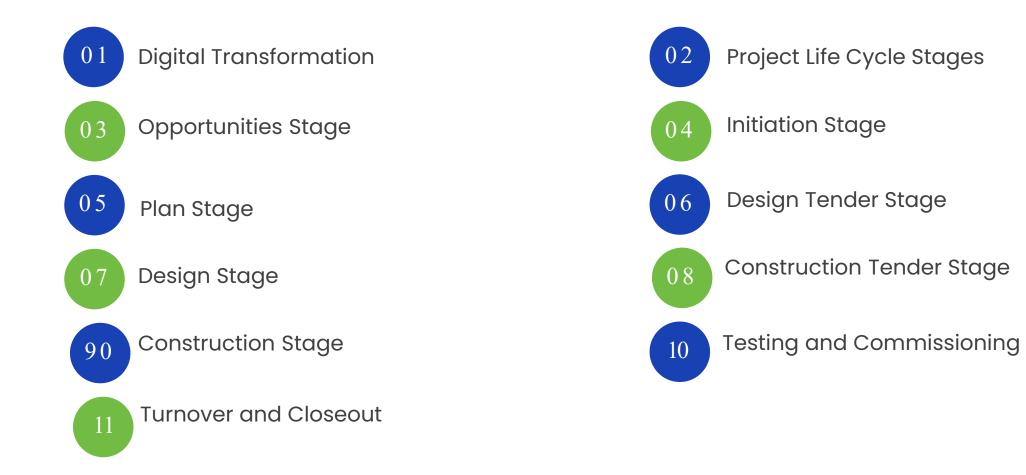


# Enabling Digital Transformation of Construction Projects Using PMWeb Project Management Information System



# OUTLINE



#### 

. . . .



# 01

#### Digital Transform ation



.

## OIntroduction to Digital Transform ation

#### Key Drivers and Benefits





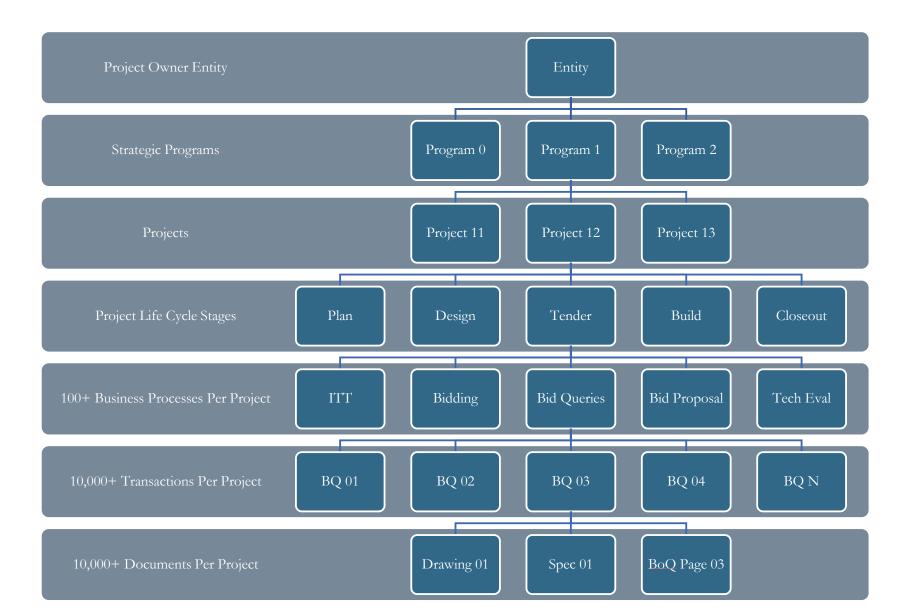
Digital transformation is a key driver for Industry 4.0 in the construction sector. Improves efficiency, transparency, and data usage across project stages.

88



Overcomes industry fragmentation and manual workflows.

#### • Big Data and Documents in Construction Projects



# Obigitization vs. Digitalization vs. Digital Transformation



Definitions and Differences





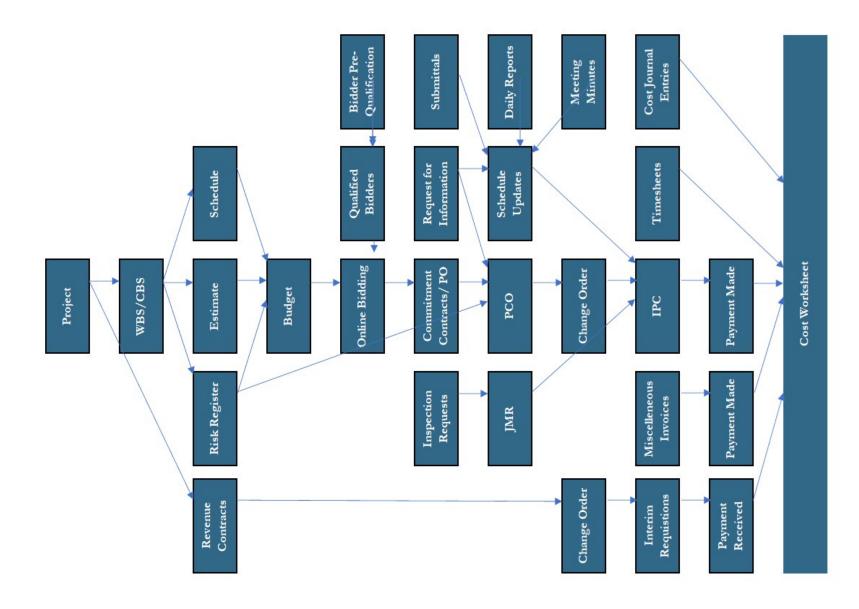


**Digitization** Converting paper forms into digital formats. **Digitalization** Adding workflows and automation to digital processes.

#### **Digital Transformation**

Connecting processes to policies and integrating cross- functional data.

#### • Digital Transformation for Project Cost Management



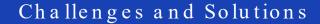


Data silos hinder transparency and decisionmaking. Integrated systems like PMWeb create a centralized, trustworthy data repository.

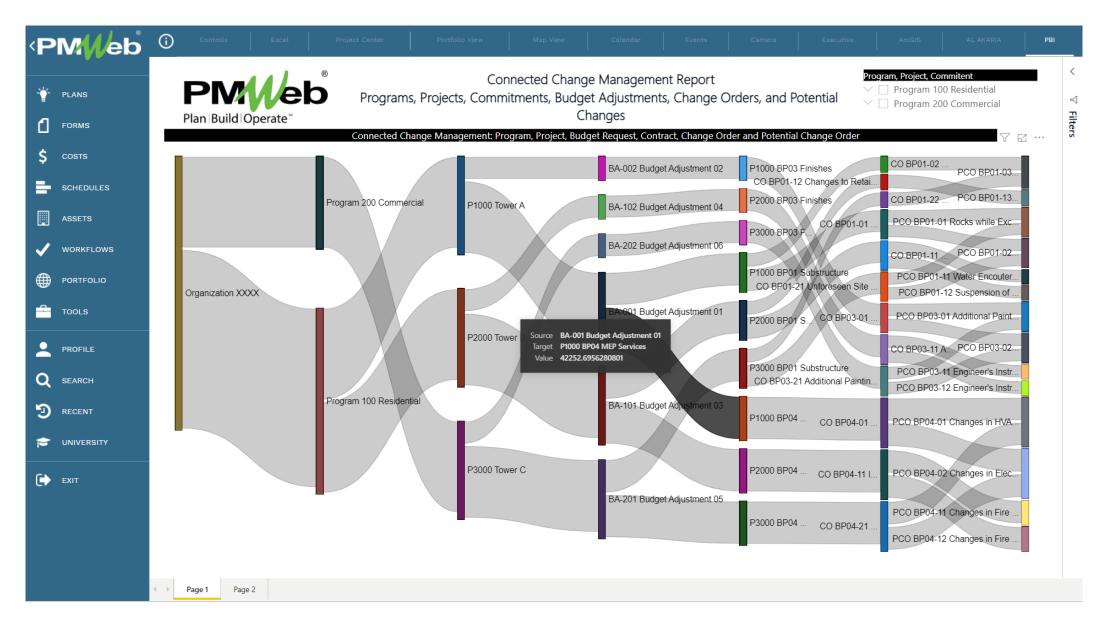
2

Supports real- time reporting and collaboration.

3



### • Connected Change Management Business Processes



• Automating Workflows



Benefits and Custom ization

#### • Automated Business Process Workflow

(i) (Portfolio) > Forms > RFIS > 004 - Conflict <PM//eb B + I · ∅ 123 Э Boston Medical Center - 004 - Confli 🔻 MAIN ADDITIONAL INFORMATION CHECKLISTS CLAUSES NOTES ATTACHMENTS (12) WORKFLOW (2/4) NOTIFICATIONS (9) -`**\**\_-1 25-Jun-2014 Project Accountant Admin 2 FORMS 13-Oct-2018 Project Engineer Admin 3 -18-Oct-2018 Director Admin \$ 4 23-Oct-2018 CFO Admin ► =-SCHEDULES - WORKFLOW LOG ASSETS Drag a column header and drop it here to group by that column 🔛 Resend Message(s) 🛛 💭 Refresh 🛛 🖽 Layouts  $\checkmark$ WORKFLOWS EMAII GENERAT PORTFOLIO Admin (admin) 26-Jul-2011 12:11:57 PM Submit TOOLS Admin (admin) 26-Jul-2011 12:12:07 PM Proceed 31-Jul-2011 Project Accountar 1  $\geq$ 2 31-Jul-2011 Project Engineer Admin (admin) 20-Jun-2014 03:19:49 PM Return 2 PROFILE  $\geq$ 25-Jun-2014 11:39:13 AM Proceed 1 Project Accounta Admin (admin) 10-Jun-2015  $\geq$ 2 15-Jun-2015 Project Engineer Admin (admin) 15-Jul-2015 02:25:41 PM Proceed Q SEARCH  $\geq$ 20-Jul-2015 3 Director Admin (admin) 08-Oct-2018 02:09:25 PM Return Э . Þ  $\mathbf{r}$ UNIVERSITY - VISUAL WORKFLOW (01 - WF-000001 COST ESTIMATE APPROVAL) SHOW ROLES EXIT ○ SHOW USER NAMES SUBMITTER PROJECT ACCOUNTANT PROJECT ENGINEER DIRECTOR CFO FINAL APPROVE WITHDRAW REJECT

#### • Form al Communication Templates

Example and Advantages

PMIS platforms can autogenerate formal templates for approvals and requests. Templates ensure standardization and reduce manual formatting errors. Example Variation Order Initiation and Approval forms.

#### • Formal Communication Templates for a Variation



#### INITIATION OF A VARIATION ORDER (IVO)

Designst Name	CMCC T	DEC No.	01400001	1										
Project Name	CMCS Test	RFS No. :	CMCS001	Project Name	CMCS Test	RFS No. :	CMCS001							
Contract No.	005	Date :	17-11-2021	Contract No.	005	Date :	17-11-2021							
The Employer	CMCS			The Employer	CMCS									
The Contractor	Boston Contractors			The Contractor	Boston Contractors									
To :	The Engineer				The Freedom									
Subject :	VO Change Event			To : Subject :	The Employer VO Change Event									
Kindly review this reques Description of varied wor change to track changes	t of a variation order for the above mentioned k :	subject, given the following in	formation:	Kindly note that we have the regarding the followin change to track change	-	the Contractor								
Estimated cost impact : Estimated time impact :	Addition, V.O. value: 10,000.00 Project Duration will be changed Approximate change in duration = + 50 day	75		This varied work was initiated by: <u>Admin</u> For the following reasons : Potential change /VO										
Reason for the Variation				The estimated cost of	this use is the 10,000,00 with addition	to contract value. The estimated tim	a imment of this							
V.O. initiated by :	Employer			The estimated cost of this variation work is <u>10,000.00</u> with addition to contract value . The estimated time impact of this variation work is <u>50</u> days added to the contract duration. The Contractor will be instructed, following your approval, to subr										
	Contractor				ne and cost impacts of this variation as per cla	use 52 for our review and approval.	Your approval to the							
	Engineer			above is required to proceed with this matter.										
	Government Regulation													
	Engineer's Representative				For The Engineer's Repres	entative								
	Subcontractor				Admin									
	Others (Specify	)												
The Employer initial appr	oval was collected :													
	🗹 Yes 🔲 No													
	For The Engineer's Representat	ive												
	Admin													



#### EMPLOYER'S APPROVAL REQUEST ON INITIATED VARIATION ORDER



#### APPROVAL OF VARIATION ORDER INITIATION

Plan Build Operate

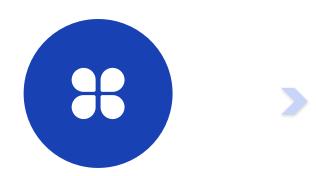
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005	Date :	17-11-2021	Contract No.	005	Date :	17-11-2021						
CMCS			The Employer	CMCS								
Boston Contractors			The Contractor	Boston Contractors								
The Employer			To :	The Engineer's Representative								
VO Change Event			Subject :	VO Change Event								
e intention to issue a variation order to the Contractor k;			Kindly note that the En	Reference is made to Your Initiation of Variation Order form No. <u>001</u> concerning the above mentioned subject. Kindly note that the Engineer approves the initiated varied work. Please proceed with the matter and inform the Contractor of our intention. A formal Order to Commence will be issued to the Contractor as soon as the Employer's approval is secured.								
ed by: <u>Admin</u> Potential change /VO				For The Engineer <u>Admin</u>								
riation work is <u>10,000.00</u> with addition to contract value . ded to the contract duration. The Contractor will be instru												

### • Leveraging Big Data for AI/ML

Advanced Analytics



Digitalized processes create valuable structured data.



Machine Learning and Al can improve forecasting and risk analysis.



PMWeb supports advanced analytics using historical project data.

#### • KPI Correlation Analysis Report

٩V	M/eb	Controls	Excel Project Center	Po	rtfolio View		Map View		Calendar	Event .	s (	Camera	Execu	itive	ArcGIS		AL AKARIA	РВІ	
* 1	PLANS	Plan Build (			Key Pe			s' Perfor licators (		Profile relation A	Analysis		Pro Al	oject				$\sim$	<ul> <li>✓ ∀ Filters</li> </ul>
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Ş	COSTS																		
=-	SCHEDULES		NCR Q WIR NCR HSE Accidents RFI	Claim				WIR Q	NCR HSE Accidents	RFI Claim				RFI	Claim NCR Q	WIR	NCR HSE Accidents		
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✓	WORKFLOWS	WIR	0.998 1 -0.165 -0.253 -0.365	-0.6 -0.807 -0.4			WIR	967 x	-0.132 -0.04	7 0.031 0.32	9 -0.6 -0.4		Cla	im 0.867	7 -0.1	95 -0.228 -0	.224 -0.037	-0.6 -0.4	
	PORTFOLIO		-0.19 -0.165 T 0.489 0.472	- 0			R HSE		1 0.85	0.347 0.05	- 0		NCR				0.42 0.518	-0.2 - 0	
-	TOOLS	Accidents RFI	-0.279 -0.253 0 59 1 0.405 -0.353 -0.365 0.472 0.405 1	0.083 -0.2 0.615 -0.4		Act		0.055 -0.047	0.347 0.62	0.623 0.32 0.32 0.32	-0.4		NCR HS		-0.228 0.4		x 997	-0.2 -0.4	
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		Contractor A10000 Contractor A10000	Project A10000 A20 Project A10000 A30	Completed In Progress	-	200 100 200 100	30 30			9 100,000,000 5 100,000,000			4.00%	730 730		20		4.00	
<b>C N</b>		Contractor A10000	Project A40000 A10	In Progress	<u> </u>	120 30	50	98	6 5	5 100,000,000	106,000,000	6,000,000	6.00%	730	742	12 🤇	1.64%	4.20	
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		Contractor A10000	Project A40000 A30	Completed		200 50	50			3 100,000,000			7.00%	730		18	2.47%		
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		Contractor A10000	Project A70000 A20 Project A70000 A30	Completed		120 24 170 34	40			9 100,000,000			6.00%	730		55		4.50	
		Contractor A20000	Project A20000 A10	Completed		120 30	40			5 100,000,000			4.00%	730		30	4.11%		
		Contractor A20000	Project A20000 A20	In Progress	-	180 45	40		11 4	4 100,000,000	107,000,000	7,000,000	7.00%	730	762	32		~	
		Correlation Plot	Page 1 Presentation Ar	alysis NCR	Q NCF	RH R	FI C	uplicate of Du	plicate of Du	plicate of NCR (	Q Duplic	ate of Presen	tation	Duplicate of	f Presentation	n All Pr	ocesses	By Contracte	or

### O Designing Data Capture Templates

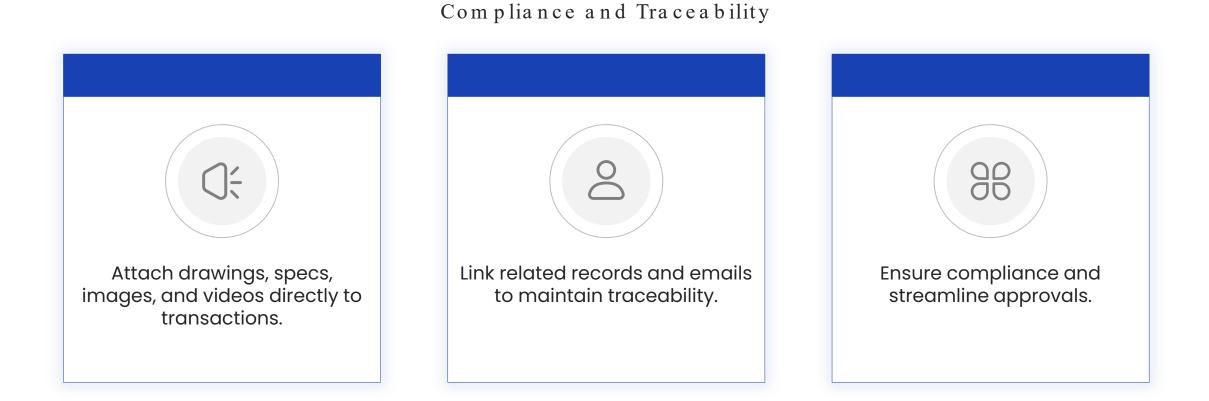
Data Collection and Control

Templates collect numeric, text, date, and Boolean data fields. Workflow conditions can be driven by field values (e.g., cost threshold). Supports user access rights and approval authority.

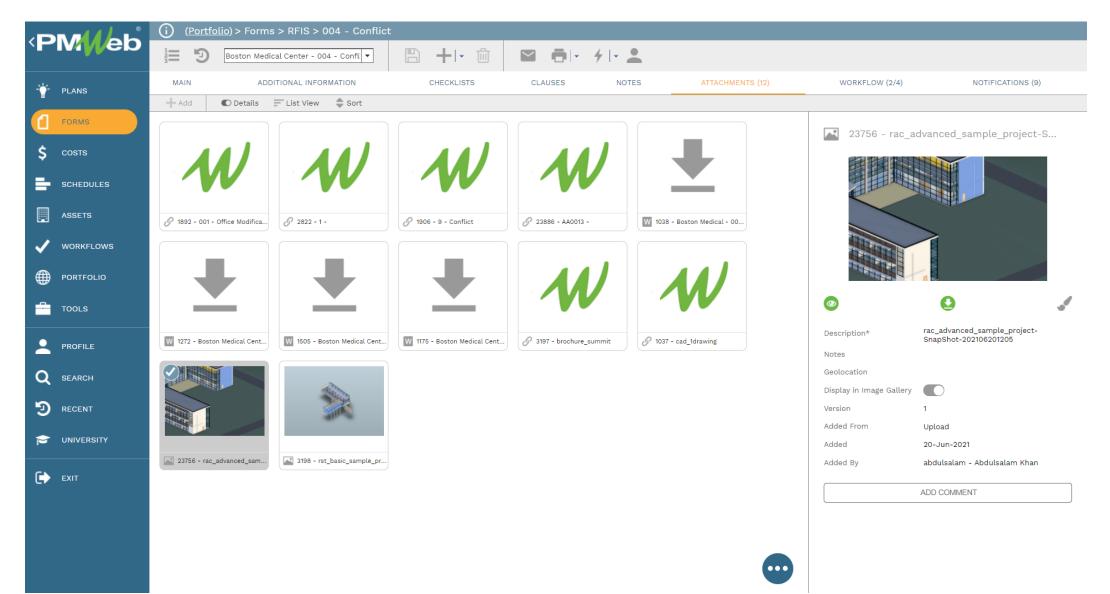
#### • Digitized Business Process Template

	() (Portfolio) > Costs > Change Management > COMMITMENT COS > 002 - ZVCO-002 Additional Electrical Works	<pm eb<="" th=""><th>(<u>Portfolio</u>) &gt; Schedules &gt; Forms &gt; WIR 07 24 00 THERMAL AND MOISTURE PROTECTION EXTERIOR INSULATION AND FINISH SYSTEMS &gt; 1 -</th><th></th></pm>	( <u>Portfolio</u> ) > Schedules > Forms > WIR 07 24 00 THERMAL AND MOISTURE PROTECTION EXTERIOR INSULATION AND FINISH SYSTEMS > 1 -	
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	MAIN ADJUSTMENTS ADDITIONAL INFORMATION CHECKLISTS (5) CLAUSES NOTES ATTACHMENTS WORKFLOW NOTIFICATIONS		MAIN	
* PLANS			WIR 07 24 00 Thermal and Moisture Protection Exterior Insulation and Finish Systems	
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	Commitment Type Purchase Order AV/ Date	SCHEDULES	Company v	
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ASSETS	Subject ZVC0-002 Additional Electrical Works Days o	ASSETS	100	
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	Date 15-06-2021 Prior Approved Changes \$0.00 0		0724.00	
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	Category Total of This Change \$0.00 0	•	NO. ITEM INSPECTED	STATUS
	EGI / CI Reference # Contract to This Change \$44.20 0	PROFILE	Layout/minimum panel sizes per manufacturers specifications     Manufacturer system as specified by plan	
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Q SEARCH	🖊 Edit 🕂 Add 🗌 Add Items 🔗 Link RFC 🔗 Link Claims 😭 Delete 😂 Refresh 🔣 Export To Excel 🏥 Paste From Excel 🗋 Use Units 🚯 Preview Conversions 🔠 Layouts		4 Fasteners: correct set for substrates /rough and finish coats	
D RECENT	UNE ATTICHMEN DESCRIPTION : ITEM : CURRENCY : APPROVED BYC ADJUSTMENT ADJUSTMENT 2 TAX : AMOUNT : COST TYPE : COST CODE :	D RECENT	5 Edges and joints: aligned and flush	
	1 (0) 20-Two pipe fan coll system 8160 USD - Dollar (United Str. \$17,00 \$0,00 \$0,00 \$0,00 \$17,00		Flashing / drip edges and corners: per plans     Expansion joints:damage and finish coat free channels	
			8 Moisture and drainage system : per specifications and functional	
	2 (0) 30-Two pipe fan coll system witt (1991 USD - Dollar (United Str. S-8.15 \$0.00 \$0.00 \$0.00 \$-8.15	E> EXIT	9 Finish coat :color/pattern correct/ no scaffold lines or cold joints	
EXIT	3 (0) 10-electrical 6166 USD - Dollar (United St \$-8.85 \$0.00 \$0.00 \$-8.85		10 Water traps : none; correct slopes on sills and decorative elements 11 Aggregates : correct size and type : uniform application	
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# O Attaching Documents and Emails



#### • Attached Documents to Business Process Template



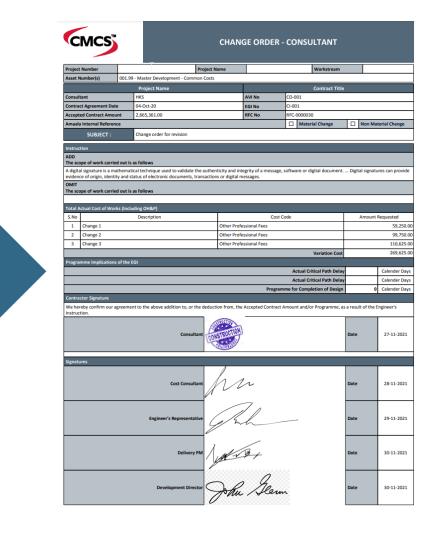
## OBranding and Digital Signature Options



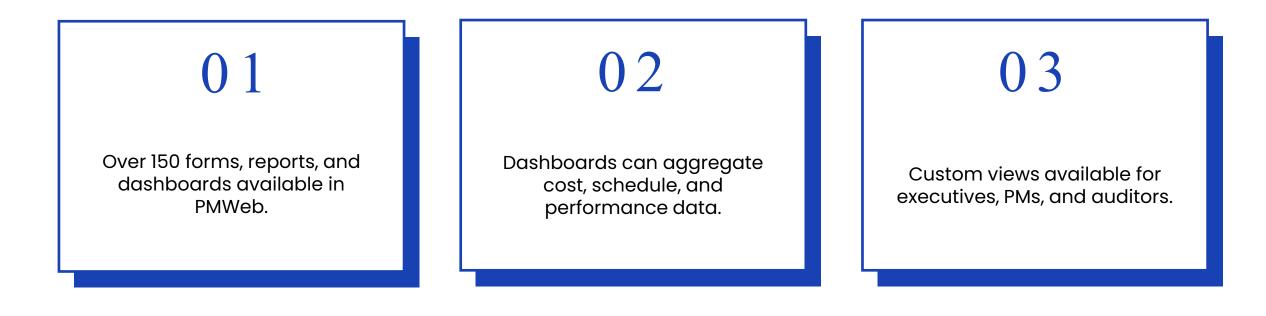
#### Custom ization and Integration

### • Digital Signature for Business Processes' Output Forms

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÷	SCHEDULES	+ ви:	+ BUSINESS PROCESS (I/I - WF-000001 Cost Estimate Approval)														
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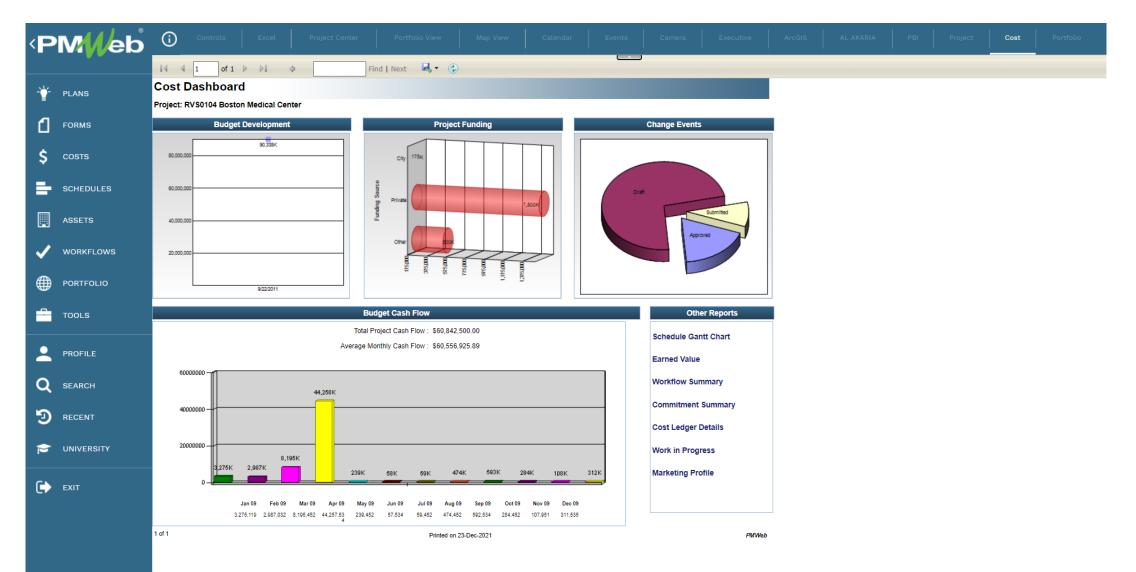


