

National Highways

Benchmark Apps

Parametric Models User Guide

Copyright

No part of this document may be reproduced or transmitted in any form or by any means, electronic or mechanical, for any purpose, without the expressed written permission of Benchmark Global Pty Ltd. (trading as Benchmark Estimating Software).

Copyright © 2022 Benchmark Global Pty Ltd. All rights reserved.

The information contained in this document and the software described in this document (the *software*) has been prepared with due care. This document and the software are offered only for the purpose of providing useful information to assist those interested in matters associated with the cost estimating on a resource basis for projects.

Whilst every effort has been made to ensure that this document and the software are in accordance with current practice, they are not intended as exhaustive statements on estimating and the methods used for estimating. Benchmark Global Pty Ltd. accepts no responsibility for errors in, or omissions from, the document or the software, nor work is done or omitted to be done in reliance on this document or the software.

Benchmark Estimating Software contact details

Australia - Sydney

Level 1, 83-89 Renwick Street,
Redfern, NSW 2016
Office Phone: +61 (0)2 8396 6555

United Kingdom

Level 17,111 Piccadilly,
Manchester M1 2HY
Office Phone: +44 (0)161 228 3351

Australia - Nowra

PO Box 952, 49 Berry Street,
Nowra, NSW 2540
Office Phone: +61 (0)2 4422 3444

Benchmark Estimating Software website: www.benchmarkestimating.com

Benchmark Support and Training

Email Benchmark Support (support@benchmarkestimating.com) or call:

- **Australia and New Zealand** - +61 (0)2 4422 3444
- **UK / Europe**
 - **UK** - +44 (0)161 667 1605
 - **France** - +33 (0)1 84 88 53 76
- **USA and Canada** - 1800 469 9405

Produced in Australia

Table of Contents

Benchmark Apps - Parametric Models Overview	5
Prerequisites	6
Accessing Parametric Models	7
Accessing the App from Benchmark	7
Accessing the App from LoadSpring	8
Navigating the App.....	8
Landing Page	8
Summary Page	9
Managing User Access	10
Setting Up New Access.....	10
Modifying User Access	12
Deleting User Access.....	12
Viewing Access History	13
Creating New Model Instances.....	14
Indirect Works (Prelims)	14
Viewing the BQ.....	17
Regional Investment Programme (RIP).....	19
Viewing the BQ.....	22
Smart Motorway Program (SMP).....	23
Viewing the BQ.....	27
Structure	28
Viewing the BQ.....	31
Technology.....	32
Viewing the BQ.....	34
Other Functions	35
Searching Model Instances	35
Saving Model Instances	37
Adding Comments.....	38
Archiving Model Instances.....	39
Copying Model Instances.....	40
Logging Out	41
Appendix	42
Indirect Works.....	42

Primary Input	42
TTM Input.....	42
Scaffold Input	42
Temp Retaining Input.....	43
Regional Investment Programme (RIP).....	43
Roadworks.....	43
Earthworks	44
Drainage	45
Carriageway.....	45
Signs & Lighting	47
Smart Motorway Program (SMP).....	48
Roadworks.....	48
Earthworks	49
Carriageway.....	50
Drainage	51
Signs & Lighting	52
Structure	53
Box Culverts	53
Footbridges	53
Gantries	53
Overbridges.....	54
Piped Culverts	55
Retaining Walls.....	55
Underbridges.....	55
Viaducts.....	56
Technology.....	56
Base Information.....	56
Detailed Information / Detailed Parameters	58

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

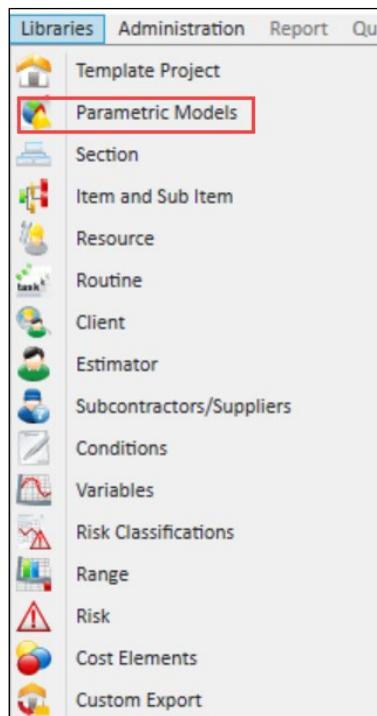
You can access the Parametric Models feature from:

- [Benchmark](#)
- [LoadSpring Homepage](#)

Accessing the App from Benchmark

From the main Benchmark menu:

1. In the **My Benchmark** window, select **Libraries**.
2. Select **Parametric Models**.



3. Open the relevant **Project Section** or **Composite Total**.
4. Select the **Parametric Model**  icon in the toolbar. Alternatively, use the right-click menu option.
5. The app will open in your web browser.



You can continue working in Benchmark when the Parametric Models app is open.

Accessing the App from LoadSpring

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 & Business Forms.

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.



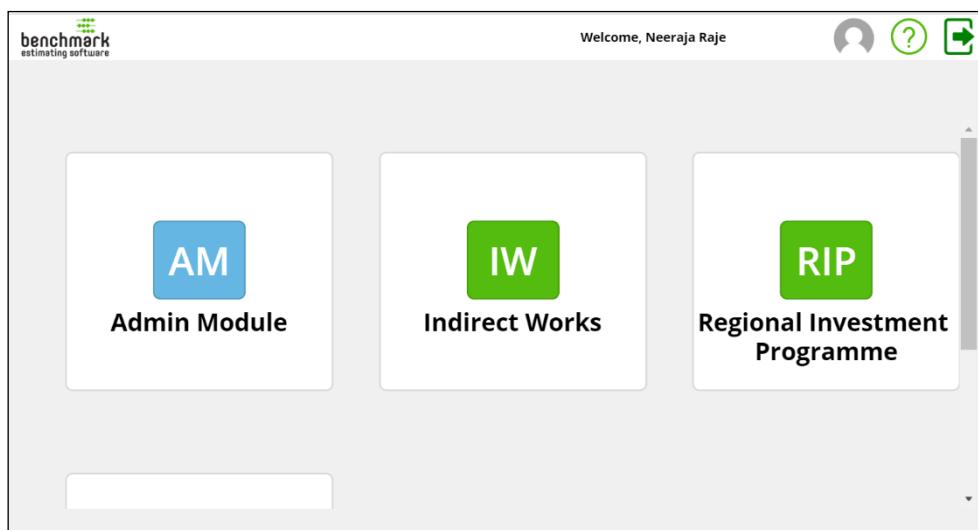
Landing Page

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.

Use the scroll bar on this page to view all the model types available to you.

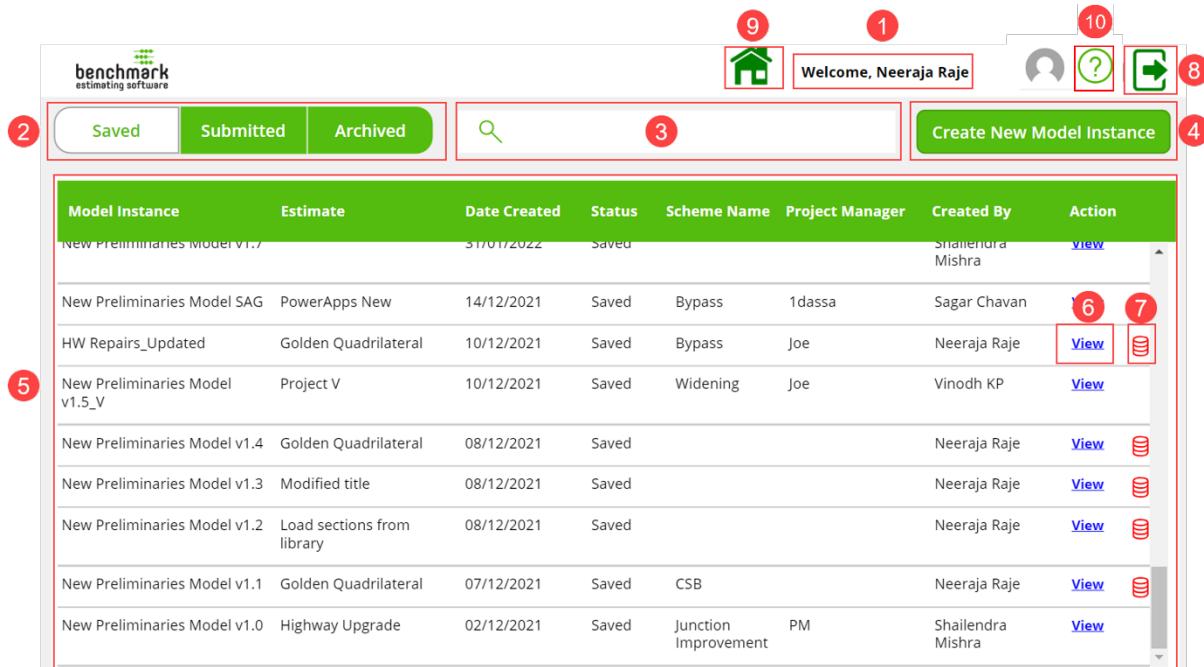


The screenshot shows the Parametric Models app landing page. At the top, there is a header with the benchmark logo, a welcome message "Welcome, Neeraja Raje", and user profile icons. Below the header, there are three large cards representing different model types:

- AM Admin Module**: Represented by a blue button with the letters "AM".
- IW Indirect Works**: Represented by a green button with the letters "IW".
- RIP Regional Investment Programme**: Represented by a green button with the letters "RIP".

A vertical scroll bar is visible on the right side of the page.

Summary Page



The screenshot shows the Summary Page interface. At the top, there's a navigation bar with icons for Home (9), Welcome (1), Help (10), Logout (8), and a search bar (3). Below the navigation bar is a toolbar with buttons for Saved (2), Submitted, Archived, a search icon, and Create New Model Instance (4). The main area displays a table of model instances (5) with columns: Model Instance, Estimate, Date Created, Status, Scheme Name, Project Manager, Created By, and Action. Each row in the table has a 'View' link (6) and an archive icon (7). The table lists various model instances with their details.

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.

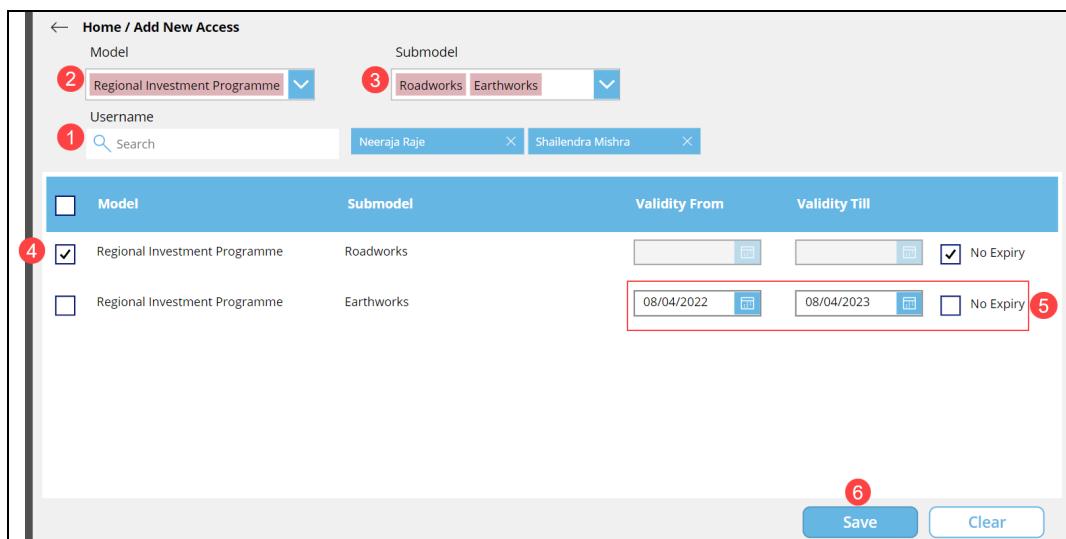
10 - Open this Help document.

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.

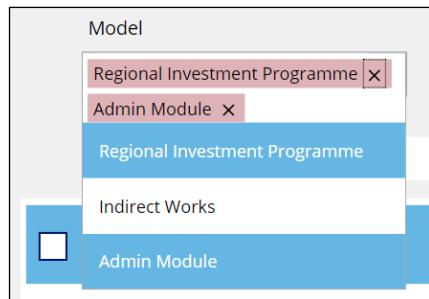


The screenshot shows the 'Home / Add New Access' page. At the top, there are dropdown menus for 'Model' (2) and 'Submodel' (3), both currently set to 'Regional Investment Programme'. Below these are two search input fields for 'Username' (1), containing 'Neeraja Raje' and 'Shailendra Mishra'. The main table lists model 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' (6) and 'Clear' buttons.

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

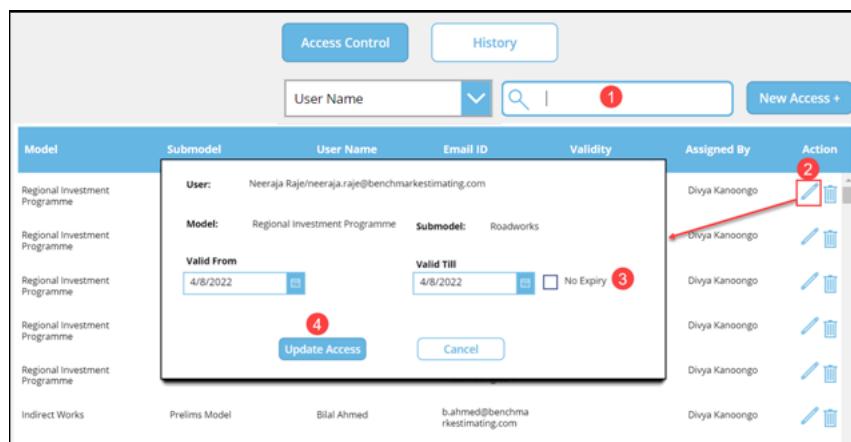
The **Access Control** tab lists all the users and their access within the application. Administrators can modify the duration for which users can access the assigned models/sub models.

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**



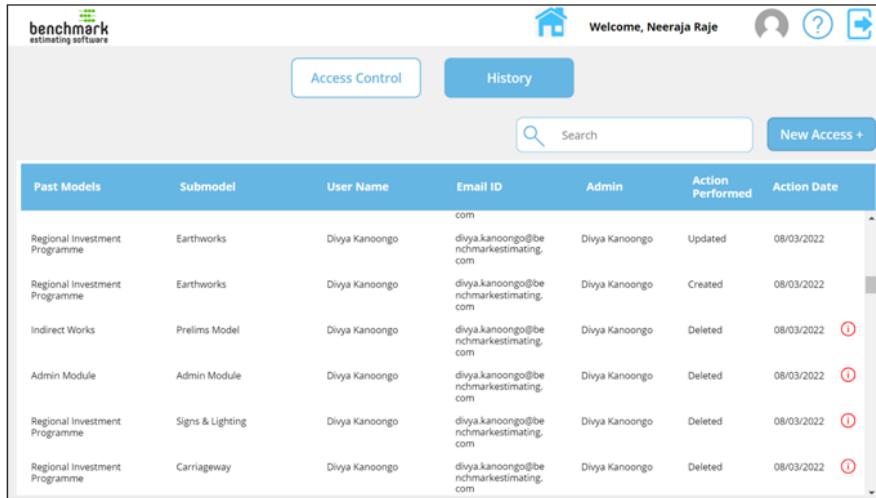
Deleting User Access

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.



The screenshot shows the Admin Module interface with the 'History' tab selected. The table lists the following access changes:

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

You can create model instances for Project Sections and/or Composite Totals within those Sections. Note that, only one model instance (of any model type) can be created for a Project, Section and Composite Total.

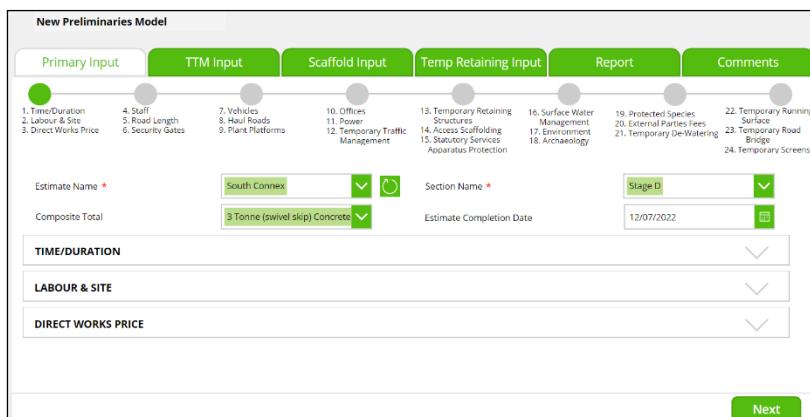
Indirect Works (Prelims)

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

Estimate Name and *Section Name* are mandatory fields.

Select the Reload Estimate Name List button  to refresh the list of Estimates, if required.

If you have accessed the app from a Project Section / Composite Total in Benchmark, then these fields will automatically populate the Project *Title*, Section *Description* and Composite Total *Description* from Benchmark.



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.

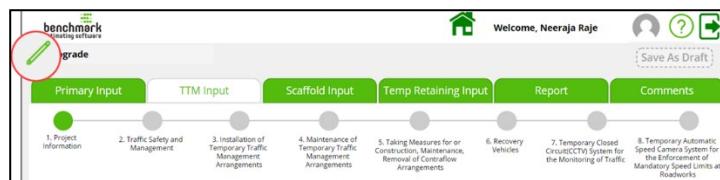
When you proceed from the first screen, you will be prompted to enter the model instance name.

8. Enter a unique name and select Continue.

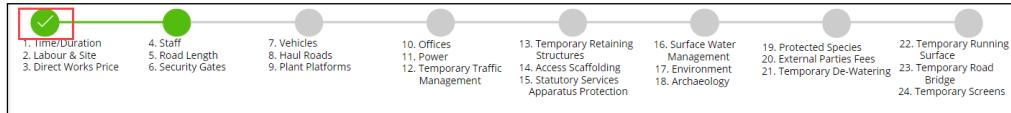


If required, you can edit this name in any of the screens using the Edit icon.

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 TTM Input tab.

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. Taking Measures for or Construction, Maintenance, Removal of Contralow Arrangements	6. Recovery Vehicles
7. Temporary Closed Circuit(CCTV) 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
Secondary Road-Length of the Works (km)	0
Number of Junctions (no)	<input type="text"/>

Traffic Safety and Management Reality Check

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.

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. Central Reserve Pier Scaffolding
7. Loading Bay Addition	8. Suspended And Bent 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
1 Adjusted Allowance	2	39	5	7	2
2 Adjusted Allowance	2	32	5	7	1
3 Adjusted Allowance					
<input type="button" value="Back"/> <input type="button" value="Next"/>					

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.

