>Filter Drain</th> <th>Combined Drainage</th> <th>Channel</th> </tr> </thead> <tbody> <tr> <td>Link1</td> <td>0</td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>Link2</td> <td>0</td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>Link3</td> <td>0</td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>Link4</td> <td>0</td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>Link5</td> <td>n</td> <td></td> <td></td> <td></td> <td></td> </tr> </tbody> </table>					Principal Route		Drainage Method Allocation				New Road Type	Length(m)	Kerb & Gully	Filter Drain	Combined Drainage	Channel	Link1	0					Link2	0					Link3	0					Link4	0					Link5	n				
Principal Route		Drainage Method Allocation																																												
New Road Type	Length(m)	Kerb & Gully	Filter Drain	Combined Drainage	Channel																																									
Link1	0																																													
Link2	0																																													
Link3	0																																													
Link4	0																																													
Link5	n																																													

PROPOSED HIGHWAY GEOMETRY:		Drainage Method Allocation			
Principal route		New Road Type	Length (m)	Kerb & Gully	Filter Drain
				Combined Drainage	Channel
1	Link 1		0	0	
	Link 2		0	0	
	Link 2		0	0	
	Link 4		0	0	
	Link 5		0	0	
	Link 6		0	0	
	Link 7		0	0	
	Link 8		0	0	
	Link 9		0	0	
	Link 10		0	0	
INTERCHANGES		Combined Drainage			
Grade Separated Interchanges		New Road Type	Length (m)	Kerb & Gully	Filter Drain
1	1 (Expand to enter parameters)		0	0	
	Interchange road types:				
	Diverge A		0	0	
	Merge A		0	0	
	Diverge B		0	0	
Merge B					
Merge C					
Merge D					
Merge E					
Merge F					
Merge G					
Merge H					
Merge I					
Merge J					
Merge K					
Merge L					
Merge M					
Merge N					
Merge O					
Merge P					
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Merge JJ					
Merge KK					
Merge LL					

Carriageway

Forms in the app user interface map to their corresponding Parametric Model worksheets (DWCM – Carriageway – BW - v1.2).

Options Parameters

New Carriageway Model

- Options Parameters
- Detailed Parameters
- Pavement Parameters
- Full BQ
- Comments

Save As Draft

1 Scheme Credentials 2 Site Information 3 Scheme Requirement 4 Road Restraints 5 Pavements 6 Kerb/Footway/Paved Areas

Site Information

Existing Network	Length (Kms)	Standard	Elevated Sections (kms)	Grade Separated Interchanges (No)	At Grade Junctions (No)	Side Roads (No)
Rural:	<input type="text"/>	<input checked="" type="checkbox"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>
Secondary	<input type="text"/>	<input checked="" type="checkbox"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>
Urban:	<input type="text"/>	<input checked="" type="checkbox"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>
Secondary	<input type="text"/>	<input checked="" type="checkbox"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>

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Scheme Credentials

Project Name:
 Project Manager:
 Cost Engineer:
 PCT Stage of Scheme:
 Estimate Reference:
 Date of Estimate:
 Scheme Type:

Site Information

Existing Network	Length (kms)	Standard	Elevated Sections (kms)	Grade Separated Interchanges (No)	At Grade Junctions (No)	Side Roads (No)
Rural:	<input type="text"/>	<input checked="" type="checkbox"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>
Urban:	<input type="text"/>	<input checked="" type="checkbox"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>
Secondary	<input type="text"/>	<input checked="" type="checkbox"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>

Geography

Terrain	Ground conditions (stability)	PREDOMINANT LAND USE
<input type="text"/>	<input type="text"/>	<input checked="" type="checkbox"/> RURAL <input type="checkbox"/> URBAN
<input type="text"/>	<input type="text"/>	<input checked="" type="checkbox"/> PRIMARY <input type="checkbox"/> SECONDARY

Scheme Requirements

New principal route:

