

PROJECT PLANNING FOR HOUSING MANAGERS

TUESDAY FEB 15th - 10:45-12:15 -
BALLROOM 1



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Shelter - Conserve - Sustain

Presentation Topics

Why do we plan?

Some planning tools

Scheduling

What do you want to build?

Housing Policy

House Planning and Construction

Contracts

Design Phase

Inspections

Maximizing Local Benefits

Project Control – Time, Resources, Cost, Scope of Work, Progress payments

Project Communications

Housing Maintenance

Summary

Pic River 10 year Plan by Garland Moses



PROJECT PLANNING FOR HOUSING MANAGERS



Why Do We Plan?

- Plan to plan
 - Take the time to plan – it will save you time, money, energy in the long term
 - Seek approval of the plan from various stakeholders
 - Chief and Council
 - Community Members
 - First Nation Administration
 - Housing Committee
 - Funders
 - Technical Advisors



Why Do We Plan?

- Planning makes you think about all aspects of the project
 - Materials
 - Suppliers, quantities, quality, delivery times
 - Equipment
 - Availability, operators
 - Human resources
 - Trades people, training, work hours, safety
 - Costs and budgets
 - Quality control



Some Planning Tools

- Computer software – complex
 - MS Project, Primavera and others
 - Schedules, resource distribution, project costs
- Flat surface and sticky ACT notes
 - Identify activities and basic information about activity
 - Place in order of performing the work
 - Can have two or more streams running parallel
- Tribal Council Resources / Specialists



Scheduling

- Developing a picture of your project is very valuable
- Two “pictures” are:
 - Bar (Gantt) charts,
 - [example](#)
 - Network logic diagram (PERT)
 - Performance Evaluation and Review Technique
 - [Microsoft Office Project - Housing Conference Example Schedule\(1\).pdf](#)



Scheduling

- In order to develop these “pictures” you must consider:
 - The various tasks
 - Who will perform the task? And, are they available at the required time?
 - When does the task start? And end? How long will it take?
 - What has to be done before you can start this task?
 - How much will it cost?



What Do You Want to Build

- A Water Plant? An Administration building?
Some houses?
 - Planning is an essential component to each
- You want more than the physical building
 - You want local employment
 - You want trades training
 - And you want quality, cost, schedule and scope of work control
- Planning allows you to achieve these things



Housing Policy

- Many First Nations have developed a housing policy.
- This provides some guidance in the development of housing programs
 - both short and long term
- Policies and procedures are necessary to ensure that the housing administration and occupants are clear on their roles, responsibilities and expectations.



House Planning and Construction

- OFN Illustrated Housing Code
 - Design
 - Site Work
 - Foundations
 - Floor Framing
 - Wall Framing
 - Roofing
 - Windows and Doors
 - Exterior Finishes



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House Planning and Construction

- Electrical Systems
- Plumbing Systems
- Heating Systems
- Ventilation Systems
- Thermal and Moisture Protection
- Interior Finishes
- Water Supply
- Sewage Disposal Systems
- Garages
- Landscaping



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Contracts

An enforceable agreement between two or more parties with mutual obligations

- Used for:
 - Goods and materials - lumber, shingles, doors
 - Services – design, maintenance, training
 - Construction – general contractor, sub contractor
- Tender process defined by INAC
 - A good process and typical in construction
 - Housing is exempt
 - Subdivision construction is not exempt



Contracts

Types of contract

- Fixed Price / Lump Sum
 - Well defines work including all details
 - House, building
- Unit Price
 - Material quantities and not fixed
 - Road work, pipelaying, rock excavation
- Cost Plus
 - Emergency situation



Design Phase

- OFNTSC and others have basic designs
 - Get your design submitted and evaluated
 - Consider location and soils condition including water table.
 - Get quantity takeoff of materials
 - Submit to suppliers for pricing and delivery arrangements
 - Consider work of trades such as electrical, plumbing, drywall taping
 - Are they looking after materials for that scope of work?



Design Phase

- Purchase materials
 - Are you using a winter road as access?
 - Can the preferred supplier deliver the materials on time?
 - Do you need separate delivery arrangements?
 - Where will you store the materials?
 - Consider a warehouse and warehouse manager / delivery person
 - Order materials with consideration to above
 - Receive materials and record quantities including shortages



Inspections

Inspections will give you confidence that your houses are built according to the latest standards

Schedule inspections

1. Plans review / site inspection
2. Foundation inspection
3. Framing inspection
Electrical and mechanical rough in inspection
4. Vapour barrier / insulation inspection
5. Completion inspection



Maximizing Local Benefits

- You want more than the physical building
 - You want local employment
 - You want trades training
 - And you want quality, cost, schedule and scope of work control



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Maximizing Local Benefits

- Maximizing local employment
 - Identify the human resources available
 - Carpenters – licensed and interested
 - Plumbers and electricians, Drywall installers and tapers
 - Operators – do they have their own machine?
 - Foremen
 - Match the available resources to the quantity of work
 - Short of manpower?
 - Extend the time, prefabricate wall sections



