Document Control Center

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Second Session

Overview of Course

- کنترل اسناد و مدارک مهندسی
  - مروری بر پروژه EPC
  - شرح دیسیپلین های دپارتمان مهندسی
  - وظایف کارشناس کنترل مدارک مهندسی
  - فرم ها و مدارک مورد نیاز واحد کنترل مدارک مهندسی (ترنسمیتال، IDC، MDL، MDR و ...)
- اسناد و مدارک در ساختار مدیریت پروژه
  - اسناد و مدارک در طول فاز شروع و آغازین پروژه (Initiating)
  - اسناد و مدارک در طول فاز برنامه ریزی پروژه (Planning)
  - اسناد و مدارک در طول فاز اجرای پروژه (Executing)
  - اسناد و مدارک در طول فاز کنترل پروژه (Monitoring & Controlling)
  - اسناد و مدارک در طول فاز اختتام پروژه (Closing)

Engineering Documents Numbering Procedure

- A Document Numbering System is a document management system that defines numerical sequences with varying combinations of project specific identification codes for correspondence and other documents, and requires logging, issuing, and tracking. The Document Numbering System must be developed early in the project.

اهمیت شماره گذاری مدارک مهندسی

- شاید اینگونه به نظر برسد که عناوین یا نامهای مدارک و نقشه های مهندسی می تواند ما را نسبت به شماره گذاری مدارک مهندسی بی نیاز نماید ولیکن با وجود اینکه بایستی عناوین مدارک مهندسی منحصر به فرد باشند در بسیاری از موارد این مسئله رعایت نمی گردد. البته برای منحصر به فرد نمودن عناوین مدارک بایستی علاوه بر عنوان مدرک Document Title از زیر عنوان Sub-Title هم استفاده نماییم.
- از آنجا که در شماره گذاری مدارک مهندسی، قاعدهمند ی بیشتری نسبت به عناوین مدارک وجود دارد لذا احتمال وقوع خطا در شماره گذاری مدرک بسیار کمتر از عنوان مدرک خواهد بود. مثلاً در عناوین مدرک ممکن است گاهی یک فاصلهی اضافه بین کلمات باعث ایجاد اختلال گردد. لذا این خود دلیل دیگری بر لزوم اختصاص یک شماره منحصر به فرد به مدارک می باشد بنابراین نیازمند تدوین یک روش شماره گذاری برای این مدارک می باشیم.

اهمیت شماره گذاری مدارک مهندسی

- بهتر است سازمانهای پروژه محور شیوه شماره گذاری درون سازمانی برای مدارک مهندسی خود داشته باشند تا علاوه بر اینکه ممکن است در پروژه های مختلف بر اساس نظر کارفرمای پروژه و یا مستندات منضم به قرارداد و یا اسنادی نظیر روش هماهنگی پروژه Coordination Procedure مکلف به اجرای شیوه خاصی از شماره گذاری مدارک مهندسی شوند، خود نیز روش شماره گذاری خاص خود را به صورت متحدالشکل و با حفظ وحدت رویه در پروژه های مختلف خود جاری نمایند.
- پیاده سازی روش شماره گذاری درون سازمانی باعث می شود تا اولاً سازمان، در این مسئله صاحب نظر و البته پیشرو عمل نماید و در صورت امکان، روش شماره گذاری خود را به ارکان پروژه پیشنهاد داده و توافق کارفرما را در پیاده سازی شیوه شماره گذاری پیشنهادی خود اخذ نماید.

شماره گذاری مدارک مهندسی

- **شماره پروژه:** اولین و مهمترین عامل شماره گذاری مدارک مهندسی، عامل متمایز کننده مدارک یک پروژه از پروژههای دیگر سازمان یا همان شماره پروژه می باشد که با مشخص نمودن تعلق آن مدرک به یک پروژه خاص، آن مدرک را از سایر پروژههای سازمان منفک نموده، و جستجو کننده را به دنبال سایر بخشهای مهم و یا عوامل کلیدی جستجو در داخل آن پروژه خاص، سوق می دهد. این کد در داخل هر سازمان، خود می تواند به عوامل مختلفی نظیر کد شرکت، کد دسته بندی مشترک پروژه، کد دسته بندی اختصاصی پروژه و ... اشاره داشته باشد.

- **کد شرکت:** مثلاً سازمان مهندسی را در نظر بگیرید که خود زیر مجموعه یک هولدینگ می باشد و روش شماره گذاری مدارک مهندسی به عنوان یک رویه واحد از جانب هولدینگ به شرکتهای تابعه از جمله این شرکت مهندسی به صورت لازم الاجرا ابلاغ شده باشد. در این حالت لازم است اولین بخش کد پروژه، کد شرکت باشد.

شماره گذاری مدارک مهندسی

- **کد دسته بندی مشترک پروژه:** همانند مثال قبلی، یک نوع دسته بندی پروژه ها که بین شرکتهای تابعه هولدینگ مشترک است و همه پروژه های هولدینگ فارغ از اینکه در چه شرکتی از شرکتهای تابعه در حال اجرا می باشد در ذیل یکی از این دسته ها قابل تعریف می باشد، از این کد به عنوان کد دسته بندی مشترک پروژه بایستی به عنوان یک بخش از شماره پروژه، در شماره گذاری مدارک استفاده نمود.
- **کد دسته بندی اختصاصی پروژه:** همانند مثال قبلی، یک نوع دسته بندی پروژه ها، که مختص هر یک از شرکتهای تابعه هولدینگ متناسب با زمینه هایی از صنعت که در آن فعال می باشند وجود دارد که مشخص کننده نوع اختصاصی پروژه در داخل سازمان می باشد و به عنوان یک بخش از شماره پروژه در شماره گذاری مدرک مورد استفاده قرار می گیرد.
- **شمارنده پروژه:** در ادامه ی کد شرکت و کدهای نوع پروژه، شمارنده پروژه آورده می شود که شامل عدد دو یا چند رقمی می باشد و میتواند جهت متمایز نمودن پروژه های مشابه در نظر گرفته شود.

شماره گذاری مدارک مهندسی

شماره پروژه	کد شرکت	کد نوع پروژه (مشترک بین شرکتهای زیرمجموعه هولدینگ)	کد نوع پروژه (اختصاصی در سازمان)	شمارنده
IKMTAG01	IKMT	A	G	۰۱

نوع اختصاصی پروژه برای شرکت IKMT	
G	طراحی و مهندسی
S	سازه فلزی
J	ساخت خطوط بدنه
M	ماشینکاری

نوع مشترک پروژه	
B	ساختمانی
O	نفت و گاز
A	خودروسازی

کد شرکت	
TAM	تام
IKID	قالب های صنعتی
IKMT	ماشین ابزار

شماره گذاری مدارک مهندسی

- **کد تهیه کننده:** یکی از بخشهای شماره گذاری مدارک مهندسی می تواند به تهیه کننده مدرک Supplier اختصاص یابد. اهمیت این بخش در زمانی بیشتر خواهد شد که بخشهایی از فاز مهندسی پروژه توسط پیمانکار طراحی برون سپاری گردد و مدارک زیرفازهای مختلف توسط شرکتهای مختلف تولید گردد در این حالت علاوه بر پیمانکار اصلی فاز طراحی و مهندسی، به هر پیمانکار فرعی یک کد اختصاص می یابد و اینگونه مدارک تهیه شده توسط یک شرکت از مدارک تهیه شده توسط سایر شرکتها، در شماره مدرک از یکدیگر متمایز میگردند.
- **کد فاز یا زیرفاز مدرک:** مراحل مختلف طراحی و مهندسی هر یک شامل اقلام قابل تحویل خاص خود می باشد که در جلسه قبل مفصلاً در این خصوص صحبت شد. لذا به منظور تفکیک هر یک از مدارک به لحاظ فاز تهیه آن، کد فاز مدرک را در شماره گذاری مدرک تعبیه نموده و از این طریق تعلق مدرک به هر یک از مراحل مختلف طراحی و مهندسی را در شماره گذاری مدرک می توان ملاحظه نمود. کدهای پیشنهادی برای مراحل مختلف مهندسی به طور نمونه در جدول زیر ارائه شده است و مدارکی که به مدیریت پروژه مرتبط می باشند و یا هر مدرکی که به مراحل مذکور در جدول مربوط نمی باشد می توان در قسمت عمومی یا مدیریتی در نظر گرفت همانند گزارش پیشرفت و یا مدارکی مانند روش شماره گذاری مدارک مهندسی و ...

شماره گذاری مدارک مهندسی

کد فاز مدرک	
Feasibility Study	FS
Conceptual Design	CD
Basic Design	BD
Feed	FD
Detail Design	DD
Purchasing Engineering	PE
Field Engineering	FE
Management/General	MG

شماره گذاری مدارک مهندسی

- کد دیسیپلین مدرک

کد دیسیپلین مدرک	
General	GE
Project Management	PM
Process	PR
Safety	HS
Mechanical	ME
Utility & Piping	UP
Architectural	AR
Civil	CV
Structure	ST
Electrical	EL
Instrument & Control	IC
Communication	CM

شماره گذاری مدارک مهندسی

کد نوع مدرک	
Analysis	ANS
Block Diagram	BLD
Calculation	CAL
Cause And Effect	CEF
Chart	CHR
Cost Estimate & Budget	CEB
Data Sheet	DSH
Design Criteria/ Design Basic	DCR
Diagrams	DIG
Drawing	DWG
Forms / Check Lists	FRM
Procedures	PRD
Report	RPT
Inspection Plan	INP
Layout	LAY
Lists / Index /Table (Equipment, Line, Load, Etc.)	LST
Logic Diagram	LGD

شماره گذاری مدارک مهندسی

کد نوع مدرک	
Manual (Operation, Maintenance, Etc.)	MAN
Material Requisition/ Enquiry	MRQ
Material Take Off / Material Lists	MTO
Miscellaneous	MIS
Philosophy	PHL
Piping & Instrument Diagram	PID
Process Description	PDE
Process Flow Diagram	PFD
Purchas Order	POR
Quality Assurance & Control Plan	QPL
Schedule	SCH
Single Line Diagram	SLD
Sketch	SKT
Specification	SPC
Study	STD
Technical Bid Evaluation	TBE
Utility Flow Diagram	UFD

شماره گذاری مدارک مهندسی

- **کد ناحیه:** یکی دیگر از بخشهای شماره گذاری مدارک مهندسی، کد ناحیه مدرک است. معمولاً پروژه را به نواحی مختلف تقسیم میکنند که این نواحی می تواند نواحی جغرافیایی پروژه باشد که بر اساس نقشه جانمایی پروژه دسته بندی ناحیه صورت می گیرد و یا اینکه ناحیه ها بر اساس فرآیندهای مختلف پروژه تفکیک میگردد. اختصاص هر مدرک به یک ناحیه کمک می کند که با سرعت بیشتری تعلق فرآیندی و یا جغرافیایی مدرک را در مقیاس پروژه درک نماییم و در جستجو و بازیابی مدرک بهتر عمل نماییم. در برخی موارد هم می توان از هر دو نوع جغرافیایی و فرآیندی در تفکیک نواحی یک پروژه استفاده نمود.

- **کد تجهیز:** بسیاری از مدارکی که در طی مراحل مختلف مهندسی تهیه و تولید می شوند به یک تجهیز خاصی از پروژه مرتبط هستند در این حالت پیشنهاد می گردد برای این دسته از مدارک، کد تجهیز مربوطه را در یک بخش از شماره گذاری مدرک ثبت نماییم که به راحتی از روی کد تجهیز به ارتباط بین مدرک و آن تجهیز پی ببریم. برای مدارکی که به تجهیز خاصی مرتبط نیستند از کد عمومی استفاده می گردد.

- **شمارنده تجهیز**

- **شماره ترتیب مدرک**

MDR Management

- **لیست مدارک Master Document List**: در ابتدای پروژه های مهندسی مدرکی به نام لیست مدارک توسط پیمانکار مهندسی تهیه و به کارفرما ارائه می شود. این مدرک شامل عناوین و شمارههای کلیه مدارکی است که قرار است در طول پروژه تهیه گردد و به تفکیک دیسپلینهای مهندسی ارائه می گردد معمولاً در این مدرک کلاس مدرک نیز مشخص می شود. همانطور که در جلسات گذشته مطرح شد کلاس مدرک می تواند هدف از ارسال مدرک و نحوه محاسبه پیشرفت مدرک و گاهاً چرخه ای که مدرک طی آن به تأیید رسیده و نهایی می گردد را تحت تأثیر قرار دهد. فاکتور دیگری که در لیست مدارک وجود دارد ضریب وزنی مدرک می باشد. ضمناً در صورتی که برنامه زمان بندی اولیه تهیه شده باشد بایستی کد ساختار شکست فعالیت مربوط به هر مدرک را نیز در لیست مدرک اولیه لحاظ نماییم. کد ساختار شکست فعالیت تعلقِ اقلام کاری مهندسی را به فعالیتهای برنامه زمان بندی مشخص می کند در این صورت عامل مهم دیگری که تاریخ برنامه ای صدور اولیه مدرک می باشد را نیز میتوانیم در لیست مدارک ذکر نماییم.

Row No	WBS code	Activity code	Document No	Document title	Discipline	WF%	Document Class	First Issue Planned

MDR Management

- **با بررسی مدرک Doc List عملاً کارفرما نقطه نظرات خود را در خصوص موارد مختلفی اعلام خواهد داشت این موارد عمدتاً شامل موارد زیر خواهد بود:**

1. خروجی ها و اقلام قابل تحویل بخش مهندسی پروژه و کفایت آن در محدوده کاری پروژه.
2. عنوان و زیر عنوان اختصاص داده شده به هریک از مدارک مهندسی.
3. نحوه تفکیک مدارک مهندسی و لزوم و یا عدم لزومِ تجمیع برخی از آنها در قالب یک قلمِ قابل تحویل (مدرک)
4. نحوه شکست اقلام قابل تحویل مهندسی به دیسیپلینهای مختلف کاری.
5. - بررسی روش شماره گذاری مدارک مهندسی.(اگر نهایی نشده باشد)
6. ضریب وزنی هر مدرک و سهم هر یک از مدارک و سهم تجمعی هر یک از دیسیپلینها و نواحی پروژه و میزان اثرگذاری آنها در پیشرفت بخش مهندسی.
7. ارتباط بین برنامه زمان بندی و اقلام کاری زیرمجموعه فعالیتهای مهندسی (که همان مدرک می باشد) از طریق WBS Code و یا Activity code
8. کلاس مدارک مهندسی و لزوم و یا عدم لزومِ اخذ تأیید از کارفرما در برخی از مدارک مهندسی.

MDR Management

- **فایل اصلی مدیریت مدارک مهندسی Master Document Register:**

- فایل MDRکه فایل ثبت اطلاعات مدارک مهندسی به صورت مدرک محور می باشد علاوه بر اطلاعات موجود در Doc. Listحاوی اطلاعات دیگری به شرح زیر نیز می باشد. این فایل در ابتدا به تعداد مدارک موجود در Doc. Listکه البته به تأیید کارفرما رسیده است دارای ردیف می باشد و در هر ردیف عنوان، شماره و سایر اطلاعات مربوط به آن مدارک موجود بوده و اطلاعات دیگری که شامل تاریخچه رفت و برگشت مدرک و تبادل اطلاعات فیمابین پیمانکار مهندسی و کارفرما میباشد نیز در ادامه همان ردیفها برای هر مدرک ثبت خواهد شد لذا در این فایل برای هر مدرک با عنوان و شماره منحصر به فرد، صرفاً یک ردیف وجود دارد و به هیچ عنوان یک مدرک در دو ردیف تکرار نخواهد شد. سایر اطلاعاتی که در فایل MDRعلاوه بر لیست مدارک وجود دارد به شرح زیر می باشد:

1. بخشهای مختلف شماره گذاری مدارک به صورت تفکیک شده در ستونهای جداگانه: این ستونها امکان فیلتر نمودن و بازیابی مدارک را مهیا خواهد نمود.
2. مراحل مختلف پیشرفت مدارک مهندسی که امکان به روزرسانی وضعیت پیشرفت را مهیا می نمایند.

MDR Management

- **فایل اصلی مدیریت مدارک مهندسی Master Document Register:**

3. شماره ویرایش مدرک.
4. شماره ترانسمیتال مدرک
5. تاریخ ارسال ترانسمیتال
6. هدف از ارسال مدرک POI
7. شماره کامنت شیت مدرک
8. تاریخ دریافت کامنت شیت
9. وضعیت کامنت بر روی مدرک
10. شماره ریپلای شیت
11. تاریخ ارسال ریپلای شیت
12. وضعیت پاسخ (ریپلای) بر روی کامنت ارائه شده
13. شماره آخرین ویرایش
14. شماره ترانسمیتال آخرین ویرایش مدرک
15. تاریخ ارسال ترانسمیتال آخرین ویرایش مدرک
16. POIآخرین ویرایش مدرک
17. شماره کامنت آخرین ویرایش مدرک
18. تاریخ دریافت کامنت بر روی آخرین ویرایش مدرک
19. وضعیت کامنت بر روی آخرین ویرایش مدرک
20. شماره ریپلای آخرین ویرایش مدرک

MDR Management

- **فایل اصلی مدیریت مدارک مهندسی Master Document Register:**

21. تاریخ ارسال ریپلای آخرین ویرایش مدرک
22. وضعیت پاسخ (ریپلای) آخرین ویرایش مدرک
23. پیشرفت فیزیکی مدارک مهندسی به تفکیک مدارک بر اساس مراحل مختلف پیشرفت
24. پیشرفت سطوح مختلف پروژه
25. پیشرفت کل پروژه
26. پیشرفت صورت وضعیت پروژه بر اساس روش مصوب
27. گزارشهای مطلوب نیز در سایر شیتهای MDRبه صورت فرموله شده به روزرسانی می گردد.

MDR Management

- **اهمیت ثبت اطلاعات مدارک و تاریخچه ویرایشهای مختلف آن در MDR**

- فایل MDRیک مرجعی برای اطلاعات مدارک، تاریخچه ارسال ترانسمیتال و دریافت کامنت برای ویرایشهای مختلف، پیشرفت فیزیکی و پیشرفت صورت وضعیت می باشد و عمده فایده آن جستجو و بازیابی مدارک و آخرین وضعیت آنها و دستیابی به فایل مدارک از طریق شماره ترانسمیتال و نقطه نظرات کارفرما از طریق شماره کامنت شیت می باشد. اینکه بتوان در یک فایل مرجع با جستجو به اطلاعات آخرین وضعیت مدارک مختلف مورد نیاز در یک حوزه خاص از بخش مهندسی پروژه دست پیدا کرد از این جهت اهمیت دارد که در پروژه های با مقیاس بزرگ و تعداد مدارک بالا عملاً بدون تهیه چنین فایلی، جستجوی مدارک و رصد وضعیت آنها، کار بسیار سخت و طاقت فرسا و چه بسا ناممکن خواهد بود.

	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R
1	Id	Doc/DWG.No	Description	Re	RevDate	TraceRe	Document Grc	Phase	Area	Discipli	Company	Received D	2n	2nd Cc	Approved (AFC - OB	Approved with Comm	No Comm	Not Iss
2	130932	1491TB05-0DTLV91-001-0	Fume Treatment Plant Bucket Elavetor Assembly Operation And Maintenanc	00	8/2/2017	Indetermin	Miscellaneous(M	Detail	Fume Treatment Equipn	Mechanical	HASCON	8/2/2017	IFI	OB	100%			
3	133456	F101TA05-0MRAC91-001-	Calculation Book For RO Substation Building HVAC	01	7/7/2018	Indetermin	Miscellaneous(M	Detail	Water Treatment Systen	Mechanical	TAM	7/10/2018	IFC	A	100%			
4	131347	F101TB13-0MMAA91-001-	WTP RO SUB-STATION Master Documents Registry	00	9/23/2017	Indetermin	Miscellaneous(M	Detail	Water Treatment Systen	Mechanical	TAM	10/8/2017	IFA	AC		95%		
5	131303	F101TC02-0MMSD91-001	Basis Of Design For RO Substation Building (Civil & Steel Structure)	00	9/6/2017	Indetermin	Miscellaneous(M	Basic	Water Treatment Systen	Civil and St	TAM	10/7/2017	IFA	AC		95%		
6	131617	F101TC02-0MMSD91-002	Calculation Book For WTP RO Substation Building (Civil&Structure)	01	11/4/2017	Indetermin	Miscellaneous(M	Detail	Water Treatment Systen	Civil and St	TAM	11/8/2017	IFC	A	100%			
7	131304	F101TC06-0MMSD91-001	WTP RO SUBSTATION ARCHITECTURAL DRAWINGS	00	9/6/2017	Indetermin	Drawing	Basic	Water Treatment Systen	Civil and St	TAM	10/7/2017	IFA	AC		95%		
8	131309	F101TC06-0MMSD91-001	WTP RO SUBSTATION GROUND & FIRST FLOOR PLAN	00	9/6/2017	Indetermin	Drawing	Basic	Water Treatment Systen	Civil and St	TAM	10/7/2017	IFA	AC		95%		
9	131305	F101TC06-0MMSD91-001	WTP RO SUBSTATION ROOF PLAN	00	9/6/2017	Indetermin	Drawing	Basic	Water Treatment Systen	Civil and St	TAM	10/7/2017	IFA	AC		95%		

MDR Management

- **نمونه گزارشهای مطلوب در فایل MDR:**
- گزارش تعداد مدارک تولید شده بدون احتساب شمارگان ویرایش مدارک، به تفکیک زیر فاز مهندسی، دیسیپلین، ناحیه و ...
- گزارشات تعداد مدارک مبتنی بر POIبه تفکیک زیر فاز مهندسی، دیسیپلین، ناحیه و ...
- گزارش تعداد مدارک مبتنی بر شماره ویرایش به تفکیک زیر فاز مهندسی، دیسیپلین، ناحیه و ...
- گزارش تعداد مدارک مبتنی وضعیت کامنت کارفرما به تفکیک زیر فاز مهندسی، دیسیپلین، ناحیه و ...
- گزارش پیشرفت مدارک مهندسی Physical Progress به تفکیک زیر فاز مهندسی، دیسیپلین، ناحیه و ...
- گزارش میزان پیشرفت کسب شده مهندسی جهت ارائه صورت وضعیت Invoicing Progress به تفکیک زیر فاز مهندسی، دیسیپلین، ناحیه و ...

