CITY OF HAMILTON

Public Works

Project Management Manual

December 2022

Version 1.2

Note: Text highlighted in turquoise blue indicate changes made since the last released revision.

Contents

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What is Project Management?

The purpose of Project Management is to deliver a project on time, within budget and with the expected results and quality. To achieve this objective a Project Manager must understand the project's priorities and what is constrained and what is flexible in the areas of scope, schedule, costs and quality.

Project Managers provide a service which is to protect the stakeholder's interests who are investing in the project. This requires the identification of primary stakeholders and managing their expectations throughout the life cycle of the project by keeping them informed about what the project is doing and not doing.

Project Management means documented, agreed to, signed off and archived. This provides a history of analysis, communication, decisions and approvals to avoid finger pointing and blame shifting. A standard Public Works Project Management methodology, tools and templates provides a streamlined approach for record keeping.

Project Management is more about leadership and less about technical knowledge. A Project Manager may have technical knowledge, but their primary role is to use project management to accomplish the deliverables. Technical knowledge often leads to the details and micromanagement. Project Managers must avoid this trap to be able to lead larger and more complex projects.

Project Managers must manage people. They need to know how to communicate, delegate, negotiate, and motivate. In short, they must know how to lead a project team to success. They need interpersonal skills as well as project management skills.

Project Managers must know how to plan, execute and identify areas for improvement. Planning is the skill of creating a sequence of tasks that balances project constraints while meeting the needs of primary stakeholders. Execution accomplishes the deliverables according to the plan. Continuous improvement through the life cycle of the project provides a better outcome for the stakeholders.

Project Management Process

Project Management is accomplished using five process groups:
1. Initiating – developing the project charter, identifying stakeholders & conducting the kick-off meeting
2. Planning – developing the Project Management Plan including the detailed plans for scope, schedule, cost, quality, resourcing, communication, risk, procurement and stakeholder management

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3. Executing – directing and managing the project work and the project knowledge including quality, resourcing (including staff, consultants, contractors), communication, risk, procurement and stakeholder management
4. Monitoring & Controlling – monitoring and controlling the project work, performing integrated change control including scope, schedule, costs, quality, resourcing, communication, risks, procurement and stakeholder management
5. Closing – closing the project or phase including procurement contracts, financial summary and council reports

Project Management Manual

The purpose of this Project Management Manual is to document the standard process and tools to be used by Public Works Project Managers to plan, deliver and close projects. The scope of the March 2020 implementation addresses the areas that are the greatest risks to a successful project. This includes a Project Charter template as part of the "Initiating" phase and a Project Transition Checklist and Project Closing Report template as part of the "Closing" phase.

The Project Management Manual is based on two primary inputs:
- best practices defined in the Project Management Body of Knowledge (PMBoK), which is generally considered to be best practices for project management in North America
- consolidation of existing Public Works project management processes, tools and templates into one version that applies across all Public Works Divisions and Sections

Adopting a consistent approach to project management has several benefits:
- enables improved and consistent project delivery across divisions
- supports efficient knowledge transfer and continuous improvement
- boosts PM productivity by eliminating waste and increasing value added work
- easier on-boarding, training and reporting

In the future, there are additional project management knowledge areas that will be standardized and implemented under the direction of the Public Works General Manager. The proposed roadmap is detailed in the tables below.

Project Management Roadmap – implemented March 2020

PMBoK Knowledge Area	Project Documents/Templates

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	Project Management Manual
Project Integration Management	
Develop Project Charter	Project Charter
Close Project	Project Close Report
	Deliverable Transition Checklist

Project Management Roadmap – in scope for future phase

PMBoK Knowledge Area	Project Document/Template
Project Integration Management	
Direct & Manage Project Work	Issues/Assumptions/Decisions Log
	Structured Meeting Template
	Project Health Report
Perform Integrated Change Control	Change Log
	Lessons Learned Register
	Project Archive
Project Scope Management	Scope Management Plan
	Scope Baseline
Project Schedule Management	Schedule Management Plan
	Schedule Baseline
	Project Schedule
Project Cost Management	Cost Management Plan
	Cost Baseline
Project Resource Management	Resource Management Plan
	Project Team Assignments
	Team Charter
Project Communication Management	Communication Management Plan
	Project Communications
Project Risk Management	Risk Management Plan
	Risks Register
Project Stakeholder Management	Stakeholder Engagement Plan
	Stakeholder Register