#### • Reporting and Dashboards



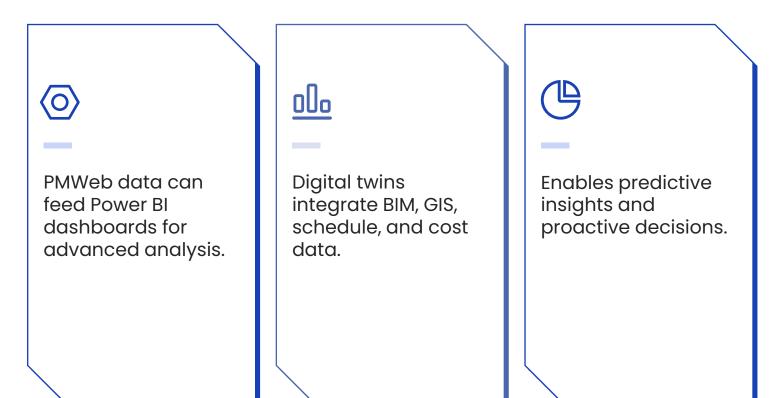
Real-time Insights

#### • Project Cost Management Dashboard

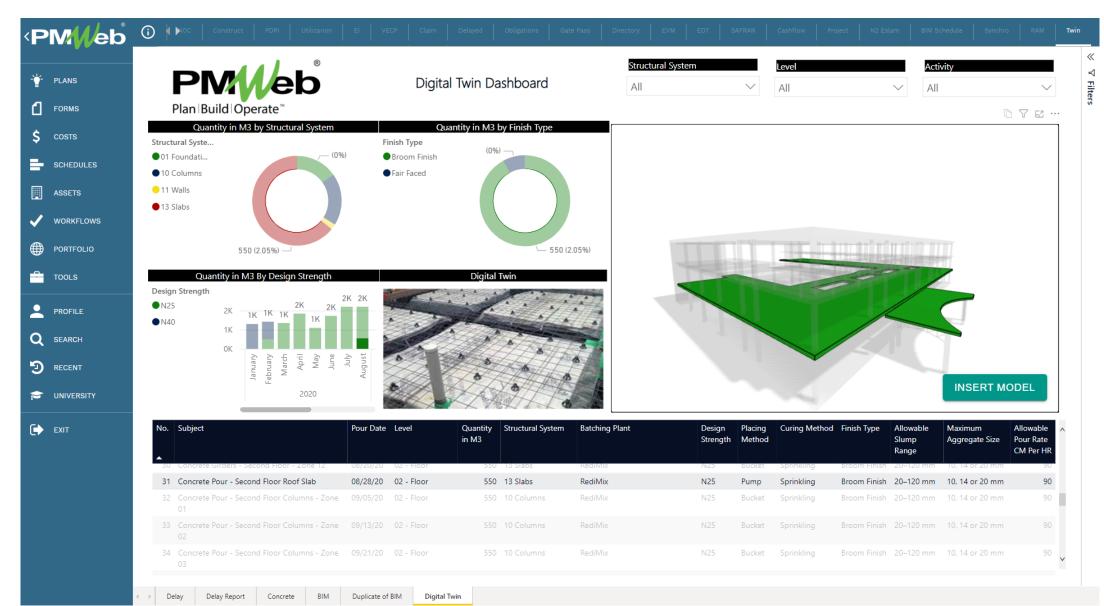


#### OBI Integration and Digital Twin

Predictive Insights



#### • Digital-Twin BIM-Enabled Report

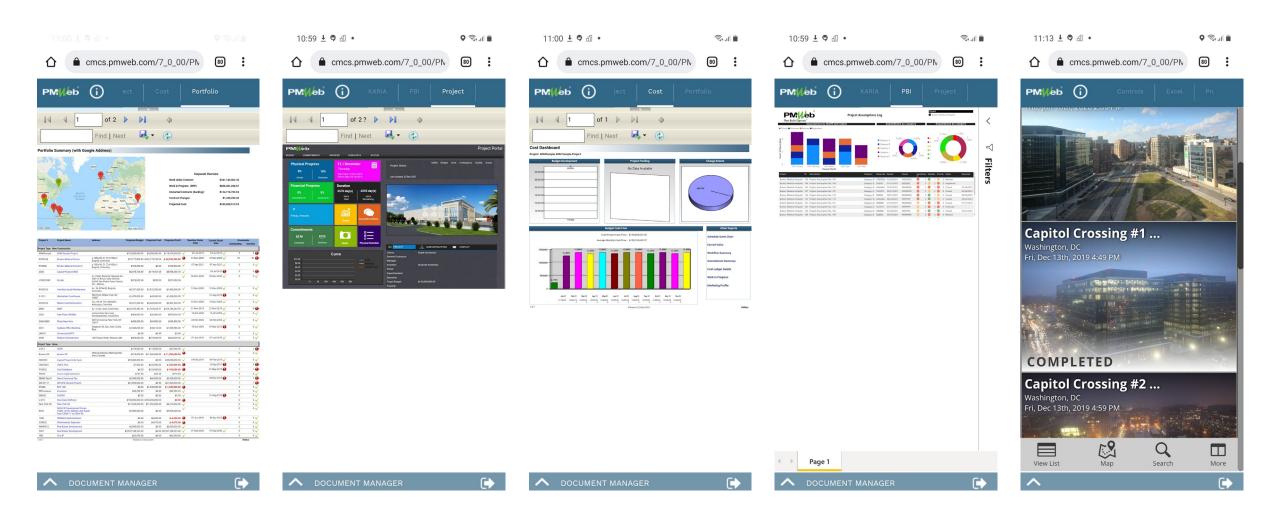




Flexibility and Collaboration



#### • Anywhere, Anytime Using Any Device Accessibility



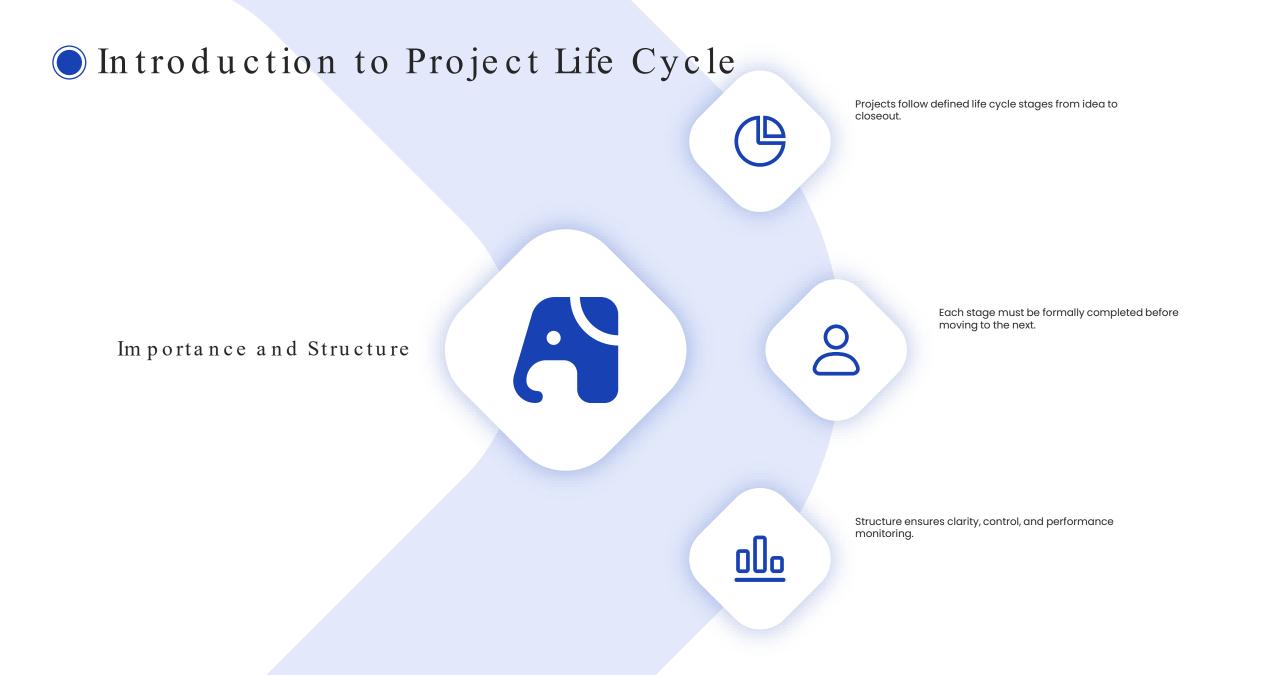
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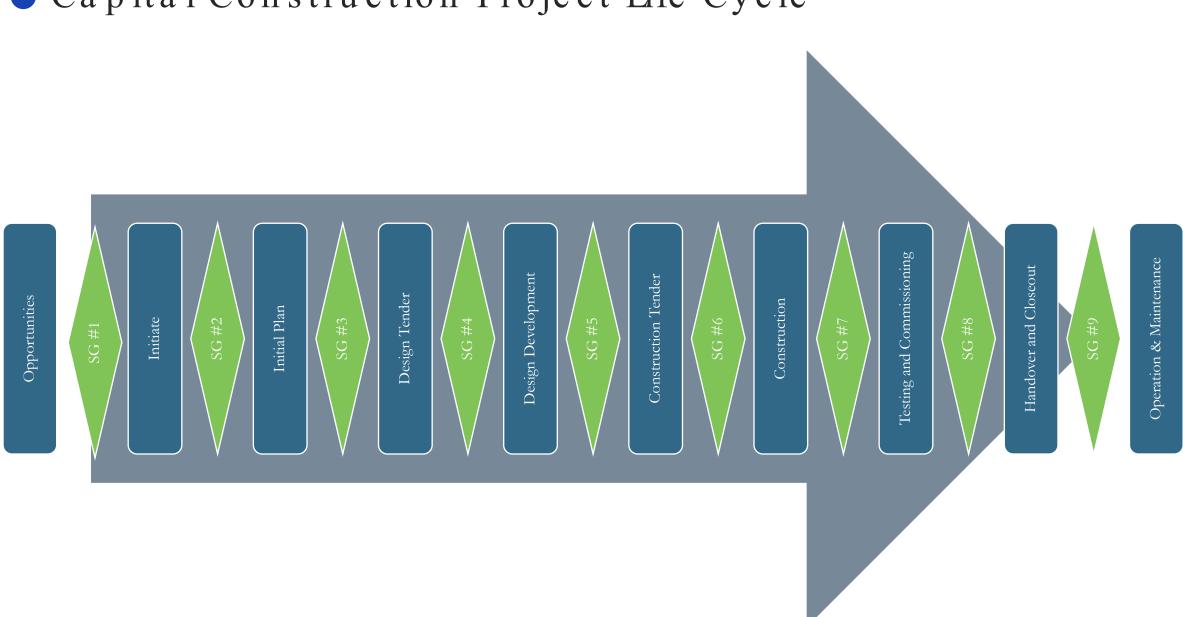


# 02

#### Project Life Cycle Stages



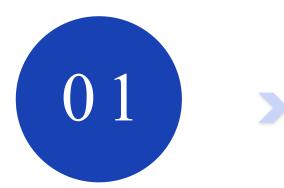




#### • Capital Construction Project Life Cycle

## OLife Cycle Stage Gate Governance

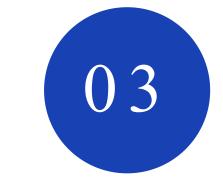




Stage gates are checkpoints between project phases.

Deliverables (e.g., budget, business case, risk register) must be completed and approved.

02

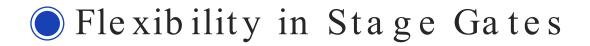


Each gate has a designated Gatekeeper responsible for review and approval.

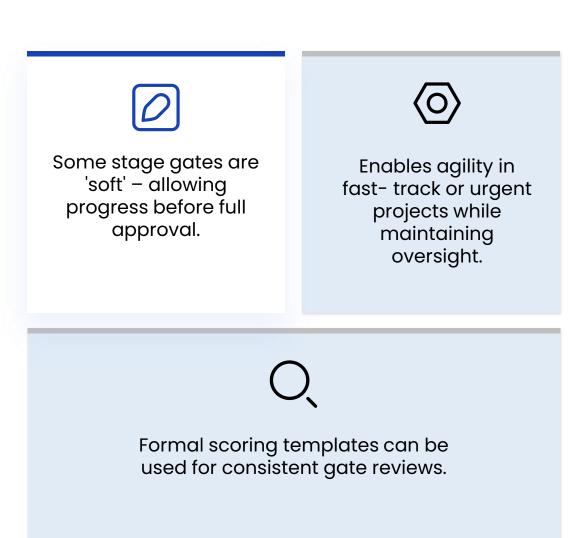
### • Risk Register

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	Construction Risks	Accelerated	d contract schedule						2	1 🔵 2	Accept	М	itigation A	ction 2		2	1
SEARCH	Construction Risks	Adequacy of	of construction schedule depicti	ting durations, sequenci	ng, phasing, p	roduction rat	es		3	3 🔵 9	Mitigate	М	itigation A	ction 3		1	3 🔵
	Construction Risks	Adequate staging areas									Mitigate	М	itigation A	ction 2		2	1 🔘
	Construction Risks	Conflicts w	ith other contracts	acts							Avoid	М	itigation A	action 5		3	2
	Construction Risks	Considerati	ion for standard weather impac	:t					2	5 🔵 10	Avoid	М	itigation A	ction 2		2	2
	Construction Risks	Control and	d diversion of water						3	4 🔵 12	Accept	М	itigation A	action 3		3 4	4 🔵
UNIVERSITY	Construction Risks	Critical fabr	rication and delivery					_	4	5 🔵 20	Mitigate	М	itigation A	ction 4		3 4	4 🔵
	Construction Risks	Differing sit	ite conditions						4	3 🔵 12	Mitigate	М	itigation A	Action 4		2	3 🔵
EXIT	Construction Risks	Environmer	ntal restrictions (equipment use	a, exhaust, paint fumes)					5	1 🔵 5	Mitigate	М	itigation A	action 5		3	1 🔵
	Construction Risks	Historic cha	ange order or modification grov	odification growth						1 🔵 1	Accept	М	itigation A	ction 1		1	1 🔵
	Construction Risks	Inadequate	e housing/utilities to support lab	bor force					5	5 🔴 25	Mitigate	М	itigation A	ction 5		3 4	4 🔵
	Construction Risks	Inadequate	e skilled trades available for labo	or force					4	1 🔵 4	Accept	М	itigation A	action 4		4	1 🔵
	Construction Risks	Inefficient o	contractor						3	4 🔵 12	Transfer	М	itigation A	ction 3		1	1 🔵
	Construction Risks	Innovative	project construction						1	1 🔵 1	Accept	М	itigation A	ction 1		1	1

✓ ∀ Filters



Soft Gates for Agility



#### • Stage Gate Deliverables

		(i) (Port	<u>folio)</u> > Too	ls > Stage Gates Mana	gement > S1	AGE GATES	> 171 - Capital Planning	;								
	Meb	122 D	Capital Pr	oject Life Cycle - Capital F 🔻		+ 🖻	SUBMIT									
-`*	PLANS	MAIN		ADDITIONAL INFORMAT	ION		SCORING (40)	RATINGS	6 (3)	NOT	ES	ATTA	CHMENTS (1)	WORKFLOW		
· \$ •	FORMS COSTS SCHEDULES ASSETS WORKFLOWS	Project* Stage* GateKeeper Duration Duration UO Type Task Lead Time Due	•••• M	CMCS01 - Capital Project Life Capital Planning CMCS - Bassam Samman Days Planning CMCS - Bassam Samman Days Planning	Cycle		TASK RECAP Items Done Done % STAGES T Capital Project Life Cy Capital Planning Development Design Services Proc		Stage Obje	USER DEFINED FIELDS Stage Objective Committee Decision						
	PORTFOLIO	Done				Schematic Design Design Development										
	TOOLS	Done Date Status/Revis	sion	Draft •	· 0											
-	PROFILE	Drag a colu	mn header and	d drop it here to group by that	column											
۹	SEARCH	DONE	H Add	C Link PMWeb Record(s)	Delete RECORD #	2 Refresh	Eayouts	STATUS	REV.	WORKFLOW STEP	SPONSIBLE	DURATION DAYS	WBS	TASK 🚦	STAR	
Э	RECENT	8 🗆	1	<u>(Q)</u>		Business Case				Will	liam Timpson	5	1.1.02 - Scope Developm	Business Case		
	UNIVERSITY	6 🗆 6 🗆	2 3 4	(0) Risk Analysis (0) (1) Schedules		Project Risks I Proposed Solu	tion Analysis			Mik	n Harker e Marshall	5	1.1.07 - Risk Identificatio 1.1.02 - Scope Developm	Proposed Solution Analy		
<b>C</b>		8	5	( <u>0)</u> Estimates		Project Mileste Cost Estimate	Screening (-40% to +60%)				ice Rockwell Lloyd		1.1.06 - Schedule Develo 1.1.05 - Cost Estimate De			
	EXIT	8	6	( <u>0)</u> Estimates		Operating Cos	t Estimate			Fau	sto Martinez	5	1.1.05 - Cost Estimate De	Operating Cost Estimate		
		8 🗆	7	(0) Funding Record		Capital Budget	t Funding Source Identification			Kar	en Watson	5	1.1.01 - Funding Source	Capital Budget Funding		
		8	8	<u>(0)</u>			am Statement- Initial				l Furbish		1.1.02 - Scope Developm			
		<i>S</i> □	9	(0)		Deliverables C	hecklist Verification			Bas	sam Samman	2	1.1 - Capital Planning	Deliverables Checklist V	•	
												_			•	
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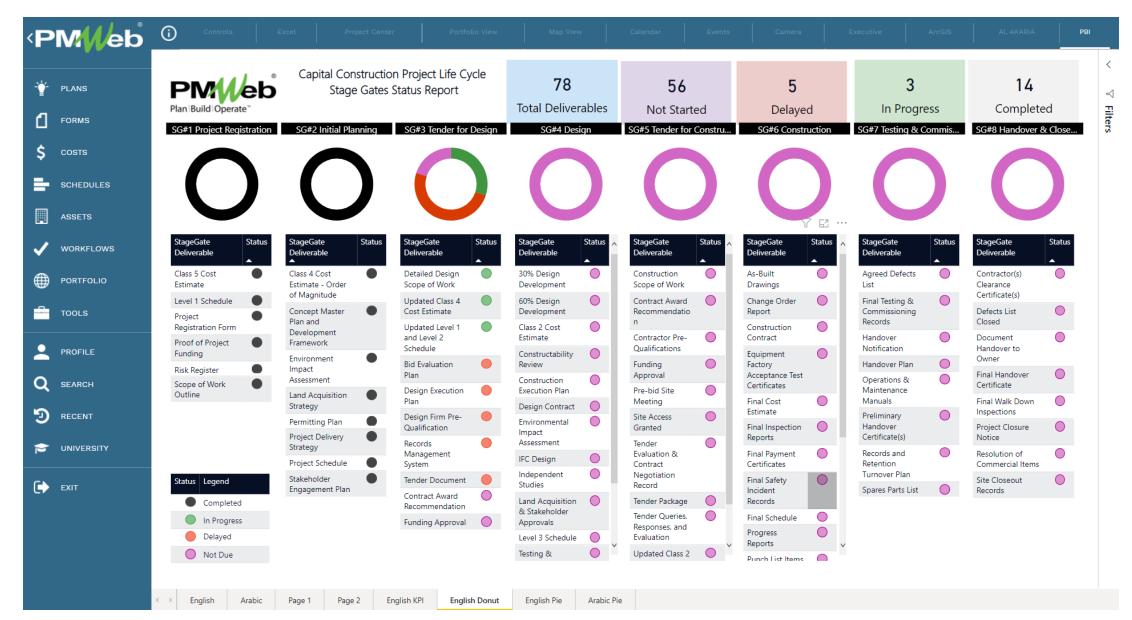


PMIS platforms like PMWeb can automate stage- gate reviews. Pulls data from actual project transactions (e.g., cost estimate, schedule) for review. Ensures compliance, transparency, and traceability.



Automation and Compliance

### • Capital Construction Project Life Cycle



• •

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# 03

#### Opportunities Stage

#### O Project Requests & Initial Scope

Organizations initiate project ideas through formal project requests. Initial scope documents define high- level needs, objectives, and boundaries. Provides foundation for evaluating feasibility and alignment with strategy.

#### Form al Initiation

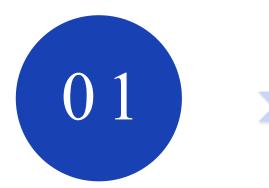
### • Project Requests

		() (Portfolio) > Portfolio	> Records > WORK REQUEST	S > 10000 - Refurbish The G	uard House		
	'M/eb	10000 - Refurbis	sh The Guard House 🔻	+1- 🗇 🛛 🖶 🖸			
- <b>`</b> [-	PLANS	MAIN	NOTES	ATTACHMENTS	ADDITIONAL INFORMAT	ION	WORKFLOW
۵	FORMS	Important Message: If this is management or the authorities b to report an emergency.	s an emergency, please contact by telephone. Do not use this form	Submitted Linked Records	···· 0	USER DEFINED FIELDS —	0.00
\$	COSTS	CONTACT INFO		Reported By	Best Door and Window - Kevin Jones 🔹	Request Amount*	0.00
		Contact Name* 💮 Bassa	am Samman	Status / Revision	Draft 🗾 0	Total Supplemental	0.00
-	SCHEDULES	Phone (Day) / Extension 03 36	69 7850	Country		AFE Amount	
	ASSETS	Cell 050 6	657 2068	Geolocation	•••	Total Project Amount for Approval*	0.00
0.00		Phone (Night) / Extension	0	Barcode	•••	Is there an IT	
✓	WORKFLOWS	Contact Email Bassa	am.Samman@cmcs-mena.com			Component	]
		REQUEST				Desired Start Date*	<u> </u>
	PORTFOLIO	Location* CORP	P-001 - Corporate Office 🔹			Desired Completion	00
-	TOOLS	Record #* 10000	0			Date*	<u> </u>
	10025	Category Repai	ir 🔻			Is this project	
•	PROFILE	Type Preve	entive 💌			regulatory or related	]
	PROFILE	Description Refur	rbish The Guard House			to EHS*	
Q	SEARCH	WBS	•			Is this a replacement	]
			rbish the guard house at the North and build a new gate control			Is this an on-going	
Э	RECENT		ů –			sustaining project*	]
						Have alternatives	
	UNIVERSITY	Linked Assets	0			been considered for	]
						this project*	

🕩 ЕХІТ

## O Anticipated Benefits & Initiatives

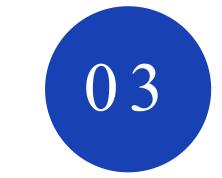
Benefit Analysis





Each opportunity should outline expected benefits to be realized.

Benefits may include cost savings, improved service, or social/environmental gains.



Opportunities are grouped under initiatives to simplify analysis.

#### • Benefits Realization Report

<p< th=""><th>M/eb</th><th><b>(</b>)</th><th>Controls</th><th>Ex</th><th>cel</th><th>Project Center</th><th></th><th>Portfolio View</th><th>Map Vie</th><th>w c</th><th>Calendar</th><th>Events</th><th>Camera</th><th>Executive</th><th></th><th>ArcGIS</th><th>AL A</th><th>KARIA PBI</th></p<>	M/eb	<b>(</b> )	Controls	Ex	cel	Project Center		Portfolio View	Map Vie	w c	Calendar	Events	Camera	Executive		ArcGIS	AL A	KARIA PBI
	PLANS		Ρ	Build Op	lek erate <sup>™</sup>	®			Benefits Re	ealization I	Report			Project ID PR107		$\sim$	Year 12/31/20 <sup>-</sup>	7 ~
\$	COSTS	-		KPI by S	itatus		PG04 Program	m ID	لني للتنافسية Program		ة العامة للاستثمار Program Manager		Details PR107 Project ID	نافسية Project	ز الوطني للتن t Title		دراس roject Type	
	SCHEDULES ASSETS		م تحقيقه جزائيًّا	3								Progress N	larrative					
✓	WORKFLOWS			1(	נ													
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•	PROFILE																	√ ಟ …
Q	SEARCH													Year	12/31/2017	1		
			Strategy Goal			- KPI	I Strategy Me	asure				Current	Traget	UOM	Forecast	Actual	Variance	KPI Status
Э	RECENT		لمباعة في السوق	ك في المنتجات اا	ناء ثقة المستهلا	بات	لمابقة للمواصفا	نسبة السلع المد				62	80	% نسبة مئوية	65.00	64.00	-1.54%	تم تحقيقه جزئيًا
			المستهلك والبائع	تجارة العادلة بين	ضمان ال	لك	ثىر ثقة المستها	مؤر				106	115	نقطة	108.00	109.00	0.93%	تم تحقيقه
P	UNIVERSITY		سية المنتجة محليا	والخدمات التناف	مستوى المنتجات	جور زيادة	ة الأرباح + الأج	لقطاع الصناعة والتجار	القيمة المضافة			ري احتسابه	335.84 جا	مليار ريال سعودي	250.00	245.00	-2.00%	تم تحقيقه جزئيًّا
								سناعة والتجارة إلي الوا		نسبة القيمة المحلب		ري احتسابه	53 جا	% نسبة مئوية	46.00	46.00	0.00%	تم تحقيقه
€	EXIT			آت الصغيرة والم	ة مساهمة المنش			ستمرار وبقاء المشاريع				يت الدراسة	تحت الدراسة تح	% نسبة مئوية	70.00	71.00	1.43%	تم تحقيقه
			المحلي الإجمالي					والمتوسطة في الناتج				20	21	% نسبة مئوية	20.20	20.10	-0.50%	تم تحقيقه
				~			نسبة مساهمة المنشآت الصغيرة والمتوسطة في الناتج المحلي الإجمالي غير النفط				33	35	% نسبة مئوية	33.50	34.00	1.49%	تم تحقيقه	
			بغيرة والمتوسطة	من المنشآت الص	خلق فرص العمل	هام زيادة	نسبة العاملين في المنشآت الصغيرة والمتوسطة إلى إجمالي العاملين في القطاع الخاص والع			51	53	% نسبة مئوية	51.50	51.60	0.19%	A 20 12 10 10 10		
																		تم تحقيقه
			نافة ريادة الأعمال						عدد المنشآت			50000	104000	عدد	60,000.00	62,000.00	3.33%	تم تحقيقه
			·		زيادة وعي المسته		سئولية المحدو ى رضا المستها		عدد المنشآت			50000 65	104000 85	عدد % نسبة مئوية	60,000.00 70.00	62,000.00 69.00	3.33% -1.43%	

## • Evaluating and Shortlisting Initiatives

#### Scoring Criteria

Opportunities are scored based on predefined evaluation criteria.

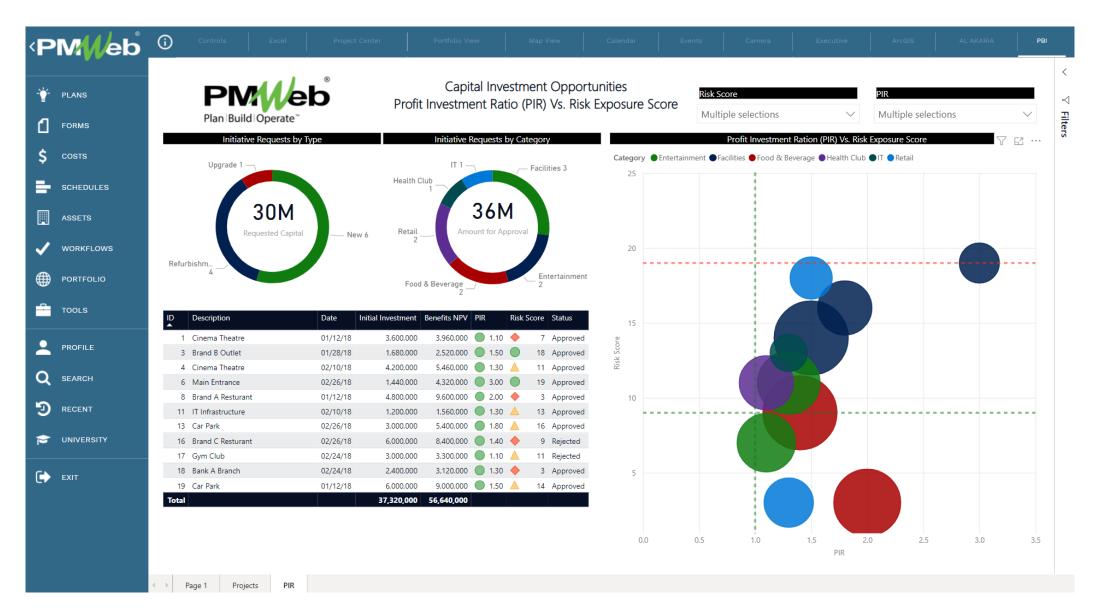
Helps filter out unviable or lowimpact initiatives.

Shortlisted initiatives undergo deeper analysis including scoring.





#### • Profit Investment Ratio Vs. Risk Exposure Score

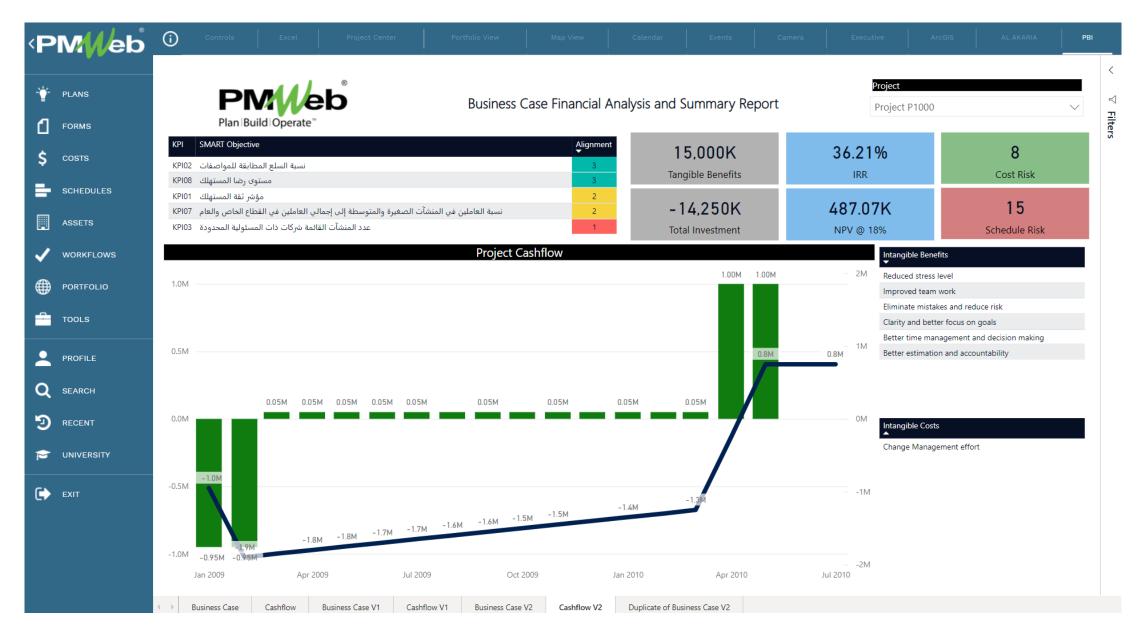


#### OBusiness Case Development

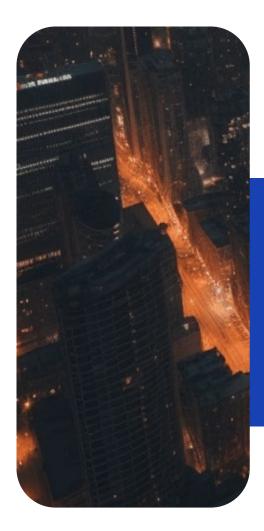
Business case captures scope, rationale, benefits, risks, and financials. Justifies why an initiative should proceed to the next stage. Aligned with organizational strategy and risk appetite.

#### Justification and Alignment

#### • Business Case Financial Analysis



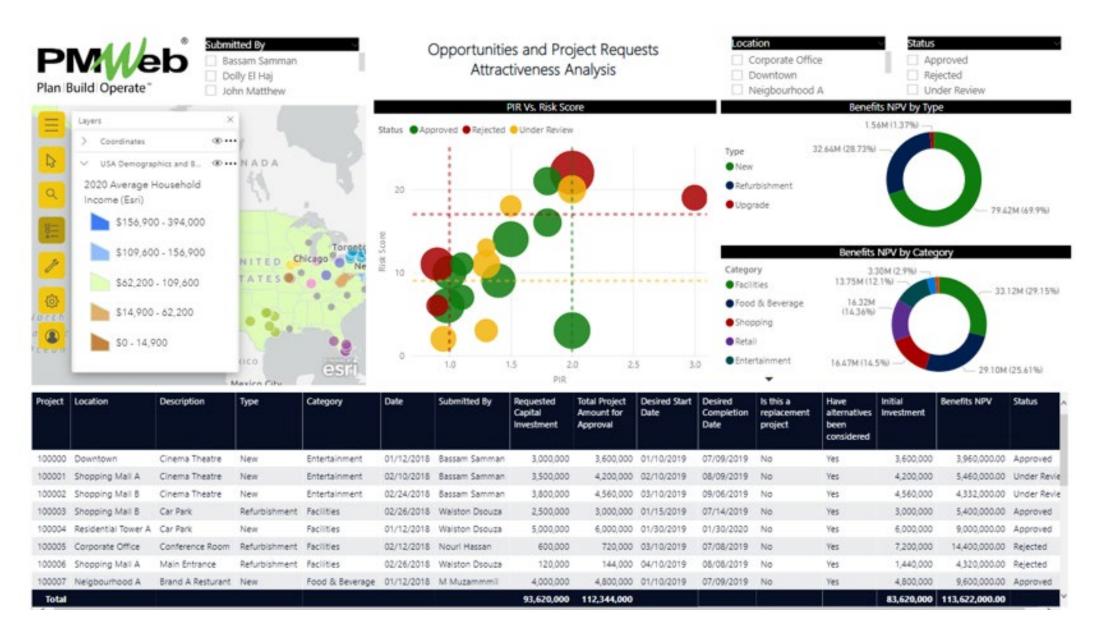
#### • Environmental Impact & ArcGIS Analysis



#### In form ed Decision - Making

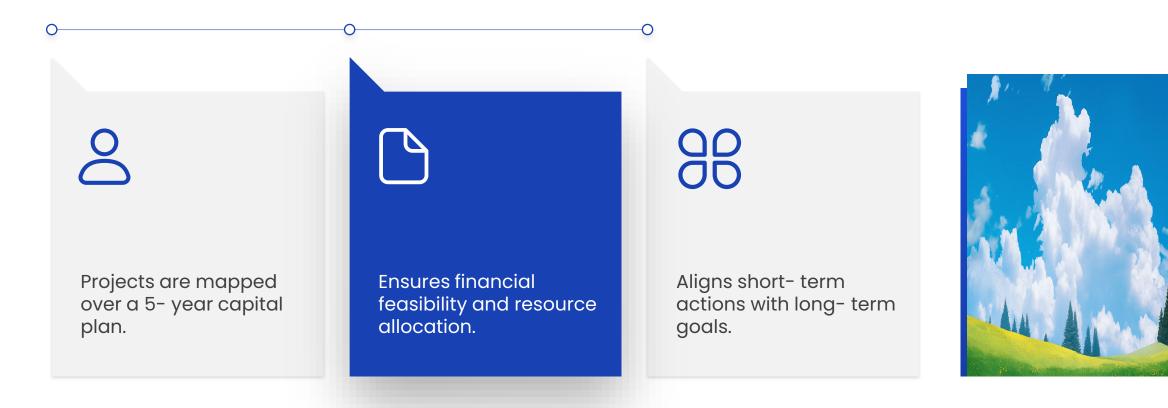
Environmental assessment ensures compliance and sustainability alignment. ArcGIS used to analyze geographic factors (e.g., zoning, infrastructure). Supports informed decision- making on location- sensitive projects.