Engineering Documents Quality Management

- **تضمین کیفیت طراحی و تولید مدارک مهندسی:**

- یکی از اصلیترین راهکارهای مدیریت کیفی در طراحی و تولید مدارک مهندسی پرداختن به کنترل ورودیهای طراحی و همچنین تدوین فرایندهای مناسب و در نتیجه پیشگیری از ایجاد خطا در طراحی از طریق بهینه سازی فرآیندها می باشد. این راهکار که همان تحقق مفهوم تضمین کیفیت Quality Assurance می باشد راهکار اصلی در ایجاد محصول با کیفیت در فاز طراحی و مهندسی می باشد. برای این مهم بایستی از چک لیستهای ورودی طراحی و چک لیستهای مربوط به تأیید مدرک مهندسی (قبل از خروج از دیسیپلین و صدور مدرک) بهره ببریم.

- چک لیست ورودی طراحی نسبتاً می تواند همان کاربریِ فرم کنترل ورودی طراحی در ابتدای شروع طراحی را دارا باشد و این چک لیست نیز مانند فرم کنترل ورودی طراحی، برخی از فواید این فرم را دارا می باشد:

1. پیگیری موارد کمبود و نقص اطلاعات وارده
2. مهیا شدن امکان کنترل تغییرات پروژه ناشی از اطلاعات ورودی

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3. مهیا شدن شرایط رصد تحمیل اضافه کاری ناشی از تغییرات اطلاعات ورودی Rework اعم از داخل سازمان و یا خارج از سازمان که در صورتی که این اضافه کاری ناشی از تغییرات نقطه نظرات کارفرما و یا تغییر شرایط پروژه باشد بایستی مبنای ادعا Claim قرار گیرد.
4. فراهم شدن شرایط مدیریت بهتر محدوده کاری، زمان و هزینه پروژه توسط مدیر مهندسی پروژه در بخش طراحی و مهندسی.
5. تهیه و تکمیل بهتر برنامه زمان بندی با رویکرد کنترل ورودی طراحی
6. پرهیز دیسیپلینها از ارائه مدارک ناقص و تغییر چندباره محتوای آنها مگر در موارد خاص، اجتناب ناپذیر و خارج از قصور سازمان.
7. کاهش دوباره کاریهای ناشی از تغییرات داخل سازمان.

- **در بسیاری از سازمانها این چک لیست پیشنیازِ تهیه برگه مرسوله داخلی یا ترنسمیتال داخلی می باشد و سرپرست دیسیپلین بدون تأیید این چک لیست، مرسوله داخلی را جهت ارجاع مدرک به مرحله دورگردانی و یا ارجاع به مدیر پروژه، تأیید نمی نماید.**

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DESIGN VERIFICATION PLAN AND REPORT

Copies must be verified for current revision

System Description:		Supplier Name:			Team:		DVP&R No:	Rev:	Date:
Subsystem Description:		Supplier Code:		Affected Program(s):					
Assembly Description:	Part Number	Rev	Supplier Address:		Design Engineer		Supplier Design Engineer (Key Contact)		
					Name:		Name:		
Component Description:	Part Number	Rev	City:	Zip / Postal Code:	Title:		Title:		
			State:	Country:	Email:		Email:		
			Test Stage ED = Engineering Development Test; DV = Design Verification Test; PV = Production Verification Test; CCT = Continued Compliance Testing Target Requirements. State required probability and confidence of meeting criteria, e.g. R90, C90 or all must pass. Sample Level A = Prototype (No tooling), B = Prototype (Soft Tooled), C = Production Tooling (Not Process), D = Production Tooling & Process		Phone:		Phone:		
					Cell:		Cell:		

Planned Product Testing						Reporting of Results				Planned Test Timing & Sample Information								Actual Timing & Sample Information					
Item	Compliance / Regulatory / ID/QQ/R/PC	Specification / Test Name	Method or Procedure	Duration	Acceptance Criteria	Test Results / Findings	Test Results Pass / Fail	Test Completed by	Notes	Test Stage	Target Requirement	Test Location / Verification Resp.	Source of Requirement	Sample Level	Completion or Batch #	Scheduled Timing		Report or Doc. Number	Sample Level	Sample ID	Actual Timing		Sample Size Tested
																Start	End				Start	End	

Verification Report Authorization

I affirm that the samples used for verification testing are representative of our parts, and I authorize the use of this data.

Authorized Signature _____ Date _____

Title _____ Title _____

Design Engineer Review / Approval

Authorized Signature _____ Date _____

Title _____ Title _____

Procurement Documents

- مدرک MRپس از اخذ تأیید کارفرما به واحد تدارکات یا بازرگانی پروژه یا سازمان با هدف از ارسال For Purchaseیا For Tender و وضعیت اظهارنظر Approvedارسال می گردد تا این واحد نسبت به فراخوان نمودن سازندگان و استعلام از ایشان اقدام نماید.

- واحد تدارکات پروژه و یا سازمان پس از دریافت مدرک MRتأیید شده برای هر تجهیز، اقدام به خرید آن تجهیز می نماید. پروسه خرید هم متناسب با ساز و کار داخل سازمان و یا روش هماهنگی مصوب پروژه معمولاً بدین صورت می باشد که واحد تدارکات پروژه ضمن تهیه و ارائه اسناد مناقصه با استفاده از محتوای مدارکی مانند MRو همچنین فرمها و مستندات مرتبط با فرایند مناقصه، با فراخوان نمودن سازندگان اقدام به استعلام و درخواست پیشنهاد از سازندگان می نماید.

- در این میان مکاتباتی جهت شفاف سازی، بین شرکت کنندگان در مناقصه و برگزارکننده مناقصه رد و بدل شده و جلساتی نیز به همین منظور برگزار میگردد. شرکت کنندگان در مناقصه پیشنهاد خود را بر اساس اسناد مناقصه در مهلت مقرر و با رعایت قیود ارائه شده در اسناد تهیه و به برگزار کننده مناقصه ارائه می نمایند.

- **ارزیابی فنی پیشنهادها:**

Procurement Documents

- مهندسی خرید پروژه شامل فعالیتهایی از فاز مهندسی است که با فاز خرید پروژه در ارتباط بوده و با هدف تسهیل فرآیند خرید، با رویکرد انعکاس درستِ نتایج فاز طراحی در فرایند فاز خرید صورت می پذیرد.

- **دسته بندی زیرفازهای مهندسی را اینگونه در نظر میگیریم که با توجه به اینکه مدارکی نظیر Data Sheet، Spec، MTOو MRدر زیرفاز مهندسی تفصیلی تهیه می گردند، فعالیتهایی که از این مرحله به بعد (پس از تأیید) MR در ارتباط با بخش مهندسی انجام می شوند و همچنین مدارکی که تهیه می شوند را به عنوان فعالیتها و مدارکِ مهندسی خرید تلقی می نماییم.**

- **استعلام و درخواست پیشنهاد:**

- **از جمله مدارکی که به منظور خرید تجهیزات، لازم است در فاز مهندسی پایه و تفصیلی تهیه شوند DataSheet (برگه اطلاعات فنی) و Specification (مشخصات فنی تجهیزات) می باشند که بایستی به تأیید کارفرما برسد و پس از تأیید کارفرما، مجموع اطلاعات این دو مدرک در قالب مدرکی تحت عنوان Material Requisitionیا اصطلاحاً MRیا MRQبه گونه ای ارائه می شود که تمام اطلاعات مورد نیاز برای تامین کالا و تجهیز مورد نظر را برای دعوت تامین کنندگان به مناقصه، در خود خلاصه مینماید.**

Engineering Change Management

- **انواع تغییرات در شرکت های مهندسی محور:**

1. تغییر ناشی از درخواست کارفرما در حوزه های دانشی محدوده، زمان، هزینه و کیفیت.
2. تغییر ناشی از موارد درون سازمانی
3. تغییر ناشی از موارد برون سازمانی نظیر تغییر در شرایط اقتصادی، سیاسی و یا اجتماعی
4. تغییر ناشی از تغییرات قانونی

- هر کسی از اعضای تیم پروژه، پیمانکاران فرعی و کلیه ذینعان پروژه، امکان ثبت درخواست تغییر را در پروژه خواهند داشت و این درخواست به صورت رسمی و در قالب یک فرم مدون شده به جریان میافتد و پس از ارائه توجیهات و دلایل لازم در فرم درخواستِ تغییر، با ضمایم و مستندات پیوستِ فرم، جهت بررسی و تأیید به کمیته تغییرات ارسال خواهد شد

Engineering Change Management

- **طبقه بندی تغییر پیشنهادی:**

- پس از شناسایی و تعریف دقیق تغییر بایستی بتوانیم آن را در گروههای اصلی دسته بندی نماییم اینکه ماهیتاً این تغییر متعلق به چه گروهی می باشد در اینجا مورد نظر است نه اینکه بر کدام حوزه اثر می گذارد بایستی مشخص کنیم که تغییر تعریف شده متعلق به کدامیک از حوزههای الزامات، محدوده، کیفیت، هزینه، برنامه زمانی و مستندات میباشد. با این کار عملاً طبقهبندی تغییر را مشخص نمودهایم و در فایل ثبت تغییرات نیز بایستی بر همین اساس و در گروه طبقه بندی شده خود آن را ثبت نماییم. به طور مثال اگر برنامه زمانی مستندات ورودی طراحی تغییر نموده است و کارفرما اطلاعات ورودی را با تأخیر زمانی نسبت به برنامه اولیه در اختیار پیمانکار قرار خواهد داد، لذا بخشی از برنامه زمانبندی پروژه مهندسی تغییر مینماید و بایستی آن را در قالب درخواست تغییر تهیه نموده و در گروه (برنامه زمانی) طبقه بندی نماییم.

درجه و اهمیت	محدوده	زمان	هزینه	بررسی کنندگان تغییر
اهمیت ۱	اضافه شدن بیش از ۱۰۰ مدرک مهندسی	ایجاد تاخیر بیش از۱ ماه	تغییرات بیش از ۱۰۰ میلیون تومان	CCB
اهمیت ۲				
اهمیت ۳				
اهمیت ۴				

Engineering Change Management

- کاربرگ ثبت تغییر

کاربرگ ثبت تغییر

عنوان پروژه: تاریخ تهیه:

شناسه تغییر	طبقه	شرح تغییر	ارائه دهنده	تاریخ ارائه	وضعیت	نتیجه رسیدگی	شماره دستور تغییر

Engineering Change Management

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اضافه ☐ حذف ☐	**فرم اضافه و حذف مدرک در لیست مدارک مهندسی پروژه (MDR)**	شماره ویرایش: / تاریخ ویرایش:

دیسیپلین / پروژه درخواست کننده :..... عنوان پروژه: ..... شرکت تهیه کننده مدرک :..... **نوع پروژه :** طراحی ☐ بازبینی ☐

شماره : **XXXX-XX-C-XXX** * تاریخ : / / **فاز مدارک :** Basic Design ☐ Detail Design ☐ سایر ☐ شماره صفحه : ..... از .....

ردیف	شماره مدرک / شماره مدرک کارفرما	عنوان مدرک	WORK PACKAGE	Activity ID	دیسیپلین[1]	ناحیه[1]	نوع مدرک[1]	نوع تجهیز[1]	نفر ساعت	W.F[2]	Extra Work[2]	Reason of Rev.	دورگردانی بر اساس جدول گردش مدارک (IDC) **												
													نیاز به دورگردانی ندارد	AR	CV	ST	EL	IC	CM	ME	UP	HS	PR	MI	EP	TI
۱																									
۲																									
۳																									
۴																									
۵																									
۶																									
۷																									

توضیحات :

* نحوه شماره گذاری فرم : شماره سریال - C- درخواست کننده – کد پروژه

در پروژه های طراحی، که درخواست دهنده بایستی دیسیپلین ها باشند، از کد دیسیپلین تعریف شده ذیل و در پروژه های بازبینی، که درخواست دهنده بایستی رئیس پروژه باشد، از مخفف PM بعنوان کد درخواست دهنده در شماره فرم استفاده می گردد.

** رئیس پروژه مختار است دیسیپلینهای دیگری را نیز مازاد بر آنچه در ماتریس IDC قید شده است برای دورگردانی اضافه نماید.

۱- دیسیپلین ، ناحیه ، نوع مدرک و نوع تجهیز ، متناسب با تعاریف هر پروژه در روش هماهنگی آن تعریف گردد.

۲- آیتم w.f و Extera Work توسط پروژه تکمیل گردد.

توضیحات:

از: در خواست کننده : .....
تاریخ و امضاء: .....
مسئول بخش درخواست کننده: .....
تاریخ و امضاء: .....

به: رئیس پروژه: .....
تاریخ و امضاء: .....

به: DCC پروژه : .....
تاریخ و امضاء: .....
PMIS Admin: .....
تاریخ و امضاء: .....

IDC : (Inter Disciplinary check)

Design Review Project	Designing Project
R=Responsible (دیسیپلین اصلی اظهار نظر کننده) C=Comment I=Information	C=Comment I=Information

Reason of Rev.:
1=Department Failure
2=Other Departments' Change
3=Client Comment/Change
4=Vendor Comment/Change
5=Proc./Const. Feedback
6=Project Clarity
7=Discipline Elaborations

Discipline:
AR= Architectural
TI= Innovation &Technology
CV= Civil
EL= Electrical
HS= HSEC
IC= Instrument & Control
ME= Mechanical Machinery
CM= Communication
UP= Utilities & Piping
PR= Process
ST= Structure
MI= Mining

Engineering Change Management

شماره ویرایش:	**فرم تغییرات مدرک در لیست مدارک مهندسی پروژه (MDR)**	
تاریخ ویرایش:		

دیسیپلین / پروژه درخواست کننده :..... عنوان پروژه: ..... نوع پروژه : طراحی ☐ بازبینی ☐

شماره : **XXXX-XX-C-XXX** * تاریخ : / / **فاز مدارک** : Basic Design ☐ Detail Design ☐ سایر ☐ شماره صفحه : ..... از .....

ردیف	شماره مدرک کارفرما – قدیم	شماره مدرک کارفرما – جدید	عنوان جدید مدرک	WORK PACKAGE (جدید)	Activity ID	W.F [2]	شرکت تهیه کننده مدرک	نفر ساعت	دیسیپلین[1] (جدید)	Reason of Rev.	دورگردانی بر اساس جدول گردش مدارک (IDC) **														
											دورگردانی نیازبه ندارد	AR	CV	ST	EL	IC	CM	ME	UP	HS	PR	MI	EP	TI
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* نحوه شماره گذاری فرم : شماره سریال – C- درخواست دهنده – کد پروژه

در پروژه های طراحی، که درخواست دهنده بایستی دیسیپلین ها باشند، از کد دیسیپلین تعریف شده ذیل و در پروژه‌های بازبینی که درخواست دهنده بایستی رئیس پروژه باشد، از مخفف PM بعنوان کد درخواست دهنده در شماره فرم استفاده می گردد.

** رئیس پروژه مختار است دیسیپلینهای دیگری را نیز مازاد بر آنچه در جدول گردش مدارک IDC قید شده است برای دورگردانی اضافه نماید.

– Email به تنهایی به منزله عدم ارائه فایل می باشد و صرفا جهت تسریع می تواند اثر بخش باشد.

۱- دیسیپلین متناسب با تعاریف هر پروژه در روش هماهنگی آن تعریف گردد.

۲- آیتم w.f (ضریب وزنی) توسط پروژه تکمیل گردد.

از: در خواست کننده :	به: رئیس پروژه:	به : Admin سامانه PMIS : .....
تاریخ و امضاء:	تاریخ و امضاء:	تاریخ و امضاء: .....
مسئول بخش درخواست کننده:		
تاریخ و امضاء:		

IDC : (Inter Disciplinary check)	
Design Review Project	Designing Project
R=Responsible (دیسیپلین اصلی اظهار نظر کننده) C=Comment I=Information	C=Comment I=Information

Reason of Rev.:

1=Department Failure
2=Other Departments' Change
3=Client Comment/Change
4=Vendor Comment/Change
5=Proc /Const. Feedback
6=Project Clarity
7=Discipline Elaborations

Discipline:

AR= Architectural
TI= Innovation &Technology
CV= Civil
EL= Electrical
HS= HSEC
IC= Instrument & Control
ME= Mechanical Machinery
CM= Communication
UP= Utilities & Piping
PR= Process
ST= Structure
MI= Mining

Overview of Course

- کنترل اسناد و مدارک مهندسی
  - مروری بر پروژه EPC
  - شرح دیسیپلین های دپارتمان مهندسی
  - وظایف کارشناس کنترل مدارک مهندسی
  - فرم ها و مدارک مورد نیاز واحد کنترل مدارک مهندسی (ترنسمیتال، IDC، MDL، MDR و ...)
- اسناد و مدارک در ساختار مدیریت پروژه
  - اسناد و مدارک در طول فاز شروع و آغازین پروژه (Initiating)
  - اسناد و مدارک در طول فاز برنامه ریزی پروژه (Planning)
  - اسناد و مدارک در طول فاز اجرای پروژه (Executing)
  - اسناد و مدارک در طول فاز کنترل پروژه (Monitoring & Controlling)
  - اسناد و مدارک در طول فاز اختتام پروژه (Closing)

Project management forms

1. Initiating Forms

- The purpose of the Initiating Process Group is to authorize a project, provide a high-level definition of the project, and identify stakeholders. There are two processes in the Initiating Process Group:
  1. Develop project charter
  2. Identify stakeholders
- The intent of the Initiating Process Group is to at least:
  1. Authorize a project
  2. Identify project objectives
  3. Define the initial scope of the project
  4. Obtain organizational commitment
  5. Assign a project manager
  6. Identify project stakeholders

1.1 Project Charter

- The project charter is a document that **formally** authorizes a project or phase. The project charter defines the reason for the project and assigns a project manager and his or her authority level for the project. The contents of the charter describe the project in high-level terms, such as:

1. Project purpose
2. High-level project description
3. Project boundaries
4. Key deliverables
5. High-level requirements
6. Overall project risk
7. Project objectives and related success criteria

1.1 Project Charter

8. Summary milestone schedule
9. Preapproved financial resources
10. Key stakeholder list
11. Project approval requirements
12. Project exit criteria
13. Assigned project manager, responsibility, and authority level
14. Name and authority of the sponsor or other person(s) authorizing the project charter

1.1 Project Charter

- The project charter can **receive** information from:
  - Agreements (contracts)
  - Statements of work
  - Business case
  - Benefits management plan

1.1 Project Charter

It provides information to:

- Stakeholder register
- Project management plan
- Scope management plan
- Requirements management plan
- Requirements documentation
- Requirements traceability matrix
- Project scope statement
- Schedule management plan
- Cost management plan
- Quality management plan
- Resource management plan
- Communications management plan
- Risk management plan
- Procurement management plan
- Stakeholder engagement plan

1.1 Project Charter

Elements of a Project Charter

Document Element	Description
Project purpose	The reason the project is being undertaken. May refer to a business case, the organization's strategic plan, external factors, a contract agreement, or any other reason for performing the project.
High-level project description	A summary-level description of the project.
Project boundaries	Limits to the project scope. May include scope exclusions, or other limitations.
Key deliverables	The high-level project and product deliverables. These will be further elaborated in the project scope statement.

1.1 Project Charter

Elements of a Project Charter

Document Element	Description
High-level requirements	The high-level conditions or capabilities that must be met to satisfy the purpose of the project. Describe the product features and functions that must be present to meet stakeholders' needs and expectations. These will be further elaborated in the requirements documentation.
Overall project risk	An assessment of the overall riskiness of the project. Overall risk can include the underlying political, social, economic, and technological volatility, uncertainty, complexity, and ambiguity. It pertains to the stakeholder exposure to variations in the project outcome.
Project objectives and related success criteria	Project objectives are usually established for at least scope, schedule, and cost. The success criteria identify the metrics or measurements that will be used to measure success. There may be additional objectives as well. Some organizations include quality, safety, and stakeholder satisfaction objectives.

1.1 Project Charter

Elements of a Project Charter

Document Element	Description
Summary milestone schedule	Significant events in the project. Examples include the completion of key deliverables, the beginning or completion of a project phase, or product acceptance.
Preapproved financial resources	The amount of funding available for the project. May include sources of funding and annual funding limits.
Key stakeholder list	An initial, high-level list of people or groups that have influenced or can influence project success, as well as those who are influenced by its success. This can be further elaborated in the stakeholder register.
Project exit criteria	The performance, metrics, conditions, or other measurements that must be met to conclude the project.

1.1 Project Charter

Elements of a Project Charter

Document Element	Description
Assigned project manager, responsibility, and authority level	The authority of the project manager with regard to staffing, budget management and variance, technical decisions, and conflict resolution. Examples of staffing authority include the power to hire, fire, discipline, accept, or not accept project staff. Budget management refers to the authority of the project manager to commit, manage, and control project funds. Variance refers to the variance level that requires escalation. Technical decisions describe the authority of the project manager to make technical decisions about deliverables or the project approach. Conflict resolution defines the degree to which the project manager can resolve conflict within the team, within the organization, and with external stakeholders.

1.1 Project Charter

Elements of a Project Charter

Document Element	Description
Name and authority of the sponsor or other person(s) authorizing the project charter	The name, position, and authority of the person who oversees the project manager for the purposes of the project. Common types of authority include the ability to approve changes, determine acceptable variance limits, resolve inter-project conflicts, and champion the project at a senior management level.

