

# ENGINEERING AND CONSTRUCTION CASE STUDY

## MICROSOFT<sup>®</sup> EXCEL BASED USER INTERFACE IN ACTION

### The Situation

PBS&J is an employee-owned company that provides infrastructure planning, engineering, environmental science & engineering, construction management, architecture, and program management services to public and private clients. The company is ranked by Engineering News-Record as 25th among the nation's top consulting firms. PBS&J has 4,000 employees and 75 offices nationwide. PBS&J selected Oracle E-Business Suite Projects Applications to streamline its project-based business. In addition to the core suite of Oracle Financials, PBS&J chose to deploy Oracle Project Costing, Oracle Project Billing and Oracle Project Management from the Oracle Projects suite. Project Partners LLC was selected as the Implementation Partner for this work.

### Why Project Partners User Interface

Based upon PBS&J's business requirements, as Oracle Project Management was being evaluated for deployment to project managers, Project Partners User Interface was reviewed as an alternate, disconnected user interface. PBS&J accepted Project Partners User Interface (PPUI), which provides a Microsoft Excel based interface with two-way interactivity to Oracle Applications and the ability to work disconnected.

The following functions were identified to be provided by PPUI for PBS&J's project managers:

1. Setup Work Breakdown Structure (WBS)
2. Define Budget
3. Collect Progress
4. Complete Project Forecasts

Project Partners consultants worked closely with PBS&J users to develop two Project Partners User Interface worksheets which together fulfill all of the functions above.

### Task Setup

The workbook below fulfills the functions of Setting up WBS and and Defining Budgets.

Project Number 052016700 (I-35/I-20 Interchange)		Protected Field						
GET MY PROJECTS		SUBMIT		Mandatory				
GET TASK DATA		ADD 10 ROWS		Optional Entry				
				Calculated Field				
								Project
Task Number	Task Name	Task Manager	Task Owning Organization	Task Type	Scheduled Start	Scheduled End	Work Discipline Code	Spread Curve
01	WO 1656	Martin, Randy		Summary				
01.01	30% Plans	Martin, Randy		Summary				
01.01.01	Roadway	Martin, Randy		Labor	1/1/2006	1/31/2006		
01.01.02	Drainage	Martin, Randy		Labor	1/15/2006	2/15/2006		
01.01.03	Subcontractors	Martin, Randy		Summary				
01.01.03.01	ABC Agency	Martin, Randy		Subcontractor	1/10/2006	1/25/2006		
01.01.03.02	XYZ Agency	Martin, Randy		Subcontractor	1/20/2006	2/10/2006		
01.01.04	Expenses	Martin, Randy		Non Labor	2/15/2006	2/15/2006		
01.02	Fee	Martin, Randy		Fee	1/1/2006	2/15/2006		

Task & Budget Entry Screen with Basic Task Information



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## USER INTERFACE APPLICATIONS

Project Number 052016700 (I-35/I-10)												
GET MY PROJECTS		SUBMIT										
GET TASK DATA		ADD 10 ROWS										
		\$ 1,500.00	\$ 70,000.00	\$ 35,000.00				\$ 112,000.00				\$ 242,600.00
Task Number	Task Name	BAC Hours	BAC Labor	BAC Non Labor	Hourly Cost Rate	BEM	BAC Overhead	Non Labor Multiplier	Target Multiplier	Contract Multiplier	BAC Revenue	
01	WO 1656											
01.01	30% Plans											
01.01.01	Roadway	1,000	50,000.00		50.00	2.60	80,000.00		2.48		124,000.00	
01.01.02	Drainage	500	20,000.00		40.00	2.60	32,000.00		3.00		60,000.00	
01.01.03	Subcontractors											
01.01.03.01	ABC Agency			20,000.00				1.20			24,000.00	
01.01.03.02	XYZ Agency			10,000.00				1.10			11,000.00	
01.01.04	Expenses			5,000.00				1.00			5,000.00	
01.02	Fee										18,600.00	

Task & Budget Entry Screen with Basic Task Information, Scrolled to the Right

This worksheet allows project managers to download information for their project; quickly create tasks and organize them into a WBS; and specify budgeted quantity, cost and revenue amounts based on the type of task. Once they are satisfied with the setup, they can then submit the data, wherein the PPUi engine automatically performs the following actions using Oracle's public APIs for Oracle Project Management:

- Create tasks for the project
- Setup and define the budget
- Submit the budget for approval

If the WBS or the budget needs to be updated, the project manager (PM) can simply make the changes to the workbooks stored on their local desktop/laptop and resubmit the data, which would update the WBS, and update and submit the current working version of the budget to establish a new baseline. Alternatively, if the PM has not retained the original workbook, they can start a new Excel file and simply download the project, WBS and budget information once again to make changes as needed.

### Estimate to Complete Forecasts

The worksheet below provides PBS&J the ability to easily manage their Estimates to Complete (ETC), including the ability to Collect Progress data such as Physical Percent Complete.

