

Building Practice Guidelines: Typical Building Projects Linear Responsibility Charts (BP-LRC) (Tasks listed for Project Execution Phase)

As a contribution to Building Practice Guidelines, these Linear Responsibility Chart templates list the typical tasks involved in a building project according to its phase or stage. Each entry recommends who should take the lead and who else should be providing significant support for each task. The tasks should be modified or augmented to suit the particular project and the needs of its participants.

In a well developed team, all will participate to some degree. Nevertheless, on a project it is essential for the project manager to identify who will be accountable for initiating, conducting and concluding each and every task.

The charts illustrate how:

1. Every task can be identified and assigned to a single point responsibility
2. The project can and should be divided into phases and stages, each separated by a financial 'control gate' or decision point for control purposes
3. This process builds on the standard project management generic life cycle, and
4. Project management can and should be distinguished from the technical management of the project.

It is worth noting that experience shows that any omissions or errors of judgment in one phase can cost an order of magnitude higher (i.e. approximately ten times) to conduct or rectify in each succeeding phase. This is due to the likely need to suspend, back track and rework other activities that would normally follow.

R. Max Wideman

Building Practice Guidelines: Typical Building Projects
Linear Responsibility Charts (BP-LRC)

Legend

- OD Owner or Developer of project
- PD Project Director, Owner's representative
- LAC Lead Architect or Consultant
- denotes primary responsibility
- JA Jurisdictional Authorities
- PCM Project Construction Manager
- ⊙ denotes significant supporting responsibility

3.0 Project Execution Phase

3.1.0 Stage 1 - Final Design (Working Drawings, Specs & Contract Docs)

- Throughout every project phase, both Project and Technical Management must proceed in tandem and be closely integrated.
- Prior to construction contract award, the 'PCM' is a knowledgeable construction industry representative such as a senior construction estimator. After construction contract award, the 'PCM' is either the prime contractor's manager or, if trade contracts are let directly, an experienced independent construction manager. In this Stage 1 the 'PCM' is a knowledgeable construction industry representative

Ref #	Task Description	Responsibility>	OD	PD	LAC	PCM	JA
3.1.1.0	Project Management						
3.1.1.1	Prepare final Design Schedule			⊙	●	⊙	
3.1.1.2	Review operating & maintenance costs			●	●	⊙	
3.1.1.3	Review building efficiencies			●	●	⊙	
3.1.1.4	Establish General Conditions of Contract			●	●	⊙	
3.1.1.5	Raise Phased Construction Schedule to Tender Level			⊙	⊙	●	
3.1.1.6	Update Master Schedule			●	●	⊙	
3.1.1.7	Evaluate labor & trade contractor market			⊙	●	●	
3.1.1.8	Prepare General or Trade Contractor bid lists (as requ'd.)				⊙	●	
3.1.1.9	Conduct Design Check Estimates as details develop				⊙	●	
3.1.1.10	Raise Definition Budget to Pre-Tender Level			⊙	⊙	●	
3.1.1.11	Update cash flow requirements			●	●	⊙	
3.1.1.12	Establish insurance program		●	⊙	●	⊙	
3.1.1.13	Assemble Tender documentation for owner's confirmation			⊙	⊙	●	
3.1.1.14	Review and approve or...		●	●	●	⊙	
3.1.1.15	Revise as needed		⊙	●	●	⊙	
3.1.1.16	Major Decision: Tendering go ahead, or abort		●	●	●	⊙	
3.1.2.0	Technical Mgt: Final Design						
3.1.2.1	Arrange & chair Final Design coordination meetings			⊙	●	⊙	
3.1.2.2	Review impact of Development Agreement on design			⊙	●	⊙	
3.1.2.3	Incorporate findings of Value engineering analyses				●	⊙	
3.1.2.4	Finalize architectural components & systems selection			⊙	●	⊙	
3.1.2.5	Evaluate structural system alternatives & finalize			⊙	●	⊙	
3.1.2.6	Finalize mechanical & electrical systems selection			⊙	●	⊙	
3.1.2.7	Evaluate vertical transportation systems & finalize			⊙	●	⊙	
3.1.2.8	Update Schematic Design details				●	⊙	
3.1.2.9	Develop detailed specifications				●	⊙	
3.1.2.10	Develop working drawings				●	⊙	
3.1.2.11	Liaise with Jurisdictional authorities over design details				●	⊙	⊙
3.1.2.12	Review working drawings & specifications		⊙	●	●	⊙	
3.1.2.13	Submit long-delivery item specifications for ordering			⊙	●	⊙	
3.1.2.14	Arrange for mock-ups of key design elements				●	⊙	