1.1 Project Charter

PROJECT CHARTER

Project Title: _____

Project Sponsor: _____ Date Prepared: _____

Project Manager: _____ Project Customer: _____

Project Purpose:

High-Level Project Description:

Project Boundaries:

Key Deliverables:

High-Level Requirements:

Overall Project Risk

PROJECT CHARTER

Project Objectives	Success Criteria
Scope:	
Time:	
Cost:	
Other:	

Summary Milestones	Due Date

1.1 Project Charter

PROJECT CHARTER

Preapproved Financial Resources:

Stakeholder(s)	Role

Project Exit Criteria:

Project Manager Authority Level:

Staffing Decisions:

Budget Management and Variance:

PROJECT CHARTER

Technical Decisions:

Conflict Resolution:

Sponsor Authority:

Approvals:

Project Manager Signature	Sponsor or Originator Signature
Project Manager Name	Sponsor or Originator Name
Date	Date

1.2 Assumption Log

Assumptions are factors in the planning process that are considered to be true, real, or certain, without proof or demonstration. Constraints are also documented in this log. Constraints are limiting factors that affect the execution of the project. Typical constraints include a predetermined budget or fixed milestones for deliverables. Information in the assumption log includes:

- Identifier
- Category
- Assumption or constraint
- Responsible party
- Due date
- Actions
- Status
- Comments

1.2 Assumption Log

Assumptions can come from any document in the project. They can also be determined by the project team. Constraints may be documented in the project charter and are determined by the customer, sponsor, or regulatory agencies.

The assumption log provides information to:

- Requirements documentation
- Project scope statement
- Network diagram
- Duration estimates
- Project schedule
- Quality management plan
- Resource estimates
- Risk register
- Stakeholder engagement plan

1.2 Assumption Log

Tailoring Tips:

- Combine the assumption log with the issue register and the decision log, to create an AID Log (A = assumption, I = issue, D = decision). You can create them in a spreadsheet with each sheet dedicated to either assumptions, issues, or decisions.
- If you have a very large project you may want to keep the constraints in a separate log from the assumptions.

Alignment:

The assumption log should be aligned and consistent with the following documents:

- Project charter
- Issue log
- Risk register

1.2 Assumption Log

Elements of an Assumption Log

Document Element	Description
ID	Identifier
Category	The category of the assumption or constraint
Assumption/constraint	A description of the assumption or constraint
Responsible party	The person who is tasked with following up on the assumption to validate if it is true or not
Due date	The date by which the assumption needs to be validated
Actions	Actions that need to be taken to validate assumptions
Status	The status of the assumptions, such as active, transferred, or closed
Comments	Any additional information regarding the assumption or constraint

1.2 Assumption Log

ASSUMPTION LOG

Project Title: _____ Date Prepared: _____

ID	Category	Assumption/Constraint	Responsible Party	Due Date	Actions	Status	Comments

1.3 Stakeholder Register

The stakeholder register is used to identify those people and organizations impacted by the project and to document relevant information about each stakeholder. Relevant information can include:

- Name
- Position in the organization
- Role in the project
- Contact information
- List of stakeholder's major requirements
- List of stakeholder's expectations
- Classification of each stakeholder

1.3 Stakeholder Register

Initially you will not have enough information to complete the stakeholder register. As the project gets underway you will gain additional information and understanding about each stakeholder's requirements, expectations, and classification and the stakeholder register will become more robust.

The stakeholder register receives information from:

- Project charter
- Procurement documents

It is related to:

- Stakeholder analysis matrix

1.3 Stakeholder Register

It provides information to:

- Requirements documentation
- Quality management plan
- Communications management plan
- Risk management plan
- Risk register
- Stakeholder engagement plan

1.3 Stakeholder Register

Tailoring Tips

Consider the following tips to help you tailor the stakeholder register to meet your needs:

- Combine the position in the organization with the role on the project, especially if it is a smaller project and everyone knows everyone else's position.
- Combine the stakeholder analysis matrix information with the stakeholder register.
- Eliminate position, role, and contact information for small internal projects.

1.3 Stakeholder Register

Alignment

The stakeholder register should be aligned and consistent with the following documents:

- Project charter
- Stakeholder analysis matrix
- Stakeholder engagement plan

1.3 Stakeholder Register

Elements of a Stakeholder Register

Document Element	Description
Name	Stakeholder's name. If you don't have a name you can substitute a position or organization until you have more information
Position/Role	The position and/or role the stakeholder holds in the organization. Examples of positions include programmer, human resources analyst, or quality assurance specialist. Roles indicate the function the stakeholder performs on the project team, such as testing lead, Scrum Master, or scheduler
Contact information	How to communicate with the stakeholder, such as their phone number, email address, or physical address
Requirements	High-level needs for the project and/or product

1.3 Stakeholder Register

Elements of a Stakeholder Register

Document Element	Description
Expectations	Main expectations of the project and/or product
Classification	Some projects may categorize stakeholders as friend, foe, or neutral; others may classify them as high, medium, or low impact

1.3 Stakeholder Register

STAKEHOLDER REGISTER

Project Title: _____ Date Prepared: _____

Name	Position/Role	Contact Information	Requirements	Expectations	Classification

1.3 Stakeholder Register

Stakeholder name	Title	Role	Power (H/L)	Interest (H/L)	Requirements	Concerns
Eddie Murphy	Security Manager	Sponsor	H	H	Finish implementing GDPR compliant checkouts by the end of quarter 3	Delays due to the upcoming fiscal year
Iliza Shlesinger	Sr. Developer	Developer	L	H	Security certificates	Migrating data to European servers
Bill Burr	CEO	-	H	L	5% revenue increase	GDPR compliance
Dave Chapelle	Accountant	-	L	L	-	Managing European ledgers

1.4 Stakeholder Analysis

Stakeholder analysis is used to classify stakeholders. It can be used to help fill in the stakeholder register. Analyzing stakeholders can also help in planning stakeholder engagement for groups of stakeholders.

The following example is used to assess the relative power (high or low), the relative interest (high or low), and the attitude (friend or foe). There are many other ways to categorize stakeholders. Some examples include:

- Influence/impact
- Power/urgency/legitimacy

Stakeholder analysis receives information from:

- Project charter
- Procurement documents

1.4 Stakeholder Analysis

Tailoring Tips

Consider the following tips to help you tailor the stakeholder analysis to meet your needs:

- For projects with relatively homogenous stakeholders you can use a 2 × 2 grid that only considers two variables, such as interest and influence.
- For larger projects consider using a 3 × 3 stakeholder cube. Tailor the categories to reflect the importance of various stakeholder variables.

Alignment

The stakeholder analysis should be aligned and consistent with the following documents:

- Stakeholder register
- Stakeholder engagement plan

1.4 Stakeholder Analysis

Elements of a Stakeholder Analysis

Document Element	Description
Name or role	The stakeholder name, organization, or group
Interest	The level of concern the stakeholder has for the project
Influence	The degree to which the stakeholder can drive or influence outcomes for the project
Attitude	The degree to which the stakeholder supports the project

1.4 Stakeholder Analysis

STAKEHOLDER ANALYSIS

Project Title: _____ Date Prepared: _____

Name or Role	Interest	Influence	Attitude

2. Planning Forms

- The purpose of the Planning Process Group is to elaborate the information from the project charter to create a comprehensive set of plans that will enable the project team to deliver the project objectives. There are 24 processes in the Planning Process Group.

1. Develop project management plan
2. Plan scope management
3. Collect requirements
4. Define scope
5. Create work breakdown structure (WBS)
6. Plan schedule management
7. Define activities

2. Planning Forms

8. Sequence activities
9. Estimate activity durations
10. Develop schedule
11. Plan cost management
12. Estimate costs
13. Determine budget
14. Plan quality management
15. Plan resource management
16. Estimate activity resources
17. Plan communications management
18. Plan risk management

2. Planning Forms

19. Identify risks
20. Perform qualitative analysis
21. Perform quantitative analysis
22. Plan risk responses
23. Plan procurement management
24. Plan stakeholder management

2. Planning Forms

- The intent of the Planning Process Group is to at least:

1. Elaborate and clarify the project scope
2. Develop a realistic schedule
3. Develop a realistic budget
4. Identify project and product quality processes
5. Identify and plan for the needed project resources
6. Determine and plan for the communication needs
7. Establish risk management practices
8. Identify the procurement needs of the project
9. Determine how to effectively engage stakeholders
10. Combine all the planning information into a project management plan and a set of project documents that are cohesive and integrated

2. Planning Forms

- Planning is not a one-time event. It occurs throughout the project. Initial plans will become more detailed as additional information about the project becomes available. Additionally, as changes are approved for the project or product, many of the planning processes will need to be revisited and the documents revised and updated.
- Many of the forms in this section provide information needed for other forms. The form description indicates from where information is received and to where it goes.

2. Planning Forms

- The forms used to document planning information include:
  1. Project management plan
  2. Change management plan
  3. Project roadmap
  4. Scope management plan
  5. Requirements management plan
  6. Requirements documentation
  7. Requirements traceability matrix
  8. Project scope statement
  9. Assumption log

2. Planning Forms

- The forms used to document planning information include:

10. Work breakdown structure (WBS)
11. Work breakdown structure dictionary
12. Schedule management plan
13. Activity list
14. Activity attributes
15. Milestone list
16. Network diagram
17. Duration estimates
18. Duration estimating worksheet
19. Project schedule

2. Planning Forms

- The forms used to document planning information include:

20. Cost management plan
21. Cost estimates
22. Cost estimating worksheet
23. Bottom-up cost estimating worksheet
24. Cost baseline
25. Quality management plan
26. Quality metrics
27. Responsibility assignment matrix
28. Roles and responsibilities
29. Resource management plan

2. Planning Forms

- The forms used to document planning information include:

30. Team charter
31. Resource requirements
32. Resource breakdown structure
33. Communications management plan
34. Risk management plan
35. Risk register
36. Risk report
37. Probability and impact assessment
38. Probability and impact matrix
39. Risk data sheet

2. Planning Forms

- The forms used to document planning information include:

  40. Procurement management plan

  41. Procurement strategy

  42. Source selection criteria

  43. Procurement strategy

  44. Stakeholder engagement plan

2.1 Project Management Plan

- The project management plan describes how the team will execute, monitor, control, and close the project. While it has some unique information, it is primarily comprised of all the subsidiary management plans and the baselines. The project management plan combines all this information into a cohesive and integrated approach to managing the project. Typical information includes:
  - Selected project life cycle
  - Development approach for key deliverables
  - Variance thresholds
  - Baseline management
  - Timing and types of reviews

2.1 Project Management Plan

Tailoring Tips

Consider the following tips to help tailor the project management plan to meet your needs:

- For large and complex projects, each subsidiary management plan will likely be a separate standalone plan. In this case you may present your project management plan as a shell with just information on the life cycle, development approach, and key reviews, and then provide a link or reference to the more detailed subsidiary management plans.
- For smaller projects, a project roadmap that summarizes the project phases, major deliverables, milestones, and key reviews may be sufficient.
- You will likely have additional subsidiary management plans that are relevant to the nature of your project, such as a technology management plan, a logistics management plan, a safety management plan, and so forth.

2.1 Project Management Plan

Alignment

The project management plan should be aligned and consistent with the following documents:

- All subsidiary management plans
- Project roadmap
- Milestone list

2.1 Project Management Plan

Elements of a Project Management Plan

Document Element	Description
Project life cycle	Describe the life cycle that will be used to accomplish the project. This may include the following: • Name of each phase • Key activities for the phase • Key deliverables for the phase • Entry criteria for the phase • Exit criteria for the phase • Key reviews for the phase
Development approaches	Document the specific approach you will take to create key deliverables. Common approaches include predictive approaches, where the scope is known and stable; and adaptive approaches, where the scope is evolving and subject to change. It may also include iterative or incremental development approaches.

2.1 Project Management Plan

Elements of a Project Management Plan

Document Element	Description
Subsidiary management plans	List the subsidiary management plans that are part of the project management plan. This can be in the form of a "table of contents," links to electronic copies of the subsidiary plans, or a list of the other plans that should be considered part of the project management plan, but are separate documents.
Scope variance threshold	Define acceptable scope variances, variances that indicate a warning, and variances that are unacceptable. Scope variance can be indicated by the features and functions that are present in the end product, or the performance metrics that are desired.

2.1 Project Management Plan

Elements of a Project Management Plan

Document Element	Description
Scope baseline management	Describe how the scope baseline will be managed, including responses to acceptable, warning, and unacceptable variances. Define circumstances that would trigger preventive or corrective action and when the change control process would be enacted. Define the difference between a scope revision and a scope change. Generally, a revision does not require the same degree of approval that a change does. For example, changing the color of something is a revision; changing a function is a change.
Schedule variance threshold	Define acceptable schedule variances, variances that indicate a warning, and variances that are unacceptable. Schedule variances may indicate the percent of variance from the baseline or they may include the amount of float used or whether any schedule reserve has been used.

2.1 Project Management Plan

Elements of a Project Management Plan

Document Element	Description
Schedule baseline management	Describe how the schedule baseline will be managed, including responses to acceptable, warning, and unacceptable variances. Define circumstances that would trigger preventive or corrective action and when the change control process would be enacted.
Cost variance threshold	Define acceptable cost variances, variances that indicate a warning, and variances that are unacceptable. Cost variances may indicate the percent of variance from the baseline, such as 0–5 percent, 5–10 percent, and greater than 10 percent.
Cost baseline management	Describe how the cost baseline will be managed, including responses to acceptable, warning, and unacceptable variances. Define circumstances that would trigger preventive or corrective action and when the change control process would be enacted.
Baselines	Attach all project baselines.

2.1 Project Management Plan

PROJECT MANAGEMENT PLAN

Project Title: _____ Date Prepared: _____

Project Life Cycle:

Phase	Key Activities	Key Deliverables

Phase	Reviews	Entry Criteria	Exit Criteria

Development Approaches:

Deliverable	Development Approach

Subsidiary Management Plans:

Name	Comment
Scope	
Time	
Cost	
Quality	
Resource	
Communications	
Risk	
Procurement	
Stakeholder	
Other Plans	

PROJECT MANAGEMENT PLAN

Variance Thresholds:

Scope Variance Threshold	Scope Baseline Management
Schedule Variance Threshold	Schedule Baseline Management
Cost Variance Threshold	Cost Baseline Management

Baselines:

Attach all project baselines.

2.2 Change Management Plan

The change management plan is a component of the project management plan. It describes how change will be managed on the project. Typical information includes:

- Structure and membership of a change control board
- Definitions of change
- Change control board
  - Roles
  - Responsibilities
  - Authority
- Change management process
  - Change request submittal
  - Change request tracking
  - Change request review
  - Change request disposition

2.2 Change Management Plan

Tailoring Tips

Consider the following tips to help tailor the change management plan to meet your needs:

- If you have a few product components or project documents that require configuration management, you may be able to combine change management and configuration management into one plan.
- The rigor and structure of your change management plan should reflect the product development approach. For predictive approaches, a rigorous change management approach is appropriate. For adaptive approaches, the change management plan should allow for evolving scope.

2.2 Change Management Plan

Alignment

The change management plan should be aligned and consistent with the following documents:

- Project roadmap or development approach
- Scope management plan
- Requirements management plan
- Schedule management plan
- Cost management plan
- Quality management plan
- Configuration management plan

2.2 Change Management Plan

Elements of a Change Management Plan

Document Element	Description
Change management approach	Describe the degree of change control and how change control will integrate with other aspects of project management.
Definitions of change	Schedule Change: Define a schedule change versus a schedule revision. Indicate when a schedule variance needs to go through the change control process to be re-baselined. Budget Change: Define a budget change versus a budget update. Indicate when a budget variance needs to go through the change control process to be re-baselined. Scope Change: Define a scope change versus progressive elaboration. Indicate when a scope variance needs to go through the change control process to be re-baselined. Project Document Change: Define when updates to project management documents or other project documents need to go through the change control process to be re-baselined.

2.2 Change Management Plan

Elements of a Change Management Plan

Document Element	Description
Change control board	**Name:** Individual's name **Role:** Position on the change control board **Responsibility:** Responsibilities and activities required of the role **Authority:** Authority level for approving or rejecting changes
Change control process	**Change request submittal:** Describe the process used to submit change requests, including who receives requests and any special forms, policies, or procedures that need to be used. **Change request tracking:** Describe the process for tracking change requests from submittal to final disposition. **Change request review:** Describe the process used to review change requests, including analysis of impact on project objectives such as schedule, scope, cost, etc. **Change request outcome:** Describe the possible outcomes, such as accept, defer, or reject.

2.2 Change Management Plan

CHANGE MANAGEMENT PLAN

Project Title: _____ Date Prepared: _____

Change Management Approach:

Definitions of Change:

Schedule change:
Budget change:
Scope change:
Project document changes:

Change Control Board:

Name	Role	Responsibility	Authority

Change Control Process:

Change request submittal	
Change request tracking	
Change request review	
Change request disposition	

Attach relevant forms used in the change control process.

Page 1 of 1

2.3 Project Roadmap

The project roadmap is a high-level visual summary of the life cycle phases, key deliverables, management reviews and milestones. Typical information includes:

- Project life cycle phases
- Major deliverables or events in each phase
- Significant milestones
- Timing and types of reviews

The project roadmap can receive information from the project charter and the project management plan. In particular, the key deliverables, project life cycle, management reviews, and scope and schedule baselines. It provides information to

- Project schedule
- Risk register
- Milestone list

2.3 Project Roadmap

Tailoring Tips

Consider the following tips to help tailor the project roadmap to meet your needs:

- For large and complex projects this will likely be a separate stand-alone document.
- For smaller projects the project roadmap may serve as the project management plan.

Alignment

The project roadmap should be aligned and consistent with the following documents:

- Project management plan
- Milestone list

2.3 Project Roadmap

Elements of a Project Roadmap

Document Element	Description
Project life cycle phases	The name of each life cycle phase
Major deliverables or events	Key deliverables, phase gates, key approvals, external events, or other significant events in the project
Significant milestones	Milestones in the project
Timing and types of reviews	Management, customer, compliance, or other significant reviews

2.3 Project Roadmap

PROJECT ROADMAP

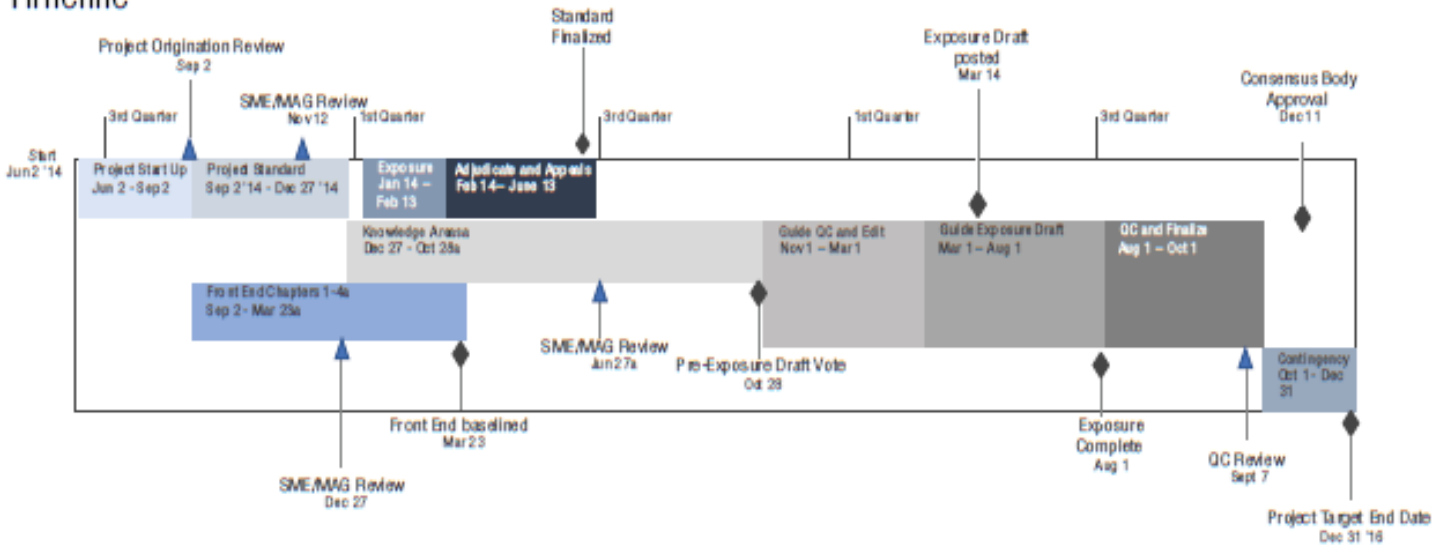
Approach

Waterfall phases.

Iterative development of content throughout Development, QC Edit, Exposure, and Finalization Phases.

Life Cycle Phases

Timeline



2.4 Scope Management Plan

The scope management plan is part of the project management plan. It specifies how the project scope will be defined, developed, monitored, controlled, and validated. Planning how to manage scope should include at least processes for:

- Developing a detailed scope statement
- Decomposing the project into discrete deliverables using a WBS
- Determining what constitutes a scope change versus a revision and how scope changes will be managed through the formal change control process
- Maintaining the WBS and the scope baseline
- How deliverables will be accepted

2.4 Scope Management Plan

In addition, the scope management plan may provide direction on the elements that should be contained in a WBS Dictionary and how the scope and requirements management plans interact. The scope management plan can receive information from:

- Project charter
- Project management plan

It provides information to:

- Requirements documentation
- Scope statement
- WBS
- WBS dictionary

2.4 Scope Management Plan

Tailoring Tips

Consider the following tips to help tailor the scope management plan to meet your needs:

- For smaller projects you can combine the scope management plan with the requirements management plan.
- For larger projects consider a test and evaluation plan that defines how deliverables will be validated and accepted by the customer.
- If your project involves business analysis you may want to incorporate information on how business analysis activities and project management activities will interact.
- If you are using an agile or adaptive development approach you may want to incorporate information on the release and iteration plans.

