مدیریت ادعاء و اختلافات در طول چرخه حیات پروژه

بخش اول:
مقدمه و مفاهیم اصلی

ارائه دهنده:

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(PhD, PMP, CMIT)

دانشگاه Illinois Tech آمریکا

What we will learn?

- Claims and disputes
  - Overviews
  - Suggested terminology
  - Causes and types of construction claims
- Claims avoidance and dispute management
  - Project delivery systems
  - CM's role
  - General concepts and framework
- Global construction disputes report

Global Construction Disputes Report

Introduction

About Arcadis

Arcadis is the leading global Design & Consultancy firm for natural and built assets. Applying our deep market sector insights and collective design, consultancy, engineering, project and management services we work in partnership with our clients to deliver exceptional and sustainable outcomes throughout the lifecycle of their natural and built assets. We are 27,000 people, active in over 70 countries that generate $4.2 billion in revenues. We support UN-Habitat with knowledge and expertise to improve the quality of life in rapidly growing cities around the world.

www.arcadis.com

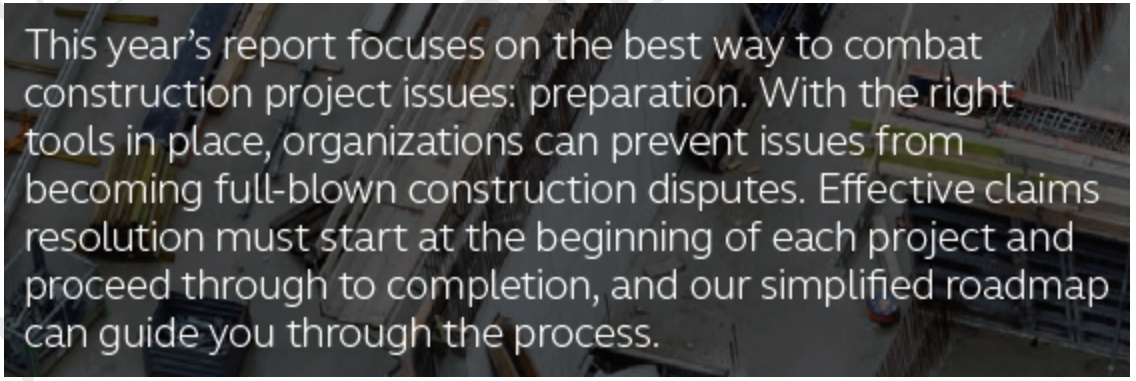
Introduction

Methodology

This research was conducted by the Arcadis Contract Solutions team. It is based on global construction disputes the team handled in 2020 as well as contributions from industry experts. Due to limited responses in the past, input from Asia and South America were not included in the 2021 global report.

Introduction

From 2019 to 2020 the average value of disputes increased significantly across the globe, while the average length of disputes continued to drop. Consensus was that the overall number of disputes remained relatively the same.



Introduction

Our research indicates there is a strong emphasis on increasing construction activity across the globe to jumpstart economies in the wake of COVID-19. Bigger and more complex projects requiring coordination among multiple stakeholders will require sophisticated delivery methods and rapidly changing technology. In addition, the industry will have to overcome shortages of labor and materials that is being experienced globally.

Roy Cooper, PE
Head of Contract Solutions, North America

Guest Forward

King's College London

Professor Renato Nazzini FCIArb
Director, Centre of Construction Law and Dispute Resolution
King's College London

Early identification of risks, proper training of the project team and robust document management, retention and analysis processes are key to avoiding disputes.

Introduction

- The **report also reveals** the following:
  - ✓ The **trends** in the **value** and **length** of disputes differ from **region to region**.
  - ✓ **All regions** have seen an **increase** in the **"mega disputes"** related to **bigger capital** programs and **private projects**
  - ✓ **Proper administration** of the contract was a theme across the globe for the **successful and early resolution** of disputes.
  - ✓ **Most disputes** were **settled** through **party-to-party negotiation**, and a willingness to compromise played a key role in **early resolution**.
  - ✓ **More than 60%** of survey respondents **encountered project impacts** due to **COVID-19**.

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Definitions

- **Dispute**
  - A situation where **two parties** typically **differ** in the **assertion** of a contractual right, resulting to become a **formal dispute.**

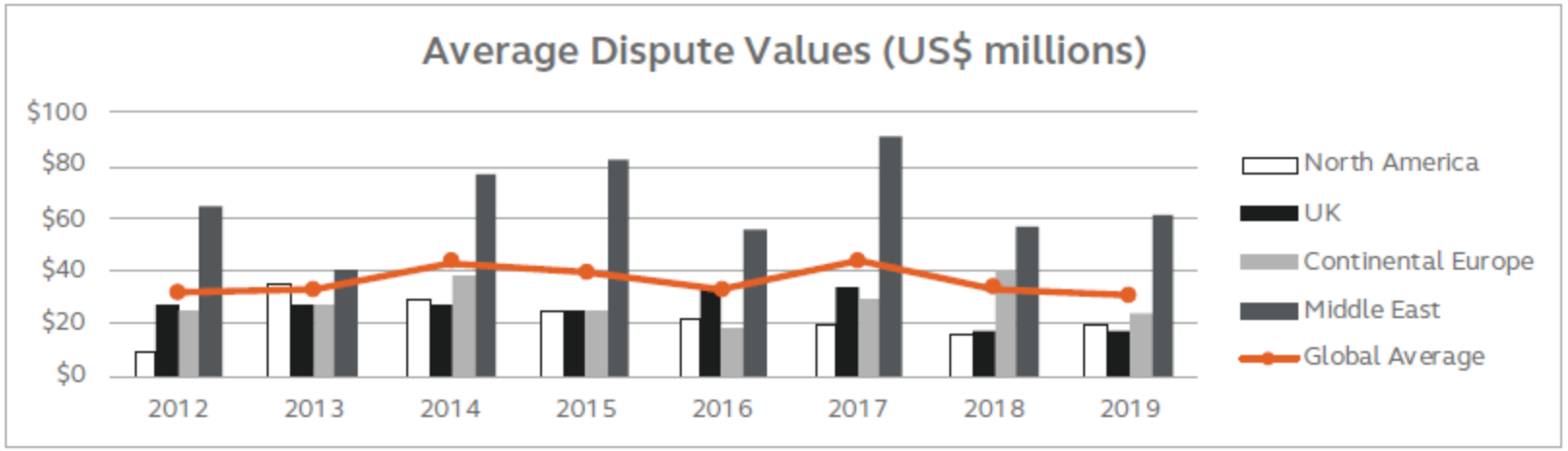
- **Value of a dispute**
  - It is the **additional entitlement** to that included in the **contract** for the **additional work** or **event** which is being claimed.

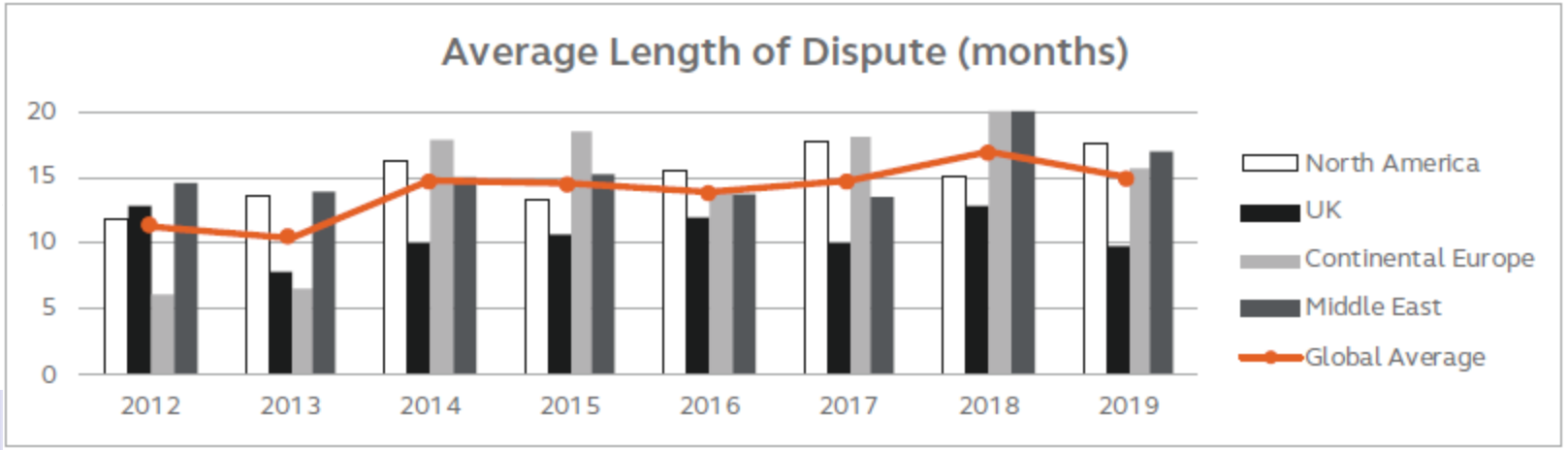
- **Length of a dispute**
  - It is the **period** between when
    - ✓ It **becomes formalized** under the contract
    - ✓ **time of settlement** or the conclusion of the hearing

Global findings Before 2020

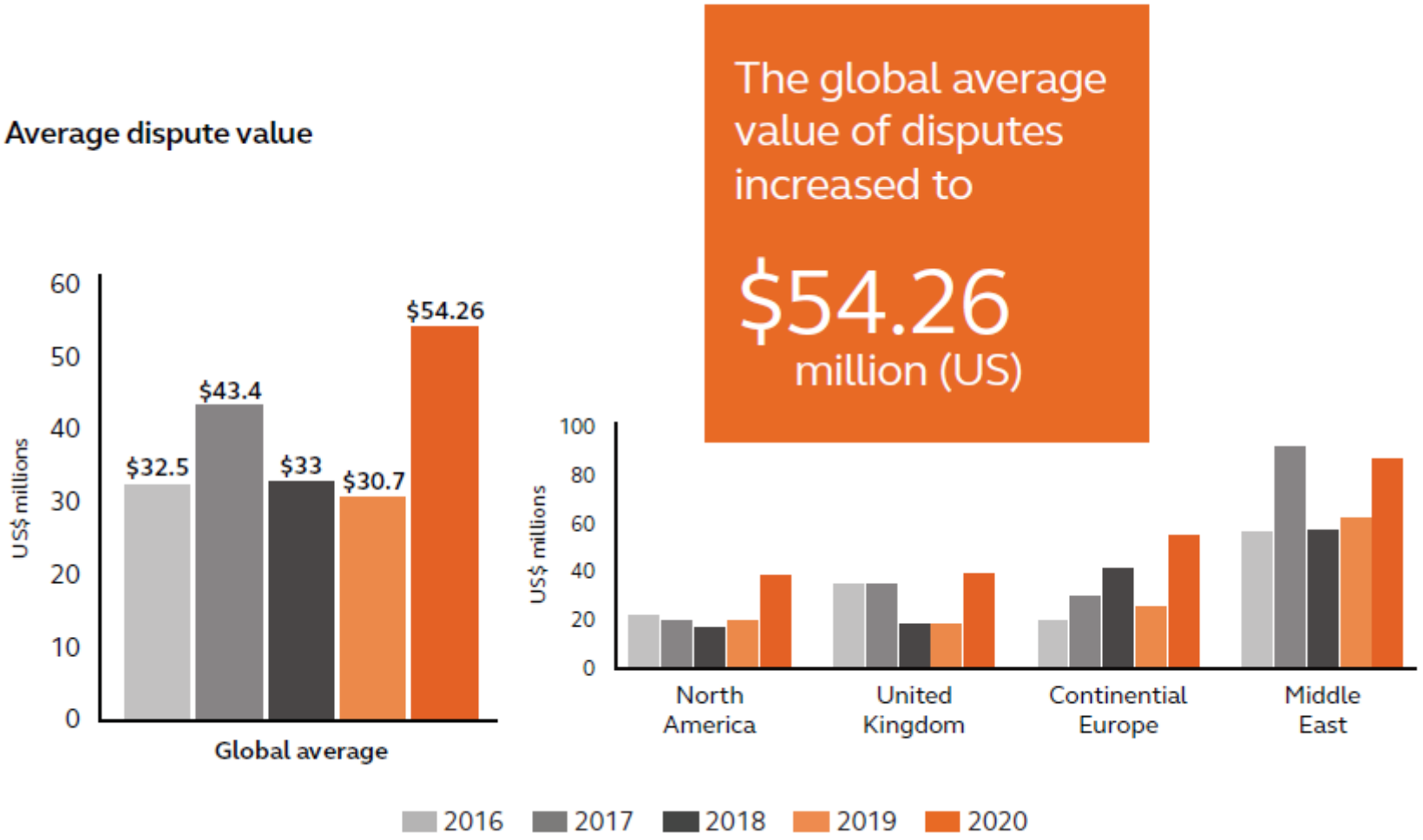
REGION	AVERAGE DISPUTE VALUE (US$ MILLIONS)					AVERAGE LENGTH OF DISPUTE (MONTHS)				
	2015	2016	2017	2018	2019	2015	2016	2017	2018	2019
North America	25.0	21.0	19.0	16.3	**18.8**	13.5	15.6	17.7	15.2	**17.6**
United Kingdom	25.0	34.0	34.0	17.9	**17.8**	10.7	12.0	10.0	12.8	**9.8**
Continental Europe	25.0	19.0	29.5	41.0	**24.5**	18.5	14.1	18.1	20.0	**15.6**
Middle East	82.0	56.0	91.0	56.7	**62.0**	15.2	13.7	13.5	20.0	**17.0**
GLOBAL AVERAGE	**39.3**	**32.5**	**43.4**	**33.0**	**30.7**	**14.5**	**13.9**	**14.8**	**17.0**	**15.0**

Global findings Before 2020





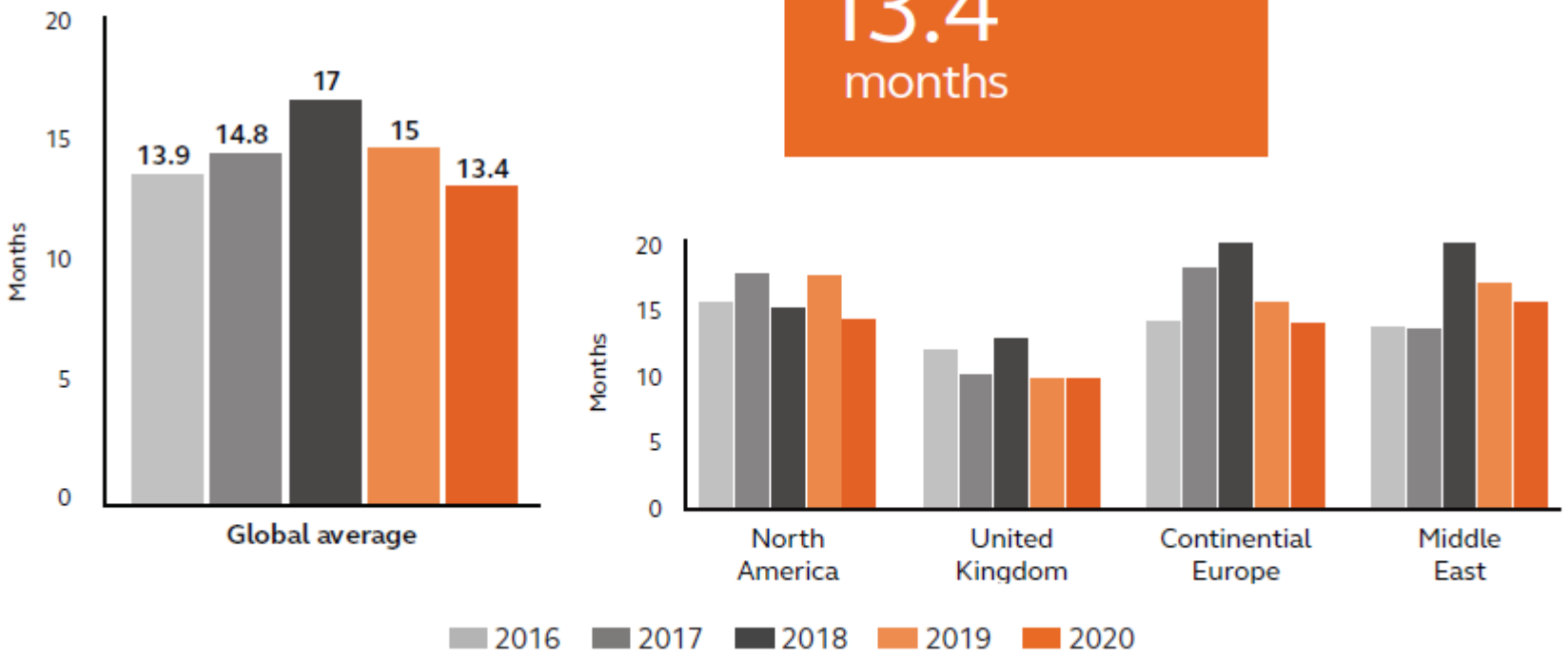
Overall findings including 2020 – Value of disputes



Overall findings including 2020 – Average length

The global average length of disputes dropped to

13.4 months



Global findings in 2012 – Causes of disputes

Navigant Construction Forum also performed another survey in 2012

1. *Contract administration issues*
2. *Incomplete design & ambiguous requirements*
3. *Failure of owner & contractor to resolve time extension & delay damages at time of occurrence*
4. *Conflicting party interests*
5. *Unrealistic risk transfer*
6. *Unrealistic time of completion*

Global findings before 2020 – Causes of disputes

Poorly drafted or incomplete and unsubstantiated claims has become the number one cause of construction disputes.

2019 RANK	OVERALL DISPUTE CAUSE	2018 RANK
1	Poorly drafted or incomplete and unsubstantiated claims	New ranking in 2019
2	Failure to make interim awards on extensions of time and compensation	New ranking in 2019
3	Owner/Contractor/Subcontractor failing to understand and/or comply with its contractual obligations	1

Poorly drafted or incomplete and unsubstantiated claims became the **top cause** of construction disputes for **2019**, a dispute cause **not ranked** in the **top three in 2018**.

This continues to **emphasize** a need to **bring on experienced industry advisors** **early in the process**, and to work toward identifying the human factors that can lead to **miscommunication** or **misunderstanding**.

Global findings including 2020 – Causes of disputes

Owner/contractor/subcontractor failing to understand and/or comply with its contractual obligations has become the number one cause of construction disputes.

2020 Rank	2019 Rank	Overall dispute cause
1	3	Owner/contractor/subcontractor failing to understand and/or comply with its contractual obligations
2	*	Owner-directed changes
3	*	Third-party or force majeure events

The highest value dispute handled by our team was worth

$4 billion (US)

The impacts of COVID-19 on the industry notably impacted the most common dispute causes, with third-party or force majeure events moving into the top three.