RURAL	URBAN
<input type="text"/> Bypass sections <input type="text"/> Widened sections (A) <input type="text"/> Widened sections (B)	<input type="text"/> Bypass sections <input type="text"/> Widened sections (A) <input type="text"/> Widened sections (B)
<input type="text"/> Length (kms)	<input type="text"/> No. of Links
<input type="text"/>	<input type="text"/>

Other Cost Library **Subcontract Library** Options Parameters Detailed Parameters Pavement Parameters Historic Key Items Historic Data Tables

Detailed Parameters

New Carriageway Model

- Options Parameters
- Detailed Parameters
- Pavement Parameters
- Full BQ
- Comments

1 Existing Infrastructure 2 Principal Routes 3 Grade Separated Interchanges 4 At Grade Junction 5 Side Roads 6 Side Road Junctions 7 Off-Line Tracks 8 Proposed Landscaping Bunds

Existing Infrastructure

Existing roads to be abandoned/upgraded	RURAL	URBAN	TOTAL
Donut	<input type="text"/>	<input type="text"/>	<input type="text"/>
Dumbell	<input type="text"/>	<input type="text"/>	<input type="text"/>
Half Dumbell	<input type="text"/>	<input type="text"/>	<input type="text"/>
Diamond	<input type="text"/>	<input type="text"/>	<input type="text"/>

EXISTING INFRASTRUCTURE

Existing roads to be abandoned/upgraded	RURAL	URBAN	TOTAL
Grade separated interchanges:	<input type="text"/>	<input type="text"/>	<input type="text"/>
Donut	<input type="text"/>	<input type="text"/>	<input type="text"/>
Dumbell	<input type="text"/>	<input type="text"/>	<input type="text"/>
Half Dumbell	<input type="text"/>	<input type="text"/>	<input type="text"/>
Diamond	<input type="text"/>	<input type="text"/>	<input type="text"/>

PRINCIPAL ROUTES

Proposed Cross-section	Existing Section	Start Change	End Change	Length (m)	Alignment	New Road Type	Hard shoulder(s)/shoulder (per carriageway)	Cycles width	Verge width (per carriageway)
Link 1	<input type="text"/>	<input type="text"/>	<input type="text"/>						
Link 2	<input type="text"/>	<input type="text"/>	<input type="text"/>						
Link 3	<input type="text"/>	<input type="text"/>	<input type="text"/>						
Link 4	<input type="text"/>	<input type="text"/>	<input type="text"/>						
Link 5	<input type="text"/>	<input type="text"/>	<input type="text"/>						
Link 6	<input type="text"/>	<input type="text"/>	<input type="text"/>						
Link 7	<input type="text"/>	<input type="text"/>	<input type="text"/>						
Link 8	<input type="text"/>	<input type="text"/>	<input type="text"/>						
Link 9	<input type="text"/>	<input type="text"/>	<input type="text"/>						
Link 10	<input type="text"/>	<input type="text"/>	<input type="text"/>						

Length In Cut In Embankment At grade On embankment

Options Parameters Detailed Parameters Pavement Parameters Historic Key Items Historic Data Tables Calc Table Data Import Historic metrics

Pavement Parameters

New Carriageway Model

- Options Parameters
- Detailed Parameters
- Pavement Parameters
- Full BQ
- Comments

1 Principal Routes 2 Grade Separated Interchanges 3 At Grade Junction 4 Sideroads

Principal Routes

Proposed Cross-section	Existing Section	Start Change	End Change	Length (m)	New Road Type	Kerb	Channel	Combined Drain	Paved Area
Link1	<input type="text"/>	<input checked="" type="checkbox"/>	<input type="text"/>	<input type="text"/>	<input checked="" type="checkbox"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>
Link2	<input type="text"/>	<input checked="" type="checkbox"/>	<input type="text"/>	<input type="text"/>	<input checked="" type="checkbox"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>
Link3	<input type="text"/>	<input checked="" type="checkbox"/>	<input type="text"/>	<input type="text"/>	<input checked="" type="checkbox"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>