2.4 Scope Management Plan

Alignment

The scope management plan should be aligned and consistent with the following documents:

- Development approach
- Life cycle description
- Change management plan
- Requirements management plan
- Release and iteration plan

2.4 Scope Management Plan

Elements of the Scope Management Plan

Document Element	Description
WBS	Describe the WBS and whether it will be arranged using phases, geography, major deliverables, or some other way. The guidelines for establishing control accounts and work packages can also be documented in this section.
WBS Dictionary	Identify the information that will be documented in the WBS Dictionary and the level of detail required.
Scope baseline maintenance	Identify the types of scope changes that will need to go through the formal change control process and how the scope baseline will be maintained.
Deliverable acceptance	For each deliverable, identify how the deliverable will be validated for customer acceptance, including any tests or documentation needed for sign-off.

2.4 Scope Management Plan

Elements of the Scope Management Plan

Document Element	Description
Scope and requirements integration	Describe how project and product requirements will be addressed in the scope statement and WBS. Identify the integration points and how requirements and scope validation will occur.
Project management and business analysis integration	Describe how business analysis and project management will integrate as scope is being defined, developed, tested, validated, and turned over to operations.

2.4 Scope Management Plan

SCOPE MANAGEMENT PLAN

Project Title:_____ Date:_____

Work Breakdown (WBS) Structure

WBS Dictionary

Scope Baseline Maintenance

Deliverable Acceptance

Scope and Requirements Integration

By: K.Kordani PMP, MSc

2.5 Requirements Management Plan

The requirements management plan is part of the project management plan. It specifies how requirements activities will be conducted throughout the project. Managing requirements activities includes at least:

- Planning activities such as:
  - Collecting/eliciting
  - Analyzing
  - Categorizing
  - Prioritizing
  - Documenting
  - Determining metrics
  - Defining the traceability structure
- Managing activities such as:
  - Tracking
  - Reporting
  - Tracing
  - Validating
  - Performing configuration management

2.5 Requirements Management Plan

Tailoring Tips

Consider the following tips to help tailor the management plan to meet your needs:

- For smaller projects you can combine the requirements management plan with the scope management plan.
- If your project involves business analysis, you may want to incorporate information on how business analysis requirements activities and project management requirements activities will interact.
- You can document the test and evaluation strategy in this plan. For larger projects you may want to have a separate testing plan.
- If you are using an agile or adaptive development approach you may want to incorporate information on how the backlog will be used to manage and track requirements.

2.5 Requirements Management Plan

Alignment

The requirements management plan should be aligned and consistent with the following documents:

- Development approach
- Change management plan
- Scope management plan
- Release and iteration plan
- Requirements backlog

2.5 Requirements Management Plan

Elements of the Requirements Management Plan

Document Element	Description
Requirements collection	Describe how requirements will be collected or elicited. Consider techniques such as brainstorming, interviewing, observation, etc.
Requirements analysis	Describe how requirements will be analyzed for prioritization, categorization, and impact to the product or project approach.
Requirements categories	Identify categories for requirements such as business, stakeholder, quality, etc.
Requirements documentation	Define how requirements will be documented. The format of a requirements document may range from a simple spreadsheet to more elaborate forms containing detailed descriptions and attachments.
Requirements prioritization	Identify the prioritization approach for requirements. Certain requirements will be non-negotiable, such as those that are regulatory or those that are needed to comply with the organization's policies or infrastructure. Other requirements may be nice to have, but not necessary for functionality.

2.5 Requirements Management Plan

Elements of the Requirements Management Plan

Document Element	Description
Requirements metrics	Document the metrics that requirements will be measured against. For example, if the requirement is that the product must be able to support 150 M2, the metric may be that it is designed to support 120 percent (180 M2) and that any design or engineering decisions that cause the product to go below the 120 percent need approval by the customer.
Requirements traceability	Identify the information that will be used to link requirements from their origin to the deliverables that satisfy them.
Requirements tracking	Describe how often and what techniques will be used to track progress on requirements.
Requirements reporting	Describe how reporting on requirements will be conducted and the frequency of such reporting.
Requirements validation	Identify the various methods that will be used to validate requirements such as inspection, audits, demonstration, testing, etc.

2.5 Requirements Management Plan

Elements of the Requirements Management Plan

Document Element	Description
Requirements configuration management	Describe the configuration management system that will be used to control requirements, documentation, the change management process, and the authorization levels needed to approve changes.

2.5 Requirements Management Plan

REQUIREMENTS MANAGEMENT PLAN

Project Title: _____ Date: _____

Collection:

Analysis:

Categories:

Documentation:

Prioritization:

REQUIREMENTS MANAGEMENT PLAN

Metrics:

Traceability Structure:

Tracking:

Reporting:

Validation:

Configuration Management:

2.6 Requirements Documentation

Elements of Requirements Documentation

Document Element	Description
ID	A unique identifier for the requirement
Requirement	The condition or capability that must be met by the project or be present in the product, service, or result to satisfy a need or expectation of a stakeholder
Stakeholder	Stakeholder's name. If you don't have a name you can substitute a position or organization until you have more information
Category	The category of the requirement
Priority	The priority group, for example Level 1, Level 2, etc., or must have, should have, or nice to have
Acceptance criteria	The criteria that must be met for the stakeholder to approve that the requirement has been fulfilled
Test or verification method	The means that will be used to verify that the requirement has been met. This can include inspection, test, demonstration, or analysis
Phase or release	The phase or release in which the requirement will be met

2.6 Requirements Documentation

REQUIREMENTS DOCUMENTATION

Project Title: _____ Date Prepared: _____

ID	Requirement	Stakeholder	Category	Priority	Acceptance Criteria	Test or Verification	Phase or Release

2.7 Requirements Traceability Matrix

Requirements Traceability Matrix

Document Element	Description
ID	Enter a unique requirement identifier.
Requirement	Document the condition or capability that must be met by the project or be present in the product, service, or result to satisfy a need or expectation of a stakeholder.
Source	The stakeholder that identified the requirement.
Category	Categorize the requirement. Categories can include functional, nonfunctional, maintainability, security, etc.
Priority	Prioritize the requirement category, for example Level 1, Level 2, etc., or must have, should have, or nice to have.
Business objective	List the business objective as identified in the charter or business case that is met by fulfilling the requirement.
Deliverable	Identify the deliverable that is associated with the requirement.
Verification	Describe the metric that is used to measure the satisfaction of the requirement.
Validation	Describe the technique that will be used to validate that the requirement meets the stakeholder needs.

2.7 Requirements Traceability Matrix

Inter-Requirements Traceability Matrix

Document Element	Description
ID	Enter a unique business requirement identifier.
Business requirement	Document the condition or capability that must be met by the project or be present in the product, service, or result to satisfy the business needs.
Priority	Prioritize the business requirement category, for example Level 1, Level 2, etc., or must have, should have, or nice to have.
ID	Enter a unique technical requirement identifier.
Technical requirement	Document the technical performance that must be met by the deliverable to satisfy a need or expectation of a stakeholder.
Priority	Prioritize the technical requirement category, for example Level 1, Level 2, etc., or must have, should have, or nice to have.
Source	Document the stakeholder who identified the technical requirement.

2.7 Requirements Traceability Matrix

REQUIREMENTS TRACEABILITY MATRIX

Project Title: _____ Date Prepared: _____

Requirement Information					Relationship Traceability			
ID	Requirement	Source	Priority	Category	Business Objective	Deliverable	Verification	Validation

Page 1 of 2

2.7 Requirements Traceability Matrix

INTER-REQUIREMENTS TRACEABILITY MATRIX

Project Title: _____ Date Prepared: _____

ID	Business Requirement	Priority	Source	ID	Technical Requirement	Priority	Source

Page 2 of 2

2.8 Project Scope Statement

Elements of a Project Scope Statement

Document Element	Description
Project scope description	Project scope is progressively elaborated from the project description in the project charter and the requirements in the requirements documentation.
Project deliverables	Project deliverables are progressively elaborated from the project description key deliverables in the project charter.
Product acceptance criteria	Acceptance criteria is progressively elaborated from the information in the project charter. Acceptance criteria can be developed for each component of the project.
Project exclusions	Project exclusions clearly define what is out of scope for the product and project.

2.8 Project Scope Statement

PROJECT SCOPE STATEMENT

Project Title: _____ Date Prepared: _____

Project Scope Description:

Project Deliverables:

Product Acceptance Criteria:

Project Exclusions:

PROJECT SCOPE STATEMENT

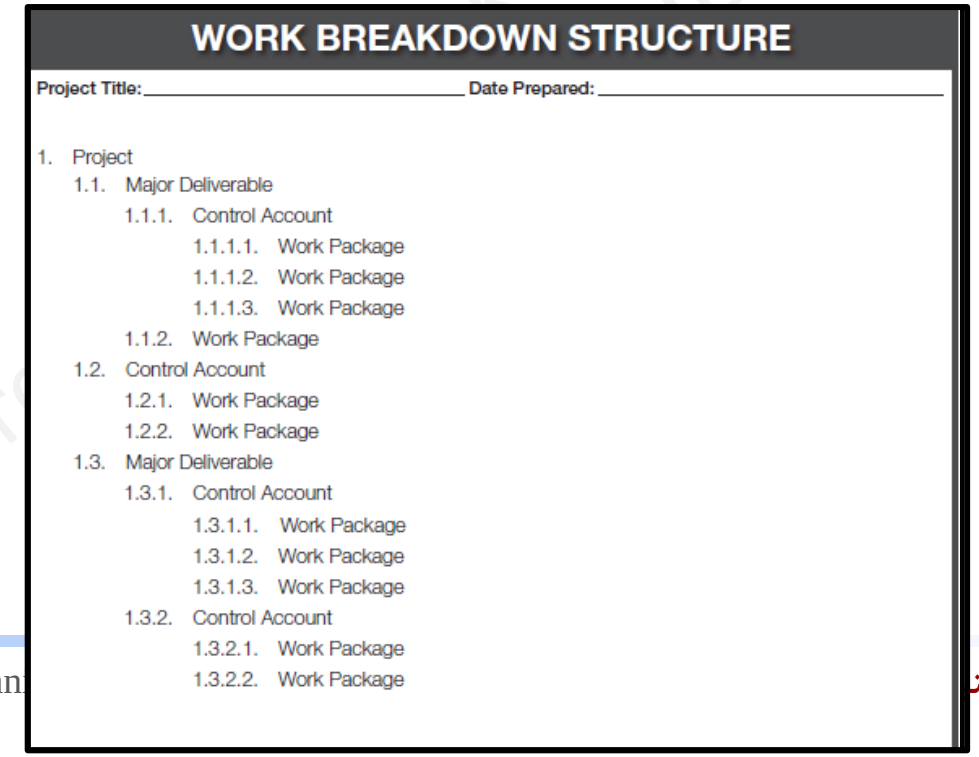
Project Constraints

Project Assumptions

2.9 Work Breakdown Structure

Elements of a Work Breakdown Structure

Document Element	Description
Control account	The point where scope, schedule, and cost are integrated and used to measure project performance
Work package	The lowest-level deliverable defined in the WBS for estimating and measuring resources, cost, and duration. Each work package rolls up to one and only one control account for reporting purposes.



WORK BREAKDOWN STRUCTURE

Project Title: _____ **Date Prepared:** _____

1. Project
   - 1.1. Major Deliverable
     - 1.1.1. Control Account
       - 1.1.1.1. Work Package
       - 1.1.1.2. Work Package
       - 1.1.1.3. Work Package
     - 1.1.2. Work Package
   - 1.2. Control Account
     - 1.2.1. Work Package
     - 1.2.2. Work Package
   - 1.3. Major Deliverable
     - 1.3.1. Control Account
       - 1.3.1.1. Work Package
       - 1.3.1.2. Work Package
       - 1.3.1.3. Work Package
     - 1.3.2. Control Account
       - 1.3.2.1. Work Package
       - 1.3.2.2. Work Package

2.10 WBS Dictionary

Elements of a WBS Dictionary

Document Element	Description
Work package name	Enter a brief description of the work package deliverable from the WBS.
Code of account	Enter the code of account from the WBS.
Milestones	List any milestones associated with the work package.
Due dates	List the due dates for milestones associated with the work package.
ID	Enter a unique activity identifier—usually an extension of the WBS code of accounts.
Activity	Describe the activity from the activity list or the schedule.
Team resource	Identify the resources, usually from the resource requirements.
Labor hours	Enter the total effort required.
Labor rate	Enter the labor rate, usually from cost estimates.
Labor total	Multiply the effort hours times the labor rate.

2.10 WBS Dictionary

Elements of a WBS Dictionary

Document Element	Description
Material units	Enter the amount of material required, usually from the resource requirements.
Material cost	Enter the material cost, usually from cost estimates.
Material total	Multiply the material units times the material cost.
Total cost	Sum the labor, materials, and any other costs associated with the work package.
Quality requirements	Document any quality requirements or metrics associated with the work package.
Acceptance criteria	Describe the acceptance criteria for the deliverable, usually from the scope statement.
Technical information	Describe or reference any technical requirements or documentation needed to complete the work package.
Agreement information	Reference any contracts or other agreements that impact the work package.

2.10 WBS Dictionary

WBS DICTIONARY

Project Title: _____ Date Prepared: _____

Work Package Name:	Code of Accounts:
Description of Work:	Assumptions and Constraints:
Milestones: 1. 2. 3.	Due Dates:

ID	Activity	Resource	Labor			Material			Total Cost
			Hours	Rate	Total	Units	Cost	Total	

Quality Requirements:
Acceptance Criteria:
Technical Information:
Agreement Information:

2.11 Schedule Management Plan

Elements of the Schedule Management Plan

Document Element	Description
Schedule methodology	identify the scheduling methodology that will be used for the project, whether it is critical path, agile, or some other methodology.
Scheduling tool(s)	Identify the scheduling tool(s) that will be used for the project. Tools can include scheduling software, reporting software, earned value software, etc.
Level of accuracy	Describe the level of accuracy needed for estimates. The level of accuracy may evolve over time as more information is known (progressive elaboration). If there are guidelines for rolling wave planning and the level of refinement that will be used for duration and effort estimates, indicate the levels of accuracy required as time progresses.
Units of measure	Indicate whether duration estimates will be in days, weeks, months, or some other unit of measure.

2.11 Schedule Management Plan

Elements of the Schedule Management Plan

Document Element	Description
Variance thresholds	Indicate the measures that determine whether an activity, work package, or the project as a whole is on time, requires preventive action, or is late and requires corrective action.
Schedule reporting and format	Document the schedule information required for status and progress reporting. If a specific reporting format will be used, attach a copy or refer to the specific form or template.
Organizational procedure links	The schedule outline should follow the numbering structure of the WBS. It may also need to follow the organization's code of accounts or other accounting and reporting structures.
Schedule updates	Document the process for updating the schedule, including update frequency, permissions, and version control. Indicate the guidelines for maintaining baseline integrity and for re-baselining if necessary.

2.11 Schedule Management Plan

SCHEDULE MANAGEMENT PLAN

Project Title: _____ Date: _____

Schedule Methodology:

Scheduling Tools:

Level of Accuracy:	Units of Measure:	Variance Thresholds:

Schedule Reporting and Format:

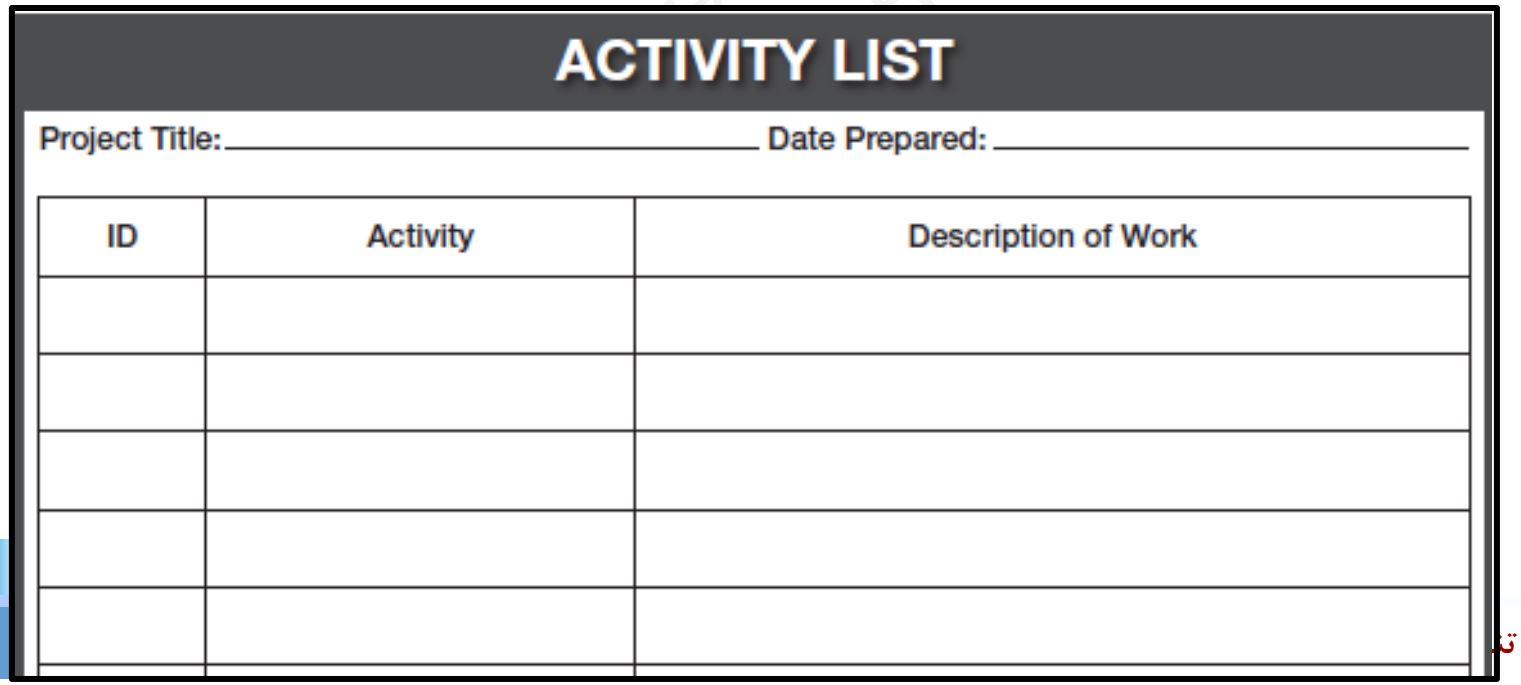
Organizational Procedure Links:

Schedule Updates:

2.12 Activity List

Elements of an Activity List

Document Element	Description
ID	Unique identifier
Activity name	A brief statement that summarizes the activity. Activities usually start with a verb and are only a few words.
Description of work	If needed use this field to provide more detail to the activity description, such as a process or method to accomplish the work.



ACTIVITY LIST

Project Title: _____ Date Prepared: _____

ID	Activity	Description of Work

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2.13 Activity Attributes

Elements of Activity Attributes

Document Element	Description
ID	Unique identifier
Activity name	Document a brief statement that summarizes the activity. The activity name starts with a verb and is usually only a few words.
Predecessor and successor activities	Identify any predecessor activities that must occur before the activity.
Logical relationships	Describe the nature of the relationship between predecessor or successor activities, such as start-to-start, finish-to-start, or finish-to-finish.
Leads and lags	Any required delays between activities (lag) or accelerations (lead) that apply to the logical relationships
Imposed dates	Note any required dates for start, completion, reviews, or accomplishments.
Constraints	Document any limitations associated with the activity, such as finish-no-later-than dates, approaches to work, resources, etc.

2.13 Activity Attributes

Elements of Activity Attributes

Document Element	Description
Assumptions	Document any assumptions associated with the activity, such as availability of resources, skill sets, or other assumptions that impact the activity.
Team resources and skill levels	Document the number and roles of people needed to complete the work along with the skill level, such as junior, senior, etc.
Required physical resources	Document the materials, supplies or equipment needed to complete the activity.
Location of performance	If the work is to be completed somewhere other than at the performing site, indicate the location.
Type of effort	Indicate if the work is a fixed duration, fixed effort, level of effort, apportioned effort, or other type of work.