Building Practice Guidelines: Typical Building Projects
Linear Responsibility Charts (BP-LRC)

Legend

- OD Owner or Developer of project
- PD Project Director, Owner's representative
- LAC Lead Architect or Consultant
- denotes primary responsibility
- JA Jurisdictional Authorities
- PCM Project Construction Manager
- ⊙ denotes significant supporting responsibility

3.2.0 Stage 2 - Tender & Award

- In this stage, if a single general contract is being let, then prior to construction 'PCM' is a knowledgeable construction industry representative. Following award, the 'PCM' is the General Contractor's manager. If trade contracts are to be let, the PCM is the appointed construction manager. The following table assumes trade contracting, which gives rise to more detailed project and technical management. Otherwise, much of this work is done within the General Contractor's organization.
- At the end of this stage the owner/sponsor must select a contractor and proceed to **Construction**. (At this point, it should not be a question of whether or not to construct.)

Ref #	Description	OD	PD	LAC	PCM	JA
3.2.1.0	Project Management					
3.2.1.1	Interview, select, & appoint Project Construction Manager (If trade contracting, an individual or firm, see note above.)	⊙	●		⊙	
3.2.1.2	Establish bid package groupings		⊙	⊙	●	
3.2.1.3	Bid & purchase long delivery items		⊙	⊙	●	
3.2.1.4	Develop owner/tenant occupancy schedule	●	⊙		⊙	
3.2.1.5	Develop detailed phased Construction Schedule		⊙	⊙	●	
3.2.1.6	Finalize trade contractor bid lists		⊙	⊙	●	
3.2.1.7	Analyze trade contractor markets (if necessary)		⊙	⊙	●	
3.2.1.8	Conduct trade contractor pre-bid conferences		⊙	⊙	●	
3.2.1.9	Regularly update & circulate Construction Schedule		⊙	⊙	●	
3.2.1.10	Advise tenderers of time extensions if required		⊙	⊙	●	
3.2.1.11	Receive, open & tabulate tenders		●	⊙	⊙	
3.2.1.12	Analyze & verify tenders			⊙	●	
3.2.1.13	Conduct pre-award post-tender discussions (if any)			⊙	●	
3.2.1.14	Review & approve successful tenders	●	⊙		⊙	
3.2.1.15	Prepare & issue letters of intent to proceed		⊙		●	
3.2.1.16	Prepare documentation for contract signing		⊙		●	
3.2.1.17	Check performance bonds		⊙		●	
3.2.1.18	Review/update insurance requirements	⊙			●	
3.2.1.19	Sign & issue contract documents	●	⊙		⊙	
3.2.2.0	Technical Mgt: Tender Packaging					
3.2.2.	Procure building permits (partial)		⊙	●		
3.2.2.	Prepare trade contract documents for tender packages		⊙	●	⊙	
3.2.2.	Regularly review contract plans & coordinate			⊙	●	
3.2.2.	Review and recommend on alternatives proposed			●	⊙	
3.2.2.	Receive technical questions and issue addenda (if requ'd.)			●	⊙	
3.2.2.	Technical review of tenders & make recommendations		⊙	●	⊙	

Building Practice Guidelines: Typical Building Projects
Linear Responsibility Charts (BP-LRC)

Legend

- OD Owner or Developer of project
- PD Project Director, Owner's representative
- LAC Lead Architect or Consultant
- denotes primary responsibility
- JA Jurisdictional Authorities
- PCM Project Construction Manager
- ⊙ denotes significant supporting responsibility

3.0 Project Execution Phase

3.3.0 Stage 3 - Construction

- Throughout every project phase, both Project and Technical Management must proceed in tandem and be closely integrated.
- In this Stage, the 'PCM' is either the prime contractor's manager or, if trade contracts are let directly, an experienced independent construction manager. The following tables assume trade contracting.

