



Canadian Construction
Association
Best Practices Services

CONSTRUCTION PLAYBOOK

PUBLIC PROCUREMENT RISK ALLOCATION



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PART I: INTRODUCTION

Anyone who has worked in construction knows from their earliest involvement that the industry is replete with risk and uncertainty. From health and safety concerns to schedule pressures, cost and profit margin protection to client expectation management, a construction project can feel like a precarious balancing act filled with threats to successful delivery of the project. This may seem like an obvious assertion, but the overall success of any construction project is inherently linked to how the stakeholders allocate, assign and manage risks throughout delivery.

This report examines a specific and worrying trend in public construction projects – the practice of transferring uncertain, ambiguous, or potentially inappropriate project risks directly to contractors. There is already limited competition for large public procurements due to the size of these projects. Barriers to entry and growth for smaller contractors and significant increased costs for construction year over year further limits mid-market participation. In contrast, there is a growing need to encourage active and healthy competition for infrastructure projects, given the critical role that infrastructure will play in our economy in the coming decades. This report argues that the continued transfer of unbalanced risks by public entities will be a challenge long-term, since it will potentially weaken both contractors and public owners and impact the overall health of both the industry and public infrastructure.

To address this topic holistically, the first section of this paper will outline some fundamental principles of risk management in construction. We will provide recent examples of these transfers of risk and explain why they negatively impact all parties involved in the project. Finally, this paper will offer practical mitigation strategies, to help assist contractors to identify, manage and protect themselves against uncertain project risks.

PART II: PRINCIPLES OF EFFECTIVE RISK MANAGEMENT

Fundamentally, the principles of contracting between owners and contractors should be guided upon fairness and appropriate risk transfer, with early and open engagement between the parties. Contractors are experienced and capable of identifying and managing a wide scope of known and identifiable risks based on the contractual model on the project. If risks are known, they can be controlled with thorough analysis and mitigation. By contrast, project risks that are unknown, unidentifiable or ambiguous carried wholly by the contractor may lead to either unnecessary risk-taking or increased contingency carried at bid by contractors, resulting in higher capital costs, lack of bid response and decreased competition within the market.

A. Abrahamson's Principle: Risk should be borne by the party best able to manage and bear the same

It is a well-accepted principle that the responsibility for a project risk should be assigned to the most appropriate party to manage that risk ("Abrahamson's Principle"). Within a contract, the parties and their

representatives bring with them expertise, experience, knowledge, and capability to identify, manage and mitigate the project risks. Risk assignment and transfer should be viewed through this lens at project inception and throughout the life cycle of the project.

However, an important but often overlooked foundation of Abrahamson's Principle is that the ability to manage the project risk is driven by who is best able to price or insure that risk. In public sector procurement, owners typically carry a large portfolio of capital assets/projects. As a result, some have argued that public owners are typically in the best position to retain 'diversifiable' or 'idiosyncratic' risks¹ – that is, unknown risks which are uncorrelated, where the chance of a risk is independent between projects. Since the probability of these risks materializing is spread between the projects of the public owner, the overall cost of risk is correspondingly distributed and minimized across the portfolio.

While unknown, uncertain, or complex risks can be contractually shared between owners and contractors, success depends on the principles of communication and collaboration.

B. Increasingly complex projects lead to increasingly high-risk portfolio

As the complexity and scale of projects increase, a higher risk profile typically follows. Where multiple interfaces exist, whether it be between various public agencies or through interwoven scopes, the complexity of project risk invariably increases for all parties. As risk on a project heightens, collaboration and early engagement become critical to ensure the best value proposition can be identified and attributed appropriately, managed carefully and mitigated.

At tender of these complex projects, typical or standardized provisions are characteristically less appropriate, and may require modification. High risk and lower certainty risks should be assessed holistically and through careful analysis and close collaboration. These risks can be "shared", ensuring the party with the most appropriate information and expertise can assume components of a larger risk, together.

Contract provisions that are clear, quantifiable, and easy to administer should be developed to address challenging risks. This process should be negotiated transparently with both parties, collaborating and communicating their positions and rationales upfront.