2.13 Activity Attributes

ACTIVITY ATTRIBUTES

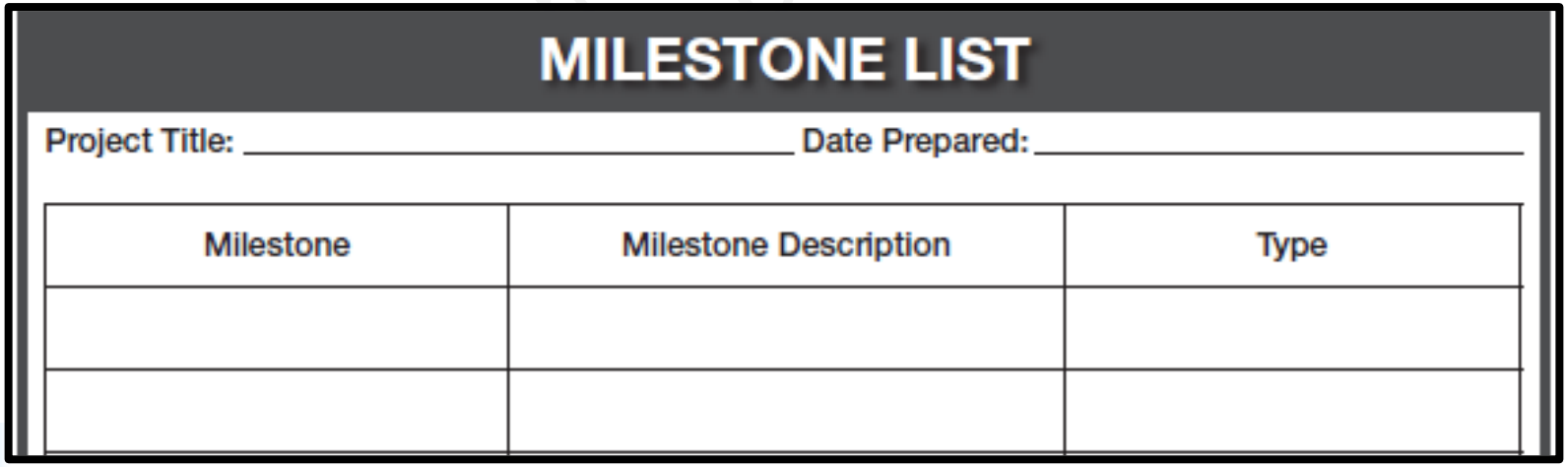
Project Title: _____ Date Prepared: _____

ID:	Activity:				
Description of Work:					
Predecessors	Relationship	Lead or Lag	Successor	Relationship	Lead or Lag
Number and Type of Team Resources Required:		Skill Requirements:		Required Resources:	
Type of Effort:					
Location of Performance:					
Imposed Dates or Other Constraints:					
Assumptions:					

2.14 Milestone List

Elements of a Milestone List

Document Element	Description
Milestone name	Milestone name that uniquely defines the milestone
Milestone description	A description of the milestone in enough detail to understand what is needed to determine the milestone is complete
Type	A description of the type of milestone, such as • Internal or external • Interim or final • Mandatory or optional



MILESTONE LIST

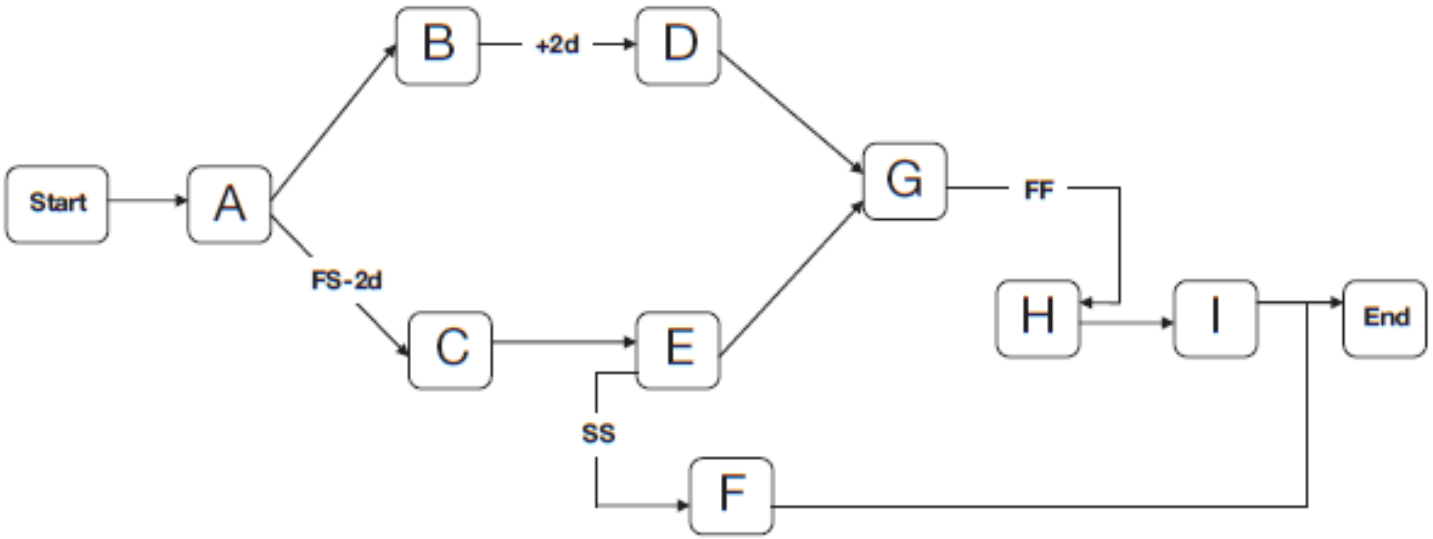
Project Title: _____ Date Prepared: _____

Milestone	Milestone Description	Type

2.15 Network Diagram

NETWORK DIAGRAM

Project Title: _____ Date Prepared: _____



In this network diagram:
There is a two-day lead between the completion of A and beginning of C.
There is a two-day lag between the completion of B and beginning of D.
There is a start-to-start relationship between E and F.
There is a finish-to-finish relationship between G and H.

All other relationships are finish-to-start.

2.16 Duration Estimates

Elements of Duration Estimates

Document Element	Description
ID	Unique identifier
Activity description	A description of the work that needs to be done
Effort hours	The amount of labor it will take to accomplish the work; usually shown in hours, but may be shown in days
Duration estimates	The length of time it will take to accomplish the work; usually shown in days, but may be shown in weeks or months

DURATION ESTIMATES

Project Title: _____ Date Prepared: _____

ID	Activity Description	Effort Hours	Duration Estimate

2.17 Duration Estimating Worksheet

A duration estimating worksheet can help to develop duration estimates when quantitative methods are used. Quantitative methods include:

- Parametric estimates
- Analogous estimates
- Three-point estimates

Parametric estimates are derived by determining the effort hours needed to complete the work. The effort hours are then calculated by:

- Dividing the estimated hours by resource quantity (i.e., number of people assigned to the task)
- Dividing the estimated hours by the percent of time the resource(s) are available (i.e., 100 percent of the time, 75 percent of the time, or 50 percent of the time)
- Multiplying the estimated hours by a performance factor. Experts in a field generally complete work faster than people with an average skill level or novices. Therefore, a factor to account for the productivity is developed.

2.17 Duration Estimating Worksheet

Elements of an Activity Duration Estimating Worksheet

Document Element	Description
ID	Unique identifier
Parametric estimates	
Effort hours	Enter amount of labor it will take to accomplish the work. Usually shown in hours, but may also be shown in days. Example: 150 hours
Resource quantity	Document the number of resources available. Example: 2 people
Percent available	Enter amount of time the resources are available. Usually shown as the percent of time available per day or per week. Example: 75 percent of the time

2.17 Duration Estimating Worksheet

Elements of an Activity Duration Estimating Worksheet

Document Element	Description
Parametric estimates	
Performance factor	Estimate a performance factor if appropriate. Generally effort hours are estimated based on the amount of effort it would take the average resource to complete the work. This can be modified if you have a highly skilled resource or someone who has very little experience. The more skilled the resource, the lower the performance factor. For example, an average resource would have a 1.0 performance factor. A highly skilled resource could get the work done faster, so you multiply the effort hours times a performance factor of .8. A less skilled resource will take longer to get the work done, so you would multiply the effort hours times 1.2. Example: A skilled worker with a performance factor of .8
Duration estimate	Divide the effort hours by the resource quantity times the percent available times the performance factor to determine the length of time it will take to accomplish the work. The equation is: Effort/ (quantity × percent available × performance factor) = duration Example:150/ (2 × 75 × 8) =125 hours

2.17 Duration Estimating Worksheet

Elements of an Activity Duration Estimating Worksheet

Document Element	Description
Analogous estimates	
Previous activity	Enter a description of the previous activity. Example: Build a 160 square foot deck.
Previous duration	Document the duration of the previous activity. Example: 10 days
Current activity	Describe how the current activity is different. Example: Build a 200 square foot deck.
Multiplier	Divide the current activity by the previous activity to get a multiplier. Example: 200/160 = 1.25
Duration estimate	Multiply the duration for the previous activity by the multiplier to calculate the duration estimate for the current activity. Example: 10 days x 1.25 = 12.5 days

2.17 Duration Estimating Worksheet

Elements of an Activity Duration Estimating Worksheet

Document Element	Description
Three-point estimate (Beta distribution)	
Optimistic duration	Determine an optimistic duration estimate. Optimistic estimates assume everything will go well and there won't be any delays in material and that all resources are available and will perform as expected. Example: 20 days
Most likely duration	Determine a most likely duration estimate. Most likely estimates assume that there will be some delays but nothing out of the ordinary. Example: 25 days
Pessimistic duration	Determine a pessimistic duration estimate. Pessimistic estimates assume there are significant risks that will materialize and cause delays. Example: 36 days
Weighting equation	Weight the three estimates and divide. The most common method of weighting is the beta distribution: tE = (tO+4tM+ tP)/6
Expected duration	Enter the expected duration based on the beta distribution calculation. Example: 26 days

2.17 Duration Estimating Worksheet

DURATION ESTIMATING WORKSHEET

Project Title: _____ Date Prepared: _____

Parametric Estimates					
ID	Effort Hours	Resource Quantity	% Available	Performance Factor	Duration Estimate

Analogous Estimates					
ID	Previous Activity	Previous Duration	Current Activity	Multiplier	Duration Estimate

Three-Point Estimates					
ID	Optimistic Duration	Most Likely Duration	Pessimistic Duration	Weighting Equation	Expected Duration Estimate

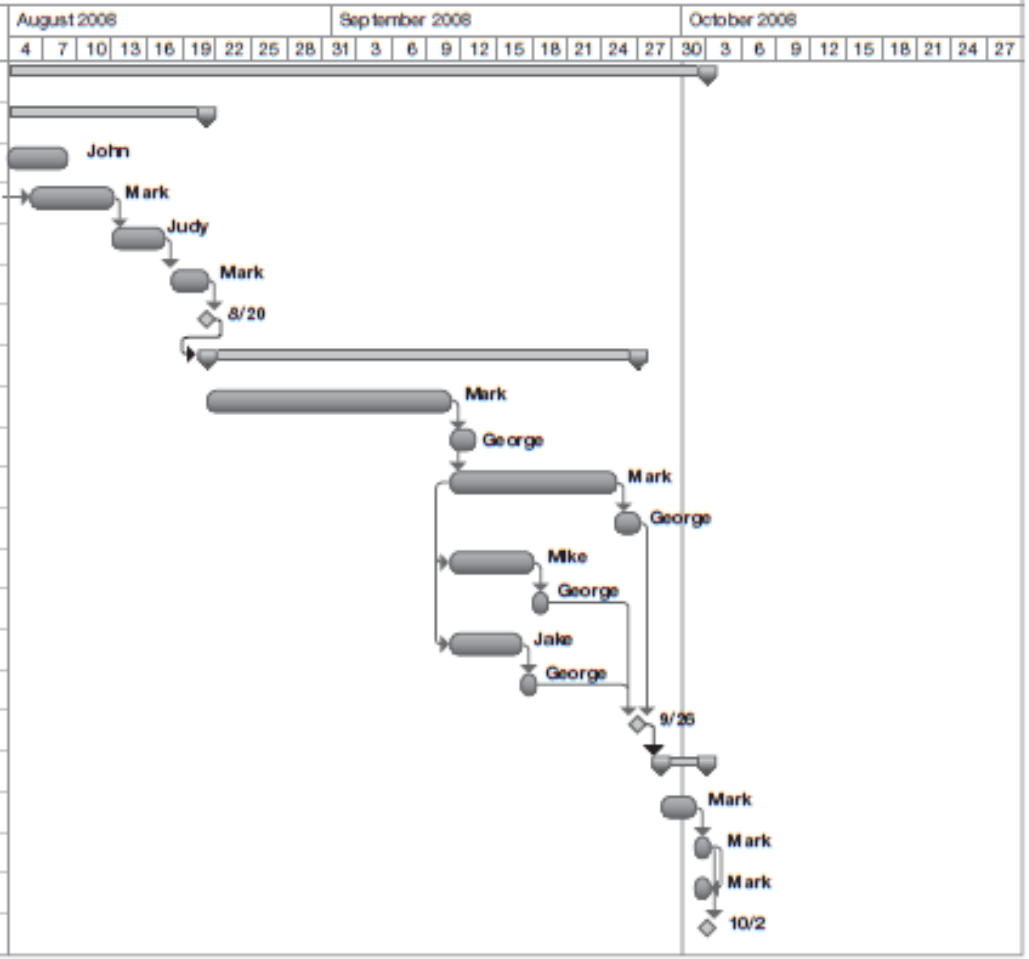
Page 1 of 1

2.18 Project Schedule

PROJECT SCHEDULE

Sample Gantt Chart

ID	WBS	Task Name	Start	Finish
1	**1**	**Kitchen Cabinets**	**Aug 4**	**Oct 2**
2	**1.1**	**Preparation**	**Aug 4**	**Aug 20**
3	1.1.1	Design kitchen layout	Aug 4	Aug 8
4	1.1.2	Design cabinet layout	Aug 6	Aug 12
5	1.1.3	Select materials	Aug 13	Aug 15
6	1.1.4	Purchase materials	Aug 18	Aug 20
7	1.1.5	Preparation complete	Aug 20	Aug 20
8	**1.2**	**Construction**	**Aug 21**	**Sep 26**
9	1.2.1	Build cabinet framing	Aug 21	Sep 10
10	1.2.2	Stain and finish cabinet framing	Sep 11	Sep 12
11	1.2.3	Make cabinet doors	Sep 11	Sep 24
12	1.2.4	Stain and finish doors	Sep 25	Sep 26
13	1.2.5	Make doors	Sep 11	Sep 17
14	1.2.6	Stain and finish drawers	Sep 18	Sep 18
15	1.2.7	Make shelving	Sep 11	Sep 16
16	1.2.8	Stain and finish shelving	Sep 17	Sep 17
17	1.2.9	Construction complete	Sep 26	Sep 26
18	**1.3**	**Installation**	**Sep 29**	**Oct 2**
19	1.3.1	Install cabinet framing	Sep 29	Oct 1
20	1.3.2	Install cabinets	Oct 2	Oct 2
21	1.3.3	Install drawers	Oct 2	Oct 2
22	**1.4**	**Sign off**	Oct 2	Oct 2

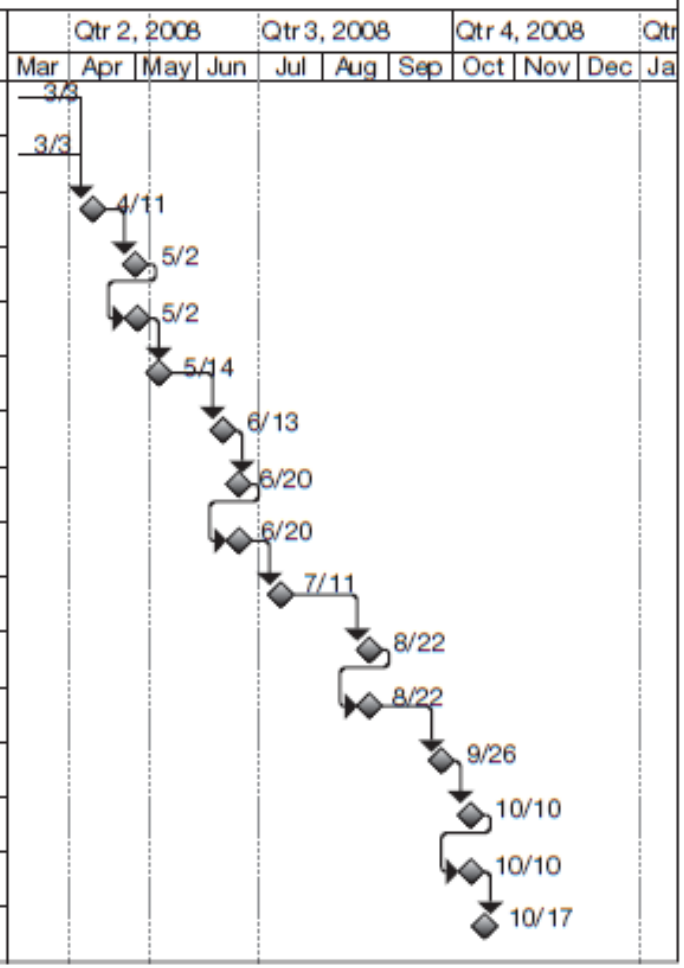


2.18 Project Schedule

PROJECT SCHEDULE

Sample Milestone Chart

ID	Task Name	Finish
1	Vendors selected	Mar 3
2	Financing obtained	Mar 3
3	Plans complete	Apr 11
4	Permits obtained	May 2
5	Paving complete	May 2
6	Foundation complete	May 14
7	House framed	Jun 13
8	Roof set	Jun 20
9	Power established	Jun 20
10	Power complete	Jul 11
11	Plumbing complete	Aug 22
12	HVAC complete	Aug 22
13	Finish work complete	Sep 26
14	Garden site prepared	Oct 10
15	City sign-off	Oct 10
16	Punch list closed	Oct 17



2.19 Cost Management Plan

Elements of a Cost Management Plan

Document Element	Description
Units of measure	Indicate how each type of resource will be measured. For example, labor units may be measured in staff hours, days, or weeks. Physical resources may be measured in gallons, meters, tons, or whatever is appropriate for the material. Some resources are based on a lump sum cost each time they are used.
Level of precision	Indicate whether cost estimates will be rounded to hundreds, thousands, or some other measurement.
Level of accuracy	Describe the level of accuracy needed for estimates. The level of accuracy may evolve over time as more information is known (progressive elaboration). If there are guidelines for rolling wave planning and the level of refinement that will be used for cost estimates, indicate the levels of accuracy required as time progresses.
Organizational procedure links	Cost estimating and reporting should follow the numbering structure of the WBS. It may also need to follow the organization's code of accounts or other accounting and reporting structures.

2.19 Cost Management Plan

Elements of a Cost Management Plan

Document Element	Description
Control thresholds	Indicate the measures that determine whether an activity, work package, or the project as a whole is on budget, requires preventive action, or is over budget and requires corrective action. Usually indicated as a percent deviation from the baseline.
Rules of performance measurement	Identify the level in the WBS where progress and expenditures will be measured. For projects that use earned value management indicate whether costs will be reported at the work package or control account level. Describe the measurement method that will be used, such as weighted milestones, fixed-formula, percent complete, etc. Document the equations that will be used to forecast estimates to complete (ETC) and estimates at completion (EAC).
Cost reporting information and format	Document the cost information required for status and progress reporting. If a specific reporting format will be used, attach a copy or refer to the specific form or template. Indicate the reporting frequency.
Additional details	Describe variables associated with strategic funding choices, such as make or buy, buy or lease, borrowing funds versus using in-house funding, etc.

2.19 Cost Management Plan

COST MANAGEMENT PLAN

Project Title: _____ Date Prepared: _____

Units of Measure:	Level of Precision:	Level of Accuracy:

Organizational Procedure Links:

Control Thresholds:

Rules of Performance Measurement:

Cost Reporting and Format:

Additional Details:

Page 1 of 1

2.20 Cost Estimates

Elements of an Activity Cost Estimate

Document Element	Description
ID	Unique identifier, such as the WBS ID or activity ID
Resource	The resource (person, equipment, material) needed for the WBS deliverable
Labor costs	The costs associated with team or outsourced resources
Physical costs	Costs associated with material, equipment, supplies, or other physical resources
Reserve	Document contingency reserve amounts, if any
Estimate	The sum of the cost of labor, physical resources, and reserve costs
Basis of estimates	Information such as cost per pound, duration of the work, square feet, etc.
Method	The method used to estimate the cost, such as analogous, parametric, etc.
Assumptions/constraints	Assumptions used to estimate the cost, such as the length of time the resource will be needed
Range	The range of estimate
Confidence level	The degree of confidence in the estimate

2.20 Cost Estimates

ACTIVITY COST ESTIMATES

Project Title: _____ **Date Prepared:** _____

WBS ID	Resource	Labor Costs	Physical Costs	Reserve	Estimate	Method	Assumptions/ Constraints	Basis of Estimates	Range	Confidence Level

2.21 Cost Estimating Worksheet

Elements of a Cost Estimating Worksheet

Document Element	Description
ID	Unique identifier, such as the WBS ID or activity ID
Parametric estimates	
Cost variable	Enter the cost estimating driver, such as hours, square feet, gallons, or some other quantifiable measure. Example: Square feet
Cost per unit	Record the cost per unit. Example: $9.50
Number of units	Enter the number of units. Example: 36
Cost estimate	Multiply the number of units times the cost per unit to calculate the estimate. Example: $9.50 x 36 = $342

2.21 Cost Estimating Worksheet

Elements of a Cost Estimating Worksheet

Document Element	Description
Analogous estimates	
Previous activity	Enter a description of the previous activity. Example: Build a 160 square foot deck.
Previous cost	Document the cost of the previous activity. Example: $5,000
Current activity	Describe how the current activity is different. Example: Build a 200 square foot deck.
Multiplier	Divide the current activity by the previous activity to get a multiplier. Example: 200/160 = 1.25
Cost Estimate	Multiply the cost for the previous activity by the multiplier to calculate the Cost Estimate for the current activity. Example: $5,000 x 1.25 = $6,250

2.21 Cost Estimating Worksheet

Elements of a Cost Estimating Worksheet

Document Element	Description
Three-point estimate (Beta distribution)	
Optimistic cost	Determine an optimistic cost estimate. Optimistic estimates assume all costs were identified and there won't be any cost increases in material, labor, or other cost drivers. Example: $4,000
Most likely cost	Determine a most likely cost estimate. Most likely estimates assume that there will be some cost fluctuations but nothing out of the ordinary. Example: $5,000
Pessimistic cost	Determine a pessimistic cost estimate. Pessimistic estimates assume there are significant risks that will materialize and cause cost overruns. Example: $7,500
Weighting equation	Weight the three estimates and divide.The most common method of weighting is the beta distribution, where c = cost: cE= cO+c4M+cP /6 Example: 4,000+4 5,000 /6
Expected cost	Enter the expected cost based on the beta distribution. Example: $5,250

2.21 Cost Estimating Worksheet

Elements of a Bottom-Up Cost Estimating Worksheet

Document Element	Description
ID	Unique identifier, such as the WBS ID or activity ID
Labor hours	Enter the estimated effort hours.
Labor rate	Enter the hourly or daily rate.
Total labor	Multiply the labor hours times the labor rate.
Material	Enter quotes for material, either from vendors or multiply the amount of material times the cost per unit.
Supplies	Enter quotes for supplies, either from vendors or multiply the amount of supplies times the cost per unit.
Equipment	Enter quotes to rent, lease, or purchase equipment.
Travel	Enter quotes for travel.
Other direct costs	Enter any other direct costs and document the type of cost.
Indirect costs	Enter any indirect costs, such as overhead.
Reserve	Enter any contingency reserve cost for the work package.
Estimate	Sum the labor, materials, supplies, equipment, travel, other direct costs, indirect costs, and any contingency reserve.