Project Integration Management – Develop Project Charter

Introduction

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What is a Project? The Public Works Department is responsible for day to day Operations and Projects. Operations are typically repetitive, long-term and defined by the Operating budget. Projects are typically one-time, shorter-term and defined by the Capital budget. However, there is overlap between Operations and Projects and the criteria below provides guidance on what work qualifies for Project Management. The criteria listed below is a starting point for discussions with your stakeholders and does not necessarily reflect all scenarios which constitute a project.

If two or more of the following criteria are met, then Project Management is required:
- Creation of a unique product, service or result
- Knowledge is broadly shared and progressively elaborated
    - multiple departments or PW divisions/sections involved
    - multiple primary stakeholders, phases or milestones
- Time criteria
    - has a defined start and end date
    - can be long term, short term or time sensitive
- Resource criteria
    - requires choices between alternative projects with limited resources
    - all projects funded from capital budget
    - projects funded from operating budget, criteria to be approved by Division Director/General Manager
- Outcomes are uncertain
    - has political sensitivity and/or council requested
    - is public facing and/or quality sensitive

What is a Project Charter? The Project Charter is a document that formally authorizes the existence of a project and is the license for the project team to do business. It is a document that provides clear guidance and communication about what is expected to happen, how the project links to the strategic objectives of the City of Hamilton, how success will be defined and who is accountable. It is a living document that provides the Project Manager with the authority to apply organizational resources to produce the desired product or service and should be reviewed and updated as the project progresses and is clarified.

Why have a Project Charter? Projects are human events. They suffer from the variation that comes when people have different perspectives, assumptions, priorities and timelines. An early and important activity is to create a convergence of motives, goals, mandate and energy so that primary stakeholders have input, and the chances of major changes and rework are diminished.

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When is the Project Charter developed? Developing the Project Charter is the first stage in the project management life cycle. It is contained within the Initiating phase of the project and is an important input into the Planning phase.

How is the Project Charter developed? The creator of the Project Charter will access the required inputs, apply the appropriate tools and techniques, to produce the Project charter. The creator of the Project Charter is often, but not limited to, the Project Manager or Project Champion.

Inputs to develop the Project Charter can include, but are not limited to, business cases, agreements, enterprise environmental factors and organizational process assets:

- Enterprise environmental factors are the things that affect the project team's approach to and execution of the project, but which are not under the team's direct control. Examples are standards, regulations, organizational culture or structure and marketplace conditions.
- Organizational process assets are the existing artifacts within the City of Hamilton that are specifically applicable to the project and are used by the City of Hamilton to guide, direct and facilitate the project. Examples are standard processes, policies, procedures, templates, historical information or lessons learned from previous projects.

Tools & techniques used in the project charter development can include, but are not limited to, expert judgement, brainstorming, focused groups, interviews, conflict management, facilitation and meeting management. The project manager should have the appropriate skills to develop the Project charter or have a Project Mentor assigned to provide coaching.

Tailoring Considerations: Project's vary in size and complexity therefore it is reasonable to tailor the content of the project charter to only what is needed for successful planning, execution, monitoring, control and closing. Considerations for tailoring include, but are not limited to:

- Project life cycle – how many major phases or milestones will be included in the project life cycle? The more phases the more Project Charter content that is required.
- Product development life cycle – what development life cycle and approach are appropriate for the product, service or process? Will the approach be predictive with minimal changes during the project life cycle or adaptive with multiple changes? The predictive approach normally requires more content in the Initiating phase.
- Project magnitude – is the project scope contained to the section or part of a divisional program or department portfolio? Who oversees the program and portfolio work and how are the various Project Charters aligned, coordinated and documented? Large projects generally require more content to align the programs or portfolios.
- Project stakeholders – how many stakeholders are involved and how much content is required for alignment, accountability and change control?