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
Adjusted Allowance	3	100	8	Unknown	50%
Select from here					
<input type="button" value="Back"/> <input type="button" value="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.

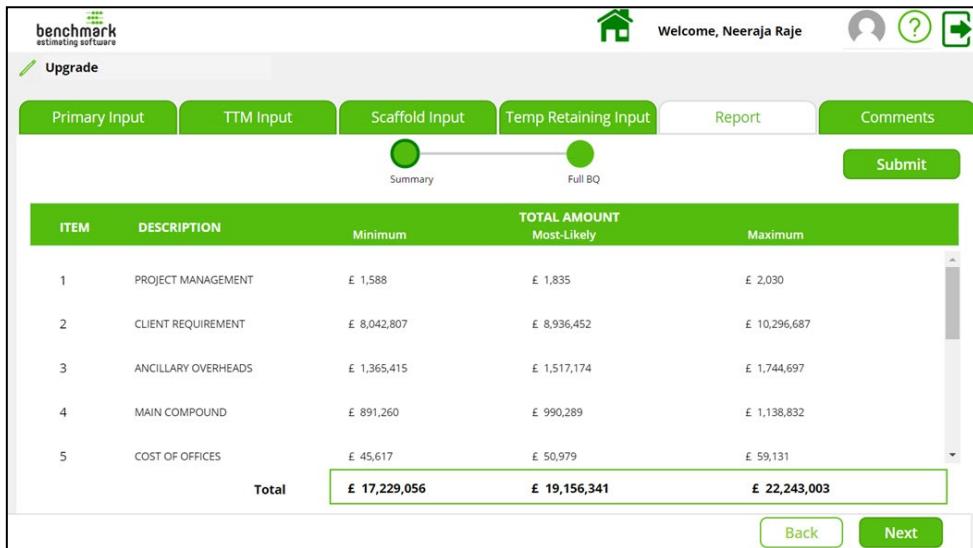
Primary Input	TTM Input	Scaffold Input	Temp Retaining Input	Report	Comments																																			
Summary	Full BQ																																							
<table border="1"> <thead> <tr> <th>ITEM</th> <th>DESCRIPTION</th> <th>Minimum</th> <th>TOTAL AMOUNT Most-Likely</th> <th>Maximum</th> </tr> </thead> <tbody> <tr> <td>1</td> <td>PROJECT MANAGEMENT</td> <td>£ 1,588</td> <td>£ 1,835</td> <td>£ 2,030</td> </tr> <tr> <td>2</td> <td>CLIENT REQUIREMENT</td> <td>£ 8,042,807</td> <td>£ 8,936,452</td> <td>£ 10,296,687</td> </tr> <tr> <td>3</td> <td>ANCILLARY OVERHEADS</td> <td>£ 1,365,415</td> <td>£ 1,517,174</td> <td>£ 1,744,697</td> </tr> <tr> <td>4</td> <td>MAIN COMPOUND</td> <td>£ 891,260</td> <td>£ 990,289</td> <td>£ 1,138,832</td> </tr> <tr> <td>5</td> <td>COST OF OFFICES</td> <td>£ 45,617</td> <td>£ 50,979</td> <td>£ 59,131</td> </tr> <tr> <td>Total</td> <td></td> <td>£ 17,229,056</td> <td>£ 19,156,341</td> <td>£ 22,243,003</td> </tr> </tbody> </table>						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
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																																				
<input type="button" value="Back"/> <input type="button" value="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:



The screenshot shows the Parametric Models app interface. At the top, there are tabs for Primary Input, TTM Input, Scaffold Input, Temp Retaining Input, Report, and Comments. Below these are two green circular buttons labeled 'Summary' and 'Full BQ'. To the right is a large green 'Submit' button. The main area contains a table of BQ line items:

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

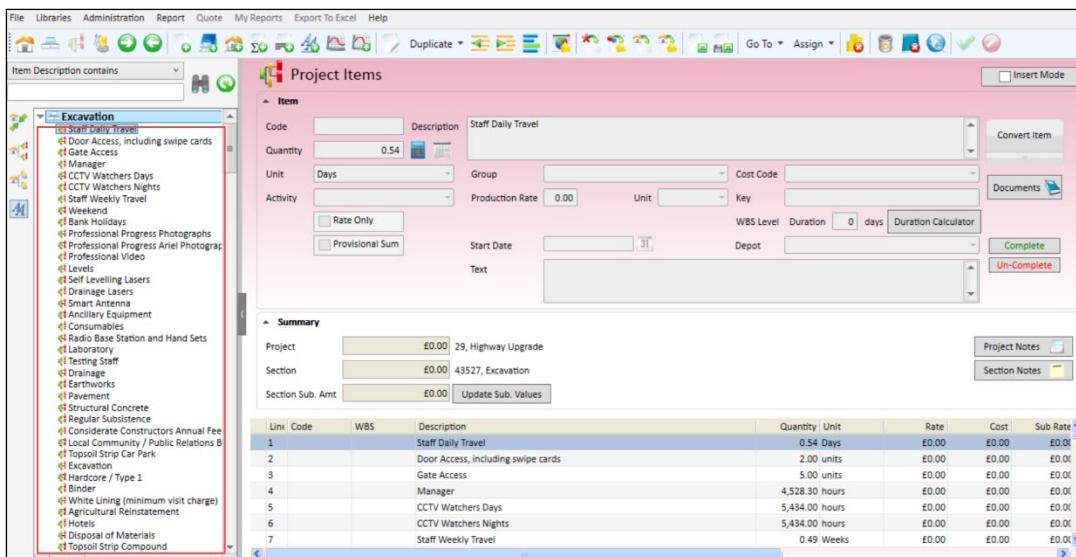
At the bottom right are 'Back' and 'Next' buttons.

- A BQ is created back in Benchmark.
- BQ line items are created as part of a Section or Composite Total.
- 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.

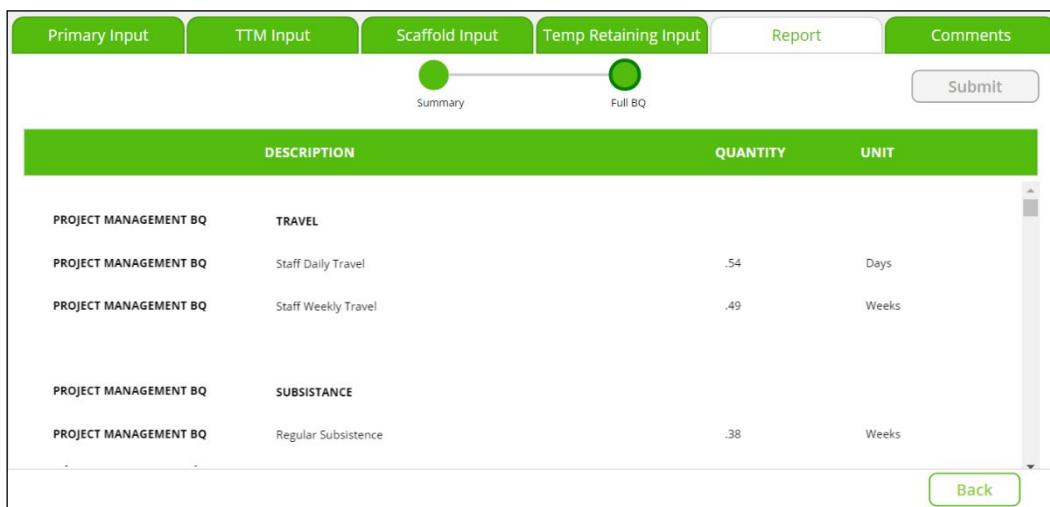


Line	Code	WBS	Description	Quantity / Unit	Rate	Cost	Sub Rate
1			Staff Daily Travel	0.54 Days	£0.00	£0.00	£0.00
2			Door Access, including swipe cards	2.00 units	£0.00	£0.00	£0.00
3			Gate Access	5.00 units	£0.00	£0.00	£0.00
4			Manager	4,528.30 hours	£0.00	£0.00	£0.00
5			CCTV Watchers Days	5,343.00 hours	£0.00	£0.00	£0.00
6			CCTV Watchers Nights	5,343.00 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.



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		

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*, *Section Name* and *Composite Total*.

Estimate Name and *Section Name* are mandatory fields.

If you have accessed the app from a Project Section / Composite Total in Benchmark, then these fields will automatically populate the Project *Title*, Section *Description* and Composite Total *Description* 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						
						
						
Site Information						
Existing Network	Length (Kms)	Standard	Elevated Sections (kms)	Grade Separated Interchanges (No)	At Grade Junctions (No)	Side Roads (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 a unique name and select Continue.



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

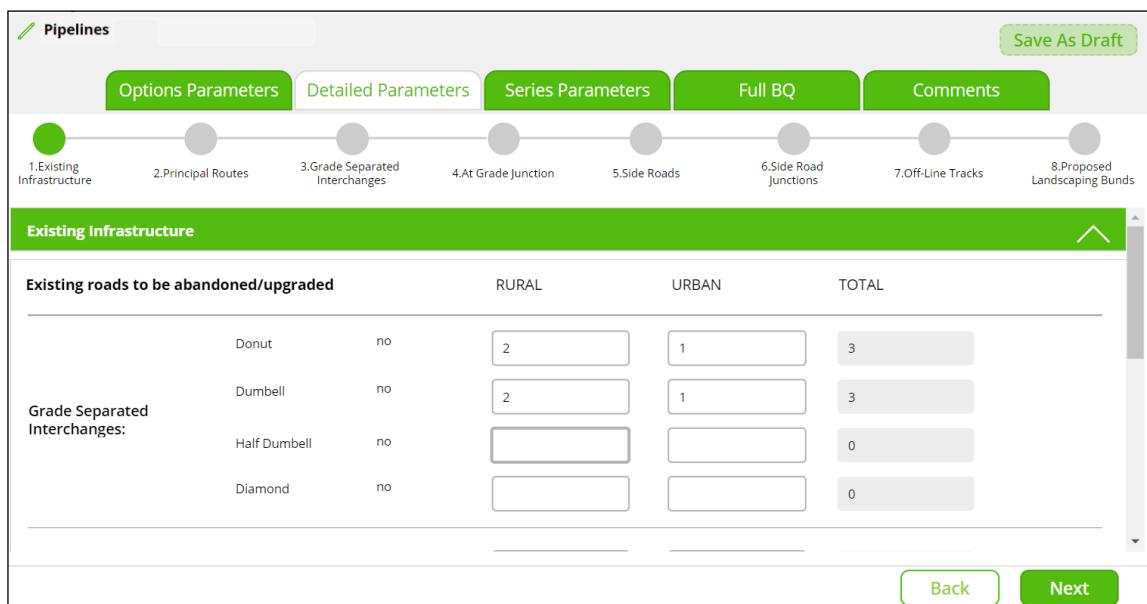
Then, Save  the new name.



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.



		RURAL	URBAN	TOTAL	
Grade Separated Interchanges:	Donut	no	<input type="text" value="2"/>	<input type="text" value="1"/>	<input type="text" value="3"/>
	Dumbell	no	<input type="text" value="2"/>	<input type="text" value="1"/>	<input type="text" value="3"/>
	Half Dumbell	no	<input type="text"/>	<input type="text"/>	<input type="text" value="0"/>
	Diamond	no	<input type="text"/>	<input type="text"/>	<input type="text" value="0"/>

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	3. Take down existing safety barriers	5. Take up existing lighting columns	7. Take down existing technology	9. Post and rail boundary fencing
2. Take down existing fences	4. Take up existing kerbs and channels	6. Take down existing traffic signs	8. Temporary Fencing (as specified and shown on the drawings)	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%	Symmetric widening with no land take (rural)	20%
Asymmetric widening	10%	Urban sections	25%
Symmetric widening with land take	5%	Detrunked sections	5%

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).

Pipelines

Welcome, Neeraja Raje

Options Parameters	Detailed Parameters	Series Parameters	Full BQ	Comments	Submit
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."

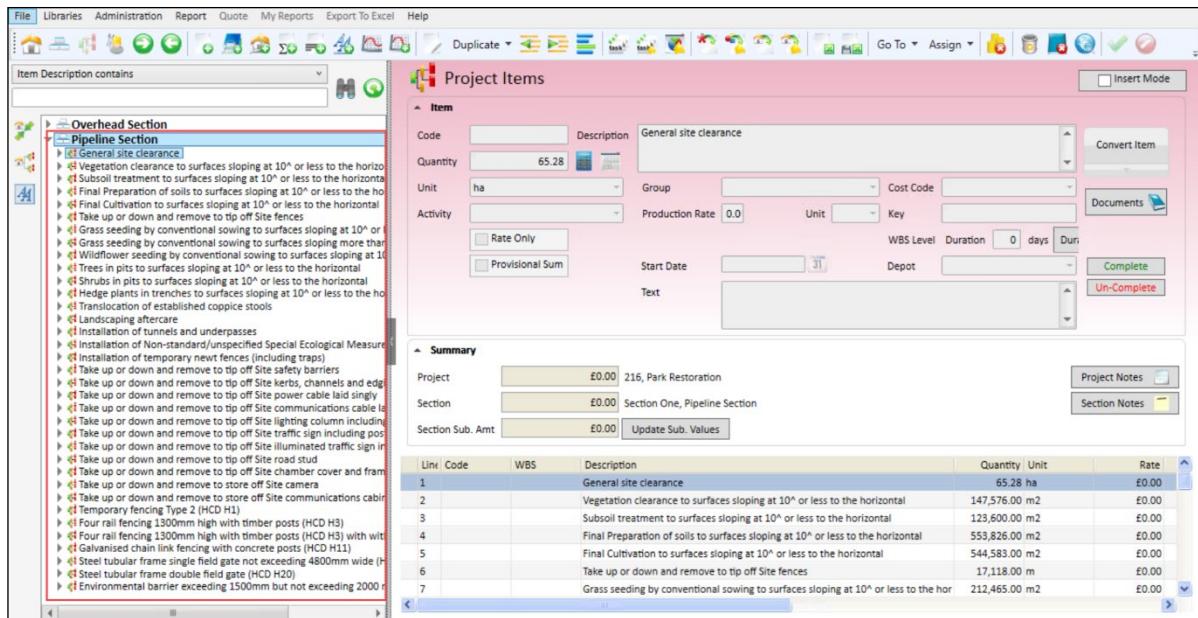
15. Select Confirm.

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 or Composite Total.

All the BQ line items are created as Project Items.

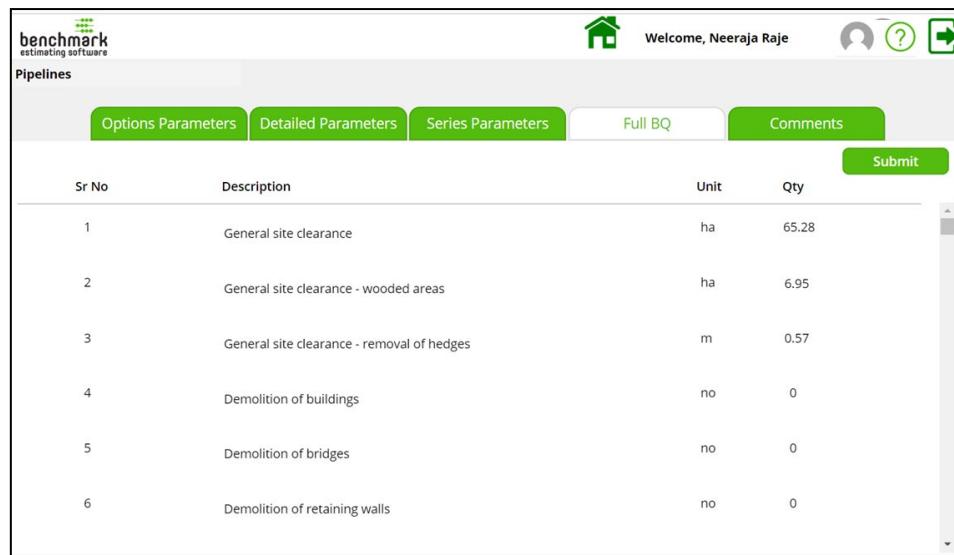


Line	Code	WBS	Description	Quantity	Unit	Rate
1			General site clearance	65.28	ha	£0.00
2			Vegetation clearance to surfaces sloping at 10° or less to the horizontal	147,576.00	m ²	£0.00
3			Subsoil treatment to surfaces sloping at 10° or less to the horizontal	123,600.00	m ²	£0.00
4			Final Preparation 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 at 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

Smart Motorway Program (SMP)

The SMP model includes the following sub models:

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



This topic describes the process of creating a Drainage 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 Smart Motorway Program.
3. Select Drainage.
4. Select Create New Model Instance.
5. In the Options Parameters tab, select the *Estimate Name*, *Section Name* and *Composite Total*.

Estimate Name and *Section Name* are mandatory fields.

If you have accessed the app from a Project Section / Composite Total in Benchmark, then these fields will automatically populate the Project *Title*, Section *Description* and Composite *Total Description* 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

Site Information

Existing motorway	Length (kms)	Elevated Sections (m)	Standard (A-side)	Standard (A-side)	Length of Central Reserve existing VCB (kms)	Lit?
Link 1	20	10	D2M (rural) <input checked="" type="checkbox"/>	D3M (rural) <input checked="" type="checkbox"/>	2	No <input checked="" type="checkbox"/>
Link 2	15	5	D3M (rural) <input checked="" type="checkbox"/>	D4M (rural) <input checked="" type="checkbox"/>	1.5	Yes <input checked="" type="checkbox"/>
Link 3			<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>		<input checked="" type="checkbox"/>
Link 4			<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>		<input checked="" type="checkbox"/>

Back **Next**

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

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

8. Enter a unique name and select Continue.

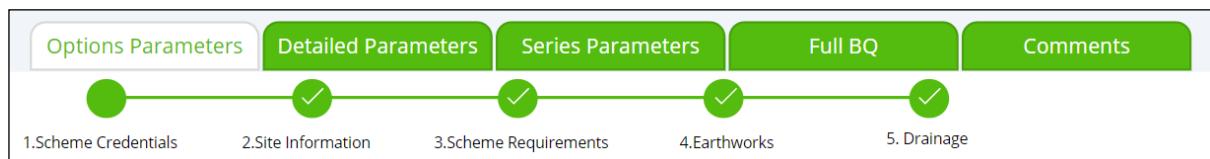


If required, you can edit this name in any of the screens using the Edit icon.

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.

Project Overheads

Save As Draft

Options Parameters Detailed Parameters Series Parameters Full BQ Comments

1.Existing Infrastructure 2.Proposed Mainline 3.Emergency Refuge Areas 4.Interchanges 5.Service Areas, Work Depots And Turnaround Facilities 6.Side Roads

Existing Infrastructure

				A-side		B-side					
	Start Chainage	End Chainage	Length (m)	Existing carriageway width	Existing verge width (ave)	Existing Central Reserve width (ave)	Existing carriageway width	Existing verge width (ave)			
Link 1	<input type="text"/>	<input type="text"/>	10000	Standard	▼	Standard	▼	Standard	▼	Standard	▼
Link 2	<input type="text"/>	<input type="text"/>	20000	Standard	▼	Specify	▼	Standard	▼	Standard	▼
					20						
...											