C. Value-based procurement – allocating risk holistically

In value-based procurement, procurement methods and contract principles are created on a project-by-project basis, depending on various factors. When risk allocation is considered this early and closely, the ultimate outcome is increased value for the buyer of construction and a healthy competitive marketplace. The last section of this article will address in further detail how to capitalize on value-based procurement methods to mitigate unknown or ambiguous risks.

By contrast, inappropriate contracting methods and contract risk transfer can lead to various negative

¹ See Arrow, Kenneth J. and Robert C Lind, "Uncertainty and the Evaluation of Public Investment Decisions" (2014) 6:1 Journal of Natural Resources Policy Research 29, originally published (1970) 60:3 American Economic Review 364.

outcomes for the entire construction industry. Lack of competition, unnecessary risk taking and increases in construction costs are the direct result of an allocation of risk that pushes incorrect risk to a contract party that is not best to take on that risk. Through correct risk allocation, both contract parties and the entire industry benefit and create positive outcomes throughout a project lifecycle.

PART III: RISK TRANSFER IN PUBLIC PROCUREMENT

A. Types of risk transfer

In the past decade or so contractors have seen a sharp deviation in public procurement from the holistic risk allocation principles outlined above – specifically, through the transfer of project risks which were either previously retained by owners or shared between the project parties. This development is particularly notable in projects where the contractor will bear the design risk, either by way of a design-build contract or an alternative finance procurement (a “P3” or a “public-private partnership”), though it has been seen in all types of procurement. This section analyzes some of these risk transfers and the challenges that have emerged as a result.

Type I: Risk transfer of unknown site conditions

The standardized language for site conditions, with variation, is the “Changed Conditions” clause. This provision grants relief for “subsurface or latent physical conditions at the site, which differ materially from those indicated in the contract documents”.² This language, and the tie back to the contract, allocates the risk such that the onus will be on the contractor to review and interpret the geotechnical information as presented in the contract; however, the contractor does not bear the total risk for the project’s site conditions if those conditions were not readily apparent in the contract documents.³

Applying the risk allocation principles set out above, this standard language ostensibly shares the risk of unknown site conditions between the owner and contractor. Even within the shared risk, the contractual language creates a reverse onus on the contractor to ‘prove’ what is essentially a subjective assessment. The owner of the project, in conjunction with the consultant retained by the owner, will be the arbitrator in the first instance of whether the site conditions are materially different from the owner’s technical reports.⁴ The owner, having received a fixed price to which it would like to adhere to, is naturally

² See, for example, GC 6.4.1 in the CCDC-2 2020 Stipulated Price Contract.

³ Some case law in Canada interpreting this allocation of risk has found that the contractor’s interpretation of the contract documents must be reasonable for a contractor – the Court will not expect the contractor’s interpretation to be correct, or in line with a geotechnical engineer’s review (see, Walsh-Canadian Construction [1979] 25 Nfld & PEIR 361 (Nfld CA). However, in HMQ (New Brunswick) v. Gould Trucking and Bird 2015 NBCA 47, the New Brunswick Court of Appeal found that the general contractor had failed to properly interpret the geotechnical reports, and specifically the compression strength table therein. Thus, the standard of what may be “readily apparent” still imposes a high onus on the contractor to assess and interpret geotechnical information available.

⁴ Some will argue to use that the dispute resolution mechanisms in the contract can provide eventual relief where the contractor feels that the owner’s assessment of the changed conditions is wrong. While true, dispute resolution is typically a long, expensive, and protracted process. Prior to the eventual determination by a trier of fact, which can take many years, the contractor will be forced to carry the costs of a site condition which the contractor believes differs materially from the technical reports and the pricing the contractor carried at bid.

predisposed to conclude that a condition was inferable from the technical reports.

Furthermore, the contractor has no control over the quality or robustness of the technical reports procured by the owner.⁵ To mitigate ambiguities in these technical reports, contractors may want to conduct their own assessments at bid with respect to subsurface conditions. However, there is typically very limited access to the site for bidders, and little to no budget in the honorarium to conduct these investigations. Moreover, if an adverse subsurface soil condition materializes, the scope and adequacy of the contractor's own investigations may come under scrutiny. As a result, the contractor is disincentivized to properly investigate the subsurface condition at bid, notwithstanding the apparent transfer of risk.

