



CTO5 WTE Project | Project Responsibility Matrix

Document no: CTO5-PJM-PLN-0003

Revision: A

Date: 11th May 2026





CTO5 WTE Project | Project Responsibility Matrix

Client Name: Municipality of Anchorage
Client reference: Contract Task Order 05
Document no: CTO5-PJM-PLN-0003

Document history and status

Revision	Date	Description	Author	Reviewed	Approved
A	11/5/26	Issued for Review	ST	-	-

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Executive Summary

This Responsibility Matrix defines the allocation of roles and responsibilities among the principal Project Participants for the Municipality of Anchorage Waste-to-Energy Facility Project, including the Design Contractor, Construction Manager-at-Risk, Operations and Maintenance At-Risk Contractor, Program Management Office, and Owner.

The Matrix supplements the common Scope of Work issued to the Design Contractor, CMAR, and OMAR. The Scope of Work defines the work, required outcomes, deliverables, and execution requirements for the Project; this Responsibility Matrix identifies which party is Accountable, Responsible, Consulted, or Informed for each activity. The Matrix is therefore an execution control document and shall be used by all Project Participants to manage interfaces, avoid gaps and overlaps, and support coordinated delivery of the Project.

The Project is being delivered under a collaborative model in which each Contractor remains responsible for managing and delivering its own contracted scope. The Design Contractor is generally responsible for engineering and technical integration; the CMAR is generally responsible for construction planning, procurement execution where assigned, logistics, site management, construction delivery, and construction-phase coordination; and the OMAR is generally responsible for operations readiness, maintainability input, commissioning and start-up operational support, and long-term operations and maintenance planning.

The PMO acts on behalf of the Owner to provide governance, coordination, assurance, consolidated reporting, review management, interface oversight, decision support, and integrated Project-level controls. The Owner retains final decision authority for matters reserved to the Municipality of Anchorage, including funding decisions, approval of major Project decisions, acceptance decisions, contingency and budget decisions, and other matters requiring formal Owner authorization.

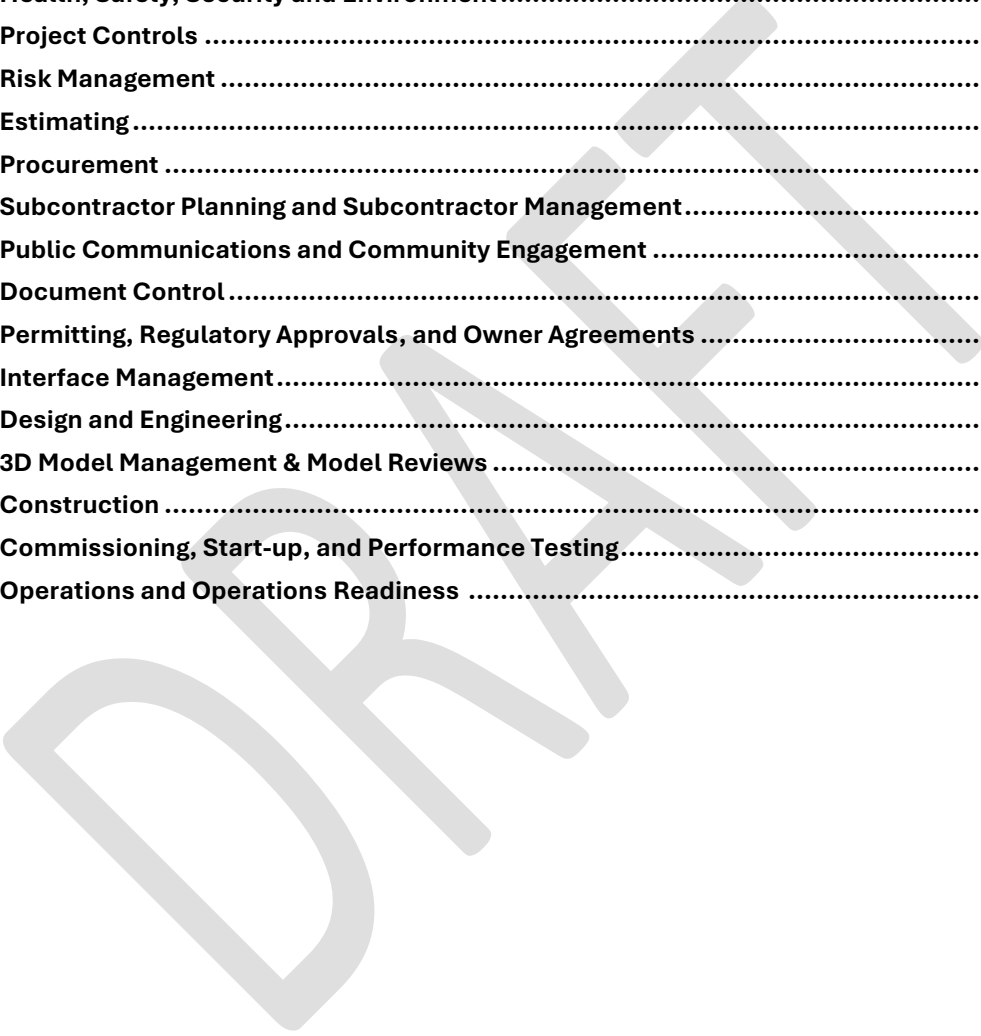
Each activity in this Matrix is assigned an Accountable party wherever practicable. Responsible, Consulted, and Informed roles are assigned as required to ensure that technical, constructability, operability, maintainability, HSSE, regulatory, cost, schedule, risk, estimating, and lifecycle considerations are incorporated at the appropriate stage of Project development and execution.

This Responsibility Matrix is intended to provide a practical and comprehensive allocation of responsibilities for the activities currently identified for the Project. It is not intended to identify every task, interface, sub-activity, or circumstance that may arise during execution. Where an activity, deliverable, interface, or responsibility is not expressly identified in this Matrix, the parties shall act in accordance with the applicable contracts, the Scope of Work, approved Project procedures, and established industry best practice for projects of similar size, complexity, and delivery model. The absence of a specific activity from this Matrix shall not relieve any party from performing work that is reasonably inferred from its contract, scope, professional role, or assigned responsibilities.

Where a gap, ambiguity, or apparent conflict exists in the allocation of responsibility, the parties shall promptly notify the PMO. The PMO shall coordinate resolution with the affected parties and, where required, obtain an Owner decision in accordance with the applicable contract and Project change control procedures. Pending resolution, each party shall continue to perform its assigned work and shall cooperate in good faith to avoid delay, duplication, or omission of required Project activities.

Contents

- 1. Introduction 1**
 - 1.1 Owner and PMO Governance Role 1
 - 1.2 RACI Convention 2
- 2. Project Management and Governance 3**
 - 2.1 Contractor-Specific Project Management 3
 - 2.2 Integrated Project Governance and Coordination 3
- 3. Health, Safety, Security and Environment 5**
- 4. Project Controls 8**
- 5. Risk Management 10**
- 6. Estimating 11**
- 7. Procurement 13**
- 8. Subcontractor Planning and Subcontractor Management 16**
- 9. Public Communications and Community Engagement 17**
- 10. Document Control 18**
- 11. Permitting, Regulatory Approvals, and Owner Agreements 21**
- 12. Interface Management 24**
- 13. Design and Engineering 25**
- 14. 3D Model Management & Model Reviews 29**
- 15. Construction 30**
- 16. Commissioning, Start-up, and Performance Testing 34**
- 17. Operations and Operations Readiness 38**



Acronyms and Abbreviations

Acronym	Description
AACE	AACE International
ADEC	Alaska Department of Environmental Conservation
AHJ	Authority Having Jurisdiction
AKOSH	Alaska Occupational Safety and Health
APC / APCS	Air Pollution Control / Air Pollution Control System
ARL	Anchorage Regional Landfill
AWWU	Anchorage Water and Wastewater Utility
BOD	Basis of Design
CEMS	Continuous Emissions Monitoring System
CMAR	Construction Manager-at-Risk
CMMS	Computerized Maintenance Management System
DCS	Distributed Control System
EPA	United States Environmental Protection Agency
EPC	Engineering, Procurement, and Construction
FAT	Factory Acceptance Test
FEED	Front-End Engineering Design
FEL	Front-End Loading
GMP	Guaranteed Maximum Price
HAZID	Hazard Identification
HAZOP	Hazard and Operability Study
HSE	Health, Safety, and Environment
I&C	Instrumentation and Controls
IFC	Issued for Construction
MDR	Master Document Register
MEA	Matanuska Electric Association
MOA	Municipality of Anchorage
MSW	Municipal Solid Waste
OMAR	Operations and Maintenance At-Risk Contractor
O&M	Operations and Maintenance
PFAS	Per- and Polyfluoroalkyl Substances
PMO	Program Management Office
RACI	Responsible / Accountable / Consulted / Informed

CTO5 WTE Project | Project Responsibility Matrix

Acronym	Description
RFI	Request for Information
RFP	Request for Proposal
SOW	Scope of Work
WTE	Waste-to-Energy

Definitions

Term	Definition
CMAR	The Construction Manager-at-Risk responsible for construction planning, constructability input, procurement execution where assigned, cost estimating and GMP support, logistics, site management, subcontractor management, construction execution, construction quality, and construction-phase HSE.
Contractor	Any one of the Design Contractor, CMAR, or OMAR, as applicable.
Design Contractor / Designer (DC)	The contractor responsible for engineering, design development, technical integration, design deliverables, engineering calculations, specifications, permitting support, and Engineer-of-Record responsibilities, as defined in the applicable contract and Scope of Work.
Facility	The Municipality of Anchorage Waste-to-Energy facility, including waste receiving, storage and handling, combustion, boiler, turbine-generator, air pollution control, ash handling, utilities, buildings, site infrastructure, and supporting systems.
OMAR	The Operations and Maintenance At-Risk Contractor responsible for operations readiness, maintainability input, staffing and competency planning, operating procedures, maintenance strategy, commissioning and start-up operational support, performance monitoring, and long-term operation and maintenance of the Facility after Operational Acceptance.
Owner	The Municipality of Anchorage, acting through its authorized representatives, and retaining final decision authority for matters reserved to the Owner under the applicable contracts.
PMO	The Program Management Office acting on behalf of the Owner to provide project governance, coordination, document control oversight, review management, interface coordination, and decision support. The PMO does not relieve any contractor of its contractual responsibilities.
Project	The full development, design, procurement, construction, commissioning, start-up, testing, handover, operations-readiness, and initial operations scope associated with the WTE Facility.
Site	The physical location and associated areas made available for the Project, including the WTE Facility footprint, access roads, laydown areas, temporary work areas, utility corridors, and any off-site locations required for Project execution.

1. Introduction

This Responsibility Matrix defines the allocation of roles and responsibilities among the principal Project Participants for the Municipality of Anchorage Waste-to-Energy Facility Project.

This document supplements the common Scope of Work issued to the Design Contractor, Construction Manager-at-Risk, and Operations and Maintenance At-Risk Contractor. The Scope of Work defines the work, deliverables, execution requirements, and required outcomes for the Project. This Responsibility Matrix identifies which party is Accountable, Responsible, Consulted, or Informed for each activity.