Global findings in 2012 – Dispute resolution methods

Navigant Construction Forum also performed another survey in 2012

1. ***International construction projects***
   - Have larger disputes
   - More likely to resolve disputes through arbitration
2. ***On U.S. construction projects***
   - Number of claims increased
   - Claim values declined, many more small claims filed due to the entrance of inexperienced contractors
   - Fewer claims going to arbitration/litigation, more the ADR
   - Due to the well prepared, dispute resolution costs declined

Global findings before 2020 – Dispute resolution methods

2019 RANK	MOST COMMON METHODS OF ALTERNATIVE DISPUTE RESOLUTION	2018 RANK
1	Party-to-party negotiation	1
2	Mediation	2
3	Arbitration	New ranking in 2019

2019 RANK	MOST IMPORTANT FACTORS IN THE MITIGATION / EARLY RESOLUTION OF DISPUTES	2018 RANK
1	Owner/contractor willingness to compromise	2
2	Accurate and timely schedules and reviews by project staff or third parties	New ranking in 2019
3	Contractor transparency of cost data in support of claimed damages	3

2019 RANK	THE MOST EFFECTIVE CLAIMS AVOIDANCE TECHNIQUES	2018 RANK
1	Risk management	1
2	Contract and specification reviews	2
3	Third-party schedule reviews	New ranking in 2019

Global findings including 2020 – Dispute resolution methods

2020 Rank	2019 Rank	Most common methods of alternative dispute resolution
1	1	Party-to-party negotiation
2	2	Mediation
3	*	Adjudication (contract or ad hoc)

2020 Rank	2019 Rank	Most important factors in the mitigation/early resolution of disputes
1	1	Owner/contractor willingness to compromise
2	2	Accurate and timely schedules and reviews by project staff or third parties
3	3	Contractor transparency of cost data in support of claimed damages

2020 Rank	2019 Rank	Most effective claims avoidance techniques
1	1	Risk management
2	2	Contract and specification reviews
3	3	Third-party schedule reviews
Two-way tie	*	Constructability reviews

* New ranking in 2020

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Middle East findings

You can read the full analysis from the file, however we only review the findings related to Middle East.

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Middle East findings

Middle East

The average value of disputes in the Middle East increased slightly to $57 million in 2018 to $62 million in 2019. Also, the average length of time needed to resolve a dispute decreased to 17 months, compared to 20 months in 2018. This decrease is likely attributed to the liable parties and participants in the dispute process realizing that slowing down the dispute resolution process is in no one's long-term interest, and that moving forward the claimants are not capable of withstanding long periods of time of uncertainty on the conclusion of their disputed amounts.

Like in Europe, transportation projects (e.g. highways, bridges, mass transit, airports, rail) topped the list for disputes for 2019.

Middle East findings

Middle East findings before 2020

2019 RANK	MOST COMMON DISPUTE CAUSES	2018 RANK
1	Poorly drafted or incomplete and unsubstantiated claims	1
2	A failure to properly administer the contract	2
3	Failure to make interim awards on extensions of time and compensation	New ranking in 2019

2019 RANK	MOST COMMON METHODS OF ALTERNATIVE DISPUTE RESOLUTION	2018 RANK
1	Party-to-party negotiation	1
2	Arbitration	2
3	Mediation	3

The **contractor** must understand that a **well-written and substantiated claim improves** the **chances** of receiving an **interim award**.

The **engineer** must be diligent in using **his or her project records** to **fill** in **some gaps** in the claim and **not reject it based on the absence of documents** that exist in the engineer's records.

Middle East findings including 2020

2020 Rank	2019 Rank	Most common dispute causes
1	*	Owner/contractor/subcontractor failing to understand and/or comply with its contractual obligations
2	3	Failure to make interim awards on extensions of time and compensation
3	2	Owner's failure to properly administer the contract

* New ranking in 2020

2020 Rank	2019 Rank	Most common methods of alternative dispute resolution
1	1	Party-to-party negotiation
2	2	Arbitration
3	3	Mediation (contract or ad hoc)

Conclusion – Dispute resolution methods

- We have created the **following simplified roadmap** for **effective claims resolution**.
- These **best practices** are **not all-inclusive** but include the **high-level steps** that our survey respondents have identified as some of the most effective

1. **Dispute avoidance**
2. **Mitigation**
3. **Resolution techniques**

Conclusion – Dispute resolution methods

Pre-design

Preparing the project team – Effective claims resolution begins with the project team being prepared. Training on topics such as documentation, knowing your contract, and change management are crucial.

Risk management – Our survey indicated that a well-thought-out risk management plan is one of the most effective ways to avoid and mitigate disputes.

Design

Proper contract delivery – While choosing the proper form of project delivery will not eliminate disputes, it is important to establish a contract that is best-suited for the project. This includes proper standard contract language as well as provisions that address the dispute resolution process.

Minimizing errors and omissions – Globally, this is listed as a top cause of disputes in our report every year. Proper design management, reviews and budgets are all essential to avoidance, mitigation or resolution.

Construction

Schedule management – Most disputes involve an element of delay, acceleration or disruption. Proper schedule management by all project participants has proven to be one of the most effective ways to mitigate and resolve disputes.

Documentation – Proper documentation from the beginning phases of the project, especially during construction, is vital for cost-effective and expeditious resolution of disputes.

Post-construction

Dispute resolution – The steps listed in the previous phases will aid in the timely resolution of disputes. Proper preparedness and an understanding of the issues and associated damages will bring focus to the heart of the dispute.

Litigation – If a dispute proceeds to litigation, it is crucial that all parties involved have an objective and non-emotional perspective of their position. Outside counsel and effective experts can help participants understand the strengths and weaknesses of their positions and the associated financial risks.

مدیریت ادعاء و اختلافات در طول چرخه حیات پروژه

بخش دوم:

برنامه ریزی استراتژیک در فاز قبل از طراحی (Pre-Design Phase) برای مدیریت ادعاء و جلوگیری از دعاوی و اختلافات در پروژه

ارائه دهنده:

سید محمدرضا علوی‌پور

(PhD, PMP, CMIT)

What we will learn?

- Real time claims management
- Claim management in pre-design phase
  - Introduction
  - Recommended framework of pre-design phase related to claim management
    - ✓ Concept development
    - ✓ Value planning
    - ✓ Program development
    - ✓ Risk management
    - ✓ Professional services procurement, documented development, and review
    - ✓ Program/project standards
    - ✓ Project team training

Real Time Claims Management

Introduction

Based on PMBOK Extension

- The **goal** for claims management is to
  1. **Prevent claims** and,
  2. **If not**, to **resolve them** at the **earliest opportunity** for the least cost and least disruption to the project.
- **To do so**, one should first be able to **recognize potential claim situations**, either **contractual** or **performance-based.**
  - Recognizing potential claim situations starts with sufficient knowledge of
    - Planning processes
    - Project scope
    - Contract requirements

Having a thorough project management plan is a fundamental component and the most important factor in claim prevention.

Introduction

Do you remember this from first session?

- An **active program** of
  1. **Claims**
  2. **Change order**

identification and **notification** is the only way to inform the owner of **adverse or potentially adverse** job conditions.

Real time claims management

Based on PMBOK Extension

- The **basic concept** of **Real-Time Claims Management** is to **establish**,

  before the **Project starts**,

  a **program** that is aimed at

  1. **Identifying problems** as **early as possible**
  2. **Resolving** them as **quickly as possible**

What does it require?

Real time claims management

- It requires that Project participants
  1. **“War game”** the project before it **starts** and
  2. **Identify as many potential problem** areas as they can.
- **Once** the **potential problem areas** are **identified**,

  the participants then **develop a game plan** and specific approaches to ***prevent these problems*** *from* ***occurring*** *and to* ***manage*** *them* ***expeditiously*** *if they* ***do occur***.

The overall attitude is that the Project participants will resolve their problems rather than seek a resolution from a judge or jury.

Real time claims management

In both cases, the effective handling of changes and claims calls for advanced preparation and a coordinated strategy in four areas:

1. ***Claim avoidance***
2. ***Claim mitigation***
3. ***Claim evaluation***
4. ***Claim resolution***

Real time claims management – Conclusion

The practice of Real-Time Claims Management has been recommended by all protocols.

Most often, independent assistance is required when a delay dispute goes to arbitration or trial, however at that time the costs and time will be increased.

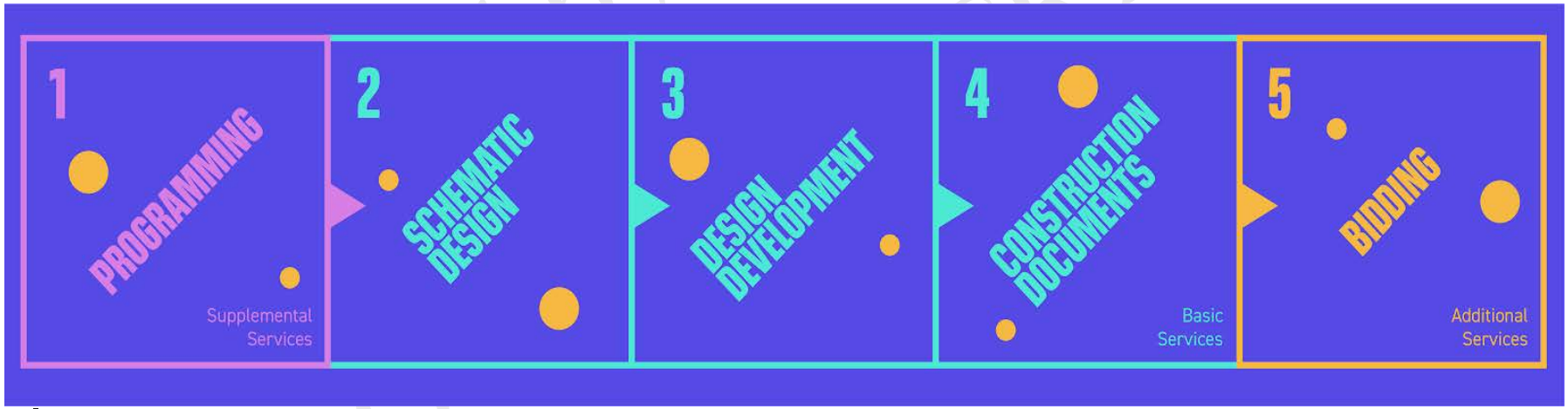
Applying the same level of expertise much earlier becomes a tool for prevention and resolution.

This is far more cost-effective approach to the problem of construction claims

Claim Management in Pre-Design Phase

Introduction

- At the **earliest stages** of a project, ***when developing the initial concept***, **decisions** and **preferences** that are implemented can influence **disputes or claims.**
  - Therefore, the **belief** that **only the decisions** made **during design and construction** may lead to disputes is **mistaken**.



Introduction

- The **first step** that is the **programming or the pre-design phase**, is for **problem-seeking.**
  - During this time, you are determining the **scope of work** to be designed.
  - You will mainly **ask your client** questions to gain an understanding of their **problems, wants, and needs**.

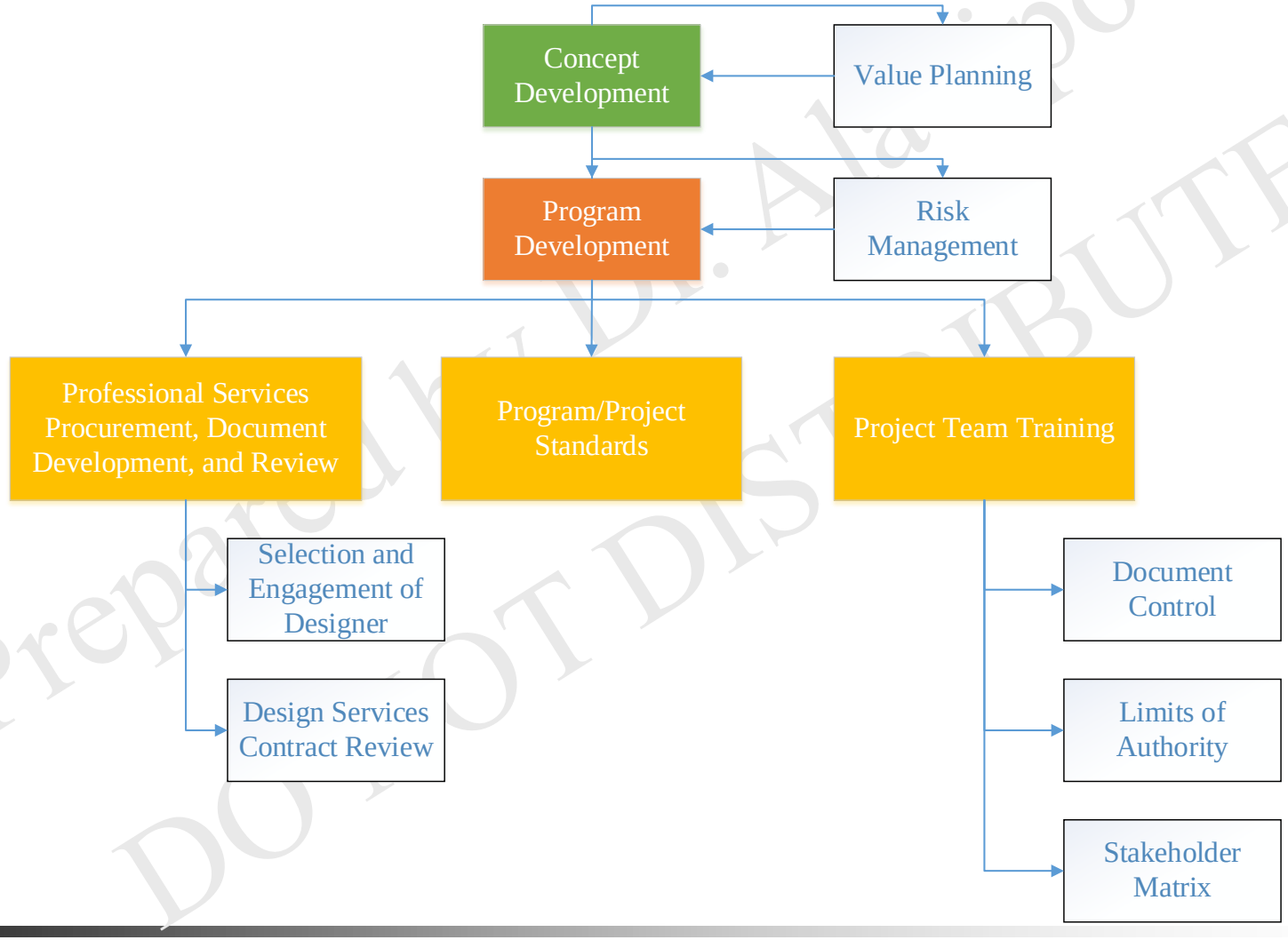
Who is responsible for programming?

Introduction

- According to the standard **American Institute of Architects (AIA)** agreements, the **owner** is **responsible** for the programming phase.
  - Sometimes they will do this phase **themselves**.
  - Usually, they will hire a programming **consultant (AE or CM)**.
    - ✓ **Most architects** will offer **programming services** in addition to their architectural services.

      *This is considered to be an **additional service** or add-on.*

Recommended framework of Pre-Design phase related to claim management



Concept development

- An **important step** towards the certainty of a **successful project** is the **confirmation at the outset** of a **common understanding** of all project aspects by **all parties**.
  - The **CM** should **lead this effort**. Questions may include:
    1. *What are the owner's goals for the project?*
    2. *What is to be built?*
    3. *Who has responsibility for each part of the project?*
    4. *In what duration must the project be completed?*
    5. *How is risk shared between the parties?*

This understanding should begin when the project is first conceived. If the understanding and expectations differ amongst the project participants at the outset, then the project is at risk since one or more elements – scope, schedule, and budget – may already be compromised.

Concept development

Major Considerations for Need Analysis of a Construction Project

Sr. No.	Points to Be Considered
1	Is the project in line with the organization's strategy/strategic plan and mandated by management in support of a specific objective?
2	Is the project a part of a mission statement of the organization?
3	Is the project a part of a vision statement of the organization?
4	Is the need mandated by a regulatory body?
5	Is the need for meeting government regulations?
6	Is the need to fulfill the deficiency/gap of such type of project(s) in the market?
7	Is the need created to meet market demand?
8	Is the need to meet the research and development requirements?
9	Is the need for technical advances?
10	Is the need generated to construct a facility/project that is innovative in nature?
11	Is the need aiming to improve the existing facility?
12	Is the need a part of mandatory investment?
13	Is the need to develop infrastructure?
14	Is the need necessary to serve the community and fulfill social responsibilities?
15	Is the need created to resolve a specific problem?
16	Is the need going to have an effect on the environment?
17	Does the need have any time frame to implement?
18	Does the need have financial constraints?
19	Does the need have major risks?
20	Is the need within the capability of the owner/client, either alone or in cooperation with other organizations?
21	Can the need be managed and implemented?
22	Is the need realistic and genuine?
23	Is the need measurable?
24	Is the need beneficial?
25	Does the need comply with environmental protection agency requirements?
26	Does the need comply with the government's health and safety regulations?

Source: Abdul Razzak Rumane (2013), *Quality Tools for Managing Construction Projects*, CRC Press, Boca Raton, FL. Reprinted with permission from Taylor & Francis Group.

Concept development

Need Statement

Sr. No.	Points to Be Considered
1	Project purpose and need a. Project description
2	What is the purpose of the project? a. Project justification
3	Why is the project needed now?
4	How is the need of the project determined? a. Supporting data
5	Is it important to have the needed project?
6	Whether such facility/project is required?
7	What are the factors contributing to the need?
8	What is the impact of the need?
9	Will the need improve the existing situation and be beneficial?
10	What are the hurdles?
11	What is the time line for the project?
12	What are funding sources for the project?
13	What are the benefits of the projects?
14	What are the environmental impacts?

Source: Abdul Razzak Rumane (2013), *Quality Tools for Managing Construction Projects*, CRC Press, Boca Raton, FL. Reprinted with permission from Taylor & Francis Group.