In a traditional design-bid-build model, both issues highlighted above may be mitigated, since unexpected site conditions will lead to a design modification, entitling the contractor to a change under the contract. However, where design risk is downloaded to a contractor, it becomes possible to in practice fully transfer the site conditions risk to the contractor that carries the design – either through a narrowed “changed conditions” language, or the responsibility for the contractor to take on site risk “as is, where is”. As outlined above, most contractors pursuing a bid do not have adequate opportunity to price the unknown site conditions risk. Finally, there is no current market opportunity to obtain insurance against unknown site conditions. Thus, contractors are assuming site condition risk despite being unable to price or insure this contingency.

Similarly, the risk for contamination in P3's is typically not expressly included in the “as is, where is” language. However, often the contracts put to tender will only keep the risk of contamination with the owner to the extent that contamination was not “reasonably inferable” from the technical documents and the contractor's own investigations. As with the site condition language above, this language creates the risk of dispute over what contamination was “reasonably inferable” from the technical reports.

The inherent logic underlying these provisions is: a) that the project owner has procured, and made available, high quality and fulsome site investigations done in advance of the bid process which accurately reflect the Project conditions; b) with that information, the contractor has all the data it needs to properly price and schedule the project; and c) in the event of an apparent material change in site conditions, the owner will conduct a balanced and independent assessment of the contractors' request for a change. This optimism is often misguided, and the participating contractors are forced to price an ambiguous risk at their peril – too high, and a contractor loses the job and much of its bid costs, too low, and the contractor will face severe losses on the project if the risk materializes.

Type II: Third-party approvals risk transfer

A second area of risk transfer observed in recent years is the shift of responsibility for third-party

⁵ Recent case law in the Supreme Court of Canada limits a contractor's ability to bring an action against an engineer for errors and omissions in a technical report, if the contractor did not retain that engineer directly. See 1688782 Ontario Inc. v. Maple Leaf Foods Inc. (Maple Leaf Foods) 2020 SCC 35.

stakeholder approvals onto contractors. For example, contracts often require proponents to seek and obtain discretionary approvals from local authorities (e.g. municipalities, utility providers, etc.) to proceed with the work, with no corresponding relief available if delay by those local authorities pushes the project schedule. Similarly, in some situations owners are placing the increasing responsibility on contractors to obtain consent and approval from multiple different government stakeholders when proceeding with design or construction on a project without schedule relief for those delays.

It is reasonable for owners to impose responsibility on contractors to satisfy building code and local by-law requirements. However, contractors have limited or no ability to expedite reviews by third-party authorities. They also have no ability to impose an approval or to resolve conflicting requirements between agencies. Moreover, this contractual allocation ignores the fact that the public agency procuring the job is often best situated to navigate approvals and/or obtain information from a related governmental entity. While notionally, public entities may maintain an arm's length relationship, the reality is that the connections between public bodies may mean that the owner is best placed to navigate and circumvent bureaucracy.

Contractors will require third party approvals to comply with bid submission requirements and achieve contractual milestones (and avoid any associated penalties). As such, requiring contractors to obtain discretionary approvals from third parties creates a significant schedule and cost risk that cannot be effectively managed on a fixed price and schedule contract.

Type III: Design responsibility risk transfer

Another recent trend in public procurement is tendering contracts that shift design risk onto contractors, even when they are not responsible for the design. For example, some supplemental conditions might include terms that hold contractors responsible for errors or omissions in drawings and specifications. Alternatively, contracts might include provisions within the warranty which provide that the work be "fit for purpose" or "fit for intended use." Finally, some projects contain terms that impose a duty on contractors to undertake a review of the owner's design documents and warn of any errors.