PRINCIPAL ROUTES

Proposed Cross-section	Existing Section	Start Change	End Change	Length (m)	New Road Type	Kerb	Earth length	Channel	Combined	Edging	Edging length	Combined
Link 1	<input type="text"/>											
Link 2	<input type="text"/>											
Link 3	<input type="text"/>											
Link 4	<input type="text"/>											
Link 5	<input type="text"/>											
Link 6	<input type="text"/>											
Link 7	<input type="text"/>											
Link 8	<input type="text"/>											
Link 9	<input type="text"/>											
Link 10	<input type="text"/>											

LINKS LENGTH IN CUT IN EMBANKMENT AT GRADE ON EMBANKMENT

Options Parameters Detailed Parameters Pavement Parameters Historic Key Items Historic Data Tables Calc Table Data Import Historic metrics

Signs & Lighting

Forms in the app user interface map to their corresponding Parametric Model worksheets (DWCM – RIP Signs Lighting - v1.2).

Options Parameters

Signs & Lighting Model

- Options Parameters
- Detailed Parameters
- Signs Parameters
- Road Marking Parameters
- Full BQ
- Comments

Save As Draft

1 Scheme Credentials 2 Site Information 3 Scheme Requirement 4 Signs 5 Roadmarkings

Site Information

Existing Network	Length (Kms)	Standard	Elevated Sections (kms)	Grade Separated Interchanges (No)	At Grade Junctions (No)	Side Roads (No)
Rural:	<input type="text"/>	<input checked="" type="checkbox"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>
Secondary	<input type="text"/>	<input checked="" type="checkbox"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>
Urban:	<input type="text"/>	<input checked="" type="checkbox"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>
Secondary	<input type="text"/>	<input checked="" type="checkbox"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>

Scheme Credentials

Project Name:
 Project Manager:
 Cost Engineer:
 PCT Stage of Scheme:
 Estimate Reference:
 Date of Estimate:
 Scheme Type:

Site Information

Existing Network	Length (Kms)	Standard	Elevated Sections (kms)	Grade Separated Interchanges (No)	At Grade Junctions (No)	Side Roads (No)
Rural:	<input type="text"/>	<input checked="" type="checkbox"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>
Urban:	<input type="text"/>	<input checked="" type="checkbox"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>
Secondary	<input type="text"/>	<input checked="" type="checkbox"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>

Geography

Terrain	Ground conditions (stability)	PREDOMINANT LAND USE
<input type="text"/>	<input type="text"/>	<input checked="" type="checkbox"/> RURAL <input type="checkbox"/> URBAN
<input type="text"/>	<input type="text"/>	<input checked="" type="checkbox"/> PRIMARY <input type="checkbox"/> SECONDARY

Scheme Requirements

New principal route:

RURAL	URBAN
<input type="text"/> Bypass sections <input type="text"/> Widened sections (A) <input type="text"/> Widened sections (B)	<input type="text"/> Bypass sections <input type="text"/> Widened sections (A) <input type="text"/> Widened sections (B)
<input type="text"/> Length (kms)	<input type="text"/> No. of Links
<input type="text"/>	<input type="text"/>
<input type="text"/>	<input type="text"/>
<input type="text"/>	<input type="text"/>

Subcontract Library Options Parameters Detailed Parameters Sign Parameters Road Marking Parameters Historic Key Items Historic Data

Detailed Parameters

New Signs & Lighting Model

- [Options Parameters](#)
- [Detailed Parameters](#)
- [Signs Parameters](#)
- [Road Marking Parameters](#)
- [Full BQ](#)
- [Comments](#)

Existing Infrastructure

Existing roads to be abandoned/upgraded			RURAL	URBAN	TOTAL
Grade Separated Interchanges:	Donut	no			0
	Dumbell	no			0
	Half Dumbell	no			0
	Diamond	no			0

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EXISTING INFRASTRUCTURE

Existing roads to be abandoned/upgraded		RURAL			URBAN			TOTAL		
Grade separated interchanges:	Donut	no			no			no		
At grade junctions:	Donut	no			no			no		
	Dumbell	no			no			no		
	Diamond	no			no			no		
	ILO	no			no			no		
	Roundabout	no			no			no		
Side roads (crossings)	Crossroads	no			no			no		
	T junction	Single	kms		0			0		
	Off-line tracks	Double	kms		0			0		
	De-tracking		kms		0			0		