The purpose of this Responsibility Matrix is to:

- establish a clear allocation of responsibility among the Owner, PMO, Design Contractor, CMAR, and OMAR;
- support coordinated execution under the Project's collaborative delivery model;
- reduce gaps, overlaps, and ambiguity between contractor scopes;
- identify required interfaces between design, procurement, construction, commissioning, operations readiness, and long-term operations;
- support timely decision-making, review, and issue resolution; and
- provide a controlled reference for managing changes in responsibility as the Project advances through design, construction, commissioning, and operations.

The Project delivery model requires early and continuous coordination between the Design Contractor, CMAR, and OMAR so that technical design, constructability, cost, schedule, operability, maintainability, commissioning, and lifecycle requirements are incorporated at the appropriate stage of Project development. The Responsibility Matrix is therefore an execution control document and shall be used by all Project Participants in conjunction with the Scope of Work, Basis of Design, Engineering Deliverables Framework, and applicable contracts.

This Responsibility Matrix is intended to provide a practical and comprehensive allocation of responsibilities for the activities currently identified for the Project. It is not intended to identify every task, interface, sub-activity, or circumstance that may arise during execution. Where an activity, deliverable, interface, or responsibility is not expressly identified in this Matrix, the parties shall act in accordance with the applicable contracts, the Scope of Work, approved Project procedures, and established industry best practice for projects of similar size, complexity, and delivery model. The absence of a specific activity from this Matrix shall not relieve any party from performing work that is reasonably inferred from its contract, scope, professional role, or assigned responsibilities.

1.1 Owner and PMO Governance Role

The Owner retains final decision authority for matters reserved to the Municipality of Anchorage under the applicable contracts, including approval of major Project decisions, funding decisions, acceptance decisions, material changes to Project scope, and matters requiring formal Owner authorization.

The PMO acts on behalf of the Owner to provide Project governance, coordination, review management, interface oversight, document control oversight, schedule and cost coordination, and decision support. The PMO's role is to manage the Owner-side governance process and to facilitate coordinated delivery by the contractors.

CTO5 WTE Project | Project Responsibility Matrix

The PMO is not intended to perform contractor work. Unless expressly identified otherwise in this Responsibility Matrix, the PMO's role shall generally be to Review, Consult, or be Informed rather than to perform or directly manage the work assigned to the Design Contractor, CMAR, or OMAR.

The Design Contractor shall remain responsible for engineering and technical integration. The CMAR shall remain responsible for construction planning, procurement execution where assigned, logistics, site management, construction execution, and construction-phase quality and HSE. The OMAR shall remain responsible for operations readiness, maintainability input, commissioning and start-up operational support, and long-term operations and maintenance planning

Where an activity requires an Owner decision, the PMO shall coordinate the decision process and present recommendations, supporting information, risks, options, and contractor input to the Owner for determination.

1.2 RACI Convention

This Responsibility Matrix uses standard RACI terminology to define the role of each Project Participant in relation to the activities identified in this document.

Table 1: RACI Definition

Code	Role	Definition
A	Accountable	The party ultimately accountable for ensuring the activity is completed, coordinated, and delivered in accordance with the applicable contract requirements, Scope of Work, Basis of Design, schedule, budget, and quality requirements. Each activity shall have only one Accountable party unless otherwise approved by the Owner.
R	Responsible	The party responsible for performing the work, preparing the deliverable, providing the service, or carrying out the activity. More than one party may be Responsible where the activity requires joint execution or defined contributions from multiple parties.
C	Consulted	A party required to provide input, specialist advice, review comments, operational input, constructability input, technical data, or other coordination before the activity or deliverable is finalized. Consultation is a two-way process.
I	Informed	A party kept informed of progress, decisions, deliverables, or outcomes. Information flow is one-way and does not require formal review or approval unless separately required by contract or procedure.
—	No assigned role	The party has no assigned role for the activity.

Each activity shall normally have one Accountable party. The Accountable party is responsible for coordinating the input of all Responsible and Consulted parties and for ensuring that required reviews, interfaces, approvals, and decisions are completed before the activity or deliverable is closed.

The assignment of a role in this Responsibility Matrix does not relieve any party of its obligations under its contract, applicable law, permit requirements, professional standards, or approved Project procedures.

2. Project Management and Governance

Project management responsibilities are divided between Contractor-specific management obligations and integrated Project-level governance and coordination obligations.

Each Contractor is accountable for the management and administration of its own contracted scope. This includes planning, staffing, internal coordination, subcontractor management, compliance with approved Project procedures, progress reporting, action closeout, and delivery of its required work products.

Project-wide governance, integration, decision coordination, cross-contractor coordination, responsibility alignment, and Owner-side controls are allocated separately. These activities are necessary to coordinate the Design Contractor, CMAR, OMAR, PMO, Owner, regulators, utilities, and other Project Participants under the Project's collaborative delivery model.

The RACI allocations in this section distinguish between activities that each Contractor must perform for its own scope and activities that require a single Project-level Accountable party.

This section is limited to project management and governance activities that are general in nature or that coordinate the overall delivery model. Specialist project functions, including Project Controls, Risk Management, Information Management, Quality Management, HSE, Procurement, Permitting, Commissioning, and Handover, are addressed in separate sections of this Responsibility Matrix. Where an activity is more appropriately governed by a specialist function, the detailed RACI allocation in that specialist section shall apply.

2.1 Contractor-Specific Project Management

Each Contractor shall project manage its own scope of work in accordance with its contract, the Scope of Work, approved Project procedures, and established industry best practice.

For Contractor-specific activities, each applicable Contractor is Accountable and Responsible for its own performance, deliverables, resources, subcontractors, schedule inputs, cost inputs, quality, safety, reporting, and internal administration. The PMO may be Consulted or Informed and may review selected Contractor management documents for alignment with Project requirements, but PMO review does not relieve the Contractor of responsibility for its scope.

Where a RACI activity applies equally to the Design Contractor, CMAR, and OMAR, the table may assign A/R to each Contractor, meaning each Contractor is Accountable and Responsible for that activity within its own scope.

2.2 Integrated Project Governance and Coordination

Integrated Project governance and coordination activities are activities that cut across multiple Contractors or require Owner-side management, consolidated coordination, or Project-level decision support.

The PMO is generally Accountable for Owner-side governance, overall coordination, decision management, responsibility alignment, governance workshops, and cross-contractor coordination. The Owner retains final decision authority for matters reserved to the Municipality of Anchorage under the applicable contracts.

CTO5 WTE Project | Project Responsibility Matrix

The Contractors remain responsible for providing accurate, complete, and timely inputs to integrated Project-level activities. This includes technical information, constructability input, operability input, schedule inputs, cost inputs, procurement information, commissioning input, decision papers, assumptions, dependencies, and other information required to support Project governance and decision-making.

Table 2: RACI | Project Management

Activity	DC	CMAR	OMAR	PMO	Owner
Contractor Project Management Plan for own scope	A/R	A/R	A/R	C	I
Contractor Project Execution Plan for own scope	A/R	A/R	A/R	C	I
Contractor organization chart and staffing plan	A/R	A/R	A/R	C	I
Appointment and maintenance of key personnel for own scope	A/R	A/R	A/R	C	I
Contractor internal coordination of own scope	A/R	A/R	A/R	I	—
Contractor subcontractor management for own scope	A/R	A/R	A/R	I	—
Contractor compliance with approved Project procedures	A/R	A/R	A/R	C	I
Contractor attendance at required Project meetings	A/R	A/R	A/R	A/R	I
Contractor action closeout for assigned actions	A/R	A/R	A/R	C	I
Overall Project governance framework	C	C	C	A/R	C
Project execution governance model	C	C	C	A/R	C
Cross-contractor coordination framework	C	C	C	A/R	I
Project meeting schedule and governance rhythm	C	C	C	A/R	I
Project action register administration	R	R	R	A	I
Owner decision register administration	I	I	I	A/R	C
Preparation of decision papers for matters within own scope	A/R	A/R	A/R	C	I
Coordination of Owner decisions	C	C	C	A/R	C
Assumptions and dependencies register	R	R	R	A	I

CTO5 WTE Project | Project Responsibility Matrix

Activity	DC	CMAR	OMAR	PMO	Owner
Responsibility alignment and gap resolution	C	C	C	A/R	C
Contract interface alignment between Designer, CMAR, and OMAR	C	C	C	A/R	C
Management of Project-wide governance workshops	C	C	C	A/R	I
Lessons learned process — project management matters	R	R	R	A	I

3. Health, Safety, Security and Environment

HSSE responsibilities are divided between Contractor-specific HSSE obligations, site-wide construction HSSE coordination, operational HSSE coordination, and Owner-side HSSE governance and assurance.

Each Contractor is Accountable and Responsible for the health, safety, security, and environmental performance of its own personnel, subcontractors, suppliers, work areas, equipment, work methods, and activities. Each Contractor shall comply with applicable federal, state, and local HSSE requirements, Project requirements, permit conditions, and its own contract requirements.

The Project is a multi-employer worksite. The allocation of roles in this Responsibility Matrix does not relieve any Contractor of its statutory, regulatory, contractual, or common law HSSE obligations. More than one employer may have responsibility for a hazardous condition depending on whether it created the hazard, exposed personnel to the hazard, was responsible for correcting the hazard, or exercised control over the worksite. OSHA's multi-employer citation policy recognizes creating, exposing, correcting, and controlling employer roles on multi-employer worksites.

During construction, the CMAR shall be Accountable for site-wide construction HSSE coordination, construction site control, worker access coordination, construction HSSE reporting, emergency response coordination, incident response coordination, and coordination of subcontractor HSSE expectations across the construction Site. This reflects the CMAR's role as the party with construction site coordination and control responsibilities. OSHA guidance recognizes a controlling employer as an employer with general supervisory authority over a worksite, including authority to correct hazards or require others to correct them.

From Operational Acceptance, the OMAR shall be Accountable for operational HSSE coordination, including operational work control, operational access control, operational emergency response coordination, operating personnel competency, maintenance safety coordination, and operational HSSE reporting.

The Design Contractor shall be Accountable for safety-in-design, process safety engineering, design hazard reviews, code compliance within the design, fire and life safety design inputs, and engineering actions required to eliminate or reduce hazards through design.

The PMO shall be Accountable for Owner-side HSSE governance and assurance. This includes verifying that each Contractor has appropriate HSSE plans, competent HSSE personnel, qualified supervisors, required training, reporting systems, access control arrangements, and mobilization readiness in place before commencing applicable work. PMO verification or acceptance does not relieve any Contractor of responsibility for HSSE within its own scope.

CTO5 WTE Project | Project Responsibility Matrix

The Owner retains high-level accountability for establishing Owner HSSE expectations, receiving HSSE performance information, and exercising reserved rights, including stop-work authority where an imminent danger, serious unsafe condition, material environmental risk, security risk, or major non-compliance is identified.