Concept development

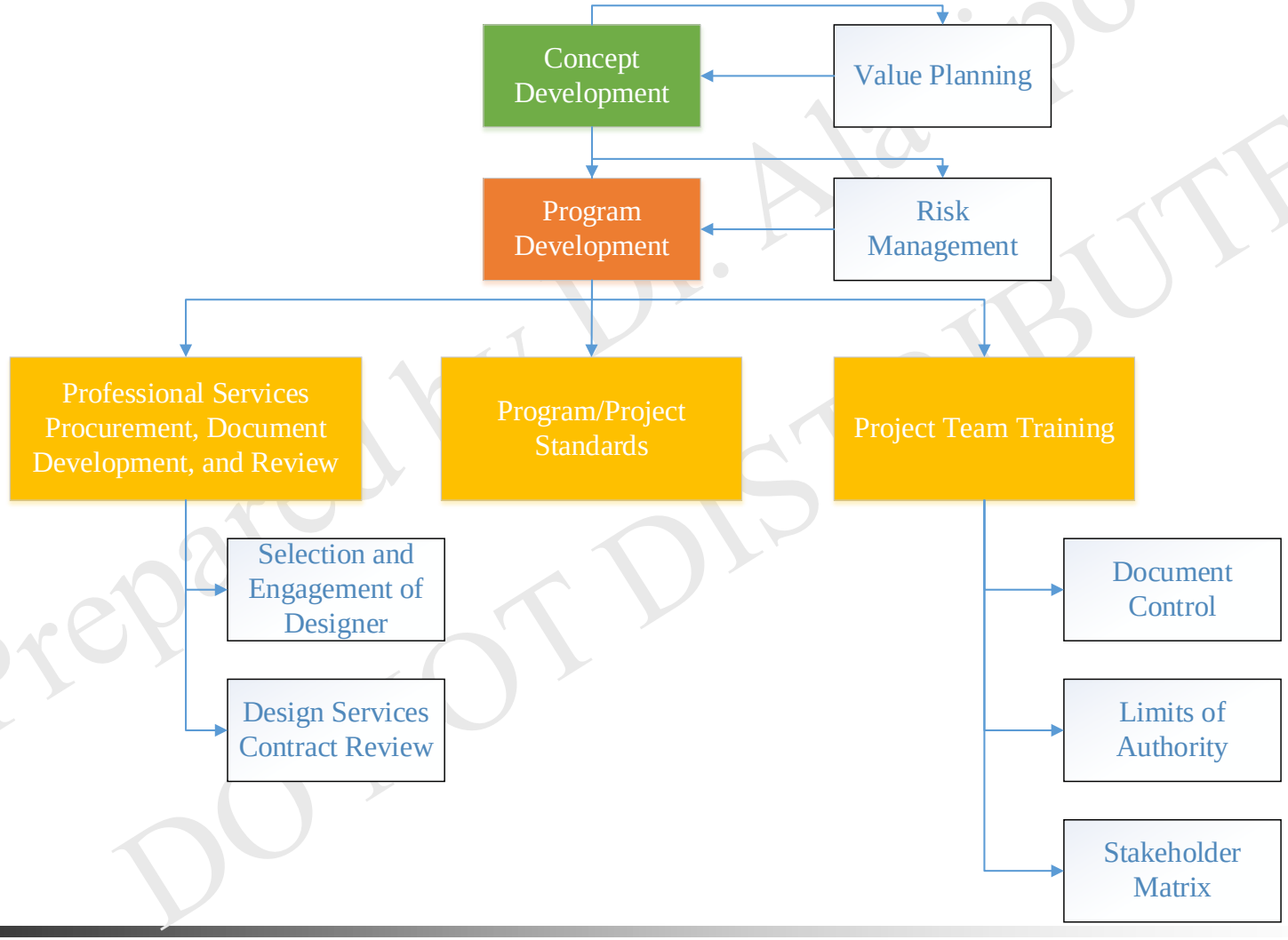
- **As** the **project concept is further refined**,

  additional information enables developing a **more accurate conceptual** project definition, **schedule**, and **budget**.

- The **CM** should **determine** if there is an **imbalance** between **scope**, **schedule**, and **budget** at this point.
  - The **imbalance** should be **reconciled** by either
    - *Increase to the budget*
    - *Reduction in scope*
    - *Adjusted project duration*

Identifying this imbalance and taking the appropriate corrective measure is perhaps the earliest opportunity for claims avoidance by the CM on the owner's behalf.

Recommended framework of Pre-Design phase related to claim management



Value planning

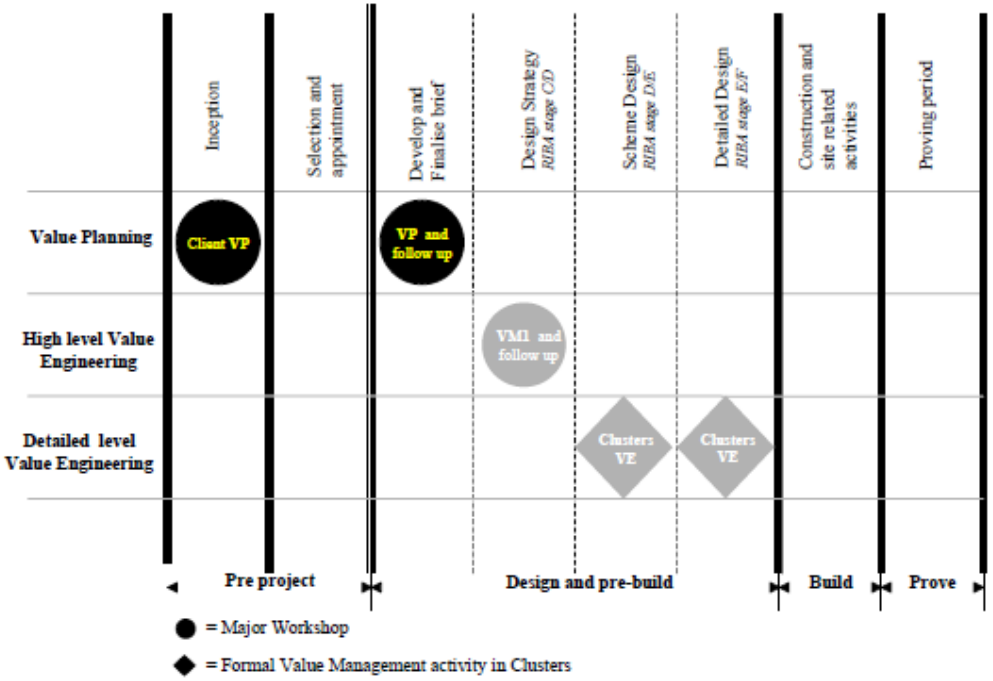
***While** the **concept is being developed**, the **CM** may recommend that **value planning** be undertaken to **guide the selection** of appropriate **techniques**, **materials**, and **methods** for the **location** and **budget**.*

- **Value planning** can **minimize**
  1. **Need** to engage in **major value engineering after design is advanced**
  2. **Provide claims avoidance** suggestions

- **Value planning** also **assesses local contractor pool experience**.
  - *For example, **selecting construction techniques** that are **not commonly used** in a **particular area or industry***

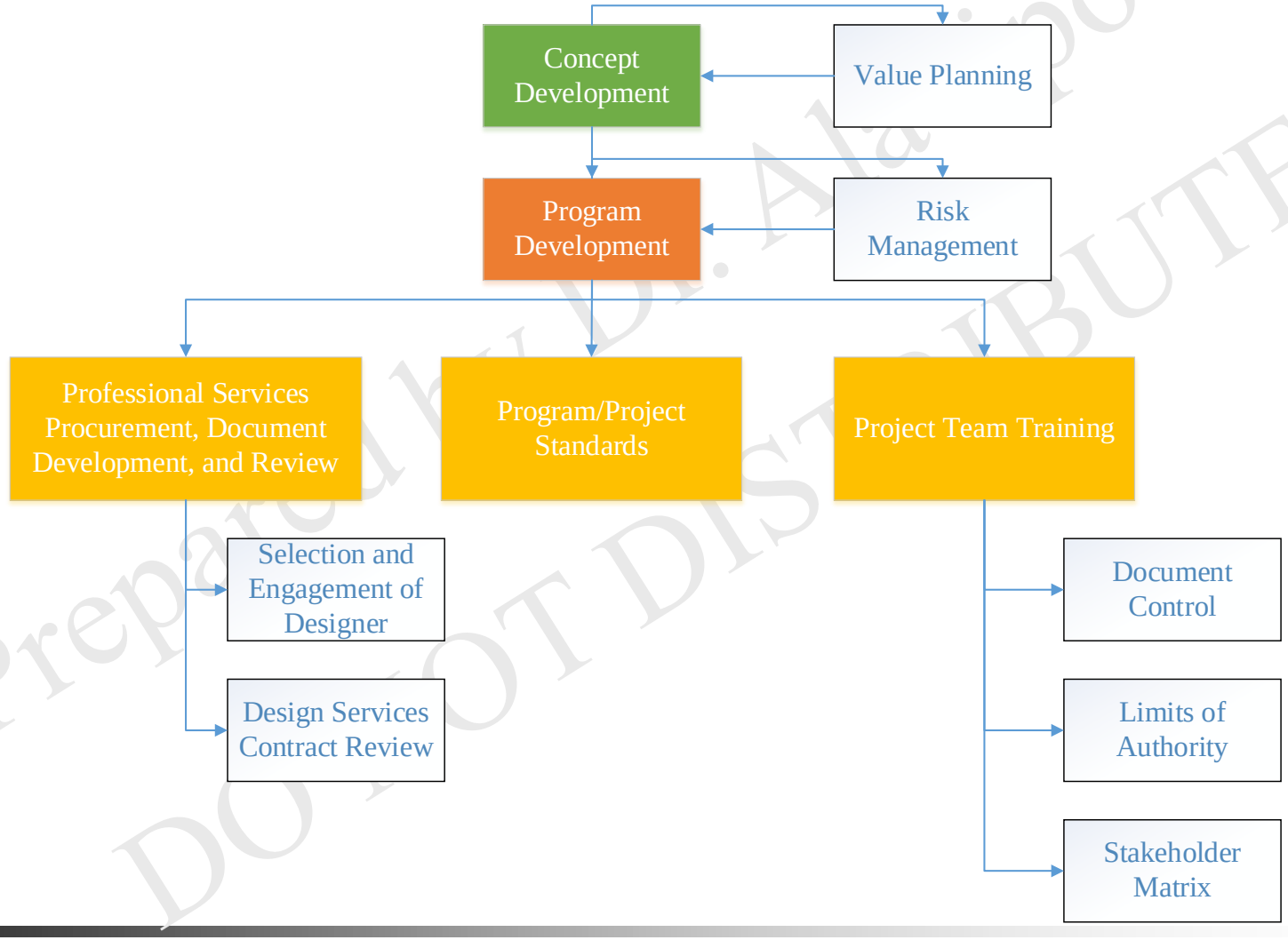
    *may **create circumstances** that increase the **potential for installation problems** and difficulties that can increase the **risk of claims.***

Value planning



See File #2-1

Recommended framework of Pre-Design phase related to claim management



Program development

*Once the **project concept is established**, a **more detailed program** is **developed**.*

- *Since*

project is **still conceptual,** the **design details** are **not yet determined**,

only general categories of **cost budgets** can be established to develop and **track project costs**.

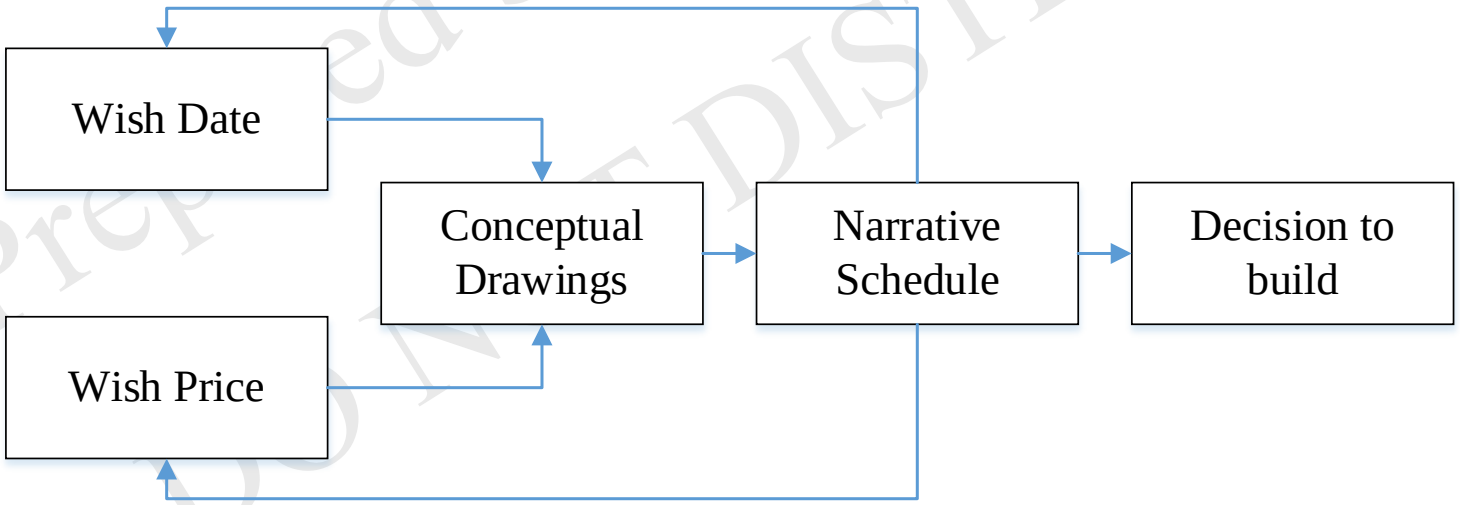
*As in the case of **concept development**, the **CM** should*

1. ***Confirm the balance***
2. ***Conformance** between the project scope, schedule, and budget*

Program development

- As the **conceptual schedule** is **further developed** to reflect decisions made, **CM** should identify **key project milestones** and **key decision points** to include in the project schedule.

- **With each step** in the process of program development, the **project scope** and **budget** are further defined.



Program development

- **As this process continues**, the **project schedule** becomes an **integral part** of decision making.

Identifying, scheduling, and facilitating timely owner decisions is

***key to disputes** and **claims avoidance** and*

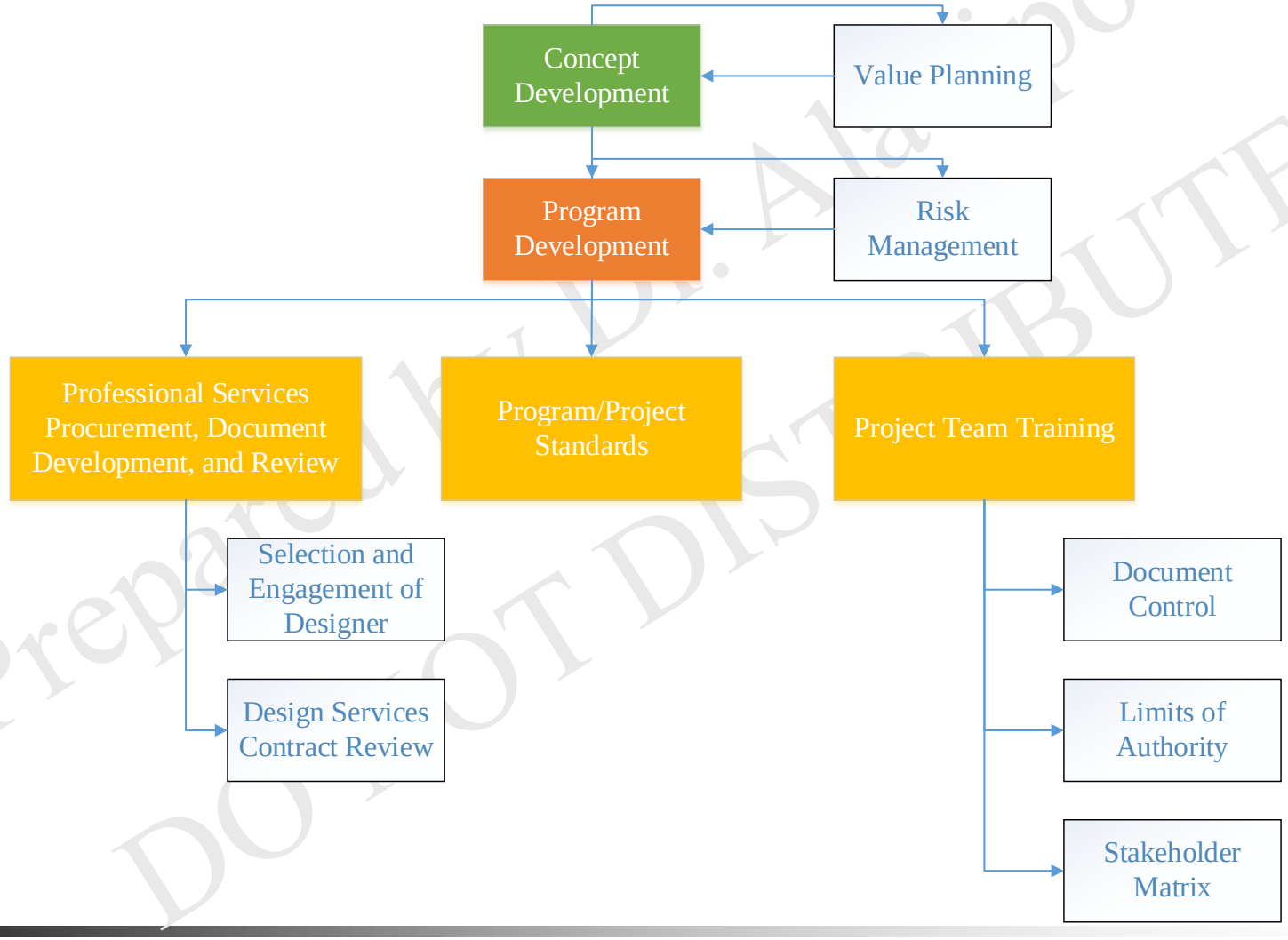
*requires **strong and supportive leadership** by the **CM**.*

Program development

- The **CM** should develop a **conceptual budget** that addresses **possible variations**
  - *The **CM** should prepare a **conceptual budget** in the format of **multiple "what if" scenarios.***

- The **CM** should **advise** the owner to include **sufficient contingency** in the conceptual budget to adequately address the **impact of final design decisions** and **market conditions** that are **not yet fully determined**.
  - The **project contingency** should also consider the **known risks**.
  - The **absence of such contingency** will potentially **increase** the **occurrence of disputes and claims.**

Recommended framework of Pre-Design phase related to claim management



Risk Management

- On **larger time-sensitive construction programs**,

  many public agencies, **private Owners,** and **Contractors** have instituted ***coordinated measures*** *aimed at* ***preempting*** *and* ***mitigating*** *claims and disputes.*

  These **claims-focused risk management programs** have proven to be **extremely** **cost-effective.**