## • Opportunities & Project Requests Attractiveness Analysis

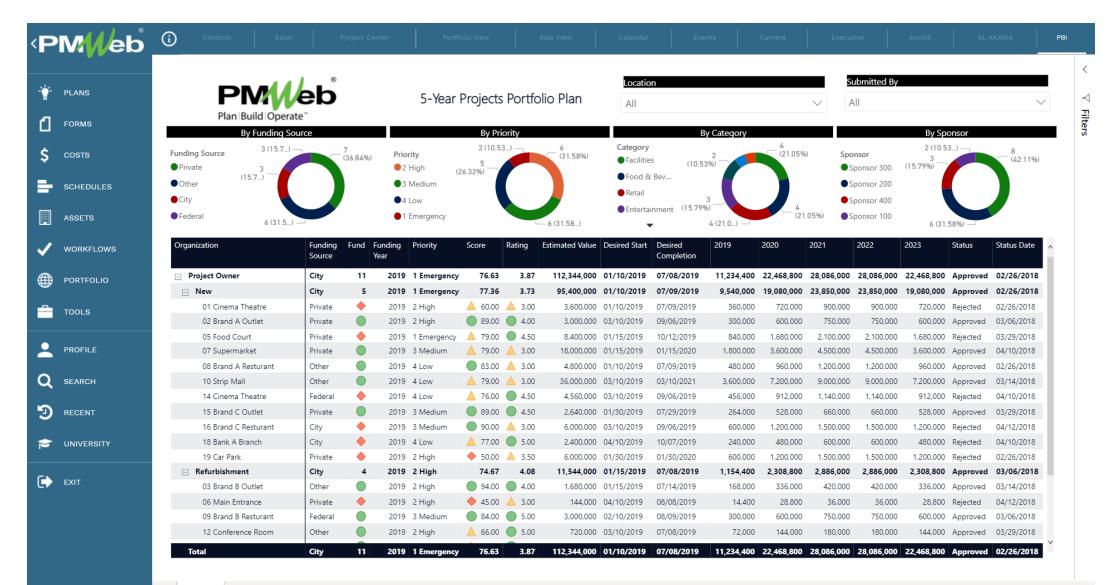


• Five - Year Portfolio Planning

Long-Term Alignment

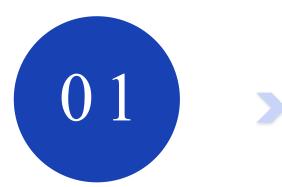


#### • 5 - Year Projects Portfolio Plan

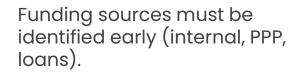


## • Project Funding & Bankability

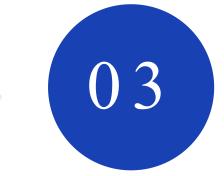








Bankability assessment ensures project attractiveness to investors/lenders.



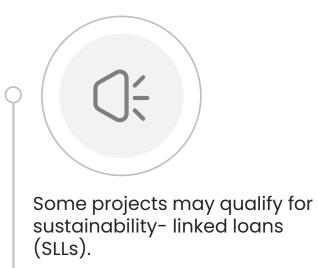
Supports proactive financial planning.

#### • Best Practice Checklist for Long-Term Yield Assessment

		() (Portfolio) > Assets > Forms > BEST PRAC	TICE CHECKLIST FOR LONG-TERM YIELD ASSESSMENT > 1 -					
	web	1⊒ <sup>1</sup> D <b>▼</b>						
			MAIN					
- Tra	ANS		HD-114					
	RMS	PM/eb	Best Practice Checklist for Long-Term Yield Assessment					
\$ cos	STS	Project	▼ ID 1 Date 20-Dec-2021 —					
SCH	HEDULES	Subject EPC Contractor						
ASS	SETS	Revision 0	Date 20-Dec-2021 😁 Status 🔵 Draft 💌					
			nical aspect & what to look for in the LTYA					
🗸 wor	RKFLOWS	A Solar resource assessment           1. Only reliable solar irradiation data sources shoul           provide uncertainty estimations and ideally have b	d be used and the name(s) and version(s) must be clearly stated. Data source(s) used must be able to een extensively validated					
Dor	RTFOLIO	2. The period covered by the solar irradiation data LTYA calculations	source(s) used must be reported. Only data sources with more than 10-year recent data should be used for					
🗕 тос	DLS	<ul> <li>3. The effect of long-term trends in the solar resource should be analyzed. In the presence of such trends, the long-term solar resource estimation should be adjusted to account for this effect</li> <li>4. The use of site adaptation techniques is recommended to reduce the uncertainty. A measurement campaign of at least 8 months and ideally one full year is</li> </ul>						
		recommended	nended to reduce the uncertainty. A measurementcampaign of at least 8 months and ideally one full year is					
PRO	DFILE	B PV yield modelling						
		5. The PV modeling software and the specific versi	on used must be clearly stated in the report					
<b>Q</b> SEA	ARCH	6. If in-house software is used, the name(s) and ve	rsion(s) must also be stated					
🕤 REC	CENT	7. All assumptions (e.g. soiling losses, availability, e	etc.) and sub-models used (e.g. transposition model) must be clearly stated					
•		C Degradation rate and behaviour						
	IVERSITY	8. The degradation rate(s) used for the calculation: yearly behavior over project lifetime	s must be clearly stated in the report. It is recommended to differentiate between first year effects and					
		9. Degradation behavior assumption (e.g. linear, st	epwise, etc.) over time should be clearly stated and ideally backed up with manufacturer warranties					
E) EXIT	т	10. If specific manufacturer warranties are available (e.g. module warranty document or sales agreement), these can be used to fine tune the lifetime degradation calculation						
		D Uncertainty calculation						
		<ol> <li>All steps in the long-term yield calculation are s</li> <li>report</li> </ol>	subject to uncertainties. All uncertainties should be clearly stated and references must be provided in the					
		12. Special attention must be paid to the solar reso overall uncertainty	ource related uncertainties as these are among the most important elements in the contribution to the					
		<ul><li>13. If special methods are used to reduce some un scientific validation</li></ul>	certainties e.g. site adaptation techniques, these should be clearly documented and ideally backed up with					



Incentives for Sustainability



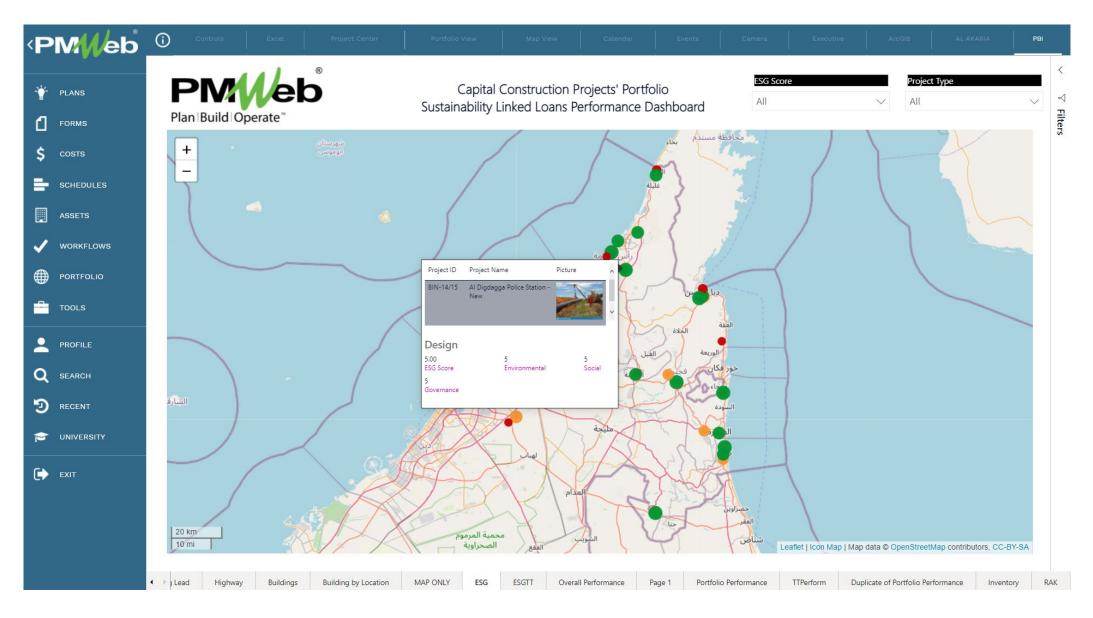


Loan terms depend on meeting environmental or social targets.



Adds financial incentive to sustainable design and delivery.

#### • Sustainability Linked Loans Performance Dashboard

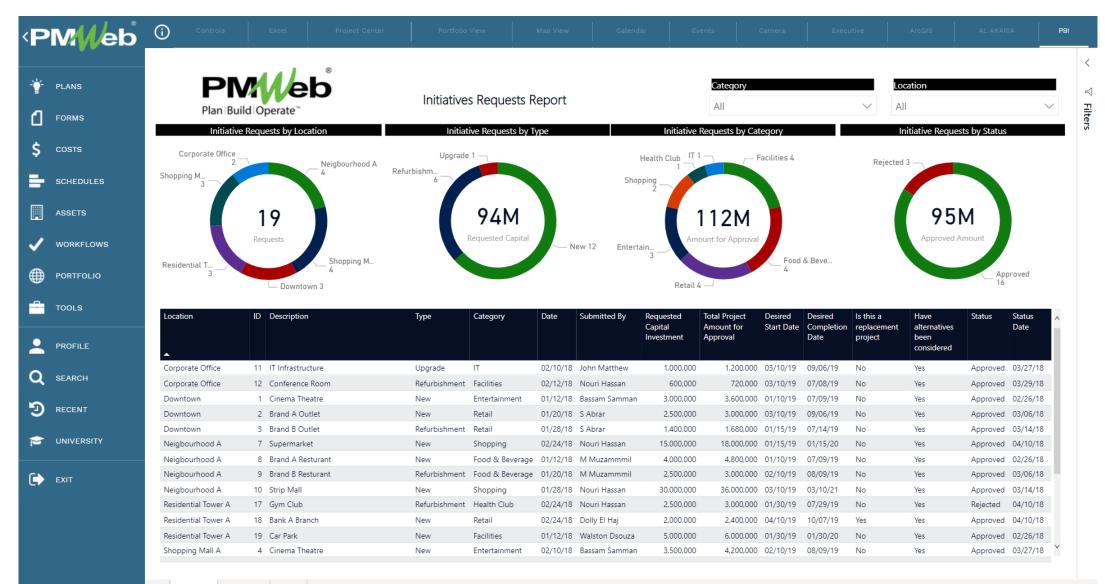


#### Opportunities Register & Land Bank



Pipeline Visibility

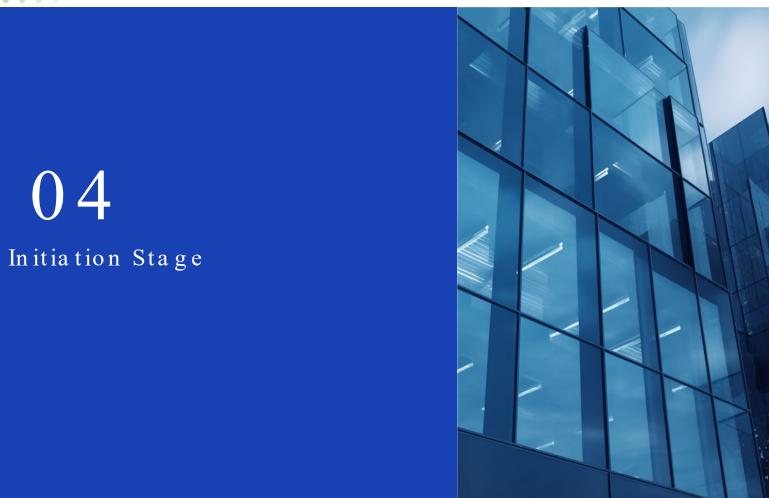
#### • Initiatives Requests Report



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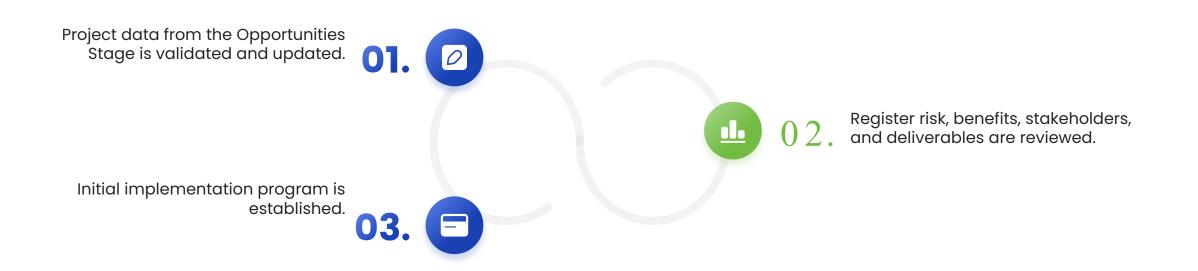




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### OUpdating Registers and Programs

Validation and Review



# • Projects Register

PM//eb	Controls Excel Project Center	Portfolio View	Map View	Calendar	Events	Camera	Executiv	e A	rcGIS	AL AKARIA	РВІ
PLANS	Plan Build Operate "		Projects Inv	entory	List			Location Multiple s	selections		$\sim$
FORMS	Emirates of the UAE		Project Phase	Fac	ility Original	Consultant	Contractor	Sponsor	Туре	Project Size	Status
\$ costs			·		Budget						
			BED-04/15 Const	ruction Sch	iool 33,000,000	Consultant C	Contracrtor C	MOHealth	GMP Contract	Small	Troubled
SCHEDULES		E E	BED-08/15 Const	ruction Sch	19,000,000	Consultant D	Contractor D	MOInterior	GMP Contract	Small	Troubled
			BED-B Const	ruction Sch	150,000,000	Consultant G	Contractor G	MOEducation	GMP Contract	Medium	Completed
ASSETS				ruction Sch	18,000,000	Consultant C	Contracrtor C	MOInterior	GMP Contract	Large	Late
				ruction Sch		Consultant A		MOHealth	GMP Contract	Medium	On Target
WORKFLOWS				ruction Sch		Consultant B		MOHealth	GMP Contract	Medium	Late
				ruction Sch			Contracrtor C		GMP Contract	Medium	Troubled
PORTFOLIO				ruction Hea		Consultant D		MOInterior	GMP Contract	Small	On Hold
				ruction Sch		Consultant B		MOInterior	GMP Contract	Medium	On Target
TOOLS				ruction Sch		Consultant D		MOInterior	GMP Contract	Large	On Hold
				ruction Sch ruction Sch			Contractor A Contractor G	MOHealth MOInterior	GMP Contract	Medium	On Hold Completed
PROFILE				ruction Sch		Consultant G		MOHealth	Design Services GMP Contract	Large	On Target
	Emirates of the UAE			ruction Sch			Contractor G	MOHealth	GMP Contract	Small	On Target
SEARCH	Bukha			ruction Sch		Consultant A		MOHealth	GMP Contract	Medium	Troubled
•		1. 20		ruction Sch		Consultant A		MOHealth	GMP Contract	Small	Complete
RECENT	Abu Musa	E		ruction Civi			Contracrtor C	MOInterior	GMP Contract	Large	On Target
		()	BIN-12/15 Const	ruction Civi	il defence 40,000,000	Consultant C	Contracrtor C	MOHealth	GMP Contract	Large	Late
UNIVERSITY	RAS	E	BIN-15/15 Const	ruction Poli	ice Station 17,500,000	Consultant A	Contractor A	MOInterior	GMP Contract	Medium	On Target
	Umm Al Quwain AL KHAIMAH	E	BIN-17/15 Const	ruction Poli	ice Station 126,000,000	Consultant E	Contracrtor B	MOHealth	GMP Contract	Large	Late
EXIT	Aiman	E	BIN-B Const	ruction Poli	ice Station 13,000,000	Consultant B	Contractor B	MOEducation	Design Services	Large	Troubled
EXII	OL-OAIWAIN	Fakkān E	BIN-C Const	ruction Poli	ice Station 15,000,000	Consultant G	Contractor G	MOEducation	GMP Contract	Medium	Late
	Showin Charjan Lity	ē	BIN-H Const	ruction Pris	son 18,000,000	Consultant B	Contractor B	MOInterior	GMP Contract	Large	Late
	Dubai		XXXXXXXX Const	ruction Poli	ice Station 20,000,000	Consultant E	Contracrtor A	MOInterior	GMP Contract	Medium	Late
	SHARIQAH AIP	Z <sup>rah</sup> z	ZZZZZZZ Const	ruction Poli	ice Station 20,000,000	Consultant E	Contracrtor A	MOInterior	GMP Contract	Medium	Late
	AI Ma@ 2021 TomTom, @ 202	21 Microsoft Corporation Terms	BIN-05/15 Desig	n Poli	ice Station 15,000,000	Consultant E	Contracrtor B	MOEducation	GMP Contract	Large	On Target

## • Project Scope and Objectives

Foundation for Planning

Scope is clarified based on

approved business case.

Defines key objectives, success criteria, and highlevel deliverables.

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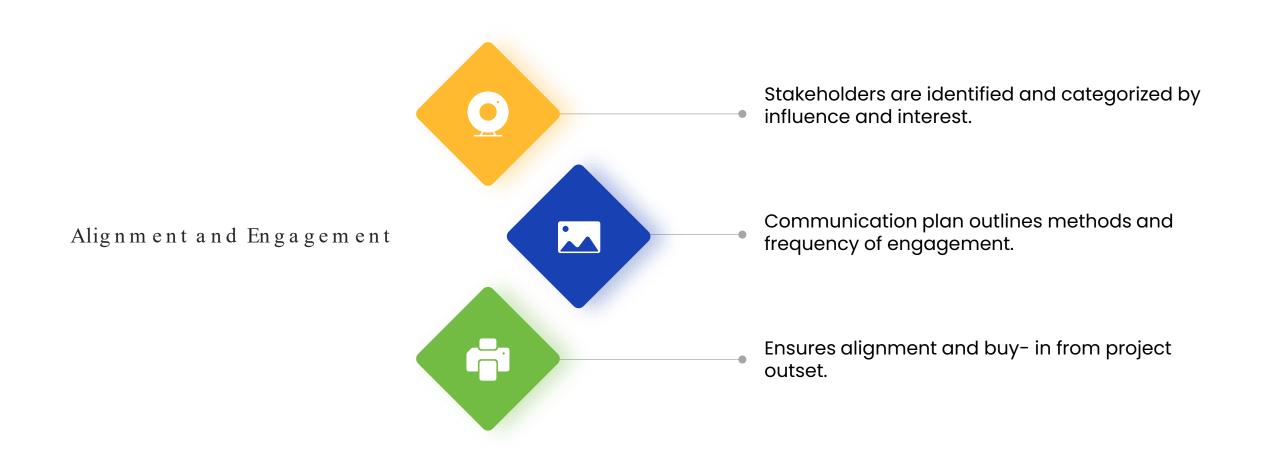
 $\bigcirc \vdots$ 

Serves as foundation for downstream planning.

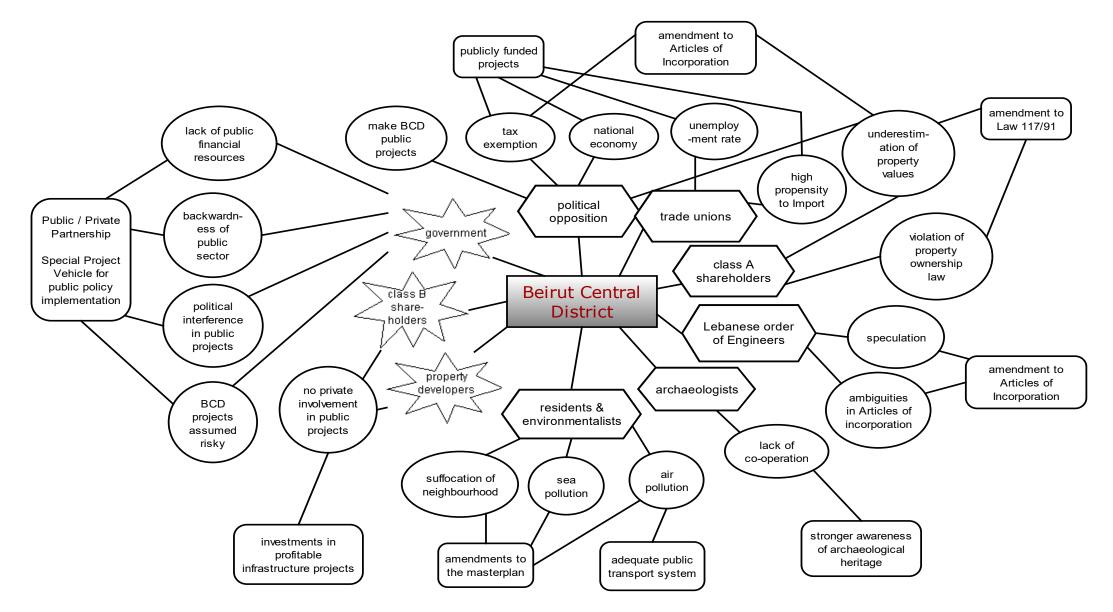
#### • Project Scope Outline Form

«PM//eb	( <u>Portfolio</u> ) > Tools > Forms > INITIAL PROJECT SCOPE OUTLINE FORM > 1 -
<pm eb<="" th=""><td></td></pm>	
- T PLANS	MAIN MAIN
	INITIAL PROJECT SCOPE OUTLINE FORM
\$ costs	Project ID 1
SCHEDULES	Revision     O     Date     30-10-2021     Status     Draft       PROJECT BRIEF
ASSETS	PROJECT OBJECTIVES:
	PROJECT SCOPE:
TOOLS	PROJECT STRATEGIC CONTEXT:
•	
	PROJECT TECHNICAL INFORMATION DETAIL OF STUDIES (STAGE A):
Q SEARCH	
	SUPPLY AND DEMAND ANALYSIS (STAGE A):
	SITE / ROUTE OPTIONS TESTING (STAGE B):
EXIT	
	SITE / ROUTE OPTION 1: Preferred Option
	SITE / ROUTE OPTION 2: Preferred

## • Stakeholder Identification and Communication Plan



• Stakeholder Influence Chart



# O Appointing the Project Manager



Leadership and Responsibility



Qualified Project Manager is selected based on project complexity.



PM is responsible for leading project delivery and interfacing with stakeholders.



Formal appointment recorded in PMIS.



No.	Task / Activities Description	Employer	PMC	A/E	GC
1	Bonds, Guarantees, Insurance Policies	& Permits			
1.1	Advance Payment Guarantees	К	R	А	Р
1.2	Performance Guarantees	К	R	А	Р
1.3	Insurance Certificates	К	R	А	Р
1.4	Building Permit	К	К	Р	S
2	Commencement & Mobilizatio	n			
2.1	Order To Commence	К	К	А	К
2.2	Mobilization Arrangement	К	R	А	Р
2.3	Contractor's Site Personnel	-	R	А	Р
2.4	Consultant's Supervisory Staff	К	А	Р	-
2.5	Project Management Staff	А	Р	-	-
3	Meetings & Conferences				
3.1	Pre-Construction Conference	К	Р	S	К
3.2	Progress Meetings	К	Р	S	К
3.3	Technical Meetings	К	К	Р	К
3.4	Safety Review Meetings	-	S	Р	К
3.5	Job Coordination Meetings	-	К	К	Р
3.6	Financial Review Meetings	-	S	Р	К
3.7	Planning & Scheduling Meetings	-	R	Р	К
3.8	Close Out & Handing Over	К	К	Р	К
4	Site Logistics & Safety				
4.1	Temp. Facilities & safety Plan	-	R	А	Р
4.2	Equipment & Plant Plan	-	R	А	Р
4.3	Site logistics Plan	-	R	А	Р
4.4	Site Security	-	R	А	Р
4.5	Administer Safety Program	-	К	R	Р

## O Developing the Project Charter





Charter includes scope, stakeholders, objectives, timeline, and authority levels.



Serves as official document to launch the project.



Signed by sponsor and authorized parties.

#### • Project Charter Tem plate

		() (Portfolio) > Tools	> Forms > PR	OJECT CHAR	اق المشروع > TER 2	_ میڈ			
	M/eb	1 3 3 3 3 000691-		•	B + ŀ ĭ	D			
	PLANS	MAIN				NOTES			ATTACHMENTS (1)
1 1	FORMS	Project Name Boston   Business Unit	Medical Center			•	Project Charter	ميثاق المشروع	
Ş	COSTS	Revision		0	Date	26-Nov-2019 🛗	Status 🔵 Draft	-	
=	SCHEDULES	PROJECT OBJECTIVES			PROJECT BRIE	موجز المشروع F			
	ASSETS								
	WORKFLOWS	PROJECT SCOPE							
	PORTFOLIO	PROJECT STRATEGIC CONTE	хт						
	TOOLS								
	PROFILE	PROJECT STUDIES / NEEDS #	SSESSMENT / SUF			AL INFORMATION			
Q	SEARCH	PROJECT SITE LOCATION / R	OUTE DETAIL						
Э	RECENT								
1	UNIVERSITY	PROJECT POTENTIAL IMPACT	S						
						LE INFORMATION			
D	FORMS	PROJECT STAGE		FINISH 05-Jun-2019	COMMENTS				
Ś	COSTS	Project Registration Initial Planning		05-Jun-2018					
Ť		Tender for Design		05-Jun-201§ 🗂					
-	SCHEDULES	Design	05-Jun-2019 🗂	05-Jun-201§ 🗂					
	ASSETS	Tender for Construction	05-Jun-2019 🛗	05-Jun-201 🗂					
646	ASSETS	Construction		05-Jun-201					
<b>~</b>	WORKFLOWS	Testing and Commissioning Handover and Completion		05-Jun-201§ 🗂 05-Jun-201§ 🗂					
æ	PORTFOLIO	TOTAL PROJECT SCHEDULE	0	03-0411-2018	DURATION (MONTHS	3)			
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â	FORMS				PROJECT COST	INFORMATION			
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	SUNEBULES	Tender for Design	\$0.00		\$0.00	\$0.00	\$0.00	\$0.00	
	ASSETS	Design Tender for Construction	\$0.00		\$0.00	\$0.00	\$0.00	\$0.00	
		Construction	\$0.00		\$0.00	\$0.00	\$0.00	\$0.00	
~	WORKFLOWS	Testing and Commissioning	\$0.00		\$0.00	\$0.00	\$0.00	\$0.00	
	PORTFOLIO	Handover and Completion	\$0.00		\$0.00	\$0.00	\$0.00	\$0.00	
		Total Project	\$0.00		\$0.00	\$0.00	\$0.00	\$0.00	
	TOOLS	TOTAL PROJECT CAPEX	\$0.00						

### OInitiation Stage Gate Approval

Documentation and Approval

Gatekeeper reviews documentationupdated registers, charter, initial program.

0

Approval grants permission to move to the Planning Stage.

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Recorded in PMIS with timestamps and digital signatures.

• Stage gate approval Form

	() (Portfolio) > Assets > Forms > BUSINESS CASE REPORT > 1 -
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ORMS	Business Case Report
COSTS	Project V ID 1
SCHEDULES	Revision       O       Date       18-09-2021       Status       Draft       Image: Constraint of the second secon
ASSETS	
WORKFLOWS	Project Scope Definition
PORTFOLIO	Schedule Milestones
TOOLS	
PROFILE	Resources & Budget
SEARCH	2. External Analysis (Competitive Landscape):
RECENT	
JNIVERSITY	3. High Level Cost Estimate
EXIT	4. Key Risks
	5. Recommendations and alternative suggestions
	6. Lessons Learnt
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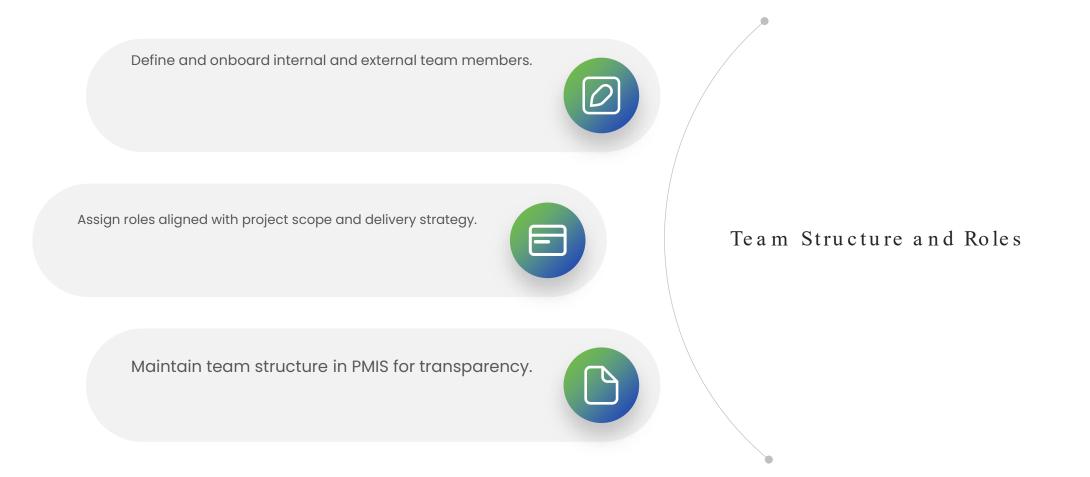




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#### O Building the Project Team



### • Project Organization Chart

		() <u>(Portfolio)</u> > Tools	() <u>(Portfolio)</u> > Tools > Resource Management > ORG CHART > 3 - Construction Management											
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-	PROFILE	2 - Mason												
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		14 - Project Manager 15 - Superintendent				)	Ĩ							
		IF - Israel Guzman AR - Antonio Reyna			Project Team Member 0	Project Team Member	0 Project Team Mer	nber 1 Project Team M	ember 1					
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		SCBAS - Bassam Samman	Structural Contractor											

#### • Stakeholder Engagement and Communication Plan

#### Planning and Tracking

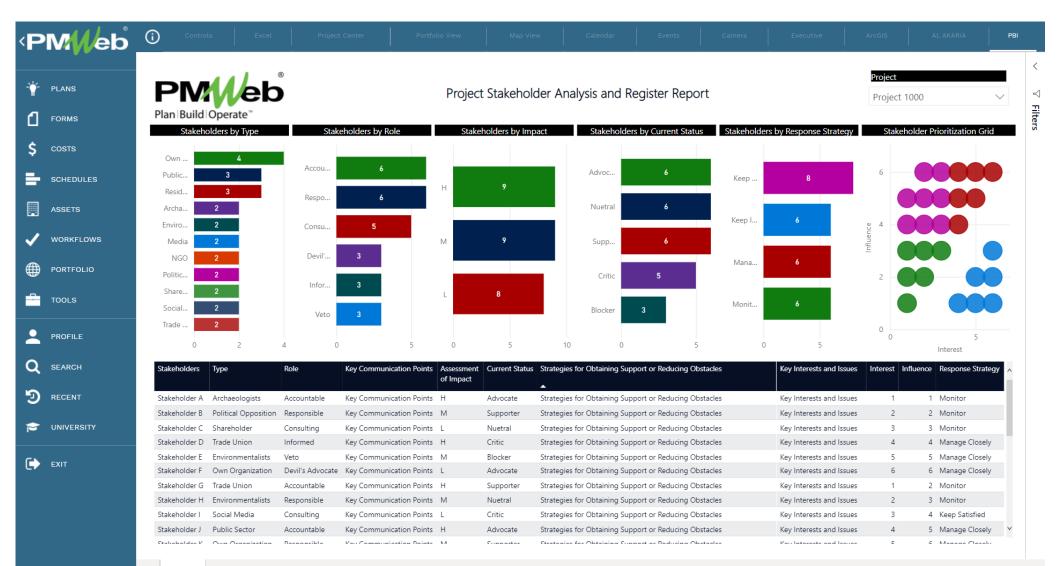
Identify stakeholders, analyze interest/influence.

(

Plan communication methods, frequency, and responsibilities.

