Construction Manager API – Endpoint Catalogue (MVP)

1. Business Context

The Construction Manager platform is the digital backbone of a multi-site construction company. Its back-end API consolidates project data into a single source of truth that is accessed from two user-facing applications:

• **Web portal** – used by Accountants to register invoices and by Executives to monitor real-time KPIs.

• **Mobile & desktop app** – used on the jobsite by Site Engineers and Project Managers to record daily progress, update schedules and manage materials.

By aligning financial, operational and field data in one place, the system enables proactive decision-making, reduces paperwork and ensures that every stakeholder works with the same live information.

2. User Roles

Role	Business Responsibility
Administrator (ADMIN)	Manages user accounts, roles and global system settings.
Project Manager (PM)	Creates projects, milestones and approves invoices.
Site Engineer (SE)	Submits daily site reports and material requests.
Accountant (ACC)	Logs and validates invoices; monitors cost deviations.
Executive (MGT)	Reviews organisation-wide dashboards and analytical reports.
Contractor (CTR)	External subcontractor with limited access to own tasks & documents.

3. REST Endpoints by Function

Authentication

Method & Path	Business Purpose	Used By
POST /auth/login	Authenticate a user and issue a pair of JWT tokens (access + refresh)	All roles
POST /auth/refresh	Renew an expired access token using a valid refresh token	All roles
GET /auth/me	Return the profile and active roles of the current user	All roles

Users

Method & Path	Business Purpose	Used By
GET /users	Paginated & filterable directory of all users in the tenant	Administrator
POST /users	Create a new user account (PM, Accountant, Engineer, etc.)	Administrator
PUT /users/{id}/role	Change the user's role set or deactivate the account	Administrator

Projects

Method & Path	Business Purpose	Used By
GET /projects	Retrieve the list of construction projects	Administrator, PM, Accountant, Engineer, Executive
POST /projects	Create a new project (name, budget, start/end dates)	PM, Administrator
GET /projects/{id}	Detailed information, budget status, team and	PM, Engineer, Accountant,

	timeline	Executive
PUT /projects/{id}	Update project metadata or close / reopen a project	PM
DELETE /projects/{id}	Soft-archive a project; keeps history for audit	PM, Administrator

Milestones

Method & Path	Business Purpose	Used By
GET /projects/{id}/milestones	List contractual and internal milestones of a project	PM, Engineer, Executive
POST /projects/{id}/milestones	Create a new milestone or delivery phase	PM
PATCH /milestones/{id}/status	Update status or percentage completion of a milestone	PM, Engineer

Contractors

Method & Path	Business Purpose	Used By
GET /contractors	Directory of registered subcontractors and suppliers	Administrator, PM
POST /contractors	Register a new contractor with billing data	Administrator
POST /projects/{id}/contractors/{contrId}	Assign a contractor to a specific project	PM

Invoices

Method & Path	Business Purpose	Used By
GET /invoices	Organisation-wide invoice registry with advanced filters	Accountant, Executive

Method & Path	Business Purpose	Used By
GET /projects/{id}/invoices	Invoices linked to the given project	Accountant, PM
POST /projects/{id}/invoices	Create / upload an invoice and link it to cost items	Accountant
PATCH /invoices/{id}/approve	Two-step approval workflow (Accountant → PM)	Accountant, PM

Material Plans

Method & Path	Business Purpose	Used By
GET /projects/{id}/material-plans	List material requirement plans (MRP) for a project	PM, Engineer
POST /projects/{id}/material-plans	Create a new plan based on a bill of quantities	PM, Engineer
POST /material-plans/{id}/items	Add a line item (e.g. concrete C30/37) to the plan	Engineer

Daily Reports

Method & Path	Business Purpose	Used By
GET /projects/{id}/daily-reports	Daily progress log incl. labour, machinery and photos	PM, Engineer
POST /projects/{id}/daily-reports	Submit a new daily site report from mobile or web app	Engineer
POST /daily-reports/{id}/attachments	Attach images, PDFs or voice notes to the report	Engineer

Issues / RFI

Method & Path	Business Purpose	Used By
GET /projects/{id}/issues	List open issues / Requests for Information for the project	PM, Engineer
POST /projects/{id}/issues	Create a new issue or technical RFI	Engineer
PATCH /issues/{id}/resolve	Close or mark an issue as resolved	PM

Attachments

Method & Path	Business Purpose	Used By
POST /attachments	Upload standalone attachment (drawings, specs, contracts)	Engineer, PM, Accountant
GET /attachments/{id}/download	Download an attachment by its ID	Any project member authorised for the file

Analytical Reports

Method & Path	Business Purpose	Used By
GET /reports/budget?projectId={id}	Budget-versus-actual cost report for a single project	PM, Accountant, Executive
GET /reports/overdue	Cross-project view of overdue milestones	PM, Executive

Scheduler (internal)

Method & Path	Business Purpose	Used By
POST /internal/jobs/dispatch-overdue	Trigger the background job that emails overdue alerts	System/internal only