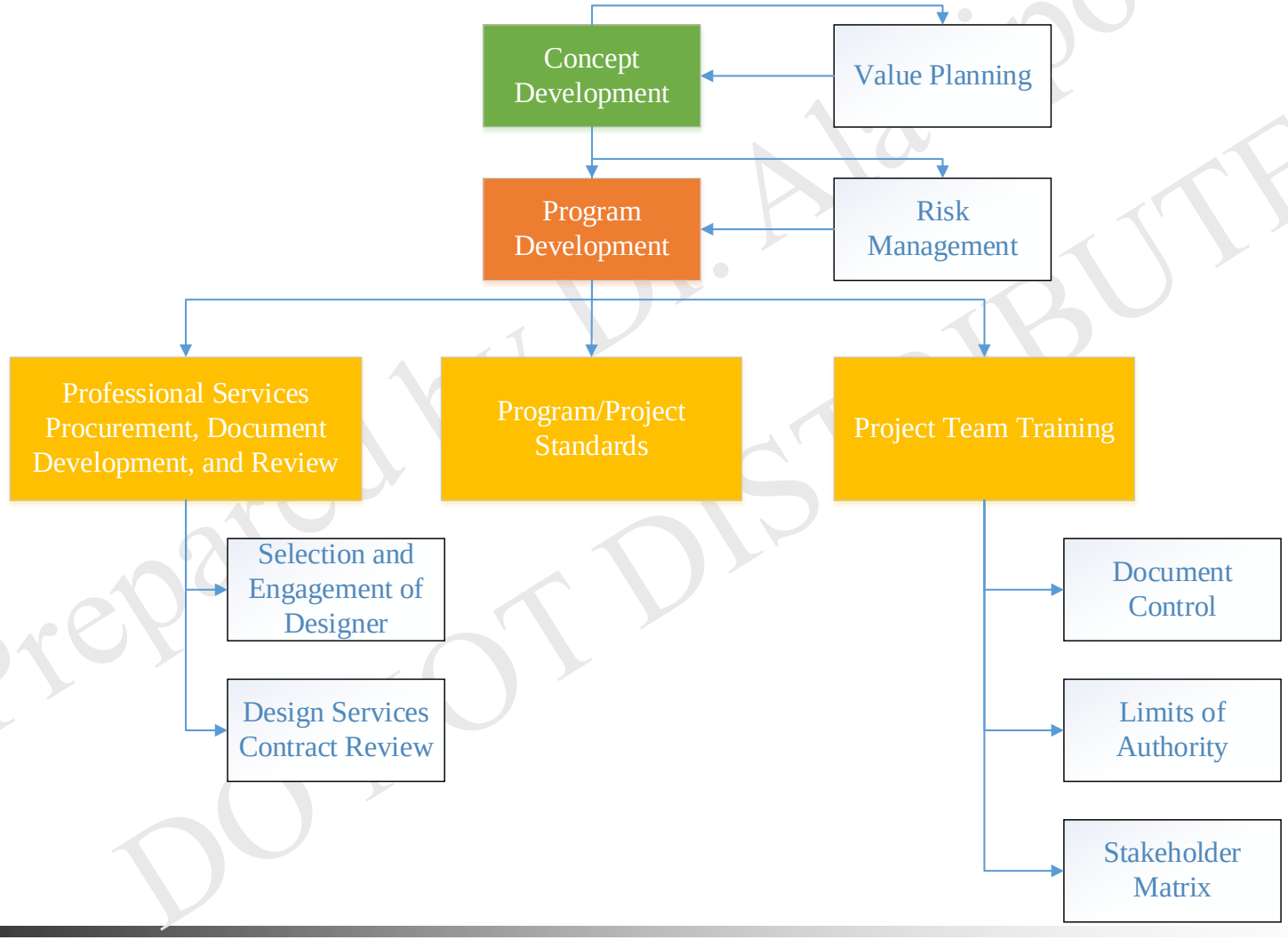
Risk Management

- At the **earliest stages of a project**, the **CM** should develop a **risk register** that is **reviewed** with the **owner** and **project team**

1. Understanding each risk,
2. More importantly, developing an appropriate and realistic risk mitigation strategy **minimizes** the **potential impact** of such risks to the project **scope**, **schedule**, and **budget** later in the project.

ID	Date raised	Risk description	Likelihood	Impact	Severity	Owner	Mitigating action	Contingent action	Progress on actions	Status
1	12/12/15	There is a risk that assets may not be completed in time to meet production schedules.	Low	High	Amber	S Scott	Agree writing days in advance, reallocate writer's other work. Agree to stagger delivery of chapters so that editing can start earlier.	Increase duration of Printing schedules & move from 4 col to 2 col.	Update 13/12/2015 mitigation actions implemented	Open

Recommended framework of Pre-Design phase related to claim management



Professional services procurement, document development, and review

- After the **project concept** is **clearly developed**,

  *the **CM** leads discussions among the project team to*

  *consider **possible alternative project delivery method options***

  such as design-build or CM at-risk.

- If a **decision** is made by the **owner** at that time to use an **alternative project delivery method**,

  the **CM** **assists the owner** in establishing **requirements** for the **design criteria** or **preliminary design**.

Professional services procurement, document development, and review

- **Even at this early stage**, it is **critical** that

  a **clear understanding** of the project is **confirmed** through the development of **these documents**,

  led by the CM,

  *to **ensure the critical balance** of scope, schedule, and budget.*

*Otherwise, the **potential for unplanned changes** to address **these imbalances** exists and could **increase** the **likelihood of disputes or claims**.*

Professional services procurement, document development, and review

1. Selection and engagement of designer

- The **CM** may be required to **assist** the **owner** in the **procurement of the design** professional needed to develop the **conceptual design**.

- The **selection process** for **design professionals** should be on

  *a **qualifications basis** with **costs** being a **secondary consideration**.*

- The **capabilities and expertise** of the **designer** and their design deliverables has a **direct impact** on

  *likelihood of **conflicts**, **errors**, **omissions**, or other circumstances that*

  may lead to **claims** at later points in the project.

2. Design services contract review

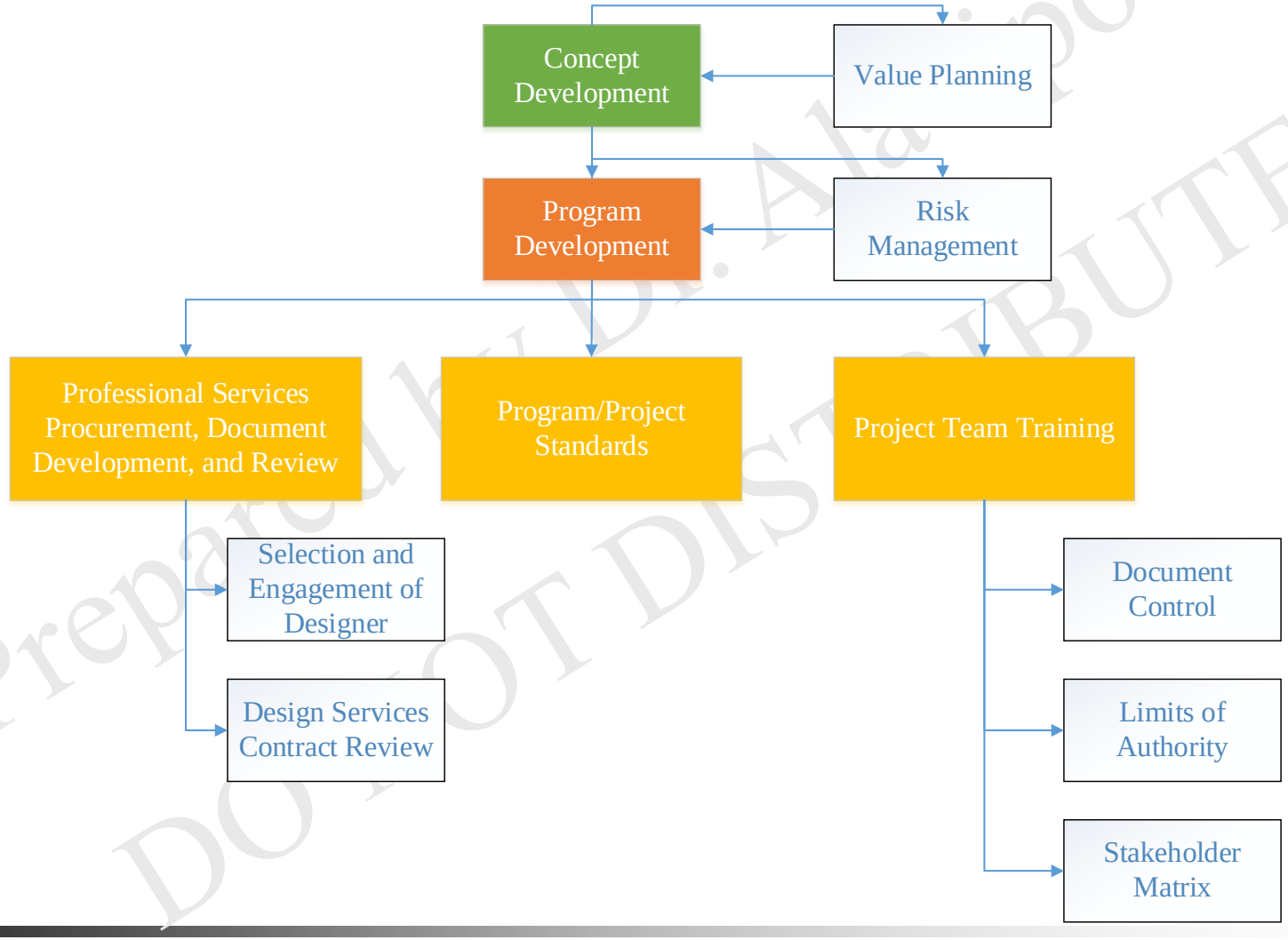
- The **scope of work** for the **conceptual designer** must be developed in accordance with
  - ✓ Established conceptual plan
  - ✓ Project delivery method (if selected)

  and be properly **included in the draft design agreement**.

  *It is recommended that an **industry standard suite of contract documents** be utilized to ensure that all appropriate terms and conditions are included and coordinated between the different contracts.*

- **AIA Document B101-2017:** Standard form of Agreement between Owner and Architect
- نشریه 3327-شرح عمومی خدمات مشاور در دوره ساخت و تحویل کار برای طرحهای غیرصنعتی

Recommended framework of Pre-Design phase related to claim management



Program/Project standards

- **Minimum design standards and criteria** for the project/program should be **established and agreed** upon by all parties during the **pre-design phase.**

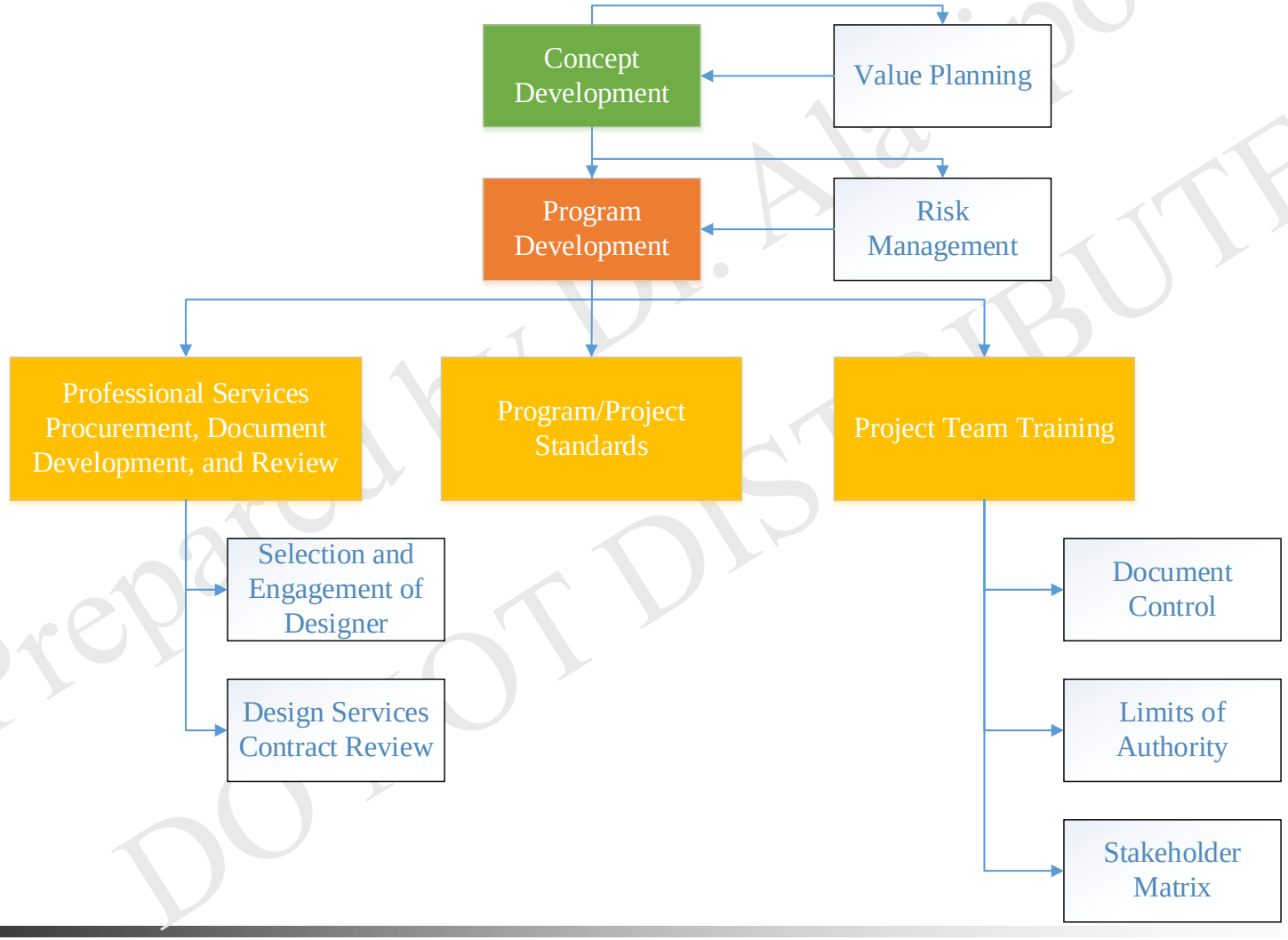
- The **CM** should assist in establishing a **responsibility matrix** for **review and approval** of **design submittals** to be implemented during **design development.**

- Establishing **design standards and criteria** and a clearly defined **design review and approval process** **before** the **design begins** in earnest, is critical to the **timely completion** of the **design phase**.
  - ***Otherwise*** *the project may be forced to recover the* ***time*** *in a* ***later phase****, likely at the* **expense of either scope or cost, or both.**

Program/Project standards

See Files #2-2 and #2-3

Recommended framework of Pre-Design phase related to claim management



Project team training

- The **project team** should be **informed** of **project scope**.
- The **project team** should **understand** the **owner's management approach**, philosophy, goals, and objectives.
- The **project team** should also be **trained** on the **policies and procedures** that are being **developed** by the **CM** or are **currently used by the owner**.
- This **training** should be **provided by the CM** and include the following areas:
  1. **Document control**
  2. **Limits of authority**
  3. **Stakeholder matrix**

1. Document control

- The **procedure** should include **how** all documents will be
  - Accepted
  - Reviewed
  - Transmitted
  - Stored

2. Limits of authority

- An **authority matrix** should be developed to indicate the **approval** required for any kind of document.
- This matrix should clearly indicate the **title of the required approver**
  - Design professional, the CM, or the owner?
- Clear **limits** and **assignment** of responsibility help to **avoid delay** and **uncertainty** in the decision-making process, which also assists in **avoiding disputes and claims.**

3. Stakeholder matrix

- **During the training process**, the team should develop a **stakeholder matrix** that includes all parties that are included in one or more contracts, involved in:
  - Project approvals
  - Permits
  - May otherwise be affected by or have an interest in the project
- The **matrix** should include **all possible interests** of the stakeholders and the **levels of influence** on project success.
- This **matrix** should be used and **updated** through the project
- **Overlooking** or **omitting** a **key stakeholder** introduces the **possibility of delay or changes** to the project.

موسسه مهندسی و مدیریت ساخت علوی پور (ACEMI)

دفتر آموزش

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مدیریت ادعاء و اختلافات در طول چرخه حیات پروژه

بخش سوم:

توسعه و مدیریت برنامه در فاز طراحی (Design Phase) برای مدیریت ادعاء و جلوگیری از دعاوی و اختلافات در پروژه

ارائه دهنده:

سید محمدرضا علوی‌پور

(PhD, PMP, CMIT)

What we will learn?