Table 3: RACI | HSSE

Activity	DC	CMAR	OMAR	PMO	Owner
Owner HSSE expectations and minimum Project HSSE requirements	C	C	C	R	A
Owner-side HSSE governance and assurance	C	C	C	A/R	I
Contractor HSSE management for own scope	A/R	A/R	A/R	C	I
PMO verification of Contractor HSSE readiness prior to mobilization or commencement of work	R	R	R	A	I
Site-wide construction HSSE coordination and site control	C	A/R	C	C	I
Operational HSSE coordination after Operational Acceptance	C	C	A/R	C	I
Safety-in-design and process safety engineering	A/R	C	C	C	I
Construction safety input and constructability safety coordination	C	A/R	C	C	I
Operability, maintainability, and operational safety input	C	C	A/R	C	I
Site security and access control during construction	C	A/R	C	C	I
Site security and access control after Operational Acceptance	C	C	A/R	C	I
Contractor HSSE performance reporting	A/R	A/R	A/R	C	I
Consolidated Project HSSE reporting	R	R	R	A	I
Cross-contractor HSSE issue escalation and resolution	R	R	R	A	I
Serious incident / fatality coordination	C	A/R*	A/R*	A	I
Stop-work authority for imminent danger, serious unsafe condition, material environmental risk, or material security risk	A/R	A/R	A/R	A/R	A

CTO5 WTE Project | Project Responsibility Matrix

* CMAR is A/R during construction. OMAR is A/R after Operational Acceptance or within areas formally under OMAR operational control.

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4. Project Controls

Project Controls responsibilities are divided between Contractor-specific controls obligations and integrated Project-level controls obligations.

Each Contractor is Accountable and Responsible for project controls within its own contracted scope. This includes developing and maintaining its own detailed working schedule, progress measurement basis, cost inputs, forecast inputs, change inputs, milestone support, invoice support, and supporting records required to substantiate progress, performance, and payment.

The PMO is Accountable for integrated Project-level controls, including the consolidated Project schedule, consolidated progress reporting, consolidated cost and forecast reporting, verification of progress claimed by Contractors, review of milestone achievement, and coordination of invoice review and approval workflows on behalf of the Owner. PMO verification does not relieve any Contractor of responsibility for the accuracy, completeness, and contractual compliance of its own submissions.

The PMO shall establish, maintain, and control the Project Work Breakdown Structure, Cost Breakdown Structure, control account structure, coding structure, and related mapping between schedule, estimate, cost, progress, change, risk, and invoice data. Each Contractor shall align its own schedule, estimate, cost reports, progress measurement, change inputs, risk inputs, and invoice support to the PMO-controlled structure. Contractors shall not create alternate coding structures for Project reporting without PMO approval.

The Owner retains funding authority and final decision authority for matters reserved to the Owner under the applicable contracts. Where invoice approval or milestone approval authority is delegated to the PMO, the PMO shall exercise that authority in accordance with the applicable contract, Owner delegation, approved procedures, and supporting verification records.

This section is limited to project controls functions. Detailed risk management, document control, quality management, procurement administration, commercial claims, and contract dispute processes are addressed in separate sections of this Responsibility Matrix or in the applicable Project procedures.

Table 4: RACI | Project Controls

Activity	DC	CMAR	OMAR	PMO	Owner
Project Controls Plan / procedure	C	C	C	A/R	I
Project Work Breakdown Structure, Cost Breakdown Structure, control account structure, and coding structure	C	C	C	A/R	I
Contractor alignment of schedule, estimate, cost, progress, change, risk, and invoice data to PMO-controlled structure	A/R	A/R	A/R	C	I
Contractor controls procedures and controls administration for own scope	A/R	A/R	A/R	C	I
Contractor detailed schedule and schedule update inputs for own scope	A/R	A/R	A/R	C	I

CTO5 WTE Project | Project Responsibility Matrix

Activity	DC	CMAR	OMAR	PMO	Owner
Integrated Project master schedule, schedule basis, calendar assumptions, and schedule integration	R	R	R	A	I
Critical path analysis, schedule variance analysis, and integrated recovery reporting	R	R	R	A	I
Recovery planning and corrective action for schedule variance within own scope	A/R	A/R	A/R	C	I
Contractor progress measurement basis, progress updates, and supporting records for own scope	A/R	A/R	A/R	C	I
Engineering progress measurement	A/R	C	C	C	I
Construction progress measurement	C	A/R	C	C	I
Operations readiness progress measurement	C	C	A/R	C	I
PMO verification of progress claimed by Contractors	R	R	R	A	I
Earned value / earned progress reporting	R	R	R	A	I
Contractor cost report, forecast to complete, and estimate at completion for own scope	A/R	A/R	A/R	C	I
Consolidated Project cost report, forecast, and estimate at completion	R	R	R	A	I
Contractor cash flow forecast inputs for own scope	A/R	A/R	A/R	C	I
Consolidated Project cash flow forecast	R	R	R	A	I
Change / trend cost and schedule inputs for own scope	A/R	A/R	A/R	C	I
Integrated change / trend log for controls reporting	R	R	R	A	I
Milestone achievement evidence and invoice / payment application support for own scope	A/R	A/R	A/R	C	I
PMO verification of milestone achievement and Contractor invoices	R	R	R	A/R	I
PMO approval or recommendation for payment, where delegated	C	C	C	A/R	I

CTO5 WTE Project | Project Responsibility Matrix

Activity	DC	CMAR	OMAR	PMO	Owner
Owner payment authorization, where not delegated	I	I	I	R	A
Project controls dashboard, monthly controls report, data quality checks, and closeout reporting	R	R	R	A/R	I

5. Risk Management

Risk Management responsibilities are divided between Contractor-specific risk management obligations and integrated Project-level risk management obligations.

Each Contractor is Accountable and Responsible for identifying, assessing, managing, mitigating, and reporting risks within its own contracted scope. This includes risks associated with its technical work, resources, subcontractors, suppliers, schedule, cost, interfaces, safety, quality, permits, assumptions, and deliverables.

The PMO is Accountable for maintaining the consolidated Project Risk Register on behalf of the Owner. To support consistent reporting and ease of consolidation, the PMO shall provide the standard Project risk register template, risk scoring methodology, risk categories, reporting format, and update cycle to be used by all Contractors. Each Contractor shall submit risk information using the PMO-provided template and shall be responsible for the accuracy, completeness, and timely update of its own risk inputs.

The consolidated Project Risk Register shall be used to support Project governance, decision-making, contingency management, schedule and cost forecasting, interface management, and escalation of material risks to the Owner. PMO consolidation of the Project Risk Register does not relieve any Contractor of responsibility for managing risks within its own scope.

The Owner retains decision authority for risk appetite, major risk acceptance, contingency drawdown, material commercial decisions, and other matters reserved to the Owner under the applicable contracts.

Risk Management shall be coordinated with Project Controls, HSSE, Quality, Information Management, Procurement, Permitting, Engineering, Construction, Commissioning, and Operations Readiness. However, this section is limited to allocation of responsibility for risk identification, assessment, reporting, escalation, and governance. Detailed risk procedures, scoring criteria, review cycles, and reporting formats shall be defined in the applicable Project risk management procedure.

AACE's Total Cost Management framework recognizes the relationship between planning, estimating, scheduling, cost control, forecasting, and risk as part of an integrated project controls and cost management system. PMI also identifies risk as a key project performance domain supporting governance and decision-making.

Table 5: RACI | Risk

Activity	DC	CMAR	OMAR	PMO	Owner
Project risk management procedure	C	C	C	A/R	I
Project risk register template, scoring methodology, and reporting format	C	C	C	A/R	I
Contractor risk identification and risk management for own scope	A/R	A/R	A/R	C	I

CTO5 WTE Project | Project Responsibility Matrix

Activity	DC	CMAR	OMAR	PMO	Owner
Contractor risk register inputs using PMO-provided template	A/R	A/R	A/R	C	I
Consolidated Project Risk Register	R	R	R	A	I
Risk review meetings and workshops	R	R	R	A/R	I
Technical and design risk inputs	A/R	C	C	C	I
Construction, procurement, logistics, and site execution risk inputs	C	A/R	C	C	I
Operations readiness, maintainability, staffing, commissioning, and operating risk inputs	C	C	A/R	C	I
Risk mitigation actions within own scope	A/R	A/R	A/R	C	I
Cross-contractor risk escalation and coordination	R	R	R	A	I
Material risk escalation to Owner	C	C	C	A/R	I
Contingency drawdown recommendation	C	C	C	A/R	C
Contingency drawdown approval, where required	I	I	I	R	A
Risk inputs to cost forecast, schedule forecast, and Project Controls reporting	A/R	A/R	A/R	C	I
Risk closeout and retirement for own scope	A/R	A/R	A/R	C	I
Project-level risk reporting	R	R	R	A/R	I

6. Estimating

Estimating responsibilities are divided between Contractor-specific estimating obligations and integrated Project-level estimating obligations.

Each Contractor is Accountable and Responsible for preparing, supporting, updating, and validating estimate inputs within its own contracted scope. This includes quantity take-offs, pricing basis, productivity assumptions, labor rates, equipment rates, subcontractor and supplier quotations, indirect cost inputs, escalation inputs, contingency inputs, exclusions, assumptions, qualifications, and supporting documentation.

The PMO is Accountable for the consolidated Project estimate on behalf of the Owner. The PMO shall provide the estimate structure, estimate classification expectations, Work Breakdown Structure, cost breakdown structure, control account structure, estimate coding structure, Basis of Estimate template, reporting format, and estimate update cycle to be used by all Contractors. This is required to support consistency, comparability, auditability, and ease of consolidation.

CTO5 WTE Project | Project Responsibility Matrix

Estimates shall be prepared using a maturity-based approach consistent with recognized industry practice, including AACE estimate classification principles. Estimate classification shall reflect the maturity of the available project definition, engineering deliverables, procurement information, construction planning, risk definition, and execution basis at the time the estimate is prepared. AACE estimate classification guidance is based primarily on the level of project definition and the maturity of estimate input information.

Each estimate shall be supported by a Basis of Estimate documenting the estimate purpose, scope basis, source data, methodology, assumptions, exclusions, qualifications, pricing basis, escalation basis, contingency basis, and key risks. AACE guidance identifies the Basis of Estimate as a key document for explaining estimate purpose, objectives, inputs, methodology, and estimate basis, and GAO cost-estimating guidance similarly emphasizes defining purpose, technical baseline, WBS, assumptions, data, methodology, and uncertainty.

The consolidated Project estimate shall be used to support Project governance, funding decisions, cost control, forecast development, GMP development, value engineering, contingency management, and Owner decision-making. PMO consolidation of the Project estimate does not relieve any Contractor of responsibility for the accuracy, completeness, reasonableness, and contractual compliance of its own estimate inputs.

The Owner retains decision authority for estimate approval, funding decisions, contingency ownership, budget authorization, GMP acceptance, and other matters reserved to the Owner under the applicable contracts.