The inclusion of these terms is commonplace where contractors have assumed design risk; however, it is inappropriate in bid-build or lump-sum contracts. On those projects, contractors are not able to determine whether a component meets the design intent, having had little or no input or dialogue regarding the project design intent with the owner. Ensuring that a component meets design intent is properly the responsibility of the designer. Furthermore, the inclusion of design risk in a bid-build or lump-sum procured project creates a potential liability on the contractor for design defects that ought to be borne by the owner or the designer. This risk is particularly concerning if the contractor is not contractually required to carry errors and omissions insurance, since then there will be a gap in insurance coverage on the project. Finally, the inclusion of these terms may impose additional bid costs on the contractors to retain an independent consultant to review the design – which may disincentivize contractors from bidding on the project at all.

Type IV: Design and performance responsibility ambiguity

A further source of risk transfer arises from contractual design ambiguities and under-defined (a.k.a. “inferred”) scope, where the contractor retains design responsibility. Particularly, within P3 and design-build contracts, the industry is seeing an increasing amount of vagueness in owner design specifications. This ambiguity may be due to projects being tendered before all aspects of the work are fully developed or conceptualized. When disputes occur over vague specifications, public owners may resist changes once prices are fixed, arguing that the design requirements were specified.

Additionally ambiguity can result when an owner retains certain obligations under the contract, but the terms are silent on the timing for performance of that obligation. In a well-publicized example, the consortium selected to build a transit infrastructure project brought litigation against the public authority owner. Pursuant to the contract, the owner retained the responsibility for selecting and contracting with the operator of the transit line; however, the contract was silent on any deadline on when the operator needed to be retained. In the lawsuit, the consortium argued that the authority had failed to retain the operator in a timely manner and failed to properly coordinate the commissioning obligations between the parties. The ensuing negative publicity – not to mention the time and money spent on legal costs – was detrimental to both the owner and the consortium.

Type V: Risk transfer through unacceptable limits of liability and improper indemnities

Finally, construction contracts can inappropriately assign risk through augmenting existing standard clauses. Some examples include:

1. *Limits of Liability:* Contracts without appropriate limitations of liability, commensurate to the value of the project, can be potentially catastrophic to contractors. In the event of a loss, the contractor may be liable for virtually unlimited liability, restrained only by the limits within the common law on damages.
2. *Consequential Damages:* Typically a construction contract should provide a waiver of consequential damages, damages for loss of profit, loss of revenue, and loss of use. These categories of damages are potentially massive and difficult (perhaps impossible) for contractors to quantify. Without a proper waiver of consequential damages to provide the necessary protection, contractors may be exposed to unquantifiable risk.
3. *Indemnities:* Indemnities can expand the scope of a contractor’s liability in several ways. For example, indemnities under which the obligation to indemnify is triggered without a requirement for fault (i.e., negligence or willful misconduct) can expose contractors to liability even where they have not committed a breach of contract or been negligent. Further, indemnities can expand the contractor’s obligations to third parties (e.g. the owner’s consultant) that it has a limited ability to protect itself against. As discussed below, indemnities should reflect the allocation of insurable risks on the project.

Generally, these types of terms should strike an appropriate balance between the risks faced by contractors and owners. Imposing risks that contractors are not able to manage and control can be catastrophic for individual contractors, and detrimental to the health of the industry in general.

B. Impact of risk transfer

On general contractors

Contractors are generally willing to take on increased risk, but only such risk that: a) they can reasonably anticipate at the time of bid and therefore can price, control and manage; or b) risks that are insurable. The imposition of risks that contractors are not able to effectively price, control or manage and are not able to insure can have serious impacts on contractors both individually and at an industry-wide level.

Inappropriate transfers of risk can lead to an increased risk of financial instability and insolvency for contractors. When contractors are exposed to risks beyond their control, they may incur substantial losses that affect their cash flow and profitability. If the contract does not provide adequate recourse, contractors may face difficulties in meeting their contractual obligations, paying their suppliers and subcontractors, or securing financing for future projects. This can lead to a vicious cycle of underperformance, default, and insolvency that damages the contractor's reputation and credibility, as well as the industry's competitiveness and sustainability. The risks in this cycle are exacerbated in the current market conditions, and particularly the high interest rates throughout Canada.