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- Project knowledge – how will knowledge and content be managed to foster a collaborative working environment?
- Political sensitivity – what elements of the Project Charter directly impact the political climate, for example a promise by council, and how much content is required to manage the risk of missed expectations
- Pilot project – is the project a pilot project to test an idea, process or proposal. Depending on the #of stakeholders and risk there may be more or less content in the Project Charter
- Project management maturity – is the Project Manager planning to use PMBoK project management processes? If yes, the Project Charter content can be at a summary level because the details will be contained within the Project Management Plan. If no, it would be beneficial to include a greater level of content in the Project Charter

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Project Name:

Name the project using a description that is short, unique and easy for people to identify and understand.

Why: The project name can create a sense of excitement and creativity by focusing on the outcome, value or rationale. It can also help in managing multiple projects.

Example: *Public Works Project Management Standardization & Governance*

Project Charter Number:

Number the project charter using the following nomenclature – Department-Division-Section-Sub Section*(if applicable)*-Year-sequential numbering of Sectional/Sub Sectional project. If multiple Sections are involved select the Section that is leading the project.

Below is a link to the Recommended Section Codes:

http://bcos/IntelexLogin/Intelex/DocLink?id=bOqo6MklvYFu4o-TzQiVrnyb1G2ElEpfL4p14syerhvc5EJeqFWkNdXLlVPJ-ziJ0

Why: The project charter number will be used to track project delivery and reporting.

Example: *Public Works, Environmental Services, Landscape Architectural Services, 2019, project 1 – "PW.ENV.LAS.19.001".*

Asset Identification:

If applicable, insert the Asset Id(s), building code, name, address, site map, municipal address or other asset identifiers. The Asset Id(s) are not to be confused with the Project Id or Dept Id that are generated in PeopleSoft and included in the Project Cost section.

Why: The asset identification will be used for asset tracking, reporting and managing enterprise asset management systems.

Example: *First Ontario Concert Hall, 1 Summers Lane, Hamilton, ON*

Project Purpose:

Insert a brief and concise high-level description of what the project is about, why it is needed and how success will be measured. If applicable, insert a problem statement which is an observable gap between where you are and where you want to be.

Why: When project stakeholders understand what a project is about and why it is needed, then they can be aligned and focused on getting the desired results.

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Example: Public Works does not have a standardized project management framework for delivering projects or reporting project health. The lack of standardized project management framework does not allow for consistent, standardized project delivery and knowledge transfer. The lack of standardized project management framework does not support continuous improvement or learning development.

Strategic Alignment:

Insert the primary component of the strategic plan that this project will impact.

Why: All projects should link directly to one, or more, strategic objectives. The link confirms resources are being applied to the right priorities.

Strategy (or Priority)	Primary Impact (select primary component)
Community Engagement & Participation	
Economic Prosperity & Growth	
Healthy & Safe Communities	
Clean & Green	
Build Environment & Infrastructure	
Culture & Diversity	
Our People & Performance	

Project Drivers:

Insert the 1-3 primary drivers that initiated the project charter. This can include a significant benefit that is expected, for example, increased efficiency or lower energy costs.

Why: When a project is initiated there are key drivers that are documented for easy reference, project tracking and compliance.

Examples include, but are not limited to, 1) needs assessment, 2) feasibility study, 3) business case, 4) council reports, 5) internal client 6) master plan, 7) program - collection of projects, 8) portfolio - collection of programs, 9) benefit analysis (ROI, payback), 10) internal audit, 11) regulatory compliance

Driver	Explanation

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Project Scope:

Insert a summary of only the work that is necessary to complete the project successfully. This includes what the project will deliver as part of the mandate. A deliverable is a list of tangible or intangible goods or services produced as a result of this project that is intended to be delivered to the project ==Champion==, customer, owner, client or stakeholders and marks the successful completion of the project.

Then insert the project boundaries, what will be included and excluded, that will help to clarify what work is required to produce the deliverables.

Why: In the initiating phase the deliverables and scope are the opinion of the Champion, project creators or major stakeholders so it helps to be crystal clear on what is expected, and the project boundaries, as the project transitions to the planning phase.