<b>ETC/Forecast Entry Screen</b>							Protected Field						
Project Number: 052016700							Mandatory Entries						
GET DATA							SUBMIT						
							Optional Entry						
							Calculated Field						
Task Number	Task Name	Task Manager	Scheduled Start Date	Scheduled End Date	Spread Curve	BAC Revenue	Actuals to Date						
							Hours	Labor Cost Rate	Raw Labor Cost	Overhead Cost	Non Labor Cost	Total Cost	BEM
01.01.01	Roadway	Martin, Randy	1/1/06	1/31/06	Even	124,000	100	45.00	4,500.00	6,750.00		11,250.00	2.5
01.01.02	Drainage	Martin, Randy	1/15/06	2/15/06	Even	60,000	50	30.00	1,500.00	1,850.00		3,350.00	2.23
01.01.03.01	ABC Agency	Martin, Randy	1/10/06	1/25/06	Even	24,000					2,000.00	2,000.00	
01.01.03.02	XYZ Agency	Martin, Randy	1/20/06	2/10/06	Even	11,000					1,500.00	1,500.00	
01.01.04	Expenses	Martin, Randy	2/15/06	2/15/06	Even	5,000					750.00	750.00	
01.02	Fee	Martin, Randy	1/1/06	2/15/06	Even	18,600						-	

Forecast Screen with Basic Task Information and Actuals



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## USER INTERFACE APPLICATIONS

Every Forecasting Period, the PM downloads the latest information about his or her project, including the latest baseline budget and actual cost information, from Oracle into the Forecast Entry spreadsheet. Then the project manager can update the Physical Percent Complete and Estimate To Complete (ETC) columns and submit the forecast. PPUI will take the submitted information and perform the following functions:

- Update Percent Complete and ETC information by task
- Generate a new Forecast
- Submit the Forecast for approval

ETC/Forecast Entry Screen														
Project Number: 052016700														
GET DATA		SUBMIT												
Task Number	Task Name	BEM	Updated Start Date	Updated End Date	Spread Curve	Estimate								
						Physical Percent Complete	Computed ETC	Hours ETC	Labor Cost Rate	Raw Labor Cost ETC	BEM ETC	Overhead Cost ETC	Non Labor Cost ETC	PM ETC Cost
01.01.01	Roadway	2.5				10%	112,500.00	900	40	36,000.00	2.6	57,600.00		93,600.00
01.01.02	Drainage	2.23				10%	33,500.00	450		13,500.00		16,605.00		30,105.00
01.01.03.01	ABC Agency									-		-	20000	20,000.00
01.01.03.02	XYZ Agency									-		-	9000	9,000.00
01.01.04	Expenses									-		-	4000	4,000.00
01.02	Fee									-		-	-	-

Forecast Screen with Basic Task Information and Actuals (Scrolled to the Right)

ETC/Forecast Entry Screen														
Project Number: 052016700														
GET DATA		SUBMIT												
Task Number	Task Name	Estimate							Financial Percent Complete	Estimate at Completion		Comments		
		Hours ETC	Labor Cost Rate	Raw Labor Cost ETC	BEM ETC	Overhead Cost ETC	Non Labor Cost ETC	PM ETC Cost		Cost	Profit (Loss)			
01.01.01	Roadway	900	40	36,000.00	2.6	57,600.00		93,600.00	11.00%	104,850.00	19,150.00			
01.01.02	Drainage	450		13,500.00		16,605.00		30,105.00	10.00%	33,455.00	26,545.00			
01.01.03.01	ABC Agency			-		-	20000	20,000.00	9.00%	22,000.00	2,000.00			
01.01.03.02	XYZ Agency			-		-	9000	9,000.00	14.00%	10,500.00	500.00			
01.01.04	Expenses			-		-	4000	4,000.00	16.00%	4,750.00	250.00			
01.02	Fee			-		-		-		-	18,600.00			

Forecast Screen with Estimate-At-Completion Information (Scrolled to the Far Right)

These PPUI based Microsoft Excel worksheets will be the primary interface used by project managers for interacting with Oracle Project Management. PBS&J management and IT staff expect system acceptance from the project managers primarily because of PPUI's capability to provide their PMs with an interface that they are already comfortable using and that allows them to work remotely from client sites without worrying about network connectivity.



## About Project Partners User Interface

Project Partners User Interface (PPUI) is a powerful application suite that delivers easy-to-use, easily tailored Oracle application User Interfaces for Microsoft Excel. Out of the box Engineering and Construction workbooks provide a user-friendly front-end that meets industry business needs while seamlessly integrating with Oracle security and business logic. It also provides business users an intuitive way to accomplish complex tasks using a familiar yet powerful tool: Microsoft Excel.

## About the Company

Project Partners, LLC is a privately held firm headquartered in Half Moon Bay, California, offering consulting services and enterprise software products to project-driven firms. Founded in 1997 by Randy Egger, the former chief architect of Oracle's Projects Applications, Project Partners has grown to include many talented people, including some of the original Oracle Projects® developers, support specialists and implementation consultants. Over 275 firms around the world have selected Project Partners for expert services and products that deliver an enterprise project management solution, increasing productivity and reducing operating costs. An Oracle Certified Partner, Primavera Technology Partner, Microsoft Partner, @Task Gold Partner, and Safran Partner, Project Partners has executed global implementations for clients who manage tens of thousands of projects, thousands of users, multiple languages and currencies. At Project Partners we are not satisfied until our customers are delighted, and it is this dedication to joint success that has garnered us the highest praise from our clients. We are proud to be widely recognized as The Experts in Enterprise Project Portfolio Management™.

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