PRINCIPAL ROUTES

Proposed Cross-section		Existing Section	Start Chainage	End Chainage	Length (m)	New Road Type	Handrail/shoulder (per carriageway)	C/Res width	Verge width (per carriageway)
Link 1		0	0	0	0	Unknown	Unknown	0	0
Link 2		0	0	0	0	Unknown	Unknown	0	0
Link 3		0	0	0	0	Unknown	Unknown	0	0
Link 4		0	0	0	0	Unknown	Unknown	0	0
Link 5		0	0	0	0	Unknown	Unknown	0	0
Link 6		0	0	0	0	Unknown	Unknown	0	0
Link 7		0	0	0	0	Unknown	Unknown	0	0
Link 8		0	0	0	0	Unknown	Unknown	0	0
Link 9		0	0	0	0	Unknown	Unknown	0	0
Link 10		0	0	0	0	Unknown	Unknown	0	0

Total length In cutting At grade On embankment

Option Parameters Detailed Parameters Sign Parameters Road Marking Parameters Historic Key Items Historic Data Tables Calc Table Historic me ...

SigNS Parameters

New Signs & Lighting Model

- [Options Parameters](#)
- [Detailed Parameters](#)
- [Signs Parameters](#)
- [Road Marking Parameters](#)
- [Full BQ](#)
- [Comments](#)

Principal Routes

Proposed Cross-section		Existing Section	Start Chainage	End Chainage	Length (m)	New Road Type	Unit ne 1m2	Unit 1-5m2	Unit Over 10m2
Link 1			0		0	Unknown	Unknown	0	1
Link 2			0		0	Unknown	Unknown	0	1
Link 3			0		0	Unknown	Unknown	0	1
Link 4			0		0	Unknown	Unknown	0	1
Link 5			0		0	Unknown	Unknown	0	1

Back Next

PRINCIPAL ROUTES

Proposed Cross-section		Existing Section	Start Chainage	End Chainage	Length (m)	New Road Type	Unit ne 1m2	Unit 1-5m2
Link 1		0	0	0	0	Unknown	6	1
Link 2		0	0	0	0	Unknown	Unknown	1
Link 3		0	0	0	0	Unknown	Unknown	1
Link 4		0	0	0	0	Unknown	Unknown	1
Link 5		0	0	0	0	Unknown	Unknown	1
Link 6		0	0	0	0	Unknown	Unknown	1
Link 7		0	0	0	0	Unknown	Unknown	1
Link 8		0	0	0	0	Unknown	Unknown	1
Link 9		0	0	0	0	Unknown	Unknown	1
Link 10		0	0	0	0	Unknown	Unknown	1

INTERCHANGES

Grade Separated Interchanges		Ref/Name	Chainage	Section	Type
1	[Empty - To enter parameters]	E 1200 001	0	0	E 1200 002
2	Interchange:	Required?	Road Type	Length	Unit/ln ne 1m2
3	Diverge A	0	0	0	Unit/ln ne 1m2
4	Merge A	0	0	0	Unknown
5	Diverge B	0	0	0	Unknown
6	Merge B	0	0	0	Unknown
7	Links:	Required?	Road Type	Length	Unit/ln ne 1m2

Option Parameters Detailed Parameters Sign Parameters Road Marking Parameters Historic Key Items Historic Data Tables Calc Table Historic me ...