Maximizing Local Benefits

- Local contracts
 - Some equipment operators have their own heavy equipment and trucks
 - Consider a contract for work done
 - Basement excavation, backfill, lot grading
 - Service connections
 - Electricians may take a contract to “rough in” a house



Maximizing Local Benefits

- Trades training
 - Identify current trades shortages
 - Identify future trades shortages
 - Develop a plan to rectify the shortages
 - Hire a tradesman to mentor your people interested in the trade
 - Record time and activities
 - Arrange for classroom training
 - Schedule projects to better ensure the person can complete their training



Project Control - Time

- Time is Money – Save time, Save money
 - Materials and other resources need to be available when needed.
 - Scheduling the activities allows you to see when materials need to be ordered or delivered
 - Missing an electrical inspection can cause a significant delay
 - Be concerned with activities on the “critical” path
 - Speeding up a non critical activity will not shorten the project time.



Project Control - Time

- Look for ways to keep crews busy
 - Consider daily crew leader meetings to plan for next day activities
 - Arrange to have materials delivered to house sites
 - Keep coffee breaks to 15 min
 - Extra 30 min: cost can equal 1 house!
 - Consider giving task based contracts for specialized work
 - Drywall, taping, painting



Project Control - Resources

- People, Equipment and Materials
 - All are needed at the right time to bring success to a project
 - Having the right people, with the right skills, in the right quantity, at the right time
 - People need to know what needs to be done, when and how.
 - Equipment must be pre arranged to meet the needs of the trades people
 - Materials need to be readily available



Project Control - Resources

- Know your people
 - They have different skill sets – leadership, follower, cheerleader
 - Don't put a follower in a leadership position
 - Do provide training for leadership candidates
 - Don't put two leaders in a small crew
- Availability of materials
 - Remote First Nations with uncertain winter road access
 - Get project permission early!



Project Control - Cost

- The total project cost is:
 - Activity costs +
 - Contingency cost +
 - Profit.
- Activity costs are based on an estimate of the manpower, materials and equipment quantity to complete the task.
 - Often based on previous knowledge
 - Based on suppliers estimates