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.

Options Parameters Detailed Parameters Series Parameters Full BQ Comments

1.Drainage 2.Emergency Refuge Areas 3.Interchanges 4.Service Areas, Work depots and turnaround facilities 1 5. Side Roads

Drainage

Proposed Drainage Types and Renewal													
A-CARRIAGEWAY	Start Chainage	End Chainage	Length (m)	Upgrade	% of Kerb & Gully Drainage Type	% of Kerb & Gully Renewed	% of Filter Drain Drainage Type	% of Filter Drain Renewed	% of C Drain				
Link 1	<input type="text"/>	<input type="text"/>	20000	D2M (rural)	15%	▼	70%	▼	10%	▼	80%	▼	35%
Link 2	<input type="text"/>	<input type="text"/>	0		0%	▼	100%	▼	0%	▼	100%	▼	0%
Link 3	<input type="text"/>	<input type="text"/>	0		0%	▼	100%	▼	0%	▼	100%	▼	0%
Link 4	<input type="text"/>	<input type="text"/>	0		0%	▼	100%	▼	0%	▼	100%	▼	0%

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).

SMP - Drainage

SeqNo	Description	Unit	Quantity
301	575 mm internal diameter drain specified design group 2 to 6 in trench depth to invert not exceeding 2 metres, ave...	m	292
302	600 mm internal diameter drain specified design group 2 to 6 in trench depth to invert not exceeding 2 metres, ave...	m	0
303	600 mm internal diameter drain specified design group 2 to 6 in trench depth to invert exceeding 2m but not exceed...	m	0
304	750 mm internal diameter drain specified design group 2 to 6 in trench depth to invert not exceeding 2 metres, ave...	m	0
305	750 mm internal diameter drain specified design group 2 to 6 in trench depth to invert exceeding 2m but not exceed...	m	265
306	900 mm internal diameter drain specified design group 2 to 6 in trench depth to invert not exceeding 2 metres, ave...	m	0
307	900 mm internal diameter drain specified design group 2 to 6 in trench depth to invert exceeding 2m but not exceed...	m	205
308	225 mm internal diameter drain by jacking or thrust boring depth to invert not exceeding 2 metres, average depth t...	m	0
309	225 mm internal diameter drain by jacking or thrust boring depth to invert exceeding 2 metres but not exceeding 4 ...	m	0
310	300 mm internal diameter drain by jacking or thrust boring depth to invert not exceeding 2 metres, average depth t...	m	0
311	375 mm internal diameter drain by jacking or thrust boring depth to invert not exceeding 2 metres, average depth t...	m	0
312	100mm Duct cast in verge/concrete infill	item	0
313	150 mm internal diameter filter drain in trench specified design group 2 to 6 depth to invert not exceeding 2 metres	m	3000

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 > Composite Total.

All the BQ line items are created as Project Items.

The screenshot shows a software application for managing project items. The top menu includes File, Libraries, Administration, Report, Quote, My Reports, Export to Excel, and Help. The toolbar features various icons for file operations like Duplicate, Go To, Assign, and Insert Mode. A search bar at the top left says "Item Description contains". The main window has a title "Project Items" with a "Composite Total" section. Under "General", there's a "Code" field set to "PARAM", a "Description" field with the text "Created by Parametric Model Application: SMP.Drainage By:Neeraja Raje On:7/8/2022 12:48 PM Model instance name -SMP - Drainage", and dropdowns for "Quantity" (0.00), "Unit", "Activity", "Group", "Cost Code", "Production Rate" (0.00), "Unit", "Key", "Start Date", "WBS Level", "Duration" (0 days), "Duration Ca", "Depot", and "Text". To the right are buttons for "Convert Composite Total", "Documents", "Complete", and "Un-Complete". Below the general section is a "Summary" table with rows for Project (\$0.00, NH01, National Highways Estimate 01), Section (\$0.00, 02, Direct Works), and Section Sub. Amt (\$0.00, Update Sub. Values). At the bottom is a detailed table with columns for Line/Code, WBS, Description, Quantity, Unit, and R. The first row shows "1 30001 30001 - Segment 3". The second row, which is selected and highlighted in blue, shows "2 PARAM" with the description "Created by Parametric Model Application: SMP.Drainage By:Neeraja Raje On:7/8/2022 12:48 PM". The table lists various drain specifications with their descriptions and quantities.

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.

SMP - Drainage		Welcome, Neeraja Raje	
Last Modified Date : 08/07/2022 Last Modified By : Neeraja Raje			
Options Parameters		Detailed Parameters	
Series Parameters		Full BQ	
Comments			
Submit			
SeqNo	Description	Unit	Quantity
9	225 mm internal diameter drain specified design group 2 to 6 in trench depth to invert exceeding 4m but not exceeding 6m	m	0
10	225 mm internal diameter drain specified design group 7 and higher in trench depth to invert not exceeding 2 metres, average depth to invert	m	20059
11	225 mm internal diameter drain specified design group 7 and higher in trench depth to invert exceeding 2m but not exceeding 4m	m	0
12	225 mm internal diameter drain Type Z in trench depth to invert not exceeding 2 metres, average depth to invert	m	0
13	225 mm internal diameter drain Type Z in trench depth to invert exceeding 2m but not exceeding 4 metres, average depth to invert	m	0
14	300 mm internal diameter drain specified design group 2 to 6 in trench depth to invert not exceeding 2 metres, average depth to invert	m	0
15	300 mm internal diameter drain specified design group 2 to 6 in trench depth to invert exceeding 2m but not exceeding 4m	m	0
16	300 mm internal diameter drain specified design group 2 to 6 in trench depth to invert exceeding 4 m but not exceeding 6m	m	0
17	300 mm internal diameter drain specified design group 7 and higher in trench depth to invert not exceeding 2 metres, average depth to invert	m	0
18	300 mm internal diameter drain specified design group 7 and higher in trench depth to invert exceeding 2m but not exceeding 4m	m	20816
19	300 mm internal diameter drain specified design group 2 to 6 in trench in side slopes of cuttings or side slopes of embankments	m	0
20	300 mm internal diameter drain specified design group 2 to 6 in trench in side slopes of cuttings or side slopes of embankments	m	0
21	300 mm internal diameter drain Type Z in trench depth to invert not exceeding 2 metres, average depth to invert	m	0

Structure

The Structure model includes the following sub models:

- Box Culverts
- Footbridges
- Gantry
- Overbridges
- Piped Culverts
- Retaining Walls
- Underbridges
- Viaducts



This topic describes the process of creating a Footbridges 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 Structure.
3. Select Footbridges.
4. Select Create New Model Instance.
5. In the Scheme Credentials tab, select the *Estimate Name*, *Section Name* and *Composite Total*.

Estimate Name and *Section Name* are mandatory fields.

If you have accessed the app from a Project Section / Composite Total in Benchmark, then these fields will automatically populate the Project *Title*, Section *Description* and Composite *Total Description* 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.

Structure Details



Structure Details

Structure Name	Paved Areas	Location	Chainage	Type
Principal Route under planned bridge:	WS2			
Total Carriageway width (m)	Standard	Total Verge width (m)	Standard	
Total Central Reserve width (m)	Standard			

7. Select **Next** to proceed to the next screen.

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

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

8. Enter a unique 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 the **Structure Details** screen.
10. Select **Next** to generate and review the Bill of Quantities (BOQ) in the **Full BQ** tab.

The screenshot shows the Benchmark estimating software interface. At the top, there is a navigation bar with the Benchmark logo, the project name "Structure-Footbridges", a user profile icon, and a welcome message "Welcome, Neeraja Raje". Below the navigation bar, there is a breadcrumb trail "Paved Kerbs and Areas". A horizontal menu bar contains three buttons: "Structure Details" (highlighted in green), "Full BQ", and "Comments". To the right of the menu is a large green "Submit" button. The main content area is a table with columns: "SeqNo", "Description", "Quantity", and "Unit". The table lists various items, such as "Disposal of unacceptable material class U1A" and "Imported acceptable material Class 1A in fill to structures". All items have a quantity of 0 and a unit of m3.

SeqNo	Description	Quantity	Unit
40	Disposal of unacceptable material class U1A	1044	m3
41	Imported acceptable material Class 1A in fill to structures	0	m3
42	Imported acceptable material Class 6I/J in reinforced earth structures	0	m3
43	Imported acceptable material Class 6N/P in reinforced earth structures	1937	m3
44	Imported acceptable material Class 6N/P in fill to structures	798	m3
45	Imported acceptable material Class 6N/P in fill above structural concrete foundations	72	m3
46	Compaction of acceptable material in reinforced earth structures	1937	m3
47	Compaction of acceptable material in fill to structures	798	m3
48	Compaction of acceptable material in fill above structural concrete foundations	72	m3
49	In situ concrete reference C7.5 in blinding 75 mm or less in thickness	0	m3
50	In situ concrete reference C8/10 in blinding 75 mm or less in thickness	0	m3
51	In situ concrete reference C32/40	0	m3

11. 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."

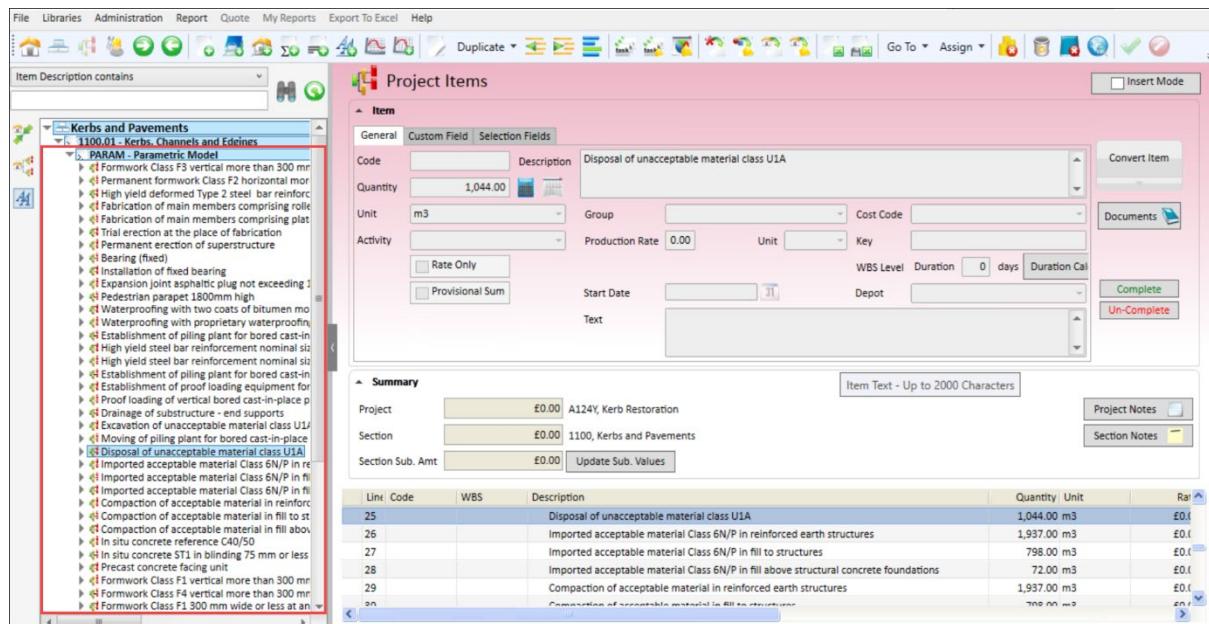
12. Select Confirm.

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 > Composite Total.

All the BQ line items are created as Project Items.

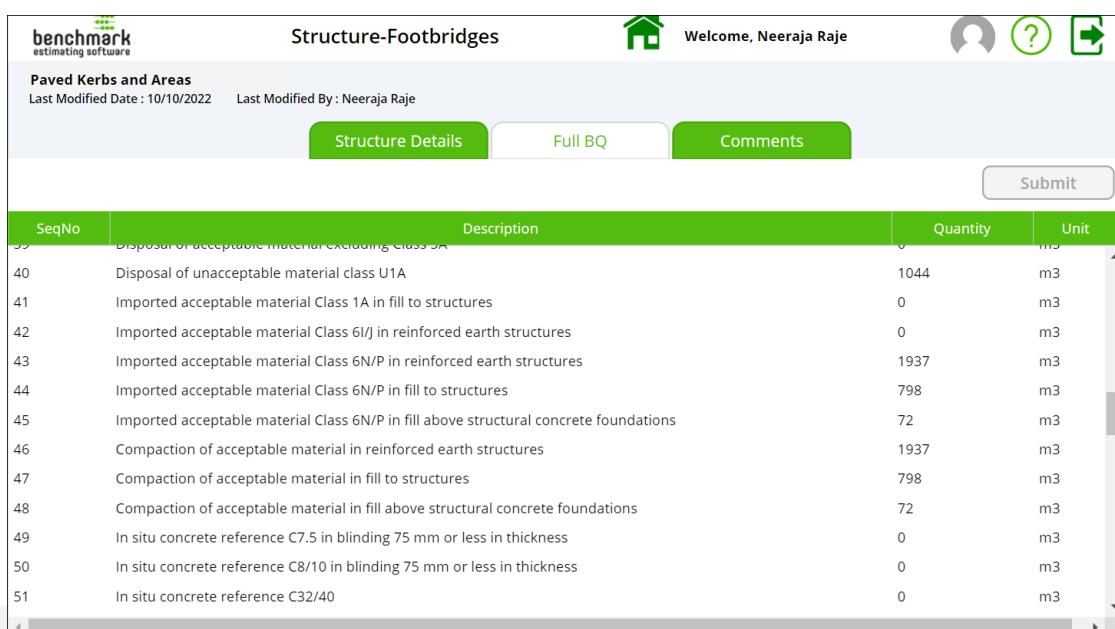


Line	Code	WBS	Description	Quantity	Unit	Rate
25			Disposal of unacceptable material class U1A	1,044.00	m3	£0.0
26			Imported acceptable material Class 6N/P in reinforced earth structures	1,937.00	m3	£0.0
27			Imported acceptable material Class 6N/P in fill to structures	798.00	m3	£0.0
28			Imported acceptable material Class 6N/P in fill above structural concrete foundations	72.00	m3	£0.0
29			Compaction of acceptable material in reinforced earth structures	1,937.00	m3	£0.0
30			Compaction of acceptable material in fill to structures	798.00	m3	£0.0
31			Compaction of acceptable material in fill above structural concrete foundations	72.00	m3	£0.0
32			In situ concrete reference C40/50	0	m3	£0.0
33			In situ concrete ST1 in blinding 75 mm or less	0	m3	£0.0
34			Precast concrete facing unit	0	m3	£0.0
35			Formwork Class F1 vertical more than 300 mm	0	m3	£0.0
36			Formwork Class F4 vertical more than 300 mm	0	m3	£0.0
37			Formwork Class F1 300 mm wide or less at an	0	m3	£0.0

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.



SeqNo	Description	Quantity	Unit
35	Disposal of unacceptable material class U1A	1,044	m3
40	Disposal of unacceptable material class U1A	1,044	m3
41	Imported acceptable material Class 1A in fill to structures	0	m3
42	Imported acceptable material Class 6I/J in reinforced earth structures	0	m3
43	Imported acceptable material Class 6N/P in reinforced earth structures	1,937	m3
44	Imported acceptable material Class 6N/P in fill to structures	798	m3
45	Imported acceptable material Class 6N/P in fill above structural concrete foundations	72	m3
46	Compaction of acceptable material in reinforced earth structures	1,937	m3
47	Compaction of acceptable material in fill to structures	798	m3
48	Compaction of acceptable material in fill above structural concrete foundations	72	m3
49	In situ concrete reference C7.5 in blinding 75 mm or less in thickness	0	m3
50	In situ concrete reference C8/10 in blinding 75 mm or less in thickness	0	m3
51	In situ concrete reference C32/40	0	m3

Technology

1. [Open](#) the Parametric Models app.
2. Select Technology > Technology
3. Select Create New Model Instance.
4. In the Scheme Credentials tab, select the *Estimate Name*, *Section Name* and *Composite Total*.

Estimate Name and *Section Name* are mandatory fields.

If you have accessed the app from a Project Section / Composite Total in Benchmark, then these fields will automatically populate the Project *Title*, Section *Description* and Composite Total *Description* from Benchmark.



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

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

Scheme Requirements	<input checked="" type="checkbox"/>
Scheme Requirements	
Mainline	<input checked="" type="checkbox"/>
Intervention Type	<input type="button" value="▼"/>
Technology Intervention	

6. Enter / select details for all the relevant fields in each of the panels in the Base Information screen.
7. Select Next to proceed to the next screen.
You can select Back to return to the previous screen and make changes.
When you proceed from the first screen, you will be prompted to enter the model instance name.
8. Enter a unique name and select Continue.



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

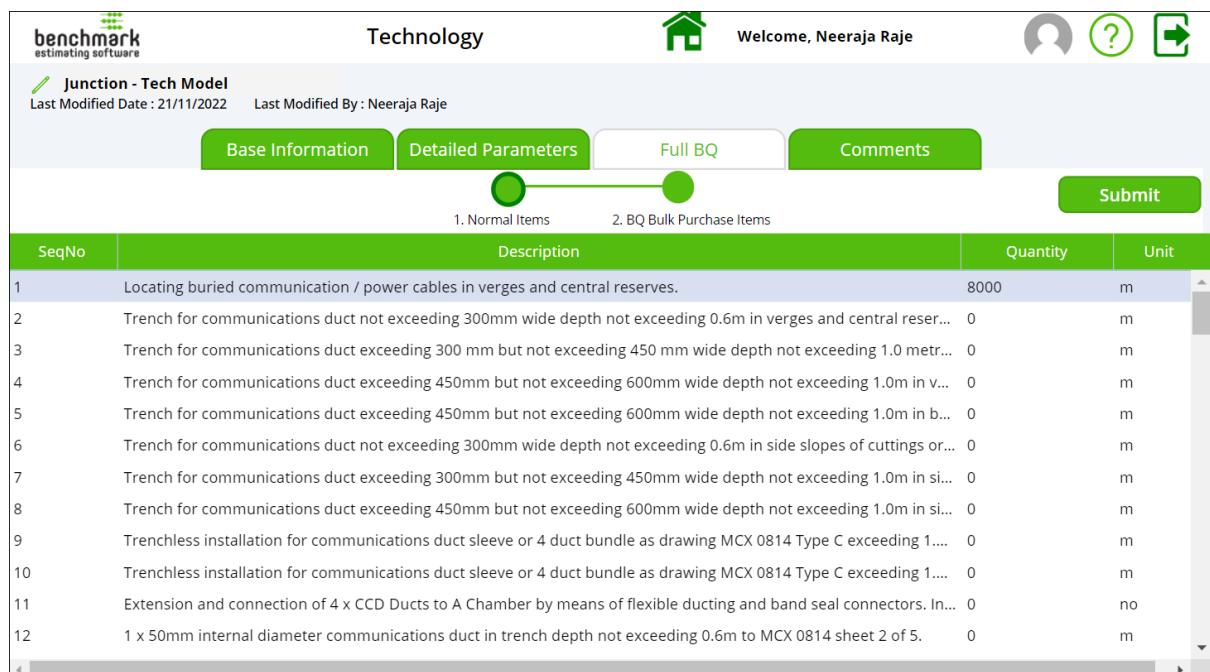
Then, Save  the new name.