Example – Deliverables

- *Project Management (PM) manual*
- *Training program to implement PM manual*
- *On-line PM document repository*
- *Control plan and recommended PM governance model*

Example - In Scope/Out of Scope: Several possible categories include 1) what, 2) who, 3) when or 4) where 5) how. Examples include, but are not limited to:

- *Strategy, business case*
- *Elements, activities, functions*
- *products, processes, procedures*
- *people, stakeholders, roles, skills, resources, training*
- *devices, assets*
- *targets, metrics, measurements*
- *systems, equipment*
- *linkages to other projects*

The scope summary should not replace the more detailed scope baseline that is developed as part of the project plan and change control process.

Project Deliverables	
•	
In Scope	Out of Scope

Project Schedule:

Insert a forecasted schedule of high-level project milestones. Milestones flag the completion of a deliverable, a phase or group of tasks, a stage gate or a major turning point in a project.

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Why: In the initiating phase the major milestones are the opinion of the Champion, project creators or major stakeholders so it helps to be crystal clear on what is expected and when, and the constraints, as the project moves through the planning, execution, controlling and closing phases. This drives the project forward and is an indicator of the project's progress.

Start with the initiation date which is the date the Project Charter is started. Then include the project start date which is the date the project is launched with a kick-off meeting. Then include the major milestones with estimated completion dates.

Examples include, but are not limited to:
1. *Planning, Design, Construction, Warranty*
2. *Feasibility, Consultant Procurement, Design, Contractor Procurement, Construction, Substantial Performance (typically known as the project close date in construction projects)*
3. *Define, Measure, Analyze, Improve, Control*

Next include the estimated project close date which is the date when the project is signed and authorized to close, and transitioned to the owner or client, or cancelled.

The summary schedule should not replace the more detailed schedule baseline that is developed as part of the project plan and change control process.

Milestone	Date (month, day, year)
Project Charter Initiation Date	
Project Kick-off Meeting or Communication *(this is the project start date)*	
Insert Milestone #1	
Insert Milestone #2	
Insert Milestone #3	
Insert Milestone #4	
Insert Milestone #5	
Insert Milestone #6	
Estimated Project Close Date (final project output, transition to long-term owner)	

Project Cost:

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Insert the primary budget components, the project or dept id, and the year approved or year in which anticipated approval is expected. The project or dept id is an important detail because there may be multiple projects assigned to a single id and a reconciliation of anticipated spend versus available account $'s is required.

Some project managers may choose to attach the "available funds report (AFR)" or the "capital budget detail sheet" to the charter as an appendix. The AFR contains a breakdown of the summary budget. If applicable, add the estimated "return on investment" or "payback period" in the description.

Why: In the initiating phase the funding of the project is a critical detail which cannot be underestimated. All stakeholders need to be clear on what money is available to spend, and what year it can be spent, as the project transition to the detailed planning phase.

The summary budget should not replace the cost baseline that is developed as part of the project plan and change control process.

Description	Project Id/ Dept Id	Cost ($)	Forecasted Budget Year	Procurement Type	PO Amount
Total					

Project Requirements:

Insert the 1-3 primary items or support that are known to be required as the project is created and will increase the chances of a successful project.

Why: When the Project Champion and stakeholders understand the requirements, then they can be aligned and focused on managing the requirements to increase the chance of project success.

Examples include, but are not limited to 1) approvals, 2) permits, 3) funding with timelines, 4) physical resources, 5) cross functional support.

Requirement	Explanation

Project Risks:

Insert the 1-3 primary things (high likelihood and high severity) that can go wrong with a project that will impact the project health, throw the project team off balance and cause a major crisis.

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The primary indicators of project health include scope, schedule, budget and quality. Risks can include, but are not limited to, technical, operations, political, legal or geographical issues. Insert a summary of the actions that will mitigate the likelihood of the risk occurring and derailing the project.

When working with consultants or contractors consider the impact of delays to project milestones and the use of liquidated damages, in the RFP and agreement, as a mitigation plan. Insert the estimated daily amount which will be validated in the procurement planning process.

Why: Identifying the most important risks and developing a mitigation plan is an effective and efficient way to reduce the likelihood of the risk occurring and derailing the project.