A further consequence of unbalanced transfer of risk is the increased risk of disputes. When contractors are faced with risks that they cannot control or manage, they may seek to recover their losses or avoid their liabilities by challenging the contract terms, invoking force majeure clauses, or claiming for extensions of time or additional payments. These situations can lead to costly and time-consuming disputes that disrupt the project delivery and erode the trust and cooperation between the parties.

On authorities/owner

The most obvious way in which inappropriate risk transfers eventually impact the public owners is through price escalation in the tenders for public projects. As the individual running the project, there are times when the contractor is best placed to manage certain risks on the project; however, in some cases the public owner is in the unique position as the party best placed to price and carry specific risks. When those at risk are delegated to the contractor without clear communication from the owner, one of two scenarios occur:

1. All bids which are placed by contractors will be higher than desired or anticipated; or,
2. It undervalues a risk which materializes, and the contractor will suffer large losses on the project.

Should scenario two occur, this will have a certain effect on that contractor's willingness to participate in a similar public procurement, eventually, leading to a less competitive marketplace overall. Small and medium sized contractors may elect to not participate in public procurement. Indeed, for many infrastructure projects, risk transfer has limited the ability of smaller contractors to compete on large

procurements, leaving these projects in the hands of only the biggest, international contractors. As a result, there will be less participation in the public tender process and less market choice for public owners. Thus, in either of the above two scenarios, the public owner will not receive long-term ‘value for money’ by downloading ambiguous risk.

Finally, as alluded to above, the ambiguities in the risk transfer will inevitably lead to disputes. These disputes can be a drain on funds and resources for the public owner. Furthermore, the negative publicity associated with litigation can erode public trust, potentially leading to a decrease in funding and/or a change in political leadership.

PART IV: MITIGATION STRATEGIES

Construction is an industry which is filled with “doers” – people who are insatiably interested in fixing problems and getting tasks done. The likely question posed by contractors reading this report is “What can be done?” or “How can we manage this?”. Ultimately, the first (and the best) remedy and mitigation strategy for the issues described above may be to change the procurement process and mitigate risks prior to procurement by working collaboratively with the owner – the “shift to value-based procurement” discussed above.

By being involved early, the contractor is provided an opportunity to manage risk in how the actual procurement is structured. If all, or most of the project parties, including the contractor, are included in the initial procurement process, through preconstruction or early planning and budgeting phases, there is an opportunity to effectively mitigate many common risks. For example:

1. *Value emphasis*

A collaborative process with the owner, consultant and contractor at early workshops can allow the stakeholders to align on value and priorities for project, which will inform other key decisions such as contract type and risk matrix.

2. *Contract type*

The parties can discuss and agree upon what is the best form of contract to suit the project.

3. *Risk matrix and planning*

Both the owner and the contractor can, as a team, identify risks and start a tracking and management plan in the early stages. Ideally, the risk matrix is frequently revisited, reassessed and edited by the stakeholders together on an ongoing basis at all stages of the project.

4. *Insurance*

The parties can determine what needs to be insured, who needs “access” to the insurance and who is best to purchase and place this insurance.

5. *Permits/Government approvals*

Project teams can investigate these tasks early to gain a better understanding of the requirement and, ultimately, risk, in turn ensuring these tasks are allocated to the best party to complete them.

6. *Dispute resolution*

The parties can collectively determine what the dispute resolution plan will be, and who will be required to participate. As part of this project, the parties can discuss mechanisms for a quick determination, by an independent adjudicator, on time-sensitive project issues.

However, it is not always possible to have early involvement in the procurement process. Where a project in the tender phase presents with ambiguous provisions or inappropriate risk transfers, the following mitigation strategies may assist in managing the risk:

1. *Ambiguous specifications or supplementary conditions*

A best practice would be to formally issue a Request for Information (RFI) for the questions and concerns to the owner. The contractor can suggest preferred alternative wording to the ambiguous provision – particularly drawing on compromise language from another project – that will help support the RFI and subsequent conversations. If there is an opportunity to have a meeting with the relevant stakeholders to review and refine the provision(s) in question, this would help work to a mutual resolution.

As a stakeholder you should be prepared to explain why and how this supplemental condition is adding risk, and cost, to the project through actual examples. Often the other owners do not have the same perspective, so they cannot relate to the concerns being raised without a relatable example to illustrate the point.

