

drab

Drou & Abdulhadi
Engineering Consultants

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FROM THE FOUNDERS

Q1 2026 has marked a significant step forward for DRAB Engineering Consultants. As we continue to grow, our focus remains unchanged: delivering engineering solutions that are practical, efficient, and grounded in real construction conditions.

The projects delivered this quarter reflect our commitment to tackling complex challenges with clarity and discipline. From deep excavations to large-scale infrastructure assessments, each assignment reinforces our belief that good engineering is not only about analysis, but about delivering solutions that work on site.



ABOUT DRAB ENGINEERING CONSULTANTS

DRAB Engineering Consultants is a multidisciplinary engineering firm providing integrated design and consultancy services across geotechnical, structural, architectural, and infrastructure projects.

Our approach is built on one core principle: design from the ground up. By combining geotechnical understanding with structural and architectural coordination, we ensure that every project is developed as a complete and coherent system, not as isolated disciplines.



Q1 2026 AT A GLANCE

This quarter has been defined by technically demanding projects and strategic growth in both scale and capability.

Key highlights include:

- Delivery of complex deep excavation and retaining solutions
- Continued focus on high-value design consultancy work
- Expansion into large-scale infrastructure assessment projects
- Strengthening our role as a one-stop engineering partner

Each project reflects our emphasis on efficiency, constructability, and long-term performance

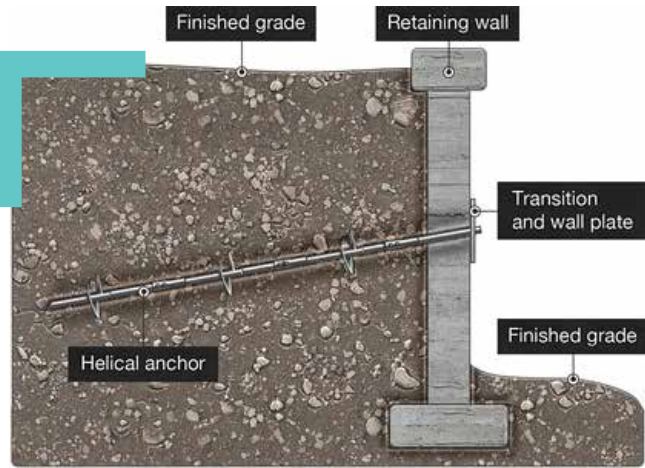
Featured Projects

The projects presented in this issue reflect the breadth and depth of DRAB Engineering Consultants' work during Q1 2026 . Each assignment represents a unique engineering challenge, requiring tailored solutions that respond directly to site conditions, structural demands, and project constraints

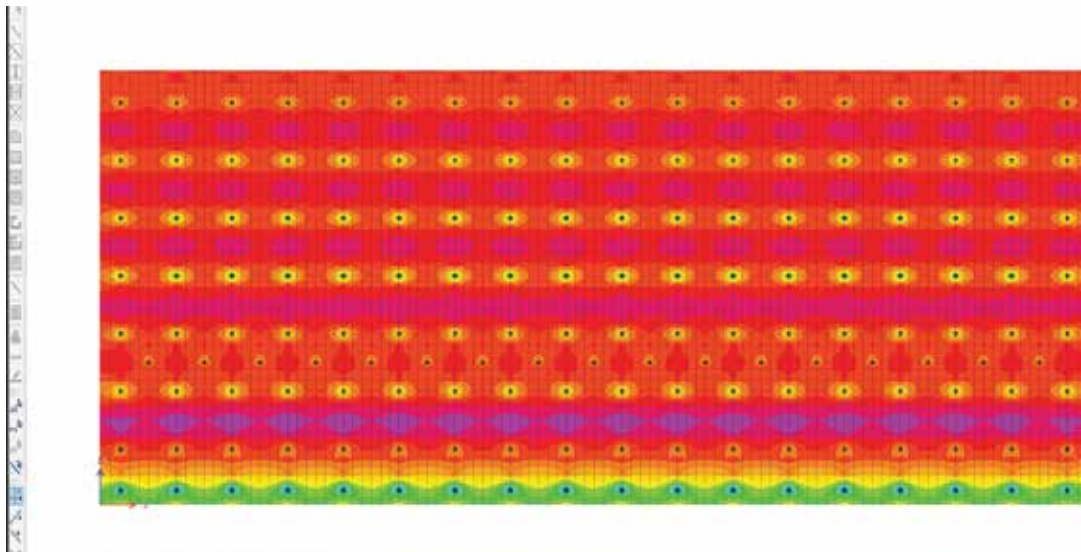
The following pages highlight key projects delivered this quarter, outlining the engineering approach, the challenges addressed, and the rationale behind each solution.