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.
10. Select Next to generate and review the Bill of Quantities (BOQ) in the Full BQ tab:
 - a. Select Normal Items to review the normal Items in the BoQ.
 - b. Select and BQ Bulk Purchase to review the bulk purchase output in the BoQ.



SeqNo	Description	Quantity	Unit
1	Locating buried communication / power cables in verges and central reserves.	8000	m
2	Trench for communications duct not exceeding 300mm wide depth not exceeding 0.6m in verges and central reser...	0	m
3	Trench for communications duct exceeding 300 mm but not exceeding 450 mm wide depth not exceeding 1.0 metr...	0	m
4	Trench for communications duct exceeding 450mm but not exceeding 600mm wide depth not exceeding 1.0m in v...	0	m
5	Trench for communications duct exceeding 450mm but not exceeding 600mm wide depth not exceeding 1.0m in b...	0	m
6	Trench for communications duct not exceeding 300mm wide depth not exceeding 0.6m in side slopes of cuttings or...	0	m
7	Trench for communications duct exceeding 300mm but not exceeding 450mm wide depth not exceeding 1.0m in si...	0	m
8	Trench for communications duct exceeding 450mm but not exceeding 600mm wide depth not exceeding 1.0m in si...	0	m
9	Trenchless installation for communications duct sleeve or 4 duct bundle as drawing MCX 0814 Type C exceeding 1....	0	m
10	Trenchless installation for communications duct sleeve or 4 duct bundle as drawing MCX 0814 Type C exceeding 1....	0	m
11	Extension and connection of 4 x CCD Ducts to A Chamber by means of flexible ducting and band seal connectors. In...	0	no
12	1 x 50mm internal diameter communications duct in trench depth not exceeding 0.6m to MCX 0814 sheet 2 of 5.	0	m

11. 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."
12. 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 > Composite Total.

All the Normal BQ line items are created as Project Items under a new Parametric Model

– Normal Items Composite Total:

Line	Code	WBS	Description	Quantity	Unit	Rate
1	CT12.01		Tech Input	8,000.00	m	£0.0
2	CT14.01		Junction A4 Widening	5.00	Item	£0.0
3	PARAM		Parametric Model - Normal Items			
4			Locating buried communication / power cables in verges and central reserves.	8,000.00	m	£0.0
5			SAT 2 Testing	5.00	Item	£0.0
e			SAT 3 Testing	£ 0.00	Item	£ 0.0

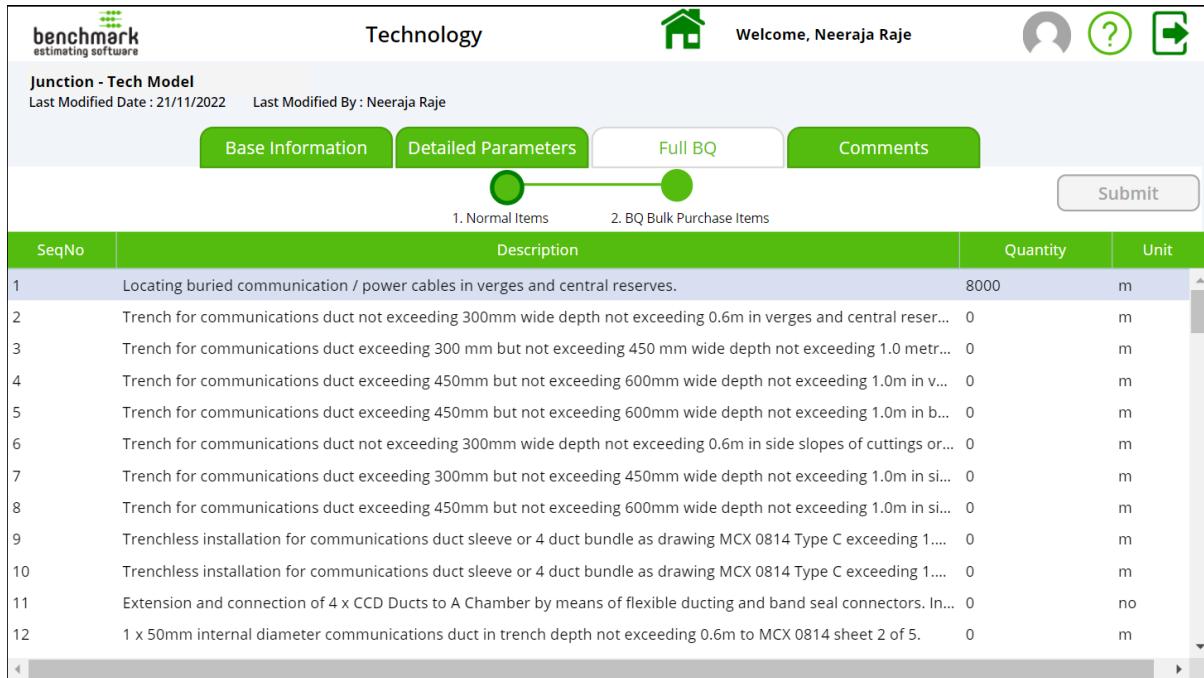
The Bulk Purchase Output line items are created as Project Items under a new Parametric Model – Bulk Purchase Items Composite Total:

Line	Code	WBS	Description	Quantity	Unit	Rate
1	CT12.01		Tech Input	8,000.00	m	£0.0
2	CT14.01		Junction A4 Widening	5.00	Item	£0.0
3	PARAM		Parametric Model - Normal Items			
4			Locating buried communication / power cables in verges and central reserves.	8,000.00	m	£0.0
5			SAT 2 Testing	5.00	Item	£0.0
e			SAT 3 Testing	£ 0.00	Item	£ 0.0

You can also view these items in the app using the **Full BQ** tab within the relevant sub tabs:



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



SeqNo	Description	Quantity	Unit
1	Locating buried communication / power cables in verges and central reserves.	8000	m
2	Trench for communications duct not exceeding 300mm wide depth not exceeding 0.6m in verges and central reser...	0	m
3	Trench for communications duct exceeding 300 mm but not exceeding 450 mm wide depth not exceeding 1.0 metr...	0	m
4	Trench for communications duct exceeding 450mm but not exceeding 600mm wide depth not exceeding 1.0m in v...	0	m
5	Trench for communications duct exceeding 450mm but not exceeding 600mm wide depth not exceeding 1.0m in b...	0	m
6	Trench for communications duct not exceeding 300mm wide depth not exceeding 0.6m in side slopes of cuttings or...	0	m
7	Trench for communications duct exceeding 300mm but not exceeding 450mm wide depth not exceeding 1.0m in si...	0	m
8	Trench for communications duct exceeding 450mm but not exceeding 600mm wide depth not exceeding 1.0m in si...	0	m
9	Trenchless installation for communications duct sleeve or 4 duct bundle as drawing MCX 0814 Type C exceeding 1....	0	m
10	Trenchless installation for communications duct sleeve or 4 duct bundle as drawing MCX 0814 Type C exceeding 1....	0	m
11	Extension and connection of 4 x CCD Ducts to A Chamber by means of flexible ducting and band seal connectors. In...	0	no
12	1 x 50mm internal diameter communications duct in trench depth not exceeding 0.6m to MCX 0814 sheet 2 of 5.	0	m

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 Benchmark Estimating Software interface. At the top, there is a navigation bar with the Benchmark logo, a home icon, the user's name 'Welcome, Neeraja Raje', and icons for profile, help, and export. Below the navigation bar is a search bar containing the text 'highway'. To the left of the search bar are three buttons: 'Saved' (highlighted), 'Submitted', and 'Archived'. To the right of the search bar is a green button labeled 'Create New Model Instance'. The main area displays a table of model instances. The columns are: Model Instance, Estimate, Date Created, Status, Scheme Name, Project Manager, Created By, and Action. One row is visible, representing 'New Preliminaries Model v1.0' with an estimate of 'Highway Upgrade', created on '02/12/2021', status 'Saved', scheme 'Junction Improvement', project manager 'PM', created by 'Shailendra Mishra', and an 'Action' link labeled 'View'.

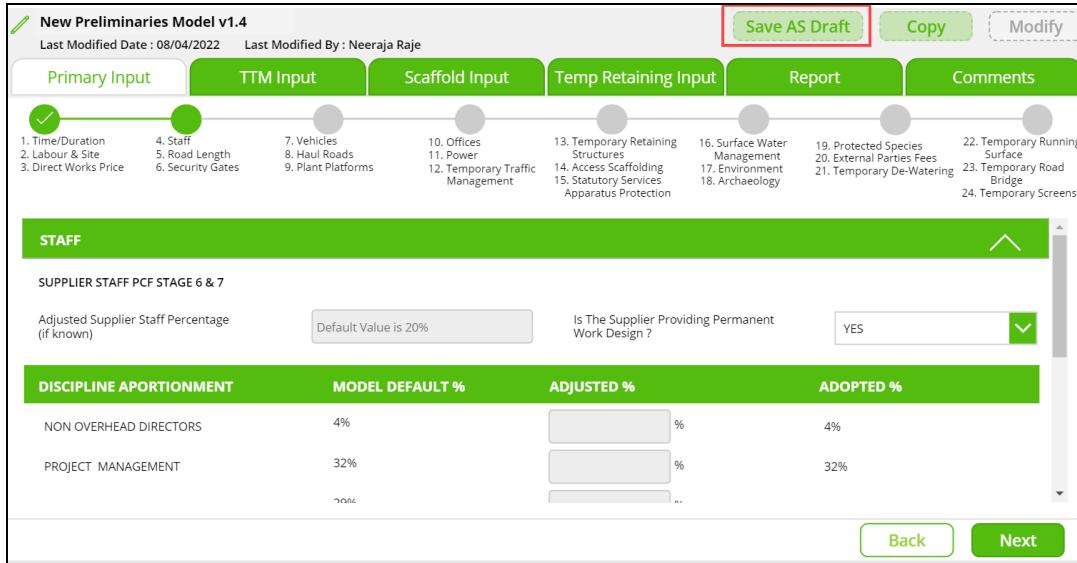
Model Instance	Estimate	Date Created	Status	Scheme Name	Project Manager	Created By	Action
New Preliminaries Model v1.0	Highway Upgrade	02/12/2021	Saved	Junction Improvement	PM	Shailendra Mishra	View

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.

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



The screenshot shows the 'New Preliminaries Model v1.4' interface. At the top right, there are buttons for 'Save AS Draft' (highlighted with a red box), 'Copy', and 'Modify'. Below these are tabs for 'Primary Input', 'TTM Input', 'Scaffold Input', 'Temp Retaining Input', 'Report', and 'Comments'. A horizontal timeline below the tabs lists 24 numbered items from 1 to 24, each with a corresponding icon. The 'TTM Input' tab is active. In the center, there's a 'STAFF' section with a green header, containing fields for 'Adjusted Supplier Staff Percentage (if known)' (Default Value is 20%) and 'Is The Supplier Providing Permanent Work Design?' (YES selected). Below this is a table for 'DISCIPLINE APORTIONMENT' with columns for 'MODEL DEFAULT %', 'ADJUSTED %', and 'ADOPTED %'. The table shows data for 'NON OVERHEAD DIRECTORS' and 'PROJECT MANAGEMENT'. At the bottom are 'Back' and 'Next' buttons.

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

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.

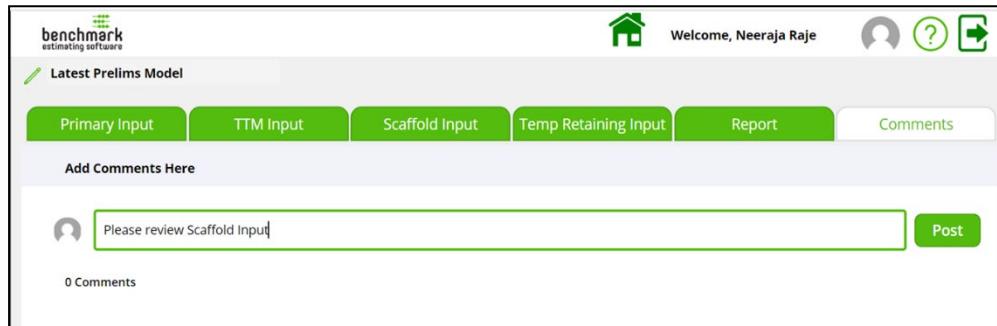


Adding Comments

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.

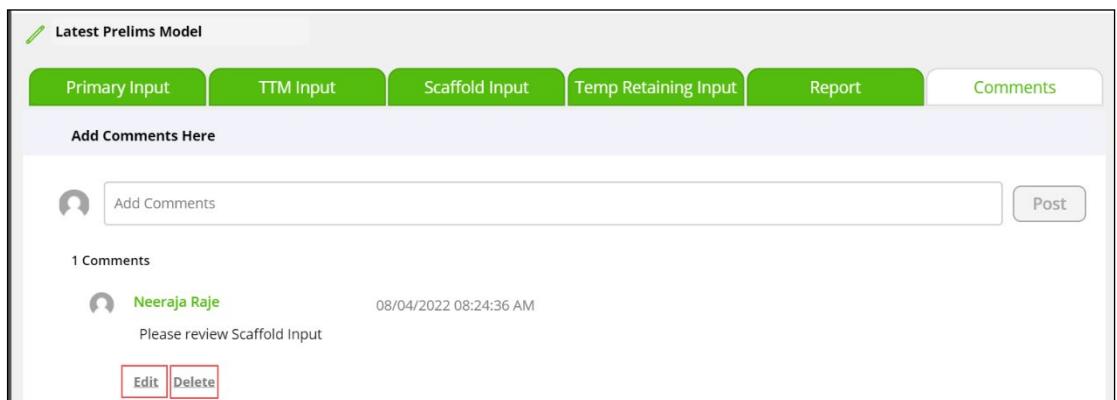
To add comments:

1. Select the Comment tab for the relevant model instance.



The screenshot shows the 'Comments' tab selected in the top navigation bar of the software. Below the tabs, there is a section labeled 'Add Comments Here'. A user has entered the comment 'Please review Scaffold Input' into a text input field. To the right of the input field is a green 'Post' button. Below the input field, the text '0 Comments' is displayed.

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



The screenshot shows the same software interface after a comment has been posted. The 'Comments' tab is still selected. The 'Add Comments Here' section now contains the previously posted comment 'Please review Scaffold Input'. Below the comment, the text '1 Comments' is displayed. Underneath the comment, the author's name 'Neeraja Raje' and the timestamp '08/04/2022 08:24:36 AM' are shown. At the bottom of the comment card, there are two buttons: 'Edit' and 'Delete', both enclosed in red boxes.

Archiving Model Instances

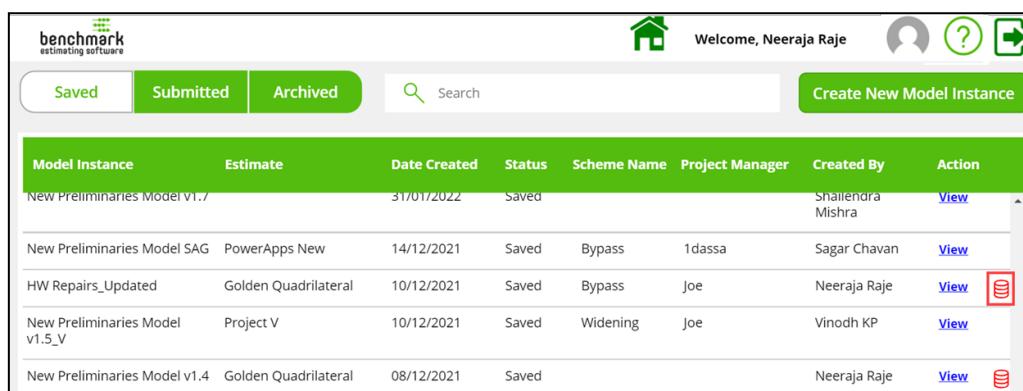
If you no longer need a model instance, you can archive it. This can be particularly useful when you need to manage a large list of model instances in the application.

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

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

To archive:

1. Go to the **Saved** tab.
2. Select the **Archive Model** icon for the relevant model instance.



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:

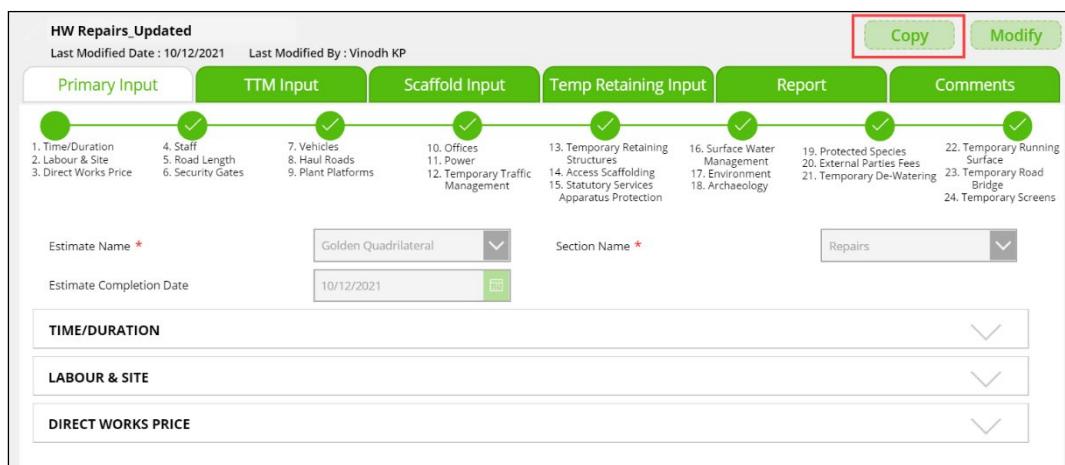
- Easy reuse of the same model instance between different estimates.
- Creation of multiple versions of the same model instance within the same estimate. Each version may be different from the other. Users can then compare these versions and submit the relevant model instance.



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**.



