Lead in story – house construction, highway project in Montana, mega project in another state

What does risk management mean to you?
Nothing new – something that you’ve learned to do in approaching all projects.

Risk management is fundamental to project and program management.
Understanding project risks will better enable project teams to make informed decisions regarding project development and delivery.

Self introduction
Logistics
SESSION GOALS

- Introduce you to Risk Identification
  - Brainstorming methods
  - Identify potential risk events
- Familiarize you with MDT Risk Identification tools
- Show you proper Risk documentation

Appreciation for their time

Any of you had classes on project risk management?

Session 2: Lessons in brainstorming methods and identifying potential risk events. Hands on exercises will reinforce use of MDT’s Risk Management Plan tools.
Definitions

- Risk is the effect of uncertainty on objectives (ISO; 2011)
- Risk is an uncertain event or condition that, if occurs, has a positive or negative effect on a project objective (PMBOK)
- Risk is the event
- Uncertainty is the variability of an occurrence

International Organization for Standardization: The ISO 31000 (2009) / ISO Guide 73:2002 definition of risk is the 'effect of uncertainty on objectives'. In this definition, uncertainties include events (which may or may not happen) and uncertainties caused by ambiguity or a lack of information. It also includes both negative and positive impacts on objectives. Many definitions of risk exist in common usage, however this definition was developed by an international committee representing over 30 countries and is based on the input of several thousand subject matter experts. (Wikipedia, March 11, 2014)

Common denominators?
uncertainty, objectives
Risk management is fundamental to project and program management. A key part of risk management is understanding cost, schedule, and scope.
- Relationships to each other and impacts on the project and program
- Importance of mutual understanding of each component

Start with a well-founded needs assessment and subsequent scope definition. What are the problems and potential solutions?
Identify and document the known project characteristics
What are the most important aspects of the project:
  - budget, schedule, scope, quality

**Risk Management Basics**
- Determine project needs/scope
- Identify project characteristics
  - Location
  - Type
  - Complexity
- Establish project objectives
Risk management is a continual process throughout the life of a project. Plan for risk appropriate to the project complexity and unique characteristics. Identify the potential significant risk events – positive and negative – to budget and schedule. Analyze the risk events to determine the potential fiscal or time impacts. Respond to the risk events in the best way possible to meet the project needs. Monitor and control all of the major risk events continually. Communicate to the team and to management (the good, the bad, and the ugly). And always document! Track actions and outcomes, assumptions, changes, etc.
How do we determine risk/contingency?

I’m going to present a standardized process that can be adapted to any type of project to help better quantify the risk or contingency component.

1st part is identification and analysis:

Plan for risk
Identify potential risk events
Analyze the potential impacts
Determine appropriate level of project risk management (Fig. 1)
Include time in schedule for risk management
Include costs in preliminary engineering estimate
Include appropriate costs in construction estimate
Remember triangle: Schedule (Time)/Scope/Cost
Develop risk management mindset
Focus efforts and determine acceptable level of risk/tolerance for risk
Focus on those risks that could significantly affect project objectives (table 2) – identified in previous exercise
Opportunities and threats
Brainstorm and condense
Use risk element chart (Fig.2)
Get input from local experts: internal, external
DOCUMENTATION

- Risk Management Plan
- Project reports

RMP – more soon!
Project reports
APPLICATION TO PROJECT

MONTANA DEPARTMENT OF TRANSPORTATION
FEDERAL AID PROJECT IM-15-4(116)192
BRIDGE, GRADE, GRAVEL, AND PLANT MIX SURFACE
CAPITOL INTERCHANGE/CEDAR INTERCHANGE - HELLENS
LEWIS AND CLARK COUNTY
LENGTH: 0.1 MILES

2/15/2018

MDT
Write information on easel paper

Go through page 2 of handout to review project

Which project objective is most important?
Time
Schedule
Cost
Quality
Customer Satisfaction

Go through matrix

Jim – read highlights of the PFR proposed SOW and location information. (draft info on a notepad and place on the wall)
PFR CN= $24.7 w/contingency, INF and IDC million
Target letting January 2014
### GROUP EXERCISE #1 – PROJECT OBJECTIVES