- Claims management planning
- Design management
- Design review
- Project management during the design phase
- Other parts of project management
- Contract documents
- Development and review of construction contract(s) terms and conditions

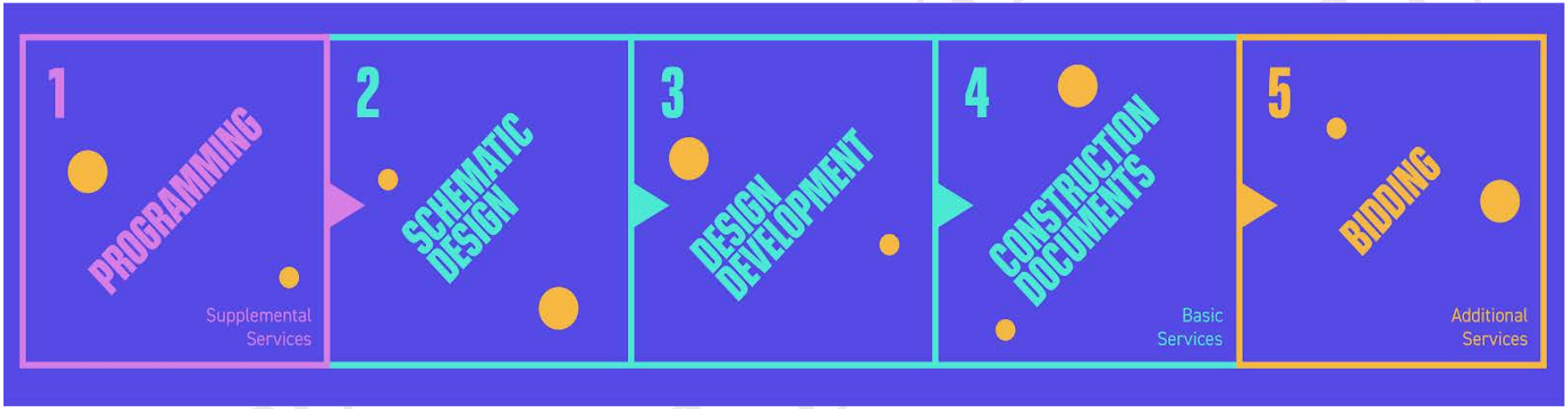
Claims Management Planning

Introduction

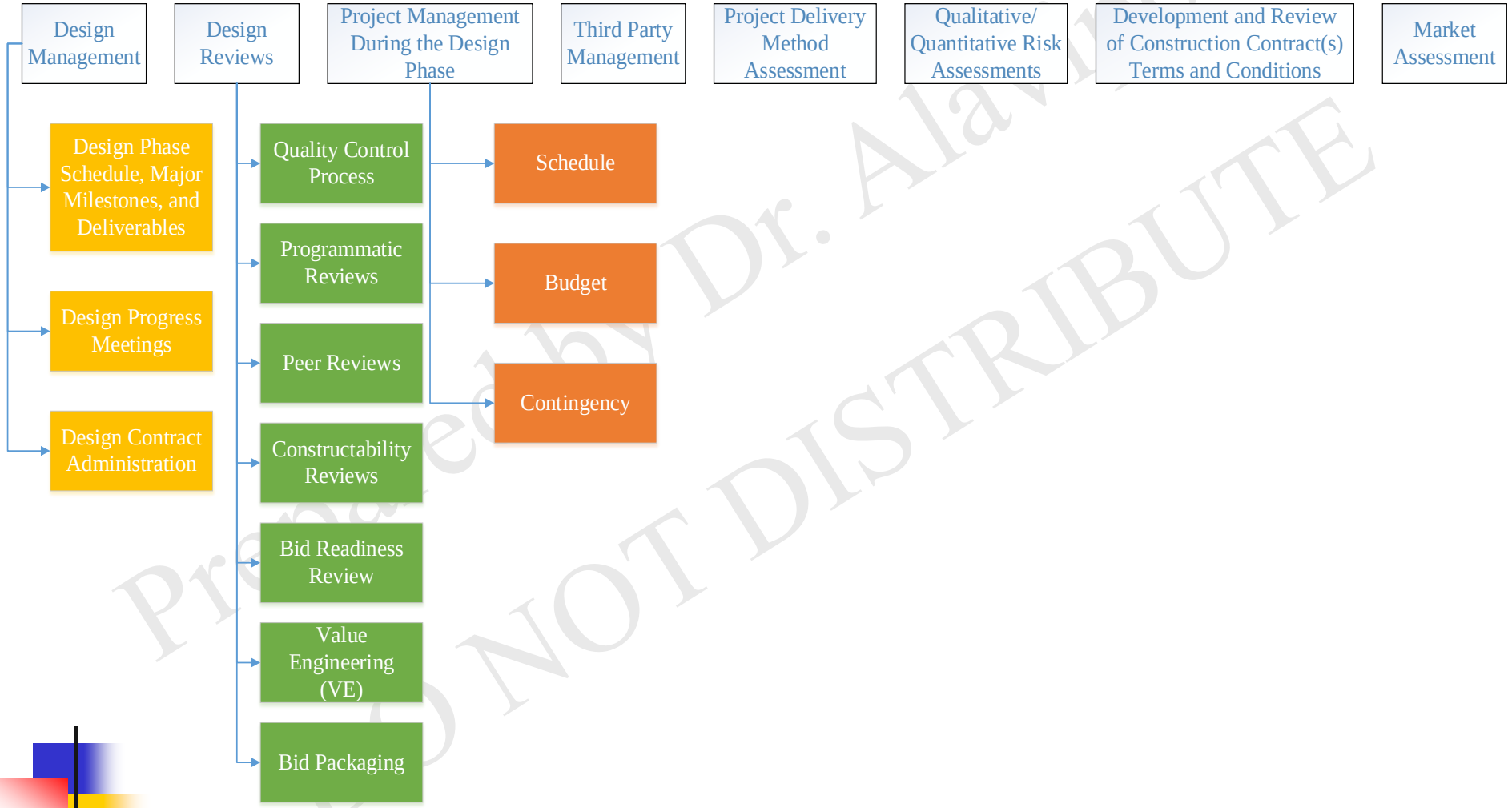
Applying the same level of expertise much earlier becomes a tool for prevention and resolution.

This is far more cost-effective approach to the problem of construction claims

Introduction



Recommended framework of Design phase related to claim management



Design Management

Introduction

Based on PMBOK Extension

- A clear and carefully described
  - **Scope of work**
  - **Reasonable schedule**
  - Appropriate method of **project execution** tailored to the type of project
  - Acceptable **degree of risk** involved

contribute to the **elimination of claims**.

Introduction

Based on CMAA

- Design management consists of **three parts:**
  1. Design phase schedule, major milestones, and deliverables
  2. Design progress meetings
  3. Design contract administration

Design phase schedule, major milestones, and deliverables

Based on CMAA

- Developing a **proper design phase schedule**, which details
  - Critical design activities
  - Major deliverables
  - Key owner decisions and major milestones

is **essential** to ensure that the **designer's activities** are **identified** and **monitored**.

Sufficient time should be allowed for the design scope to be completed properly so that program goals are met.

See File #3-1

Design phase schedule, major milestones, and deliverables

- The **CM** should **track design progress** against
  - Schedule
  - Invoices

  to **monitor progress** toward completion.

- **Design progress** should be **coordinated** with associated efforts such as **permitting**, **right-of-way** and **land acquisition** activities, and **funding constraints**.

- The **absence** of an accurate **design phase schedule**

  inhibits the ability of the **CM** and project team to

  evaluate progress during this phase and

  may lead to **potential delays** and **schedule revisions**.

Design phase schedule, major milestones, and deliverables

- The **CM** should produce a **project management plan** that will document

  specific methods and procedures

  used to manage the **design phase**, including

  communication protocols and procedures.

*The **CM**, in **conjunction with the design team**, **establishes** and **reviews** the content of the*

***design management plan**.*

What should be included in design management plan?

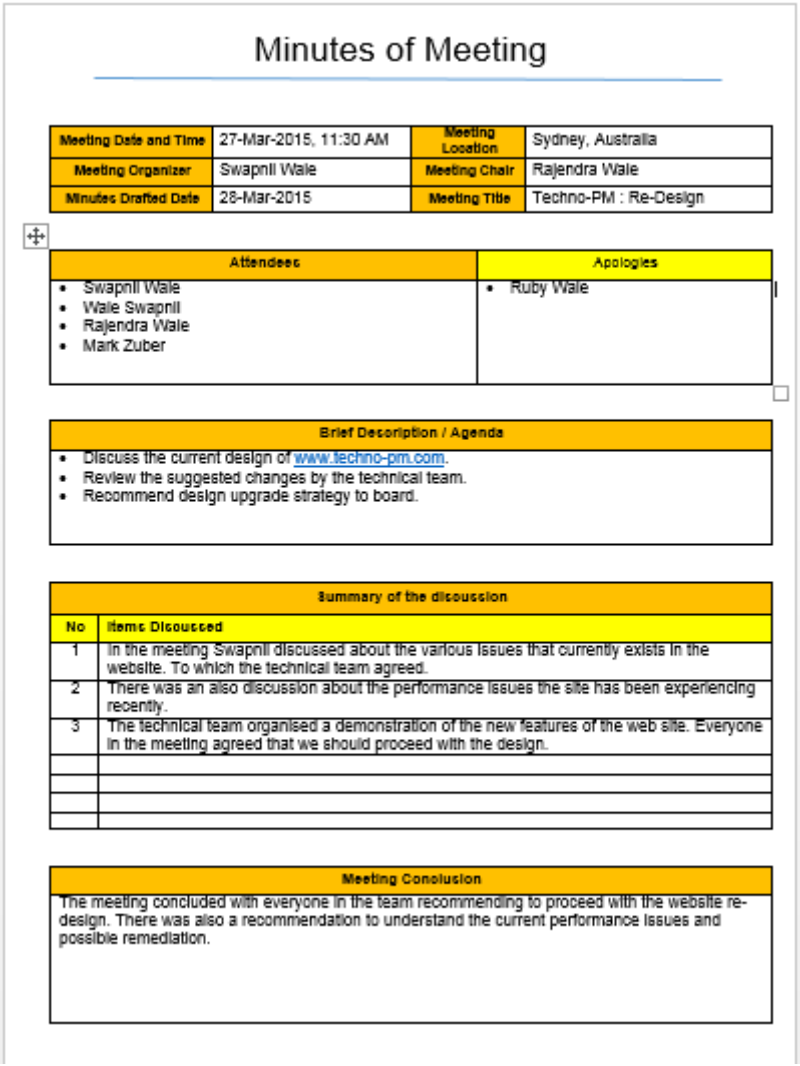
Design phase schedule, major milestones, and deliverables

- The **design management plan** should include
  - Sections on project organization
  - Communication procedures
  - Quality control
  - Cost control
  - Schedule control
  - Document control
  - Design contract administration

See File #3-2

Design progress meetings

- The **CM** should
  1. **Schedule regular design management meetings** and
  2. **Maintain formal minutes documenting** decisions and action items.
     - *The designer, owner, CM and other key stakeholders should attend the meeting.*



Minutes of Meeting

Meeting Date and Time	27-Mar-2015, 11:30 AM	Meeting Location	Sydney, Australia
Meeting Organizer	Swapnil Wale	Meeting Chair	Rajendra Wale
Minutes Drafted Date	28-Mar-2015	Meeting Title	Techno-PM : Re-Design

Attendees	Apologies
• Swapnil Wale • Wale Swapnil • Rajendra Wale • Mark Zuber	• Ruby Wale

Brief Description / Agenda
• Discuss the current design of www.techno-pm.com. • Review the suggested changes by the technical team. • Recommend design upgrade strategy to board.

Summary of the discussion	
No	Items Discussed
1	In the meeting Swapnil discussed about the various issues that currently exists in the website. To which the technical team agreed.
2	There was an also discussion about the performance issues the site has been experiencing recently.
3	The technical team organised a demonstration of the new features of the web site. Everyone in the meeting agreed that we should proceed with the design.

Meeting Conclusion
The meeting concluded with everyone in the team recommending to proceed with the website re-design. There was also a recommendation to understand the current performance issues and possible remediation.

Design progress meetings

- The **purpose of the meeting** is to
  - **Address** project **issues** that have arisen during the **design phase**
  - **Provide direction** to the designer
  - **Address progress changes** and concerns

- **Changes** that have **not been addressed** in corresponding budget and/or schedule revisions:
  - **Creates** an imbalance between scope, schedule, and budget
  - **May increase** the potential for disputes and claims

Design progress meetings

- **Monitoring** the **designer's progress** can be **difficult unless**

  clearly defined deliverable milestones *are established in the* ***design schedule*** *that allow monitoring of each milestone.*

- The **CM** should **monitor** the **progress of each design milestone** based on a proper **evaluation** of the **actual content of the deliverable**

  not based upon **expended** design or engineering **hours**.

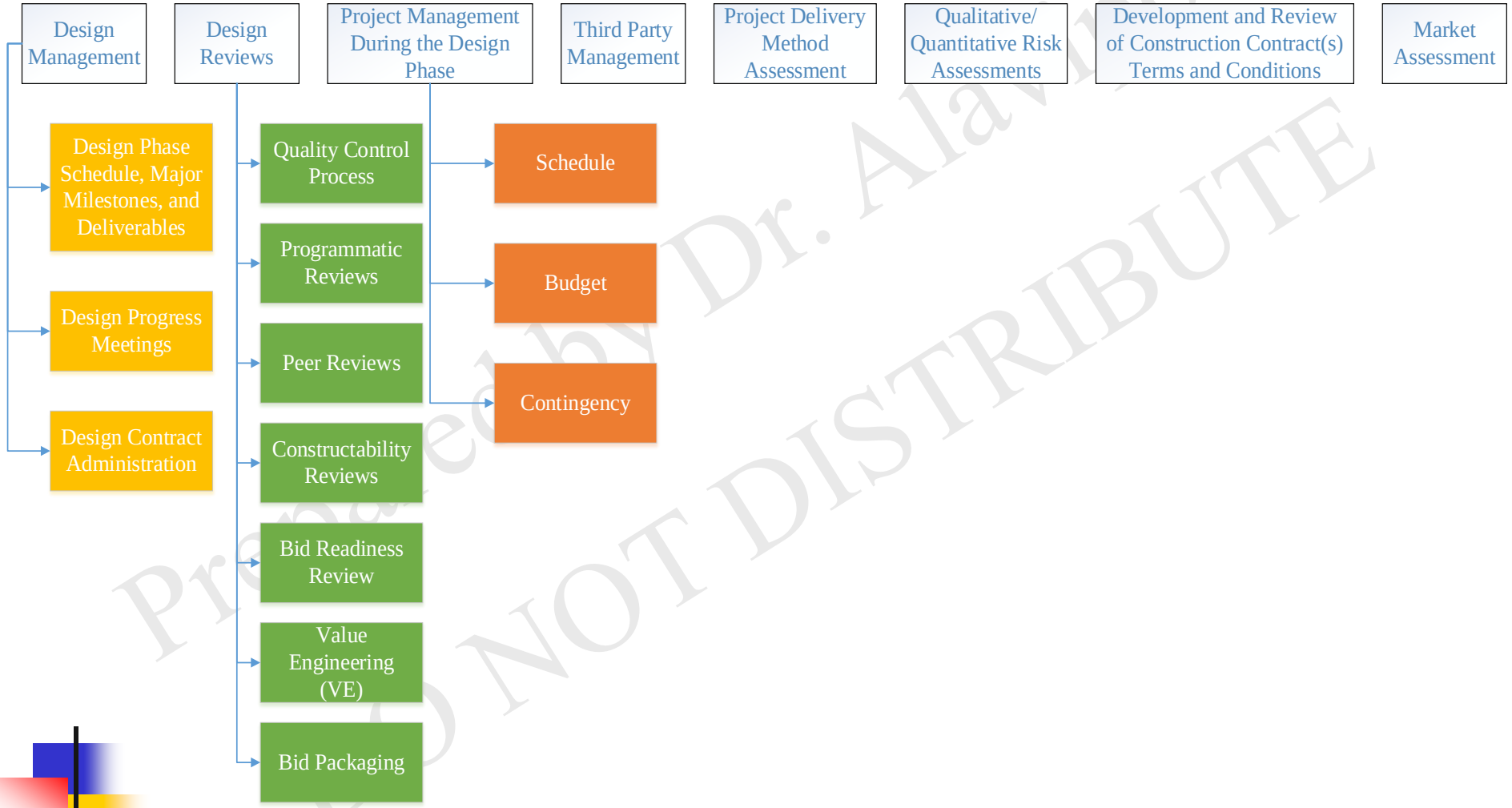
  Minimizing ***design errors and omissions*** *also helps avoid disputes and claims during construction.*

Design contract administration

- The **CM** **administers** the **designer's contract** on **behalf of the owner**.

- This role includes:
  1. **Administration** of **progress payments** to the designer
  2. **Tracking** **deliverables** against **milestone** and **schedule commitments** by the designer
  3. **Leading** the **collective review** of **the progressing design** by **all parties** involved in such **review**

Recommended framework of Design phase related to claim management



Design Review

Introduction

- The **designer** is **primarily responsible** for **producing** a **design** that **complies** with **program requirements** as established in the **design contract**.

- The **owner** may engage other parties, including the **CM**, to **review** the design to
  1. Independently **confirm** the **compliance** and
  2. **Quality** of the design **prior to construction**.

  so that project **construction** proceeds **without experiencing delays or disputes** over **design intent**.

Who is ultimately responsible for the final design?

Introduction

Who is ultimately responsible for the final design?

*While these **third-party reviews** may identify apparent issues regarding the design,*

*the **designer** remains **ultimately responsible** for the final design.*

Introduction

- Design reviews consist of:
  1. Quality control process
  2. Programmatic reviews
  3. Peer reviews
  4. Constructability reviews
  5. Bid readiness review
  6. Value engineering
  7. Bid packaging

Quality control process

- The **designer** is responsible for **producing a design** that meets
  1. **Program requirements** and
  2. **Standard of care** for such efforts.
     - **Standard of care** is the only **degree of prudence** and **caution** required of an individual who is under a duty of **care**.
     - The requirements of the **standard** are closely dependent on **circumstances**.

- The **CM provides** a **measure of quality assurance** to the **owner** through **design phase** schedule monitoring,

  independently assessing the designer's efforts.

Quality control process

ODOT's Bridge Design Division has gone through this 12-step program and developed its own QC/QA plan

The Quality Management System
1. Establish Objectives and Measures
2. Define Scope
3. Identify Current Quality Documents
4. Assess Quality Document Controls
Management's Commitment
5. Focus on Customer Service
6. Manage Risk
7. Clarify Roles and Responsibilities
8. Assess Training Needs
Resource Allocation
9. Optimize Resources
Product and Process Management
10. Analyze Process Approach
Measure, Analyze, and Improve
11. Monitor, Assess, Report on Processes
12. Implement Improvements

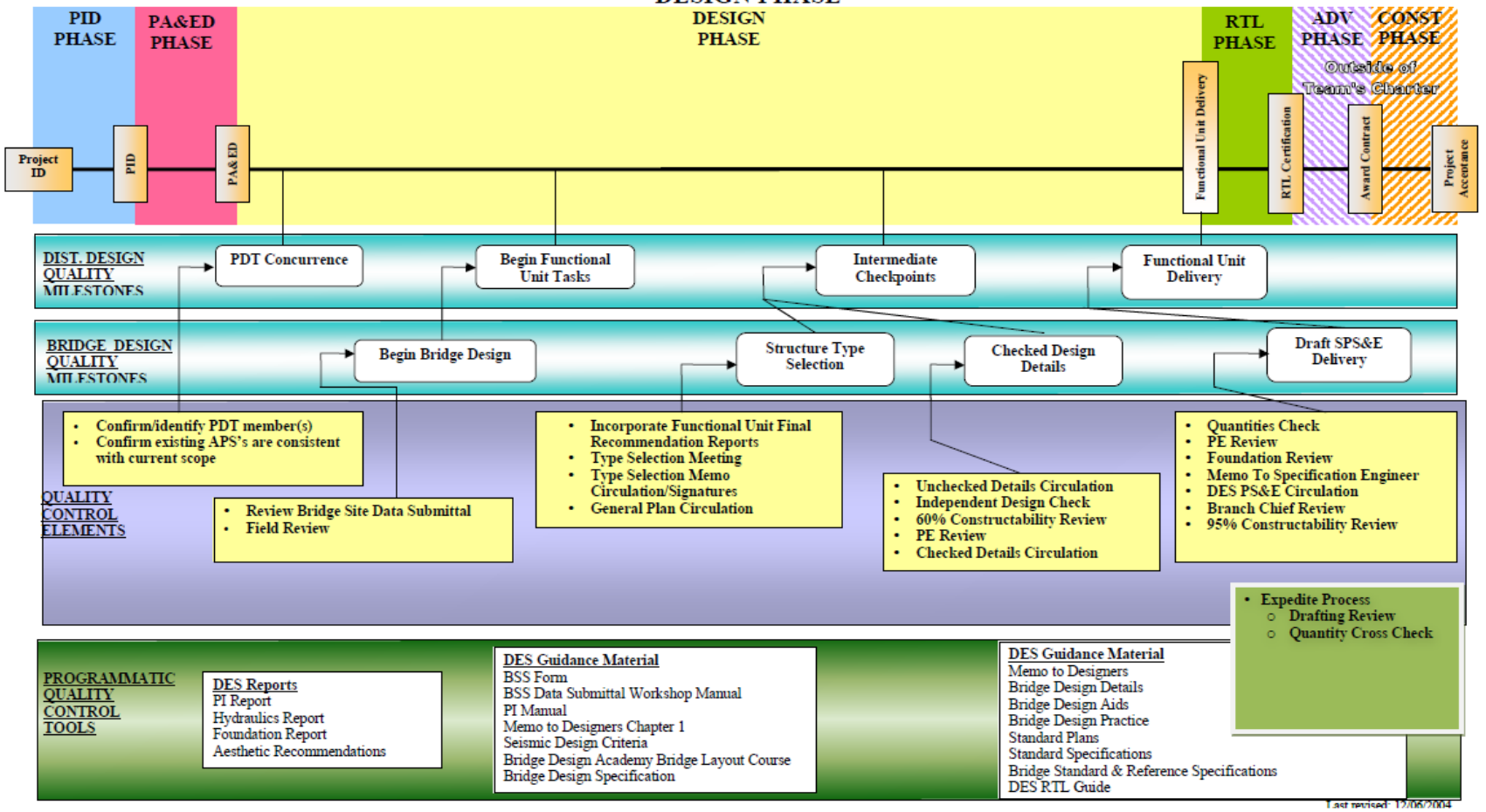
Oregon's 12-step quality process assessment

Quality control process

NORTH REGION QUALITY MANAGEMENT PLAN

DES Bridge Design North Project Specific Quality Control Plan

-DESIGN PHASE-



RTL = Ready to List (for advertising) PDT = Project Development Team DES = Division of Engineering Services BSS = Bridge Site Submittal

Quality flowchart for design phase

Programmatic reviews

- The **CM** **performs** a **programmatic review** of the design focused on the **owner's project objectives and goals**.