Examples include, but are not limited to: cause a delay, increase the costs, provincial or federal funding criteria, negative media, impact to staff, prevent realization of deliverables or benefits. Mitigation plans include weekly status reports, Senior Leadership engagement, HR or Communications engagement, Liquidated Damages

This summary should not replace an assumption log which is comprehensive and updated through the life cycle of the project. This summary should also not replace a more detailed risk analysis within the risk management plan.

Constraint/Assumption	Risk	Mitigation Plan

Project Team Members:

Insert the known roles and names. This is just enough people to do the job and have the right skills to accomplish the work. Remember this is not the final list, you can add and subtract team members through the lifecycle of the project. Use your project support staff to extend the expertise and influence power of your team. Refer to Appendix A for list of Project Roles & Responsibilities.

Why: Understanding the major roles as the project is being initiated will enable a productive and comprehensive planning phase. It will also create a known hierarchy for decision making early in the project.

The initial list of roles and names is not to replace the more detailed "Project Team Assignments" within the resource management plan.

Role	Name

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Project Champion	
Project Manager	
Alternate Project Manager (if available)	
Project Manager Mentor (if required)	
Asset or Process Owner(s)	
Team Members	
Project Support Staff	

Project Stakeholders:

Identify a list of people, groups or organizations who are very important to the success of the project or who could impact or will be impacted by the project and require an engagement plan. This is in addition to the stakeholders already identified as team members.

Why: Understanding the major stakeholders, and the plan to engage and communicate, will enable the project team to manage change and increase the chance of project success.

Examples include, but are not limited to, City of Hamilton residents, Council, other CofH departments, provincial or federal government or committees, unions or businesses. Summarize the key elements of the engagement plan. Engagement plan examples are council reports, community meeting, bi-weekly communication or focus group.

The stakeholders identified here should not replace a comprehensive "Stakeholder Register" that will list all stakeholders, expectations, classifications and engagement plans.

Name or Group	Impact (High ,Medium)	Engagement Plan

Project Approval:

Identify who approves and authorizes the project's existence, the content of the Project Charter, and the approval of the Project Manager to use organizational resources. There are two ways to identify project approvals: 1) by project role and 2) by leadership profile. In some cases, there will be cross over in which case only one signature is required. For Example, the Project Champion is also the Director responsible for the Divisional program. Insert Name, Date & Signature. All projects must be signed by the Project Champion, Project Manager and Asset Process Owner(s).

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Why: The project charter is an agreement and must be revisited to manage expectations and avoid disappointments, surprises and rework.

Project Role	Name	Date	Signature
Project Champion			
Project Manager			
Asset or Process Owner(s)			

Leadership Profile	Name	Date	Signature
Manager (sectional projects)			
Directors (divisional programs)			
General Managers (departmental portfolios)			

Project Revision & Approval:

Insert the project version and approval date. A updated version is required when changing the content of the Project charter. All changes will be documented in this amendment document and signed by the Project Champion and those who are significantly impacted by the change.

Multiple changes, that are required in the same timeframe, can be bundled and submitted for approval to decrease workload. The versioning sequence is *1.1, 1.2, 1.3, etc* for changes and approval to one section and whole number progression for changes and approval for multiple sections 1,*2,3,4, etc.*

Revision	Summary of Changes	Name (Project Champion)	Date	Signature

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Appendix A - Project Roles & Responsibilities

Project Champion –
- accountable for project success
- identifies, prioritizes and selects projects ensuring alignment to business strategies & priorities
- obtains the funds and other necessary resources for the project
- defends the capital detail sheet at committee/council
- approves the Project Charter
- approves primary deliverables
- approves changes to Project Charter or Project Management Plan
- removes obstacles that cannot be resolved by the Project Manager or team
- controls progress related to Project deliverables
- typically a General Manager, Director or Manager

Project Manager
- responsible for project success
- uses the organizations time, money & resources to produce the product, service or process approved in the Project Charter
- directs and co-ordinates all project efforts to meet project requirements
- manages the day to day project team, priorities and performance management
- communicates to primary stakeholders
- submits high-level project change requests to Project Champion
- adheres to applicable policies and procedures including Health & Safety and Procurement
- escalates unresolvable issues to Project Mentor or Project Champion