<table>
<thead>
<tr>
<th>HOW IMPORTANT IS IT TO</th>
<th>VERY LOW</th>
<th>LOW</th>
<th>MEDIUM</th>
<th>HIGH</th>
<th>VERY HIGH</th>
</tr>
</thead>
<tbody>
<tr>
<td>Not important</td>
<td>1</td>
<td>10</td>
<td>25</td>
<td>50</td>
<td>75</td>
</tr>
<tr>
<td>Nice to achieve; but not critical</td>
<td>1</td>
<td>10</td>
<td>25</td>
<td>50</td>
<td>75</td>
</tr>
<tr>
<td>Consequences of failure are low to moderate</td>
<td>1</td>
<td>10</td>
<td>25</td>
<td>50</td>
<td>75</td>
</tr>
<tr>
<td>Consequences of failure significant</td>
<td>1</td>
<td>10</td>
<td>25</td>
<td>50</td>
<td>75</td>
</tr>
<tr>
<td>Critical; failure is not an option</td>
<td>1</td>
<td>10</td>
<td>25</td>
<td>50</td>
<td>75</td>
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</tbody>
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<th>VERY HIGH</th>
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</thead>
<tbody>
<tr>
<td>Complete on budget</td>
<td>1</td>
<td>10</td>
<td>25</td>
<td>50</td>
<td>75</td>
</tr>
<tr>
<td>Complete on schedule</td>
<td>1</td>
<td>10</td>
<td>25</td>
<td>50</td>
<td>75</td>
</tr>
<tr>
<td>Fulfill all the requirements of the scope</td>
<td>1</td>
<td>10</td>
<td>25</td>
<td>50</td>
<td>75</td>
</tr>
<tr>
<td>Meet the quality expectation</td>
<td>1</td>
<td>10</td>
<td>25</td>
<td>50</td>
<td>75</td>
</tr>
<tr>
<td>Have a fully functional finished product</td>
<td>1</td>
<td>10</td>
<td>25</td>
<td>50</td>
<td>75</td>
</tr>
<tr>
<td>Have a satisfied Owner</td>
<td>1</td>
<td>10</td>
<td>25</td>
<td>50</td>
<td>75</td>
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</tr>
</thead>
<tbody>
<tr>
<td>Know if a “high” risk is unreasonably high</td>
<td>1</td>
<td>10</td>
<td>25</td>
<td>50</td>
<td>75</td>
</tr>
<tr>
<td>Understand the probability of completing on schedule</td>
<td>1</td>
<td>10</td>
<td>25</td>
<td>50</td>
<td>75</td>
</tr>
<tr>
<td>Understand the probability of completing on budget</td>
<td>1</td>
<td>10</td>
<td>25</td>
<td>50</td>
<td>75</td>
</tr>
<tr>
<td>Know which tasks impose the greatest risk on the overall project</td>
<td>1</td>
<td>10</td>
<td>25</td>
<td>50</td>
<td>75</td>
</tr>
<tr>
<td>Communicate the probability of success/failure to others</td>
<td>1</td>
<td>10</td>
<td>25</td>
<td>50</td>
<td>75</td>
</tr>
<tr>
<td>Demonstrate that a tight schedule is actually inadequate</td>
<td>1</td>
<td>10</td>
<td>25</td>
<td>50</td>
<td>75</td>
</tr>
<tr>
<td>Demonstrate that a tight budget is actually inadequate</td>
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<td>10</td>
<td>25</td>
<td>50</td>
<td>75</td>
</tr>
<tr>
<td>Avoid damaging your reputation</td>
<td>1</td>
<td>10</td>
<td>25</td>
<td>50</td>
<td>75</td>
</tr>
<tr>
<td>Avoid damaging your organization’s reputation</td>
<td>1</td>
<td>10</td>
<td>25</td>
<td>50</td>
<td>75</td>
</tr>
</tbody>
</table>

**TOTAL RATING**

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**Group exercise #1**

Go through matrix
Open document in folder/fill out with group

**Jim and Bryan – help initiate open discussion**

**Bryan or Jim – write down top objectives from the Crisp matrix per the discussion**

**Remind Lesly to blow up the excel spreadsheet for visibility**
Focus on those risks that could significantly affect project objectives (table 2) – identified in previous exercise
Opportunities and threats
Brainstorm and condense
Use risk element chart (Fig.2)
Get input from local experts: internal, external
GROUP EXERCISE #2 – IDENTIFY RISKS

A. Crawford Slip
B. Brainstorm Session (3 groups)
C. Risk Element Chart

A. Individuals get sticky notes (10 minutes)
   1. Identify 4: 3 threats + 1 opportunity
   2. One per sticky note
   3. Cost and/or schedule
   4. Remember objectives
B. Break into 3 groups – open brainstorm session
   1. Sticky notes and open ideas (no discussion – share and document ideas – 10 minutes)
   2. Top 5 threats (5 minutes for steps 2 and 3)
   3. Top 2 opportunities
   4. Share with class
C. Review Chart – anything missed?

Bryan or Jim track time
Facilitators write down brainstorm ideas on notepads and mark the top 5 threats and opportunities
Focus on those risks that could significantly affect project objectives (table 2) – identified in previous exercise
Opportunities and threats
Brainstorm and condense
Use risk element chart (Fig.2)
Get input from local experts: internal, external
RISK STATEMENT FORMAT

- Cause-Risk-Impact
- Clearly state:
  - the cause,
  - the risk, and
  - the impact.

Encroaching on the rail yard may require track relocation, which will increase construction cost, design time and construction time.
GROUP EXERCISE #3 – RISK STATEMENTS

A. Individual
B. Group

Cause – Risk - Impact

Write risk events into statements
Place statements (sticky notes) on appropriate poster sheet

*Facilitators lead/document cause – risk – impact statements for top threats and opportunities*
**Review Risk Identification section**
GROUP EXERCISE #4 – RMP

A. Document risk events

Cause – Risk - Impact

Start with most notable
Type in 2 to 3 events as time allows
Documentation

- RMP
- Milestone Reports
Project and Risk Management

Provide a discussion of the overall level of risk to the project costs and schedule. Highlight any significant risks and discuss the active management strategies. If any significant risks have been retired or mitigated, identify those as well.
GROUP EXERCISE #5 – DOCUMENTATION

- Write short risk statement for SOW report

Have teams write short statement

Any other communication needed?
CONCLUSION

- Risk Identification
  - Brainstorming methods
  - Identify potential risk events
- MDT Risk Identification tools
- Risk documentation

Review goals
Check comfort level

Next session: Risk Analysis
Contact Information

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(406) 444-6242