The screenshot shows the 'HW Repairs_Updated' model instance details. At the top right are 'Copy' and 'Modify' buttons. Below them are tabs for Primary Input, TTM Input, Scaffold Input, Temp Retaining Input, Report, and Comments. A horizontal bar with green checkmarks indicates which sections have been completed. A list of 24 numbered items follows. Below the list are fields for Estimate Name (Golden Quadrilateral), Section Name (Repairs), and Estimate Completion Date (10/12/2021). Three expandable sections at the bottom are labeled TIME/DURATION, LABOUR & SITE, and DIRECT WORKS PRICE.

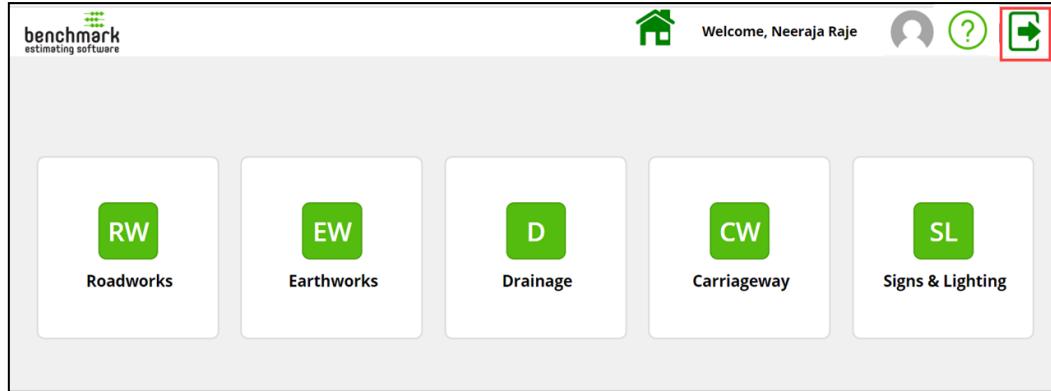
Section	Item Number	Description
Primary Input	1. Time/Duration	Time/Duration
Primary Input	2. Labour & Site	Labour & Site
Primary Input	3. Direct Works Price	Direct Works Price
TTM Input	4. Staff	Staff
TTM Input	5. Road Length	Road Length
TTM Input	6. Security Gates	Security Gates
Scaffold Input	7. Vehicles	Vehicles
Scaffold Input	8. Haul Roads	Haul Roads
Scaffold Input	9. Plant Platforms	Plant Platforms
Temp Retaining Input	10. Offices	Offices
Temp Retaining Input	11. Power	Power
Temp Retaining Input	12. Temporary Traffic Management	Temporary Traffic Management
Temp Retaining Input	13. Temporary Retaining Structures	Temporary Retaining Structures
Temp Retaining Input	14. Access Scaffolding	Access Scaffolding
Temp Retaining Input	15. Statutory Services Apparatus Protection	Statutory Services Apparatus Protection
Report	16. Surface Water Management	Surface Water Management
Report	17. Environment	Environment
Report	18. Archaeology	Archaeology
Comments	19. Protected Species	Protected Species
Comments	20. External Parties Fees	External Parties Fees
Comments	21. Temporary De-Watering	Temporary De-Watering
Comments	22. Temporary Running Surface	Temporary Running Surface
Comments	23. Temporary Road Bridge	Temporary Road Bridge
Comments	24. Temporary Screens	Temporary Screens

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

Estimate Name * Highway Upgrade

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

TIME / DURATION

Select Scheme Definition from the Drop-down List : Smart Motorway

NO STAGES & DURATIONS	WEEKS	MONTHS	YEARS
1	100	27	1
2	100	27	1
3	100	27	1
4	100	27	1
5	100	27	1
6	100	27	1
7	100	27	1
8	100	27	1
9	100	27	1
10	100	27	1
11	100	27	1
12	100	27	1
13	100	27	1
14	100	27	1
15	100	27	1
16	100	27	1
17	100	27	1
18	100	27	1
19	100	27	1
20	100	27	1
21	100	27	1
22	100	27	1
23	100	27	1
24	100	27	1

LABOUR & SITE

Enter HR Project Manager Name :

Definition Data : £13,500.000
FIR Level Address : PTE LEVEL
Invoiced Labour Data : £13,500.000
Labour Rate : 200

primary inputs **secondary inputs** **selected parameters** **bill of lading** **exchange rates** **project management calls** **project management bg** **client requirement bg**

TTM Input

New Preliminaries Model v1.0

Last Modified Date : 06/12/2021 Last Modified By : Vinod KP

Primary Input	TTM Input	Scaffold Input	Temp Retaining Input	Report	Comments
1. Project Information	2. Traffic Safety and Management	3. Installation of Temporary Management Arrangements	4. Maintenance of Temporary Management Arrangements	5. Taking Measures for or Compensation of Work, Removal of Contraventions	6. Recovery Vehicles
7. Temporary Closed Off Areas for the Monitoring of Traffic	8. Temporary Automatic Control Systems for the Enforcement of Worksite Rules and Risks				

Project Information

Project Type	Junction Improvement				
Primary Road-Length of the Works (km)	0	Road Type	<input type="button" value="▼"/>	Permanent Speed Limit	<input type="button" value="▼"/>
Secondary Road-Length of the Works (km)	0	Road Type	<input type="button" value="▼"/>	Permanent Speed Limit	<input type="button" value="▼"/>
Number of Junctions (n)	<input type="button" value="▼"/>				

Traffic Safety and Management Reality Check

Temporary Traffic Management Input Sheet

Project Information												
Project Name	Project Type											
Primary Road - Length of the Works	Secondary Road - Length of the Works											
Geographic Area	Number of Junctions											
Project Duration	Estimated Total Work Hours											
Direct Use of Standardised Work Zone Layout Codes	Estimated Total Work Hours											
Traffic Safety and Management												
Impact problem	Number	Hours per week	% of project duration									
Dedicated TSCD	Number	Hours per week	% of project duration									
Default duration	Number	Hours per week	% of project duration									
Number of days per week = total the plan uses for traffic management / the number of hours required to complete the work (e.g. 160 hours = 20 days)												
Number of hours per week = total the plan uses for traffic management / the number of days required to complete the work (e.g. 160 days = 24 hours)												
Item Summary												
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

Scaffold Input

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

Primary Input
TTM Input
Scaffold Input
Temp Retaining Input
Report
Comments

1. Overbridge Abutments
2. Underbridge Abutments
3. Verg Walls
4. Pipe-Cap And Foundation Access
5. Wall Scaffolding
6. Landing Bay Addition & Scaffolding
7. Bay Area Scaffolding
8. Scaffolding (Birmingham Board)
9. Cost Engineer Self Price Section

OVERBRIDGE ABUTMENTS

Number of Scaffold of this Size	Scaffolding Number Faces Front and Rear	Scaffold Length in Metres	Scaffold width in Boards	Scaffold Height in Metres	Number of Staircases	Scaffold Hire Period in weeks		
1	Access Scaffold to an Overbridge Abutment carrying 4 lanes x 2 carriageways plus hardstrips and verg	Adjusted Allowance	<input type="text"/> 2	<input type="text"/> 39	<input type="text"/> 5	<input type="text"/> 7	<input type="text"/> 2	<input type="text"/> 26
2	Access Scaffold to an Overbridge Abutment carrying 3 lanes x 2 carriageways plus hardstrips and verg	Adjusted Allowance	<input type="text"/> 2	<input type="text"/> 32	<input type="text"/> 5	<input type="text"/> 7	<input type="text"/> 1	<input type="text"/> 26
3	Access Scaffold to an Overbridge Abutment carrying 2 lanes x 2 carriageways plus hardstrips and verg	Adjusted Allowance	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>

Back
Next

The screenshot shows a table titled "SCAFFOLDING INPUT" with several rows for different scaffold types. Each row includes columns for scaffold type, height, length, and cost. A red arrow points from the bottom left of the previous form to the top left of this table.

Select the most expensive scaffold type	Number of Bays	Front Bay	Side Bay	Depth Bay	Staircase Bay	Number of Staircases	Surface Area	Min	Total Price	Max
1. Access Scaffold to an Overbridge document carrying 4 lanes x 2 carriageways plus hardstrips and verg	2	39	2	7	1	2	2540.24	£ 2540.24	£ 2540.24	£ 2540.24
2. Access Scaffold to an Overbridge document carrying 3 lanes x 2 carriageways plus hardstrips and verg	2	32	3	7	1	2	2839.98	£ 2839.98	£ 2839.98	£ 2839.98
3. Access Scaffold to an Overbridge document carrying 2 lanes x 2 carriageways plus hardstrips and verg	2	32	3	7	1	2	3139.72	£ 3139.72	£ 3139.72	£ 3139.72
4. Access Scaffold to an Overbridge document carrying 1 lane x 2 carriageways plus hardstrips and verg	2	32	3	7	1	2	3439.46	£ 3439.46	£ 3439.46	£ 3439.46

Temp Retaining Input

The screenshot displays two overlapping software windows. The top window is titled 'New Preliminaries Model V1.0' and shows a navigation bar with tabs: Primary Input, TTM Input, Scaffold Input, Temp Retaining Input (which is highlighted with a red box), Report, and Comments. Below the navigation bar are four circular icons representing different wall types: Sheet Piled Wall (green), King Piled Wall (grey), Gabion Walls (grey), and Cofferdam (grey). A dropdown menu for 'Sheet Piled Wall' is open, showing a list item 'Select from here'. The main content area of this window is titled 'Retaining Wall Constructed In: Select from here Sheet Piles Working in Cantilever' and contains fields for Number of Walls (Adjusted Allowance: 1), Retained Height (3), Length of Wall (100), Calculated Pile length (8), Ground Conditions (Unknown), Pre-auger (50%), and Buy Back / Removal Percentage (50%). A dropdown menu for 'Select from here' is also present. At the bottom are 'Back' and 'Next' buttons.

The bottom window is titled 'Retaining Solutions Input' and has a red button 'Back to Input Sheet' at the top left. It features a large title 'Retaining Solutions Input' and a section titled 'Sheet Piled Wall'. This section includes a 'Select from here' dropdown and three repeating rows for 'Retaining Wall Constructed In: Select from here Sheet Piles Working in Cantilever'. Each row contains a 'Length of Wall' field (100), a 'Calculated Pile length' field (8), a 'Ground Conditions' dropdown (Unknown), and a 'Pre-aug' dropdown (50%). To the right of these fields are three columns of buttons for 'Default Allowance', 'Adjusted Allowance', and 'Adopted Allowance' with corresponding numerical values (100, 8, 50%). A red arrow points from the 'Temp Retaining Inputs' tab in the top window to the 'Adjusted Allowance' button in the bottom window's first row.

Regional Investment Programme (RIP)

Roadworks

Forms in the app user interface map to their corresponding Parametric Model worksheets (DWCM – Roadworks General – RIP – V2.0).

Options Parameters

New Roadworks Model

Save As Draft

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

Site Information

Existing Network		Length (Kms)	Standard	Required Sections (Kms)	Grade Separated Interchanges (No.)	All Grade Junctions (No.)	Side Roads (No.)
Rural:	Primary	<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:	Primary	<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

Scheme Name	<input type="text"/>
Project Manager	<input type="text"/>
Cost Engineer	<input type="text"/>
PC Stage of Scheme	<input type="text"/>
Estimated Start Date	<input type="text"/>
Date of Estimate	<input type="text"/>
Scheme Type	<input type="text"/>
Bid Submission	<input type="text"/>

Geography

Primary	Secondary	Primary	Secondary
EUROPE	ASIA	AMERICA	AFRICA
Primary	Secondary	Primary	Secondary
EUROPE	ASIA	AMERICA	AFRICA

Scheme Requirements

New bridge index:	<input type="text"/>	Length (Kms)	No. of links	Standard
Bridge requirements (Priority):	<input type="text"/>	Length (Kms)	No. of links	Standard
Bridge requirements (Priority):	<input type="text"/>	Length (Kms)	No. of links	Standard

Detailed Parameters

Existing Infrastructure

Existing roads to be abandoned/upgraded		RURAL	URBAN	TOTAL
Grade Separated Interchanges:	Donut	100		0
	Dumbell	100		0
	Horseshoe	100		0
	Diamond	100		0

Future Infrastructure (FIR)

Future roads to be abandoned/upgraded		RURAL	URBAN	TOTAL
At grade junctions:	Donut	000	000	000
	Roundabout	000	000	000
	Crossroads	000	000	000
	Intersections	000	000	000
	Single road	000	000	000
	Off-line roads	000	000	000
	On-tracking	000	000	000

Planning Rules

Planned Configuration	Folding Section	Start Challenge	End Challenge	Length (mi)	Alignment	New road type	Hardship/Value (per configuration)	Open width	Value in feet (per configuration)
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					

Back
Next

Series Parameters

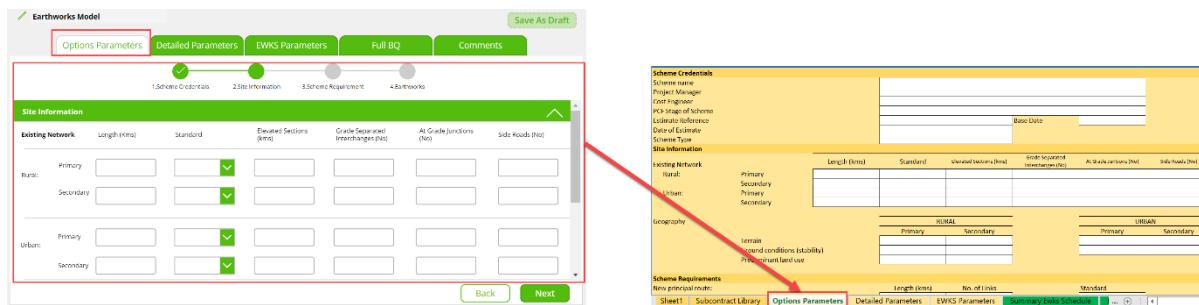


	Unit 1	Unit 2	Unit 3	Unit 4	Unit 5	Unit 6	Unit 7	Unit 8	Unit 9
Principal route	0	0	0	0	0	0	0	0	0
Location	0	0	0	0	0	0	0	0	0
Start Change	0	0	0	0	0	0	0	0	0
End Change	0	0	0	0	0	0	0	0	0
Extent of heavily wooded areas	0	0	0	0	0	0	0	0	0

Earthworks

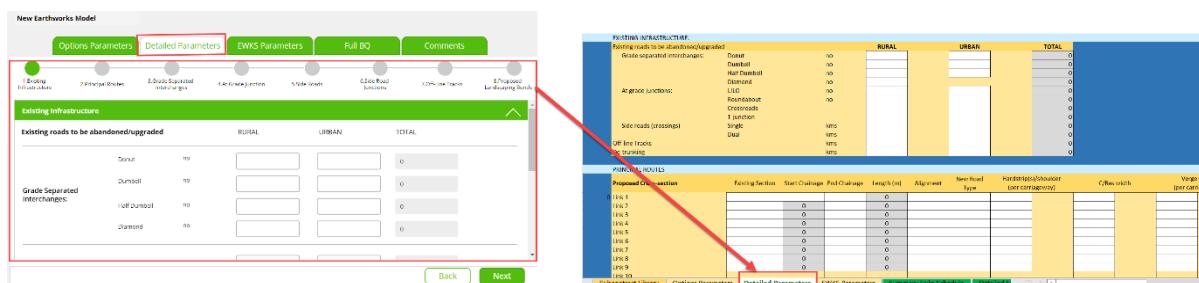
Forms in the app user interface map to their corresponding Parametric Model worksheets (DWCM – Earthworks General – RIP – V2.0).

Options Parameters



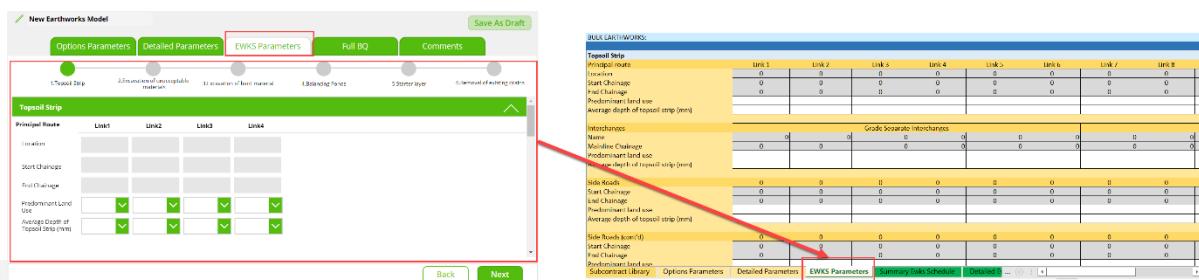
	Primary	Secondary	Urban	Rural
Length (km)	0.0000	0.0000	0.0000	0.0000
Number of contracts	0	0	0	0
Number of contracts (subcontract)	0	0	0	0
Number of contracts (main)	0	0	0	0
Number of contracts (subcontract)	0	0	0	0
Number of contracts (main)	0	0	0	0

Detailed Parameters



	RURAL	URBAN	TOTAL
Grade Separated Interchanges	0.00	0.00	0.00
Roundabouts	0.00	0.00	0.00
Half Roundabouts	0.00	0.00	0.00
Chamfers	0.00	0.00	0.00

EWKS Parameters

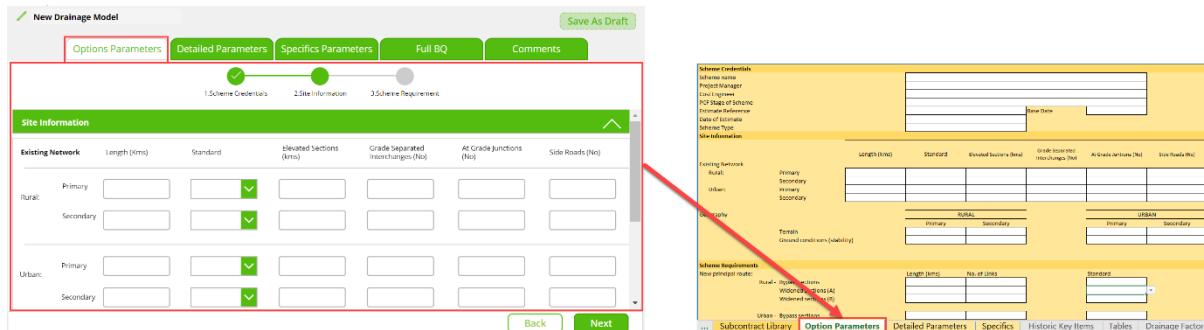


	Link1	Link2	Link3	Link4
Location	0	0	0	0
Start Change	0	0	0	0
End Change	0	0	0	0
Predominant Land Use	0	0	0	0
Average Depth of Topsoil (mm)	0	0	0	0

Drainage

Forms in the app user interface map to their corresponding Parametric Model worksheets (DWCM – Drainage – RIP – V2.0).