Record in PMIS for tracking engagement progress.

## • Project Stakeholder Analysis and Register Report



# • Responsibility Assignment Matrix (RAM)

Accountability and Governance

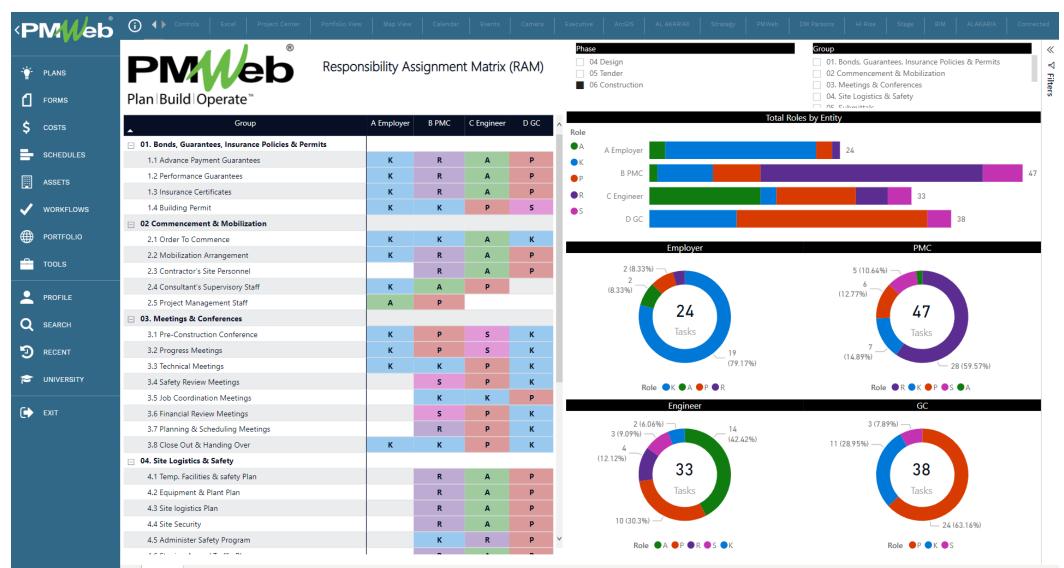


Clarify roles and responsibilities using a RAM or RACI chart. Aligns with project organizational structure.

90

Critical for accountability and governance.

# • Responsibility Assignment Matrix (RAM)



Page 1

### • Master Delivery Schedule and WBS



### • Project Schedule and WBS Levels

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### 🔘 Risk Management Plan

Identification and Mitigation



### • Project Risk Register

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# OBudgeting and Cost Breakdown Structure (CBS)

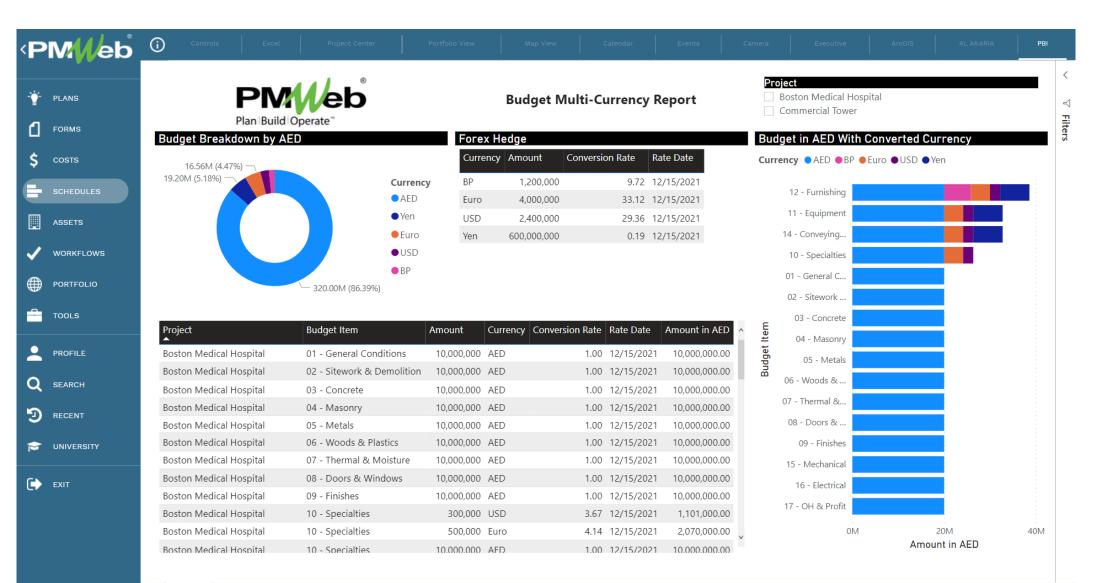


Develop cost estimates and align with WBS and schedule.

Establish CBS and allocate contingency/reserves.

Track budget updates and approvals in PMIS.

### • Project Budget with Multi-Currency





Evaluation and Selection

Choose the appropriate delivery method (Design-Bid- Build, Design- Build, etc.).

Evaluate based on project complexity, timeline, risk profile.

Document rationale and implications on planning.



### • Project Delivery Selection Method

		() (Portfolio) > Portfolio > Forms > PROJECT DELIVERY SELECTION ME	ETHOD > 1 -	
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✓	WORKFLOWS	Project Scope		
	PORTFOLIO	Project Constraints		
-	TOOLS	Project Assumptions		
	PROFILE	01. Delivery Schedule DELIVERY SCHEDULE		
۵	FORMS	Refresh NO. ASSESSMENT FACTOR	RESPONSE	COMMENTS
\$	COSTS	Compared to similar Projects, is the needed project duration short?     Does the project allow for partial handover of zones or locations?		
=	SCHEDULES	3 Is it possible to extend the project's completion date if delays are enco 4 Could the project be shelved prior to award construction Contracts?		
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	PROFILE	1 Is the project scope of work similar to the other projects delivered by t		



ESG Targets

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Set environmental, social, and governance (ESG) targets.

Link objectives to funding, regulatory, or stakeholder requirements.

0

Document tracking mechanisms and responsibilities.

### • Sustainable Development KPI Report



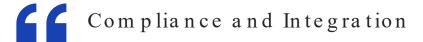
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### • Document Management Repository by Folders

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ASSETS	BP01 Enabling Works			1126	A-1502-A(11)	<u>A-1502-A(11).pdf</u>	158.63 KB	pdf	Drawing	Architectural	Draft
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# • ERP Integration and Data Localization





Integrate PMIS with ERP systems for financial and procurement alignment.



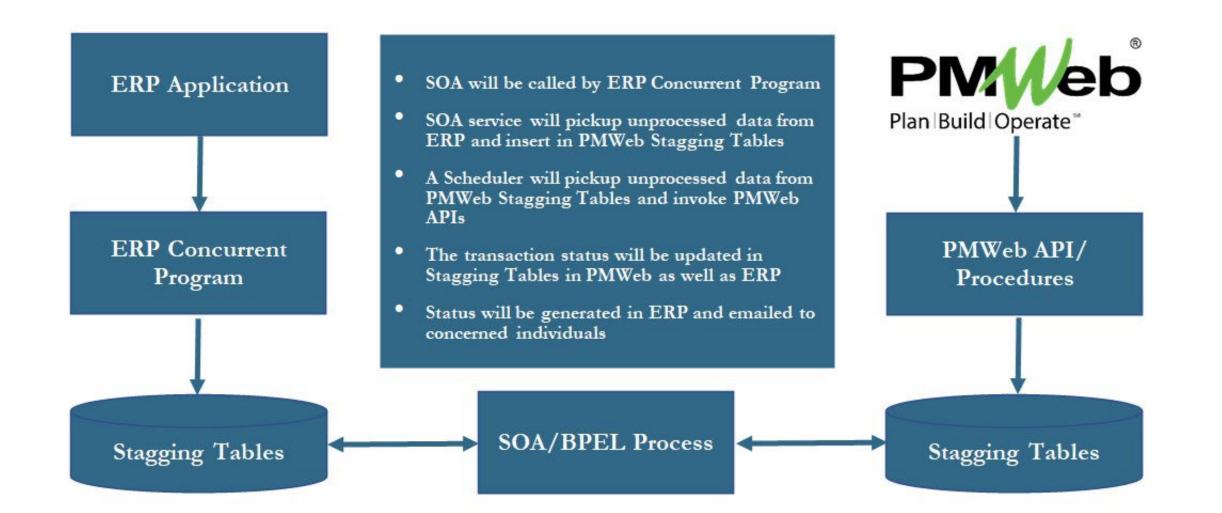
Ensure compliance with localization laws (e.g., cloud vs. onpremise).



Plan for data migration and testing during integration.



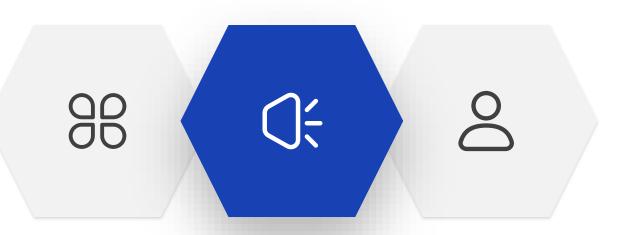
### • PMWeb – ERP Integration Methodology



# • Evaluation and Scoring of Planning Deliverables

Quality Assessment

Use weighted scoring sheets to assess planning quality.



Supports gate approval and readiness for next stage.

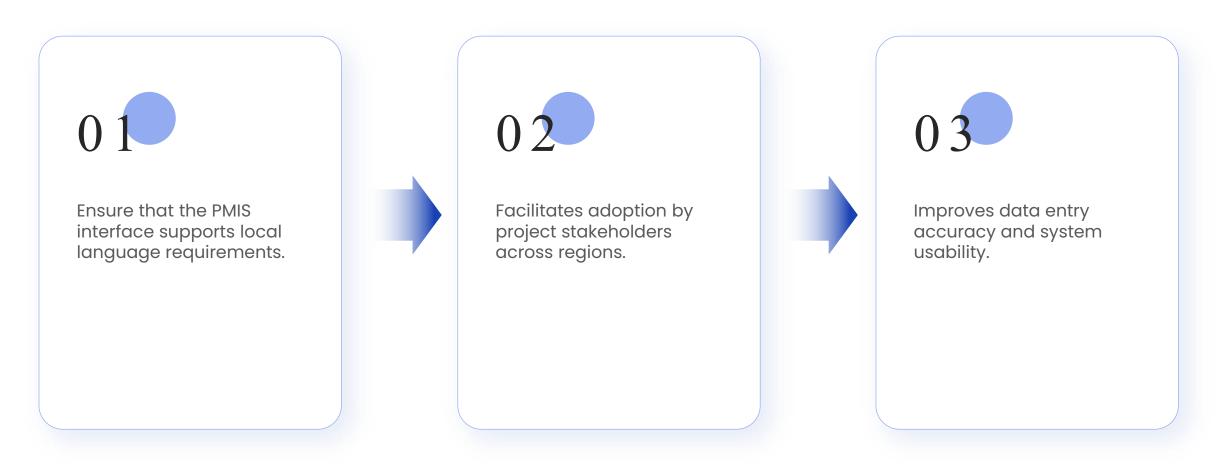
Criteria include completeness, accuracy, and strategic alignment.

## • Objective & Subjective Scoring Analysis Report



# O Language and Interface Localization

### Adoption and Usability



### • Multi-Language Template

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# 06

### Design Tender Stage



# O Consultant Prequalification Process





Shortlist consultants based on qualifications, past performance, and financial stability.



Use standardized forms to ensure objective comparison.



Establish a prequalified list approved by the tender committee.



### • Consultant Prequalification

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TOOLS			C1. Relevance of Com. 12.00%	C21 In Country 12.00%	A8. Supplementary		2.50%	90.00%	2.25%	
		B. Financial Information	1210070		B. Financial Information					
		5.00%	C2. Details of Similar	C22 In GCC	B1. Financial Capabi	-	4.50%	75.00%	3.38%	
			24.00%	6.00%	B2. Insurance Limits     C. Experience	i I	0.50%	66.00%	0.33%	
Q SEARCH	Weight 100.00%	C. Experience 50.00%			<ul> <li>C1. Relevance of Con</li> </ul>	mpleted Work	12.00%	76.00%	9.12%	
SEARCH	10010070		C3. Value of Complete		C2. Details of Simila	•				
		D. Quality Assurance	7.00%	6.00%	C21 In Country		12.00%	50.00%	6.00%	
		10.00%			C22 In GCC		6.00%	50.00%	3.00%	
			C4. Co-ordination Exp 7.00%		C23 International		6.00%	50.00%	3.00%	
		E H&S Response	1.0070		🗄 C3. Value of Comple	eted Work	7.00%	49.00%	3.43%	
<b>CA</b>		15.00%			E C4. Co-ordination Ex	xperience	7.00%	30.00%	2.10%	
EXIT					D. Quality Assurance					
					D1. Control Method		7.00%	20.00%	1.40%	
					D2. Organisational U	Undertakings	3.00%	10.00%	0.30%	
					E H&S Response				4 880/	
					E1. H&S Response		15.00%	10.00%	1.50%	
	✓ Page 1 Page 2									
	rayer rayez									

# • Request for Proposal (RFP) Preparation

Comprehensive Documentation



Define project scope, deliverables, milestones, and evaluation criteria.

Include pricing forms, terms of reference, and technical specs.

90

RFP documents must be reviewed and approved prior to issuance.

### • Authorization to Issue RFP for Design Services

(Portfolio) > Schedules > Forms > AUTHORIZATION TO ISSUE RFP FOR DESIGN SERVICES > 1 -
() (Portfolio) > Schedules > Forms > AUTHORIZATION TO ISSUE RFP FOR DESIGN SERVICES > 1 -
PLANS MAIN
FORMS Authorization To Issue RFP For Design Services
\$ COSTS Project Date 11-Dec-2021
Revision 0 Date 11-Dec-2021 😁 Status 💽 Draft 🗸
Confirmation of Sections Included in the RFP
ASSETS RFP SECTIONS
C Refresh
WORKFLOWS         NO.         ITEM         DATE APPROVED         APPROVED BY
PORTFOLIO A Background
B Statement of Work
TOOLS C Deliverables
D Timeline and Milestones
E Profile of the Consultant
F Proposal Form
G Bank Guarantee For Proposal
Q SEARCH H Bidder's Details
I Financial Proposal Form
D         RECENT         J         Capacity, Experience, Work in Hand and Work Completed
K Insurances
Image: Wild of the second se
M Implementation/Quality Management System Proposals
EXIT N Proposed Subcontractors
o Propose Methodology, Approach a Implementation Plan
P Declaration
Q Conflict of Interest
R     Dispute Details       S     Addenda to RFP
S Addenda to RFP T Declaration of Gender Parity
U Contract for Consultant Services for Works

# Olssuing Invitation to Tender



#### Notification and Distribution

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Notify prequalified consultants of the opportunity.

Distribute RFP package through PMIS or procurement portal.



Ο

Track acknowledgment and intention to bid.

## • Invitation to Tender

< PN	<b>M</b> 44	(Portfolio) > Assets > Forms > NPMO IN	VITATION TO TENDER > 1 -	
< PIV	<i>M</i> e			
- [] ⊧∘		Date 18-0 Project*	9-2021	
<b>\$</b> cc		Record #*		
sc		Status Draft TEMPLATE	▼ ×	
	SETS	⊗ 🖹 🗙 ₩ ₩ ≻		
V w	ORKFLOW	TEMPLATES	PREVIEW	
💮 РС	RTFOLIO	TEMPLATE DESCRIPTION DEFAULT	Invitation To Tender for Design Consultancy Services	
<b>_</b>	-	Invitation to Tender Invitation to Tender	Project: Boston Medical Center	
тс	OLS	1	You are invited to submit a tender to provide Design Consultancy Services to the OUR COMPANY.	
	OFILE		By participating in this tender, you are indicating your acceptance to be bound by the guidelines set out in this letter and attachments. We provide below the key details of <i>OUR COMPANY</i> requirements, which you should take into account in your response. Please acknowledge via email safe receipt of this letter within two working days together with your confirmation of your intention to tender.	
Q SE	ARCH		Please direct any questions regarding the ITT content or process to the OUR COMPANY representatives named below. You should not contact other OUR COMPANY personnel unless directed to do so by the OUR COMPANY representative. OUR COMPANY reserves the	
	CENT		right to disqualify and reject proposals from suppliers who do not comply with these guidelines. All questions should be submitted in writing either by post or to the email address below.	
- -	NIVERSITY		Only communications made to our named representatives, [Insert Company Representative and Title] will be taken into account during the pre-contract tender period.	
			As part of this tender process OUR COMPANY makes no obligations in any way to:	
<b>[</b> → EX	ит		(i) pay any vendor for any ITT response; or	
			(ii) award the contract with the lowest or any bidder; or	

# O Managing Tender Queries and Clarifications

Transparency and Consistency

Ensure transparency and consistent information sharing.

Receive and log consultant questions during clarification period. Issue addenda or formal responses to all participants.

# • Tender Queries

	() (Portfolio) > Schedules > Forms > BID QUERY > 1 -									
<pm eb<="" th=""><td></td></pm>										
- T- PLANS	MAIN									
	Bid Query									
\$ costs	PROJECT AND CONTRACT DETAILS									
SCHEDULES	Project         ID         1         Date         Image: Contract No.         ABC/1000/2018									
	Contract Title BP01 Enabling Works									
ASSETS	Query From 👻 Subject									
V WORKFLOWS	Bevision     O     Date     18-09-2021     Main     Variable									
	BID QUERY									
	Query									
TOOLS	Response									
Q SEARCH										
E EXIT										

# • Receiving and Opening Proposals

### Secure Submission

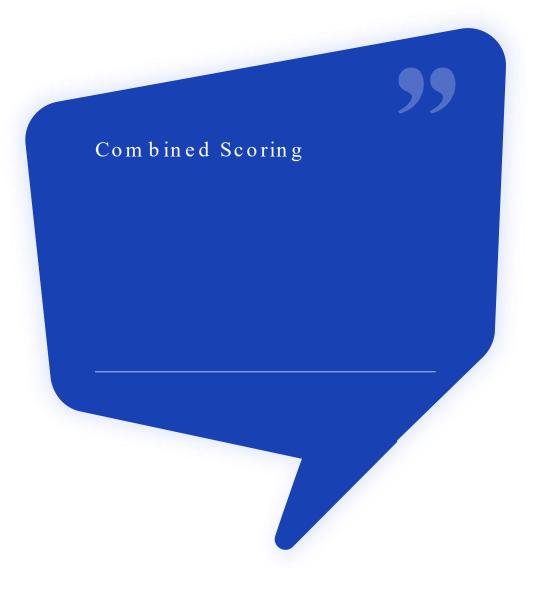
Proposals are submitted through secure digital channels. Bid opening is documented with timestamps and signatures.

Initial compliance check is conducted before detailed evaluation.

### • Consultant RFP Response Evaluation

	<b>M</b> eb	() <u>(Portfolio)</u> > Schedu	Iles > Forms > CONSUL	TANT RFP RESP	ONSE EVALUA	TION > 1 -					
	PM//eb		•		ŵ 🖨	+					
		•					MAIN				
Ť	PLANS										
۵	FORMS	PM/eb				CONSULTANT RFP R	ESPONSE EVA	LUATION			
\$	COSTS	Project		•	ID 1	Date	05-	Dec-2021 🛗			
	SCHEDULES	RFP Consultant		•							
	ASSETS	Revision Consultant Scoring De	tails		Date	05-Dec-2021 🛗 Status	Draft	•			
~	WORKFLOWS	Technical Score 0 Lowest Bid \$0.00	0 \$0.00	Consultant B	lid	\$0.00	Financial Score	0			
	PORTFOLIO	Technical Weight 0.8		Financial Wei			Total Weight	0			
		I Consultant's general	experience and record	in the field cove	ered by the TC	)R					
-	TOOLS	EXPERIENCE									
•	PROFILE	C Refresh									
-		ITEM		DESCRIPTION			POINTS F	RATING SCORE			
Q	SEARCH		ational projects of comparable oping countries under comparab		technical specialt	у	12	0 0			
Э	RECENT							ms in 1 pages			
ê	SCHEDGLES	II Adequacy of the prop	oosed approach, method	lology and worl	k plan			•			
	ASSETS	ADEQUACY									
,		📿 Refresh									
	WORKFLOWS										

# • Technical and Financial Evaluation





Proposals are evaluated based on pre- set weighted criteria.

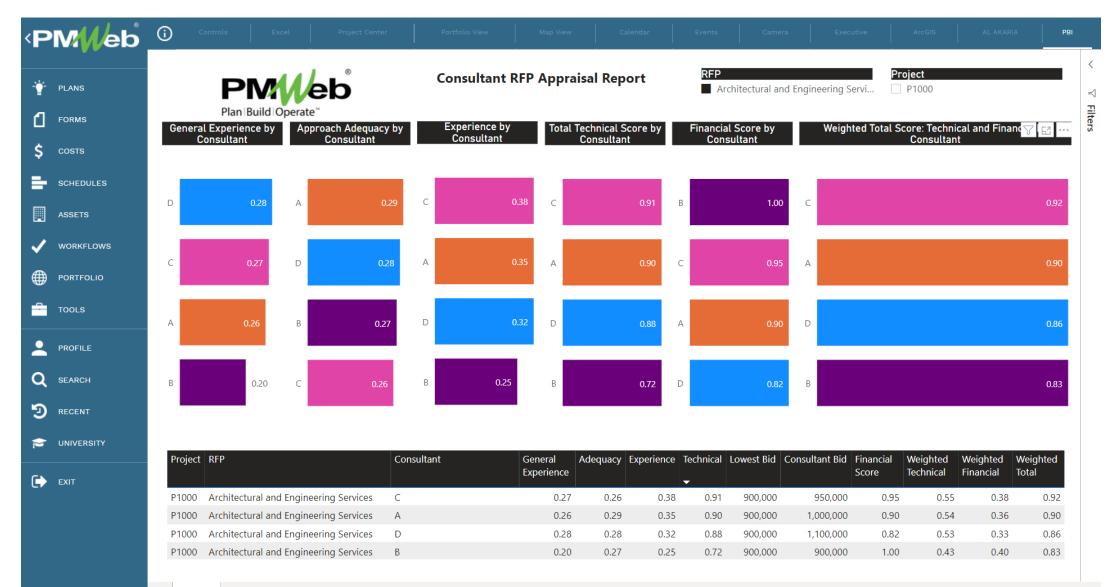


Technical score is combined with financial bid to determine overall ranking.



Use evaluation worksheets to ensure transparency.

## • Consultant RFP Appraisal Report





Internal Approval

Top- ranked proposal recommended for award.

Award approved by relevant authority and documented in PMIS.

Letter of Award and contract are issued upon approval.

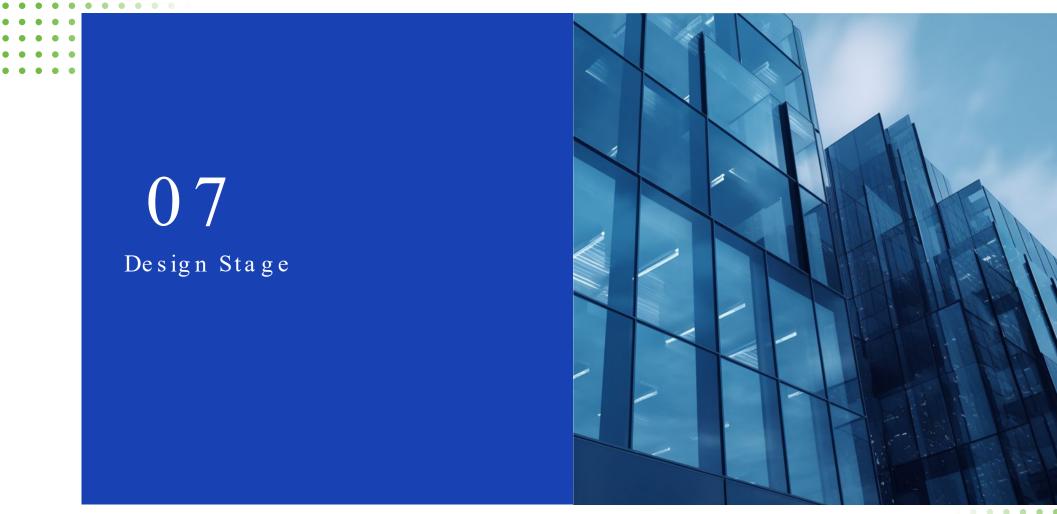
## • Bidding and Tender Process for Selection of Designer

		() (Portfolio) > Forms > Forms > BIDDING AND TENDER PROCESS FOR SELECTION OF DESIGNER > 1 -										
Ρ	M//eb											
		•		MAIN								
Ť	PLANS			WAIN								
٦	FORMS	PM//eb	Bidding and Tender Pro	ocess for Selection o	of Designer							
\$	COSTS	Project	▼ ID 1	Date	09-Dec-2021 🛗							
		Consultant	▼									
-	SCHEDULES	Revision 0	Date 09-Dec-2021		•							
	ASSETS	Audit for Assessment of Bi	dding and Tender Process for Selection of	Designer (A/E)								
8-8	100210		A. Checklist									
<b>、</b>	WORKFLOWS	A. CHECKLIST										
		C Refresh										
	PORTFOLIO	NO. ITEM TO	BE ASSESSED	RESPOI COMI	MENTS							
<u> </u>	TOOLS	1 Whether RFP documents properly organized		NA								
	10020	2 Whether the RFP is distributed to all the pre qualified/										
•		3 Whether tender is notified to all the prequalified consi		NA								
-	PROFILE	4 Whether all the pre qualified/short listed/ registered b		NA								
Q	SEARCH	5 Whether attendance sheet for the meeting was signed 6 Whether minute of meeting circulated to all the attend		NA								
4	SEARCH	7 Whether sufficient time is provided to prepare and sub		NA								
Э	RECENT	8 Whether tender submission date is extended from the		NA								
-		9 Whether addendum, if any, are issued/notified to all th	ne participating bidders	NA								
8	UNIVERSITY	10 Is there any request for extension for submission date	9	NA								
		11 Whether clarification meeting attended by all participa	ating bidders	NA								
•	EXIT	12 Whether any changes made to the originally RFP		NA								
<b>L</b> /	EXII	13 Whether received bid envelops placed in safe custody		NA								
		14 Whether technical and financial envelops submitted at	t the same time	NA								
		15 Is there any delayed submission 16 Whether proposals opened as per announced date and	d time	NA								
		17 Whether proposals opened in presence of all the bidde		NA								
		18 Whether received tenders acknowledged		NA								
		19 Whether received tenders are clearly identified and rec	corded	NA								
		20 Whether applicable fees/bid bond submitted by all the	e bidders who participated in the tender	NA								
•	PROFILE	₩ ◀ 1 2 ▶ ₩ PAGE SIZE: 20 ▼		29 i	items in 2 pages							
			B. Interview Questions									
0	SEARCH											
~		R INTERVIEW OUESTIONS	R INTERVIEW OUESTIONS									

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# O Design Contracts and Management

### Post-Tender Form a lization



Formalize contracts for design consultants post-tender.



Define scope, schedule, deliverables, and performance KPIs.



Track progress, payments, and performance in PMIS.

## • Design Contracts

	() (Portfolio) > Costs > Contracts > COMMITMENTS > 005 - Arch	hitectural Services		
<pm eb<="" th=""><td>Rockwell Architects - 005 - Architec 🔹</td><td>أ ا ا ا ا ا ا</td><td>SUBMIT</td><td></td></pm>	Rockwell Architects - 005 - Architec 🔹	أ ا ا ا ا ا ا	SUBMIT	
	MAIN ADJUSTMENTS ADDITIONAL INFORMATION CLAUSES	VARIATIONS (AVI) PROGRES	S INVOICES PAYMENTS NOTES	ATTACHMENTS (7) WORKFLOW NOTIFICATIONS
•				
	Project* RVS0104 - Boston Medical Center 🔻	RECAP		USER DEFINED FIELDS
	Contract No.* 005	COS		Procurement Group
\$ COSTS	Vendor (••••) Rockwell Architects	Original Value	890,000.00	System
	Subject Architectural Services	Approved Changes	\$0.00	Equipment Type
SCHEDULES	Currency USD - Dollar (United States of America) 💌	Revised Value	\$890,000.00	Latitude
ASSETS	Type Contract 💌	Billed	\$0.00	Longitude
	Category 🗸	Retention	\$0.00	Long Lead Task
V WORKFLOWS	Legacy #	Balance Due	\$0.00	
	Status / Revision Draft 🔹 0	Payments Applied	\$0.00	
	Commencement Date 09-05-2014 🛗	Open Balance	\$0.00	
<u> </u>	Days	Unbilled	890,000.00	
TOOLS	RFP # 2 - Architectural Services OK	Pending Changes	\$0.00	
	Paid In Full	Projected Value	6890,000.00	
	BILLING	DELIVERY		
Q SEARCH	Billing Terms 💌	Contract Date	09-05-2014 🛗	
Q SEARCH	Retention on Services 0%	Contract End Date	09-05-2014 🛗	
	Retention on Stored Materials 0%	Ship Via	•	
Ũ	DO NOT ALLOW OVERBILLING	Ship To		
C UNIVERSITY	ALLOW OVERBILLING			
EXIT				
	Drag a column header and drop it here to group by that column			
	🖌 Edit 🕂 Add 🗌 Add Items 前 Delete 🎅 Refresh 🛛 Expo	ort To Excel 🛛 📋 Paste From Excel	Use Units (\$) Preview Conversions	Layouts
	LINE # ATTACHMEN ITEM DESCRIPTION	N 🚦 UOM 🚦 QUANTITY	UNIT COST : CURRENCY	COMMITMENT ADVANCE COST PAYMENT TAX
	1 ( <u>0</u> ) 2127 Schematic Desig	gn	1 \$225,000.00 USD - Dollar (United Sta	tes of America) \$225,000.00 \$0.00 \$

### O Design Phases and Deliverables

### Specific Stages



StagesConcept, Schematic, Design Development, Detailed Design, Issued for Construction (IFC). **H** 

Each phase has specific deliverables and milestones.

Design outputs are tracked for quality and completeness.