Table 6: RACI | Estimating

Activity	DC	CMAR	OMAR	PMO	Owner
Estimate strategy, estimate classification expectations, and estimate update cycle	C	C	C	A/R	I
Estimate structure, WBS, cost breakdown structure, control account structure, coding, and Basis of Estimate template	C	C	C	A/R	I
Contractor alignment of estimating inputs to PMO-controlled estimate structure	A/R	A/R	A/R	C	I
Contractor estimate inputs for own scope	A/R	A/R	A/R	C	I
Engineering quantities, design maturity, and technical estimate inputs	A/R	C	C	C	I
Construction quantities, construction methodology, productivity, labor, equipment, and site execution estimate inputs	C	A/R	C	C	I

CTO5 WTE Project | Project Responsibility Matrix

Activity	DC	CMAR	OMAR	PMO	Owner
Operations readiness, staffing, training, maintenance, commissioning support, and O&M estimate inputs	C	C	A/R	C	I
Subcontractor, supplier, and vendor quotation inputs for own scope	A/R	A/R	A/R	C	I
Contractor Basis of Estimate for own scope	A/R	A/R	A/R	C	I
Consolidated Project Basis of Estimate	R	R	R	A/R	I
Consolidated Project estimate	R	R	R	A/R	I
Estimate assumptions, exclusions, qualifications, and allowances for own scope	A/R	A/R	A/R	C	I
Estimate reconciliation and variance analysis between estimate updates	R	R	R	A/R	I
Independent estimate review / estimate assurance coordination	C	C	C	A/R	I
Value engineering and cost reduction estimate inputs	A/R	A/R	A/R	C	I
Contingency and escalation inputs for own scope	A/R	A/R	A/R	C	I
Consolidated contingency and escalation basis	R	R	R	A/R	C
Estimate inputs to funding, GMP, or business case decisions	R	R	R	A/R	C
Owner approval of Project estimate, budget, GMP, or funding decision	I	I	I	R	A

7. Procurement

Procurement responsibilities are divided between end-to-end procurement package management, technical procurement support, operations and maintenance procurement input, and Owner-side procurement visibility and governance.

The CMAR is Accountable for end-to-end procurement package management for procurement assigned to the CMAR, including tagged equipment, bulk materials, capital spares, maintenance spares, commissioning spares, construction materials, and other procurement packages required for construction, commissioning, handover, and completion of the Facility.

CMAR accountability includes procurement planning, procurement package strategy, procurement schedule management, coordination of technical and operational inputs, RFQ and bid process management, commercial evaluation, purchase order placement, supplier management, vendor document management, vendor progress meetings, expediting, inspection and test coordination, FAT

CTO5 WTE Project | Project Responsibility Matrix

coordination, logistics, receiving, invoice verification support, supplier payment support, and procurement closeout.

The Design Contractor is Responsible for the technical procurement content within its scope. This includes datasheets, specifications, technical requisition content, technical bid evaluations, supplier technical clarifications, and technical review of supplier documents. The Design Contractor shall provide technical inputs in accordance with the procurement schedule and shall support CMAR-led supplier engagement, vendor document review, technical clarification, inspection, testing, and FAT activities as required.

The OMAR is Responsible for operations, maintenance, spares, and lifecycle input to procurement. This includes input to operating spares, maintenance spares, commissioning spares, maintainability requirements, accessibility, standardization, consumables, operating supplies, maintenance tooling, training requirements, and operational readiness considerations. OMAR input shall be provided in time to support procurement decisions, vendor selection, and operational readiness.

The PMO shall maintain consolidated Project-level procurement visibility on behalf of the Owner. The CMAR shall provide the procurement plan, procurement package list, procurement schedule, long-lead item status, vendor document status, expediting status, FAT status, logistics status, procurement risks, procurement issues, and procurement reporting in the format required by the PMO. PMO visibility does not relieve the CMAR of accountability for procurement package delivery or the Design Contractor and OMAR of responsibility for their required inputs.

The CMAR shall establish, maintain, and control the procurement vendor and bidder lists for CMAR-procured packages, subject to required technical input from the Design Contractor, operations and maintenance input from the OMAR, PMO governance review, and any Owner approvals required under the applicable contracts or Project procedures.

Where technical, operational, commercial, supplier, or schedule issues affect procurement delivery, the CMAR shall identify, manage, and escalate those issues in a timely manner. The CMAR shall not rely on unresolved technical or operational input issues as a basis for late procurement delivery unless the issue has been formally identified, documented, escalated, and managed in accordance with the applicable Project procedures and contract requirements.

The Owner retains approval authority for procurement decisions reserved to the Owner under the applicable contracts, including major procurement commitments, delegated approval thresholds, sole-source approvals where applicable, and other matters requiring formal Owner authorization.

Table 7: RACI | Procurement

Activity	DC	CMAR	OMAR	PMO	Owner
Project Procurement Plan	C	A/R	C	C	I
Procurement package list, procurement strategy, and procurement schedule	C	A/R	C	C	I
Procurement vendor / bidder list for CMAR-procured packages	C	A/R	C	C	I
Technical input to vendor qualification and bidder list	A/R	C	C	C	I
Operations, maintenance, and lifecycle input to vendor qualification	C	C	A/R	C	I

CTO5 WTE Project | Project Responsibility Matrix

Activity	DC	CMAR	OMAR	PMO	Owner
Supplier prequalification and commercial due diligence	C	A/R	C	C	I
Owner approval of sole-source, restricted, or reserved vendor decisions	C	R	C	C	A
End-to-end procurement package management for CMAR-assigned procurement	C	A/R	C	C	I
Procurement package progress meetings and supplier coordination	C	A/R	C	I	I
Long-lead item identification, strategy, and status reporting	C	A/R	C	C	I
Technical specifications, datasheets, and technical requisition content	A/R	C	C	C	I
Timely coordination and incorporation of technical procurement inputs	R	A/R	C	C	I
Commercial requisitions, RFQs, bid process, and purchase order execution	C	A/R	I	C	I
Tagged equipment procurement	C	A/R	C	C	I
Bulk materials procurement	C	A/R	I	C	I
Capital spares, maintenance spares, and commissioning spares procurement	C	A/R	C	C	I
Operations, maintenance, spares, and lifecycle procurement input	C	C	A/R	C	I
Technical bid evaluation content and technical clarifications	A/R	R	C	C	I
CMAR management of technical bid evaluation process within procurement package schedule	R	A/R	C	C	I
Commercial bid evaluation and supplier commercial negotiation	C	A/R	I	C	I
Supplier technical document review and technical disposition	A/R	R	C	C	I
Vendor document register, review cycle management, and overdue vendor document expediting	R	A/R	C	C	I
Supplier commercial document review and purchase order administration	I	A/R	I	C	I

CTO5 WTE Project | Project Responsibility Matrix

Activity	DC	CMAR	OMAR	PMO	Owner
Inspection, expediting, logistics, freight, and delivery coordination	C	A/R	C	C	I
Factory Acceptance Tests and supplier testing coordination	R	A/R	C	I	I
Receiving inspection, material control, and preservation at Site	C	A/R	C	C	I
Supplier invoice verification and payment support	I	A/R	I	C	I
Procurement risks, constraints, and critical procurement issues	R	A/R	R	C	I
Project-level procurement issue escalation and coordination	C	R	C	A	I
Procurement closeout and supplier final account support	C	A/R	C	C	I
Owner approval of procurement decisions reserved to Owner	I	R	I	C	A

8. Subcontractor Planning and Subcontractor Management

Subcontracting responsibilities are divided between Contractor-specific subcontracting obligations and Project-level subcontracting visibility and governance.

Each Contractor is Accountable and Responsible for preparing and maintaining a Subcontracting Plan for its own contracted scope. The Subcontracting Plan shall identify anticipated subcontracted work, specialist services, subcontract packages, key subcontractors, subcontracting schedule requirements, critical subcontract interfaces, subcontractor qualification requirements, and subcontracting risks.

The Design Contractor, CMAR, and OMAR shall each be responsible for the selection, engagement, management, performance, HSSE compliance, quality compliance, schedule performance, commercial administration, and closeout of subcontractors within their own contracted scope.

The PMO shall maintain consolidated Project-level visibility of subcontracting on behalf of the Owner. To support this, each Contractor shall provide its Subcontracting Plan, subcontract package list, subcontracting schedule inputs, key subcontractor status, subcontractor interface risks, and subcontracting issue updates in the format required by the PMO.

PMO review of Contractor Subcontracting Plans is intended to support Project-level coordination, interface management, risk visibility, and Owner governance. PMO review does not relieve any Contractor of responsibility for subcontracting within its own scope.

Detailed responsibility for specific subcontracted work, specialist services, construction packages, professional services, operating services, chemical supply agreements, utility agreements, and other third-party agreements shall be allocated in the applicable technical, construction, commissioning, operations, permitting, commercial, or Owner-governance sections of this Responsibility Matrix.

The Owner retains approval authority for subcontracting decisions reserved to the Owner under the applicable contracts, including approval thresholds, restricted subcontractors, key subcontractor

CTO5 WTE Project | Project Responsibility Matrix

approvals, sole-source approvals where applicable, and other matters requiring formal Owner authorization.

Table 8: RACI | Subcontracting Plan & Subcontractor Management

Activity	DC	CMAR	OMAR	PMO	Owner
Subcontractor qualification approach for own scope	A/R	A/R	A/R	C	I
Subcontractor selection, engagement, and administration for own scope	A/R	A/R	A/R	I	—
Subcontractor HSSE, quality, schedule, commercial, and performance management for own scope	A/R	A/R	A/R	C	I
Subcontractor interface risks and coordination issues for own scope	A/R	A/R	A/R	C	I
Project-level subcontracting issue escalation and coordination	R	R	R	A	I
Subcontractor closeout for own scope	A/R	A/R	A/R	C	I
Owner approval of subcontracting decisions reserved to Owner	I	R	I	C	A
Subcontractor qualification approach for own scope	A/R	A/R	A/R	C	I
Subcontractor selection, engagement, and administration for own scope	A/R	A/R	A/R	I	—
Subcontractor HSSE, quality, schedule, commercial, and performance management for own scope	A/R	A/R	A/R	C	I
Subcontractor interface risks and coordination issues for own scope	A/R	A/R	A/R	C	I

9. Public Communications and Community Engagement

Public communications and community engagement responsibilities are divided between Owner-side public communication obligations, PMO-led communications coordination, and Contractor technical support.

The PMO shall coordinate public communications, public engagement, community outreach, stakeholder messaging, public meeting support, communications materials, and responses to public-facing inquiries on behalf of the Owner. The PMO may use specialist communications or public engagement consultants to support this function.

The Owner retains approval authority for public-facing messaging, media statements, elected official briefings, community commitments, and other communications that represent the Municipality of Anchorage.

The Owner also retains approval authority for any Project-related information, media, images, videos, graphics, press releases, social media content, public presentations, website content, or other materials

CTO5 WTE Project | Project Responsibility Matrix

intended for release into the public domain. No Contractor shall publish, issue, post, present, distribute, or otherwise release Project-related public communications or media without prior written approval from the Owner, coordinated through the PMO.

The Design Contractor, CMAR, and OMAR shall provide technical, construction, operational, schedule, risk, HSSE, permitting, and other Project information required to support accurate public communications and community engagement. Contractors shall not issue public statements, media responses, public presentations, public commitments, social media posts, photographs, videos, or other public-domain materials relating to the Project unless authorized by the Owner through the PMO.

Public communications shall be coordinated with regulatory engagement, permitting, stakeholder management, HSSE, construction planning, traffic/logistics planning, and operations readiness as applicable.