Options Parameters

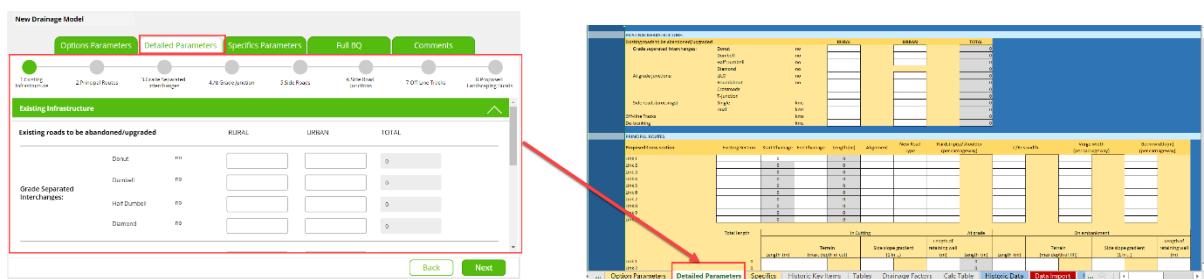


The screenshot shows the 'New Drainage Model' application interface. The top navigation bar includes tabs for 'Save As Draft', 'Options Parameters' (which is highlighted in green), 'Detailed Parameters', 'Specifics Parameters', 'Full BQ', and 'Comments'. Below the tabs is a progress bar with three steps: '1 Scheme Details' (green), '2 Site Information' (green), and '3 Scheme Requirements' (grey). The main area is titled 'Site Information' and contains a table for 'Existing Network' under 'Rural' and 'Urban' categories. Buttons for 'Back' and 'Next' are at the bottom.

DWCM Parametric Model Worksheet:

The worksheet is titled 'Scheme Details' and includes sections for 'Scheme name', 'Project Manager', 'Cost Engineer', 'PCU Stage of Scheme', 'Design parameters', 'Date of estimate', 'Scheme Type', and 'Site Information'. It has tabs for 'Existing Network', 'Terrain', and 'Scheme Requirements'. The 'Option Parameters' tab is highlighted in red. Other tabs include 'Detailed Parameters', 'Specifics', 'Historic Key Items', 'Tables', and 'Drainage Factors'.

Detailed Parameters

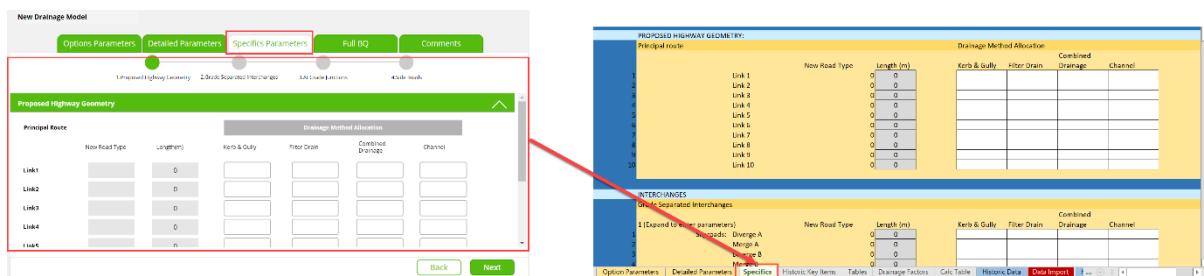


The screenshot shows the 'New Drainage Model' application interface with the 'Detailed Parameters' tab selected. The main area displays a table for 'Existing roads to be abandoned/upgraded' under 'RURAL', 'URBAN', and 'TOTAL' columns. Buttons for 'Back' and 'Next' are at the bottom.

DWCM Parametric Model Worksheet:

The worksheet is titled 'Existing Roads to be Upgraded' and includes sections for 'Abandon Interchanges', 'Proposed Interchanges', 'Proposed Roads', and 'Proposed Roads Details'. The 'Detailed Parameters' tab is highlighted in red. Other tabs include 'Option Parameters', 'Specifics', 'Historic Key Items', 'Tables', 'Drainage Factors', 'Calc Table', 'Historic Data', and 'Data Import'.

Specifics Parameters



The screenshot shows the 'New Drainage Model' application interface with the 'Specifics Parameters' tab selected. The main area displays a table for 'Proposed Highway Geometry' under 'Principal Route' and 'Link' columns. Buttons for 'Back' and 'Next' are at the bottom.

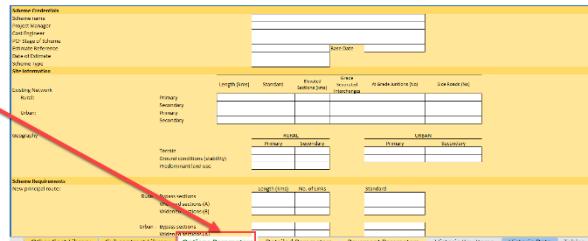
DWCM Parametric Model Worksheet:

The worksheet is titled 'PROPOSED HIGHWAY GEOMETRY' and includes sections for 'Principal route', 'Drainage Method Allocation', and 'INTERCHANGES'. The 'Specifics' tab is highlighted in red. Other tabs include 'Option Parameters', 'Detailed Parameters', 'Historic Key Items', 'Tables', 'Drainage Factors', 'Calc Table', 'Historic Data', and 'Data Import'.

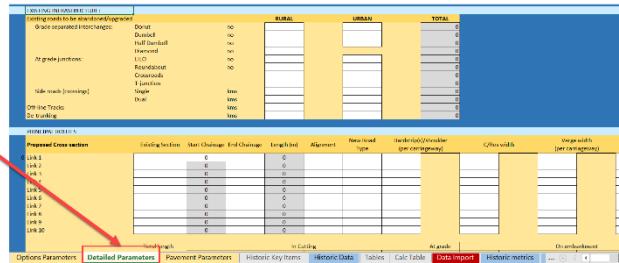
Carriageway

Forms in the app user interface map to their corresponding Parametric Model worksheets (DWCM – Carriageway – RIP – V2.1).

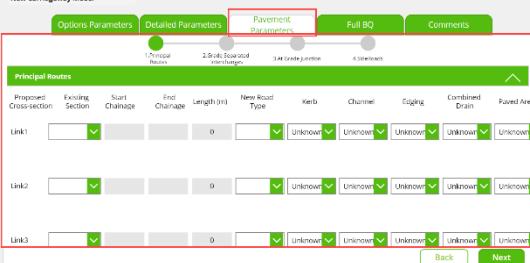
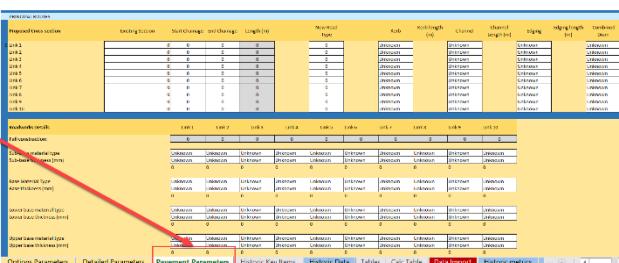
Options Parameters

Detailed Parameters

Pavement Parameters

Signs & Lighting

Forms in the app user interface map to their corresponding Parametric Model worksheets (DWCM – Signs Lighting – RIP – V2.1).

Options Parameters

Site Information					
Existing Network	Length (Kms)	Standard	Reverted Sections (km)	Grade Separated Interchanges (No.)	At Grade Junctions (No.)
Rural:	Primary				
	Secondary				
Urban:	Primary				
	Secondary				

Scheme Requirements					
Non-primary routes					
Route Type	Primary	Secondary	Urban	Secondary	Standard
Residential					
Commercial					
Industrial					
Commercial Industrial					
Walkways					
Other					

Detailed Parameters

Existing Infrastructure					
Existing roads to be abandoned/upgraded			RURAL	URBAN	TOTAL
Grade Separated Interchanges:	Dual	No			0
	Dumbell	No			0
	Half-Dumbell	No			0
	Diamond	No			0

PROPOSED ROUTES									
Proposed Cross section		Folding Section	Start Change	End Change	Length (m)	Alignment	New Road Type	Hardship/Obstruction (per carriageway)	C/Floor width
Link 1	Link 2	Link 3	Link 4	Link 5	Link 6	Link 7	Link 8	Link 9	Link 10

Signs Parameters

Principal Routes									
Proposed Cross section	Existing Section	Start Change	End Change	Length (m)	New Road Type	Unit no 1x2	Unit 1x2	Unit 1x2	Unit 1x2
Link 1				0	Unknown	Unknown	Unknown	Unknown	Unknown
Link 2				0	Unknown	Unknown	Unknown	Unknown	Unknown
Link 3				0	Unknown	Unknown	Unknown	Unknown	Unknown
Link 4				0	Unknown	Unknown	Unknown	Unknown	Unknown
Link 5				0	Unknown	Unknown	Unknown	Unknown	Unknown

PROPOSED ROUTES									
Proposed Cross-section		Existing Section	Start Change	End Change	Length (m)	New Road Type	Unit no 1x2	Unit 1x2	Unit 1x2
Link 1	Link 2	Link 3	Link 4	Link 5	Link 6	Link 7	Link 8	Link 9	Link 10

Road Marking Parameters

Principal Routes									
Proposed Cross section	Existing Section	Start Change	End Change	Length (m)	New Road Type	Continuous line in white thermoplastic	Continuous line in white thermoplastic applied solid	Continuous line in white thermoplastic applied solid with 2000 mm width	Continuous line in white thermoplastic applied solid with 6000 mm width
Link1				0	Unknown	Unknown	Unknown	Unknown	Unknown
Link2				0	Unknown	Unknown	Unknown	Unknown	Unknown
Link3				0	Unknown	Unknown	Unknown	Unknown	Unknown

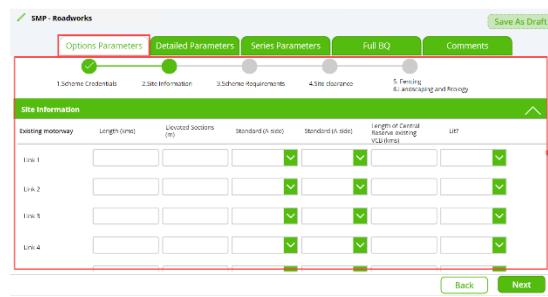
PROPOSED ROUTES									
Proposed Cross-section		Existing Section	Start Change	End Change	Length (m)	New road type	Proposed cross section	Proposed cross section	Proposed cross section
Streets	Intersections	Link 1	0	Change	0	Unknown	Unknown	Unknown	Unknown
Streets	Intersections	Link 2	0	Change	0	Unknown	Unknown	Unknown	Unknown
Streets	Intersections	Link 3	0	Change	0	Unknown	Unknown	Unknown	Unknown
Streets	Intersections	Link 4	0	Change	0	Unknown	Unknown	Unknown	Unknown
Streets	Intersections	Link 5	0	Change	0	Unknown	Unknown	Unknown	Unknown
Streets	Intersections	Link 6	0	Change	0	Unknown	Unknown	Unknown	Unknown
Streets	Intersections	Link 7	0	Change	0	Unknown	Unknown	Unknown	Unknown
Streets	Intersections	Link 8	0	Change	0	Unknown	Unknown	Unknown	Unknown
Streets	Intersections	Link 9	0	Change	0	Unknown	Unknown	Unknown	Unknown
Streets	Intersections	Link 10	0	Change	0	Unknown	Unknown	Unknown	Unknown

Smart Motorway Program (SMP)

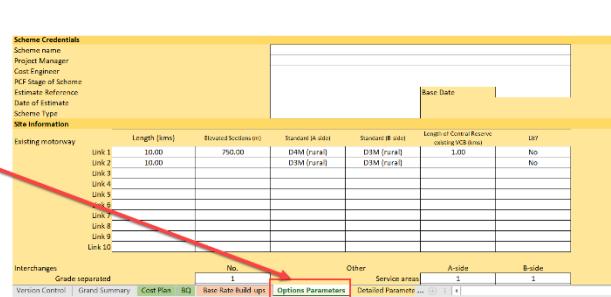
Roadworks

Forms in the app user interface map to their corresponding Parametric Model worksheets (DWCM – Roadworks General – SMP – V2.0).

Options Parameters

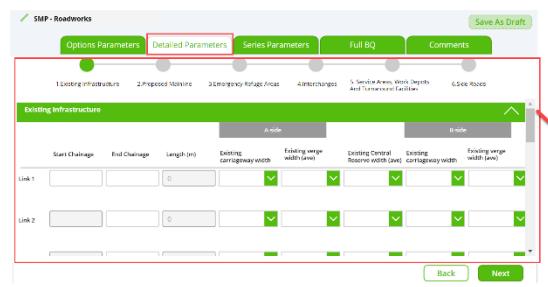


Link	Length (m)	Located Sections (m)	Standard (A-side)	Standard (B-side)	Length or Central Reserve (m)	Ver.
Link 1						
Link 2						
Link 3						
Link 4						
Link 5						
Link 6						
Link 7						
Link 8						
Link 9						
Link 10						

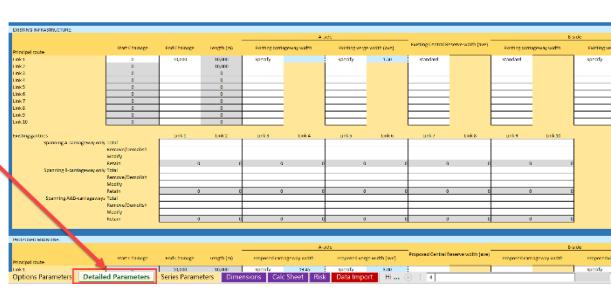


Link	Length (m)	Located Sections (m)	Standard (A-side)	Standard (B-side)	Length of Central Reserve (m)	Ver.
Link 1	10.00	750.00	D3M (rural)	D3M (rural)	1.00	No
Link 2	10.00					No
Link 3						
Link 4						
Link 5						
Link 6						
Link 7						
Link 8						
Link 9						
Link 10						

Detailed Parameters



Link	Start Change	End Change	Length (m)	Existing carriageway width	Existing verge width (m)	Existing Central Reserve width	Existing verge width (m)
Link 1			0				
Link 2			0				

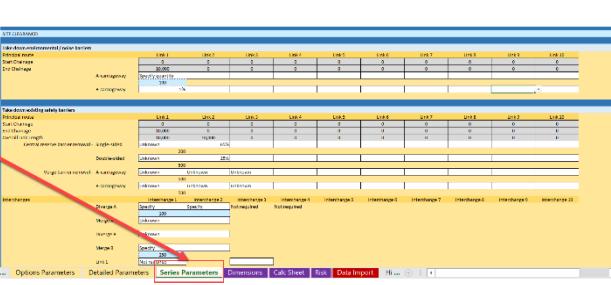


Link	Start Change	End Change	Length (m)	Existing carriageway width	Existing verge width (m)	Existing Central Reserve width	Existing verge width (m)
Link 1	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Link 2	0.000	0.000	0.000	0.000	0.000	0.000	0.000

Series Parameters



Principal Route	Link 1	Link 2	Link 3	Link 4	Link 5	Link 6	Link 7
Start Change							
End Change							
A-Carriageway	✓	✓	✓	✓	✓	✓	✓
B-Carriageway	✓	✓	✓	✓	✓	✓	✓



Link	Link 1	Link 2	Link 3	Link 4	Link 5	Link 6	Link 7	Link 8	Link 9	Link 10
Start Change	0	0	0	0	0	0	0	0	0	0
End Change	0	0	0	0	0	0	0	0	0	0
A-Carriageway	0	0	0	0	0	0	0	0	0	0
B-Carriageway	0	0	0	0	0	0	0	0	0	0

Earthworks

Forms in the app user interface map to their corresponding Parametric Model worksheets (DWCM – Earthworks General – SMP – V2.0).

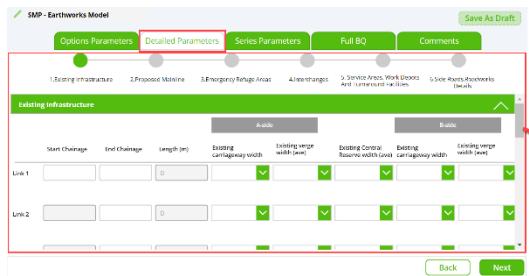
Options Parameters



Scheme Details					
Scheme name	Project Manager	Cost Estimator	Estimate Reference	Date of Estimate	Scheme Type
					Base Date

Site Information					
Existing motorway	Length (km)	Banked sections (%)	Bankrate (k/s)	Length of Central Reserve (metres)	CFR
Link 1	10.00	7%0.00	D4M (rural)	100	No
Link 2	10.00	7%0.00	D4M (rural)	100	No
Link 3					
Link 4					
Link 5					
Link 6					
Link 7					
Link 8					
Link 9					
Link 10					

Detailed Parameters



Existing Infrastructure										
Infrastructure	A-side			B-side			C-side			D-side
	Start Change	End Change	Length (m)	External carriageway width	Existing verge width (m)	Existing central reserve width (m)	External carriageway width	Existing verge width (m)	Existing central reserve width (m)	
Link 1		0								
Link 2		0								

Series Parameters



ROADWORKS										
Segment	Proposed Verge Details					Proposed Central Reserve Details				
	A-CARRIAGeway	Start Change	End Change	Length (m)	Kerb	Channel	Combined Drain	Paved Area	Channel Depth (m)	Central Reserve Width (m)
Unit 1			0	Unknown	Unknown	Unknown	Unknown	0.100	1.00	
Unit 2			0	Unknown	Unknown	Unknown	Unknown	0.100	1.00	
Unit 3			0	Unknown	Unknown	Unknown	Unknown	0.100	1.00	

Carriageway

Forms in the app user interface map to their corresponding Parametric Model worksheets (DWCM – Carriageway – SMP – V2.1).