### • Design Phase Deliverable Packages & Items

ģ-	PLANS	PM/	leb	Design Phases Del Packages and I			Category V All		Phase ✓ All		~
1	FORMS	Plan Build Ope	-								
\$	COSTS	Deliverable Iter	n by Phase	Status  New		Deliverable Item	by Category				
	SCHEDULES					47					
	ASSETS	2 Schematic	118	40 30 30	37		25	1			
~	WORKFLOWS	3 Design	119	208	21 21	13	17	21	19	11	2
€	PORTFOLIO	4 Constru	141	0							3
-				01 02 03 Sit		08 09 10 HV	/AC 11 12 Fire 13	14 15 Fi	ire 16 17	10791	9 Cost
	TOOLS	0	100	General Specifi Descri	Landsc Structu Building Building Exterio Interior	Elevators Accessi Requir	Plumbi Protect Electric and Pi Mech Power		m Comm Securit	ty and Special	
	PROFILE	0	100			Requir			m Comm Securit		
2		Phase Category	WBS	Descri	Exterio Interior	Requir ables Report Activity	and Pi Mech Power Deliverable Item	 Finish Plan S	Status Start Act	Special Finish Act	% Comp
2	PROFILE	Phase Category 2 Schematic 01 General Des	WBS scription 1.1.02.01.01	Descri Deliverable Scope of work narrative	Exterio Interior	Requir ables Report Activity 10000010	and Pi Mech Power Deliverable Item Deliverable Item Descripotio	 Finish Plan S n 01/17/17 N	Status Start Act New 1/2/2017	Special Finish Act 1/20/2017	100%
ב ב	PROFILE	Phase     Category       2 Schematic     01 General Designed       2 Schematic     01 General Designed	WBS           scription         1.1.02.01.01           scription         1.1.02.01.02	Descri Deliverable Scope of work narrative Comparison of capacities i.e. ft2. Progr	Exterio Interior	Requir ables Report Activity 10000010 iding buildi 1000015	and Pi Mech Power Deliverable Item Deliverable Item Descripotio Deliverable Item Descripotio	Finish Plan S 01/17/17 N 01/17/17 N	Startus         Start Act           New         1/2/2017           New         1/2/2017	Special Finish Act 1/20/2017 1/25/2017	100% 100%
- 2	PROFILE	Phase     Category       2 Schematic     01 General Des       2 Schematic     01 General Des       2 Schematic     01 General Des	WBS           scription         1.1.02.01.01           scription         1.1.02.01.02           scription         1.1.02.01.03	Descri Deliverable Scope of work narrative Comparison of capacities i.e. ft2. Progr List of applicable building codes	Exterio Interior Project Design Delivera rammed space vs. Schematic Phase ft2. Inclu	Requir ables Report Activity 10000010 iding buildi 10000015 1000020	and Pi Mech Power Deliverable Item Deliverable Item Descripotio Deliverable Item Descripotio Deliverable Item Descripotio	Finish Plan         S           01/17/17         N           01/17/17         N           01/17/17         N           01/17/17         N	Startus         Start Act           New         1/2/2017           New         1/2/2017           New         1/10/2017	Special Finish Act 1/20/2017 1/25/2017 2/2/2017	100% 100% 70%
ב ב פ	PROFILE	Phase     Category       2 Schematic     01 General Dest	WBS           scription         1.1.02.01.01           scription         1.1.02.01.02           scription         1.1.02.01.03           scription         1.1.02.01.04	Descri Deliverable Scope of work narrative Comparison of capacities i.e. ft2. Progr List of applicable building codes Building code review describing means	Exterio Interior	Requir ables Report Activity 10000010 10000015 10000020 uuilding sys 1000025	and Pi Mech Power Deliverable Item Deliverable Item Descripotio Deliverable Item Descripotio Deliverable Item Descripotio Deliverable Item Descripotio	Finish Plan         S           01/17/17         N           01/17/17         N           01/17/17         N           01/17/17         N           01/17/17         N           01/17/17         N	Start Act           New         1/2/2017           New         1/2/2017           New         1/10/2017           New         1/10/2017	Special           Finish Act           1/20/2017           1/25/2017           2/2/2017           2/2/2017	100% 100%
2 2 2	PROFILE SEARCH RECENT	Phase     Category       2 Schematic     01 General Des       2 Schematic     01 General Des       2 Schematic     01 General Des	WBS           scription         1.1.02.01.01           scription         1.1.02.01.02           scription         1.1.02.01.03           scription         1.1.02.01.04           scription         1.1.02.01.05	Descri Deliverable Scope of work narrative Comparison of capacities i.e. ft2. Progr List of applicable building codes Building code review describing means List of anticipated variance requests	Exterio Interior Project Design Delivera rammed space vs. Schematic Phase ft2. Inclu s of compliance for major code issues and b	Requir ables Report Activity 10000010 iding buildi 10000015 1000020	and Pi Mech Power Deliverable Item Deliverable Item Descripotio Deliverable Item Descripotio Deliverable Item Descripotio Deliverable Item Descripotio	Finish Plan         S           01/17/17         N	Start Act           New         1/2/2017           New         1/2/2017           New         1/10/2017           New         1/10/2017           New         1/15/2017	Special Finish Act 1/20/2017 1/25/2017 2/2/2017 2/2/2017 2/2/2017	100% 100% 70% 70%
	PROFILE SEARCH RECENT UNIVERSITY	Phase       Category         2 Schematic       01 General Des	WES           scription         1.1.02.01.01           scription         1.1.02.01.02           scription         1.1.02.01.03           scription         1.1.02.01.04           scription         1.1.02.01.05           scription         1.1.02.01.06	Descri Deliverable Scope of work narrative Comparison of capacities i.e. ft2. Progr List of applicable building codes Building code review describing means	Exterio Interior Project Design Delivera rammed space vs. Schematic Phase ft2. Inclu s of compliance for major code issues and b ancy schedules	Requir ables Report Activity 1000001 10000015 10000020 uilding sys 10000025 10000025 10000035	and Pi Mech Power Deliverable Item Deliverable Item Descripotio Deliverable Item Descripotio Deliverable Item Descripotio Deliverable Item Descripotio Deliverable Item Descripotio	Finish Plan         S           01/17/17         N	Start Act           New         1/2/2017           New         1/2/2017           New         1/10/2017           New         1/10/2017           New         1/15/2017	Special           Finish Act           1/20/2017           1/25/2017           2/2/2017           2/2/2017	100% 100% 70% 60%
2	PROFILE SEARCH RECENT	Phase       Category         2 Schematic       01 General Des	WBS           scription         1.1.02.01.01           scription         1.1.02.01.02           scription         1.1.02.01.03           scription         1.1.02.01.04           scription         1.1.02.01.05           scription         1.1.02.01.06           scription         1.1.02.01.06           scription         1.1.02.01.07	Descri Descri Deliverable Scope of work narrative Comparison of capacities i.e. ft2. Progr List of applicable building codes Building code review describing means List of anticipated variance requests Anticipated building and space occupated	Exterio Interior Project Design Delivera rammed space vs. Schematic Phase ft2. Inclu s of compliance for major code issues and b ancy schedules tion of security and access points	Activity           ables Report           4000010           10000010           10000015           10000020           10000020           10000020           10000030           10000030           10000035	and Pi Mech Power Deliverable Item Deliverable Item Descripotio Deliverable Item Descripotio Deliverable Item Descripotio Deliverable Item Descripotio Deliverable Item Descripotio Deliverable Item Descripotio	Finish Plan         S           01/17/17         N	Start Act           New         1/2/2017           New         1/2/2017           New         1/10/2017           New         1/10/2017           New         1/15/2017           New         1/15/2017	Special           Finish Act           1/20/2017           1/25/2017           2/2/2017           2/2/2017           2/2/2017           2/2/2017           2/2/2017	100% 100% 70% 60% 60%
	PROFILE SEARCH RECENT UNIVERSITY	Phase       Category         2 Schematic       01 General Des	WBS           scription         1.1.02.01.01           scription         1.1.02.01.02           scription         1.1.02.01.03           scription         1.1.02.01.04           scription         1.1.02.01.05           scription         1.1.02.01.06           scription         1.1.02.01.06           scription         1.1.02.01.07           scription         1.1.02.01.08	Descri Descri Deliverable Scope of work narrative Comparison of capacities i.e. ft2. Progr List of applicable building codes Building code review describing means List of anticipated variance requests Anticipated building and space occupa Life safety egress plans with identificat	Exterio Interior Project Design Delivera rammed space vs. Schematic Phase ft2. Inclu s of compliance for major code issues and b ancy schedules tion of security and access points	Activity           ables Report           4000010           10000010           10000015           10000020           10000020           10000025           10000030           10000030           10000030           10000040	and Pi Mech Power Deliverable Item Deliverable Item Descripotio Deliverable Item Descripotio Deliverable Item Descripotio Deliverable Item Descripotio Deliverable Item Descripotio Deliverable Item Descripotio Deliverable Item Descripotio	Finish Plan         S           01/17/17         N	Startus         Start Act           New         1/2/2017           New         1/2/2017           New         1/10/2017           New         1/10/2017           New         1/15/2017           New         1/15/2017           New         1/15/2017           New         1/15/2017	Special           Finish Act           1/20/2017           1/25/2017           2/2/2017           2/2/2017           2/2/2017           2/2/2017           2/2/2017           2/2/2017           2/2/2017           2/2/2017	100% 100% 70% 60% 60% 40%
• Q 9	PROFILE SEARCH RECENT UNIVERSITY	Phase       Category         2 Schematic       01 General Des         2 Schematic       01 General Des	WBS           scription         1.1.02.01.01           scription         1.1.02.01.02           scription         1.1.02.01.03           scription         1.1.02.01.04           scription         1.1.02.01.05           scription         1.1.02.01.06           scription         1.1.02.01.07           scription         1.1.02.01.08           scription         1.1.02.01.08           scription         1.1.02.01.08	Descri Descri Descri Deliverable Scope of work narrative Comparison of capacities i.e. ft2. Progr List of applicable building codes Building code review describing means List of anticipated variance requests Anticipated building and space occupa Life safety egress plans with identificat LEED certification goal for the building	Exterio Interior Project Design Delivera rammed space vs. Schematic Phase ft2. Inclu s of compliance for major code issues and b ancy schedules tion of security and access points	Requir ables Report Activity 10000010 10000015 10000025 10000025 10000035 10000035 10000040 10000045	and Pi Mech Power Deliverable Item Deliverable Item Descripotio Deliverable Item Descripotio	Finish Plan         S           01/17/17         N	Startus         Start Act           New         1/2/2017           New         1/2/2017           New         1/10/2017           New         1/10/2017           New         1/15/2017           New         1/15/2017           New         1/15/2017           New         1/15/2017           New         1/20/2017           New         1/20/2017	Special           Finish Act           1/20/2017           1/25/2017           2/2/2017           2/2/2017           2/2/2017           2/2/2017           2/2/2017           2/10/2017           2/10/2017	100% 100% 70% 60% 60% 40%
• ດ ອ	PROFILE SEARCH RECENT UNIVERSITY	Phase       Category         2 Schematic       01 General Des         2 Schematic       01 General Des	WBS           scription         1.1.02.01.01           scription         1.1.02.01.02           scription         1.1.02.01.03           scription         1.1.02.01.03           scription         1.1.02.01.04           scription         1.1.02.01.05           scription         1.1.02.01.06           scription         1.1.02.01.07           scription         1.1.02.01.08           scription         1.1.02.01.08           scription         1.1.02.01.08           scription         1.1.02.01.08	Descri Descri Descri Deliverable Scope of work narrative Comparison of capacities i.e. ft2. Progr List of applicable building codes Building code review describing means List of anticipated variance requests List	Exterio Interior Project Design Delivera rammed space vs. Schematic Phase ft2. Inclu s of compliance for major code issues and b ancy schedules tion of security and access points	Activity           ables Report           Activity           10000010           iding buildi           10000020           puilding sys           10000030           10000030           10000040           10000040           10000040           10000045           10000050	and Pi Mech Power Deliverable Item Deliverable Item Descripotio Deliverable Item Descripotio	Finish Plan         S           01/17/17         N           01/17/17         N	Startus         Start Act           New         1/2/2017           New         1/2/2017           New         1/10/2017           New         1/10/2017           New         1/15/2017           New         1/15/2017           New         1/20/2017           New         1/20/2017           New         1/20/2017	Special Finish Act 1/20/2017 1/25/2017 2/2/2017 2/2/2017 2/2/2017 2/2/2017 2/10/2017 2/10/2017 2/10/2017	100% 100% 70% 60% 60% 40% 30%

### • End-User Requirements Management

Capture and validate user requirements early in the process.

Use checklists and forms to track requirement fulfillment.

Facilitates scope clarity and end- user satisfaction.



Validation and Tracking

# • Tenant Space Requirements

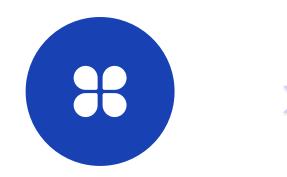
	PM/eb	Tenant	Space Re	quirement	S	31	098.00		<i>/</i> ,1	982.3	n			
PLANS	PiviveD								· ·					
FORMS	Plan Build Operate <sup>™</sup>		Spa	ce Required		TENANT USF								
1	Building	Occupant Area			TENANT USF		TENANT	JSF by Categor	y and Type					
COSTS			Required	Usable Factor		Type ● Fully Closed ● F	ully Open							
SCHEDULES	□ Building 10010													
SCHEDULES	Fully Closed					Office Spaces	17.2K			14.3K	<b>3</b> 1,52			
ASSETS	Office Spaces					Support Spaces 4.2	K 6.2K 1	0.459.80						
	Enclosed Executive Offices	2 225	450.00 S	F 1.35	607.50	Support Spaces 4.2	K 6.2K	0,459.80						
WORKFLOWS	Enclosed Large Offices	52 150	7,800.00 S	F 1.35	10,530.00									
DODTEOLIO	Enclosed Small Offices	26 120	3,120.00 SI	F 1.35	4,212.00	OK	5K 10K	15K	20K	25K	30K			
PORTFOLIO	Open Large Office	2 140	280.00 SI	F 1.35	378.00			actor by Tenant C			Y			
TOOLS	Open Small Office	3 100	300.00 SI	F 1.35	405.00	"Unimproved" Co	Enclosed Executiv	Informal B	Informatio	Open Larg	. Open S			
	Open Workstations	9 80	720.00 SI	F 1.35	972.00									
PROFILE	Reception Desk	1 80	80.00 SI	F 1.35	108.00									
	Support Spaces													
SEARCH	"Unimproved" Conference Large	1 600	600.00 SI	F 1.35	810.00	Break Room Servi	Enclosed Large Of							
	Break Room Service Unit	1 340	340.00 S	F 1.35	459.00			Open Worksta	ations	Reception Se	Server Ro			
RECENT	Conference Small	3 150	450.00 S	F 1.35	607.50									
	Documents Room	1 240	240.00 S	F 1.35	324.00	Conference Small	Enclosed Small Of							
UNIVERSITY	File Area	2 144	288.00 SI	F 1.35	388.80	Conference small	Enclosed Small Ol							
	Informal Breakout Centers	0 80	0.00 SI	F 1.35	0.00			Printer/Copier	r/Fax Ce					
EXIT	Information Reference Centers	2 150	300.00 SI	F 1.35	405.00				S	Supply Center	Wo			
	Printer/Copier/Fax Center	3 60	180.00 SI	F 1.35	243.00	Documents Room	File Area							
	Reception Seating	1 200	200.00 SI	F 1.35	270.00	bocaments Room		Reception De						
	Server Room	1 176	176.00 SI	F 1.35	237.60				S	Supply Room				
	Supply Room	4 40	160.00 SI	F 1.35	216.00 ¥									

# O Design Submittal and Review Workflow

### Transparency in Approvals



Design documents are submitted, reviewed, and approved in PMIS.



Workflows ensure traceability and transparency in approvals.



Records include comments, revisions, and final status.

### • Drawings Checklist Review Dashboard



# OPermits, NOCs, and Government Approvals

Avoiding Delays



Identify all required permits and No Objection Certificates (NOCs).



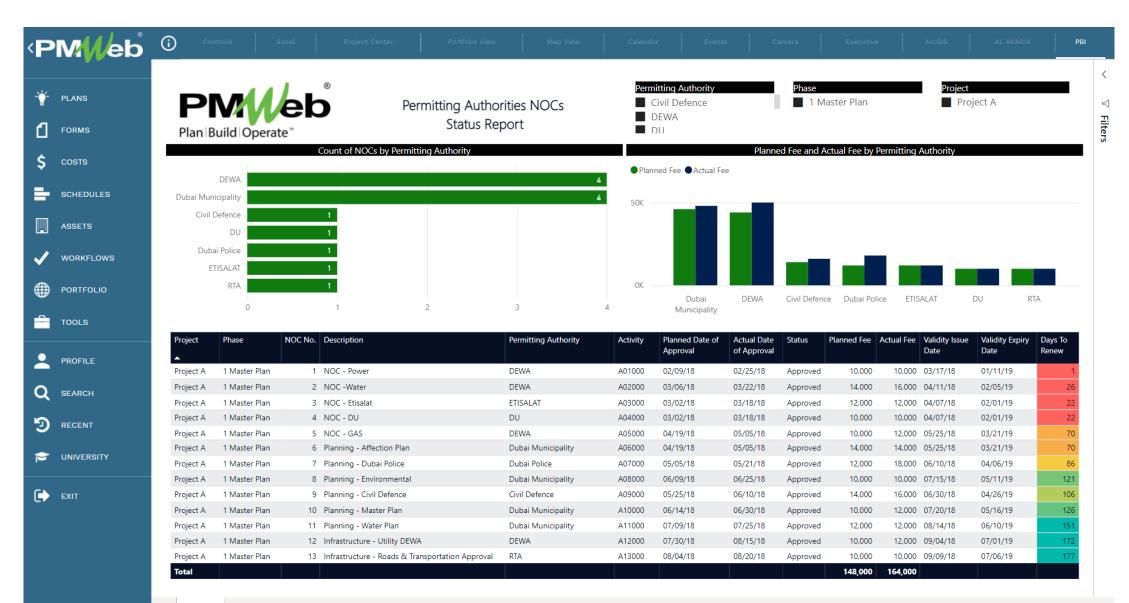
Track submissions, responses, and approval timelines.



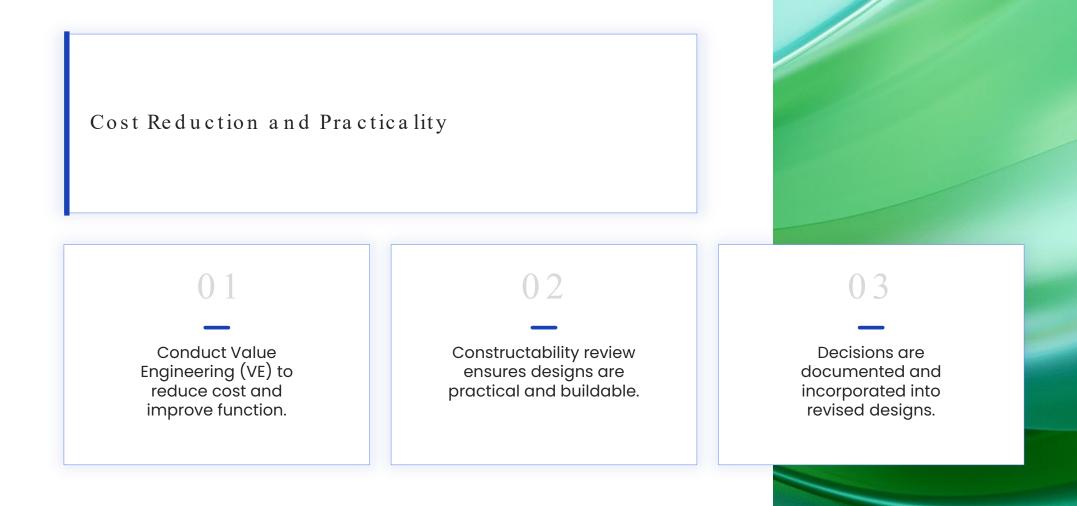
Align with authority requirements to avoid delays.



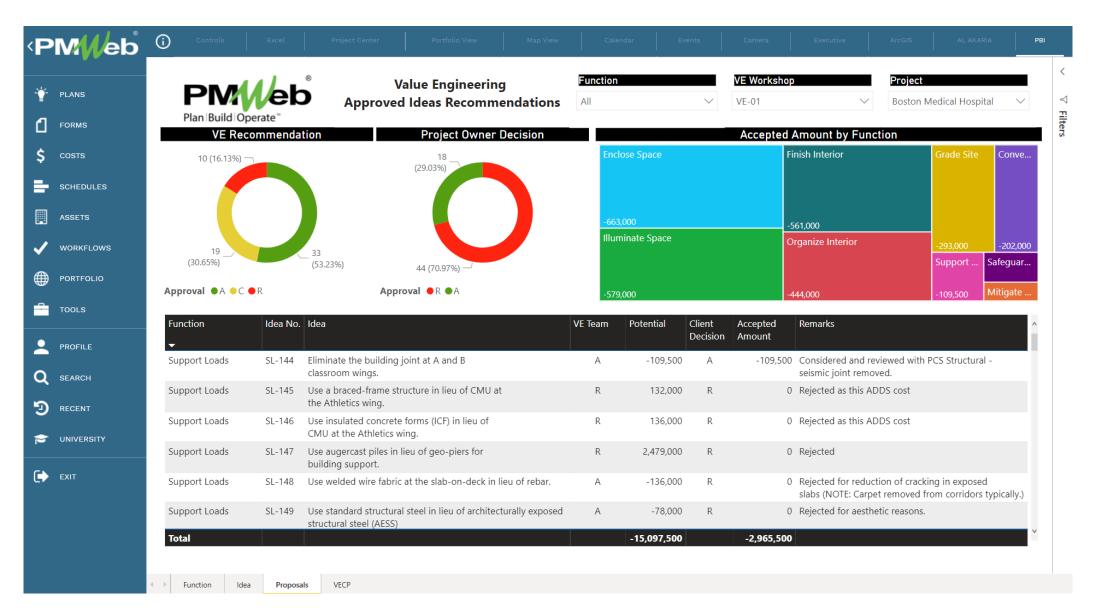
## • Permitting Authorities NOCs Status Report



### • Value Engineering and Constructability Review

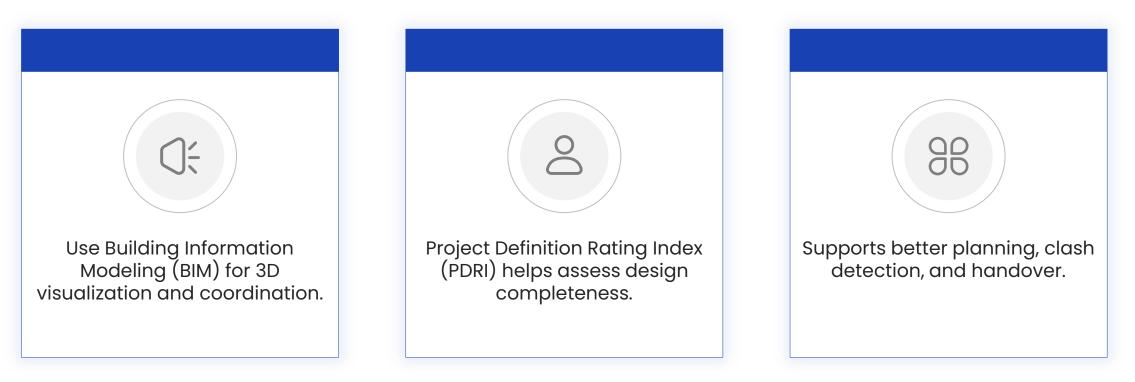


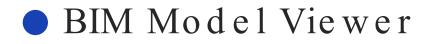
## • Value Engineering Approved Ideas Recommendations





### Enhanced Planning

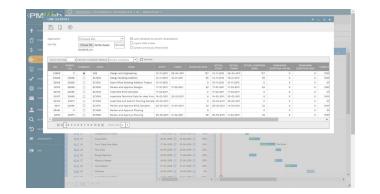


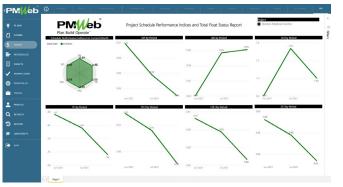


DALL	( <u>Portfolio</u> ) > Tools > BIM > MODEL	MANAGER > 000033 - BIM Mod	lel Demo Final				<b>^</b>
<pm eb<="" th=""><td>DO00033 - BIM Model Demo Final</td><td></td><td>ē • ©</td><td></td><td></td><td></td><td></td></pm>	DO00033 - BIM Model Demo Final		ē • ©				
	MAIN ADDITIONAL IN	NFORMATION	SCORING	RATINGS	NOTES	ATTACHMENTS	COLLABORATE
	Status/Revision Draft	▼ 0					
	🌍 View Model 🛛 🛅 Change 3D File 🔤 C	Change 2D Image 🚺 Take Snapshot	🛛 Open In Pop-up	✓ Save as Default View	C Load Default View		
\$ costs		×		Â			
	Filter by name				1900		
SCHEDULES	► Topography				RIGHT I BUCK		
ASSETS	Pads						
V WORKFLOWS	Parking     Planting	14			and the second second		
	► Floors	5 M		-	and the second se		
	Walls		States - States	the state of the s	>		
TOOLS	▲ Basic Wall		生民主义的性性性性		191 I		
	<ul> <li>Exterior - Insulation on Masonry</li> <li>Interior - 138mm Partition (1-hr)</li> </ul>			Hauntin			
	Generic - 200mm			111 A 101 A 10 A 10 A 10 A 10 A 10 A 10	EU.		
Q SEARCH	► Generic - 225mm Concrete			in the second se			
	► Parapet Wall	T.Hun.			and the second value of th		
	Curtain Wall     Curtain Panels						
	<ul> <li>Roofs</li> </ul>						
	Structural Columns						
E EXIT	► Windows						
	Doors						
	► Ceilings						
	\$ ₩ ↓ 1		A B 🌣				

### • Schedule Performance Monitoring

### Progress and Forecasting







Monitor design progress against approved schedule.

Use earned value metrics for performance tracking.

Forecast completion dates and adjust resources if needed.

### • Design Phase Status Report

							Period		Project Status	
PLANS	PM eb	Proje	ect Design Pl	hase S	Status Repor	t	01/30/20	$\sim$		
FORMS	Plan Build Operate <sup>™</sup>									
	Executive Summary	WBS	Planned Current St	atus VAR	Group	ROM	No. Risk R	ating Mitigation Action	5	Status
COSTS	Describe the current status of the project design	A.1 Award Milestones			A. Main Contractor	2,620,251,200	5 Design Phase Risk No. 5	4 Proposed Mitigat	ion Actions To Ris	k Open
	phases, summarizing issues, pending critical decisions	Early Works Contractor	01/18/21 01/30/21 A	-12	Works (including infrastructure)		4 Design Phase Risk No. 4	3 Proposed Mitigat	ion Actions To Ris	k Open
SCHEDULES	among others	Lead Design	10/20/20 10/25/20 A	-5	01. External	141,192,000	3 Design Phase Risk No. 3	3 Proposed Mitigat	ion Actions To Ris	k Open
		Consultant			Infrastructure	141,152,000	2 Design Phase Risk No. 2 📢	4 Proposed Mitigat	ion Actions To Ris	k Open
ASSETS		Main Works Contractor	02/17/21 03/01/21	-12	02. Infrastructure	617,219,200	1 Design Phase Risk No. 1 📢	5 Proposed Mitigat	ion Actions To Ris	k Open
		Props Vendor	11/19/20 11/29/20 A	-10	03. Buildings /	1,861,840,000				
WORKFLOWS		Simulators Vendor	12/19/20 12/31/20 A	-12	Facilities		No. Details of Decision / Inform	ation Responsibili	ty When St	tatus I
	No. Key Issue	A.2 Design Milestones	04/40/24 04/20/24	12	B. Props and Simulators	960,964,000	▼ Required			
PORTFOLIO	1 Details of Key Issue No. 1	Concept Design Detailed Design	04/18/21 04/30/21 06/17/21 06/29/21	-12	04. Props	511,399,200	5 Details of the required decision information required	sion and/or Project Owner	02/22/21 O	pen
	2 Details of Key Issue No. 2	Master Plan Validation	03/19/21 03/31/21	-12	05. Simulators	449,564,800	4 Details of the required decis		02/24/21 O	-
TOOLS	3 Details of Key Issue No. 3	Schematic Design	05/18/21 05/30/21	-12	C. FF&E (Furniture,	68,790,400	4 Details of the required decision information required	Consultant	02/24/21 0	pen
	4 Details of Key Issue No. 4	Tender Documents	07/17/21 07/29/21	-12	Fixtures and		3 Details of the required decis	sion and/or PMC	03/01/21 O	pen 📢
PROFILE	5 Details of Key Issue No. 5	A.3 Handover			Equipment)	68,790,400	information required			
	No. Forthcoming Activities	Milestones			D. OS&E (Operating	110,112,000	<ol> <li>Details of the required decisinformation required</li> </ol>	sion and/or Project Owner	02/18/21 O	pen 🖊
SEARCH	No. Forthcoming Activities	Complete Facilities	09/15/21 09/27/21	-12	Supplies and	110,112,000	1 Details of the required decis		02/10/21 O	inen 🤞
	5 Ongoing planning and statutory authority liaison	Complete	08/16/21 08/28/21	-12	Equipment)		information required	Owner	02/10/21 0	pen
RECENT	1 Procurement of the Lead Design Consultant -	Infrastructure Complete Props	11/14/21 11/26/21	-12	07. Design Contingency (10%)	110,112,000				
	Evaluate the bidders and Award	Complete Props	10/15/21 10/27/21	-12	E. Professional Fees.	285,728,800	BP BP Title	Status	Date Con	npany
UNIVERSITY	2 Prop & simulator procurement - Finalize	Opening Date (incl. Fit	12/14/21 12/26/21	-12	Surveys and Sundry	205,720,000	BP01 Design Consultant	Awarded	12/03/20 Des	ign Grou
	Prequalification for the Props Vendors/Tenderers	Out)	12/14/21 12/20/21	-12	items		BP02 Structural Design Services	Bids Received	12/20/20	
	4 Tender and evaluation process for Props Contractor	A.4 Mobilization			08. PM Fees	131,779,200	BP03 MEP Design Services	Issued for Tender	01/10/21	
EXIT	3 Tender preparation for the Props and Simulators	Milestones			09. Lead Design Consultant fees	146,608,800	BP04 Supervision Consultant	Prequalification Submitted	01/20/21	
	<ul> <li>Enser preparation for the mops and simulators</li> </ul>	Early Works Contractor	01/13/22 01/25/22	-12	10. Other fees	7,340,800	BP05 Enabling Works	Pregualification Issued	01/22/21	
		Main Works Contractor	02/12/22 02/24/22	-12	Total	4,045,846,400	bros Enability works	requaincation issued	V1/66/61	
		Props Installation	03/14/22 03/26/22	-12						

### O Design Consultant Performance Evaluation

### Future Prequalification

Evaluate consultants based on quality, timeliness, collaboration, and compliance.

Use scoring templates and dashboards for objectivity.

Performance impacts future prequalification and selection.

# • Consultant Performance Appraisal Design Stage

<	PM//eb	Controls	Excel Project Cent	er Portfolio View	Map View	Calendar .	Events	Camera .	Executive	Ar	GIS	AL AKARIA	PBI	
-2	PLANS	PN	<b>M</b> eb		Consultant Perform Design S			Consultar	nt	$\sim$	Proje All	ct	$\sim$	< √
	forms		d Operate <sup>™</sup>		-	-								Filters
1	\$ costs	Gategory <ul> <li>A. Approace</li> </ul>	ch to Work ●B. Technical Expertise ●C		hted Score by Gategory				Y					S
	SCHEDULES											7.2		
[	ASSETS		3.0	2.5		1.7						Consultant Score		
•	WORKFLOWS	0	2	4		6	8			10				
é		Gategory	Assessment	Description					Weight Sc	ore Weighte Score	Add	litional Comments		
	TOOLS	A. Approach to Work	<ul> <li>O1 Shows initiative/motivation/creativity</li> </ul>	Consultant offers alternatives. Is improve quality, reduce cost, an		edures, guidelines, and p	practical andcreative	approaches to	10%	6 0.	e con	litional Comments on the sultant's performance raisal during design phase		
		A. Approach to Work	02 Problem-solving skills	Consultant meets design challer particular specifications in terms			ns and materials in d	rawings and	10%	7 0.	7			
	Q SEARCH	A. Approach to Work	03 Planning, organization, and administrative skills	Consultant submits reports corr accurately.	rectly and on time. Design deliv	rerables are completed or	n schedule. Invoices	are submitted	10%	9 0.	5			
		A. Approach to Work	04 Dependability/commitment to excellence	Consultant possesses and uses	well-defined quality assurance	procedures. Keeps agree	ements.		10%	8 0.	E			
		B. Technical Expertise	05 Technical ability/application of knowledge	Consultant is innovative and has availability of multidisciplinary e			ystems, and material	s. Has local	10%	10 1.	c			
1		B. Technical Expertise	06 Quality of work/accuracy	Consultant produces the design proper engineering analysis. Co				details through	10%	8 0.	E			
0	EXIT	B. Technical Expertise	07 economy of design/ application of value engineering	Consultant presents cost-effecti factor when presenting design a		'alue management is part	t of the design proce	ess. Includes cost as a	10%	7 0.	7			
		C. Relationship with Client	08 Cooperation and positive attitude	Consultant is receptive and resp	oonsive to client's design requir	rements. Advises and sup	oports client during t	ender process.	10%	5 0.	5			
		C. Relationship with Client	09 Responsiveness/ communication skills	Consultant responds promptly a and other issues.	and fully to client. Keeps client	fully and promptly inform	med of progress, pro	blems, constraints,	10%	3 0.	3			
		C. Relationship with	10 Positive working relationships	Consultant relations with client	are constructive and positive. E	Demonstrates honesty, op	penness, and flexibili	ity.	10%	9 0.	5~			

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# 08

### Construction Tender Stage





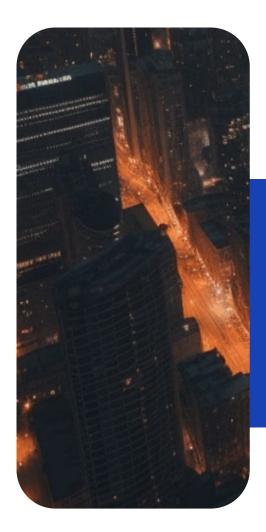
Ensure all design documents are issued for construction (IFC). Finalize project budget, delivery method, and risk allocation. Confirm regulatory and stakeholder approvals before tendering.