2.21 Cost Estimating Worksheet

COST ESTIMATING WORKSHEET

Project Title: _____ Date Prepared: _____

Parametric Estimates				
ID	Cost Variable	Cost per Unit	Number of Units	Cost Estimate

Analogous Estimates					
ID	Previous Activity	Previous Cost	Current Activity	Multiplier	Cost Estimate

Three-Point Estimates					
ID	Optimistic Cost	Most Likely Cost	Pessimistic Cost	Weighting Equation	Expected Cost Estimate

Page 1 of 2

2.21 Cost Estimating Worksheet

BOTTOM-UP COST ESTIMATING WORKSHEET

Project Title: _____ Date Prepared: _____

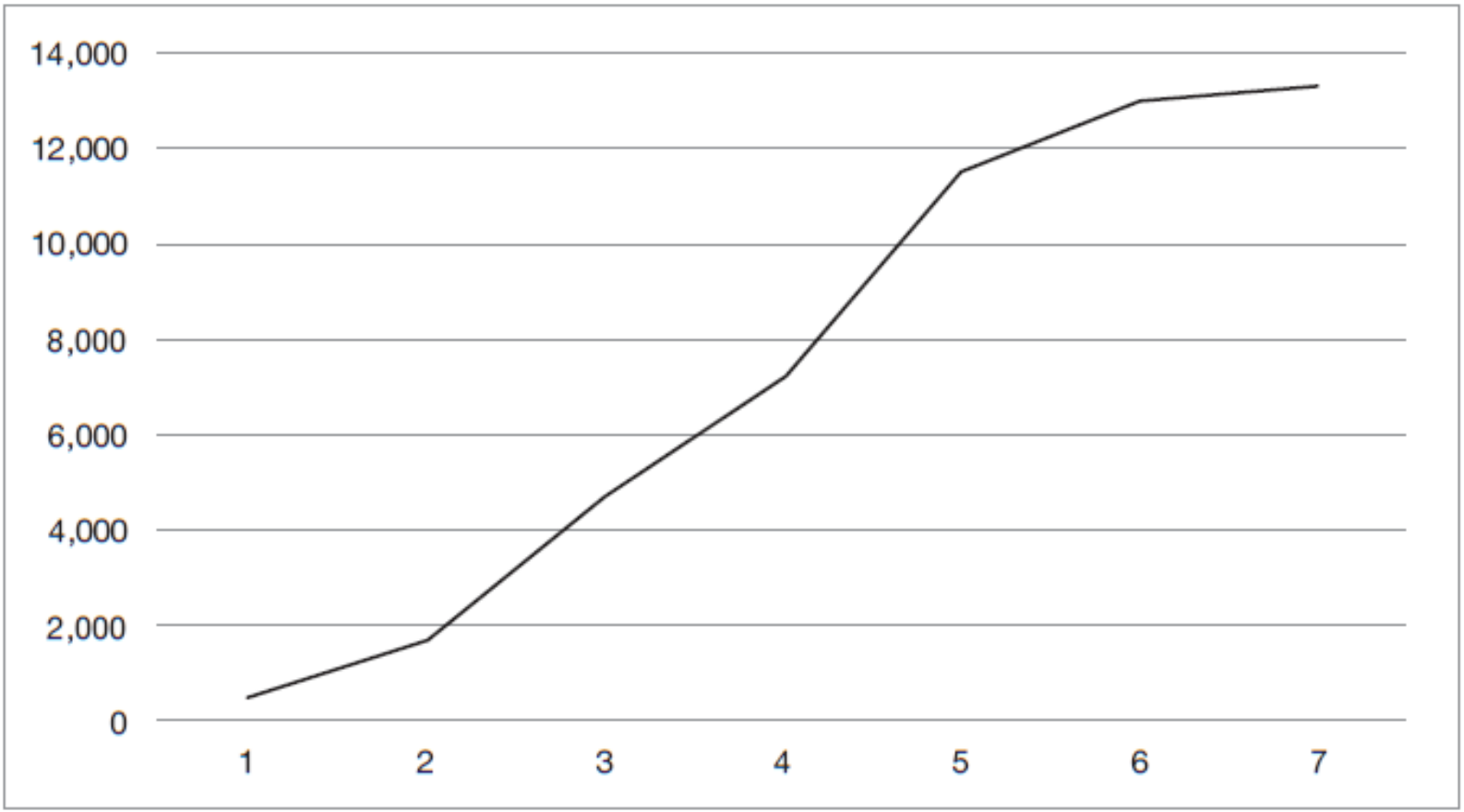
ID	Labor Hours	Labor Rate	Total Labor	Material	Supplies	Equipment	Travel	Other Direct Costs	Indirect Costs	Reserve	Estimate

Page 2 of 2

2.22 Cost Baseline

COST BASELINE

Project Title: _____ **Date Prepared:** _____



2.23 Quality Management Plan

Elements of a Quality Management Plan

Document Element	Description
Quality standards	Quality standards are usually industry or product driven. They may be ISO standards, IEEE, or some other regulatory or industry body.
Quality objectives	Quality objectives are the measures that must be achieved by the project or product components to meet the stakeholder needs. Objectives are the target you want to achieve. You may have metrics or specifications that provide a quantifiable measurement of success.
Quality roles and responsibilities	Define the roles necessary to conduct quality activities on the project and the responsibilities associated with each.
Deliverables and processes subject to quality review	The key deliverables that have metrics or measures associated with quality objectives. The processes used in the project that require verification or validation that they are being performed correctly, or in accordance with quality requirements or Objectives

2.23 Quality Management Plan

Elements of a Quality Management Plan

Document Element	Description
Quality management approach	The approach that will be used to manage the quality process. Includes the timing and content of project and product quality audits.
Quality control approach	The approach that will be used to measure the product and the project performance to ensure the product meets the quality objectives
Applicable quality procedures	Procedures that will be used for the project, such as • Nonconformance and rework • Corrective actions • Quality audits • Continuous improvement

2.23 Quality Management Plan

QUALITY MANAGEMENT PLAN

Project Title: _____ Date Prepared: _____

Quality Standards

Quality Objectives

Metric or Specification	Measure
1.	1.
2.	2.
3.	3.
4.	4.

Quality Roles and Responsibilities

Roles	Responsibilities
1.	1.
2.	2.
3.	3.

QUALITY MANAGEMENT PLAN

Deliverables and Processes Subject to Quality Review

Deliverables	Processes

Quality Management Approach

Quality Control Approach

Applicable Quality Procedures

2.24 Quality Metrics

Elements of Quality Metrics

Document Element	Description
ID	Unique identifier. This can be the WBS ID or activity ID number.
Item	Describe the attribute to be measured.
Metric	The specific, quantifiable measurement
Measurement method	The method of measuring, including any equipment or procedures

QUALITY METRICS

Project Title: _____ Date Prepared: _____

ID	Item	Metric	Measurement Method

2.25 Responsibility Assignment Matrix

Elements of a Responsibility Assignment Matrix

Document Element	Description
Work package	Name of the work package you are assigning resources to. The RAM can be used at the work package level, control account level, or activity level.
Resource	Identify the person, division, or organization that will be working on the project.

2.25 Responsibility Assignment Matrix

RESPONSIBILITY ASSIGNMENT MATRIX

Project Title: _____ Date Prepared: _____

	Person 1	Person 2	Person 3	Person 4	Etc.
Work package 1	R	C	A		
Work package 2		A		I	R
Work package 3		R	R	A	
Work package 4	A	R	I	C	
Work package 5	C	R	R		A
Work package 6	R		A	I	
Etc.	C	A		R	R

R = Responsible: The person performing the work.

C = Consult: The person who has information necessary to complete the work.

A = Accountable: The person who is answerable to the project manager that the work is done on time, meets requirements, and is acceptable.

I = Inform: This person should be notified when the work is complete.

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2.26 Resource Management Plan

Elements of a Resource Management Plan

Document Element	Description
Team member identification	Methods used to identify the skill sets needed and the level of skill needed. This includes techniques to estimate the number of resources needed, such as information from past projects, parametric estimates, or industry standards.
Team member acquisition	Document how staff will be brought on to the project. Describe any differences between internal team members and contract team members with regard to on-boarding procedures.
Team member management	Document how team members will be managed and eventually released from the team. Management methods may vary depending on the relative authority of the project manager and whether team members are internal to the organization or contract staff. Team member release should include methods for knowledge transfer.
Project organizational chart	Create a hierarchy chart to show the project reporting and organizational structure.

2.26 Resource Management Plan

Elements of a Resource Management Plan

Document Element	Description
Roles and responsibilities	Provide information on the following: **Role.** Identify the role or job title and a brief description of the role. **Authority.** Define the decision-making, approval, and influence levels for each role. Examples include alternative selection, conflict management, prioritizing, rewarding and penalizing, etc. **Responsibility.** Define the activities that each role carries out, such as job duties, processes involved, and the hand-offs to other roles. **Qualifications.** Describe any prerequisites, experience, licenses, seniority levels, or other qualifications necessary to fulfill the role. **Competencies.** Describe specific role or job skills and capacities required to complete the work. May include details on languages, technology, or other information necessary to complete the roles successfully.
Training requirements	Describe any required training on equipment, technology, or company processes. Include information on how and when training will be accomplished.
Rewards and recognition	Describe any reward and recognition processes and limitations.

2.26 Resource Management Plan

Elements of a Resource Management Plan

Document Element	Description
Team development	Describe methods for developing individual team members and the team as a whole.
Physical resource identification	Methods used to identify the materials, equipment, and supplies needed to complete the work. This includes units of measure and techniques to estimate the amount of resources needed, such as information from past projects, parametric estimates, or industry standards.
Physical resource acquisition	Document how equipment, materials, and supplies will be acquired. This can include buy, lease, rent, or pull from inventory. In the event resources are acquired, ensure alignment with procurement management processes.
Physical resource management	Document how materials, equipment, and supplies will be managed to ensure they are available when needed. This can include appropriate inventory, supply chain, and logistics information.

2.26 Resource Management Plan

RESOURCE MANAGEMENT PLAN

Project Title: _____ Date Prepared: _____

Team Member Identification and Estimates

Role	Number	Skill Level
1.	1.	1.
2.	2.	2.
3.	3.	3.
4.	4.	4.
5.	5.	5.
6.	6.	6.

Staff Acquisition

Staff Release:

Roles, Responsibilities, and Authority

Role	Responsibility	Authority
1.	1.	1.
2.	2.	2.
3.	3.	3.
4.	4.	4.
5.	5.	5.
6.	6.	6.

Project Organizational Structure

RESOURCE MANAGEMENT PLAN

Training Requirements

Rewards and Recognition

Team Development

Physical Resource Identification and Estimates

Resource	Amount	Grade
1.	1.	1.
2.	2.	2.
3.	3.	3.
4.	4.	4.
5.	5.	5.
6.	6.	6.

Resource Acquisition

Resource Management

2.27 Team Charter

Elements of a Team Charter

Document Element	Description
Team values and principles	List values and principles that the team agrees to operate within. Examples include mutual respect, operating from fact not opinion, etc.
Meeting guidelines	Identify guidelines that will keep meetings productive. Examples include decision makers must be present, start on time, stick to the agenda, etc.
Communication guidelines	List guidelines used for effective communication. Examples include everyone voices their opinion, no dominating the conversation, no interrupting, not using inflammatory language, etc.
Decision-making process	Describe the process used to make decisions. Indicate the relative power of the project manager for decision making as well as any voting procedures. Also indicate the circumstances under which a decision can be revisited.

2.27 Team Charter

Elements of a Team Charter

Document Element	Description
Conflict resolution process	Describe the process for managing conflict, when a conflict will be escalated, when it should be tabled for later discussion, etc.
Other agreements	List any other agreements or approaches to ensuring a collaborative and productive working relationship among team members.

2.27 Team Charter

TEAM CHARTER

Project Title: _____ Date Prepared: _____

Team Values and Principles:

1.
2.
3.
4.
5.

Meeting Guidelines:

1.
2.
3.
4.
5.

Communication Guidelines:

1.
2.
3.
4.
5.

Decision-Making Process:

TEAM CHARTER

Conflict Resolution Process:

Other Agreements:

Signature: _____ Date: _____

2.28 Resource Requirements

Elements of Resource Requirements

Document Element	Description
ID	Unique identifier
Type of resource	Indicate whether the resource is a team resource or physical resource. If physical, indicate if it is equipment, supplies, material, location, or some other form of resource.
Quantity	Document the number or quantity of the resource needed for the activity. Indicate the unit of measure used for estimating resources.
Assumptions	Enter assumptions associated with the resource, such as availability, certifications, etc.
Comments	Include information on basis of estimate, grade, competency, or other relevant information.

2.28 Resource Requirements

RESOURCE REQUIREMENTS

Project Title: _____ Date Prepared: _____

ID	Resource	Quantity	Assumptions	Comments

2.29 Resource Breakdown Structure

RESOURCE BREAKDOWN STRUCTURE

Project Title: _____ Date Prepared: _____

1. Project
    - 1.1. People
        - 1.1.1. Quantity of Role 1
            - 1.1.1.1. Quantity of Level 1
            - 1.1.1.2. Quantity of Level 2
            - 1.1.1.3. Quantity of Level 3
        - 1.1.2. Quantity of Role 2
    - 1.2. Equipment
        - 1.2.1. Quantity of Type 1
        - 1.2.2. Quantity of Type 2
    - 1.3. Materials
        - 1.3.1. Quantity of Material 1
            - 1.3.1.1. Quantity of Grade 1
            - 1.3.1.2. Quantity of Grade 2
    - 1.4. Supplies
        - 1.4.1. Quantity of Supply 1
        - 1.4.2. Quantity of Supply 2
    - 1.5. Locations
        - 1.5.1. Location 1
        - 1.5.2. Location 2

2.30 Communications Management Plan

Elements of a Communications Management Plan

Document Element	Description
Stakeholder communication requirements	The people or the groups of people who need to receive project information and their specific requirements
Information	Describe the information to be communicated, including language, format, content, and level of detail.
Method or media	Describe how the information will be delivered; for example, email, meetings, web meetings, etc.
Time frame and frequency	List how often the information is to be provided and under what circumstances.
Sender	Insert the name of the person or the group that will provide the information.
Communication constraints or assumptions	List any assumptions or constraints. Constraints can include descriptions of proprietary, secure, or sensitive information and relevant restrictions for distribution.
Glossary of common terminology	List any terms or acronyms unique to the project or that are used in a unique way.

2.30 Communications Management Plan

COMMUNICATIONS MANAGEMENT PLAN

Project Title: _____ Date Prepared: _____

Stakeholder	Information	Method	Timing or Frequency	Sender

Assumptions	Constraints

Glossary of Terms or Acronyms:

Attach relevant communication diagrams or flowcharts.

Page 1 of 1

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2.31 Risk Management Plan

Elements of a Risk Management Plan

Document Element	Description
Strategy	The general approach to managing risk on the project
Methodology	Describe the methodology or approach to the risk management. This includes any tools, approaches, or data sources that will be used.
Roles and responsibilities	Document the roles and responsibilities for various risk management activities.
Risk categories	Identify categorization groups used to sort and organize risks. These can be used to sort risks on the risk register or for a risk breakdown structure, if one is used.
Risk management funding	Document the funding needed to perform the various risk management activities, such as utilizing expert advice or transferring risks to a third party. Also establishes protocols for establishing, measuring, and allocating contingency and management reserves.
Frequency and timing	Determine the frequency of conducting formal risk management activities and the timing of any specific activities.

2.31 Risk Management Plan

Elements of a Risk Management Plan

Document Element	Description
Stakeholder risk appetite	Identify the risk thresholds of the organization(s) and key stakeholders on the project with regard to each objective.
Risk tracking and audit	Document how risk activities will be recorded and how risk management processes will be audited.
Definitions of probability	Document how probability will be measured and defined. Include the scale used and the definition for each level in the probability scale. The probability definitions should reflect the stakeholder risk appetite. For example: **Very high** = there is an 80 percent probability or higher that the event will occur **High** = there is a 60–80 percent probability that the event will occur **Medium** = there is a 40–60 percent probability that the event will occur **Low** = there is a 20–40 percent probability that the event will occur **Very low** = there is a 1–20 percent probability that the event will occur

2.31 Risk Management Plan

Elements of a Risk Management Plan

Document Element	Description
Definitions of impact by objective	Document how impact will be measured and defined for either the project as a whole or for each objective. The probability definitions should reflect the stakeholder risk appetite. Include the scale used and the definition for each level in the impact scale. For example: Cost Impacts: **Very high** = overrun of control account budget of >20 percent **High** = overrun of control account budget between 15–20 percent **Medium** = overrun of control account budget between 10–15 percent **Low** = overrun of control account budget between 5–10 percent **Very low** = overrun of control account budget of <5 percent
Probability and impact matrix	Describe the combinations of probability and impact that indicate a high risk, a medium risk, and a low risk and the scoring that will be used to prioritize risks. This can also include an assessment of urgency to indicate how soon the risk event is likely to occur.

2.31 Risk Management Plan

RISK MANAGEMENT PLAN

Project Title: _____ Date Prepared: _____

Strategy

Methodology

Roles and Responsibilities

Role	Responsibility
1.	1.
2.	2.
3.	3.
4.	4.

Risk Categories

Risk Management Funding

Contingency Protocols

RISK MANAGEMENT PLAN

Project Title: _____ Date Prepared: _____

Frequency and Timing

Stakeholder Risk Tolerances

Risk Tracking and Audit

2.31 Risk Management Plan

RISK MANAGEMENT PLAN

Definitions of Probability

Very High	
High	
Medium	
Low	
Very Low	

Definitions of Impact by Objective

	Scope	Quality	Time	Cost
Very High				
High				
Medium				
Low				
Very Low				

RISK MANAGEMENT PLAN

Probability and Impact Matrix

Very High					
High					
Medium					
Low					
Very Low					
	Very Low	Low	Medium	High	Very High

2.32 Risk Register

Elements of a Risk Register

Document Element	Description
Risk ID	Enter a unique risk identifier.
Risk statement	Describe the risk event or condition. A risk statement is usually phrased as “EVENT may occur, causing IMPACT” or “If CONDITION exists, EVENT may occur, leading to EFFECT.”
Risk owner	The person responsible for managing and tracking the risk
Probability	Determine the likelihood of the event or condition occurring.
Impact	Describe the impact on one or more of the project objectives.
Score	If you are using numeric scoring, multiply the probability times the impact to determine the risk score. If you are using relative scoring then combine the two scores (e.g., high-low or medium-high).
Response	Describe the planned response strategy to the risk or condition.
Revised probability	Determine the likelihood of the event or condition occurring after the response has been implemented.

2.32 Risk Register

Elements of a Risk Register

Document Element	Description
Revised impact	Describe the impact once the response has been implemented.
Revised score	Enter the revised risk score once the response has been implemented.
Actions	Describe any actions that need to be taken to respond to the risk.
Status	Enter the status as open or closed.
Comments	Provide any comments or additional helpful information about the risk event or condition.

2.32 Risk Register

RISK REGISTER

Project Title: _____ Date Prepared: _____

ID	Risk Statement	Owner	Probability	Impact				Score	Response
				Scope	Quality	Schedule	Cost		

Revised Probability	Impact				Revised Score	Responsible Party	Actions	Status	Comments
	Scope	Quality	Schedule	Cost					

2.33 Risk Report

Elements of a Risk Report

Document Element	Description
Executive summary	A statement describing the overall project risk exposure and major individual risks affecting the project, along with the proposed responses for trends.
Overall project risk	Provide a description of the overall risk of the project, including: • High-level statement of trends • Significant drivers of overall risk • Recommended responses to overall risk

Individual project risks	Analyze and summarize information associated with individual project risks,
	including:
	• Number of risks in each box of the probability impact matrix
	• Key metrics
	  • Active risks
	  • Newly closed risks
	  • Risks distribution by category, objective, and score
	• Most-critical risks and changes since last report
	• Recommended responses to top risks

2.33 Risk Report

Elements of a Risk Report

Document Element	Description
Quantitative analysis	Summarize the results of quantitative risk analysis, including: • Results from quantitative assessments (S-curve, tornado, etc.) • Probability of meeting key project objectives • Drivers of cost and schedule outcomes • Proposed responses
Reserve status	Describe the reserve status, such as reserve used, reserve remaining, and an assessment of the adequacy of the reserve.
Risk audit results (if applicable)	Summarize the results of a risk audit of the risk management processes.

2.33 Risk Report

RISK REPORT

Project Title: _____ Date: _____

Executive Summary

Overall Project Risk

Overall Risk Status and Trends

Significant Drivers of Overall Risk	Recommended Responses

Individual Project Risks

Indicate the number of individual risks in each box below.

VH					
H					
M					
L					
VL					
	VL	L	M	H	VH

RISK REPORT

Metrics

Number of scope risks	
Number of schedule risks	
Number of cost risks	
Number of quality risks	
Number of very high probability risks	
Number of high probability risks	
Number of medium probability risks	
Number of active risks	
Newly closed risks	

Critical Risks

Top Risks	Responses
1.	1.
2.	2.
3.	3.
4.	4.
5.	5.