Options Parameters

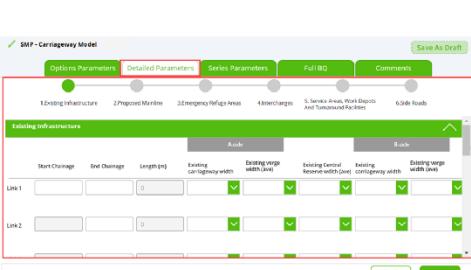


Link	Length (m)	Bridged Sections (m)	Standard (A-side)	Standard (B-side)	Length of Central Reserve (C2) (m)	A-side
Link 1			✓	✓		✓
Link 2			✓	✓		✓
Link 3			✓	✓		✓
Link 4			✓	✓		✓

Link	Length (m)	Bridged Sections (m)	Standard (A-side)	Standard (B-side)	Length of Central Reserve (C2) (m)	A-side
Link 1	100	100	100	100	0	100
Link 2	100	100	100	100	0	100
Link 3	100	100	100	100	0	100
Link 4	100	100	100	100	0	100

Scheme Credentials		Basic Data	
Scheme name			
Project Manager			
Cost Engineer			
PK1 Stage of Scheme			
Elevation Reference			
Date of Estimate			
Scheme Type			
Site Information			
Existing motorway			
Link 1	Length (m)	Bridged Sections (m)	Standard (A-side)
Link 2			
Link 3			
Link 4			
Link 5			
Link 6			
Link 7			
Link 8			
Link 9			
Link 10			
Interchanges		No.	Other
Grade separated		Service areas	A-side
Subcontract library		B-side	
Options Parameters		Detailed Parameters	Series Parameters
Data Collection		Dimensions	Calc Sheet
Risk		Data Import	

Detailed Parameters



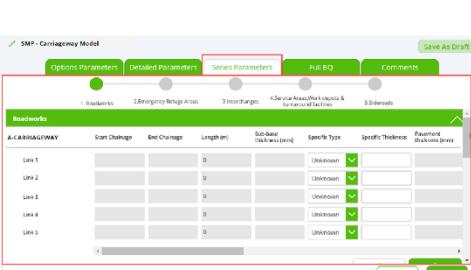
Link	Start Change	End Change	Length (m)	Bearing carriage way	Bearing reserve (A-side)	Bearing reserve (B-side)	Bearing emergency width	Bearing verge width (A-side)	Bearing verge width (B-side)
Link 1			100	✓	✓	✓	✓	✓	✓
Link 2			100	✓	✓	✓	✓	✓	✓

Link	Start Change	End Change	Length (m)	Bearing carriage way	Bearing reserve (A-side)	Bearing reserve (B-side)	Bearing emergency width	Bearing verge width (A-side)	Bearing verge width (B-side)
Link 1	0	0	100	✓	✓	✓	✓	✓	✓
Link 2	0	0	100	✓	✓	✓	✓	✓	✓

EXISTING INFRASTRUCTURE									
Proposed route		Link 1		Link 2		Link 3		Link 4	
Start Change	End Change	Length (m)	Bearing carriage way	Existing carriage way (m)	Existing verge width (m)	Existing Central Reserve width (m)	Existing emergency width (m)	Proposed carriage way (m)	Proposed verge width (m)
Link 1	0	100	✓	0	0	0	0	0	0
Link 2	0	100	✓	0	0	0	0	0	0
Link 3	0	100	✓	0	0	0	0	0	0
Link 4	0	100	✓	0	0	0	0	0	0

EXISTING INFRASTRUCTURE									
Proposed route		Link 1		Link 2		Link 3		Link 4	
Start Change	End Change	Length (m)	Bearing carriage way	Existing carriage way (m)	Existing verge width (m)	Existing Central Reserve width (m)	Existing emergency width (m)	Proposed carriage way (m)	Proposed verge width (m)
Link 1	0	100	✓	0	0	0	0	0	0
Link 2	0	100	✓	0	0	0	0	0	0
Link 3	0	100	✓	0	0	0	0	0	0
Link 4	0	100	✓	0	0	0	0	0	0

Series Parameters



Link	Start Change	End Change	Length (m)	Sub-base thickness (m)	Specific Type	Specific Thickness	Pavement thickness (m)
Link 1	0	0	100	Unknown	✓		
Link 2	0	0	100	Unknown	✓		
Link 3	0	0	100	Unknown	✓		
Link 4	0	0	100	Unknown	✓		
Link 5	0	0	100	Unknown	✓		

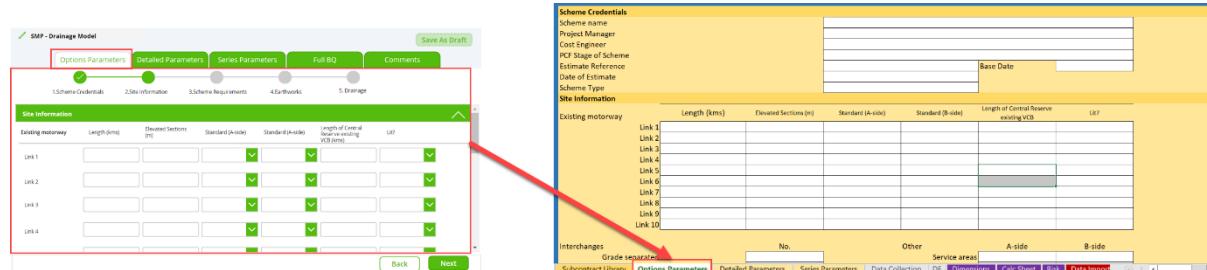
Link	Start Change	End Change	Length (m)	Sub-base thickness (m)	Specific Type	Specific Thickness	Pavement thickness (m)
Link 1	0	0	100	Unknown	✓		
Link 2	0	0	100	Unknown	✓		
Link 3	0	0	100	Unknown	✓		
Link 4	0	0	100	Unknown	✓		
Link 5	0	0	100	Unknown	✓		

EXISTING INFRASTRUCTURE									
Proposed route		Link 1		Link 2		Link 3		Link 4	
Start Change	End Change	Length (m)	Bearing carriage way	Existing carriage way (m)	Existing verge width (m)	Existing Central Reserve width (m)	Existing emergency width (m)	Proposed carriage way (m)	Proposed verge width (m)
Link 1	0	100	✓	0	0	0	0	0	0
Link 2	0	100	✓	0	0	0	0	0	0
Link 3	0	100	✓	0	0	0	0	0	0
Link 4	0	100	✓	0	0	0	0	0	0

Drainage

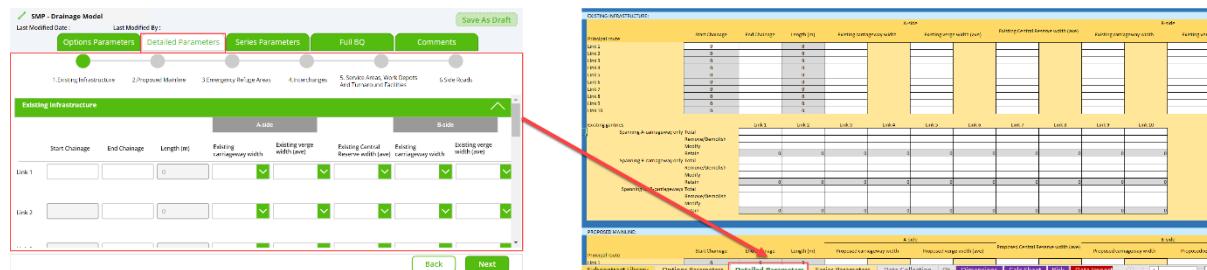
Forms in the app user interface map to their corresponding Parametric Model worksheets (DWCM – Drainage – SMP – V2.0).

Options Parameters



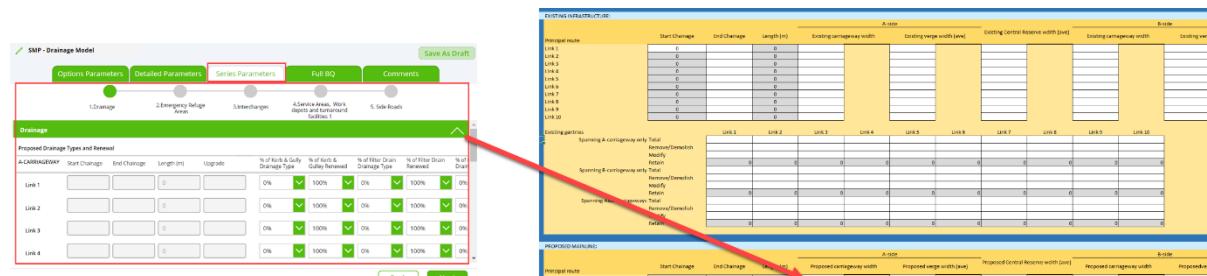
Link	Length (m)	Deviated Sections	Standard (A-side)	Standard (B-side)	Length of Central Reserve existing VCB
Link 1					
Link 2					
Link 3					
Link 4					

Detailed Parameters



Link	Start Change	End Change	Length (m)	Existing Carrigeway width	Existing verges width (m)	Existing Central Reserve width (m)	Existing verge width (m)
Link 1							
Link 2							

Series Parameters

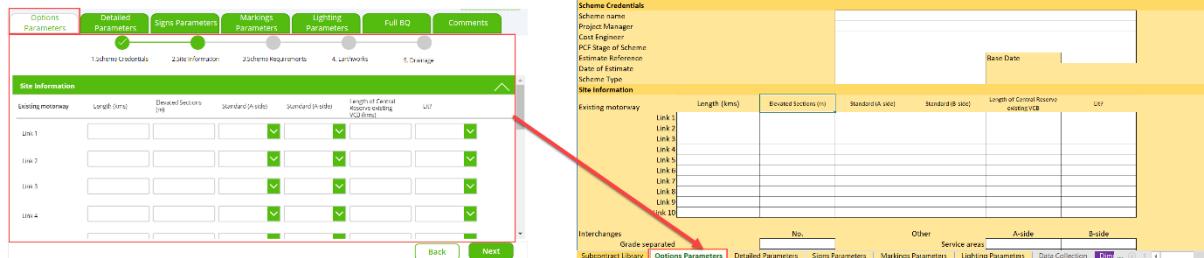


Link	Start Change	End Change	Length (m)	Upgrade	% of Kerb & Gully Drainage Type	% of Kerb & Gully Renewed	% of Filter Drainage Type Renewed	% of Filter Drainage Type Renewed	% of Driveway
Link 1									
Link 2									
Link 3									
Link 4									

Signs & Lighting

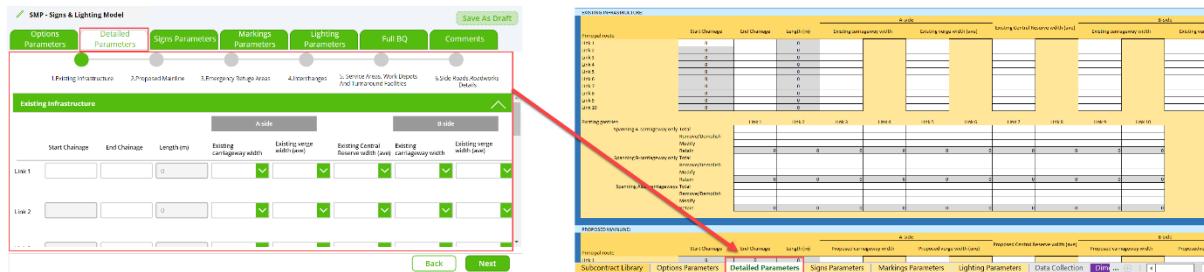
Forms in the app user interface map to their corresponding Parametric Model worksheets (DWCM – Signs & Lighting – SMP – V2.0).

Options Parameters



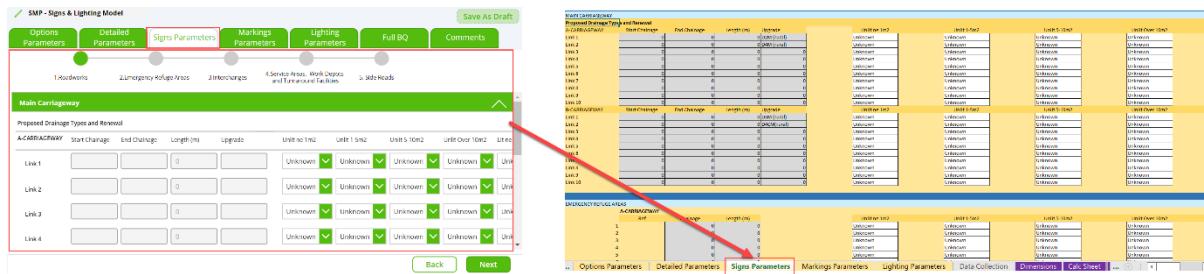
Link	Length (km)	Elevated Sections (m)	Standard (A side)	Standard (B side)	Length of Corridor Reserve (metres) (C side)	LSP
Link 1						
Link 2						
Link 3						
Link 4						
Link 5						
Link 6						
Link 7						
Link 8						
Link 9						
Link 10						

Detailed Parameters



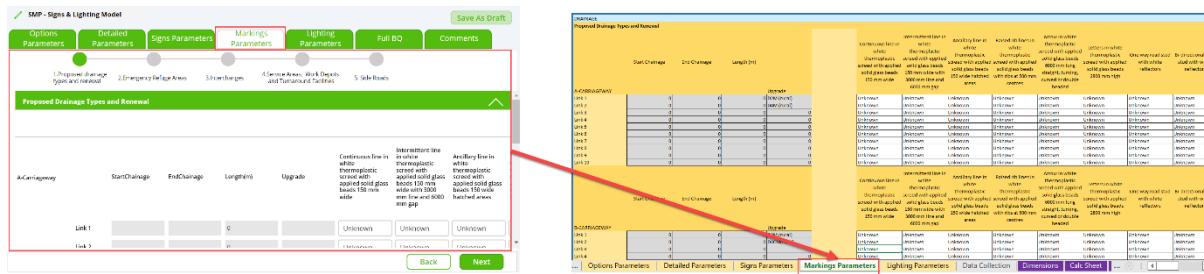
Link	Start Change	End Change	Length (m)	Bearing carriage width (m)	Bearing central Reserve width (m)	Bearing carriage width (m)	Existing verge width (m)
Link 1							
Link 2							

Signs Parameters



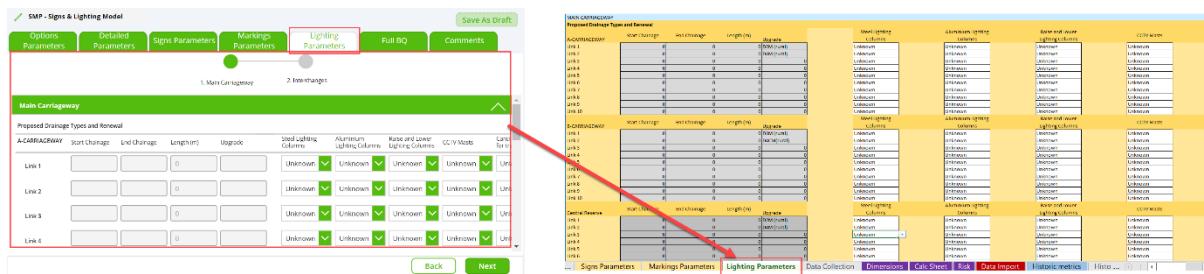
Link	Start Change	End Change	Length (m)	Upgrade	Unit 1 (m)	Unit 1.5 (m)	Unit 2 (m)	Unit 2.5 (m)	Unit 3 (m)	Unit 3.5 (m)	Unit 4 (m)	
Link 1												
Link 2												
Link 3												
Link 4												

Markings Parameters



Link	Start Change	End Change	Length (m)	Upgrade	Continuous line (white thermoplastic) applied solid glass beads 150 mm wide with 500 mm gap	Intermittent line (white thermoplastic) applied solid glass beads 150 mm wide with 500 mm gap	Junction Fins (white thermoplastic) applied solid glass beads 150 mm wide with 500 mm gap	
Link 1								
Link 2								

Lighting Parameters



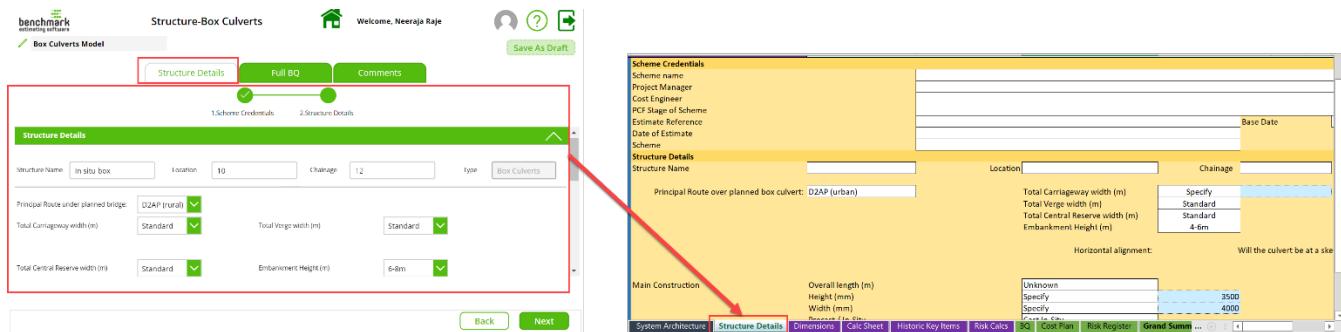
The screenshot shows the 'Lighting Parameters' tab highlighted in the app's navigation bar. Below it, a detailed view of the parametric model worksheet shows the 'Lighting Parameters' tab also highlighted, indicating a direct mapping between the two.

Structure

Box Culverts

Forms in the app user interface map to their corresponding Parametric Model worksheets (DWCM – Box Culverts Model – V2.0).

Structure Details

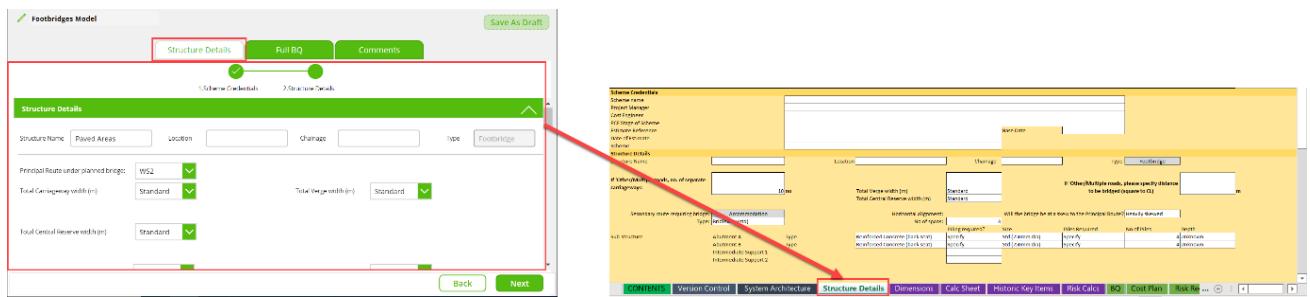


The screenshot shows the 'Structure Details' tab highlighted in the app's navigation bar. Below it, a detailed view of the parametric model worksheet shows the 'Structure Details' section also highlighted, indicating a direct mapping between the two.

Footbridges

Forms in the app user interface map to their corresponding Parametric Model worksheets (DWCM – Footbridges Model – V2.0).

Structure Details

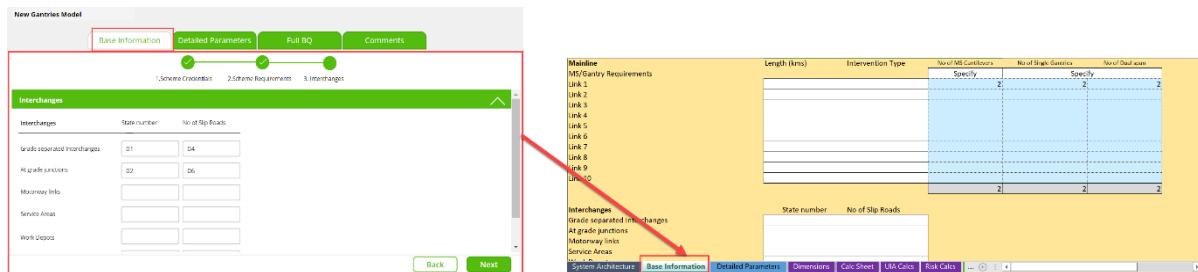


The screenshot shows the 'Structure Details' tab highlighted in the app's navigation bar. Below it, a detailed view of the parametric model worksheet shows the 'Structure Details' section also highlighted, indicating a direct mapping between the two.