### Readiness and Approvals

## • Construction Stage Tender Management Status Report



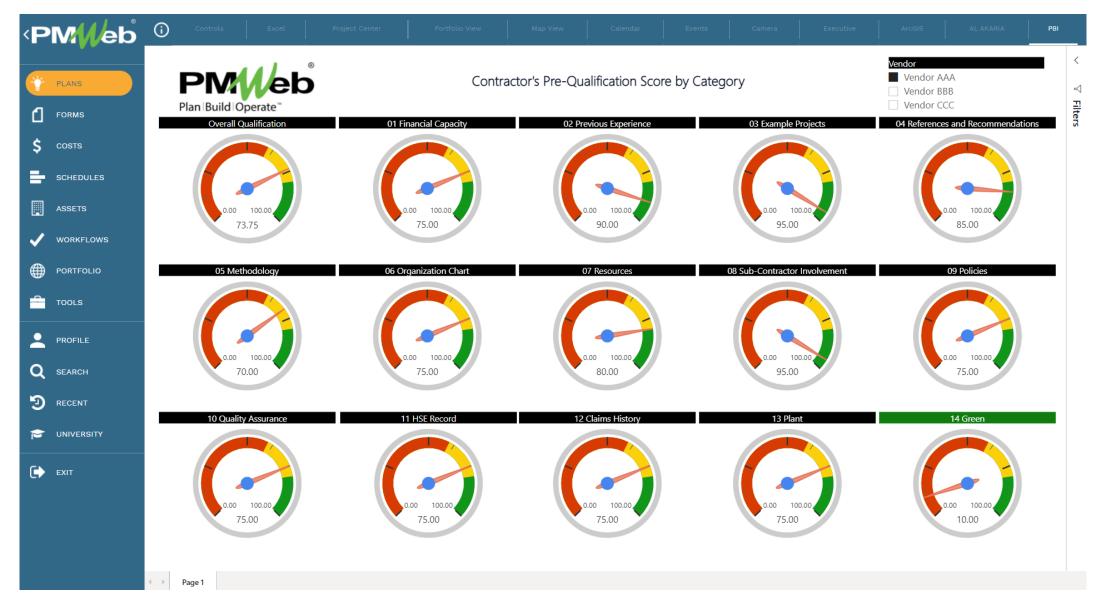
### Ocontractor Prequalification



Fair and Competitive Bidding

Assess contractors based on financial standing, technical ability, and past performance. Establish a list of prequalified bidders approved by a review committee. Prequalification ensures fair and competitive bidding.

## • Contractor's Pre-Qualification Score by Category



# • Preparing and Issuing Tender Documents



### Comprehensive Package

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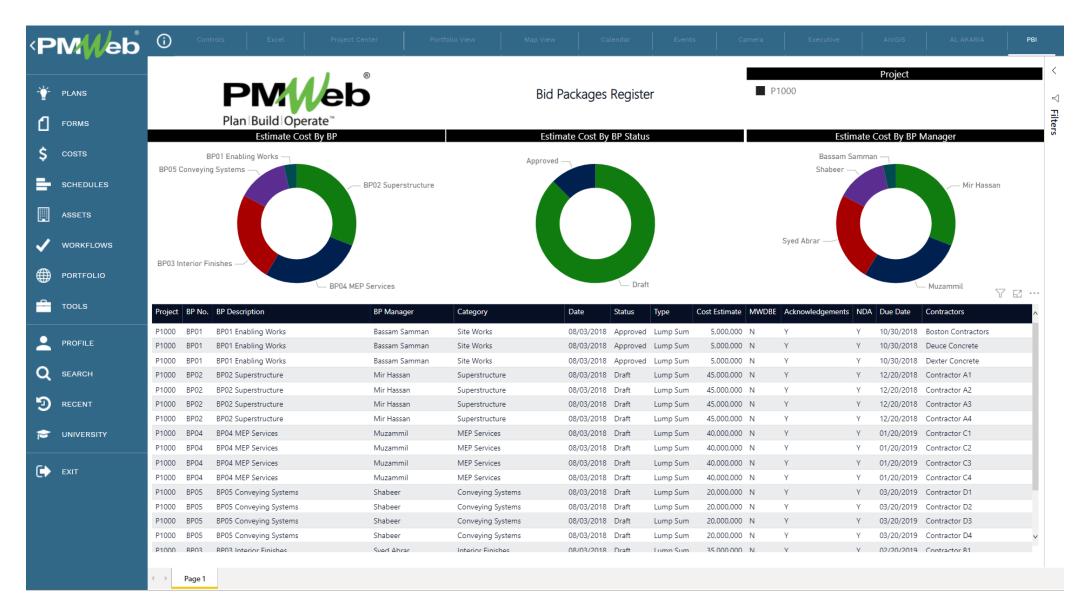
Prepare comprehensive tender documents (IFC drawings, specs, BOQ, conditions). Include clear evaluation criteria, timelines, and contract terms.

**BB** 

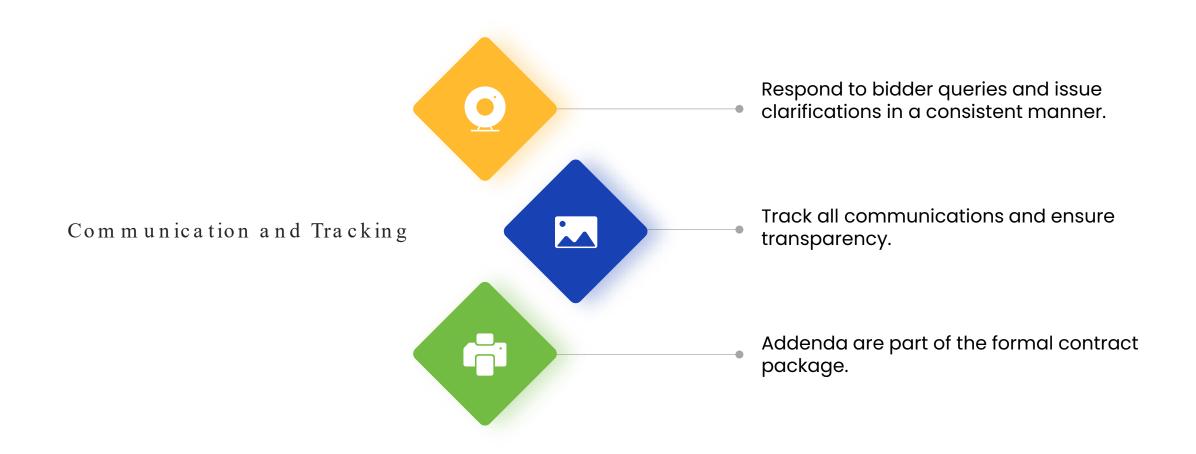
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Use digital platforms for issuing and tracking distribution.

### • Bid Packages Register



### O Managing Queries and Addenda

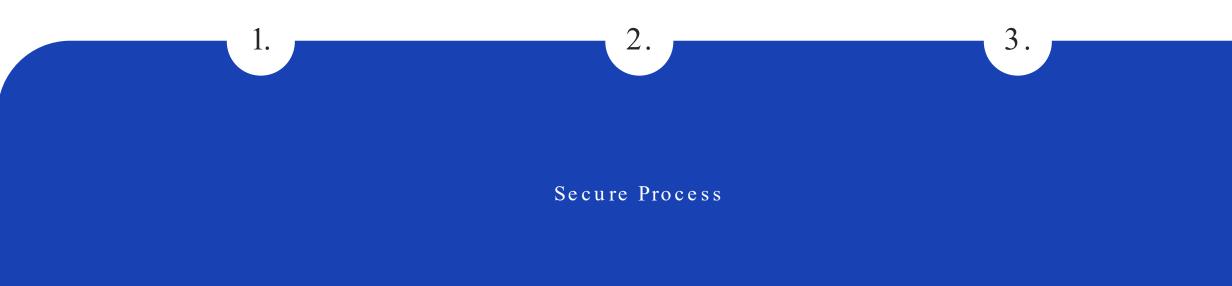


### • PMWeb Notification Em ail

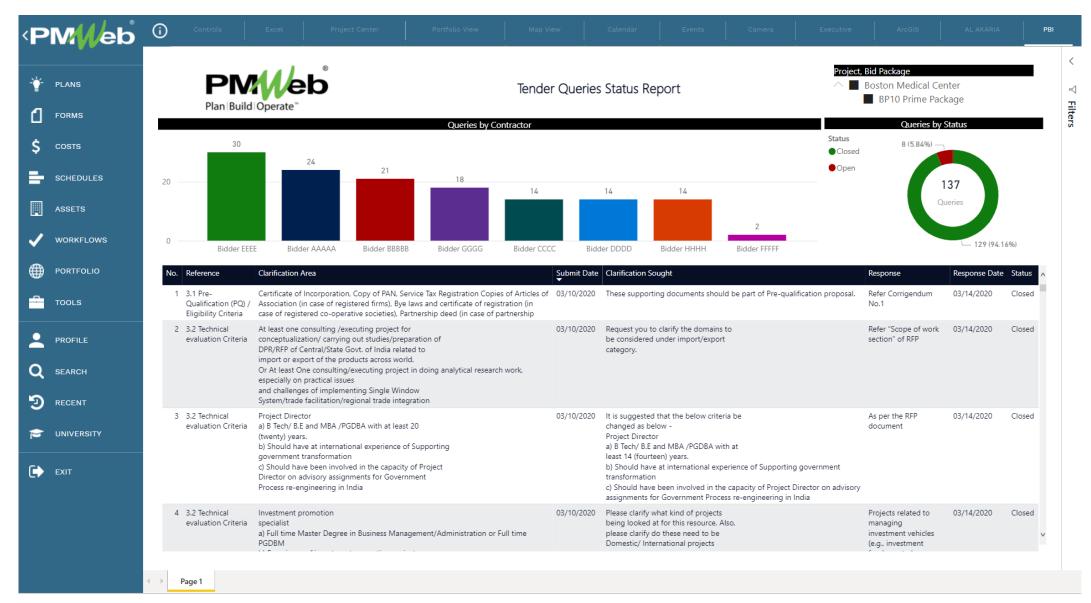
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~	WORKFLOWS		Notification type Reminder	
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-			Bid Query - #1	
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1			Description:	
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			Note: This email message was generated from PMWeb.	
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## • Receiving and Opening Bids

Establish secure submission process (digital or sealed envelope). Record bid opening with time, date, and presence of stakeholders. Perform initial compliance check before evaluation.



## • Tender Opening Register



### • Tender Evaluation Process

### Objective Evaluation

Use predefined scoring matrixtechnical vs. commercial weightings.

Evaluation committees must document scores, comments, and rankings.

Supports transparency and defensibility in award decisions.



### • Commercial Bid Analysis



# O Award Recommendation and Approvals

### Internal Documentation



Prepare evaluation summary and recommendation report.



Upon approval, issue Letter of Award (LOA) to successful bidder.





Route for internal approvals via digital workflow.

### • Recommendation to Award a Construction Contract

	PLANS FORMS				RECO	OMMENDATI	ON TO AWARD	A CONST	RUCTIO	ON CC	ONTRA	ст		ct, Contract No P1000 CON 100	
	COSTS		o ()		2	<i>(</i> ), ()	1.0 Awarded Co			- 1			000		
	COSIS	Contract Title	Successful Tenderer	Contract Amount	Scope	of Work		Comm Date	encement	Tender Type	Du	ration Initiat Accept	PPQ or ance Invitati	r Invited or ion? Purchase	,
	SCHEDULES	Construction of M Building	ain ABC Construction	100,000,0		a 40 Story Commerc nal landscaping and	cial Tower including I site facilities	06/01/	2020	Lump S Fixed P		730 06/01/	2022 PPQ	Invited	Syed Abrar
, I	ASSETS		2.0 Prequalif	ication Detail	s					3.0	) Tendere	ers Details			
	WORKFLOWS	PPQ Descriptio Phase	n		No. Of Companies	Date	Tenderer		Tender Purcha Date	sed	Withdraw or Failed to Submit	Reason Give	n Date Received	Time Received	Opening Price
<b>ب</b> (	PORTFOLIO	1 Advertiser	nent for Expressions o	of Interest	8	09/08/2019	<b>^</b>								
		2 Prequalific	ation Questionnaires	Issued	6	09/15/2019	ABC Construction		11/18/		No		03/15/2020		100,000,000
	TOOLS	3 Prequalific	ation Submissions Re	ceived	5	09/25/2019	DEF Construction		11/18/		No		03/15/2020		103,000,000
		4 Prequalific	ation Evaluation Com	pleted	4	10/02/2019	MNO Construction		11/18/		No		03/15/2020	0 2:00 PM	105,000,000
	PROFILE	5 Recomme	ndation of Tenderers	Issued	4	10/09/2019	PQR Construction		11/18/	2019	Yes	Short period to respond	1		0
	SEARCH	6 Prequalifie	ed Tenderers List Appr	oved	4	10/16/2019						to respond			
			4.0 Budget	Compliance					5	0 Tende	erers' Pro	oposal Evalua	tion		
	RECENT	Evaluated Tenders Within/	Actions taken to rec scope to the budget		Status	Prepared by	Tenderer	Initial Rating Technical		ating		Clarification Meeting	Evaluation Commercial		Final Tender Price
	UNIVERSITY	Outside Budget	<b>A</b>				ABC Construction		96	99	Yes	04/18/2020	Pass	Pass	100,000,000
		Yes	No Actions were nee	eded	Approve	e Tony Dsounza	DEF Construction	;	30	95	No	04/18/2020	Pass	Fail	100,000,000
	EXIT						MNO Construction		95	92	Yes	04/18/2020	Pass	Pass	103,000,000
							6.0 Award	Approval							
		Award Status A	ward Pending Resolut	ion					Techn	ical Con	currence l	by Concurren	ce to Award A	Approval to Awa	ard Date
			ecuring funding appro		Descenter	t - ( <b>5</b> '			Dec.	n Samm		Ali Salem		olly Elhaj	04/02/2020

# Olssued for Construction Documentation

Alignment and Baseline

Post- award, share IFC documents with the contractor team.

Ensure alignment between design, scope, and tendered works.

IFC documents form the baseline for construction and claims.

# • IFC Drawings and Documents List

		() (Portfolio) > Fo	rms > DRAWING SETS > D	S01 - Drawing	Set - Boston Contractors							
<p< th=""><th>M//eb</th><td>Boston M</td><td>Medical Center - DS01 - Drav 🔻</td><td>B +</td><td></td><td>2</td><td></td><td></td><td></td><td></td><td></td><td></td></p<>	M//eb	Boston M	Medical Center - DS01 - Drav 🔻	B +		2						
	PLANS	MAIN	ADDITIONAL INFORMATIO	N	CHECKLISTS	CLAUSES	NO	TES	ATTACHMENTS	; (1)	NOTIFICATI	ONS
E												
	FORMS	Project*	RVS0104 - Boston Medical Cente	er 🔻								
		Phase		-								
\$	COSTS	Set # *	DS01									
		Description	Drawing Set - Boston Contracto	rs								
=	SCHEDULES	Status / Revision	Draft 💌	0								
	ASSETS	Date	28-J	an-2010								
848	ABBETB	From .	)	-								
1	WORKFLOWS	WBS		-								
		CSI Code		-								
	PORTFOLIO	CSI Division		-								
		Category		-								
	TOOLS	Reference										
		Transmittals		1								
	PROFILE	0										
~		Drag a column header ar	nd drop it here to group by that co	lumn								
Q	SEARCH	🖋 Edit 🕂 Add	🔗 Link Drawings 🛛 🛅 Delete	e 📿 Refresh	🗲 Generate Transmittal 🛛 🗐	Layouts						
Э	RECENT	LIST # LINE ATTAC	CHMEN SHEET REVISION ITEM		DESCRIPTION	CSI DIVISION	CSI CODE	CATEGORY				% 🚦
		<u>A-104</u> 1	<u>(0)</u> 1 3	05-Jun-2006	Overall Roof Plan							
	UNIVERSITY	<u>A-141</u> 1	<u>(Q)</u> 1 1	05-Jun-2006	Overall First Floor Finish Plan	02 -Sitework	01000 - General F		10 - Fabrication an			
		<u>P-102</u> 1	<u>(0)</u> 1 3	05-Jun-2006	Overall Second Floor Plan - Plumbin							
•	EXIT	<u>P-103</u> 1 <u>A-101.1</u> 1	( <u>0</u> ) 1 3 ( <u>0</u> ) 1 3	05-Jun-2006 11-Nov-2009	Overall Third Floor Plan - Plumbing Part First Floor Plan - Area 1		02000 - Sitework					
		<u>A-101.1</u> 1	<u>(0)</u> 1 3	11-Nov-2009	Part First Floor Plan - Area 1		02000 - Sitework					
		A-141 1		05-Jun-2006	Overall First Floor Finish Plan	02 -Sitework	01000 - General F		10 - Fabrication an			
		<u>C-01</u> 2	<u>(Q)</u> 1 2	10-Dec-2012	Civil Legends						Revise & Resubmi	
		<u>A-101.1</u> 1	<u>(0)</u> 1 3	11-Nov-2009	Part First Floor Plan - Area 1	01 - General Conc	02000 - Sitework					
		<u>A-141</u> 1	<u>(0)</u> 1 1	05-Jun-2006	Overall First Floor Finish Plan	02 -Sitework	01000 - General F		10 - Fabrication an			
		<u>E-500</u> 1	<u>(0)</u> 1 3	05-Jun-2006	Electrical Panelboard Schedules							
		<u>E-202</u> 1	<u>(0)</u> 1 3	05-Jun-2006	Fire Alarm Riser Diagram				15 - Layout Bldg Fc			

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# 09 Construction Stage

#### Mobilization and Kick-Off

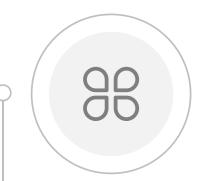
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Contractor mobilizes workforce, equipment, and site facilities.



Kick- off meetings align stakeholders on schedule, scope, and responsibilities.



Mobilization checklist ensures readiness before works begin.

#### Kick-Off Meeting Minutes

| <pm eb<="" th=""><th colspan="9">() (Portfolio) &gt; Forms &gt; MEETING MINUTES &gt; 1 - Kickoff Meeting for BP01 Enabling Works</th></pm> |            | () (Portfolio) > Forms > MEETING MINUTES > 1 - Kickoff Meeting for BP01 Enabling Works |                                  |                         |                                            |                                |                         |                                   |               |  |
|--------------------------------------------------------------------------------------------------------------------------------------------|------------|----------------------------------------------------------------------------------------|----------------------------------|-------------------------|--------------------------------------------|--------------------------------|-------------------------|-----------------------------------|---------------|--|
|                                                                                                                                            |            | Boston M                                                                               | Medical Center - 1 - Kickoff № 🔻 |                         |                                            |                                |                         |                                   |               |  |
| -**-                                                                                                                                       | PLANS      | MAIN                                                                                   | ADDITIONAL INFORMATIC            | DN                      | CHECKLISTS (12) CL                         | AUSES NOTES                    | (1)                     | ATTACHMENTS (6)                   | NOTIFICATIONS |  |
|                                                                                                                                            | FORMS      | Project*                                                                               | RVS0104 - Boston Medical Ce      | enter 💌                 | PARTICIPANTS                               |                                | USEF                    | R DEFINED FIELDS                  |               |  |
|                                                                                                                                            |            | Phase                                                                                  | 2 - Construction -               | •                       | 🖋 Edit 🕂 Add 🕂 Add M                       | ultiple 前 Delete               | test                    |                                   |               |  |
| \$                                                                                                                                         | COSTS      | WBS                                                                                    | B - Construction                 | -                       | CONTACT                                    | PRESENT                        |                         |                                   |               |  |
| _                                                                                                                                          |            | Туре                                                                                   |                                  | •                       | Rockwell Architects - Ann Rockwell         |                                |                         |                                   |               |  |
|                                                                                                                                            | SCHEDULES  | Record #*                                                                              | A0003                            |                         | Rockwell Architects - Cliff Rockwell       |                                |                         |                                   |               |  |
|                                                                                                                                            | ASSETS     | Meeting #                                                                              | 1                                |                         | Rockwell Architects - Janice Rockw         | ell 🗹                          |                         |                                   |               |  |
| 848                                                                                                                                        | A33213     | Description                                                                            | Kickoff Meeting for BP01 Ena     | bling Works             | Langdon Wilson - Fausto Martinez           |                                |                         |                                   |               |  |
| 1                                                                                                                                          | WORKFLOWS  | Location                                                                               | Langdon Wiilson HQ - Confe       | rence Room              | Langdon Wilson - Sandy Mckmillan           |                                |                         |                                   |               |  |
|                                                                                                                                            |            | Reference                                                                              |                                  |                         | AGE SIZ                                    | ZE 5 -                         |                         |                                   |               |  |
|                                                                                                                                            | PORTFOLIO  | Category                                                                               | Kick Off Meeting                 | -                       |                                            |                                |                         |                                   |               |  |
|                                                                                                                                            |            | Meeting Date                                                                           | 14-                              | 01-2019 🛗               |                                            |                                |                         |                                   |               |  |
|                                                                                                                                            | TOOLS      | Started                                                                                |                                  | 0:00 AM                 |                                            |                                |                         |                                   |               |  |
|                                                                                                                                            |            | Ended                                                                                  | 12                               | 2:00 PM                 |                                            |                                |                         |                                   |               |  |
|                                                                                                                                            | PROFILE    | Status / Revision                                                                      | Draft                            | • •                     |                                            |                                |                         |                                   |               |  |
|                                                                                                                                            |            | Transmittals                                                                           |                                  | 1                       |                                            |                                |                         |                                   |               |  |
| Q                                                                                                                                          | SEARCH     | NEXT MEETING                                                                           |                                  |                         |                                            |                                |                         |                                   |               |  |
| 5                                                                                                                                          |            | Next Location                                                                          | Langdon Wiilson HQ - Confe       | rence Room              |                                            |                                |                         |                                   |               |  |
| ୭                                                                                                                                          | RECENT     | Meet Date                                                                              |                                  | 01-2019                 |                                            |                                |                         |                                   |               |  |
| 8                                                                                                                                          | UNIVERSITY | Start                                                                                  |                                  | 9:00 AM                 |                                            |                                |                         |                                   |               |  |
|                                                                                                                                            |            | Start                                                                                  |                                  | 5:00 AM                 |                                            |                                |                         |                                   |               |  |
|                                                                                                                                            | EVIT       |                                                                                        |                                  |                         |                                            |                                |                         |                                   |               |  |
|                                                                                                                                            | Category A |                                                                                        |                                  |                         |                                            |                                |                         |                                   |               |  |
|                                                                                                                                            |            | 🖌 Edit 🕂 Add 💼 Delete 📿 Refresh 🛛 Export To Excel 📋 Paste From Excel 🌐 Layouts         |                                  |                         |                                            |                                |                         |                                   |               |  |
|                                                                                                                                            |            | ITEM #                                                                                 | SEQ # ATTACHMEN                  |                         | DESCRIPTION                                |                                | CATEGORY                | SUBJECT                           | DUE CO        |  |
|                                                                                                                                            |            | ✓ Category: 01 Introduction                                                            |                                  |                         |                                            |                                |                         |                                   |               |  |
|                                                                                                                                            |            | 1.1 01                                                                                 | 1.01 <u>(0)</u>                  | The Project Manager wi  | II he Fausto Martinez and his assistant wi | Will Walker                    | 01 Introduction         | 01 Introduction of Project Owner  |               |  |
|                                                                                                                                            |            | 1.2 01                                                                                 | 1.02 <u>(0)</u>                  | The Resident Engineer i | is Ann Rockwell Project Control Engineer   | Will Walker                    | 01 Introduction         | 02 Introduction of Consultant's r |               |  |
|                                                                                                                                            |            | 1.3 01                                                                                 | 1.03 <u>(0)</u>                  | The Contractor Project  | Manager will be Will Walker                | Ann Rockwell,Cliff Rockwell,Ja | anice F 01 Introduction | 03 Introduction of Contractor's r |               |  |

## Schedule Management and Extensions of Time (EOT)

#### Procedures



Baseline construction schedule is uploaded and maintained in PMIS. Track progress against planned dates and milestones.

90

EOT requests reviewed and documented with supporting evidence.

#### Project Schedule Dashboard



#### Resource and Equipment Tracking



Management

## Trade Work Performance Status and Productivity Report



#### Budget, Cost, and Revenue Management

#### Methods









Track approved budget vs. actual costs, commitments, and revenues.

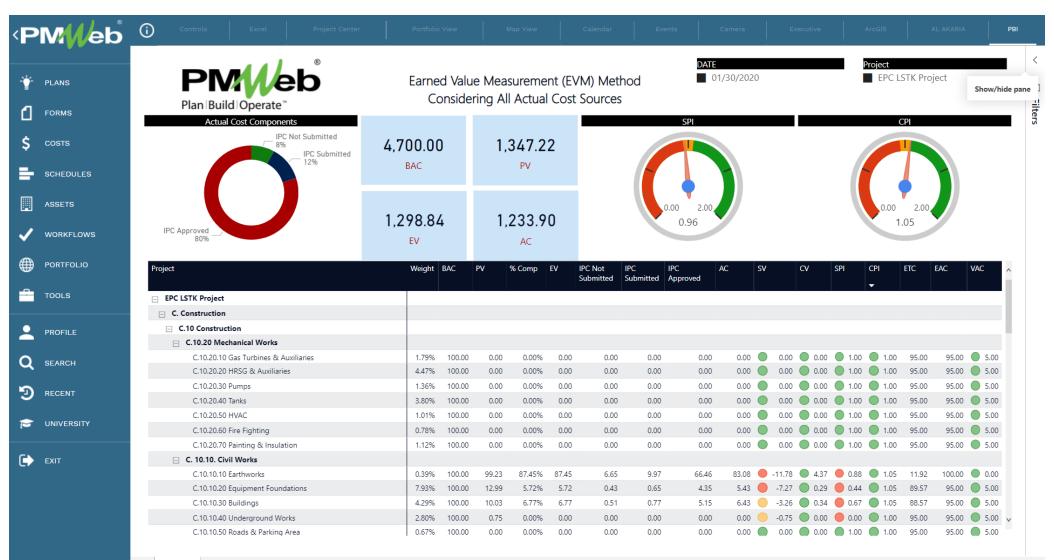


Use CBS to manage breakdown and reporting.



Supports earned value and financial forecasting.

### EVM Considering All Actual Cost Sources



Page 1

#### Change Management and Variation Orders

#### Process







Changes are logged, evaluated, and routed for approval.

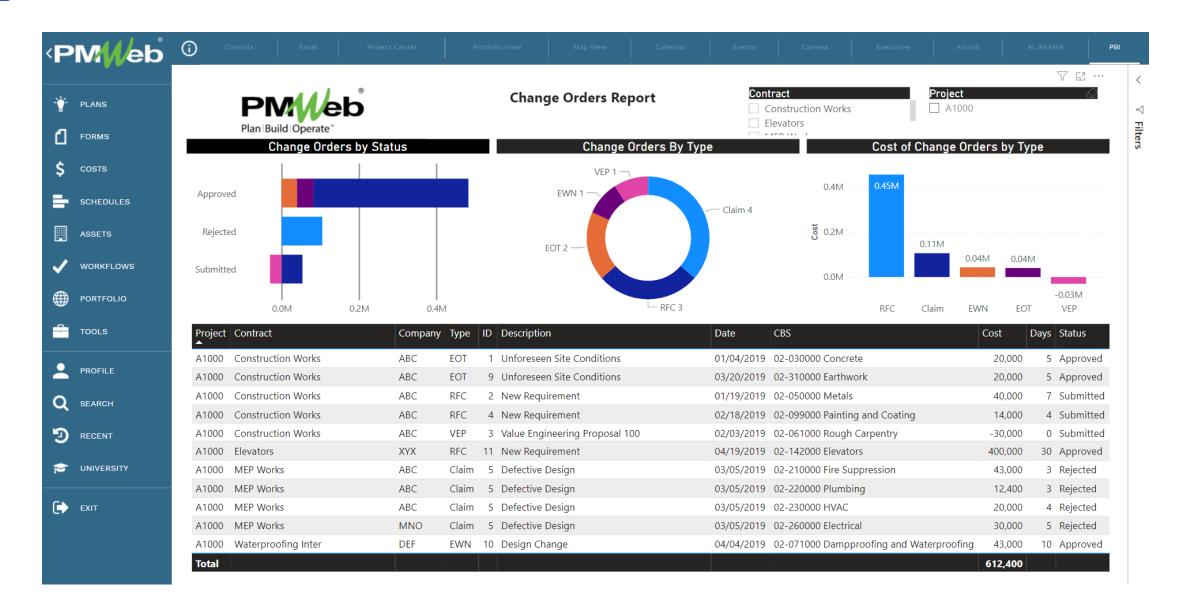


Variation Orders (VOs) must be formally approved before execution.



Change log supports contract compliance and audit.

#### Change Orders Report



#### Claims and Dispute Resolution

Categorization

Claims are submitted with required documentation and justification.

Tracked by category delay, disruption, cost, etc.

Resolution process may include negotiation, mediation, or adjudication.