Alternate Project Manager
- supports the project success
- assists project manager as required to meet project requirements
- filling in in the absence of Project Manager

Project Manager Mentor
- supports the project success
- provides Project Management expertise to the Project Manager
- provides assistance in problem solving before issues are escalated to Project Champion

Asset or Process Owner
- supports the project success including implementing and maintaining the deliverables

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- provides expert opinion about the product, service or process
- provides expert opinion about change management challenges and solutions
- communicates to direct stakeholders
- performs the project work as assigned by project manager

Team Members
- supports the project success
- collaborates to create the Project Charter and Project Management Plan
- performs the project work as assigned by project manager
- collaborates about changes to scope, schedule, budget or quality

Project Support Staff (internal)
- provide expertise, support and resources as required by Project Manager
- typically are not full-time team members
- typically operations, procurement, roster captain, finance, legal, human resources, information technology, project management office, real estate, quality assurance, council, continuous improvement

Project Support Staff (external)
- provide expertise, support and resources as required by Project Manager
- typically are not full-time team members
- typically funding agencies, unions, stakeholders, community

Vendors
- contracted to perform work that is required to deliver the produce, service or process
- provide expertise, support and resources as required by Project Manager and contained within a formal agreement
- may be member of project team
- typically include, but are not limited to, consultants and contractors

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Project Integration Management – Close Project or Phase

Introduction:

What is a Project Close? Close Project or Phase is the last stage in the project management life cycle. This is the process of finalizing all activities for the project, phase, or procurement contract including warranty period. With work complete, it is time to ensure that all commitments and contracts come to an end and that the organization retains as much value as possible from the work that has been done and from the experience gained in doing that work.

The process includes:

- Transition project's product (physical asset), service or process to customer, client or stakeholder:
  - a smooth, formal, and complete transition is the most efficient and effective way to ensure that a successfully executed project is perceived as such by the client who receive the project's product or service
  - after transition the client is completely responsible for the product, service or process including the Operating and Maintenance budget
- Prepare & Communicate Closing report
- Build Project Archive

Why have a Project Close? The key benefits of this process are the Project or Phase information is archived, the planned work is completed, and organizational team resources are released to pursue new endeavors.

When is the Project Close completed? This process is performed once at the end of the Project, or at predefined points in the Project.

How is the Project Close completed? The Project Manager will access the required inputs, apply the appropriate tools and techniques, to then close the project.

Inputs to close the Project can include, but are not limited to, Project Charter, business case, agreements, project documents, accepted deliverables, procurement documentation and organizational process assets.

- Organizational process assets are the existing artifacts within the City of Hamilton that are specifically applicable to the project and are used by the City of Hamilton to guide, direct and facilitate the project.
- *Examples are standard processes, policies, procedures, templates, historical information or lessons learned from previous projects.*

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Tools & techniques used in the process of closing a project can include, but are not limited to, expert judgement, data analysis and meetings.

Project Transition Checklist

A project transition checklist is to be used when transitioning projects or processes. When transitioning an asset between project phases, the **Asset transition checklist** is to be used. The **Asset Transfer checklist** is to be used when transferring ownership from asset producer to asset owner at the end of a project or during warranty periods. Details on asset transfer process requirements can be found in the Management of Asset Transfer procedure.

Project Deliverables – enter project deliverables which may be a physical asset, service or process

Support Required – enters the support required for the customer, client or stakeholder to take full control of the project's product, service or process

Name – insert the name of the customer, client or stakeholders

Date – insert the date of approval

Signature – customer, client or stakeholder's sign to approve transition

Deliverable	Support Required / Timing	Owner Name	Date	Signature
Physical Asset	Identify & update applicable systems / Early			
Physical Asset	Product meets specifications, QA/QC sign-off. Site or factory acceptance test / Early			
Physical Asset	Security complete – keys, access, passcode, etc Contractor turnover of resources / Early			
Physical Asset	Reestablish operating contracts and activities / Early			
Physical Asset	Provide preferred supplier & contact information / Early			
Physical Asset	Provide warranty information / Early			
Physical Asset	Training complete & sufficient / Early			
Physical Asset	Deficiency list complete / Mid			
Physical Asset	Identify & upload maintenance schedules/sustainability			

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