Table 9: RACI | Public Communications & Community Engagement

Activity	DC	CMAR	OMAR	PMO	Owner
Public communications and community engagement strategy	C	C	C	A/R	A
Public-facing communications materials	C	C	C	A/R	A
Public meeting, open house, or community engagement support	C	C	C	A/R	I
Technical, construction, operational, or schedule input to public communications	A/R	A/R	A/R	C	I
Media inquiries and public-facing responses	I	I	I	R	A
Elected official, community council, or public stakeholder briefing support	C	C	C	A/R	A
Community issue tracking and response coordination	R	R	R	A	I
Approval of public commitments or Owner-facing external statements	I	I	I	R	A
Approval of Contractor-issued Project media, photos, videos, social media, presentations, website content, or other public-domain materials	R	R	R	R	A

10. Document Control

Document Control responsibilities are divided between Contractor-controlled document management, PMO-managed review workflows, Owner-side review and records requirements, and operations-led final document handover and ongoing operations document management.

Each Contractor is Accountable and Responsible for managing document control within its own contracted scope. Contractors may use their own document management systems, engineering tools, collaboration

CTO5 WTE Project | Project Responsibility Matrix

platforms, model environments, procurement systems, vendor document systems, and internal review workflows for documents and information that are not required to be formally submitted to the PMO or Owner.

Where a document, deliverable, vendor document, report, submittal, model extract, calculation, procedure, or other controlled information requires PMO review, Owner review, Owner acceptance, or formal Project record, the Contractor shall transmit the document through the PMO-designated Aconex platform. The transmittal shall identify the document submitted, revision, purpose of issue, required PMO / Owner review discipline or reviewer group, requested response date, and any supporting information required for review.

The PMO shall manage the PMO and Owner-side document control workflow for documents formally submitted through Aconex. This includes receipt, registration, routing to PMO and Owner reviewers, tracking of PMO and Owner comments, consolidation where required, and return of comments or review status through Aconex. PMO document control does not include management of Contractor internal reviews, Contractor-to-Contractor distribution, Contractor subcontractor reviews, vendor internal workflows, or distribution to external stakeholders who are not part of the PMO or Owner teams unless expressly agreed.

Each Contractor remains Accountable and Responsible for managing its own internal document reviews, interdisciplinary checks, technical approvals, subcontractor reviews, vendor document workflows, Contractor-to-Contractor coordination, and distribution to stakeholders within its own scope. Contractors are responsible for ensuring that documents submitted to the PMO are complete, internally checked, approved, correctly coded, and ready for PMO / Owner review.

The Design Contractor and CMAR shall provide required design, engineering, vendor, construction, as-built, test, inspection, quality, commissioning-support, and handover documentation to the OMAR in accordance with the applicable handover requirements and document handover plan. The OMAR shall lead final operations document handover, acceptance, organization, and management of the operating document set required for operations readiness, Operational Acceptance, and ongoing Facility operations.

The PMO shall monitor that appropriate document control plans, document handover plans, and final document requirements are in place and being followed by the Contractors. PMO monitoring does not make the PMO responsible for managing Contractor document systems, Contractor internal document workflows, final operations document management, or ongoing document control during Facility operations.

After Operational Acceptance, the OMAR shall be Accountable and Responsible for ongoing operations document management, including operating procedures, maintenance documentation, asset information, CMMS-related documentation, operational records, update control, and controlled distribution within the operating organization. The PMO shall not be responsible for ongoing operations document control unless expressly assigned by the Owner.

The Owner retains authority for Owner records requirements, confidentiality requirements, public disclosure requirements, and final records retention requirements.

Table 10: RACI | Document Control

Activity	DC	CMAR	OMAR	PMO	Owner
Project document control requirements for PMO / Owner review workflows	C	C	C	A/R	I

CTO5 WTE Project | Project Responsibility Matrix

Activity	DC	CMAR	OMAR	PMO	Owner
PMO-designated Aconex platform requirements for PMO / Owner review workflows	I	I	I	A/R	I
Contractor Document Control Plan for own scope	A/R	A/R	A/R	C	I
PMO review of Contractor Document Control Plans for Project-level alignment	R	R	R	A	I
Contractor document management systems, tools, and internal workflows for own scope	A/R	A/R	A/R	I	—
Contractor internal reviews, checks, approvals, and interdisciplinary coordination for own scope	A/R	A/R	A/R	I	—
Contractor-to-Contractor document distribution and coordination outside PMO / Owner review workflow	A/R	A/R	A/R	I	—
Formal submission of documents requiring PMO / Owner review through Aconex	A/R	A/R	A/R	C	I
Accuracy, completeness, coding, revision status, and internal approval of documents submitted for PMO / Owner review	A/R	A/R	A/R	C	I
Identification of required PMO / Owner reviewers, review purpose, and requested response date on formal submissions	A/R	A/R	A/R	C	I
PMO / Owner document receipt, registration, routing, review tracking, and return of comments in Aconex	I	I	I	A/R	C
PMO and Owner review comments on formally submitted documents	C	C	C	A/R	C
Contractor response to PMO / Owner comments and resubmission where required	A/R	A/R	A/R	C	I
Contractor management of subcontractor and vendor document workflows within own scope	A/R	A/R	A/R	I	—

CTO5 WTE Project | Project Responsibility Matrix

Activity	DC	CMAR	OMAR	PMO	Owner
Vendor document submission to PMO / Owner review workflow where required	C	A/R	C	C	I
Master Document Register / deliverables register inputs for own scope	A/R	A/R	A/R	C	I
Consolidated Project document / deliverables visibility for PMO and Owner review workflows	R	R	R	A	I
Controlled correspondence submitted to PMO / Owner	A/R	A/R	A/R	C	I
Document handover plan for transition to operations	R	R	A/R	C	I
Design, engineering, vendor, construction, as-built, and handover documentation required by OMAR	A/R	A/R	C	I	I
OMAR-led final operations document handover, acceptance, and organization	R	R	A/R	I	I
PMO monitoring that document handover plans and final document requirements are in place and being followed	R	R	R	A	I
Ongoing operations document management after Operational Acceptance	I	I	A/R	I	I
Owner records, confidentiality, public disclosure, and records retention requirements	I	I	I	R	A

11. Permitting, Regulatory Approvals, and Owner Agreements

Permitting responsibilities are divided between Owner-held permits and approvals, Contractor-specific permit inputs, construction-phase permits, operational compliance inputs, Owner-reserved third-party agreements, and integrated Project-level permitting coordination.

The PMO is Accountable for integrated Project-level permitting coordination on behalf of the Owner. This includes maintaining the Project permit register, coordinating the permitting strategy, tracking permit requirements and submission dates, coordinating regulatory engagement, managing permitting issue escalation, coordinating Owner decisions, and reporting permitting status to the Owner. Major project permitting best practice emphasizes early regulatory coordination, permit tracking, clear milestones, and escalation mechanisms to reduce delays and maintain accountability.

CTO5 WTE Project | Project Responsibility Matrix

The Owner retains Accountable authority for permits, regulatory authorizations, applications, agreements, and formal submissions that must be signed, held, approved, or accepted by the Municipality of Anchorage. This may include environmental permits, land use approvals, utility agreements, power interconnection agreements, permanent service agreements, waste supply or municipal agreements, public commitments, and other approvals or agreements reserved to the Owner under applicable law, regulation, or contract. Construction permitting guidance commonly distinguishes between Owner-held permits / approvals and Contractor-obtained construction permits, with the permittee responsible for compliance with permit conditions.

The Design Contractor is Accountable and Responsible for technical inputs required to support permit applications, regulatory approvals, and Owner-reserved agreements within its scope. This includes engineering calculations, drawings, design basis information, emissions basis, process information, environmental technical data, technology descriptions, design narratives, responses to technical regulator comments, and other technical information required to support permitting.

The CMAR is Accountable and Responsible for construction-phase permits and construction execution inputs within its scope. This includes construction permits, trade permits where assigned, temporary works permits, road use or haul route inputs, site logistics inputs, construction environmental controls, construction means and methods information, and construction-phase compliance with permits applicable to its work.

The OMAR is Accountable and Responsible for operational compliance inputs and operations-readiness inputs within its scope. This includes operating philosophy, operating procedures, staffing and competency input, maintenance and inspection input, operational monitoring input, emissions monitoring support, chemical / reagent use input, and long-term operational compliance planning.

Owner-reserved agreements include agreements that must legally, commercially, or practically be entered into by the Owner rather than by a Contractor. These may include power interconnection agreements, power purchase or energy sales agreements, permanent electric service agreements, water and wastewater service agreements, natural gas service agreements, telecommunications or fiber service agreements, utility relocation or connection agreements, easements, access agreements, waste supply agreements, ash / residue disposal agreements where retained by the Owner, and other third-party agreements required for the development or operation of the Facility. Waste-to-energy project development guidance identifies items such as site control, zoning / land use conformity, environmental permits, waste supply commitments, and ash disposal capacity as typical project prerequisites.

Each Contractor shall provide timely, accurate, and complete permitting inputs in accordance with the permitting schedule and PMO requirements. PMO coordination does not relieve any Contractor of responsibility for the accuracy, completeness, and timeliness of permitting inputs within its own scope.

Where a permitting issue, regulatory approval, or Owner-reserved agreement affects scope, schedule, cost, regulatory compliance, public commitments, or Owner-held approvals, the responsible party shall promptly notify the PMO. The PMO shall coordinate resolution with the affected parties and, where required, obtain an Owner decision.

Table 11: RACI | Permitting, Regulatory Approvals, and Owner Agreements

Activity	DC	CMAR	OMAR	PMO	Owner
Project permitting strategy and permitting coordination plan	C	C	C	A/R	C

CTO5 WTE Project | Project Responsibility Matrix

Activity	DC	CMAR	OMAR	PMO	Owner
Project permit register and permitting status reporting	R	R	R	A/R	I
Regulatory agency engagement coordination	C	C	C	A/R	C
Owner-held permits, authorizations, and formal submissions	R	C	C	R	A
Technical permit application inputs, design basis, drawings, calculations, and technical narratives	A/R	C	C	C	I
Environmental technical inputs, emissions basis, process data, and regulatory technical responses	A/R	C	C	C	I
Construction-phase permits and construction execution inputs	C	A/R	C	C	I
Construction environmental controls and permit compliance for construction activities	C	A/R	C	C	I
Operational permit compliance inputs and operations-readiness compliance planning	C	C	A/R	C	I
Operating procedures, monitoring, staffing, maintenance, and chemical / reagent inputs for operational permits	C	C	A/R	C	I
Utility agreements, permanent service agreements, power interconnection agreements, and other Owner-reserved third-party agreements	C	C	C	R	A
Waste supply, ash / residue, municipal, or other Owner-reserved operating agreements	C	C	C	R	A
Contractor technical, construction, commissioning, or operational inputs to Owner-reserved agreements	A/R	A/R	A/R	C	I
Public participation / community engagement support for permitting	C	C	C	A/R	A
Responses to regulator comments within own scope	A/R	A/R	A/R	C	I
Permit condition tracking and compliance planning for own scope	A/R	A/R	A/R	C	I

CTO5 WTE Project | Project Responsibility Matrix

Activity	DC	CMAR	OMAR	PMO	Owner
Integrated permit condition tracking and escalation	R	R	R	A	I
Owner approval of major permitting positions, commitments, or regulatory submissions	C	C	C	R	A

12. Interface Management

Interface Management responsibilities are divided between Contractor-specific interface management, cross-contractor interface coordination, PMO interface visibility and escalation, and Owner decision support.