Changes to Critical Risks

2.33 Risk Report

RISK REPORT

Quantitative Analysis Summary

Probability of Meeting Objectives:

Scope	Schedule	Cost	Quality	Other

Range of Outcomes

Range of Schedule Outcomes	Range of Cost Outcomes

Key Drivers of Variances	Proposed Responses

Reserve Status

Total Cost Reserve	Used to Date	Used This Period	Remaining Reserve

Total Schedule Reserve	Used to Date	Used This Period	Remaining Reserve

RISK REPORT

Assessment of Reserve Adequacy

Risk Audit Summary

Summary of Risk Events	
Summary of Risk Management Processes	
Summary of Recommendations	

2.34 Probability and Impact Assessment

Elements of a Probability Impact Assessment

Document Element	Description
Scope impact	**Very High** The product does not meet the objectives and is effectively useless **High** The product is deficient in multiple essential requirements **Medium** The product is deficient in one major requirement or multiple minor requirements **Low** The product is deficient in a few minor requirements **Very Low** Minimal deviation from requirements
Quality impact	**Very High** Performance is significantly below objectives and is effectively useless **High** Major aspects of performance do not meet requirements **Medium** At least one performance requirement is significantly deficient **Low** There is minor deviation in performance **Very Low** There is minimal deviation in performance
Schedule impact	**Very High** Greater than 20 percent overall schedule increase **High** Between 10 percent and 20 percent overall schedule increase **Medium** Between 5 percent and 10 percent overall schedule increase **Low** Noncritical paths have used all their float, or overall schedule increase of 1 to 5 percent **Very Low** Slippage on noncritical paths but float remains

2.34 Probability and Impact Assessment

Elements of a Probability Impact Assessment

Document Element	Description
Cost impact	**Very High** Cost increase of greater than 20 percent **High** Cost increase of 10 to 20 percent **Medium** Cost increase of 5 to 10 percent **Low** Cost increase that requires use of all contingency funds **Very Low** Cost increase that requires use of some contingency but some contingency funds remain
Probability	**Very High** The event will most likely occur: 80 percent or greater probability **High** The event will probably occur: 61 to 80 percent probability **Medium** The event is likely to occur: 41 to 60 percent probability **Low** The event may occur: 21 to 40 percent probability **Very Low** The event is unlikely to occur: 1 to 20 percent probability

2.34 Probability and Impact Assessment

Elements of a Probability Impact Assessment

Document Element	Description
Risk rating	**High** Any event with a probability of medium or above and a very high impact on any objective Any event with a probability of high or above and a high impact on any objective Any event with a probability of very high and a medium impact on any objective Any event that scores a medium on more than two objectives **Medium** Any event with a probability of very low and a high or above impact on any objective Any event with a probability of low and a medium or above impact on any objective Any event with a probability of medium and a low to high impact on any objective Any event with a probability of high and a very low to medium impact on any objective Any event with a probability of very high and a low or very low impact on any objective Any event with a probability of very low and a medium impact on more than two objectives **Low** Any event with a probability of medium and a very low impact on any objective Any event with a probability of low and a low or very low impact on any objective Any event with a probability of very low and a medium or less impact on any Objective

2.34 Probability and Impact Assessment

PROBABILITY AND IMPACT RISK RATING

Project Title: _____ Date Prepared: _____

Scope Impact

Very High	
High	
Medium	
Low	
Very Low	

Quality Impact

Very High	
High	
Medium	
Low	
Very Low	

Schedule Impact

Very High	
High	
Medium	
Low	
Very Low	

PROBABILITY AND IMPACT RISK RATING

Cost Impact

Very High	
High	
Medium	
Low	
Very Low	

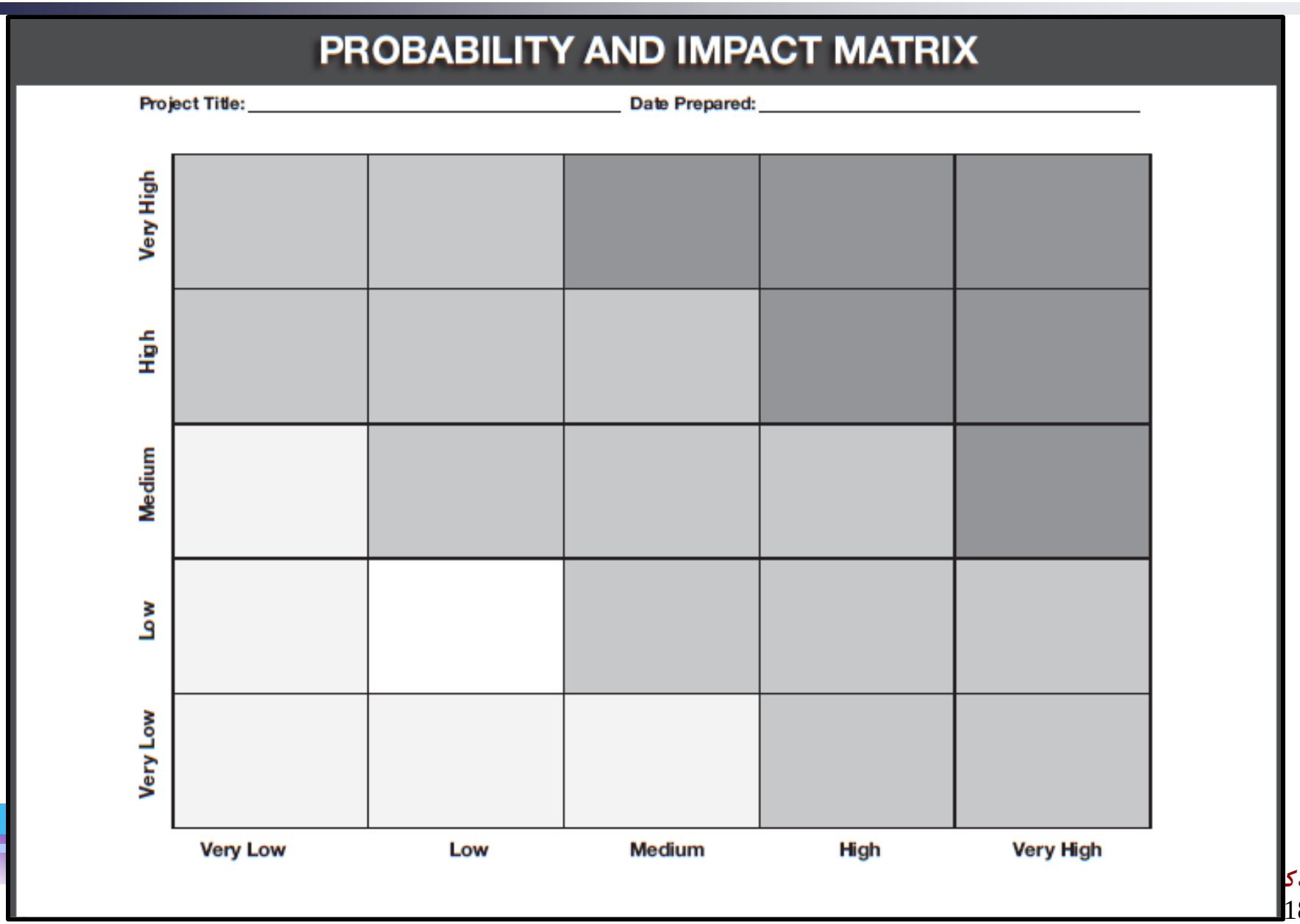
Probability

Very High	
High	
Medium	
Low	
Very Low	

Risk Rating

High	
Medium	
Low	

2.35 Probability and Impact Matrix



2.36 Risk Data Sheet

Elements of a Risk Data Sheet

Document Element	Description
Risk ID	Enter a unique risk identifier.
Risk description	Provide a detailed description of the risk.
Status	Enter the status as open or closed.
Risk cause	Describe the circumstances or drivers that are the source of the risk.
Probability	Determine the likelihood of the event or condition occurring.
Impact	Describe the impact on one or more of the project objectives.
Score	If you are using numeric scoring, multiply the probability times the impact to determine the risk score. If you are using relative scoring then combine the two scores (e.g., high-low or medium-high).
Reponses	Describe the planned response strategy to the risk or condition.
Revised probability	Determine the likelihood of the event or condition occurring after the response has been implemented.
Revised impact	Describe the impact once the response has been implemented.

2.36 Risk Data Sheet

Elements of a Risk Data Sheet

Document Element	Description
Revised score	Enter the revised risk score once the response has been implemented.
Responsible party	Identify the person responsible for managing the risk.
Actions	Describe any actions that need to be taken to respond to the risk.
Secondary risks	Describe new risks that arise out of the response strategies taken to address the risk.
Residual risk	Describe the remaining risk after response strategies.
Contingency plan	Develop a plan that will be initiated if specific events occur, such as missing an intermediate milestone. Contingency plans are used when the risk or residual risk is accepted.
Contingency funds	Determine the funds needed to protect the budget from overrun.
Contingency time	Determine the time needed to protect the schedule from overrun.
Fallback plans	Devise a plan to use if other response strategies fail.
Comments	Provide any comments or additional helpful information about the risk event or condition.

2.36 Risk Data Sheet

RISK DATA SHEET

Project Title: _____ Date Prepared: _____

Risk ID:	Risk Description:						
Status:	Risk Cause:						
Probability	Impact				Score	Responses	
	Scope	Quality	Schedule	Cost			
Revised Probability	Revised Impact				Revised Score	Responsible Party	Actions
	Scope	Quality	Schedule	Cost			
Secondary Risks:							
Residual Risk:							
Contingency Plan:					Contingency Funds:		
					Contingency Time:		
Fallback Plans:							
Comments:							

2.37 Procurement Management Plan

Elements of a Procurement Management Plan

Document Element	Description
Procurement integration	**Scope** Define how the contractor's WBS will integrate with the project WBS. **Schedule** Define how the contractor's schedule will integrate with the project schedule, including milestones and long lead items. **Documentation** Describe how contractor documentation will **integrate** with project documentation. **Risk** Describe how risk identification, analysis, and response will integrate with risk management for the overall project. **Reporting** Define how the contractor's status reports will integrate with the project status report.
Timing	Identify the timetable of key procurement activities. Examples include when the statement of work (SOW) will be complete, when procurement documents will be released, the date proposals are due, and so forth.
Performance metrics	Document the metrics that will be used to evaluate the seller's performance.

2.37 Procurement Management Plan

Elements of a Procurement Management Plan

Document Element	Description
Roles, responsibilities, and authority	Define the roles, responsibilities, and authority level of the project manager, contractor, and procurement department, as well as any other significant stakeholders for the contract.
Assumptions and constraints	Record assumptions and constraints related to the procurement activities.
Legal jurisdiction and currency	Identify the location that has legal jurisdiction. Identify the currency that will be used for pricing and payment.
Independent estimates	Document whether independent cost estimates will be used and if they will be needed for source selection.
Risk management	Document requirements for performance bonds or insurance contracts to reduce risk.
Prequalified sellers	List any prequalified sellers that will be used.

2.37 Procurement Management Plan

PROCUREMENT MANAGEMENT PLAN

Project Title: _____ Date: _____

Procurement Integration

Area	Integration Approach
Scope	
Schedule	
Documentation	
Risk	
Reporting	

Timing of Key Procurement Activities

Date	Activity

Performance Metrics

Item	Metric	Measurement Method

PROCUREMENT MANAGEMENT PLAN

Roles, Responsibility, and Authority

Role	Responsibility	Authority

Assumptions and Constraints

Category	Assumption/Constraint

Legal Jurisdiction and Currency

Independent Estimates

Risk Management

Prequalified Sellers

1.
2.
3.
4.

2.38 Procurement Strategy

Elements of a Procurement Strategy

Document Element	Description
Delivery methods	**Professional services** Describe how the contractor will work with the buyer; for example, in a joint venture, as a representative, with or without subcontracting allowed. **Construction services** Describe the limitations of delivery, such as design build, design bid build, etc.
Contract types	Describe the contract type, fixed, incentive, or award fees. Include the criteria associated with the fees. Common contract types include: Fixed Price: FFP – Firm Fixed Price FPIF – Fixed Price with Incentive Fee FP-EPA – Fixed Price with Economic Price Adjustment Cost Reimbursable: CPFF – Cost Plus Fixed Fee CPIF – Cost Plus Incentive Fee CPAF – Cost Plus Award Fee Time and Materials (T&M)
Procurement phases	List the procurement phases, milestones, criteria to advance to the next phase, and tests or evaluations for each phase. Include any knowledge transfer requirements.

2.38 Procurement Strategy

PROCUREMENT STRATEGY

Project Title: _____ Date: _____

Delivery Method

Contract Type

☐ FFP ☐ FPIF ☐ FP-EPA ☐ CPFF ☐ CPIF ☐ CPAF ☐ T&M ☐ Other

Incentive or Award Fee	Criteria

Procurement Life Cycle

Phase	Entry Criteria	Key Deliverables or Milestones	Exit Criteria	Knowledge Transfer

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2.39 Source Selection Criteria

Elements of Source Selection Criteria

Document Element	Description
Criteria	**1** Describe what a 1 means for the criteria. For example, for experience, it may mean that the bidder has no prior experience. **2** Describe what a 2 means for the criteria. For example, for experience, it may mean that the bidder has done 1 similar job. **3** Describe what a 3 means for the criteria. For example, for experience, it may mean that the bidder has done 3 to 5 similar jobs. **4** Describe what a 4 means for the criteria. For example, for experience, it may mean that the bidder has done 5 to 10 similar jobs. **5** Describe what a 5 means for the criteria. For
Weight	Enter the weight for each criterion. Total weight for all criteria must equal 100 percent.
Candidate rating	Enter the rating per the criteria above.
Candidate score	Multiply the weight times the rating.
Total	Sum the scores for each candidate.

2.39 Source Selection Criteria

SOURCE SELECTION CRITERIA

Project Title: _____ Date Prepared: _____

	1	2	3	4	5
Criterion 1					
Criterion 2					
Criterion 3					
Criterion 4					
Criterion 5					

	Weight	Candidate 1 Rating	Candidate 1 Score	Candidate 2 Rating	Candidate 2 Score	Candidate 3 Rating	Candidate 3 Score
Criterion 1							
Criterion 2							
Criterion 3							
Criterion 4							
Criterion 5							
Totals							

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2.40 Stakeholder Engagement Plan

Elements of a Stakeholder Engagement Plan

Document Element	Description
Stakeholder engagement assessment matrix	Use information from the stakeholder register to document stakeholders. Document "current" stakeholder engagement level with a "C" and "desired" stakeholder engagement with a "D." A common format includes the following stakeholder participation descriptions: **Unaware**. Unaware of project and its potential impacts **Resistant**. Aware of project and potential impacts and resistant to the change **Neutral**. Aware of project yet neither supportive nor resistant **Supportive**. Aware of project and potential impacts and supportive of change **Leading**. Aware of project and potential
Stakeholder changes	Describe any pending additions, deletions, or changes to stakeholders and the potential impact to the project.
Interrelationships	List any relationships between and among stakeholder groups.
Stakeholder engagement approach	Describe the approach you will use with each stakeholder to move them to the preferred level of engagement.

2.40 Stakeholder Engagement Plan

STAKEHOLDER ENGAGEMENT PLAN

Project Title: _____ Date Prepared: _____

Stakeholder	Unaware	Resistant	Neutral	Supportive	Leading

C = Current level of engagement D = Desired level of engagement

Pending Stakeholder Changes

Stakeholder Relationships

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2.40 Stakeholder Engagement Plan

STAKEHOLDER ENGAGEMENT PLAN

Stakeholder Engagement Approach

Stakeholder	Approach

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3. Executing Forms

The purpose of the Executing Process Group is to carry out the work necessary to meet the project objectives. There are ten processes in the Executing Process Group.

1. Direct and Manage Project Work
2. Manage Project Knowledge
3. Manage Quality
4. Acquire Resources
5. Develop Project Team
6. Manage Project Team
7. Manage Communications
8. Implement Risk Responses
9. Conduct Procurements
10. Manage Stakeholder Engagement

3. Executing Forms

The intent of the Executing Process Group is to at least:

- Create the deliverables
- Manage the project knowledge including lessons learned
- Manage project quality
- Acquire team and physical resources
- Manage the project team
- Carry out project communications
- Implement risk responses
- Report project progress
- Bid and award contracts
- Manage stakeholder engagement with the project

3.1 Issue Log

Elements of an Issue Log

Document Element	Description
ID	Enter a unique issue identifier.
Type	Document the type or category of the issue, such as stakeholder issue, technical issue, conflict, etc.
Issue description	Provide a detailed description of the issue.
Priority	Define the priority, such as urgent, high, medium, or low.
Impact on objectives	Identify the project objectives that the issue impacts and the degree of impact.
Responsible party	Identify the person who is assigned to resolve the issue.
Status	Denote the status of the issue as open or closed.
Resolution date	Document the date by which the issue needs to be resolved.
Final resolution	Describe how the issue was resolved.
Comments	Document any clarifying comments about the issue, resolution, or other fields on the form.

3.1 Issue Log

ISSUE LOG

Project Title: _____ Date Prepared: _____

Issue ID	Type	Issue Description	Priority	Impact on Objectives

Responsible Party	Status	Res. Date	Final Resolution	Comments

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3.2 Decision Log

Elements of a Decision Log

Document Element	Description
ID	Enter a unique issue identifier.
Category	Document the type of decision, such as technical, project, process, etc.
Decision	Provide a detailed description of the decision.
Responsible party	Identify the person authorized to make the decision.
Priority	Enter the date the decision was made and authorized.
Responsible party	Identify the person who is assigned to resolve the issue.
Comments	Enter any further information to clarify the decision, alternatives considered, the reason the decision was made, and the impact of the decision.

3.2 Decision Log

DECISION LOG

Project Title: _____ Date Prepared: _____

ID	Category	Decision	Responsible Party	Date	Comments

3.3 Change Request

Elements of a Change Request

Document Element	Description
Requestor	The name, and if appropriate, the position of the person requesting the change
Category	Check a box to indicate the category of change.
Description of change	Describe the proposed change in enough detail to clearly communicate all aspects of the change.
Justification for proposed change	Indicate the reason for the change.

3.3 Change Request

Elements of a Change Request

Document Element	Description
Impacts of change	**Scope** Describe the impact of the proposed change on the project and product scope. **Quality** Describe the impact of the proposed change on the project or product quality. **Requirements** Describe the impact of the proposed change on the project or product requirements. **Cost** Describe the impact of the proposed change on the project budget, cost estimates, or funding requirements. **Schedule** Describe the impact of the proposed change on the schedule and whether it will change the critical path. **Project documents** Describe the impact of the proposed change on each project document.
Comments	Provide any comments that will clarify information about the requested change.

3.3 Change Request

CHANGE REQUEST

Project Title: _____ Date Prepared: _____

Requestor:

Category:

☐ Scope ☐ Quality ☐ Requirements

☐ Cost ☐ Schedule ☐ Documents

Detailed Description of Proposed Change

Justification for Proposed Change

Impacts of Change

Scope	☐ Increase	☐ Decrease	☐ Modify
Description:			
Quality	☐ Increase	☐ Decrease	☐ Modify
Description:			

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CHANGE REQUEST

Requirements	☐ Increase	☐ Decrease	☐ Modify
Description:			
Cost	☐ Increase	☐ Decrease	☐ Modify
Description:			
Schedule	☐ Increase	☐ Decrease	☐ Modify
Description:			
Stakeholder Impact	☐ High risk	☐ Low risk	☐ Medium risk
Description:			
Project Documents			

Comments

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3.3 Change Request

CHANGE REQUEST

Disposition: ☐ Approve ☐ Defer ☐ Reject

Justification

3.4 Change Log

Elements of a Change Log

Document Element	Description
Identifier	Enter a unique change identifier.
Category	Enter the category from the change request form.
Description	Describe the proposed change.
Requestor	Enter the name of the person requesting the change.
Submission date	Enter the date the change was submitted.
Status	Enter the status as open, pending, closed.
Disposition	Enter the outcome of the change request as approved, deferred, or rejected.

3.4 Change Log

CHANGE LOG

Project Title: _____ Date Prepared: _____

ID	Category	Description of Change	Requestor	Submission Date	Status	Disposition

3.5 Lessons Learned Register

Elements of a Lessons Learned Register

Document Element	Description
ID	Enter a unique Lesson identifier.
Category	Document the category of lesson, such as process, technical, environmental, stakeholder, phase, etc.
Trigger	Describe the context, event, or condition that led to the challenge, problem, or beneficial outcome.
Lesson	Articulate the lesson that can be passed on to other projects and to the organization.
Responsible party	Identify the person who is assigned to implement any changes to ensure the lesson is communicated and distributed.
Comments	Document any clarifying comments about the challenge, problem, good practice, or other fields on the form.

3.5 Lessons Learned Register

LESSONS LEARNED REGISTER

Project Title: _____ Date Prepared: _____

ID	Category	Trigger	Lesson	Responsible Party	Comments

3.6 Quality Audit

Elements of a Quality Audit

Document Element	Description
Area audited	Check the box for the area or areas audited.
Good practices from similar projects	Describe any good or best practices that can be shared from similar projects.
Areas for improvement	Describe any areas that need improvement and the specific improvements or measurements that need to be achieved.
Deficiencies or defects	**ID** Enter a unique defect identifier. **Defect** Describe the deficiency or defect. **Action** Describe the corrective actions needed to fix the defect. **Responsible** party Identify the person assigned to correct the deficiency or defect. **Due date** Document the due date.
Comments	Provide any additional useful comments about the audit.

3.6 Quality Audit

QUALITY AUDIT

Project Title: _____ **Date Prepared:** _____

Project Auditor: _____ **Audit Date:** _____

Area Audited:

☐ Project processes	☐ Project documents
☐ Product documents	☐ Product documentation
☐ Quality management plan	☐ Defect/deficiency repair
☐ Organizational policies and procedures	

Good Practices from Similar Projects:

Areas for Improvement:

Deficiencies or Defects:

ID	Defect	Action	Responsible Party	Due Date

Comments:

By: K.Kordani PMP, MSc

3.7 Team Performance Assessment

Elements of a Team Performance Assessment

Document Element	Description
Technical performance	**Scope** Rate the team's ability to deliver the scope of the project and product. Provide comments that describe instances or aspects of scope performance that justify the rating. **Quality** Rate the team's ability to deliver the quality required of the project and product. Provide comments that describe instances or aspects of quality performance that justify the rating. **Schedule** Rate the team's ability to deliver on schedule. Provide comments that describe instances or aspects of schedule performance that justify the rating. **Cost** Rate the team's ability to deliver within budget. Provide comments that describe instances or aspects of cost performance that justify the rating.