2. *Inappropriate contractual model*

A contractor generally has no control over the contractual model that is being used in procurement. Often, it appears that the model selected by the owner is not the best suited for the scope of the project. In these cases, ensuring you tailor your project approach, and document any questions in the form of RFIs, will help in putting everyone on the same page. This focus on relationship and truly understanding your client is not fully a mitigation approach but will help foster a culture of collaboration and respect which supports the team working together in the case of challenges and issues.

Ultimately, the most appropriate response to a project with an improper contract model may be to not bid on the project. Indeed, there have been recent examples where notable public projects attracted no bidders, and the procurement team was forced to reconsider the model and retender the project with another contract structure. We encourage contractors in these situations to contact their industry associations to provide input on the reasons for the 'no bid' decision. By conveying this message to an industry association, the association can aggregate feedback to communicate to the

owner, without the appearance of collusion by the interested contractors.

3. *Misplaced insurance risk*

Occasionally, the insurance regime articulated in the contract does not reflect the risk allocation as outlined in the project specifications – such as in the design responsibility risk transfer discussed above. Do not assume that all stakeholders understand who the best party is to carry the insurance, and who needs access to that insurance. The first step may be to clearly document what insurance is needed, and who needs access. Thereafter, there may be a need for the contractor to carry additional insurance to mitigate any perceived risk, and to require that the subcontractors on the project are similarly insured. Ensure that all stakeholders are on the same page and can plan accordingly together with the best solution to suit.

4. *Dispute resolution approach*

Once the prescribed dispute resolution from the contract is understood, there can be a dispute resolution plan discussed and clarified with the project team. If there are gaps in the plan, make suggestions to bridge those gaps, or the contractor can create an internal plan that reduces the risk of having a dispute escalated with their own actions.

Finally, regardless of where a project is in the procurement process, there are several general risk mitigation best practices that benefit all parties, and are worth considering:

1. *Team*

Always make best efforts to understand the client values and project needs to ensure the team is the best fit for the project you are considering. Whether this involves researching a client, interviewing a client, or both, take the time to foster a relationship. In addition, understand the approach and culture of the lead consultant for the owner, and lean on positive past relationships and experiences to support a positive team experience.

2. *Relationship building*

Do not underestimate the value of team building with all available stakeholders, and as early in the project as possible. In bringing the larger team together and creating trust and understanding, you form a strong foundation for your team during the entire project. During this team building, you can establish success factors, daily communication preferences, key stakeholders for communication and common values.

3. *Risk*

Prioritize understanding the risks and mitigation options within your control. This could include creating an internal risk register, whether such a register is required or not by the project owner. The team should regularly reference, review and update this document. The more stakeholders you can include in these discussions and reviews the better, and this provides more collaborative input and information across the team.

4. *Knowledge transfer with teams*

As a procurement pursuit moves from estimating to operations, there should be an intentional and detailed transfer of information to the project execution team. This practice will support the foundational knowledge learned during the procurement process being included in execution plans. It will also help the team understand and manage the risk register during the execution.

5. *LEAN⁶ construction practices*

Embrace the idea of reducing waste, adding value and continuous improvement on your project by using LEAN tools. This will empower your people through more effective and efficient use of time, energy and costs on the project, in addition to the fundamental focus on respect for people and collaboration of stakeholders to maximize workflow. There are many LEAN tools that will support better project execution regardless of contract, team experience, stage of project, or other specifics.

6. *Insurance*

As alluded to above, if your team has concerns about how insurance is being addressed during procurement, you should RFI any questions and, suggest insurance changes that will result in cost savings and more effective coverage for the project. Also, ensure all parties that need to rely on the insurance are additionally named as insured, as applicable. If you are unsure about insurance and what is the best solution, contact your trusted insurance provider and ask these questions so you can flow them through to the client during procurement.