Each Contractor is Accountable and Responsible for identifying, managing, tracking, coordinating, and closing interfaces that are important to its own contracted scope. This includes interfaces with other Contractors, subcontractors, suppliers, vendors, regulators, utilities, site stakeholders, design deliverables, procurement packages, construction activities, commissioning activities, operations readiness, handover requirements, and Owner-reserved agreements where applicable.

Each Contractor shall maintain an interface register or interface log for its own scope. The register shall identify interface description, affected parties, required inputs, required outputs, due dates, dependencies, risks, status, required decisions, and closure evidence. Interface management should be treated as an active project control because unresolved interfaces are a common source of rework, delays, scope gaps, and disputes on multi-contractor projects.

For material, cross-contractor, high-risk, schedule-critical, safety-critical, regulatory, commissioning, operational readiness, or Owner-reserved interfaces, the relevant Contractors shall establish written Interface Agreements or Interface Control Agreements. Each Interface Agreement shall identify the affected parties, interface boundary, required inputs and outputs, required dates, assumptions, dependencies, acceptance criteria, responsible parties, closure evidence, and escalation path. Interface Agreements shall be reviewed and accepted by the affected parties and tracked in the relevant Contractor interface register. PMO shall receive visibility of material Interface Agreements and may coordinate escalation where agreement cannot be reached.

The PMO shall establish the minimum Project interface reporting requirements and shall receive regular interface register updates from each Contractor. The PMO shall monitor Project-level interface status, identify cross-contractor or unresolved interface risks, facilitate escalation where required, and report material interface issues to the Owner.

The PMO is not responsible for managing Contractor internal interfaces, Contractor-to-Contractor day-to-day coordination, subcontractor interfaces, vendor interfaces, or technical interface closure within a Contractor's scope. Those responsibilities remain with the relevant Contractor.

Where an interface affects scope, schedule, cost, quality, HSE, permitting, procurement, commissioning, operations readiness, public commitments, or an Owner-reserved decision, the responsible Contractor shall promptly escalate the issue to the PMO. The PMO shall coordinate resolution with the affected parties and, where required, obtain an Owner decision.

External interfaces with utilities, regulators, public stakeholders, site neighbours, waste suppliers, ash / residue outlets, and Owner-reserved third-party agreements shall be coordinated through the PMO

CTO5 WTE Project | Project Responsibility Matrix

where they require Owner-side engagement or decision-making. Each Contractor shall provide timely technical, construction, commissioning, operational, or commercial inputs required to support those interfaces.

Table 12: RACI | Interface Management

Activity	DC	CMAR	OMAR	PMO	Owner
Interface Agreements for material or high-risk interfaces within own scope	A/R	A/R	A/R	C	
Review and acceptance of Interface Agreements affecting own scope	A/R	A/R	A/R	C	
PMO visibility of material Interface Agreements and unresolved agreement issues	R	R	R	A	
Owner decision where Interface Agreement requires Owner-reserved decision or commitment	C	C	C	R	

13. Design and Engineering

Design and Engineering responsibilities are divided between Engineer of Record responsibility, technical design management, engineering standards and specifications, technical change and deviation control, engineering support to permitting, procurement, construction, commissioning, and operations readiness, and Owner-side technical assurance.

The Design Contractor shall be Accountable and Responsible for engineering and technical integration for the Project and shall act as the Engineer of Record for the Project where required by applicable law, permit, code, contract, or professional practice. This includes design management, interdisciplinary coordination, design basis development, technical calculations, design deliverables, specifications, engineering standards, design verification, code compliance, design risk management, safety-in-design, and engineering support required for permitting, procurement, construction, commissioning, and operations readiness.

The Design Contractor shall identify and maintain appropriately licensed Alaska registrants in responsible charge for each applicable field of practice and shall ensure that final drawings, specifications, calculations, reports, and similar engineering documents are sealed, signed, dated, and issued in accordance with Alaska law and applicable professional registration requirements. Alaska Statute AS 08.48.221 requires final drawings, specifications, surveys, plats, reports, or similar documents to be stamped with the registrant's seal and signed when issued, and states that sealing and signing certifies the document was prepared by or under the registrant's responsible charge and is within the registrant's field of practice.

Where documents contain work from multiple fields of practice, the Design Contractor shall ensure that each applicable field is sealed and signed by the appropriate registrant and that the extent of each registrant's responsibility is identified on the face of the document. Alaska requirements state that final documents containing work from multiple fields of practice shall be sealed and signed by a registrant in each field covered by the document and that each registrant shall certify the extent of their responsibility.

The Design Contractor shall be responsible for establishing, maintaining, and controlling the technical design basis, engineering standards, specifications, design criteria, calculations, design assumptions,

CTO5 WTE Project | Project Responsibility Matrix

design deliverables, and technical responses within its scope. Technical questions, RFIs, design clarifications, technical queries, and requests for technical interpretation shall be directed to the Design Contractor where they relate to design intent, engineering interpretation, technical requirements, or Engineer of Record responsibility. The PMO, Owner, CMAR, and OMAR are not the Engineer of Record and shall not be responsible for sealing engineering documents, making Engineer of Record determinations, or providing technical design certifications.

The Design Contractor and its licensed registrants shall only seal documents for which they are qualified and for which they have the required professional responsibility, knowledge, and control. Alaska Administrative Code 12 AAC 36.185 states that a registrant may seal only final documents for which the registrant is qualified and claims responsibility, may not knowingly allow unauthorized use of the seal, and may not sign or seal work for which the registrant does not have direct professional knowledge and direct supervisory control.

The CMAR shall provide timely construction, constructability, procurement, logistics, temporary works, means and methods, fabrication, installation, and construction sequencing input required to support design development, engineering decisions, and design deliverables. CMAR input does not relieve the Design Contractor of responsibility for engineering design or technical integration.

The OMAR shall provide timely operations, operability, maintainability, commissioning, start-up, staffing, maintenance, reliability, asset information, and lifecycle input required to support design development, engineering decisions, and design deliverables. OMAR input does not relieve the Design Contractor of responsibility for engineering design or technical integration.

Technical changes, design changes, deviations from the Basis of Design, deviations from approved Project standards or specifications, substitutions, waivers, and technical concessions shall be controlled through the applicable Project change, deviation, or technical query process. The Design Contractor shall provide technical evaluation and recommendation for proposed deviations within its scope. The PMO shall coordinate governance review and Owner decision support where the deviation affects scope, cost, schedule, permit commitments, performance guarantees, lifecycle cost, HSSE, regulatory compliance, or other matters reserved to the Owner.

The PMO shall establish and manage the Owner-side technical assurance framework for the Project. This may include technical assurance planning, independent reviews, assurance workshops, design review coordination, review of evidence that required engineering checks have been completed, and escalation of material technical risks to the Owner. The Design Contractor, CMAR, and OMAR shall participate in the PMO technical assurance process and provide required information, evidence, responses, and closeout actions in accordance with the PMO assurance plan. PMO technical assurance does not relieve the Design Contractor of Engineer of Record responsibility or any Contractor of responsibility for its own scope.

PMO review, Owner review, technical assurance, acceptance, or receipt of engineering documents does not relieve the Design Contractor or its licensed registrants of responsibility for the engineering documents issued under their seal. The Owner retains approval authority for major technical decisions reserved to the Owner, including material changes to the Basis of Design, major deviations from Project requirements, performance commitments, regulatory commitments, funding impacts, lifecycle impacts, or other matters requiring formal Owner authorization.

CTO5 WTE Project | Project Responsibility Matrix

Table 13: RASI | Design & Engineering

Activity	DC	CMAR	OMAR	PMO	Owner
Engineering management plan and design execution approach	A/R	C	C	C	I
Engineer of Record responsibility for Project engineering and design	A/R	I	I	I	I
Identification and maintenance of Alaska-licensed registrants in responsible charge for applicable fields of practice	A/R	I	I	I	I
Sealing, signing, dating, and issuing final engineering documents in accordance with Alaska requirements	A/R	I	I	I	I
Discipline-specific seals and certification of extent of responsibility for multi-discipline documents	A/R	I	I	I	I
Engineer of Record technical determinations, certifications, and professional judgments	A/R	I	I	I	I
PMO / Owner review without assumption of Engineer of Record responsibility	C	C	C	A/R	I
Technical design basis, design criteria, engineering standards, and specifications	A/R	C	C	C	I
Interdisciplinary engineering coordination and technical integration	A/R	C	C	C	I
Design deliverables and engineering calculations	A/R	C	C	C	I
Code compliance and engineering compliance with applicable technical requirements	A/R	C	C	C	I
Safety-in-design and process safety engineering	A/R	C	C	C	I
Design-related specialist engineering subconsultants and professional services within Design Contractor scope	A/R	I	I	C	I
HAZID, HAZOP, LOPA, SIL, process safety, or specialist technical facilitation where assigned to engineering	A/R	C	C	C	I

CTO5 WTE Project | Project Responsibility Matrix

Activity	DC	CMAR	OMAR	PMO	Owner
Constructability, construction sequencing, logistics, fabrication, and installation input to design	C	A/R	C	C	I
Operability, maintainability, commissioning, reliability, and lifecycle input to design	C	C	A/R	C	I
Engineering support to permitting and regulatory technical submissions	A/R	C	C	C	I
Engineering support to procurement technical content and supplier technical review	A/R	R	C	C	I
Engineering support to construction, RFIs, field technical queries, and design clarifications	A/R	R	C	C	I
Technical questions, RFIs, or design clarifications requiring Engineer of Record response	A/R	R	C	I	I
Technical change evaluation and design impact assessment	A/R	C	C	C	I
Deviation requests from Basis of Design, standards, specifications, or technical requirements	A/R	R	C	C	I
PMO governance review of material technical changes or deviations	C	C	C	A/R	I
Owner approval of major technical decisions or deviations reserved to Owner	C	C	C	R	A
PMO technical assurance framework and assurance plan	C	C	C	A/R	I
Contractor participation in PMO technical assurance reviews	A/R	A/R	A/R	C	I
Technical assurance actions and closeout within own scope	A/R	A/R	A/R	C	I
Design review coordination and resolution of review comments	A/R	C	C	C	I
Technical risk identification and escalation within engineering scope	A/R	C	C	C	I
Engineering inputs to Project Controls, Risk, Interface, Permitting,	A/R	C	C	C	I

CTO5 WTE Project | Project Responsibility Matrix

Activity	DC	CMAR	OMAR	PMO	Owner
Procurement, Construction, and Operations Readiness					
Engineering closeout and design record support for handover to Operations	A/R	C	C	C	I

14. 3D Model Management & Model Reviews

3D model responsibilities are divided between single-point model ownership, engineering model coordination, model governance, Contractor model review procedures, and Owner-side technical assurance.

The Design Contractor shall be the single accountable entity for the Project 3D engineering model and shall act as the model integrator and coordinator for all engineering disciplines. The Design Contractor shall establish, manage, and control the federated engineering model, including model structure, model hierarchy, reference coordinates, discipline integration, version control, model review process, and model release status.