Gantries

Forms in the app user interface map to their corresponding Parametric Model worksheets (DWCM – Gantry Model – V2.0).

Base Information



Mainline		Length (km)	Intervention Type	No of MS Culverts	No of Single Gullies	No of Dual gullies
MS Gantry Requirements			Specify	2	2	2
Link 1						
Link 2						
Link 3						
Link 4						
Link 5						
Link 6						
Link 7						
Link 8						
Link 9						
Link 10						

Interchanges
Grade-separated interchanges
At-grade junctions
Motorway links
Service areas
Work zones

Detailed Parameters

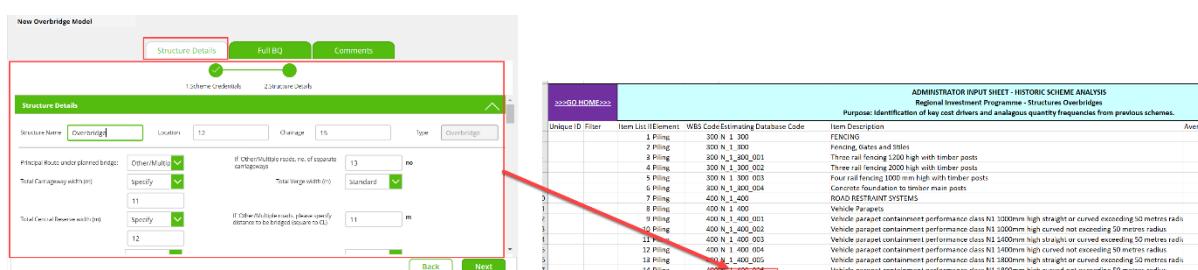


Reference	Chainage	Carriageway	Type	Piling	Diameter	No of piles	Depth
MS-1	38	A-way	MS3	Specify	ne 600mm	Unknown	ne 10m
MS-2	42	B-way	MS3	Specify	Unknown		
MS-3	60	A-way	MS4	Specify	Unknown		

Overbridges

Forms in the app user interface map to their corresponding Parametric Model worksheets (DWCM – Overbridges Model – V2.0).

Structure Details



ADMINISTRATOR INPUT SHEET - HISTORIC SCHEME ANALYSIS			
Regional Investment Programme - Structures Overbridges			
Purpose: Identification of key cost drivers and analogous quantity frequencies from previous schemes.			
Unique ID	Item List (Element)	WBS Code Estimating Database Code	Item Description
1	1 Piling	300_N_1_300	FENCING
2	2 Piling	300_N_1_300	Fencing, Gates and gates
3	3 Piling	300_N_1_300_001	Three rail fencing 1000 mm high with timber posts
4	4 Piling	300_N_1_300_002	Three rail fencing 2000 mm high with timber posts
5	5 Piling	300_N_1_300_003	Four rail fencing 1000 mm high with timber posts
6	6 Piling	300_N_1_300_004	Concrete foundation to timber main posts
7	7 Piling	400_N_1_400	Vehicle parapet containment performance class N1
8	8 Piling	400_N_1_400_001	Vehicle parapet containment performance class N1 1000mm high straight or curved exceeding 50 metres radius
9	9 Piling	400_N_1_400_001	Vehicle parapet containment performance class N1 1000mm high curved not exceeding 50 metres radius
10	10 Piling	400_N_1_400_002	Vehicle parapet containment performance class N1 2400mm high straight or curved exceeding 50 metres radius
11	11 Piling	400_N_1_400_003	Vehicle parapet containment performance class N1 2400mm high curved not exceeding 50 metres radius
12	12 Piling	400_N_1_400_004	Vehicle parapet containment performance class N1 3400mm high straight or curved exceeding 50 metres radius
13	13 Piling	400_N_1_400_005	Vehicle parapet containment performance class N1 3400mm high curved not exceeding 50 metres radius
14	14 Piling	400_N_1_400_006	Vehicle parapet containment performance class N1 4400mm high straight or curved exceeding 50 metres radius
15	15 Piling	400_N_1_400_007	Vehicle parapet containment performance class N1 4400mm high curved not exceeding 50 metres radius

Piped Culverts

Forms in the app user interface map to their corresponding Parametric Model worksheets (DWCM – Piped Culverts Model – V2.1).

Base Information

Piped Culvert Model

Save As Draft

Base Information **Detailed Information** **Full BQ** **Comments**

Scheme Requirements

Manline Lengths (Kms) No Of Culverts
MS/Gully Requirements Unknown - ✓

Link 1	20
Link 2	15
Link 3	5
Link 4	
Link 5	

Scheme Credentials

Project Name:
Project Manager:
Cost Estimator:
PDF Stage of Scheme:
Estimate Reference:
Date of Estimate:
Scheme Type:

Scheme Requirements

Length (Kms) No Of Culverts
Specify 5

Base Date:

Back **Next**

Help **Logout** **Version Control** **System Architecture** **Base Information** **Detailed Parameters** **Dimensions** **Calc Sheet** **Historic Key Items** **(...)**

Detailed Parameters

Piped Culvert Model
Last Modified Date: 11/10/2022 Last Modified By: Neeraj Raje

[Save As Draft](#)

[Base Information](#) [Detailed Information](#) [Full BQ](#) [Comments](#)

1.7 Piped Culverts Schedule

Reference	Change	Category	Length	Diameter	Design Category (1 to 20)	Depth category	Depth Category (1 to 20)	Depth Category (2 to 40)	Depth length
CUL-1									
CUL-2									
CUL-3									
CUL-4									
CUL-5									
CUL-6									
CUL-7									
CUL-8									
CUL-9									
CUL-10									
CUL-11									
CUL-12									
CUL-13									
CUL-14									
CUL-15									
CUL-16									
CUL-17									
CUL-18									
CUL-19									
CUL-20									

[Back](#) [Next](#)

[Log In](#) [Version Control](#) [System Architecture](#) [Base Information](#) [Detailed Parameters](#) [Dimensions](#) [Calc Sheet](#) [Historic Key Items](#) ...

Retaining Walls

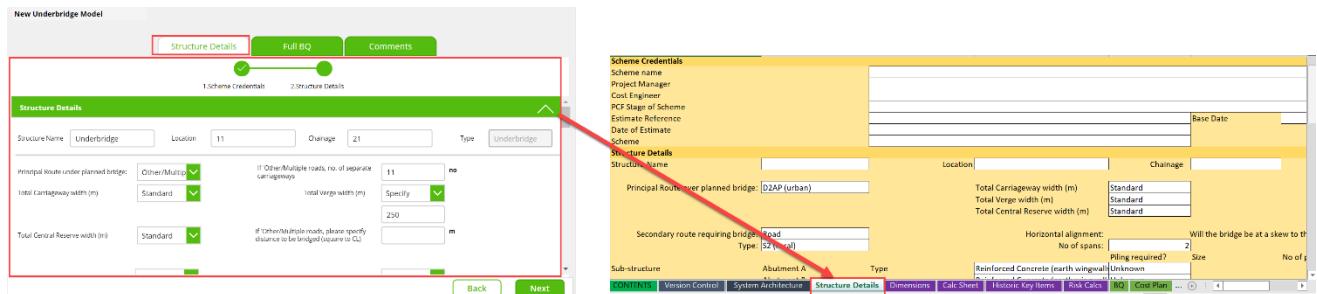
Forms in the app user interface map to their corresponding Parametric Model worksheets (DWCM – Retaining Walls Model – V2.1).

Base Information

Underbridges

Forms in the app user interface map to their corresponding Parametric Model worksheets (DWCM – Underbridges Model – V2.0).

Structure Details



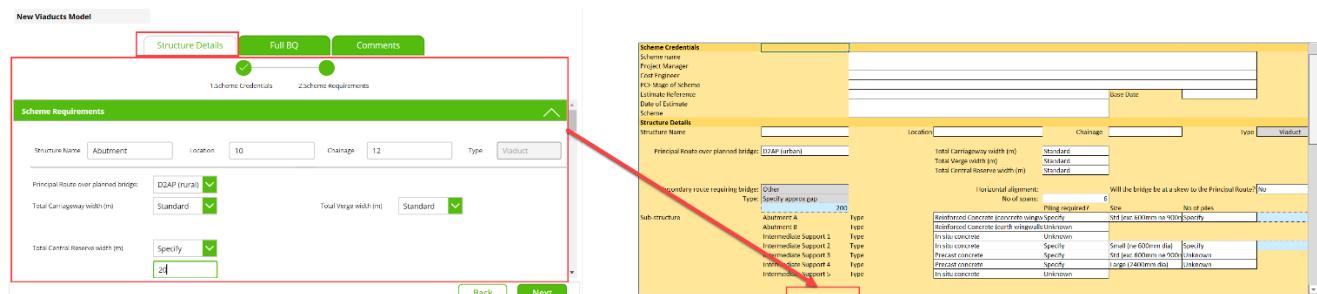
Scheme Credentials		Structure Details	
Scheme name	Underbridge	Location	11
Project Manager		Chorage	21
Contractor		Type	Underbridge
PCF Stage of Scheme			
Estimate Reference			
Date of Estimate			
Structure Details			
Structure Name	Underbridge	Location	11
Principal Route under planned bridge:	Other/Multi	If Other/Multi roads, no. of separate carriageways:	
Total Carrigeway width (m)	Standard	Total Verge width (m):	
Total Central Reserve width (m)	Standard	If Other/Multi roads, please specify distance to be bridged (square to CL):	
<input type="button" value="Back"/> <input type="button" value="Next"/>			

Scheme Credentials		Structure Details	
Scheme name		Location	
Project Manager		Chorage	
Contractor		Base Date	
PCF Stage of Scheme			
Estimate Reference			
Date of Estimate			
Structure Details			
Structure Name		Location	
Principal Route over planned bridge:	D2AP (urban)	Total Carrigeway width (m)	Standard
Total Verge width (m)	Standard	Total Central Reserve width (m)	Standard
Secondary route requiring bridge:	Road	Type:	(2) (2x2)
Sub-structure	Abutment A	Type	
<input type="button" value="CONTINUE"/> <input type="button" value="Version Control"/> <input type="button" value="System Architecture"/> <input type="button" value="Structure Details"/> <input type="button" value="Dimensions"/> <input type="button" value="Calc Sheet"/> <input type="button" value="Historic Key Items"/> <input type="button" value="Risk Cells"/> <input type="button" value="RQD"/> <input type="button" value="Cost Plan"/> ...			

Viaducts

Forms in the app user interface map to their corresponding Parametric Model worksheets (DWCM – Viaducts Model – V2.0).

Structure Details



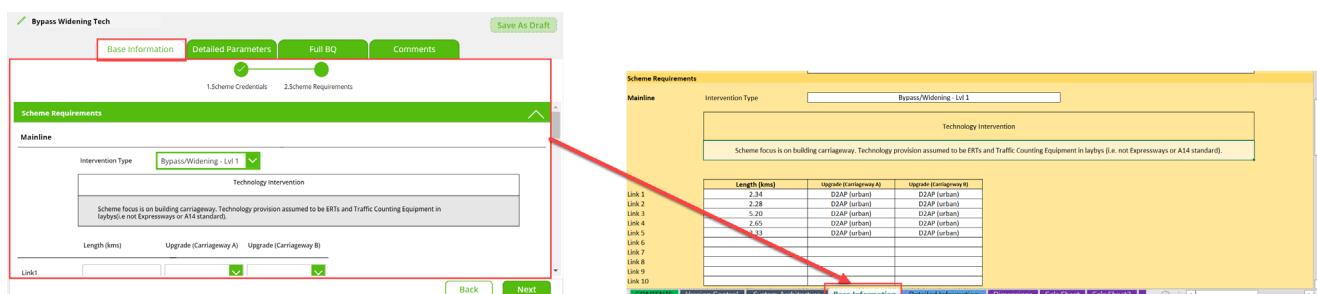
Scheme Requirements		Structure Details	
Scheme name	Abutment	Location	10
Project Manager		Chorage	12
Contractor		Type	Viaduct
PCF Stage of Scheme			
Estimate Reference			
Date of Estimate			
Structure Details			
Structure Name		Location	
Principal Route over planned bridge:	D2AP (urban)	Total Carrigeway width (m)	Standard
Total Verge width (m)	Standard	Total Central Reserve width (m)	Standard
Total Central Reserve width (m)	Specify		24
<input type="button" value="Back"/> <input type="button" value="Next"/>			

Scheme Credentials		Structure Details	
Scheme name		Location	
Project Manager		Chorage	
Contractor		Base Date	
PCF Stage of Scheme			
Estimate Reference			
Date of Estimate			
Structure Details			
Structure Name		Location	
Principal Route over planned bridge:	D2AP (urban)	Total Carrigeway width (m)	Standard
Total Verge width (m)	Standard	Total Central Reserve width (m)	Standard
Secondary route requiring bridge:	Other	Type:	Specify (approx 200)
Sub-structure	Abutment A	Type	
Intermediate Support 1	In-situ concrete	Type	
Intermediate Support 2	In-situ concrete	Type	
Intermediate Support 3	In-situ concrete	Type	
Intermediate Support 4	Prestressed concrete	Type	Specify (approx 200m dia)
Intermediate Support 5	In-situ concrete	Type	Unknown
<input type="button" value="Version Control"/> <input type="button" value="System Architecture"/> <input type="button" value="Structure Details"/> <input type="button" value="Dimensions"/> <input type="button" value="Calc Sheet"/> <input type="button" value="Historic Key Items"/> <input type="button" value="Risk Cells"/> <input type="button" value="RQD"/> <input type="button" value="Cost Plan"/> ...			

Technology

Forms in the app user interface map to their corresponding Parametric Model worksheets (DWCM – Technology – V2.1).

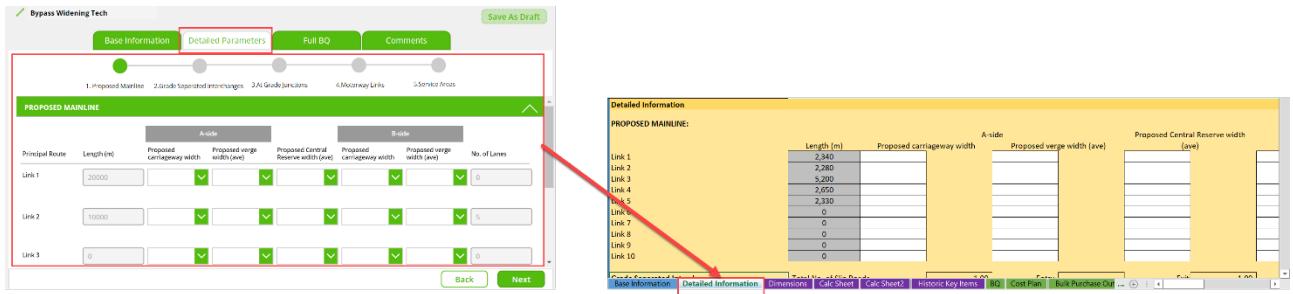
Base Information



Scheme Requirements		Base Information	
Mainline	Intervention Type	Bypass/Widening - Lvl 1	
Technology Intervention			
Scheme focus is on building carriageway. Technology provision assumed to be ERTs and Traffic Counting Equipment in laybys (i.e. not Expressways or A14 standard).			
Length (km)	Upgrade (Carriageway A) Upgrade (Carriageway B)		
Link1			
<input type="button" value="Back"/> <input type="button" value="Next"/>			

Scheme Requirements		Base Information	
Mainline	Intervention Type	Bypass/Widening - Lvl 1	
Technology Intervention			
Scheme focus is on building carriageway. Technology provision assumed to be ERTs and Traffic Counting Equipment in laybys (i.e. not Expressways or A14 standard).			
Length (km)	Upgrade (Carriageway A) Upgrade (Carriageway B)		
Link 1	2.34	D2AP (urban)	D2AP (urban)
Link 2	2.38	D2AP (urban)	D2AP (urban)
Link 3	5.20	D2AP (urban)	D2AP (urban)
Link 4	2.65	D2AP (urban)	D2AP (urban)
Link 5	2.42	D2AP (urban)	D2AP (urban)
Link 6			
Link 7			
Link 8			
Link 9			
Link 10			
<input type="button" value="CONTINUE"/> <input type="button" value="Version Control"/> <input type="button" value="System Architecture"/> <input type="button" value="Base Information"/> <input type="button" value="Detailed Information"/> <input type="button" value="Dimensions"/> <input type="button" value="Calc Sheet"/> <input type="button" value="Calc Sheet2"/> ...			

Detailed Information / Detailed Parameters



The screenshot shows the 'Bypass Widening Tech' project setup. The 'Detailed Parameters' tab is active, displaying five tabs: 1. Proposed Mainline, 2. A-side separated intersections, 3. A-side junctions, 4. Motorway Links, and 5. Service Areas. Below these tabs, the 'PROPOSED MAINLINE' section is expanded, showing a table for three links. The table includes columns for Principal Route, Length(m), Proposed carriageway width, Proposed verge width (ave), Proposed Central Reserve width (ave), Proposed carriageway width (ave), Proposed verge width (ave), and No. of Lanes. The 'Detailed Information' panel on the right provides a detailed breakdown for each link, listing length, proposed carriageway width, and proposed central reserve width.

Principal Route	Length(m)	Proposed carriageway width	Proposed verge width (ave)	Proposed Central Reserve width (ave)	Proposed carriageway width (ave)	Proposed verge width (ave)	No. of Lanes
Link 1	20000	✓	✓	✓	✓	✓	0
Link 2	10000	✓	✓	✓	✓	✓	5
Link 3	0	✓	✓	✓	✓	✓	0

PROPOSED MAINLINE:		Length (m)	Proposed carriageway width	A-side	Proposed verge width (ave)	Proposed Central Reserve width (ave)
Link 1	Link 2	5,340				
Link 3	Link 4	5,280				
Link 4	Link 5	5,200				
Link 5	Link 6	2,650				
Link 6	Link 7	0				
Link 7	Link 8	0				
Link 8	Link 9	0				
Link 9	Link 10	0				

Our mission is to help organisations improve their estimating, and the integration of estimating with related business processes; for private enterprise this helps improve your profit and market share; public authorities can deliver more accurate budgets and streamline project delivery.

Head Office | 83-89 Renwick St, Redfern NSW 2016
Phone | (Sales) +61 2 8396 6555 or (Support) +61 2 4422 3444
Email | sales@benchmarkestimating.com