- This review also **confirms** whether the **designer's proposed design solutions** meet **other directives and clarifications** provided by the owner during the design phase

  *such as the owner's use of **standard products**, **maintenance concerns**, and similar requirements.*

- The **CM** also **determines** whether the **designer** has complied with **previous review comments.**

***All these actions reduce** the **need for changes** to the design which can impact the project's scope, schedule, and budget.*

Programmatic reviews

[CompanyName] Project Design Review Plan					
Project ID	Project Name	Preparer	Date		
[ProjectNumber]	[ProjectName]				
Design Appointments					
Designer of Record					
Designer(s)					
Design QC Reviewer					
Design Review Milestones					
	Ref#	Work Task	Output required for review	Scheduled date/milestone	Review participants
Design Input Review					
Work in Process Review:					
Work in Process Review:					
Final Design Review:					

Peer reviews

- An **owner** may engage **other designers** to perform a **peer review** of design deliverables to determine **whether** the design is **clear and complete**.
  - **This review** can also assess the **quality** of
    - ✓ Design solutions,
    - ✓ Design appropriateness,
    - ✓ Cost effectiveness,
    - ✓ Durability, and
    - ✓ Code compliance,
    - ✓ Among other factors

Who manage this process?

Peer reviews

- The **CM** **manages** and **coordinates** peer reviews by other designers to **ensure** that an **objective assessment** is performed solely for the benefit of **improving the quality** of the design deliverables.

Who is ultimately responsible for the final design?

Peer reviews

Who is ultimately responsible for the final design?

*Again, while the **owner's designer remains responsible** for the quality of the design, these peer reviews of the design can also **reduce** **the likelihood of disputes and claims during construction.***

Constructability reviews

- The **purpose** of a **constructability review** is to allow **construction expertise** to **improve** design solutions and to improve the ease of **construction**.
- The **CM**, through the performance of a **constructability review**,
  - **Assists** the **owner and designer** by identifying issues that may **unintentionally increase**
    - ✓ Difficulty of construction
    - ✓ Possible errors,
    - ✓ Ambiguities, and
    - ✓ Omissions in the design

The likelihood of changes and claims will increase if corrections take place during construction.

Who is ultimately responsible for the final design?

Constructability reviews

Who is ultimately responsible for the final design?

- The **CM's review** does **not preempt** the responsibility of the **designer**.
  - The **CM's role** is
    - ✓ **Advisory**
    - ✓ **Intended** to **identify** construction issues
    - ✓ **Intended** to address issues **before the contract is bid**

Value engineering

- The **CM** **may recommend** that the owner and designer host a **value engineering workshop** as part of the **design management plan**
  1. If progressing design has **exceeded** the **project budget** **or**
  2. If the project team believes that **alternative design solutions** should be considered.

What are the responsibilities of CM and Designer in this step?

Value engineering

What are the responsibilities of CM and Designer in this step?

- **CM**
  1. The **CM** can **perform** this task **or**
  2. The **CM** can **assist** the owner in the engagement of a **Certified Value Specialist** to conduct the **VE workshop**.

- **Designer**
  1. The **designer** should **respond** to each recommendation and
  2. The **designer** should **advise** the owner and CM as to **whether** the recommendation has been **incorporated**, and
  3. **If not**, **why** not.

Value engineering

Who is ultimately responsible for the final design?

CM, DESIGNER, OR EVEN VALUE ENGINEER?

Value engineering

Who is ultimately responsible for the final design?

CM, DESIGNER, OR EVEN VALUE ENGINEER?

- Again, while the **designer retains full responsibility** for the design, the **intended VE workshop** benefits are to ensure that
  1. Design includes the **most appropriate design solutions**
  2. Design maintains the **balance** between scope, schedule, and budget.

By doing so, the likelihood of disputes and claims is reduced

Quality plan evaluation criteria

Evaluation Criteria	Qualitative Assessment Ratings				
	Excellent	Very Good	Good	Fair	Poor
PROJECT MANAGEMENT CATEGORY					
Quality Procedures					
Understanding the Department's role in the design quality process.	Very Good rating plus – Proposer has reflected a process to incorporate a web-based data system to link the Department into the design QC/QA process.	Good rating plus – Proposer has described a process to reflect how input from the Department's oversight will be incorporated into the final design.	Fair rating plus – Proposer clearly demonstrates a QC/QA plan that includes reporting of testing, reports, and audit procedures.	Poor rating plus – Proposer is committed to Department oversight role during design and has indicated review periods in the project schedule.	Proposer has described the Department role of oversight and understands the need for oversight during the design process.
Effectiveness of the design quality process, its organizational structure, and interrelationships with the Department.	Very Good rating plus – The Proposer has a process in-place to ensure that Department comments will be acted upon.	Good rating plus – The Proposer clearly demonstrates, within its design quality process, the Departments role.	Fair rating plus – The Proposer's organization has identified Key Personnel associated with Quality elements.	Poor rating plus – The Proposer's organization has identified the relationship between design and quality review staff.	Proposer has identified a design quality process for the Project.
Approach to internal resolution of design and construction disputes.	Very Good rating plus – Proposer had indicated the Department's role within its internal process.	Good rating plus – Proposer has identified an appeals process within its internal process to help resolve disputes.	Fair rating plus – Proposer's internal process has identified Key Personnel responsible for resolution disputes.	Poor rating plus – Proposer has described an internal process to resolve design and construction disputes.	Proposer acknowledges that design and construction disputes will be resolved.
Compliance with the Department's design standards.	Very Good rating plus – Proposer clearly states any differences in design standards that are anticipated on the Project.	Good rating plus – Proposer has described a process to secure design exceptions when needed.	Fair rating plus – Proposer has described which design standards will be used during its design.	Poor rating plus – Proposer has identified the existence of Department design standards.	Proposer acknowledges that design standards will be followed.
Process for independent design reviews before submittal to the Department.	Very Good rating plus – Proposer describes a process that reflects an independent review team that will be responsible for the detailed review of the Project.	Good rating plus – Proposer describes a process that reflects how Department comments will be incorporated into the final design prior to final construction.	Fair rating plus – Proposer's Project Schedule provides sufficient time to the Department to perform reviews.	Poor rating plus – Proposer's Project Schedule indicates an internal review process prior to plan submittal to the Department.	Proposer identifies plan submittal dates to the Department within the Project Schedule.
Approach to quality control (QC) reports and how they will be used to manage the Project.	Very Good rating plus – Proposer clearly identifies how the QC reports will be utilized during construction.	Good rating plus – The Proposer's QC database will be web based on the Project.	Fair rating plus – Proposer clearly identifies a QC database on the Project.	Poor rating plus – Proposer has a plan in place to maintain a log of all QC reports on the Project.	Proposer acknowledges that QC reports will be required on the Project.
Description of inspection, testing, and corrective action procedures and documentation.	Very Good rating plus – Proposer clearly shows the use of a web-based system to exchange documentation with the Department.	Good rating plus – Proposer clearly identified a system of checks and balances that will be utilized along with positions of responsibilities.	Fair rating plus – Proposer has identified a detailed computer based tracking program to be used on the Project.	Poor rating plus – Proposer has identified that inspection and testing during construction will be documented.	Proposer acknowledges that inspection and testing will be performed on the Project.
Proposed inspection program and training program to implement a continuous quality improvement program.	Very Good rating plus – The Proposer clearly identified the relationship between inspectors and project quality.	Good rating plus – The Proposer has identified Key Personnel of the Project team that will be responsible for training.	Fair rating plus – Proposer's training program is continuous and the program plan is indicated on the Project Schedule.	Poor rating plus – Proposer has identified a training program to update inspectors on the Project.	Proposer has identified a dedicated inspection program and inspectors on the Project.
The method of conformance with any applicable Federal oversight requirements.	Very Good rating plus – Proposer has researched and provided a matrix of requirements and procedures for providing reports that meet Federal requirements.	Good rating plus – Proposer has identified how Federal oversight requirements will interact with Department oversight.	Fair rating plus – Proposer indicates that results will be dual reported with the Department and Proposer both receiving real-time reports.	Poor rating plus – Proposer has clearly demonstrated any interaction between the Project team and Federal oversight.	Proposer has identified how conformance with Federal oversight requirements will be handled.
Plans for mobilizing the construction quality organization to be responsive to the planned Schedule.	Very Good rating plus – The Proposer demonstrates in detail the methodology to be used to involve construction personnel in the detailed design by performing constructionability reviews.	Good rating plus – The Proposer clearly demonstrates the interaction between design and construction personnel for the duration of the Project.	Fair rating plus – The Proposer's Project Schedule indicates construction personnel will be involved at the start of the Project.	Poor rating plus – Proposer's Project Schedule allocated construction personnel to be available during the design phases of the Project.	Proposer has identified construction periods within the Project Schedule.
Identification of personnel certified and qualified to perform inspection, testing, and training.	Very Good rating plus – Proposer has identified a plan to certify new inspectors to meet changing conditions or Project Schedule.	Good rating plus – Proposer has a plan in place to maintain certifications for all inspectors on the Project.	Fair rating plus – Proposer has identified the testing certifications that will be required on the Project.	Poor rating plus – Proposer has identified the certifications that each inspector currently holds.	Proposer states that inspectors will be certified.

Bid readiness review

- The **CM** leads the **review** of the **"bid-ready" documents** to confirm that **bid documents** allow interested, qualified bidders to **submit** a responsive, responsible bid for the proposed scope of work.
  - The **bid documents** and **instructions** should clearly identify **all forms and documents** interested bidders are required to submit.

Common documents prepared by A/E or CM

1. Instructions to bidders
2. Proposal form
3. General conditions or general provisions
4. Supplementary conditions
5. Drawings
6. Technical specifications
7. Contract document forms

Any drawbacks may increase the possibility of subsequent disputes or claims

Bid packaging

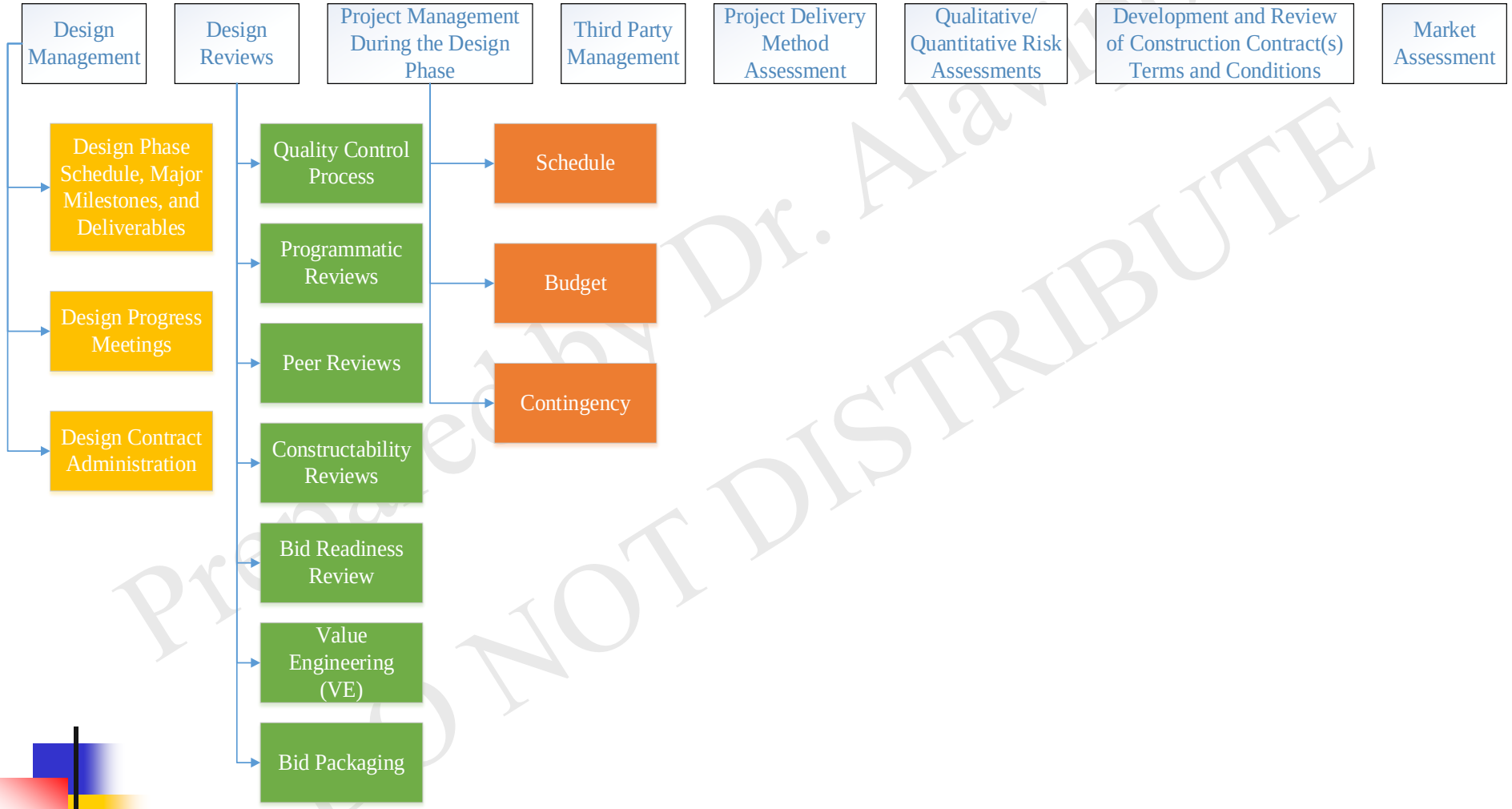
- The **CM** may be required to provide **recommendations** to the owner and designer regarding

  limits and **scope** of work of **multiple contract packages** within a project or program.

- The **CM** should **carefully consider** the **coordination** and **interdependency** of each **contract package**.

Clear and accurate coordination of interfaces of adjacent contracts will ***mitigate potential disputes and claims*** *arising out of gaps in scopes of work or* ***inconsistent or overlapping requirements.***

Recommended framework of Design phase related to claim management



Project Management During the Design Phase

Introduction

- The **CM** continues in its **role** of providing **project management** on behalf of the owner

  consistent with **its contractual obligations**.

- This **management effort** focuses on the **development** of
  - Design documents (discussed)
  - Project schedule
  - Project budget
  - Contingencies
  - Other issues and concerns

Schedule – Design schedule

- It is critical that the **CM** tracks and manages **schedule progress** during the **design phase**,
  1. For timely performance and **completion of design** deliverables,
  2. To **ensure** **adequate time** is allotted for the **construction phase** to prevent construction activities from becoming compromised or compressed,

     which **increases**

     1. **Potential for delays and claims**, or
     2. Increases **bid amounts**

Schedule – Pre-construction schedule

- **During this review**, the **CM** may also develop an **owner's pre-construction schedule** to

  determine a **possible construction work plan** that may identify

  - ✓ Other issues,
  - ✓ Constraints, or
  - ✓ Performance requirements
    - o This **pre-construction schedule** should also confirm the **construction contract duration** and **interim milestone dates** and will be used for **cost estimating**.

By presenting a realistic duration and anticipating project specific conditions, the possibility of disputes and claims arising from disputes around these issues will be reduced.

Budget

- The **CM** confirms
  1. Whether the construction cost of the current design is **within the project budget**
  2. Whether **corrective actions** are required

An imbalance between the scope and budget for the project creates a potential for changes and disputes.