Road Marking Parameters

New Signs & Lighting Model

- [Options Parameters](#)
- [Detailed Parameters](#)
- [Signs Parameters](#)
- [Road Marking Parameters](#)
- [Full BQ](#)
- [Comments](#)

Principal Routes

Proposed Cross-section		Existing Section	Start Chainage	End Chainage	Length (m)	New Road Type
Link1			0		0	Unknown
Link2			0		0	Unknown
Link3			0		0	Unknown

Back Next

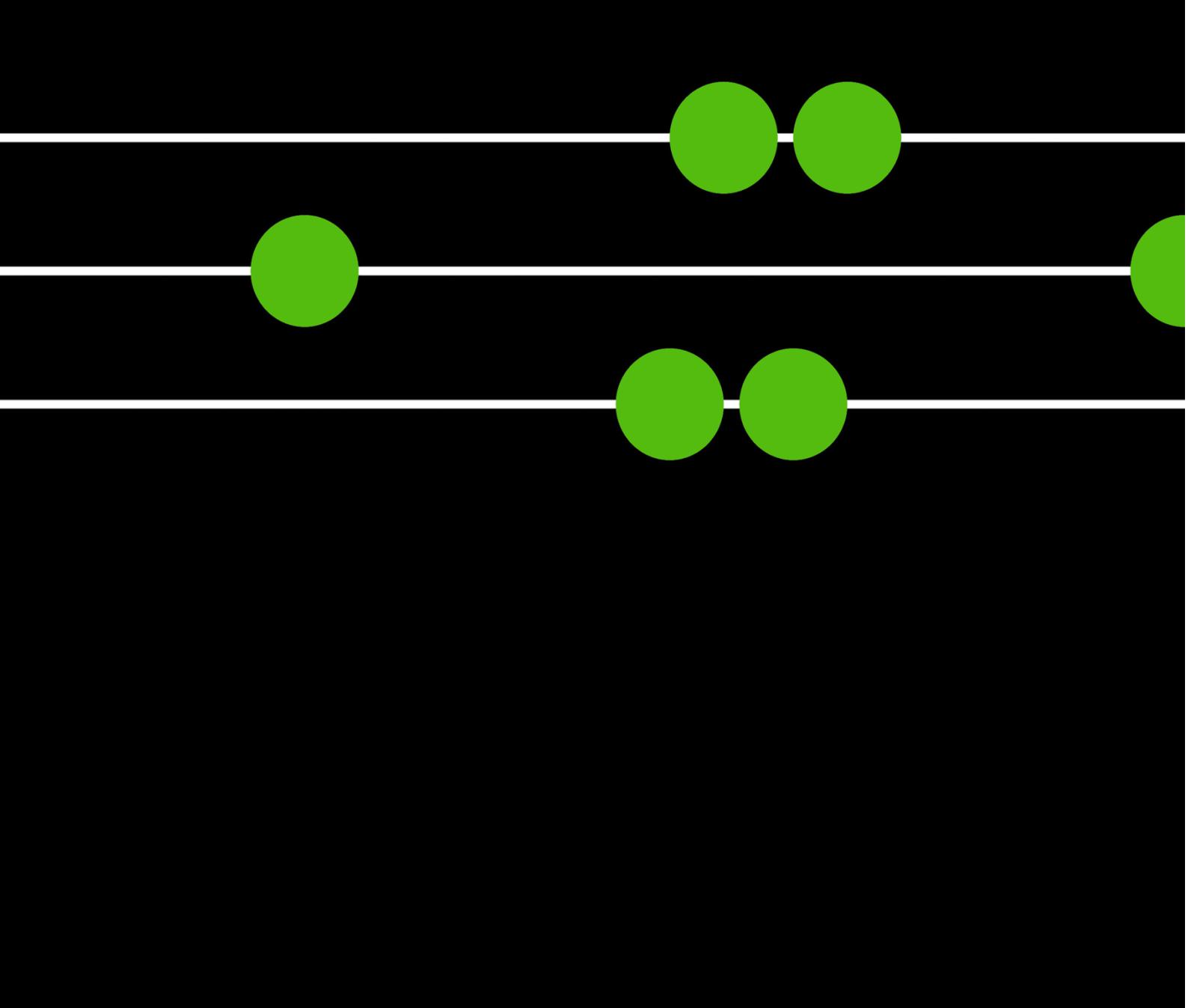
PRINCIPAL ROUTES

Proposed Cross-section		Existing Section	Start Chainage	End Chainage	Length (m)	New Road Type
Link 1		0	0	0	0	Unknown
Link 2		0	0	0	0	Unknown
Link 3		0	0	0	0	Unknown
Link 4		0	0	0	0	Unknown
Link 5		0	0	0	0	Unknown
Link 6		0	0	0	0	Unknown
Link 7		0	0	0	0	Unknown
Link 8		0	0	0	0	Unknown
Link 9		0	0	0	0	Unknown
Link 10		0	0	0	0	Unknown