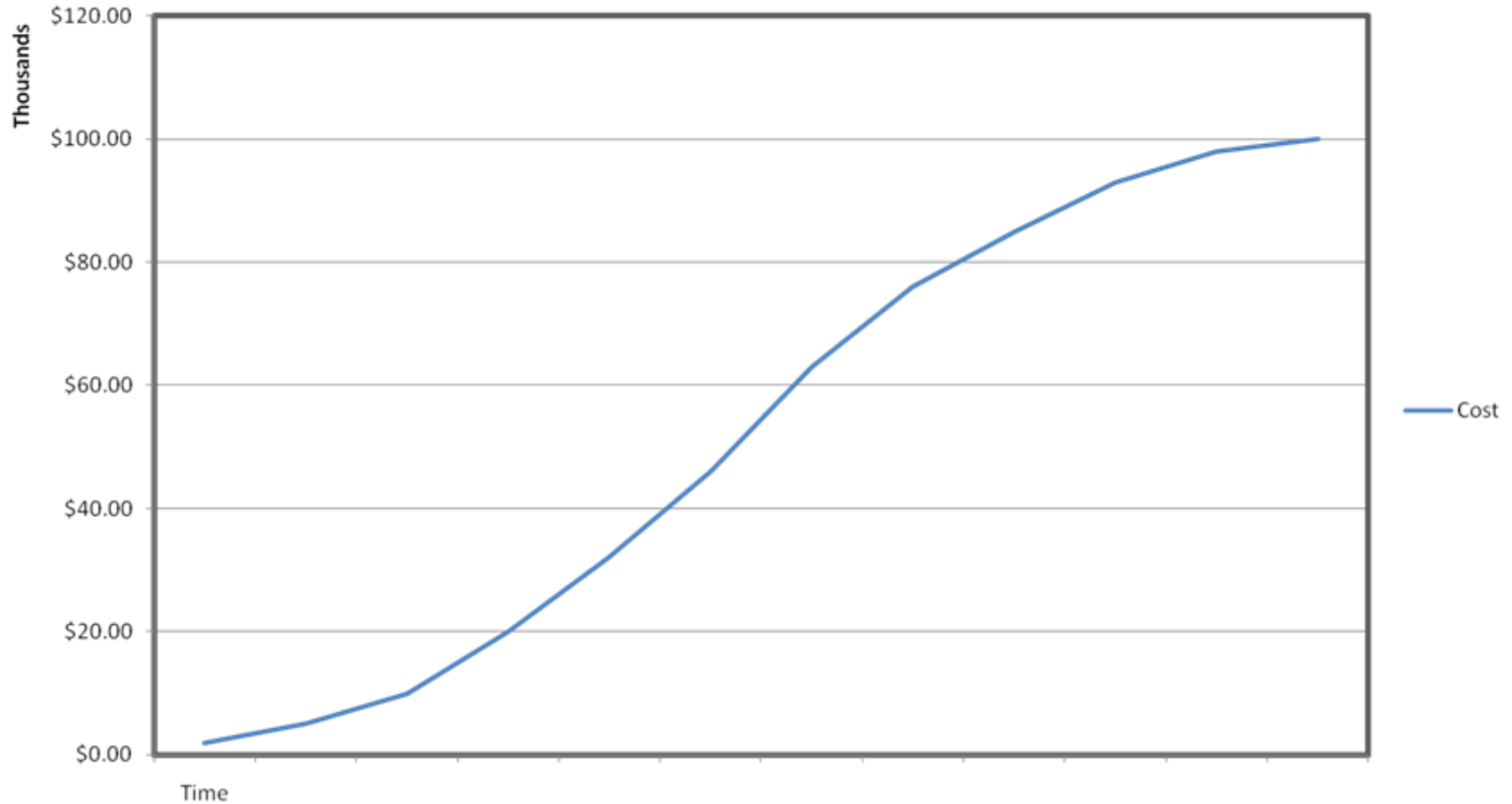
Project Control - Cost

- Contingency Cost
 - To deal with uncertainties and risk due to weather, suppliers, design allowance
 - Often us 10% to 15%
 - Since it is part of the budget, should it be used?
- Profit
 - Deserved!
 - In cost plus contract, the “plus” is for profit



Project Control - Cost

Cost vs time



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Project Control – Scope of Work

- The project scope defines what the project is supposed to accomplish and hence the resources, time and money required to accomplish this
 - You have accepted to manage the construction of 5 single story 3 bedroom houses and agree to a time and budget. Just after you start constructing you get a mandate to build 6, 2 story houses with 5 bedrooms.
 - What happens to your budget? Your schedule? Your warehoused materials?



Project Control – Scope of Work

- You must get permission, in writing, for these changes
- It can be done through contract change orders that define the changes and are signed off by the owner.
 - Change orders can affect:
 - Time / schedule
 - Cost



Project Control – Progress Payments

- Deficiencies and holdbacks
 - A payment holdback is deducted from the approved payment amount each month
 - Why? Generally used to protect the workers salaries.
 - A deficiency is a piece of required work that was not completed satisfactorily.
 - Payment is for work done. There should be no payment for uncompleted work
 - The outstanding balance is to entice the contractor to complete the work
 - Holdback funds and deficiency related funds are different!



Project Communications

- Studies have shown that project “failures” are frequently due to a lack of communication.
- Must keep the obvious stakeholders informed
- Must also keep others informed and aware
 - Band members
 - Workers and foremen
- Use various means to get the message out
 - Letters, radio / TV, e-mail, posters, meetings



Project Communications

- Document and record meetings, decisions
 - Project diary
 - Minutes of meeting
- Progress reports
 - What has been done this period?
 - What will be done next period?
 - What problems have you encountered?
 - What are the current costs vs the project budget?
 - How is the schedule?



Housing Maintenance

- Generally considered under titles like O & M
- Should we/you plan for housing maintenance?
 - Should you stock some spare items used in the construction?
 - Doors, windows, furnace, toilet, HRV, sump pump
- Plan to maintain houses in good living condition



Ojibways of the Pic River – 10 Year Plan



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Ojibways of the Pic River – 10 Year Plan

- In 1999, the Pic River Housing Committee, Chief and Council and local membership developed a 10 year Housing and Funding plan.
- Plan was approved and implemented in 2004
- The objectives included:
 - New construction 40 units
 - Major and minor renovations 50 units
 - Infrastructure – construction of a residential lots
 - Training and development – building capacity
 - Housing options for members



Ojibways of the Pic River – 10 Year Plan

How did we do this?

- We gained Chief and Council support
 - We have had 3 Chiefs take leadership of the First Nation
- We gained administrations support and seen changes in Band Manager
- We gained the peoples support and workers support
- We gained funding support from banks
- We stayed focused on our goals



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Ojibways of the Pic River – 10 Year Plan

New Construction



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Ojibways of the Pic River – 10 Year Plan Home Improvement Program



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Ojibways of the Pic River – 10 Year Plan

Capacity Building



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Ojibways of the Pic River – 10 Year Plan Infrastructure – Residential Lot Development



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Ojibways of the Pic River – 10 Year Plan Housing Options



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Ojibways of the Pic River – 10 Year Plan Administration



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Ojibways of the Pic River – 10 Year Plan

What did we accomplish?

- We have built 48 new houses including a 6-plex
- We have renovated 43 s
- We have 4 new staff; 1 admin and 3 in maintenance
- A Project Construction Team and trained management
- We have 4 new journeyman carpenters
- A trained electrician 1 year away from certification
- We have a plumber and HVAC person in the development stages
- We have created an understanding and acceptance in ownership!



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Ojibways of the Pic River – 10 Year Plan

What's next?

- A housing authority
 - Policies related to housing administration and maintenance
- Strong financial arrangements with banks to support construction and ownership
- Additional trades training – carpenters, HVAC, plumbing, home maintenance etc.



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Summary

A picture says a thousand words



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