Ref #	Task Description	Responsibility>	OD	PD	LAC	PCM	JA
3.3.1.0	Project Management						
3.3.1.1	Arrange, chair & minute project team meetings			●		⊙	
3.3.1.2	Mobilize for construction			⊙		●	
3.3.1.3	Arrange, chair & minute trade contractor meetings				⊙	●	
3.3.1.4	Arrange, chair & minute job foreman meetings					●	
3.3.1.5	Establish system of cost control & forecasting			⊙		●	
3.3.1.6	Establish shop drawing submittal lists & procedures				●	●	
3.3.1.7	Ensure shop drawing submittals meet master schedule					●	
3.3.1.8	Expedite deliveries (if necessary)					●	
3.3.1.9	Obtain schedule updates from trades & suppliers					●	
3.3.1.10	Evaluate progress & update schedule			⊙		●	
3.3.1.11	Establish payment procedures to contractors & suppliers			⊙		●	
3.3.1.12	Ensure statutory declarations from contractors & suppliers				⊙	●	
3.3.1.13	Approve monthly progress billings			⊙		●	
3.3.1.14	Administer payment approvals & monthly accounting review			●		⊙	
3.3.1.15	Pay consultants, contractors & suppliers		●	⊙		⊙	
3.3.1.16	Report monthly progress, payments, costs & trends			⊙		●	
3.3.1.17	Update cash flow scheduling			●		●	
3.3.1.18	Approve Contemplated Changes to the work			●		⊙	
3.3.1.19	Prepare estimates of costs of changes to the work					●	
3.3.1.20	Coordinate distribution of Change Order information				⊙	●	
3.3.1.21	Facilitate settlement of contract disputes			⊙		●	
3.3.1.22	Administer safety program			⊙		●	
3.3.1.23	Administer security program			⊙		●	
3.3.1.24	Deal promptly with labor relations problems					●	
3.3.1.25	Arrange inspections by Jurisdictional Authorities				●	⊙	⊙
3.3.1.26	Establish reasonable dates for Substantial Performance					●	
3.3.1.27	Ensure no liens exist for the work			⊙		●	
3.3.1.28	Obtain release of holdback documentation from contractors					●	
3.3.1.29	Certify holdback payments as of Substantial Performance			⊙		●	
3.3.1.30	Approve holdback payments to contractors			●		⊙	
3.3.1.31	Make payments to contractors		●	⊙		⊙	
3.3.1.32	Establish reasonable dates for Total Performance				⊙	●	
3.3.1.33	Verify all deficiencies & outstanding documents completed					●	
3.3.1.34	Approve final payments to contractors			●		⊙	
3.3.1.35	Make final payments to contractors		●	⊙		⊙	

Building Practice Guidelines: Typical Building Projects
Linear Responsibility Charts (BP-LRC)

Legend

- OD Owner or Developer of project
- PD Project Director, Owner's representative
- LAC Lead Architect or Consultant
- denotes primary responsibility
- JA Jurisdictional Authorities
- PCM Project Construction Manager
- ⊙ denotes significant supporting responsibility

3.3.0 Stage 3 - Construction (cont.)

- At the end of this stage the owner/sponsor has a substantially completed facility but must still undertake arrangements for the transfer of the facility to the "care, custody and control" of the facility's operators.

Ref #	Description	OD	PD	LAC	PCM	JA
3.3.2.0	Technical Mgt: Construction			●		
3.3.2.1	Ensure all approvals, permits & licenses obtained			●	⊙	
3.3.2.2	Organize access, temporary facilities & services			●		
3.3.2.3	Establish lines, levels & maintain			●		
3.3.2.4	Conduct on-going design meetings (if applicable)		⊙	●		
3.3.2.5	Establish lists of shop drawings & samples required			●	⊙	
3.3.2.6	Receive, record and schedule turn-a-round of submissions			⊙	●	
3.3.2.7	Review submissions for design requirements compliance			●	⊙	
3.3.2.8	Interpret plans & specifications			●		
3.3.2.9	Inspect & monitor trade work & conformance to design			●		
3.3.2.10	Select independent testing companies		⊙	●		
3.3.2.11	Administer quality assurance & control programs			●	⊙	
3.3.2.12	Prepare & distribute Contemplated Change Notices			●	⊙	
3.3.2.13	Review technical conformance of change quotations			●	⊙	
3.3.2.14	Prepare & distribute Change Orders			●	⊙	
3.3.2.15	Verify monthly progress billings against actual work-to-date			●	⊙	
3.3.2.16	Certify extras & credits to contracts		⊙	●		
3.3.2.17	Certify contractor progress billing for payment		⊙	●	⊙	
3.3.2.18	Inspections by Jurisdictional Authorities			●	⊙	⊙
3.3.2.19	Inspect & assess work to verify Substantial Performance			●	⊙	
3.3.2.20	Certify Substantial Performance & recommend releases		⊙	●	⊙	
3.3.2.21	Inspect & assess deficiencies to verify Total Performance			●	⊙	
3.3.2.22	Issue Certificate of Total Performance		⊙	●	⊙	
3.3.2.23	Verify all guarantees, manuals, documentation received			●	⊙	
3.3.2.24	Certify Total Performance & recommend holdback releases		⊙	●		