7. *Dispute resolution approach*

Contractors need to understand the contract as it relates to dispute resolution. Ensure you are aware of information such as, what mechanisms are available to your company, notice periods, method of contact/notice and what parties need to be informed. It would be beneficial to ensure the project team is aware of this information and could have a reference document handy as a reminder to ensure paperwork is always compliant. If there are dispute resolution skills that could help your team maintain smooth project progress and mitigate risk, investing in these skills either before the project starts or early on would be worthwhile.

PART V: CONSOLIDATED CHECKLIST

This checklist provides an overview of how the stakeholders may allocate, assign and manage known and unknown risks throughout project delivery based on this report. It is an actionable tool and guided step-by-step workflow to get you started:

⁶ For reference, LEAN construction involves a combination of operational research and practical development in design and construction, adopting lean manufacturing principles and practices for the end-to-end design and construction process. Lean Construction is concerned with the alignment and holistic pursuit of concurrent and continuous improvements in all dimensions of the built and natural environment: design, construction, activation, maintenance, salvaging, and recycling (Abdelhamid 2007, Abdelhamid et al. 2008).

Step one: Project specific risk assessment

Determine and document your **potential risks** using a risk register or matrix template.

Consider whether the project has any of the following **risk transfer** components? If so, add this to your Risk documentation:

- **Unknown site conditions;**
- **Third party approval requirements;**
- **Design responsibility;**
- **Design and/or performance responsibility ambiguity; or**
- **Unacceptable limits of liability, improper indemnities and other onerous contractual provisions.**

Step two: Principled risk analysis

Which **risk principles** apply to your project? Add details to your risk register or matrix using these guiding questions:

- Ideally, who should be assigned each risk?
- Can you identify the ambiguous, or unknown risks to provide transparency to all stakeholders?
- Is the risk being taken on by the stakeholder most capable of handling it?
- Are the complex risks able to be broken down so detailed mitigation can be determined?
- Have you accounted for the cost and/or insurance to mitigate each risk?

Step three: Mitigation protocol

A. Early involvement

Where the contractor is involved in procurement, the following global mitigation strategies can help defray ambiguous or unknown risks holistically between project parties:

- Workshop/collaboration meeting with relevant stakeholders to align on values and priorities.
- Recommend the form of contract to best suit the project, and why.
- Recommend insurance solutions, including who should purchase insurance, and who needs access.
- Investigate the government approvals and permits needed, who should obtain them.
- Clarify the dispute resolution plan before any dispute arises.

B. Early involvement

The following mitigation strategies are suited for a project where the contractor has not had early involvement, but using them for any project is valuable in understanding risk.

During procurement:

- If your project has ambiguous specifications / supplementary condition, send RFI with a suggested alternate wording.
- If your project has an inappropriate contractual model, use the RFI process to gain clarity, mitigate risk, and potentially suggest better suited contractual model. If risk remains, consider a no-bid decision, with feedback to your local construction association.
- If your project has misplaced insurance risk – summarize in writing what insurance is needed and who needs to access, and ensure you have included for the cost and scope of any additional insurance that will mitigate your risk.

After award:

- Ensure you have chosen the best team members that fit the project, including best suited to the other stakeholder.
- Create time and space for team and relationship building with all stakeholders, for example organize a social event as part of the project kick off to give the relationships a foundation.
- Ensure that there is an effective transfer of knowledge between the bid and execution teams, particularly with respect to the risk register/matrix. Hold an internal handover meeting to support knowledge transfer, and document accordingly.
- Ensure that the team is aware of the dispute resolution approach. Detail the prescribed dispute process from the contract to ensure the team understands, if you find any gaps determine suggestions to bridge, and keep this documented approach close at hand for the team.
- Have a suite of lean construction tools to use as part of your mitigation strategy.
- Consult with an insurance professional who can advise you on mitigating insurance risk throughout the project.
- Risk register – Share this document with all stakeholders and then review and update it on a frequent basis throughout the project.

Contracting is by nature a risky endeavor, but as an industry we need to facilitate change with all stakeholders to better define and manage that risk. Currently, unnecessary risks are being taken on without aligning them to the best suited stakeholders or mitigation solution from the outset. This report aims to initiate proactive discussions and planning to effectively manage and minimize risks in construction projects, regardless of the point in which you become involved in the project.

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