02

01

#### Claim Analysis Worksheet

|                                                                                         |            | () (Portfolio) > Schedules > Forms > CLAIM ANALYSIS WORKSHEET > 1 - |                                                         |                             |                          |              |  |  |  |
|-----------------------------------------------------------------------------------------|------------|---------------------------------------------------------------------|---------------------------------------------------------|-----------------------------|--------------------------|--------------|--|--|--|
| <pm eb<="" th=""><th></th><th>▼ <b>₽</b> +   - □</th><th>ē.</th><th></th><th></th></pm> |            |                                                                     | ▼ <b>₽</b> +   - □                                      | ē.                          |                          |              |  |  |  |
| -*                                                                                      | PLANS      | <br>                                                                |                                                         | MAIN                        |                          |              |  |  |  |
| ۵                                                                                       | FORMS      | Plan Build Operate                                                  |                                                         |                             | Claim Analysis Worksheet |              |  |  |  |
| \$                                                                                      | COSTS      | Project                                                             | •                                                       | ID 1                        | Date                     | 23-07-2021   |  |  |  |
|                                                                                         | SCHEDULES  | Contractor                                                          | •                                                       |                             |                          |              |  |  |  |
|                                                                                         | ASSETS     | Claim Title                                                         | 0                                                       | Status Draft                | ▼ Date                   | 23-07-2021   |  |  |  |
| 0-0                                                                                     | ABBETB     |                                                                     | 5                                                       |                             | Date                     | 23-01-2021   |  |  |  |
| 1                                                                                       | WORKFLOWS  |                                                                     |                                                         | Claim Analysis Worksheet    |                          |              |  |  |  |
|                                                                                         |            | CLAIM ANALYSIS WORKSHEET                                            |                                                         |                             |                          |              |  |  |  |
|                                                                                         | PORTFOLIO  | C Refresh                                                           |                                                         |                             |                          |              |  |  |  |
| _                                                                                       |            | CATEGORY                                                            |                                                         |                             | SUBMI                    | ITED REMARKS |  |  |  |
|                                                                                         | TOOLS      | 01 Introduction                                                     | Introduction                                            |                             | NA                       |              |  |  |  |
|                                                                                         |            | 02 Factual Background                                               | Causation                                               |                             | NA                       |              |  |  |  |
|                                                                                         | PROFILE    | 02 Factual Background                                               | Sequence of events                                      |                             | NA                       |              |  |  |  |
| - F                                                                                     |            | 02 Factual Background                                               | Summary of correspondence                               |                             | NA                       |              |  |  |  |
| Q                                                                                       | SEARCH     | 02 Factual Background                                               | Role played by participants                             |                             | NA                       |              |  |  |  |
| ч                                                                                       |            | 02 Factual Background                                               | Physical quantities of work                             |                             | NA                       |              |  |  |  |
| Э                                                                                       | RECENT     | 02 Factual Background                                               | Location of works                                       |                             | NA                       |              |  |  |  |
| 0                                                                                       |            | 02 Factual Background                                               | Type of work                                            |                             | NA                       |              |  |  |  |
| Þ                                                                                       | UNIVERSITY | 02 Factual Background                                               | Productivity issues                                     |                             | NA                       |              |  |  |  |
|                                                                                         |            | 02 Factual Background                                               | Sequencing of work issues                               |                             | NA                       |              |  |  |  |
|                                                                                         |            | 02 Factual Background                                               | Payments received                                       |                             | NA                       |              |  |  |  |
| €                                                                                       |            | 02 Factual Background                                               | Opinions expressed by experts                           |                             | NA                       |              |  |  |  |
|                                                                                         |            | 02 Factual background                                               | Written records                                         |                             | NA                       |              |  |  |  |
|                                                                                         |            | 02 Factual Background                                               | Events                                                  | NA                          |                          |              |  |  |  |
|                                                                                         |            | 02 Factual Background                                               | Amounts                                                 |                             | NA                       |              |  |  |  |
|                                                                                         |            | 02 Basis for Claim (Liability)                                      | Basis for Claim (Liability)                             |                             | NA                       |              |  |  |  |
|                                                                                         |            | 04 Quantification of Claim                                          | Physical quantities                                     | NA                          |                          |              |  |  |  |
|                                                                                         |            | 04 Quantification of Claim                                          | Spreadsheets, survey data, calculations, photographs, p | ams, look ahead programs NA |                          |              |  |  |  |
|                                                                                         |            | 04 Quantification of Claim                                          | Direct costs - onsite                                   | NA                          |                          |              |  |  |  |
|                                                                                         |            | 04 Quantification of Claim                                          | Direct costs - offsite                                  |                             | NA                       |              |  |  |  |

#### Earned Value and 5D BIM Integration

#### Utilization

 $\overset{\circ}{\frown}$ 

Earned Value Management (EVM) combines scope, cost, and time.

5D BIM integrates cost data with 3D model for visual analysis.

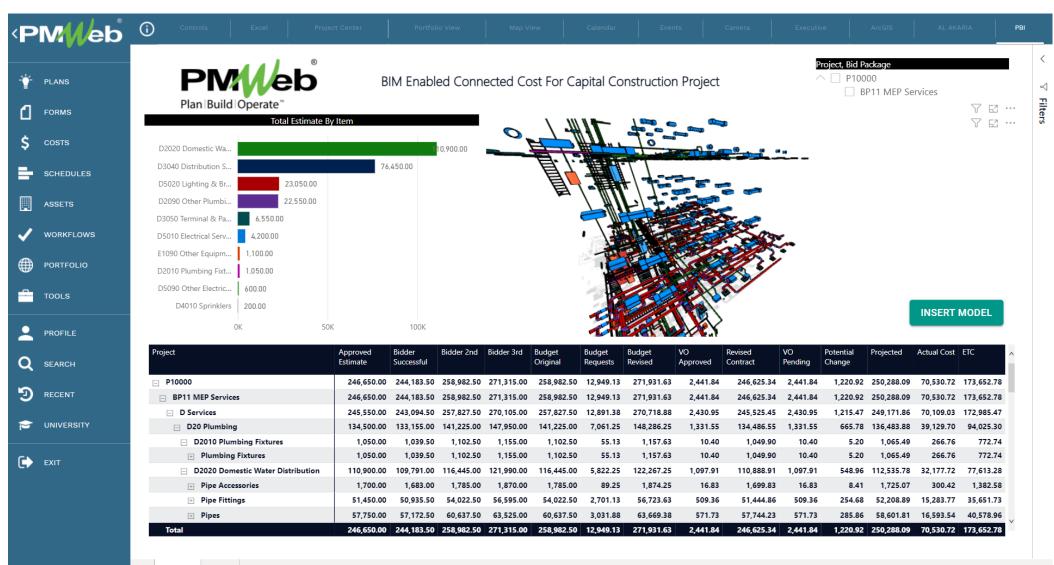
# 88

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Improves accuracy in forecasting and decision- making.



## BIM Enabled Connected Cost for Construction Project



Page 1 SDC

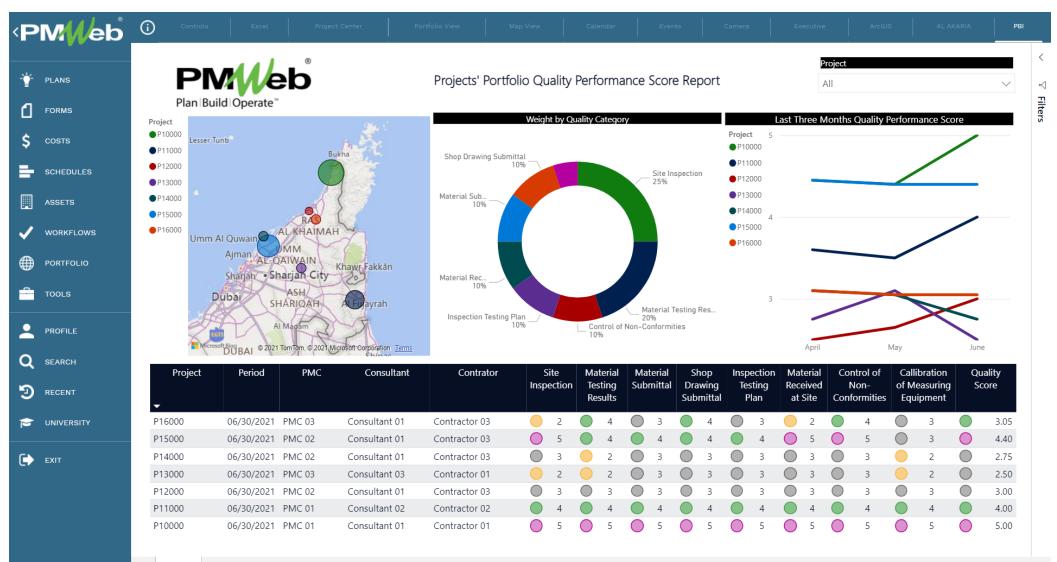
## Quality Assurance and Inspections

#### Assurance

Inspections and test plans are scheduled and recorded. Deficiencies are logged and tracked to closure.

Quality metrics support continuous improvement.

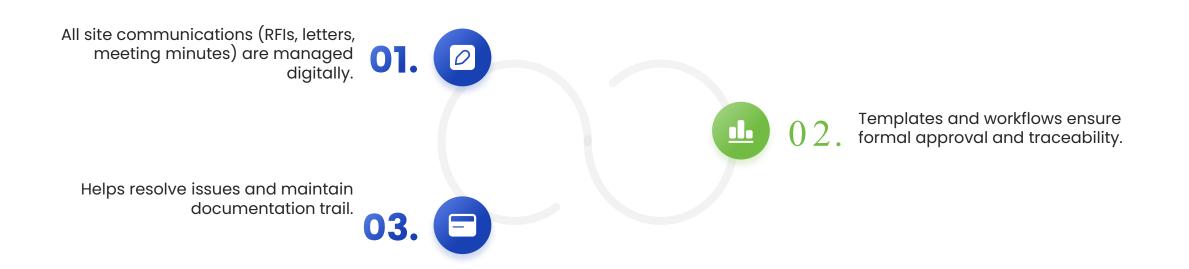
#### Projects' Portfolio Quality Performance Score Report



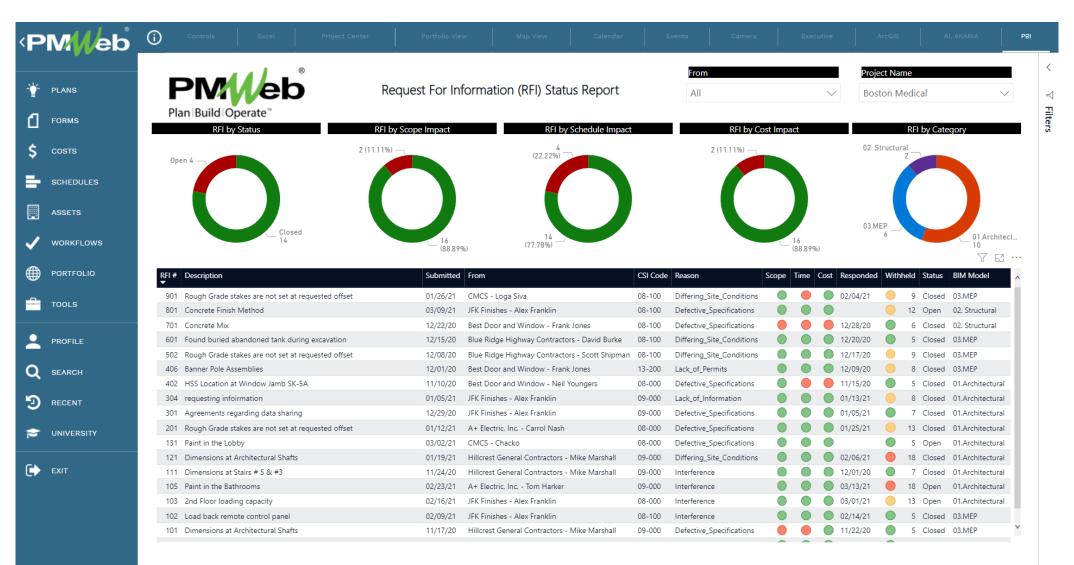
Page 1

#### Communication and Correspondence

Management

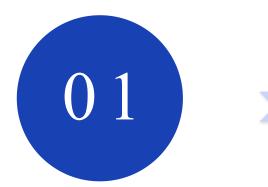


#### Request for Information (RFI) Status Report



## Health, Safety, and Environment (HSE)





Track safety incidents, inspections, and observations.

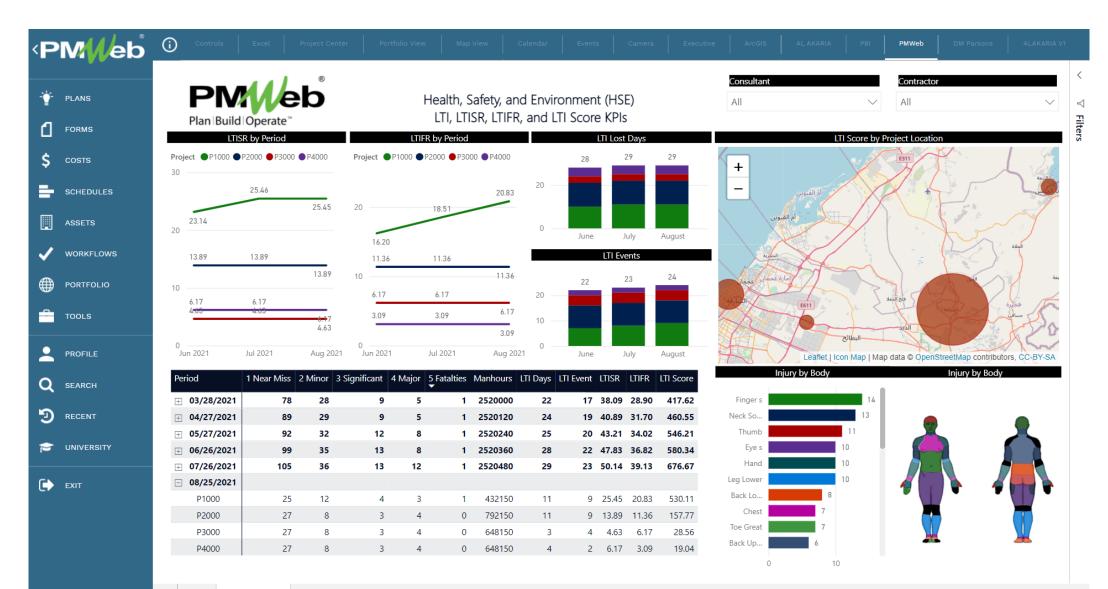


Maintain HSE compliance with reporting and alerts.



Encourage proactive safety culture on site.

#### HSSE KPI Dashboard



#### Progress Reporting and Dashboards

#### Reporting

 $\overset{\circ}{\sim}$ 

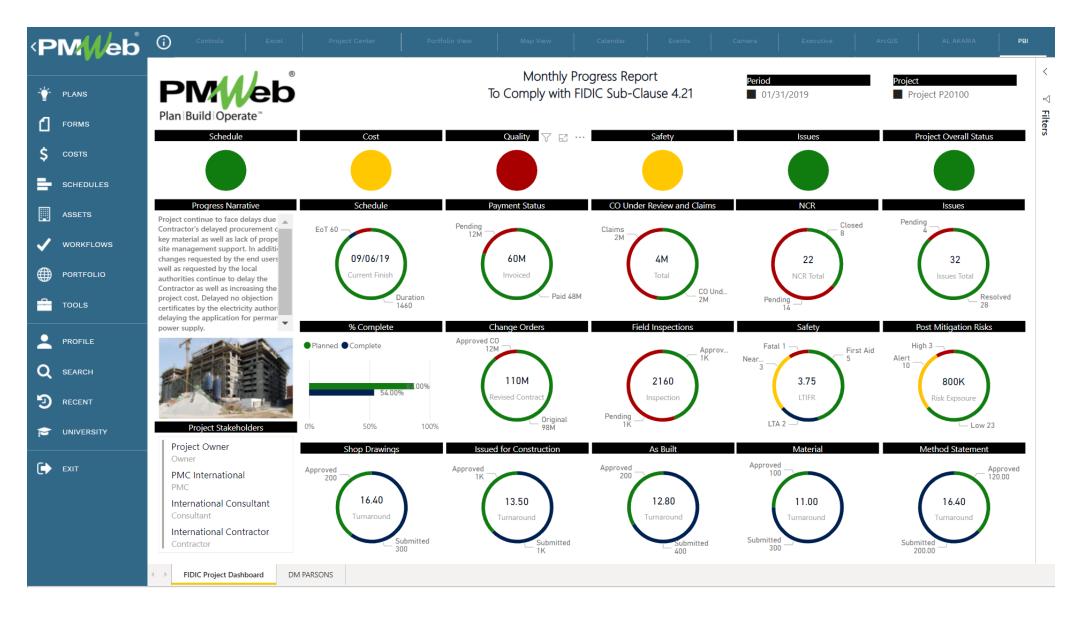
Use real- time dashboards for site performance and KPIs.



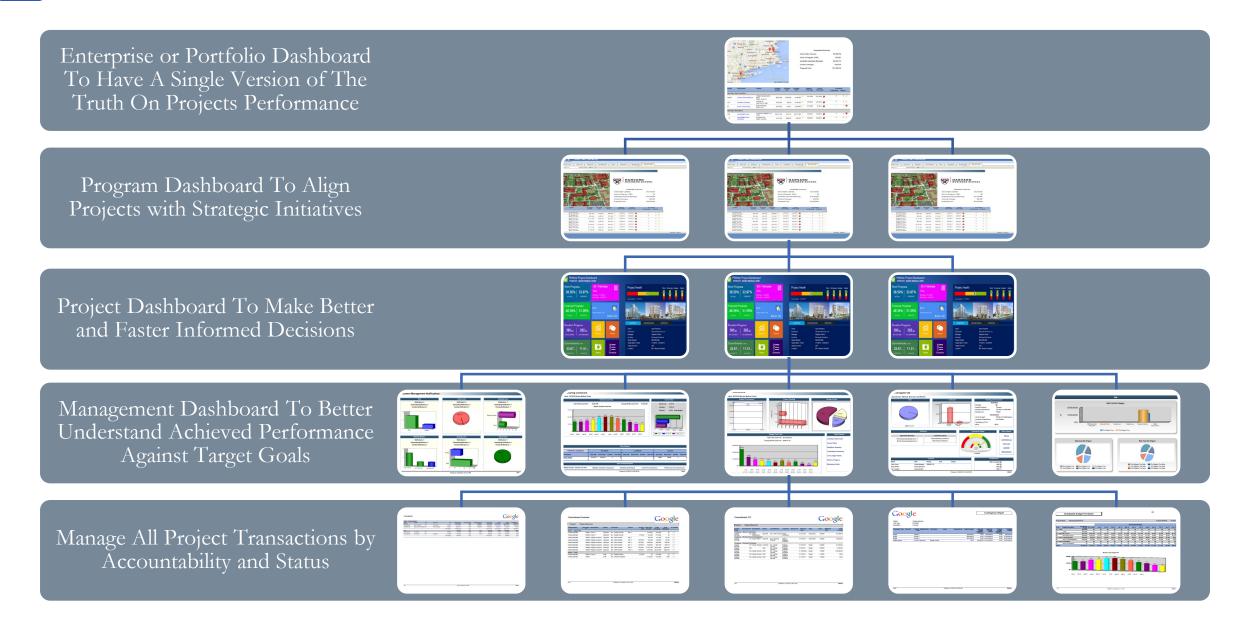
Automate weekly and monthly progress reports.

Reports include visuals, narratives, and variances.

## Monthly Progress Report



## Multi-Layered Performance Reports



## • • • • • • • • • • • • • • • • •

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# 10

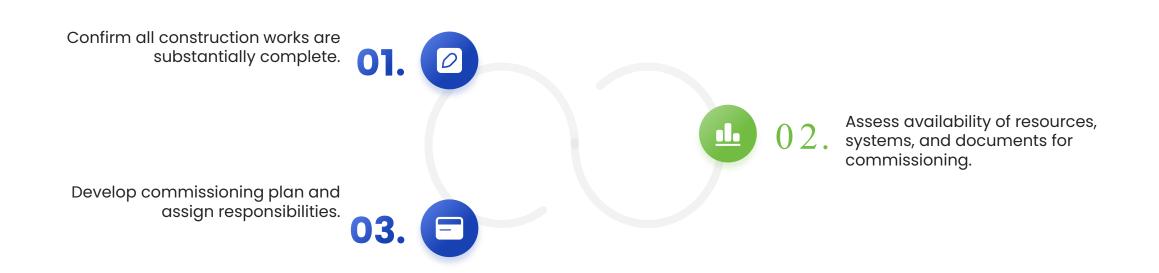
Testing and Commissioning Stage



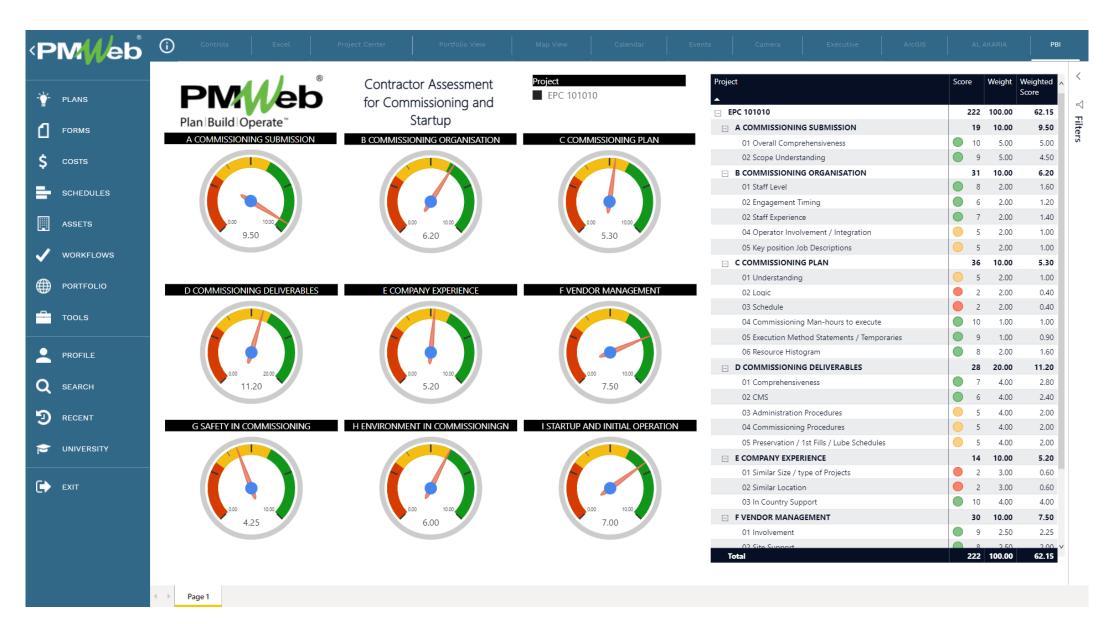
• •

#### Commissioning Readiness Assessment

Pre-requisites

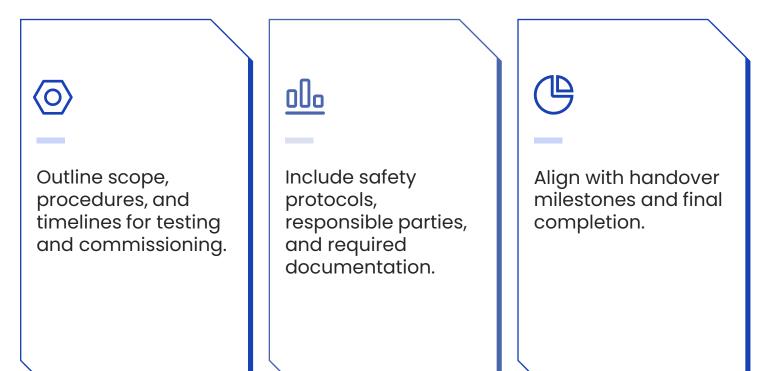


## Contractor Assessment for Commissioning and Startup



#### Commissioning Plan and Schedule

Outline



#### Details

Asset Registration and Tagging

 $\bigcirc$ 

Register all physical assets in PMIS with tag numbers and attributes.

Include warranty information, installation details, and manufacturer data.  $\bigcirc$ 

Supports operations, maintenance, and future capital planning.

#### PMWeb Equipment Asset Register

|                  | () (Portfolio) > Assets > Assets > EQUIPMENT > AHU01 - Air Handing Unit          |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |  |  |  |  |  |  |  |
|------------------|----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|--|--|--|--|--|--|
| < <b>PM//e</b> b | · · ·                                                                            | Air Handing Unit                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |  |  |  |  |  |  |  |
| - 🛉 PLANS        | A AMIA                                                                           | MAIN ADDITIONAL INFORMATION MOVES COMPONENTS LOG WORK ORDERS COST                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |  |  |  |  |  |  |  |
| forms            | ▲ Ist Floor<br>▲ I Space 1                                                       | Installed equipment ID* AHU01 PREDICTIVE MAINTENANCE                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |  |  |  |  |  |  |  |
| \$ соѕтѕ         | Air Handing Unit                                                                 | Name*     Air Handing Unit     Track Use By     Image: Or By Days       Current Factory*     AMIA/ABC/1st Floor/Space 1     Service Interval     0                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |  |  |  |  |  |  |  |
| SCHEDULES        | Best Door and Window/Neil Youngers     Best Door and Window/Projects/Frank Jones | Component Of<br>Installed equipment Type A/C - Installed                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |  |  |  |  |  |  |  |
| ASSETS           | Best Door and Window/Steve Stillson                                              | Ownership   Owned   Current Usage   0     Function Status   Ife Remaining   0                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |  |  |  |  |  |  |  |
| V WORKFLOWS      | DEF     Metro Train 100                                                          | Condition                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |  |  |  |  |  |  |  |
|                  | VAN XXXX                                                                         | Condition Date LINEAR DEFINITION DIRECTION                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |  |  |  |  |  |  |  |
| TOOLS            | ADMI<br>Capital Project XXXX<br>EPC Project X1000                                | Received Date 04-07-2018                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |  |  |  |  |  |  |  |
|                  | John Hopkins Medical Center<br>School 001                                        | Vendor Cambridge HVAC   Manufacturer   A + Electric, Inc.  End Length O                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |  |  |  |  |  |  |  |
| Q SEARCH         | <ul> <li>Commercial Development AAAAA</li> <li>Car Park</li> </ul>               | Manufacturer # AAA/BBB2018                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |  |  |  |  |  |  |  |
|                  | Commercial Tower                                                                 | Serial #         DEF/XYZ           Lot #         16556773                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |  |  |  |  |  |  |  |
|                  | Residential Tower     AHU 0012001                                                | Item         6256 - 15-15500 HVAC         Item         Ence           Price         \$0.00         \$0.00         \$0.00         \$0.00         \$0.00         \$0.00         \$0.00         \$0.00         \$0.00         \$0.00         \$0.00         \$0.00         \$0.00         \$0.00         \$0.00         \$0.00         \$0.00         \$0.00         \$0.00         \$0.00         \$0.00         \$0.00         \$0.00         \$0.00         \$0.00         \$0.00         \$0.00         \$0.00         \$0.00         \$0.00         \$0.00         \$0.00         \$0.00         \$0.00         \$0.00         \$0.00         \$0.00         \$0.00         \$0.00         \$0.00         \$0.00         \$0.00         \$0.00         \$0.00         \$0.00         \$0.00         \$0.00         \$0.00         \$0.00         \$0.00         \$0.00         \$0.00         \$0.00         \$0.00         \$0.00         \$0.00         \$0.00         \$0.00         \$0.00         \$0.00         \$0.00         \$0.00         \$0.00         \$0.00         \$0.00         \$0.00         \$0.00         \$0.00         \$0.00         \$0.00         \$0.00         \$0.00         \$0.00         \$0.00         \$0.00         \$0.00         \$0.00         \$0.00         \$0.00         \$0.00         \$0.00         \$0.00 |  |  |  |  |  |  |  |
| E EXIT           | <ul> <li>O1 Floor</li> <li>O2 Floor</li> </ul>                                   | Warranty Expires     05-01-2020     USER DEFINED FIELDS       Component Type     Check In                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |  |  |  |  |  |  |  |
|                  | ▲ 🕞 Flat 201<br>♦ FCU                                                            | Geolocation Check Out                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |  |  |  |  |  |  |  |
|                  | FF&E Kitchen                                                                     | Barcode                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |  |  |  |  |  |  |  |
|                  | Flat 201 Annual Lease     Flat 202                                               |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |  |  |  |  |  |  |  |

#### Systems Testing and Verification

#### Procedures

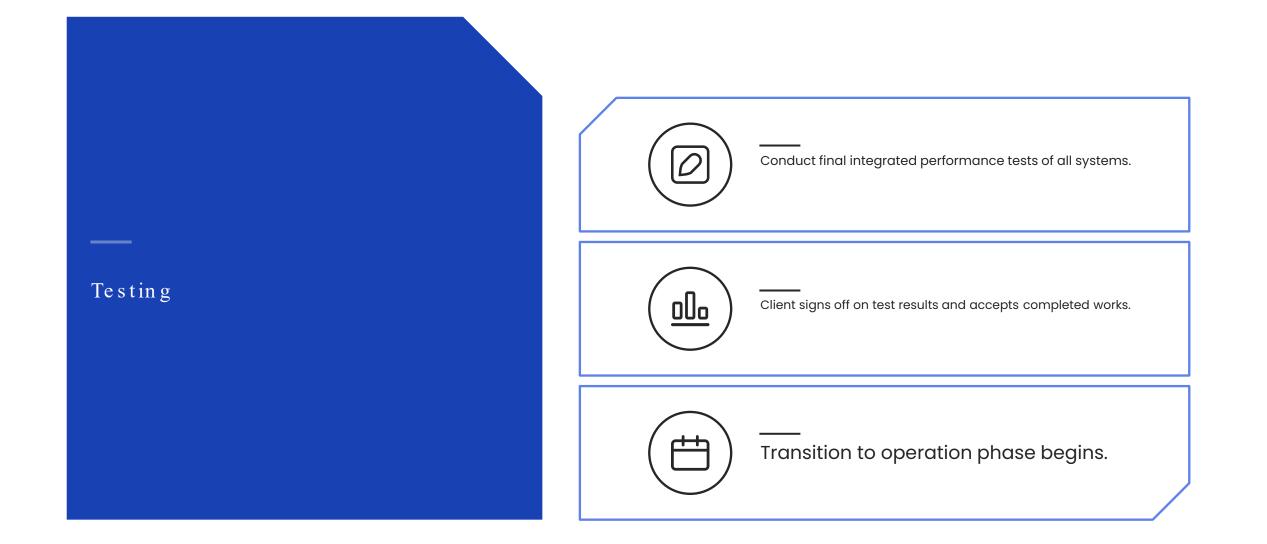


Test all MEP, life safety, and operational systems under load. Document results and compare against performance criteria. Record defects and retesting actions as needed.