3.7 Team Performance Assessment

Elements of a Team Performance Assessment

Document Element	Description
Interpersonal competency	**Communication** Rate the team's ability to communicate effectively. Provide comments that illustrate instances of communication that justify the rating. **Collaboration** Rate the team's ability to collaborate effectively. Provide comments that illustrate instances of collaboration that justify the rating. **Conflict** management Rate the team's ability to manage conflict effectively. Provide comments that illustrate instances of conflict management that justify the rating. **Decision making** Rate the team's ability to make decisions effectively. Provide comments that illustrate instances of decision making that justify the rating.
Team morale	Describe the overall team morale.
Areas for development	**Area** List technical or interpersonal areas for development. **Approach** Describe the development approach, such as training, mentoring, or coaching. **Actions** List the actions necessary to implement the development approach.

3.7 Team Performance Assessment

TEAM PERFORMANCE ASSESSMENT

Project Title: _____ Date Prepared: _____

Technical Performance

Scope	☐ Exceeds Expectations	☐ Meets Expectations	☐ Needs Improvement
Comments:			
Quality	☐ Exceeds Expectations	☐ Meets Expectations	☐ Needs Improvement
Comments:			
Schedule	☐ Exceeds Expectations	☐ Meets Expectations	☐ Needs Improvement
Comments:			
Cost	☐ Exceeds Expectations	☐ Meets Expectations	☐ Needs Improvement
Comments:			

TEAM PERFORMANCE ASSESSMENT

Interpersonal Competency

Communication	☐ Exceeds Expectations	☐ Meets Expectations	☐ Needs Improvement
Comments:			
Collaboration	☐ Exceeds Expectations	☐ Meets Expectations	☐ Needs Improvement
Comments:			
Conflict Management	☐ Exceeds Expectations	☐ Meets Expectations	☐ Needs Improvement
Comments:			
Decision Making	☐ Exceeds Expectations	☐ Meets Expectations	☐ Needs Improvement
Comments:			

3.7 Team Performance Assessment

TEAM PERFORMANCE ASSESSMENT

Team Morale	☐ Exceeds Expectations	☐ Meets Expectations	☐ Needs Improvement

Comments:

Areas for Development

Area	Approach	Actions

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4. Monitoring and Controlling Forms

- The purpose of the Monitoring and Controlling Process Group is to review project work results and compare them to planned results. A significant variance indicates the need for preventive actions, corrective actions, or change requests. There are 11 processes in the Monitoring and Controlling Process Group:
  - Monitor and Control Project Work
  - Perform Integrated Change Control
  - Validate Scope
  - Control Scope
  - Control Schedule
  - Control Costs
  - Control Quality
  - Control Resources
  - Monitor Communications
  - Monitor Risks
  - Control Procurements
  - Monitor Stakeholder Engagement

4.1 Team Member Status Report

Elements of a Team Member Status Report

Document Element	Description
Activities planned this reporting period	List all activities scheduled for this period, including work to be started, continued, or completed.
Activities accomplished this reporting period	List all activities accomplished this period, including work that was started, continued, or completed.
Activities planned but not accomplished this reporting period	List all activities that were scheduled for this period, but not started, continued, or completed.
Root cause of variances	For any work that was not accomplished as scheduled, identify the cause of the variance.
Funds spent this reporting period	Record funds spent this period.
Funds planned to be spent this reporting period	Record funds that were planned to be spent this period.
Root cause of variances	For any expenditures that were over or under plan, identify the cause of the variance. Include information on labor vs. material variances. Identify if the basis of estimates or the assumptions were inaccurate.

4.1 Team Member Status Report

Elements of a Team Member Status Report

Document Element	Description
Quality variances identified this period	Identify any product performance or quality variance.
Planned corrective of preventive action	Identify any actions needed to recover cost, schedule, or quality variances or prevent future variances.
Activities planned for next reporting period	List all activities scheduled for next period, including work to be started, continued, or completed.
Costs planned for next reporting period	Identify funds planned to be expended next period.
New risks identified	Identify any new risks that have arisen. New risks should be recorded in the risk register as well.
Issues	Identify any new issues that have arisen. New issues should be recorded in the issue log as well.
Comments	Document any comments that add relevance to this report.

4.1 Team Member Status Report

TEAM MEMBER STATUS REPORT

Project Title: _____ Date Prepared: _____

Team Member: _____ Role: _____

Activities Planned for This Reporting Period

1.
2.
3.
4.
5.
6.

Activities Accomplished This Reporting Period

1.
2.
3.
4.
5.
6.

Activities Planned but Not Accomplished This Reporting Period

1.
2.
3.
4.

TEAM MEMBER STATUS REPORT

Root Cause of Activity Variances

Funds Spent This Reporting Period

Funds Planned to Be Spent This Reporting Period

Root Cause of Cost Variances

Quality Variances Identified This Period

Planned Corrective or Preventive Action

4.1 Team Member Status Report

TEAM MEMBER STATUS REPORT

Activities Planned for Next Reporting Period

1.
2.
3.
4.
5.

Costs Planned for Next Reporting Period

New Risks Identified

Risk

New Issues Identified

Issue

Comments

Page 3 of 3

4.2 Project Status Report

Elements of a Project Status Report

Document Element	Description
Accomplishments for this reporting Period	List all work packages or other accomplishments scheduled for completion for the current reporting period.
Accomplishments planned but not completed this reporting period	List all work packages or other accomplishments scheduled for the current period but not completed.
Root cause of variances	Identify the cause of the variance for any work that was not accomplished as scheduled for the current period.
Impact to upcoming milestones or project due date	Identify any impact to any upcoming milestones or overall project schedule for any work that was not accomplished as scheduled. Identify any work currently behind on the critical path or if the critical path has changed based on the variance.
Planned corrective or preventive Action	Identify any actions needed to make up schedule variances or prevent future schedule variances.
Funds spent this reporting period	Record funds spent this period.

4.2 Project Status Report

Elements of a Project Status Report

Document Element	Description
Root cause of variance	Identify the cause of the variance for any expenditure over or under plan. Include information on the labor variance versus material variance and whether the variance is due to the basis of estimates or estimating assumptions.
Impact to overall budget or contingency Funds	Indicate the impact to the overall project budget or whether contingency funds must be expended.
Planned corrective or preventive Action	Identify any actions needed to recover cost variances or to prevent future schedule variances.
Accomplishments planned for next reporting period	List all work packages or accomplishments scheduled for completion next period.
Costs planned for next reporting Period	Identify funds planned to be expended next period.
New risks identified	Identify any new risks that have been identified this period. These risks should be recorded in the risk register as well.
Issues	Identify any new issues that have arisen this period. These issues should be recorded in the issue log as well.
Comments	Record any comments that add relevance to the report.

4.2 Project Status Report

PROJECT STATUS REPORT

Project Title: _____ Date Prepared: _____

Project Manager: _____ Sponsor: _____

Accomplishments for This Reporting Period

1.
2.
3.
4.
5.
6.

Accomplishments Planned but Not Completed This Reporting Period

1.
2.
3.
4.

Root Cause of Variances

PROJECT STATUS REPORT

Impact to Upcoming Milestones or Project Due Date

Planned Corrective or Preventive Action

Funds Spent This Reporting Period

Root Cause of Variances

4.2 Project Status Report

PROJECT STATUS REPORT

Impact to Overall Budget or Contingency Funds

Planned Corrective or Preventive Action

Accomplishments Planned for Next Reporting Period

1.
2.
3.
4.

Costs Planned for Next Reporting Period

PROJECT STATUS REPORT

New Risks Identified

Risk:

Issues

Issue:

Comments

4.3 Variance Analysis

Elements of Variance Analysis

Document Element	Description
Schedule variance	**Planned result** Describe the work planned to be accomplished. **Actual result** Describe the work actually accomplished. **Variance** Describe the variance. **Root cause** Identify the root cause of the variance. **Planned response** Document the planned corrective or preventive action.
Cost variance	**Planned result** Record the planned costs for the work planned to be accomplished. **Actual result** Record the actual costs expended. **Variance** Calculate the variance. **Root cause** Identify the root cause of the variance. **Planned response** Document the planned corrective or preventive action.
Quality variance	**Planned result** Describe the planned performance or quality measurements. **Actual result** Describe the actual performance or quality measurements. **Variance** Describe the variance. **Root cause** Identify the root cause of the variance. **Planned response** Document the planned corrective action.

4.3 Variance Analysis

VARIANCE ANALYSIS

Project Title: _____ Date Prepared: _____

Schedule Variance

Planned Result	Actual Result	Variance

Root Cause

Planned Response

Cost Variance

Planned Result	Actual Result	Variance

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VARIANCE ANALYSIS

Root Cause

Planned Response

Quality Variance

Planned Result	Actual Result	Variance

Root Cause

Planned Response

Page 2 of 2

4.4 Earned Value Analysis

Elements of Earned Value Analysis

Document Element	Description
Planned value	Enter the value of the work planned to be accomplished.
Earned value	Enter the value of the work actually accomplished.
Actual cost	Enter the cost for the work accomplished.
Schedule variance	Calculate the schedule variance by subtracting the planned value from the earned value. SV = EV – PV
Cost variance	Calculate the cost variance by subtracting the actual cost from the earned value. CV = EV – AC
Schedule performance index	Calculate the schedule performance index by dividing earned value by the planned value. SPI = EV/PV
Cost performance index	Calculate the cost performance index by dividing the earned value by the actual cost. CPI = EV/AC
Root cause of schedule variance	Identify the root cause of the schedule variance.
Schedule impact	Describe the impact on deliverables, milestones, or critical path.
Root cause of cost variance	Identify the root cause of the cost variance.

4.4 Earned Value Analysis

Elements of Earned Value Analysis

Document Element	Description
Budget impact	Describe the impact on the project budget, contingency funds and reserves, and any intended actions to address the variance.
Percent planned	Indicate the cumulative percent of the work planned to be accomplished. PV/BAC
Percent earned	Indicate the cumulative percent of work that has been accomplished. EV/BAC
Percent spent	Indicate the total costs spent to accomplish the work. AC/BAC
Estimates at completion	Determine an appropriate method to forecast the total expenditures at the project completion. Calculate the forecast and justify the reason for selecting the particular estimate at completion. For example: If the CPI is expected to remain the same for the remainder of the project: EAC = BAC/CPI If both the CPI and SPI will influence the remaining work: EAC = AC + [(BAC – EV)/(CPI× SPI)]
To complete performance index	Calculate the work remaining divided by the funds remaining. TCPI = (BAC – EV)/(BAC – AC) to complete on plan, or TCPI = (BAC – EV)/(EAC – AC) to complete the current EAC.

4.4 Earned Value Analysis

EARNED VALUE ANALYSIS REPORT

Project Title: _____ Date Prepared: _____

Budget at Completion (BAC): _____ Overall Status: _____

	Current Reporting Period	Current Period Cumulative	Past Period Cumulative
Planned value (PV)			
Earned value (EV)			
Actual cost (AC)			
Schedule variance (SV)			
Cost variance (CV)			
Schedule performance index (SPI)			
Cost performance index (CPI)			
Root Cause of Schedule Variance:			
Schedule Impact:			
Root Cause of Cost Variance:			
Budget Impact:			
Percent planned			
Percent earned			
Percent spent			
Estimates at Completion (EAC):			
EAC w/CPI [BAC/CPI]			
EAC w/ CPI*SPI [AC + ((BAC - EV)/ (CPI*SPI))]			
Selected EAC, Justification, and Explanation			
To complete performance index (TCPI)			

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4.5 Risk Audit

Elements of Risk Audit

Document Element	Description
Risk event audit	**Event** List the event from the risk register. **Cause** Identify the root cause of the event from the risk register. **Response** Describe the response implemented. **Comment** Discuss if there was any way to have foreseen the event and respond to it more effectively.
Risk response audit	**Event** List the event from the risk register. **Response** List the risk response from the risk register. **Successful** Indicate if the response was successful. **Actions to improve** Identify any opportunities for improvement in risk response.
Risk management process audit	**Plan risk management** Followed: Indicate if the various processes were followed as indicated in the risk management plan. **Identify risks** Tools and techniques used: Identify tools and techniques used in the various risk management processes and whether they were successful. **Perform qualitative risk analysis** **Perform quantitative risk analysis** **Plan risk responses** **Control risks**

4.5 Risk Audit

Elements of Risk Audit

Document Element	Description
Description of good practices to share	Describe any practices that should be shared for use on other projects. Include any recommendations to update and improve risk forms, templates, policies, procedures, or processes to ensure these practices are repeatable.
Description of areas for improvement	Describe any practices that need improvement, the improvement plan, and any follow up dates or information for corrective action.

4.5 Risk Audit

RISK AUDIT

Project Title: _____ Date Prepared: _____

Project Auditor: _____ Audit Date: _____

Risk Event Audit

Event	Cause	Response	Comment

Risk Response Audit

Event	Response	Successful	Actions to Improve

Risk Management Process Audit

Process	Followed	Tools and Techniques Used
Plan Risk Management		
Identify Risks		
Perform Qualitative Assessment		
Perform Quantitative Assessment		
Plan Risk Responses		
Monitor and Control Risks		

RISK AUDIT

Description of Good Practices to Share

Description of Areas for Improvement

4.6 Contractor Status Report

Elements of a Contractor Status Report

Document Element	Description
Scope performance this reporting period	Describe progress on scope made during this reporting period.
Quality performance this reporting period	Identify any quality or performance variances.
Schedule performance this reporting period	Describe whether the contract is on schedule. If ahead or behind, identify the cause of the variance.
Cost performance this reporting period	Describe whether the contract is on budget. If over or under budget, identify the cause of the variance.
Forecast performance for future reporting periods	Discuss the estimated delivery date and final cost of the contract. If the contract is a fixed price, do not enter cost forecasts.
Claims or disputes	Identify any new or resolved disputes or claims that have occurred during the current reporting period.
Risks	List any risks. Risks should also be in the risk register.

4.6 Contractor Status Report

Elements of a Contractor Status Report

Document Element	Description
Planned corrective or preventive action	Identify planned corrective or preventive actions necessary to recover schedule, cost, scope, or quality variances.
Issues	Identify any new issues that have arisen. These should also be entered in the issue log.
Comments	Add any comments that will add relevance to the report.

4.6 Contractor Status Report

CONTRACTOR STATUS REPORT

Project Title: _____ Date Prepared: _____

Vendor: _____ Contract #: _____

Scope Performance This Reporting Period

Quality Performance This Reporting Period

Schedule Performance This Reporting Period

CONTRACTOR STATUS REPORT

Cost Performance This Reporting Period

Forecast Performance for Future Reporting Periods

Claims or Disputes

Risks

4.6 Contractor Status Report

CONTRACTOR STATUS REPORT

Planned Corrective or Preventive Action

Issues

Comments

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4.7 Procurement Audit

Elements of a Procurement Audit

Document Element	Description
What worked well	**Scope** Describe aspects of contract scope that were handled well. **Quality** Describe aspects of product quality that were handled well. **Schedule** Describe aspects of the contract schedule that were handled well. **Cost** Describe aspects of the contract budget that were handled well. **Other** Describe any other aspects of the contract or procurement that were handled well.
What can be improved	**Scope** Describe aspects of contract scope that could be improved. **Quality** Describe aspects of product quality that could be improved. **Schedule** Describe aspects of the contract schedule that could be improved. **Cost** Describe aspects of the contract budget that could be improved. **Other** Describe any other aspects of the contract or procurement that could be improved.

4.7 Procurement Audit

Elements of a Procurement Audit

Document Element	Description
Procurement management process audit	**Plan procurements** Indicate if each procurement was followed or not. Describe any tools or techniques that were effective for each procurement. **Conduct procurements** **Control Procurements**
Good practices to share	Describe any good practices that can be shared with other projects or that should be incorporated into organization policies, procedures, or processes. Include information on lessons learned.
Areas for improvement	Describe any areas that should be improved with the procurement process. Include information that should be incorporated into policies, procedures, or processes. Include information on lessons learned.

4.7 Procurement Audit

PROCUREMENT AUDIT

Project Title: _____ Date Prepared: _____

Project Auditor: _____ Audit Date: _____

Vendor Performance Audit

What Worked Well:	
Scope	
Quality	
Schedule	
Cost	
Other	
What Can Be Improved:	
Scope	
Quality	
Schedule	
Cost	
Other	

Procurement Management Process Audit

Process	Followed	Tools and Techniques Used
Plan Procurements		
Conduct Procurements		
Control Procurements		

PROCUREMENT AUDIT

Description of Good Practices to Share

Description of Areas for Improvement

4.8 Contract Closeout Report

Elements of a Contract Closeout

Document Element	Description
What worked well	**Scope** Describe aspects of contract scope that were handled well. **Quality** Describe aspects of product quality that were handled well. **Schedule** Describe aspects of the contract schedule that were handled well. **Cost** Describe aspects of the contract budget that were handled well. **Other** Describe any other aspects of the contract or procurement that were handled well.
What can be improved	**Scope** Describe aspects of contract scope that could be improved. **Quality** Describe aspects of product quality that could be improved. **Schedule** Describe aspects of the contract schedule that could be improved. **Cost** Describe aspects of the contract budget that could be improved. **Other** Describe any other aspects of the contract or procurement that could be improved.

4.8 Contract Closeout Report

Elements of a Contract Closeout

Document Element	Description
Record of contract changes	**Change ID** Enter the change identifier from the change log. **Change description** Enter the description from the change log. **Date approved** Enter the date approved from the change log.
Record of contract disputes	**Description** Describe the dispute or claim. **Resolution** Describe the resolution. **Date resolved** Enter the date the dispute or claim was resolved.

4.8 Contract Closeout Report

CONTRACT CLOSEOUT

Project Title: _____ Date Prepared: _____

Project Manager: _____ Contract Representative: _____

Vendor Performance Analysis

What Worked Well:	
Scope	
Quality	
Schedule	
Cost	
Other	
What Can Be Improved:	
Scope	
Quality	
Schedule	
Cost	
Other	

Record of Contract Changes

Change ID	Change Description	Date Approved

CONTRACT CLOSEOUT

Record of Contract Disputes

Description	Resolution	Date Resolved

Date of Contract Completion _____

Signed Off by _____

Date of Final Payment _____

4.9 Product Acceptance FORM

Elements of Product Acceptance

Document Element	Description
ID	Enter a unique requirement identifier from the requirements documentation.
Requirement	Enter the requirement description from the requirements documentation.
Acceptance criteria	Enter the criteria for acceptance.
Validation method	Describe the method of validating the requirement meets the stakeholder's needs.
Status	Document whether the requirement or deliverable was accepted or not.
Sign-off	Obtain the signature of the party accepting the product.

4.9 Product Acceptance FORM

FORMAL ACCEPTANCE FORM

Project Title: _____ Date Prepared: _____

ID	Requirement	Acceptance Criteria	Validation Method	Status	Comments	Sign-off

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5. Closing Forms

- The purpose of the Closing Process Group is to complete the project work, product work, and project phases in an orderly manner. There is one process in the Closing Process Group:
  - Close Project or Phase
- The intent of the Closing Process Group is to at least:
  - Close project phases
  - Close the project
  - Document lessons learned
  - Document final project results
  - Archive project records
  - Ensure the work necessary to close contracts is complete

5. Closing Forms

- As the final process in a phase or project, this process ensures an organized and efficient completion of deliverables, phases, and the project as a whole. The forms used to document project closure include:
  - Lessons learned
  - Project closeout

5.1 lesson learned Summary

LESSONS LEARNED SUMMARY

Project Title: _____ **Date Prepared:** _____

Project Performance Analysis

	What Worked Well	What Can Be Improved
Requirements definition and management		
Scope definition and management		
Schedule development and control		
Cost estimating and control		
Quality planning and control		
Physical resource planning and control		
Team planning, development, and performance		
Communications management		
Reporting		
Risk management		
Procurement planning and management		
Stakeholder engagement		
Process improvement information		
Product-specific information		
Other		

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5.1 lesson learned Summary

LESSONS LEARNED SUMMARY

Risks and Issues

Risk or Issue Description	Response	Comments

Quality Defects

Defect Description	Resolution	Comments

Vendor Management

Vendor	Issue	Resolution	Comments

Other

Areas of Exceptional Performance	Areas for Improvement

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5.2 Project or Phase Closeout

PROJECT CLOSEOUT

Project Title: _____ Date Prepared: _____ Project Manager: _____

Project Description

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TABLE 5.2 Elements of a Project or Phase Closeout

Document Element	Description	
Project description	Provide a summary level description of the project.	
Performance summary	Scope	Describe the scope objectives needed to achieve the planned benefits of the project.
		Document the specific and measurable criteria needed to complete the scope objectives.
		Provide evidence that the completion criteria were met.
	Quality	Describe the quality objectives and criteria needed to achieve the planned benefits of the project.
		Document the specific and measurable criteria needed to meet the product and project quality objectives.
		Enter the verification and validation information from the product acceptance form.
Variances	Document the time and cost objectives and the final completion date and final expenditures. Explain any variances.	
Benefits management	Describe how the final product, service, or result achieved the benefits the project was undertaken to address.	
Business needs	Describe how the final product, service, or result achieved the business needs identified in the business plan.	
Risks and issues	Summarize any significant risks or issues, or the overall risk exposure, and describe the response and resolution strategies.	

5.2 Project or Phase Closeout

PROJECT CLOSEOUT

Performance Summary

	Objectives	Completion Criteria	How Met
Scope			
Quality			

Variances

	Objectives/Final Outcome	Variances	Comments
Time			
Cost			

Benefits Management

Business Needs

Risks and Issues

Risk or Issue	Response or Resolution	Comments

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