The Design Contractor shall establish and maintain the Project coordinate system, model origin, orientation, elevation datum, and reference grid. All engineering disciplines, model contributors, and model-based deliverables shall align to the Design Contractor's established coordinates. No Contractor shall independently alter the Project coordinate system without formal approval through the Design Contractor.

The Design Contractor shall develop and maintain the 3D model management procedure and model review procedure. The procedures shall define the model governance approach, model development process, model review milestones, review participants, review inputs, comment management process, clash and spatial coordination process, model maturity expectations, model issue closeout process, and model release requirements.

The CMAR and OMAR shall participate in model reviews in accordance with the Design Contractor's approved procedures and shall provide timely constructability, installation, logistics, operability, maintainability, commissioning, access, safety, and lifecycle input as applicable.

The PMO shall not manage or own the engineering model. The PMO shall review the Design Contractor's 3D model management and model review procedures for alignment with Project requirements and shall provide technical assurance oversight that the model review process is planned, implemented, documented, and closed out in accordance with the approved procedures and PMO technical assurance plan. PMO review or assurance does not relieve the Design Contractor of responsibility for model accuracy, model integration, or Engineer of Record obligations.

Model-based comments, issues, and actions that result in technical changes, deviations, scope impacts, or interface changes shall be managed through the applicable engineering change, deviation, interface management, or document control processes.

Table 14: RACI 3D Model Management and Model Reviews

Activity	DC	CMAR	OMAR	PMO	Owner
Single-point ownership of the Project 3D engineering model	A/R	I	I	I	I

CTO5 WTE Project | Project Responsibility Matrix

Activity	DC	CMAR	OMAR	PMO	Owner
Establishment and control of Project coordinate system and model reference framework	A/R	C	C	I	I
Federated multi-discipline model integration and coordination	A/R	C	C	I	I
3D model management procedure and model review procedure	A/R	C	C	C	I
Contractor participation in model reviews in accordance with approved procedures	A/R	A/R	A/R	C	I
Constructability, installation, logistics, and temporary works input to model reviews	C	A/R	C	C	I
Operability, maintainability, commissioning, access, safety, and lifecycle input to model reviews	C	C	A/R	C	I
Model review comment tracking, response, and closeout	A/R	R	R	C	I
Resolution of model clashes, spatial conflicts, and model interface issues	A/R	R	C	C	I
Model readiness to support procurement, construction, commissioning, and handover deliverables	A/R	C	C	C	I
PMO review of model management and model review procedures	C	C	C	A/R	I
PMO technical assurance oversight of model review process implementation and closeout	I	I	I	A/R	I
Owner visibility of material model review issues or unresolved model risks	I	I	I	R	I

15. Construction

Construction responsibilities are divided between CMAR-led construction execution, Design Contractor field engineering support, OMAR operability and turnover-readiness input, and PMO Owner-side assurance and escalation.

The CMAR is Accountable and Responsible for construction execution from construction mobilization through Mechanical Completion. This includes construction planning, construction execution, site management, field coordination, construction sequencing, temporary works, temporary power, temporary utilities, temporary facilities, site logistics, laydown, access, construction means and methods,

CTO5 WTE Project | Project Responsibility Matrix

construction subcontractor management, site materials management, construction productivity, construction progress reporting, construction issue management, construction punch-list management, and Mechanical Completion readiness.

The CMAR shall prepare and maintain the Construction Execution Plan and associated construction procedures required for the Work. These shall address site organization, field execution strategy, construction sequencing, site logistics, temporary facilities, temporary power, temporary utilities, laydown and access, traffic flow, warehousing, material control, equipment control, construction work packaging, workface planning, subcontractor coordination, field reporting, temporary works, heavy lifts, cold-weather or seasonal execution requirements, construction quality execution, construction HSSE implementation, and turnover planning.

The CMAR shall be Accountable and Responsible for materials management at Site, including receiving, unloading, warehousing, laydown, inventory control, preservation, storage conditions, weather protection, vendor preservation requirements, material traceability, issue to workface, field material control, and preservation records. This is consistent with construction best practice that treats materials management as an integrated process to ensure materials and equipment are available when needed, and with site logistics best practice, which emphasizes site layout, material and equipment management, transportation, access, and communication as key construction execution controls.

The CMAR shall be Accountable and Responsible for construction site logistics and temporary site infrastructure. This includes temporary construction power, temporary lighting, temporary heat, temporary water, temporary drainage, temporary communications, temporary offices, welfare facilities, workshops, warehouses, laydown areas, access roads, traffic management, parking, fencing, signage, site security coordination, and other temporary facilities required to safely and efficiently execute the Work. Effective construction logistics coordinate what happens on site, when, by whom, and with what resources, and are a key factor in delivering projects safely, efficiently, and on schedule.

The Design Contractor shall provide field engineering support required to enable construction execution. This includes timely responses to RFIs, technical queries, design clarifications, engineering field support, review of technical issues affecting design intent, assessment of field changes, support for non-conformance disposition where engineering input is required, and engineering support for Mechanical Completion and handover documentation. The Design Contractor remains responsible for engineering and Engineer of Record obligations; the PMO is not responsible for answering technical engineering questions.

The OMAR shall provide construction-phase input required to support operability, maintainability, commissioning readiness, access, safety, training, asset information, spares, operating procedures, maintenance planning, and transition to operations. OMAR input shall be provided early enough to be incorporated into construction planning, installation sequencing, turnover planning, and Mechanical Completion readiness.

The PMO shall provide Owner-side construction assurance, coordination oversight, progress visibility, escalation support, and decision support. PMO assurance may include review of construction plans and procedures, review of evidence that construction execution processes are being followed, monitoring of construction progress and material risks, participation in selected reviews or inspections, and escalation of material construction issues to the Owner. PMO assurance does not relieve the CMAR of responsibility for construction execution, site control, site logistics, temporary facilities, construction subcontractor management, site materials management, or Mechanical Completion.

CTO5 WTE Project | Project Responsibility Matrix

Construction turnover and Mechanical Completion shall be planned early and managed as a controlled transition from area-based construction to system-based completion, testing, pre-commissioning, commissioning readiness, and operations readiness. Construction turnover best practice emphasizes that turnover planning should begin early, involve a multi-discipline team, link to key milestones, manage punch lists, and transition from area-based construction to system-based completion and commissioning readiness.

The Owner retains approval authority for construction decisions reserved to the Owner under the applicable contracts, including material scope changes, budget impacts, acceptance decisions, major schedule recovery decisions, and other matters requiring formal Owner authorization.

Table 15: RACI | Construction

Activity	DC	CMAR	OMAR	PMO	Owner
Construction Execution Plan and construction execution procedures	C	A/R	C	C	I
Construction mobilization and site establishment	I	A/R	C	C	I
Site management, field coordination, and day-to-day construction control	I	A/R	C	C	I
Construction work packaging, workface planning, and construction sequencing	C	A/R	C	C	I
Site logistics, laydown, access, traffic flow, parking, fencing, signage, and material movement at Site	C	A/R	C	C	I
Temporary power, temporary lighting, temporary heat, temporary water, temporary drainage, and temporary communications	C	A/R	C	C	I
Temporary offices, welfare facilities, workshops, warehouses, laydown areas, and construction support facilities	C	A/R	C	C	I
Temporary works, temporary structures, construction aids, and temporary access systems	C	A/R	C	C	I
Construction subcontractor management and field supervision	I	A/R	I	C	I
Construction means, methods, techniques, and field execution approach	I	A/R	C	C	I
Heavy lift, crane, rigging, and major equipment setting plans	C	A/R	C	C	I

CTO5 WTE Project | Project Responsibility Matrix

Activity	DC	CMAR	OMAR	PMO	Owner
Cold-weather, seasonal, or Alaska-specific construction execution planning	C	A/R	C	C	I
Civil, structural, building, mechanical, piping, electrical, I&C, and installation works	C	A/R	C	C	I
Site receiving, unloading, warehousing, laydown, inventory control, and material traceability	C	A/R	C	C	I
Material preservation, storage conditions, weather protection, vendor preservation requirements, and preservation records	C	A/R	C	C	I
Material handling, transport within Site, issue to workforce, and field material control	C	A/R	C	C	I
Construction productivity, progress reporting, and field status updates	I	A/R	I	C	I
Construction input to Project Controls schedule, progress, forecast, and recovery planning	C	A/R	C	C	I
Field engineering support, RFIs, technical queries, and design clarifications	A/R	R	C	C	I
Field changes requiring engineering evaluation or design impact assessment	A/R	R	C	C	I
Construction deviation, non-conformance, or field issue requiring engineering disposition	A/R	R	C	C	I
Constructability and construction safety input during construction execution	C	A/R	C	C	I
Operability, maintainability, access, commissioning, and lifecycle input during construction	C	C	A/R	C	I
Construction quality execution, inspections, test records, and construction quality records	C	A/R	C	C	I

CTO5 WTE Project | Project Responsibility Matrix

Activity	DC	CMAR	OMAR	PMO	Owner
Construction HSSE implementation within CMAR-controlled construction areas	C	A/R	C	C	I
Construction interface management within CMAR construction scope	C	A/R	C	C	I
Construction punch-list identification, tracking, and closeout	C	A/R	C	C	I
Construction turnover planning and Mechanical Completion readiness	C	A/R	A/R	C	I
Mechanical Completion package preparation and evidence compilation	R	A/R	C	C	I
Mechanical Completion walkdowns and acceptance support	R	A/R	R	C	I
Turnover of completed systems / areas to commissioning or operations readiness	C	A/R	A/R	C	I
Construction as-built markups and construction handover records	R	A/R	C	C	I
PMO construction assurance and monitoring that construction plans are in place and followed	C	C	C	A/R	I
Escalation of material construction issues affecting scope, cost, schedule, HSSE, quality, permitting, or operations readiness	R	A/R	R	A	I
Owner approval of construction decisions reserved to Owner	C	R	C	R	A

16. Commissioning, Start-up, and Performance Testing

Commissioning, start-up, and performance testing responsibilities are divided between CMAR construction completion and pre-commissioning support, Design Contractor technical support, OMAR-led operational readiness, commissioning, start-up, training, and operations handover, and PMO Owner-side assurance and escalation.

Commissioning shall be planned and managed as a system-based transition from Mechanical Completion to safe, reliable, and operable Facility operation. A system-based approach helps align construction turnover, testing, commissioning, training, and handover around functional systems, defined boundaries, and acceptance criteria rather than only by construction discipline.

The CMAR is Accountable and Responsible for completing construction, compiling Mechanical Completion evidence, completing construction punch-list items, supporting pre-commissioning, providing vendor support where required under CMAR-procured packages, and supporting turnover of completed systems, areas, equipment, and records to the OMAR and commissioning team.

CTO5 WTE Project | Project Responsibility Matrix

The CMAR shall be Accountable and Responsible for coordinating vendor attendance and vendor site support for CMAR-procured packages, including confirming required vendor resources, site access requirements, mobilization dates, prerequisites, tools, test equipment, spare parts, consumables, safety requirements, and vendor documentation needed to support pre-commissioning, commissioning, start-up, troubleshooting, performance testing, corrective actions, and retesting.