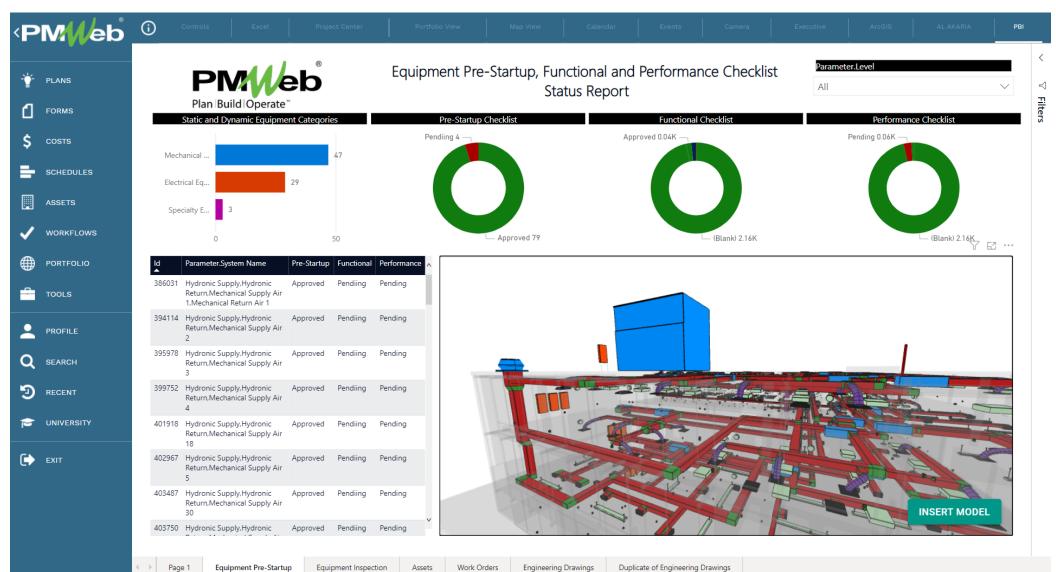
#### Checklist Pre-Startup for Centralized AHU

| _            |            |                                                                                                                                                                 |                     |  |  |  |  |  |  |
|--------------|------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------|--|--|--|--|--|--|
|              |            | () (Portfolio) > Tools > Forms > NPMO CHECKLIST - PRE-START UP FOR CENTRALIZED AHU > 1 -                                                                        |                     |  |  |  |  |  |  |
|              | PM/eb      |                                                                                                                                                                 |                     |  |  |  |  |  |  |
|              |            |                                                                                                                                                                 |                     |  |  |  |  |  |  |
| -)           | - PLANS    | MAIN                                                                                                                                                            |                     |  |  |  |  |  |  |
| H            | FLANS      |                                                                                                                                                                 |                     |  |  |  |  |  |  |
| ſ            | FORMS      | NPMO Checklist - Pre-Start Up for Centralized AHU                                                                                                               |                     |  |  |  |  |  |  |
|              |            |                                                                                                                                                                 |                     |  |  |  |  |  |  |
| Ś            | COSTS      | Project T ID 1                                                                                                                                                  |                     |  |  |  |  |  |  |
| Ť            |            | Revision 0 Date 10-Dec-2021 😁 Status 💿 Draft 💌                                                                                                                  |                     |  |  |  |  |  |  |
|              | SCHEDULES  |                                                                                                                                                                 |                     |  |  |  |  |  |  |
|              |            | Equipment ID Equipment Name                                                                                                                                     |                     |  |  |  |  |  |  |
|              | ASSETS     | 1. Cabinet and General Installation                                                                                                                             |                     |  |  |  |  |  |  |
|              |            | CABINET AND GENERAL INSTALLATION                                                                                                                                |                     |  |  |  |  |  |  |
| $\checkmark$ | WORKFLOWS  | C Refresh                                                                                                                                                       |                     |  |  |  |  |  |  |
| Æ            |            | NO. INSPECTION ITEM                                                                                                                                             | CHECKED SATISFACTOF |  |  |  |  |  |  |
| €            | PORTFOLIO  | 1 Permanent labels affixed, including for fans.                                                                                                                 |                     |  |  |  |  |  |  |
|              | TOOLS      | 2 Air flow capacity and ESP indicated in the fan nameplate are same as the equipment schedule and approved document.                                            |                     |  |  |  |  |  |  |
|              | TOOLS      | 3 Motor rating in Hp (Kw) and insulation class conforms to the approved document.                                                                               |                     |  |  |  |  |  |  |
|              |            | 4 Equipment tagging is in compliance to the as-build drawings.                                                                                                  |                     |  |  |  |  |  |  |
| -            | PROFILE    | 5 Casing condition good: no dents, leaks, door gaskets installed.                                                                                               |                     |  |  |  |  |  |  |
| ~            |            | 6 Access doors close tightly - no leaks.                                                                                                                        |                     |  |  |  |  |  |  |
| Q            | SEARCH     | 7 Flexible connection between duct and unit tight and in good condition.                                                                                        |                     |  |  |  |  |  |  |
| 5            | DECENT     | 8 Vibration isolation equipment installed and released from shipping locks.                                                                                     |                     |  |  |  |  |  |  |
| Ð            | RECENT     | <ul> <li>9 Maintenance access acceptable for unit and components.</li> <li>10 Internal sound attenuation installed (as applicable for arrayed fans).</li> </ul> |                     |  |  |  |  |  |  |
|              |            | 11 Thermal insulation properly installed and according to specification.                                                                                        |                     |  |  |  |  |  |  |
|              | UNIVERSITY | 12       Instrumentation installed according to specification (thermometers, pressure gauges, flow meters, etc.).                                               |                     |  |  |  |  |  |  |
| -            |            | 13 Clean up of equipment completed per contract documents.                                                                                                      |                     |  |  |  |  |  |  |
| ()           | EXIT       | 14 Filters installed and replacement type and efficiency permanently affixed to housing - construction filters removed.                                         |                     |  |  |  |  |  |  |
|              |            | 15 Arrangement of internal accessories (filters, coil, humidifier, fans, etc.) as per approved document.                                                        |                     |  |  |  |  |  |  |
|              |            | 16 Transport blocks removed for centrifugal fans.                                                                                                               |                     |  |  |  |  |  |  |
|              |            | A A A A A A A A A A A A A A A A A A A                                                                                                                           | 16 items in 1 pages |  |  |  |  |  |  |
|              |            |                                                                                                                                                                 |                     |  |  |  |  |  |  |
| _            | FORMS      | 2. Valves, Piping, Accessories and Coils                                                                                                                        |                     |  |  |  |  |  |  |
|              | EODMC      | VALVES, PIPING, ACCESSORIES AND COILS                                                                                                                           |                     |  |  |  |  |  |  |

#### Performance Testing and Acceptance



## Pre-Startup, Functional & Performance Checklist Status



#### • • • • • • • • • • • • • •



#### 

## 11

#### Turnover and Closeout Stage







## Substantial Completion and Final Handover



Procedure



Substantial Completion Certificate issued after meeting key project criteria.



Final Handover occurs once all works, documentation, and inspections are complete.

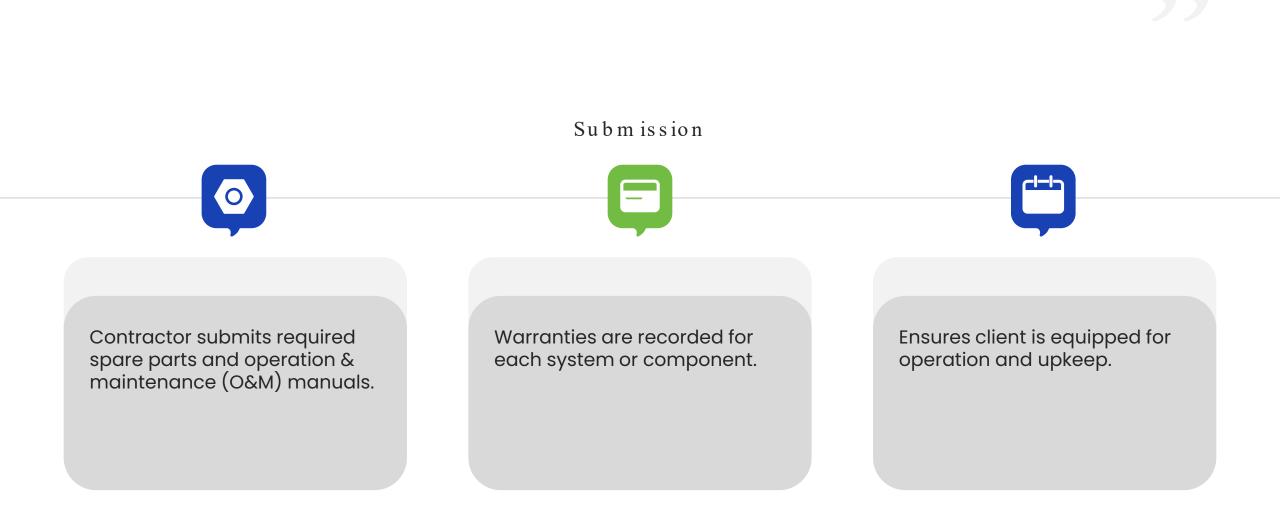


Client formally takes possession of the facility.

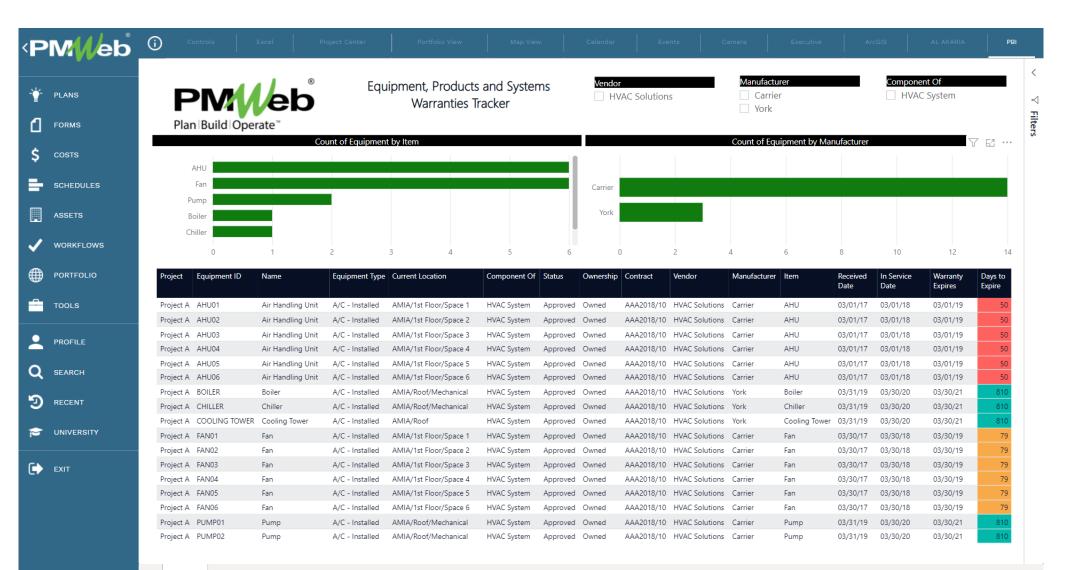
# Substantial Completion Letter Template

| <pm<mark>//eb</pm<mark> |            | () ( <u>Portfolio</u> ) > Assets > Forms > SUBSTANTIAL COMPLETION LETTER > 2 -                                                                                                                                                                            |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |  |
|-------------------------|------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|
|                         |            | <u>}</u> ∋ ₀₀₀₀₀₅₅. • ⊨ + · ŵ <b>e</b> ·                                                                                                                                                                                                                  |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |  |
| -*                      | PLANS      | MAIN NOTES                                                                                                                                                                                                                                                | ATTACHMENTS WORKFLOW                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |  |
| ۵                       | FORMS      | PM//eb                                                                                                                                                                                                                                                    | Substantial Completion Letter                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |  |
| \$                      | COSTS      | Project Boston Medical Center                                                                                                                                                                                                                             | ID 2 Date                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |  |
| =                       | SCHEDULES  | Revision     0       Company                                                                                                                                                                                                                              | Date         17-10-2019         M         State         Draft           Image: Control of the state         Image: Contro of the state |  |
|                         | ASSETS     | Substantial Completion Date 12-02-2019 😁 Cost Estimate of Work That Is Incomplete of Defe                                                                                                                                                                 | tive \$0.00 Days for Contractor to Complete Incomplete Works From Substantial Completion Dat                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |  |
| ~                       | WORKFLOWS  | Substantial Completion Checklist                                                                                                                                                                                                                          |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |  |
|                         | PORTFOLIO  | Edit CRefresh                                                                                                                                                                                                                                             |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |  |
| -                       | TOOLS      | NO.                                                                                                                                                                                                                                                       | ITEM TO BE CHECKED                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |  |
|                         |            | 1 All close-out requirements have been identified at a Construction Close-out Meeting                                                                                                                                                                     |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |  |
| •                       | PROFILE    | 2 The entire facility can be occupied and used for the purposes intended                                                                                                                                                                                  |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |  |
|                         | FROFILE    | 3 All Substantial Completion terms of the Contract have been met     4 All changes to construction documents throughout the project must be approved by the A/E and submitted t                                                                           | - DV                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |  |
| a                       | SEARCH     |                                                                                                                                                                                                                                                           | e conformed punch list, with issues, issue status, and contractual completion dates for all systems requiring commissioning                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |  |
| ~                       | o La Mon   | 6 The Test and Balance report has been completed and submitted to the Engineer of Record for approval.                                                                                                                                                    |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |  |
| Э                       | RECENT     | 7 The As-Built Set of documents has been provided by the Contractor to the Architect/Engineer (A/E) for produ                                                                                                                                             | ction of the final Record Set of documents.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |  |
| <b>`</b>                |            | 8 Draft Operations and Maintenance (O&M) Manuals have been provided to CLIENT PM                                                                                                                                                                          |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |  |
| 1                       | UNIVERSITY | 9 Draft warranties have been provided to the Owner for review and acceptance of terms.                                                                                                                                                                    |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |  |
|                         |            | 10 All LEED documents for the design and construction phases have been submitted to LEED Online and corres                                                                                                                                                | oonding assigned credit forms have been completed and marked 'Ready for Review.'                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |  |
| •                       |            | 11 All lock cores have been changed from the construction master to CLIENT cores.                                                                                                                                                                         |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |  |
|                         | EXIT       | 12 The final building cleaning has been completed by the Contractor.                                                                                                                                                                                      |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |  |
|                         |            | 13 Arc Flash calculations and coordination studies have been completed and labels have been installed. Contract                                                                                                                                           |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |  |
|                         |            |                                                                                                                                                                                                                                                           | ne Owner. A schedule, including all remaining commissioning activities, is submitted, and completion is tied into Contract Fin                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |  |
|                         |            | 15 A letter has been received from the Building Envelope Consultant accepting that the roof and building envelo     All utility meters have been connected, tested, and are operational and accepted by the Owner, Utilities & En                         | · · · · · · · · · · · · · · · · · · ·                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |  |
|                         |            | 16         All utility meters have been connected, tested, and are operational and accepted by the Owner, Utilities & En           17         An architectural/engineering/Owner, etc., punch list has been generated and can be completed within the tim |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |  |
|                         |            | 18 First floor elevation heights have been certified.                                                                                                                                                                                                     | s superated in the contract                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |  |
|                         |            |                                                                                                                                                                                                                                                           |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |  |

# Spare Parts, O&M Manuals, and Warranties



# Equipment, Products and Systems Warranties Tracker

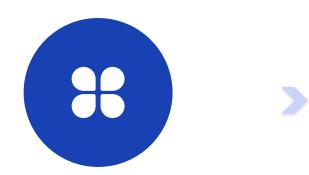


# Final Inspections and Closeout Punch List





Conduct final inspections with client and consultants.



All deficiencies or punch list items must be resolved before closeout.



Sign- off by relevant parties confirms completion.

# Project Closeout Checklist

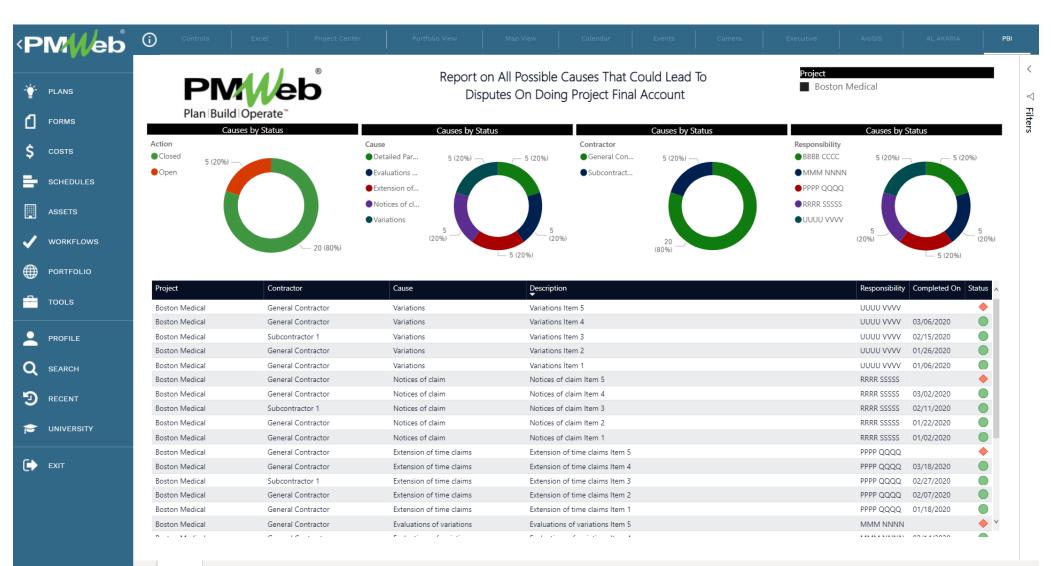
| <p< th=""><th></th><th colspan="3">(<u>Portfolio</u>) &gt; Schedules &gt; Forms &gt; PROJECT CLOSEOUT CHECKLIST &gt; 1 -</th></p<> |            | ( <u>Portfolio</u> ) > Schedules > Forms > PROJECT CLOSEOUT CHECKLIST > 1 -                                    |                                       |  |  |
|------------------------------------------------------------------------------------------------------------------------------------|------------|----------------------------------------------------------------------------------------------------------------|---------------------------------------|--|--|
|                                                                                                                                    | M//eb      | ⋮ )                                                                                                            | • · · ·                               |  |  |
| -`_                                                                                                                                | PLANS      |                                                                                                                | MAIN                                  |  |  |
| 1                                                                                                                                  | FORMS      | PM/eb                                                                                                          | Project Closeout Checklist            |  |  |
| \$                                                                                                                                 | COSTS      | Project ID 1                                                                                                   | Date 10-Dec-2021                      |  |  |
| E                                                                                                                                  | SCHEDULES  | Contractor   •     Revision   0   Date                                                                         | 10-Dec-2021 💾 Status 🕒 Draft 💌        |  |  |
|                                                                                                                                    | ASSETS     | PROJECT CLOSEOUT CHECKLIST<br>Contract Requirements - To be submitted with Application of Final Payment        |                                       |  |  |
| ✓                                                                                                                                  | WORKFLOWS  | CONTRACT REQUIREMENT                                                                                           |                                       |  |  |
|                                                                                                                                    | PORTFOLIO  | ITEM                                                                                                           | DATE ORDER TO COMPLETE DATE COMPLETED |  |  |
| -                                                                                                                                  | TOOLS      | Contractors Affidavit of Completion<br>Final application for payment (all contracts)                           |                                       |  |  |
| •                                                                                                                                  | PROFILE    | Certificate of Substantial Completion<br>Certificate of Final Acceptance<br>Consent of Surety to final payment |                                       |  |  |
| Q                                                                                                                                  | SEARCH     | M                                                                                                              | 5 items in 1 pages                    |  |  |
| Э                                                                                                                                  | RECENT     | 4 Project Owner Requirements                                                                                   | •                                     |  |  |
|                                                                                                                                    | UNIVERSITY | PROJECT OWNER                                                                                                  |                                       |  |  |
| •                                                                                                                                  | EXIT       | ITEM                                                                                                           | DATE ORDER TO COMPLETE DATE COMPLETED |  |  |
|                                                                                                                                    |            | Verification of All Change Orders & Final Amounts with Contract amounts                                        | 1 items in 1 pages                    |  |  |

# Final Payment and Contract Closeout

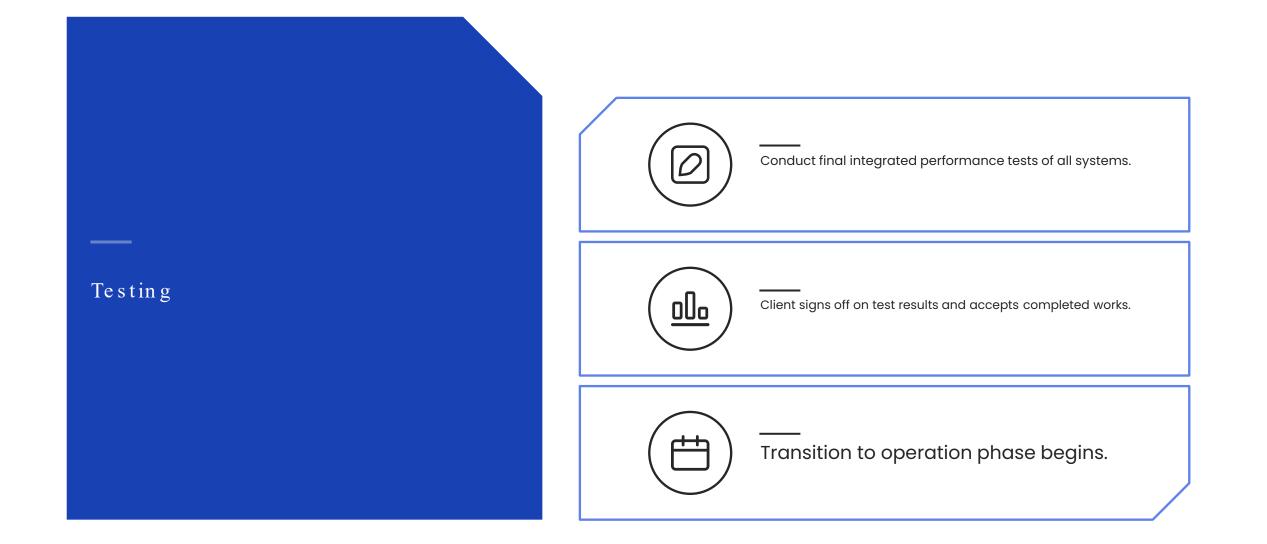
Ensure all contractual obligations are fulfilled before releasing final payment. Closeout includes financial reconciliation and record retention. Digital approval workflows document contract clos<u>ure.</u>

#### Conditions

# Possible Dispute Causes on Doing Project Final Account



# Performance Testing and Acceptance



### Template for Performance Certificate

|                                                                                      | () (Portfolio) > Assets > Forms > PERFORMANCE CERTIFICATE > 1 - |                                                                                                                                                                            |  |  |
|--------------------------------------------------------------------------------------|-----------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|--|
| <pm eb<="" th=""><td>j≡ Э 000541-<br/>▼ ⊨ + I • m</td><td>TEMPLATE 🤝 🗕 🖬 🗙</td></pm> | j≡ Э 000541-<br>▼ ⊨ + I • m                                     | TEMPLATE 🤝 🗕 🖬 🗙                                                                                                                                                           |  |  |
| - 🍟 - PLANS                                                                          | MAIN NOTES                                                      |                                                                                                                                                                            |  |  |
|                                                                                      | Date 26-02-2019                                                 | TEMPLATES                                                                                                                                                                  |  |  |
| \$ COSTS                                                                             | Record #* 1                                                     | TEMPLATE     DESCRIPTION     DEFAULT       Image: Performance Certificat     Image: Performance Certificat                                                                 |  |  |
| SCHEDULES                                                                            | Status     Submitted       Created By     Bassam Samman         | 1                                                                                                                                                                          |  |  |
| ASSETS                                                                               | Record Date 26-02-2019                                          | Ref: Project A/2019/1120                                                                                                                                                   |  |  |
| V WORKFLOWS                                                                          | CUSTOM FORM FIELDS                                              | Tuesday, March 05, 2019                                                                                                                                                    |  |  |
|                                                                                      | Letter Reference                                                | Universal Corporation<br>PO BOX 2333<br>Dubai, United Arab Emirates                                                                                                        |  |  |
| TOOLS                                                                                | Defects Notification Period Expiry Date                         | Sub: Performance Certificate                                                                                                                                               |  |  |
|                                                                                      |                                                                 | Project: Boston Medical Center The latest Defects Notification Period in respect of the Works expired on Tuesday, February 19, 2019.                                       |  |  |
| <b>Q</b> search                                                                      |                                                                 | The Contractor has   completed and tested all Works including all work identified as outstanding at the date of issue of the Taking-Over Certificate  remedied all defects |  |  |
|                                                                                      |                                                                 | supplied all Contractor's Documents.  The Engineer hereby certifies that on <b>Tuesday, February 19, 2019</b> the Contractor completed his obligations under the Contract. |  |  |
|                                                                                      |                                                                 | Yours Truly                                                                                                                                                                |  |  |
| EXIT                                                                                 |                                                                 | •                                                                                                                                                                          |  |  |
|                                                                                      |                                                                 |                                                                                                                                                                            |  |  |
|                                                                                      |                                                                 |                                                                                                                                                                            |  |  |
|                                                                                      |                                                                 |                                                                                                                                                                            |  |  |
|                                                                                      |                                                                 |                                                                                                                                                                            |  |  |

# Performance Evaluation of Contractors



#### Evaluation







Evaluate contractor based on quality, schedule, safety, and cooperation. Performance impacts prequalification for future projects. Results stored in central PMIS database for benchmarking.

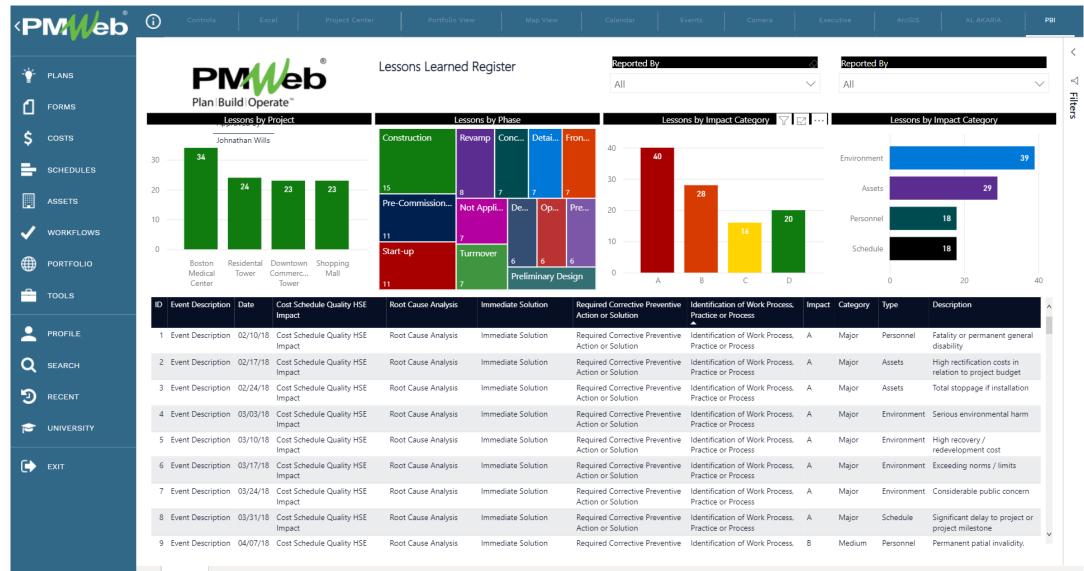
## Contractor Performance Evaluation Report

|            | Controls Excel Project Center Portfolio View Map View Calendar                                                                                                                     | Events Camera Executive ArcGIS AL AKARIA I                                   |
|------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------|
|            | Pro                                                                                                                                                                                | roject Contractor Period Appraisal By Weight Value Score Legend              |
| PLANS      | Contractor Performance Evaluation Report                                                                                                                                           | oston Medical Center Contractor AAA 03/31/21 AAA BBBB 40% 🗨 Action Required  |
| I LANG     |                                                                                                                                                                                    | oston Medical Center Contractor AAA 03/31/21 CCC DDDD 40% Attention Required |
| FORMS      | Plan Build Operate <sup>™</sup> Bo                                                                                                                                                 | oston Medical Center Contractor AAA 03/31/21 FFFF GGGG 20%                   |
|            | Contractor AAA BBBB CCC DDDD FFFF GGGG                                                                                                                                             | Valued Performance                                                           |
| COSTS      |                                                                                                                                                                                    | Outstanding                                                                  |
|            | Contractor AAA                                                                                                                                                                     |                                                                              |
| SCHEDULES  | A Schedule Adherence Ability to Mitigate Delays or Works and Recovery Plans to Maintain Milestone Dates                                                                            | Overall Performance A Schedule Adherence                                     |
| SCHEDOLLS  |                                                                                                                                                                                    |                                                                              |
| ASSETS     | Adherence to Baseline Construction Program 4 2 4                                                                                                                                   |                                                                              |
| ASSETS     | Legitimacy of Extension of Time (EOT) Claim Submissions 2 2 2 2 2<br>Quality and Completeness of Project Progress Curve and Manpower and Material Histograms 3 3 3 3               |                                                                              |
|            |                                                                                                                                                                                    |                                                                              |
| WORKFLOWS  | Regular Progress Report Submission in the Required Format       0       3       2         Timelessness of Project Schedule Development and Interim Updates       2       4       2 |                                                                              |
|            | B Budget Adherence                                                                                                                                                                 |                                                                              |
| PORTFOLIO  | Ability to Mitigate Cost Escalations and Come with Effective Alternatives to Maintain Budget                                                                                       |                                                                              |
|            | Accuracy Cost Reports and Cost To Complete                                                                                                                                         | B Budget Adherence C Quality Control                                         |
| TOOLS      | Maintain Current, Accurate and Complete Interim Payment Applications                                                                                                               |                                                                              |
|            | Submission of Legitimate and Valid Claim Submissions                                                                                                                               |                                                                              |
| PROFILE    | Timely Payment to Employees, Subcontractors and Suppliers                                                                                                                          |                                                                              |
|            | C Quality Control                                                                                                                                                                  |                                                                              |
| SEARCH     | Adherence to the Project Quality Management Plan and Systems                                                                                                                       |                                                                              |
|            | Compliance with Project Procedures and Quality Requirements                                                                                                                        |                                                                              |
| RECENT     | Planning for Quality Related Activities 3 1 2                                                                                                                                      |                                                                              |
|            | Quality of Permanent Works Executed by Subcontractors                                                                                                                              |                                                                              |
| UNIVERSITY | Quality of Permanent Works Executed on Project                                                                                                                                     | D HSE Practice E Management Capability                                       |
|            | Volume of Non-Compliant Works and Timely Response to NCRs and SWIs                                                                                                                 |                                                                              |
|            | □ D HSE Practice                                                                                                                                                                   |                                                                              |
| EXIT       | Adherence to HSE Management Plan                                                                                                                                                   |                                                                              |
|            | Availability of Safety Equipment (PPE, Fire Extinguishers, Signs, etc.)                                                                                                            |                                                                              |
|            | Effective and Timely HSE Plan (Toolbox Talk, Training, Emergency Drills, etc.)                                                                                                     |                                                                              |
|            | Effective and Timely Resolution of HSE NCR and SWI                                                                                                                                 |                                                                              |
|            | Timely Submission of HSE Plan and Reports                                                                                                                                          |                                                                              |

### Lessons Learned and Knowledge Transfer



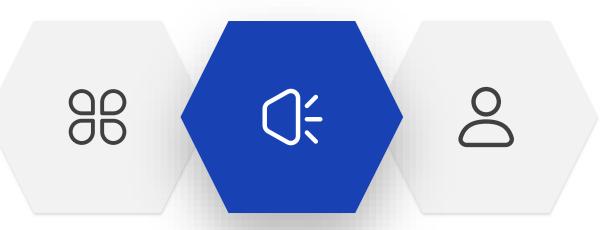
# Lessons Learned Register



# Handover Readiness Review

#### Verification

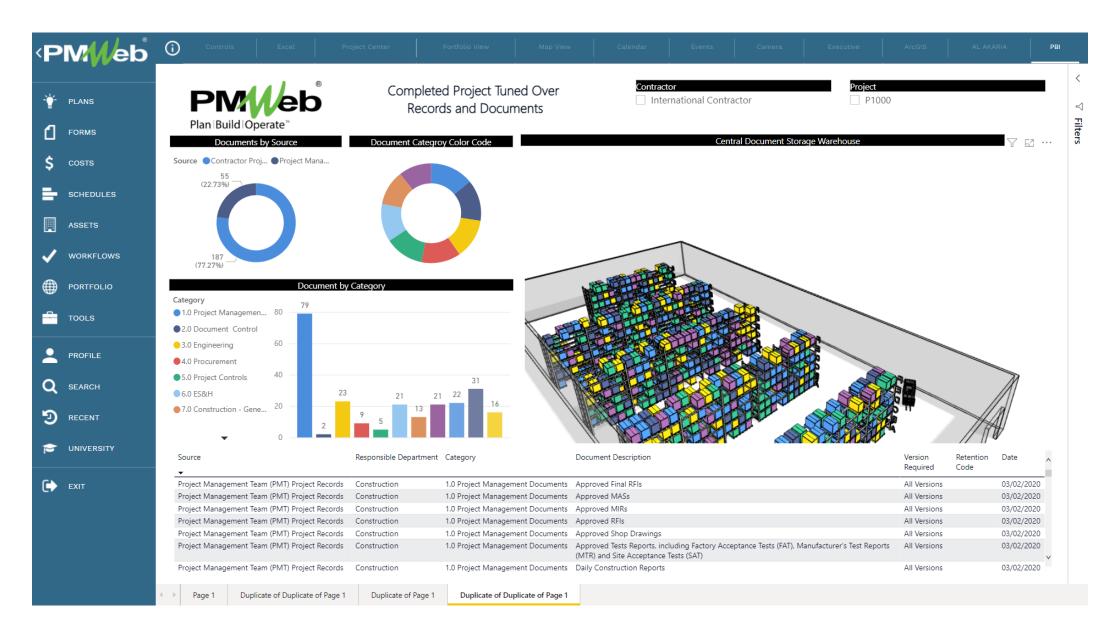
Verify documentationtest certificates, as- built drawings, O&M manuals.



Approve punch list completion prior to handover.

Conduct final walkthrough with client and project team.

# Project Turned Over Records and Documents





 $\bullet \bullet \bullet$ 

 $\bullet \bullet \bullet$ 

# Thanks

Edited by Bassam Samman Bassam.Samman@CMCS-MENA.com



•••





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