RISK MANAGEMENT PLAN

A risk is an event or condition that, if it occurs, could have a positive or negative effect on a project's objectives. Risk Management is the process of identifying, assessing, responding to, monitoring, and reporting risks. This Risk Management Plan defines how risks associated with the Development and Construction of Baycliff Tropical Retreat Project will be identified, analyzed, and managed. It outlines how risk management activities will be performed, recorded, and monitored throughout the lifecycle of the project and provides templates and practices for recording and prioritizing risks.

Risk is inherent in all activities of any construction project. To be successful, a risk management process is needed such that risk can be continually evaluated and managed in order to minimize the consequences of adverse events.

The ultimate goal of risk management is to increase the probability of project and activity success by focusing attention on problem areas early and reducing the amount of costly rework in the future. For each and every risk, there is the potential impact of cost overruns, schedule delays and compromises in quality and safety if the risk occurs. Hence, risk management will be applied continuously throughout the RSB project life cycle and will evolve and adapt to accommodate the various project phases.

A "risk" is an event that has the potential to cause an unwanted change in the project. A risk is as follow:

- A definable event;
- With a probability of occurrence; and
- With a consequence or "impact" if it occurs.

A measure of the severity of risk is: Severity = Probability x Impact.

For risks, we have a "mitigation plan." A mitigation plan either lowers the probability and/or the impact to reduce the severity to an acceptable level.

Managing risk is a key element of the project management process for both the planning and the performance phases of the RSB project. As such, this RMP develops a methodology to identify and quantify specific risks to the project, determine their consequence and associated probability, and develop mitigation strategies.

This Risk Management Plan was initially drafted by the author which will be reviewed by the Project Manager during the Planning stage and is monitored and updated throughout the project. The intended audience of this document is the project team, project sponsor and management.

Process

The project manager working with the project team and project sponsors will ensure that risks are actively identified, analyzed, and managed throughout the life of the project. Risks will be identified as early as possible in the project so as to minimize their impact. The steps for accomplishing this are outlined in the following sections. The Construction Project Manager will serve as the Risk Manager for this project.

Risk management is an iterative process in which the effectiveness of control actions is constantly evaluated, new risks are discovered, and existing risks are re- assessed. New or revised control actions are implemented as needed. By managing risks, the process helps minimize cost impact, schedule delays, or the impact of other issue that could impede a project's progress. The iterative process continues until all the risks are closed or the project is completed.

Risk Management Planning

Prior to the initiation of risk management, activities in the proposed baselines are evaluated to determine their potential for risk. This evaluation (or risk screening) assesses all activities against a set of screening categories typically in the areas of construction, interface control, safety, regulatory and environmental, security, design, resources, space migration etc. Activities which are identified as project risks will be tracked.

Risk Identification

Re-iteratively, risks were pre- identified which that serve as a guide for the project team and appropriate stakeholders on their risk identification process. The process will also include the evaluation of environmental factors, organizational culture and the project management plan including the project scope. Careful attention will be given to the project deliverables, assumptions, constraints, WBS, cost/effort estimates, resource plan, and other key project documents.

A Risk Management Log will be generated and updated as needed and will be stored electronically in the project library.

Risk Assessment

Upon finalizing the list of risks, assessment is required to identify the range of possible project outcomes. Again, the pre- assessment of risks is only the author's owned anticipations and is needed to be re-assess by the implementing team to include the majority of

assumptions from the different stakeholders. Qualification will be used to determine which risks are the top risks to pursue and respond to and which risks can be ignored.

Qualitative Risk Analysis

The probability and impact of occurrence for each identified risk will be assessed by the project manager, with input from the project team using the Probability and Impact Matrix with the values as shown in the table below:

	Probability of Occurrence	Impact to the Project
Very High	0.90	0.80
High	0.70	0.40
Moderate	0.50	0.20
Low	0.30	0.10
Very Low	0.10	0.05

SEVERITY = PROBABILITY X IMPACT

The matrix score or severity will be determined by multiplying the Probability and Impact values given on a certain risks with the following thresholds and color coding:

RED	Greater than or equal 0.15	HIGH
YELLOW	In between 0.06 to 0.14	MODERATE
GREEN	Less than or equal 0.05	LOW

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Quantitative Risk Analysis

Analysis of risk events that have been prioritized using the qualitative risk analysis process and their effect on project activities will be estimated, a numerical rating applied to each risk based on this analysis, and then documented in this section of the risk management plan.