The OMAR is Accountable and Responsible for operations readiness, commissioning execution coordination, start-up operational leadership, operator and maintainer readiness, training coordination, operating procedure readiness, maintenance readiness, CMMS / asset information readiness, operational document acceptance, and final handover into operations. Operational readiness should confirm that people, procedures, systems, documentation, tools, spares, and training are in place before the Facility transitions into operation.

The OMAR shall confirm that required operating reagents, chemicals, consumables, utilities, operating supplies, and operations support resources are available in time to support commissioning, start-up, and performance testing. For WTE facilities, typical operating reagents may include lime or other acid gas treatment reagents, powdered activated carbon, and urea or ammonia for NO_x control depending on the selected technology.

The Design Contractor is Accountable and Responsible for technical support to commissioning and performance testing within its engineering scope. This includes design intent clarification, technical troubleshooting, engineering evaluation of commissioning issues, performance test methodology and technical acceptance criteria where assigned, and engineering support for technical deviations or changes identified during commissioning.

Performance testing shall be used to demonstrate whether the Facility meets applicable contractual performance requirements, minimum acceptance criteria, permit-related requirements, and operating requirements. Performance guarantees, performance liquidated damages, minimum acceptance criteria, and remedies shall be as defined in the applicable contracts. The party or parties providing performance guarantees shall support performance testing, corrective actions, retesting, and technical resolution as required by those contracts. EPC performance guarantees are commonly structured around defined performance metrics and test procedures, with liquidated damages or corrective obligations where guaranteed performance is not achieved.

The PMO shall provide Owner-side assurance, governance oversight, and escalation support for commissioning, start-up, training, handover, and performance testing. PMO assurance may include review of commissioning, training, handover, and performance testing plans; monitoring evidence that required readiness processes are being followed; tracking material risks and unresolved issues; and coordinating Owner decisions. PMO assurance does not relieve the CMAR, Design Contractor, OMAR, suppliers, or any performance guarantee provider of responsibility for their assigned obligations.

Training shall be planned before handover and shall include appropriate classroom, field, vendor, system, safety, maintenance, operating, emergency response, and refresher training as required for operations readiness. Training materials should support both initial handover and future onboarding of operating and maintenance staff.

Handover to Operations shall be managed as a controlled transfer of systems, records, asset information, procedures, training evidence, punch-list status, spares information, warranties, operating manuals, maintenance information, and other required documentation. Handover documentation is a key element of safe and sustainable operability and maintainability for process facilities.

CTO5 WTE Project | Project Responsibility Matrix

The Owner retains approval authority for Operational Acceptance, performance test acceptance, major unresolved punch-list acceptance, material deviations, and other matters reserved to the Owner under the applicable contracts.

Table 16: RACI | Commissioning, Start-up, and Performance Testing

Activity	DC	CMAR	OMAR	PMO	Owner
Commissioning, start-up, and performance testing strategy	C	C	A/R	C	I
Commissioning Execution Plan and commissioning procedures	C	R	A/R	C	I
Systemization strategy, system boundaries, and turnover sequence	C	A/R	A/R	C	I
Mechanical Completion evidence and turnover package preparation	R	A/R	C	C	I
Completion of construction punch-list items prior to commissioning	C	A/R	C	C	I
Pre-commissioning support, including checks, flushing, cleaning, calibration support, and static testing support	C	A/R	C	C	I
Vendor attendance, mobilization, site access, and vendor support coordination for CMAR-procured packages	C	A/R	C	C	I
Vendor prerequisites, tools, test equipment, spare parts, consumables, and vendor documentation required for commissioning / start-up	C	A/R	C	C	I
Availability of operating reagents, chemicals, consumables, utilities, and operating supplies required for commissioning, start-up, and performance testing	C	C	A/R	C	I
Commissioning execution and system functional testing	R	R	A/R	C	I
Start-up planning and operational start-up leadership	C	R	A/R	C	I
Operating procedure readiness	C	C	A/R	C	I
Maintenance strategy, maintenance procedure, and CMMS / asset information readiness	C	C	A/R	C	I
Operations staffing and competency readiness	I	I	A/R	C	I

CTO5 WTE Project | Project Responsibility Matrix

Activity	DC	CMAR	OMAR	PMO	Owner
Operator and maintainer training plan	C	C	A/R	C	I
Vendor, equipment, maintenance, and system training delivery support	R	A/R	A/R	C	I
Training records, attendance records, competency evidence, and training closeout	C	C	A/R	C	I
Pre-Startup Safety Review / Operational Readiness Review	C	R	A/R	C	I
Commissioning issue identification, tracking, and resolution within own scope	A/R	A/R	A/R	C	I
Engineering evaluation of commissioning issues, deviations, and design clarifications	A/R	R	C	C	I
Commissioning punch-list identification, prioritization, and closeout	R	A/R	A/R	C	I
Performance test plan, protocol, and acceptance criteria	A/R	C	A/R	C	I
Performance test execution	R	R	A/R	C	I
Performance test reporting and technical interpretation	A/R	R	R	C	I
Support from party or parties providing contractual performance guarantees	R	R	R	C	I
Corrective actions and retesting where performance requirements are not achieved, within own scope	A/R	A/R	A/R	C	I
Commercial remedies, LDs, or guarantee obligations for performance shortfall	C	C	C	R	A
Operations document handover requirements and acceptance criteria	C	C	A/R	C	I
Handover of design, vendor, construction, commissioning, training, and O&M records to OMAR	A/R	A/R	A/R	C	I
OMAR acceptance, organization, and control of final operations document set	C	C	A/R	I	I

CTO5 WTE Project | Project Responsibility Matrix

Activity	DC	CMAR	OMAR	PMO	Owner
Transfer of care, custody, and control of systems to Operations, where applicable	C	A/R	A/R	C	I
PMO assurance that commissioning, start-up, training, handover, and performance testing plans are in place and being followed	C	C	C	A/R	I
Escalation of vendor, reagent, chemical, utility, or consumable readiness issues affecting commissioning, start-up, or performance testing	R	A/R	A/R	A	I
Escalation of material commissioning, start-up, handover, performance testing, or operational readiness issues	R	R	A/R	A	I
Owner approval of Operational Acceptance, performance test acceptance, or reserved handover decisions	C	R	R	R	A

17. Operations and Operations Readiness

Operations and Operations Readiness responsibilities are divided between OMAR-led operations readiness, transition from commissioning to operations, long-term Facility operations and maintenance, Design Contractor and CMAR support during transition, and PMO Owner-side assurance and monitoring.

The OMAR is Accountable and Responsible for operations readiness and for long-term operation and maintenance of the Facility after Operational Acceptance. This includes the operating model, staffing plan, competency requirements, operating procedures, maintenance strategy, CMMS readiness, asset information readiness, operating supplies, operating chemicals and reagents, operating consumables, spare parts readiness, laboratory and environmental monitoring support, operational HSSE readiness, regulatory compliance readiness, and operational reporting. Operational readiness best practice confirms that people, procedures, documentation, training, tools, spares, systems, and support resources should be in place before the facility transitions into operation.

The OMAR shall lead preparation for Operational Acceptance and shall manage the transition from commissioning / start-up into steady-state operations. This includes confirming that required operating procedures, maintenance procedures, training records, operating manuals, asset registers, spare parts, consumables, operating reagents, vendor support arrangements, operational permits, monitoring arrangements, and operational support contracts are in place before assuming operational control.

The Design Contractor shall provide technical and engineering support to operations readiness where required, including design intent clarification, technical input to operating procedures, technical input to maintenance strategy, support for unresolved design or performance issues, and technical support during early operations where required by contract.

CTO5 WTE Project | Project Responsibility Matrix

The CMAR shall provide construction, vendor, warranty, spare parts, turnover, and defect resolution support during the transition to operations and during the applicable warranty or defects correction period. This includes support for vendor issues, construction defects, incomplete turnover documentation, punch-list closeout, spare parts issues, warranty claims, and correction of construction-related deficiencies.

The PMO shall provide Owner-side assurance and monitoring that operations readiness plans, staffing plans, training plans, handover plans, and operational readiness processes are in place and being followed. PMO monitoring does not relieve the OMAR of responsibility for operations readiness or long-term operation and maintenance of the Facility.

After Operational Acceptance, the OMAR shall be Accountable and Responsible for ongoing operations document management, operations reporting, regulatory compliance support, maintenance execution, spare parts management, operating chemicals and reagents management, operational risk management, operational HSSE, and performance monitoring, except where otherwise reserved to the Owner or assigned under the applicable contracts.

The Owner retains approval authority for Operational Acceptance, major operational decisions reserved to the Owner, changes to Owner policy or public commitments, major budget or commercial matters, and other matters requiring formal Owner authorization.

Table 17: RACI | Operations and Operations Readiness

Activity	DC	CMAR	OMAR	PMO	Owner
Operations Readiness Plan	C	C	A/R	C	I
Operating model and operations organization plan	I	I	A/R	C	I
Staffing plan and competency requirements	I	I	A/R	C	I
Operator and maintainer training readiness	C	C	A/R	C	I
Operating procedures and operating manuals	C	C	A/R	C	I
Maintenance strategy, maintenance procedures, and preventive maintenance program	C	C	A/R	C	I
CMMS readiness, asset register, equipment hierarchy, and maintenance data	C	C	A/R	C	I
Spare parts readiness and operating inventory requirements	C	C	A/R	C	I
Operating chemicals, reagents, consumables, tools, and operating supplies readiness	C	C	A/R	C	I
Operations support contracts, laboratory services, calibration	C	C	A/R	C	I

CTO5 WTE Project | Project Responsibility Matrix

Activity	DC	CMAR	OMAR	PMO	Owner
services, CEMS support, and environmental monitoring services					
Ash, residue, by-product, or waste handling arrangements after Operational Acceptance	C	C	A/R	C	I
Operational HSSE readiness and operational emergency response readiness	C	C	A/R	C	I
Operational permit compliance readiness and regulatory reporting support	C	C	A/R	C	I
Operational risk register inputs and operational risk management	C	C	A/R	C	I
Operational Acceptance readiness assessment	C	C	A/R	C	I
Transition from commissioning / start-up to operations	C	R	A/R	C	I
Transfer of care, custody, and control after Operational Acceptance	I	R	A/R	C	I
Final operations document set acceptance and ongoing operations document control	C	C	A/R	I	I
Early operations support, troubleshooting, and stabilization	R	R	A/R	C	I
Warranty, defect correction, and vendor issue support after Operational Acceptance	C	A/R	R	C	I
Technical support for unresolved design, performance, or operating issues	A/R	R	R	C	I
Operations performance monitoring and reporting	I	I	A/R	C	I
Steady-state operations declaration	C	C	A/R	R	A
PMO monitoring that operations readiness plans and processes are in place and followed	C	C	C	A/R	I
Escalation of material operations readiness or early operations issues	R	R	A/R	A	I

CTO5 WTE Project | Project Responsibility Matrix

Activity	DC	CMAR	OMAR	PMO	Owner
Owner approval of Operational Acceptance and reserved operational decisions	C	R	R	R	A

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