INTERCHANGES

Grade Separated Interchanges		Ref/Name	Chainage	Section	Type
1	[Empty - To enter parameters]	E 1200 877	0	0	E 1200 878
2	Interchange:	Required?	Road type	Length	Type
3	Continual line in white thermoplastic applied solid glass beads with 3000 mm zed	0	0	0	Intermittent line in white thermoplastic applied solid glass beads with 3000 mm zed
4	Intermittent line in white thermoplastic applied solid glass beads with 150 mm wide hatched areas	0	0	0	Intermittent line in white thermoplastic applied solid glass beads with 150 mm wide hatched areas
5	Ancillary line in white thermoplastic applied solid glass beads with 3000 mm zed	0	0	0	Ancillary line in white thermoplastic applied solid glass beads with 3000 mm zed
6	Raised rib lines in white thermoplastic applied solid glass beads with 3000 mm zed	0	0	0	Raised rib lines in white thermoplastic applied solid glass beads with 3000 mm zed
7	Slip road: Diverge A	Required?	Road type	Length	Type
8	Intermittent line in white thermoplastic applied solid glass beads with 3000 mm zed	0	0	0	Intermittent line in white thermoplastic applied solid glass beads with 3000 mm zed
9	Intermittent line in white thermoplastic applied solid glass beads with 150 mm wide hatched areas	0	0	0	Intermittent line in white thermoplastic applied solid glass beads with 150 mm wide hatched areas
10	Continual line in white thermoplastic applied solid glass beads with 3000 mm zed	0	0	0	Continual line in white thermoplastic applied solid glass beads with 3000 mm zed
11	Intermittent line in white thermoplastic applied solid glass beads with 150 mm wide hatched areas	0	0	0	Intermittent line in white thermoplastic applied solid glass beads with 150 mm wide hatched areas
12	Ancillary line in white thermoplastic applied solid glass beads with 3000 mm zed	0	0	0	Ancillary line in white thermoplastic applied solid glass beads with 3000 mm zed
13	Raised rib lines in white thermoplastic applied solid glass beads with 3000 mm zed	0	0	0	Raised rib lines in white thermoplastic applied solid glass beads with 3000 mm zed
14	Slip road: Merge A	Required?	Road type	Length	Type
15	Intermittent line in white thermoplastic applied solid glass beads with 3000 mm zed	0	0	0	Intermittent line in white thermoplastic applied solid glass beads with 3000 mm zed
16	Intermittent line in white thermoplastic applied solid glass beads with 150 mm wide hatched areas	0	0	0	Intermittent line in white thermoplastic applied solid glass beads with 150 mm wide hatched areas
17	Continual line in white thermoplastic applied solid glass beads with 3000 mm zed	0	0	0	Continual line in white thermoplastic applied solid glass beads with 3000 mm zed
18	Intermittent line in white thermoplastic applied solid glass beads with 150 mm wide hatched areas	0	0	0	Intermittent line in white thermoplastic applied solid glass beads with 150 mm wide hatched areas
19	Ancillary line in white thermoplastic applied solid glass beads with 3000 mm zed	0	0	0	Ancillary line in white thermoplastic applied solid glass beads with 3000 mm zed
20	Raised rib lines in white thermoplastic applied solid glass beads with 3000 mm zed	0	0	0	Raised rib lines in white thermoplastic applied solid glass beads with 3000 mm zed

Option Parameters Detailed Parameters Sign Parameters Road Marking Parameters Historic Key Items Historic Data Tables Calc Table Historic me ...



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