Risk Response Planning

Risk management is the process used to identify risks and implement actions to reduce the likelihood of a risk materializing and/or to reduce or eliminate the potential consequences of identified project risks. Risk mitigation strategies generally fall into one of four categories: 1) risk avoidance, 2) risk transfer, 3) risk reduction or mitigation, and 4) risk acceptance. Each of these strategies is described in table below, as are general methods used to manage identified risks.

The risk score will be the guide for responding to a particular risk. Each major risk (those falling in the Red & Yellow zones) will be assigned to a project team member for monitoring purposes to ensure that the risk will not "fall through the cracks". For each major risk, one of the following approaches will be selected to address it:

MANAGEMENT METHOD	OBJECTIVE	FEATURE
Avoid	Eliminate the threat by eliminating the cause or avoid by changing the parameters of the project	● May change the project plan to eliminate conditions creating the risk (risky requirement, work scope, technology, or contractor) or eliminate the risk entirely. ● May trade one risk for another lesser risk. ● If a lower risk option is available, revise baseline to favor it. ● Check that the lower risk is the better choice considering the project as a whole.
Transfer	Risk remains viable but is shifted to another project or organization. Often called risk allocation. Make another party responsible for the risk (buy insurance, outsourcing, etc.).	● If full transfer is not possible, consider a partial shift e.g., insurances, performance bond, warranty, or contract guarantee. ● Often, results in risk being shared between project and others. ● Often best with funding risks. ● Must consider costs and benefits of transfer. Must ensure recipient is best equipped and prepared to assume the risk in whole or in part. ● Risk is not avoided. Recipient Must be willing to assume the risk, in whole or in part.

Mitigate	Identify ways to reduce the probability or the impact of the risk. Reduced likelihood and/or consequences of a risk (preferably both) by series of control actions.	- Most common form of risk management. - Must systematically and carefully identify and attack root causes of the risk. - Control actions are comprehensive and feasible. - Early actions Often required for success. - Actions can affect cost, scope, and schedule. - cost/benefit analysis can be useful in selecting best Control action from a list of alternatives - Confidence levels for Control actions derived from Monte Carlo, Crystal Ball, or other analysis can be useful, but are not mandatory
Accept	Nothing will be done. Risk is recognized and simply taken on by the project	″Last option″ for controlling a risk. No feasible means to mitigate or otherwise control the risk is available. - Benefit is that no changes in project plans are required to address the risk. - Sometimes used when a compellingly large reward could be gained by taking the risk. - Typically used for obdurate, distant, or least- predictable risk e.g. funding levels. - Residual (remaining) risk is always accepted. - Requires special diligence in monitoring, because nothing was done to reduce the risk. - Alternative or acceptable ″fall-back″ positions are especially crucial if the risk is critical to project success. * Worst case is ″passive″ acceptance, when no fall-back plans are considered.

For each risk that will be mitigated, the project team will identify ways to prevent the risk from occurring or reduce its impact or probability of occurring. This may include prototyping, adding tasks to the project schedule, adding resources, etc. For each major risk that is to be mitigated or that is accepted, a course of action will be outlined for the event that the risk does materialize in order to minimize its impact.

Risk Monitoring, Controlling and Reporting

The level of risk on a project will be tracked, monitored and reported throughout the project lifecycle. A "Top 10 Risk List" will be maintained by the project team and will be reported as a component of the project status reporting process for this project. All project change requests will be analyzed for their possible impact to the project risks. Management will be notified of important changes to risk status as a component to the Executive Project Status Report.

Risk Tracking & Documentation

The Risk Registry tracks and monitors the status of all project risks , probability and impact of each risk (pre and post-mitigation) and details on the risk control actions. The Risk Manager is responsible for identifying and assessing of risks. This responsibility includes providing regular re-evaluation and a status update of risk entries via the Project Risk Registry. The Risk Registry is a living document used throughout the life of the project.

Project risks and the management actions to control them are reviewed and updated monthly by Risk Manager, Project Manager and the Project Team. New and imminent risks are added into the registry when identified. Risks are closed when the risk is no longer credible or when the risk has been realized and no residual risk remains.

The Risk Manager is responsible for maintenance of the Risk registry for ensuring that Project team members are monitoring and reassessing risks regularly, and that the Risk Handling Plans are being implemented in a timely and effective manner.

Items with risk severity score higher than 0.05 must be entered in the Contingency Analysis, which is the product of the impact and the risk probability. This is to provide a roughly quantitative assessment of the relative risks identified by the project

Each identified risk shall be documented using the Risk Assessment Worksheet. Impacts and probabilities will be described as detailed as possible to support the level of assessment. The approach to each identified risk shall be documented using the Risk Management Worksheet.