Budget

- A **design** that **exceeds budget** will need **revisions**,

  which will likely require **additional design time**

*Managing a **formal process** for identifying owner requests for **additional scope** and **estimating the cost associated** with such scope changes*

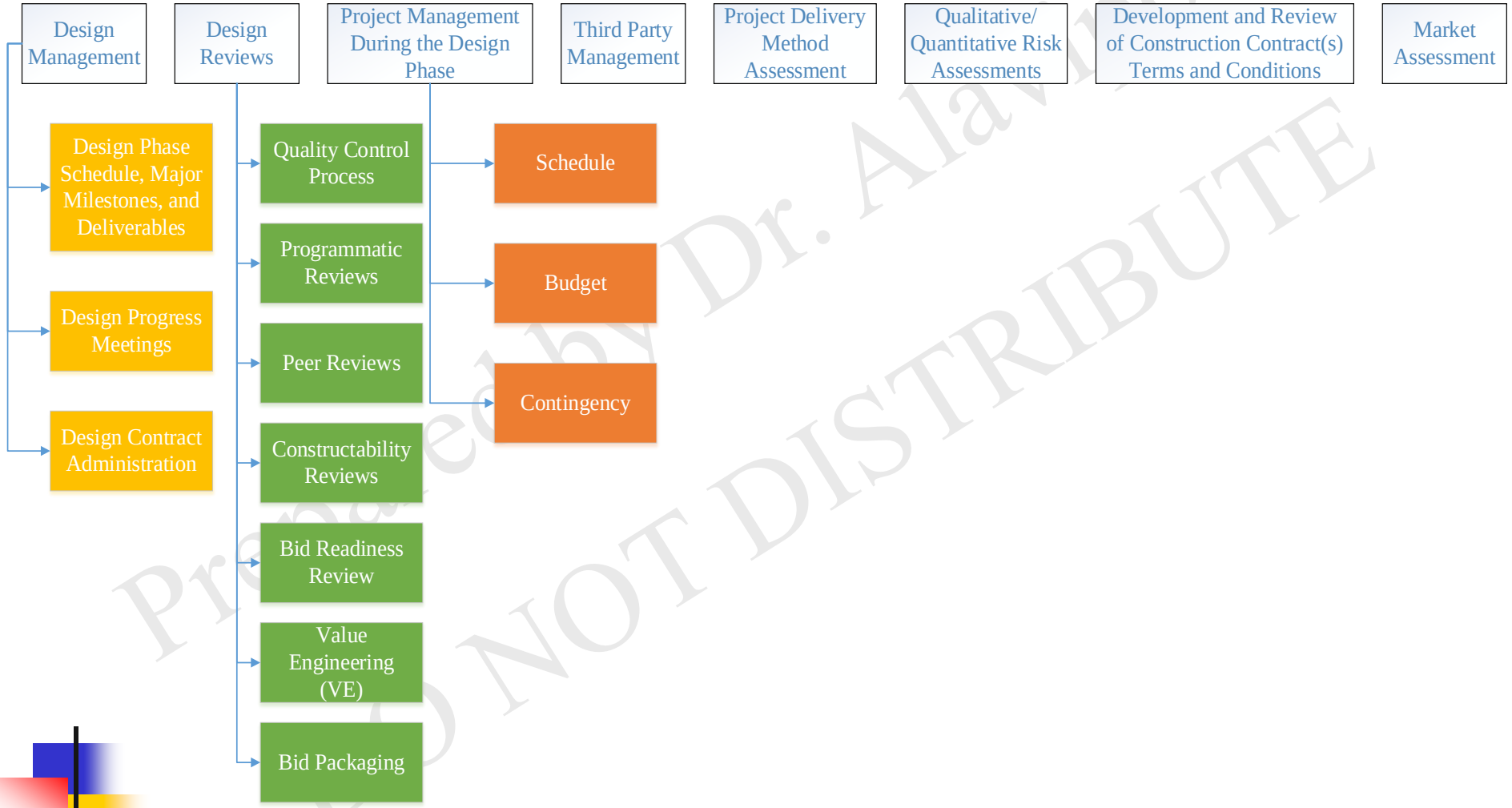
***enables** the designer to **design to budget** and **reduces** the need for **later value engineering or scope changes**.*

Contingencies

- The **CM** advises the owner as to the **need** and **extent** of **project contingencies** for
  - Design
  - Bidding
  - Construction changes
  - Project risks
- **Each contingency account** is for a **specific purpose** but **may transfer** to other accounts **if not used**.

The establishment of appropriate contingencies provides the resources to deal with the impacts of these unknowns which helps to avoid disputes and claims by avoiding late changes to design and/or schedules.

Recommended framework of Design phase related to claim management



Other Parts of Project Management

Third party management

- During the **design phase**,

  the **CM** may assist the owner in the **coordination** and **management** of **third parties** including

  other consultants, testing labs, utilities, real estate acquisition, commissioning, and planned owner furnished fixtures, furnishings, and equipment.

- If **third-party responsibilities** are **not executed** as required and planned,

  the possibility of **subsequent disputes and claims increases**

  *due to delays **awaiting necessary actions** of the third parties.*

Project delivery method assessment

1. **If a delivery method has already been selected,**

   CM assists in **evaluating** the **continued suitability** of the delivery method *to meet the owner's project requirements*.

   - This includes a **review of current design deliverables** to confirm that the content and direction is **consistent** with the **needs of the delivery method.**

2. **If a delivery method has not yet been selected,**

   CM may assist the owner in **making the selection** such that any required deliverables by the designer and project team are **consistent** with the requirements of the selected method.

Qualitative/Quantitative risk assessments

- As a **continuation of the risk management** efforts, which **commenced** in the **pre-design phase**,

  CM should assist the owner in **updating the risk register**.

  - At this time, the **CM** can assist the owner by performing a **quantitative risk assessment.**
    - ✓ This effort provides the project team with **forecasts** of probable **total project costs** and **schedule durations** that can be expressed with an associated **quantified level of confidence**.
    - ✓ As **new risks arise**, or **existing risks change**,

      the **CM** assists the owner in the development of **mitigation plans.**

The risk management plan minimizes the potential of related disputes and claims.

Market assessment

- The **CM** may also provide the owner with an **assessment** of the **current construction market**, which may affect bidders.

  - If the **CM** determines that the conditions are **unfavorable**, or **inconsistent** with the assumptions made previously regarding probable cost and/or schedule,

    the **owner** should consider the impacts of current conditions and **revise** the project strategy **in advance of advertising**.

    Otherwise the project may enter the market under circumstances that could increase the likelihood of disputes and claims.

Contract Documents

Importance of contract documents

- The **contract documents** will usually form the **basis** of any **claim**.

- The **claimant's entitlement** to make a claim will usually be spelled out in the **conditions of contract**,

  as will the **procedure** to be **followed** in the event of a claim.

- If there is a **disagreement** between the parties as to design, quality, responsibility, scope of works or procedures,

  the **contract** is the place to look for **guidance and resolution**.

Importance of contract documents

- **Many forms of contracts** are used to make sure that the **owner's objectives** are achieved.
- The **American Institute of Architects' (AIA) documents** are used **extensively** throughout the construction industry.
- **Other types of contract forms** are available from trade organizations such as the **Associated General Contractors of America** and **FIDIC**.

- **Whatever forms are used**,

  it is important to understand that they are **only a starting point** and

  CM/GCs lawyers must **review them** for **potential risks** and **applicability** to the project at hand.

Importance of contract documents

- The **project manager (PM)** must also **review** and **understand**
  - All construction contracts
  - Associated general conditions
  - Supplemental conditions.

They are the real "teeth" of the contract.

if a law or organization has **teeth**, it has the power to make people obey it

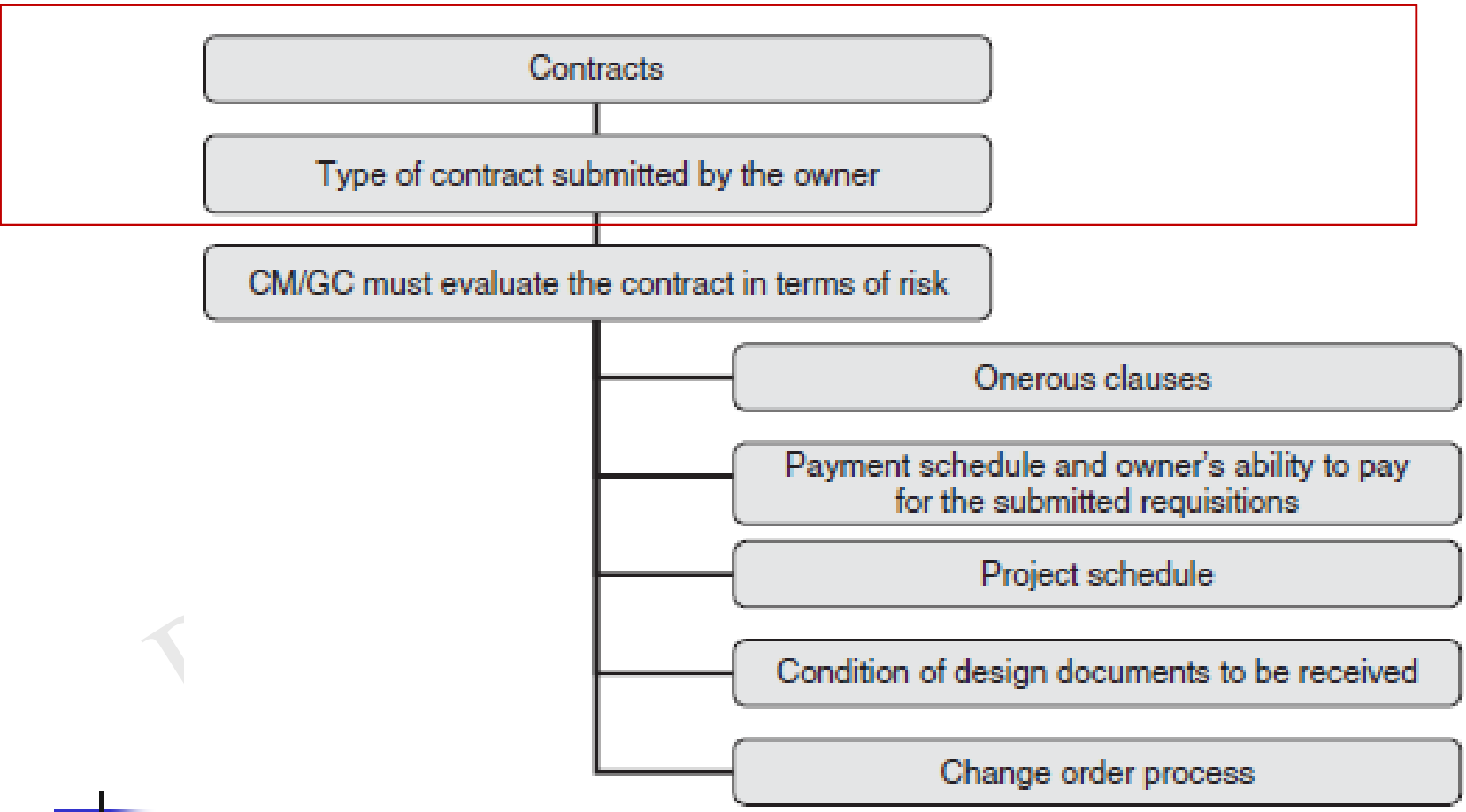
When a contract is **initially read**,

not all of the elements are **understood**.

*All PMs should read the contract **several times**.*

when a problem arises, the first document to come out is the contract

Preparing for contract risk management



Preparing for contract risk management

The most prevalent forms of contracts include **stipulated sum (lump sum)**, **cost plus**, **guaranteed maximum price (GMP)**, **unit price**, **construction management, construction management with risk**, **construction management with no risk**, **time and material (T&M)**, **Hybrid forms**, etc.

How to select a form of contract?

- It is almost **impossible** to state that **one type of construction contract** would be more **advantageous** than another type.
- **Each contract form** has **its place**, depending upon the circumstances at the time of consideration.

CM/GCs are usually given a contract by the owner.

ACEMI AIA

The American Institute of Architects

موسسه معماران آمریکا (the American Institute of Architects) یا AIA، در سال ۱۸۵۷ در نیویورک آمریکا و به دست ۱۳ معمار تاسیس گردید. شاید بتوان این موسسه را یکی از قدیمی‌ترین موسسات دنیا در حوزهٔ صنعت ساخت دانست. در ابتدا هدف از راه‌اندازی این موسسه، کمک به سرمایه‌گذاران و کارفرمایان برای انتخاب معماران بود، اما به مرور خدماتش را به بخش‌های مختلف قراردادی، مدیریت پروژه، مدیریت سازمانی و مدیریت کسب‌وکار توسعه داد و با بیش از ۹۵ هزار عضو، امروزه یکی از توانمندترین موسسات دنیا در زمینهٔ اقدامات قانونی و نظارتی پروژه‌ها است و با استفاده از مشارکت فعال اعضای خود در آمریکا، اقدام به سیاستگذاری حقوقی برای پروژه‌ها می‌نماید.

یکی از نقاط قوت AIA، نفوذ در بخش‌های دولتی آمریکا و تلاش برای تعیین سیاست‌هایی شایان توجه در حوزهٔ مدیریت پروژه‌ها بوده است که موفقیت‌های مختلفی را نیز در پی داشته است؛ توسعهٔ ساختمان‌های مقرون به‌صرفه برای ساکنان آمریکا یکی از دستاوردهای سیاست‌های پیشنهادی AIA تلقی می‌شود.

https://dralavipour.com/blog/view/AIA-intro

ACEMI **FIDIC**

Fédération Internationale Des Ingénieurs-Conseils

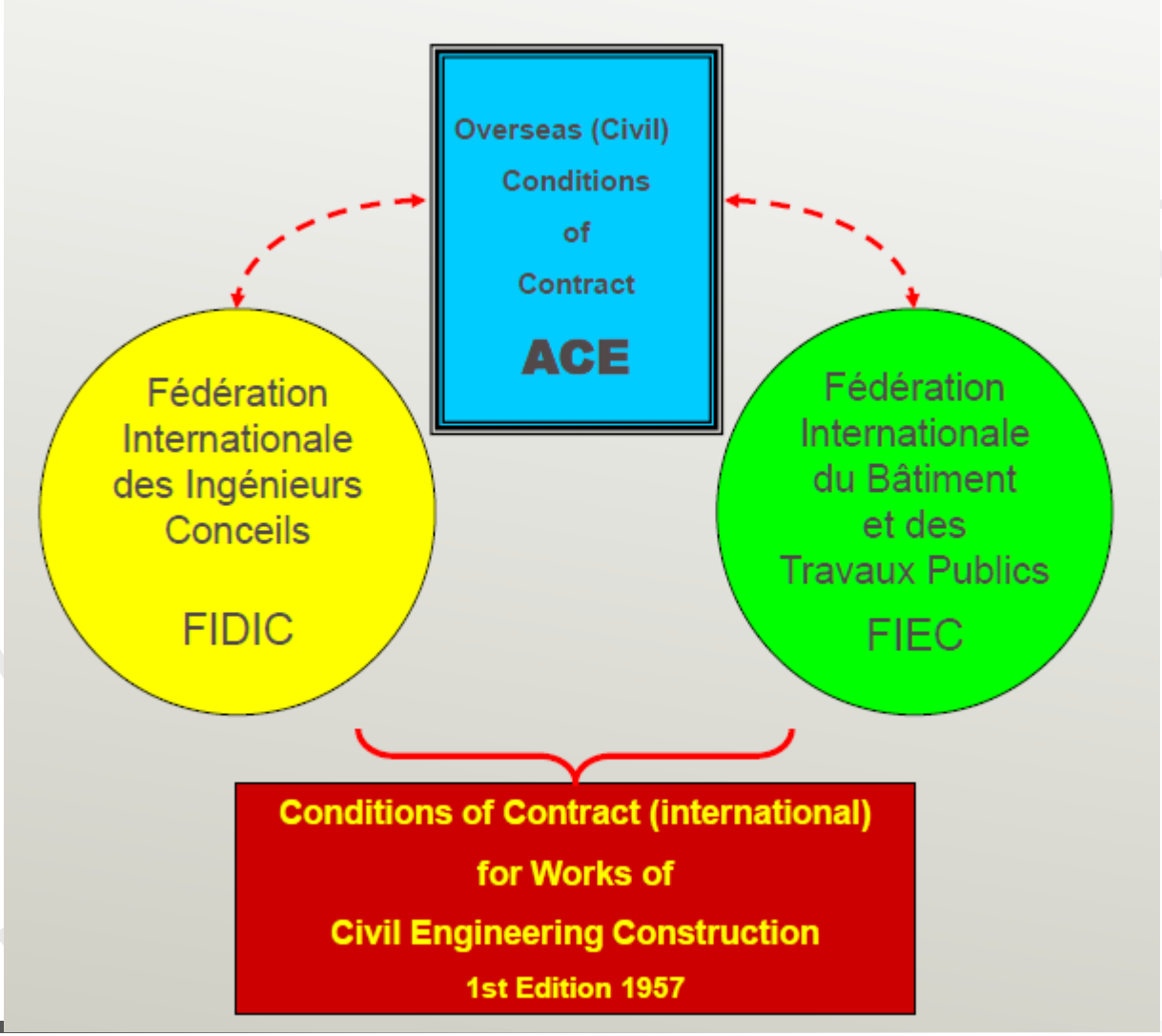
(International Federation of Consulting Engineers)

www.fidic.org

FIDIC is the international federation of consulting engineers founded in 1913 by a French initiative.

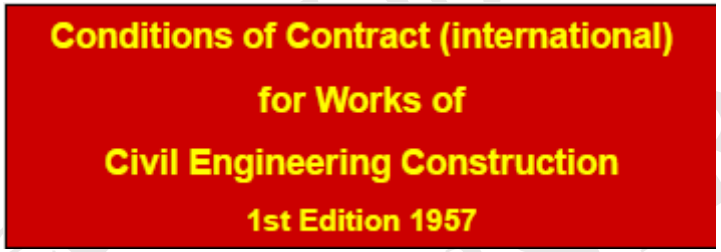
Currently over 80 countries have joined the Federation and have pledged to uphold its primary goals:

1. Represent the consulting engineering industry globally,
2. Enhance the image of consulting engineers,
3. Be the authority on issues relating to business practice,
4. Promote the development of a global and viable consulting engineering industry,
5. Promote quality,
6. Actively promote conformance to a code of ethics and to business integrity,
7. Promote commitment to sustainable development.


Overseas (Civil)
Conditions
of
Contract
ACE
Fédération
Internationale
des Ingénieurs
Conceils
FIDIC
Fédération
Internationale
du Bâtiment
et des
Travaux Publics
FIEC
Conditions of Contract (international)
for Works of
Civil Engineering Construction
1st Edition 1957

- This book was published in 1957 in an easy to recognize red cover.
- This and its rather lengthy title often caused it to be referred to as

The Red Book



Was based on the ACE-Form.

But it was still a document based on the Common Law system…

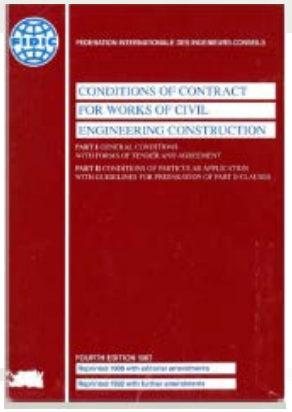
What are the most widely used legal systems of the modern world?

FIDIC

- The **major legal systems** of the world
  - Common law
  - Romano-Germanic law or Civil law
  - Socialistic law
  - Islamic or Shari'a

It was felt that there was a need for an international Form of Contract, independent of any particular Judicial System.

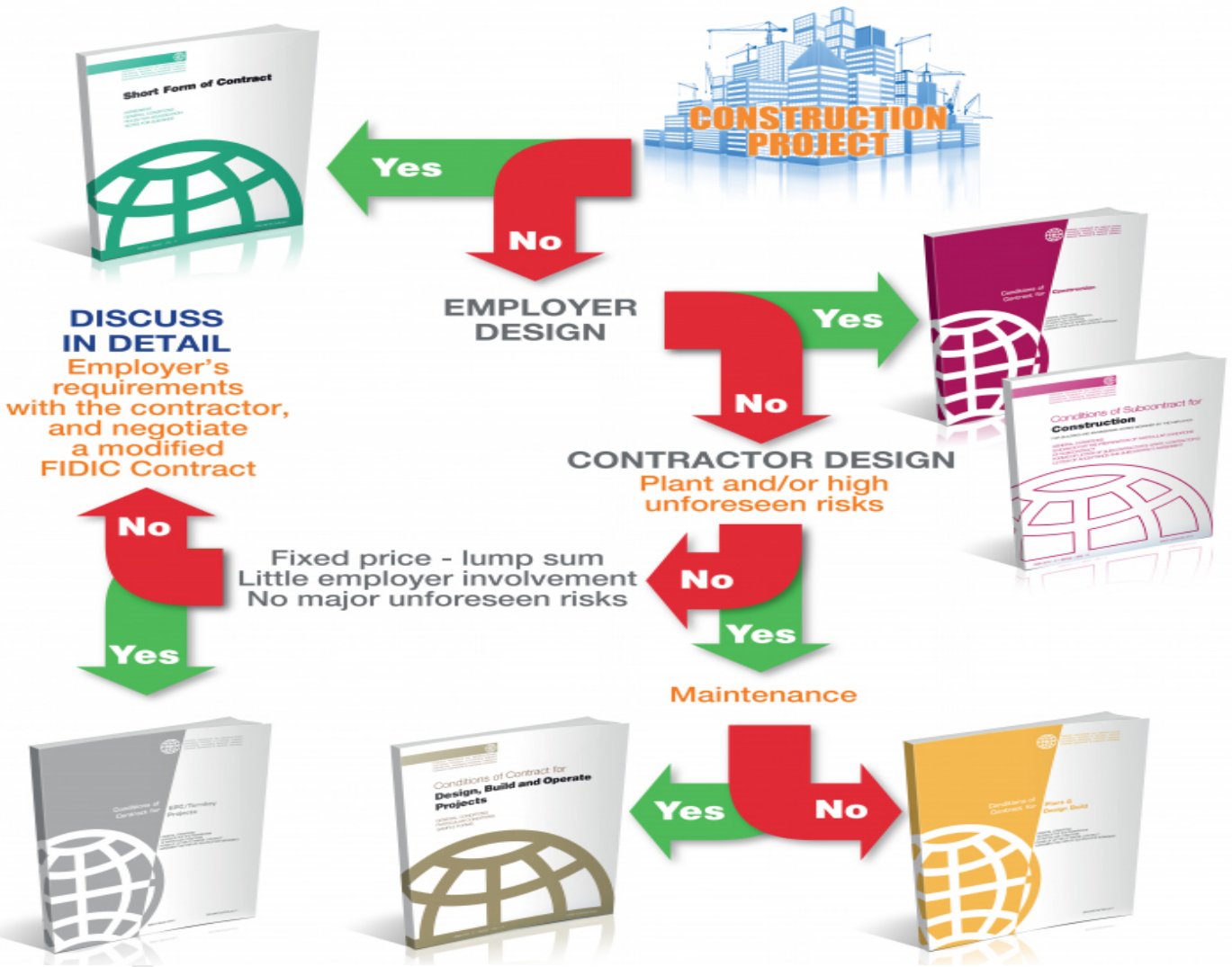
In answer to this need **FIDIC** updated its **RED BOOK** into what is now known as the fourth Edition 1987.



FIDIC

- **At the same time**, FIDIC decided that **in line with its services** to the construction industry, there was also a need for demarcation between the **various contractual agreements** entered into between parties. The result was:
  - *FIDIC publishes many standard forms, but the most common forms:*
    - ✓ Short Form Contract (**Green book**) (1999)
    - ✓ Construction Contract (**Red Book**) (2017)
      - Construction for Subcontract (2011)
      - Multilateral Development Banks (MDBs) Construction Contract (2006)
    - ✓ Plant and Design-Build Contract (**Yellow book**) (2017)
    - ✓ Design, Build and Operate (DBO) Contract (**Gold Book**) (2008)
    - ✓ EPC/Turnkey Contract (**Silver book**) (2017)

Which FIDIC contract should be used?



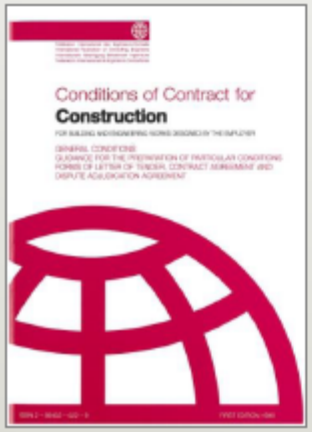
Which FIDIC contract is more common?

The **Red book** is by far the ***most widely known and used.***

From this point onwards, we will primarily deal with the

FIDIC – Red book

The New RED Book



Conditions of Contract for
Construction
FOR BUILDING AND ENGINEERING WORKS DESIGNED BY THE EMPLOYER

Recommended for building or engineering works designed by the Employer or its representative, the Engineer.

FIDIC – Red book

- It follows **three basic** concepts:

Concept 1:

Design and Project management are principally done by a consulting *ENGINEER*, who is accepted by both parties as professional and trustworthy.

Concept 2:

Payment is linked to a Bill of Quantities with Unit Prices.

Concept 3:

Responsibility and Damage Liability lies with the party best Suited to handle it or was the cause of that damage, respectively.

FIDIC – Red book

- Concept 1

Usually, the ***ENGINEER*** takes over the following functions in a project:

- Counselling
- Project study before investment of capital
- Planning (design) and project administration
- Survey and control of project execution
- Special Planning and development services
- Project management

It is essential to highlight that the ***ENGINEER's*** work should be impartial and neutral for the ***CONTRACTOR*** (*PART I, Art. 2.6*) although the ***ENGINEER*** is contractually appointed and paid by the ***EMPLOYER***.

FIDIC – Red book

- Concept 2

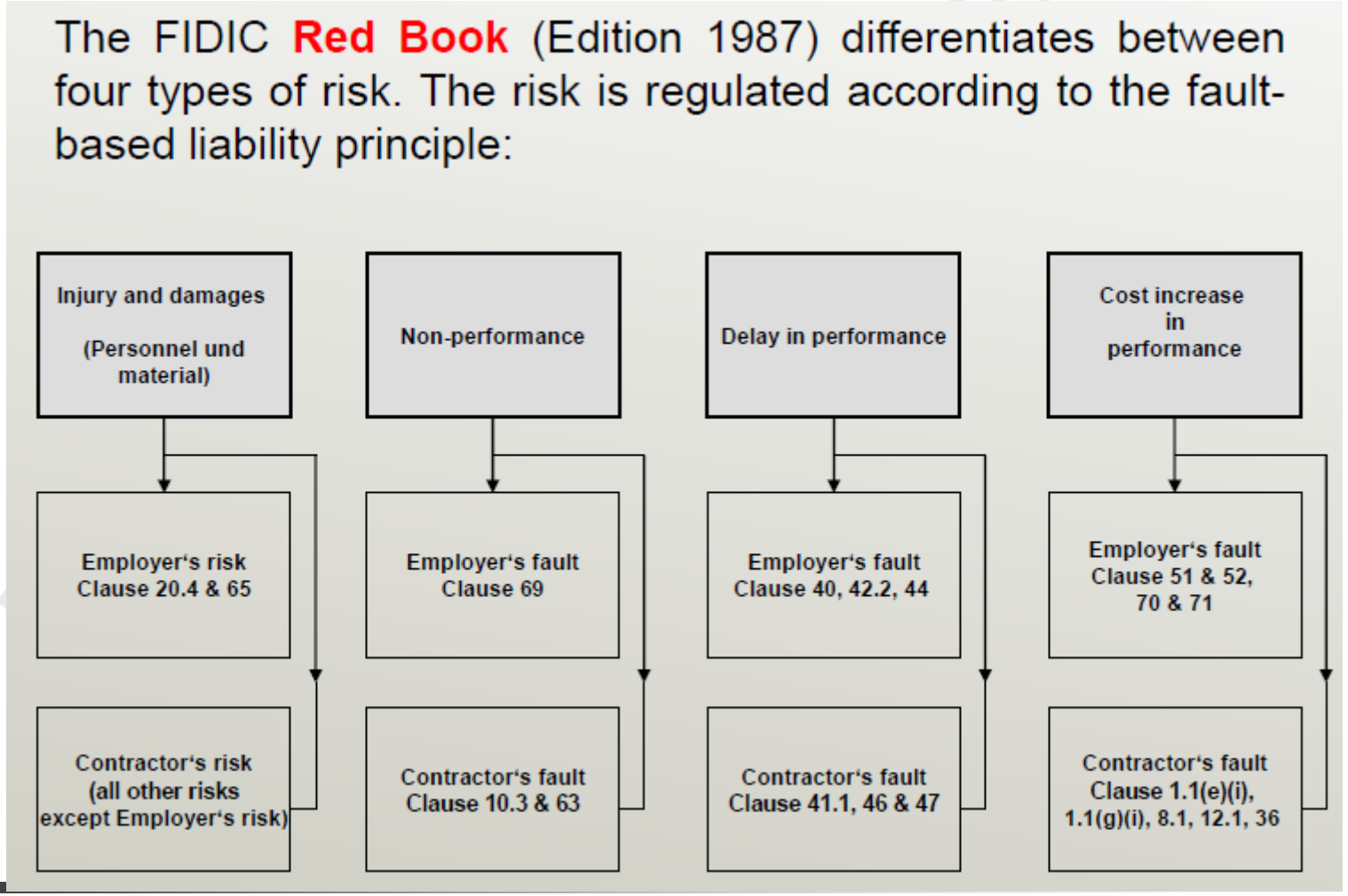
In a contract based on a bill of quantities the **CONTRACTOR** is paid for its provided services. In such cases, the **EMPLOYER** generally takes the risk of those quantities. This concept can be retrieved in *PART I, Art. 55-57, 60.*

a	b	c	d	e
No.	Position	Planned Quantity	Unit Price	Planned Contract value c x d
155	brickwork	**800 sqm**	25 € / sqm	**20.000 €**

f	g
rendered quantity	Final contract value f x d
811 sqm	**20.275 €**

FIDIC – Red book

- Concept 3



Typical contract documents – FIDIC 2017

- **FIDIC 2017:** The contract documents will typically comprise the following:

(a) the Contract Agreement; (موافقت نامه پیمان)

(b) the Letter of Acceptance; (ابلاغیه پذیرش)

(c) the Letter of Tender; (نامه پیشنهاد مناقصه)

(d) the Particular Conditions Part A – Contract Data; (شرایط خصوصی-اطلاعات قرارداد)

(e) the Particular Conditions Part B – Special Provisions; (شرایط خصوصی-مفاد خاص)

(f) these General Conditions; (شرایط عمومی)

(g) the Specification; (مشخصات فنی)

(h) the Drawings; (نقشه ها)

(i) the Schedules (if bill of quantities exists, it should be included here);

(j) the JV Undertaking (if the Contractor is a JV); and

(k) any other documents forming part of the Contract.

Typical contract documents – FIDIC 2017

- **FIDIC 2017:** The contract documents will typically comprise the following:

1.1.11 "**Contract Agreement**" means the agreement entered into by both Parties in accordance with Sub-Clause 1.6 [*Contract Agreement*].

1.1.50 "**Letter of Acceptance**" means the letter of formal acceptance, signed by the Employer, of the Letter of Tender, including any annexed memoranda comprising agreements between and signed by both Parties. If there is no such letter of acceptance, the expression "Letter of Acceptance" means the Contract Agreement and the date of issuing or receiving the Letter of Acceptance means the date of signing the Contract Agreement.

1.1.51 "**Letter of Tender**" means the letter of tender, signed by the Contractor, stating the Contractor's offer to the Employer for the execution of the Works.

1.1.12 "**Contract Data**" means the pages, entitled contract data which constitute Part A of the Particular Conditions.

1.1.75 "**Special Provisions**" means the document (if any), entitled special provisions which constitutes Part B of the Particular Conditions.

Typical contract documents – FIDIC 2017

- **FIDIC 2017:** The contract documents will typically comprise the following:

1.1.43 "**General Conditions**" means this document entitled "Conditions of Contract for Construction for Building and Engineering Works designed by the Employer", as published by FIDIC.

1.1.76 "**Specification**" means the document entitled specification included in the Contract, and any additions and modifications to the specification in accordance with the Contract. Such document specifies the Works.

1.1.30 "**Drawings**" means the drawings of the Works included in the Contract, and any additional and modified drawings issued by (or on behalf of) the Employer in accordance with the Contract.

1.1.71 "**Schedules**" means the document(s) entitled schedules prepared by the Employer and completed by the Contractor, as attached to the Letter of Tender and included in the Contract. Such document(s) may include data, lists and schedules of payments and/or rates and prices, and guarantees.

Typical contract documents – FIDIC 2017

- **FIDIC 2017:** The contract documents will typically comprise the following:

1.1.47 "**JV Undertaking**" means the letter provided to the Employer as part of the Tender setting out the legal undertaking between the two or more persons constituting the Contractor as a JV. This letter shall be signed by all the persons who are members of the JV, shall be addressed to the Employer and shall include:

(a) each such member's undertaking to be jointly and severally liable to the Employer for the performance of the Contractor's obligations under the Contract;

(b) identification and authorisation of the leader of the JV; and

(c) identification of the separate scope or part of the Works (if any) to be carried out by each member of the JV.

Typical contract documents – نشریه ۴۳۱۱

❑ ماده ۲ موافقت نامه: اسناد و مدارک

- ❖ موافقت نامه
- ❖ شرایط عمومی
- ❖ شرایط خصوصی
- ❖ برنامه زمانی (کلی و تفصیلی)
- ❖ فهرست بها و مقادیر کار
- ❖ مشخصات فنی عمومی
- ❖ مشخصات فنی خصوصی
- ❖ دستورالعملها و استانداردهای فنی
- ❖ نقشه ها
- ❖ اسناد تکمیلی

اسناد تکمیلی که حین اجرای کار و به منظور اجرای پیمان، به پیمانکار ابلاغ می‌شود یا بین طرفین پیمان مبادله می‌گردد نیز جز اسناد و مدارک پیمان به شمار می‌آید. این اسناد باید در چارچوب اسناد و مدارک پیمان تهیه شود. این اسناد، ممکن است به صورت مشخصات فنی، نقشه، دستور کار و صورت‌مجلس باشد.

Typical contract documents – In case of discrepancy

What if there is a discrepancy between contract documents?

Typical contract documents – FIDIC 2017

What if there is a discrepancy between contract documents?

- **Most contracts** will provide that all the documents shall be **mutually explanatory**, but in the case of **ambiguity** or **discrepancy**, they are to be **read in a stated order** of precedence.

Priority between bill of quantities and schedule goes to the schedule!

(See FIDIC 2017 Red Book, Sub-Clause 1.5 [*Priority of Documents*])

Typical contract documents – نشریه ۴۳۱۱

What if there is a discrepancy between contract documents?

- در صورت وجود **دوگانگی بین اسناد و مدارک پیمان**،
  - **موافقتنامه** پیمان بر دیگر اسناد و مدارک پیمان اولویت دارد.
  - هرگاه دوگانگی مربوط به **مشخصات فنی** باشد، اولویت به ترتیب با
    i. مشخصات فنی خصوصی
    ii. نقشه های اجرایی
    iii. مشخصات فنی عمومی
  - اگر دوگانگی مربوط به **بهای کار** باشد، **فهرست بها** بر دیگر اسناد و مدارک پیمان اولویت دارد.

Typical contract documents – نشریه ۴۳۱۱

What if there is a discrepancy between contract documents?

۳-شرایط خصوصی

۳-۱-

با وجود اینکه در عرف پیمان‌ها، شرایط خصوصی حاوی ویژگی‌های هر پیمان است که نسبت به شرایط عمومی اولویت دارد، در طرح‌های عمرانی که مربوط به یک کارفرمای اصلی یعنی دولت است، شرایط خصوصی به نحوی تنظیم شده است که تنها در چارچوبی که شرایط عمومی برای آن تعیین کرده است قابل تکمیل باشد. بدین روی، درج مطالبی خارج از محدوده تعیین شده، در شرایط خصوصی مجاز نیست.

Typical contract documents – Other documents

But the problem occurs due to "any other documents"

Let's see!

Typical contract documents – Other documents

- With regard to the **last item on the list 'Other documents',**

  there is a **great temptation** for those whose job it is to prepare and compile the contract documents, to

  'dump' all sorts of documents into this section.

- **Typically** these may **consist** of:

  correspondence between the parties between the time of tender and the letter of acceptance, tender queries and clarifications, tender bulletins, minutes of meetings during the negotiation process, the Contractor's proposals for executing the works, offers to complete the project differently from that of the tender documents or value engineering proposals and such like.

So, what is the matter?

Typical contract documents – Other documents

- The **potential for conflict** between **such documents** and the **main contract documents** becomes **high** in such a situation,

  may not reflect the **pre-contract negotiations** and a **subsequent agreement** between the parties.

- Example:

  *If we look at a situation whereby the Contractor has **negotiated** a **reduction in the time** for **interim payments** to be made from **56 to 40 days** and this was **recorded** in **meeting minutes** included in **'Other documents'***

  *then, on a **strictly contractual basis**, the **56 days in the general conditions** would **still** have **precedence over such an agreement** and*

  *effectively render the **agreement null and void**.*

Typical contract documents – Other documents

- **Remember?**
  - One of the important factors to **cause disputes** is **contract interpretation**? And
  - It is true to say that if the contract documents are **poorly drafted** and **compiled**, the potential for disputes **increases tremendously**.

How to solve?

Let's see!

Typical contract documents – Other documents

- **It is infinitely preferable to**

1. **Keep** the 'other documents' section as **small as possible**
2. **Amend** the **tender documents**

   to **take into account any changes** that have been

   i. Negotiated

   ii. Agreed

   between the parties

   *within the **appropriate section** of the **contract documents**.*

Typical contract documents – Other documents

Rather than just including the **tender queries and responses** as an **addendum to the contract**,

as is **often the practice**,

the **contract documents** should be **amended** to

reflect the instructions *given in the responses to such queries.*

When is the best time to complete and sign the contract?

Development and Review of Construction Contract(s) Terms and Conditions

موسسه مهندسی و مدیریت ساخت علوی پور (ACEMI)

دفتر آموزش

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