BINO Commercial Center



The project involved the design of a high retaining system to support deep excavation reaching approximately 21 m, developed under complex ground conditions and tight site constraints. The adopted solution integrates a tieback anchored retaining wall system combined with soil nailing, forming a hybrid system that provides both immediate excavation support and long-term structural stability. The design was developed through detailed geotechnical and structural analysis, ensuring that nail forces, bond capacities, and wall behavior remain within safe limits, with maximum nail forces verified against allowable capacities.



This solution was selected as the optimal approach due to its ability to efficiently transfer loads into competent ground while minimizing excavation-induced deformations. The staged excavation methodology, combined with fully bonded, pressure-grouted anchors, ensures controlled load redistribution and high constructability. Compared to conventional systems, this approach offers a cost effective, flexible, and performance-driven solution, particularly suited for deep excavations in variable rock conditions where both stability and construction sequencing are critical.

Hurrah Free Zone

DRAB Engineering Consultants was appointed to deliver the concept design for the engineering review and resilience strategy of more than 180 retaining structures within Hurrah Free Zone in Zarqa.

This large-scale assignment focuses on systematically assessing existing retaining systems, identifying structural and geotechnical vulnerabilities, and establishing a clear framework for intervention.

The study incorporates multiple conceptual stabilization and rehabilitation approaches, including soil nailing, tieback anchoring, localized structural strengthening, and partial reconstruction strategies, each evaluated based on condition, risk level, and site constraints.



Given the scale and variability of the structures, the adopted approach is built on prioritization and adaptability, ensuring that each wall is addressed through the most appropriate and buildable solution.

Rather than a one-size-fits-all design, the concept establishes a resilience-driven methodology, allowing phased implementation while maintaining operational continuity across the zone. This ensures that interventions are not only technically sound, but also practical and efficient, ultimately delivering a long-term, sustainable framework for stability, safety, and infrastructure performance.

JAH Healthcare Project

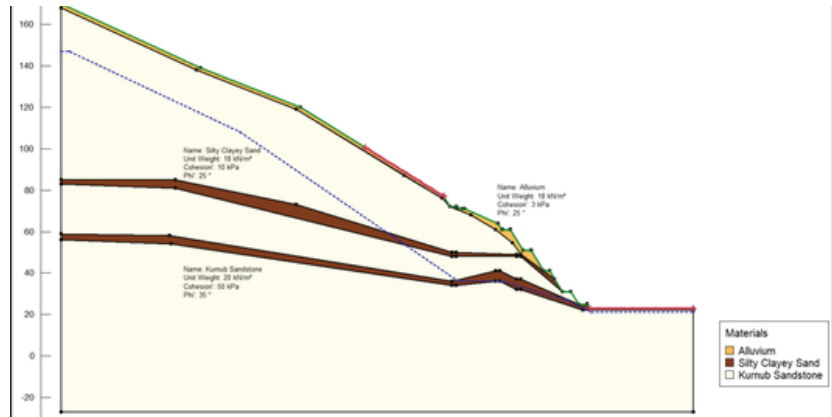


For the JAH Healthcare Project, a soil nail shoring system with shotcrete facing was implemented to support excavation works and protect adjacent infrastructure. The design incorporates passive soil nails installed at controlled spacing and inclination, combined with reinforced shotcrete and drainage detailing to ensure both structural integrity and durability. The system was developed based on project-specific geotechnical conditions and validated through detailed analysis to ensure safe excavation throughout all stages.

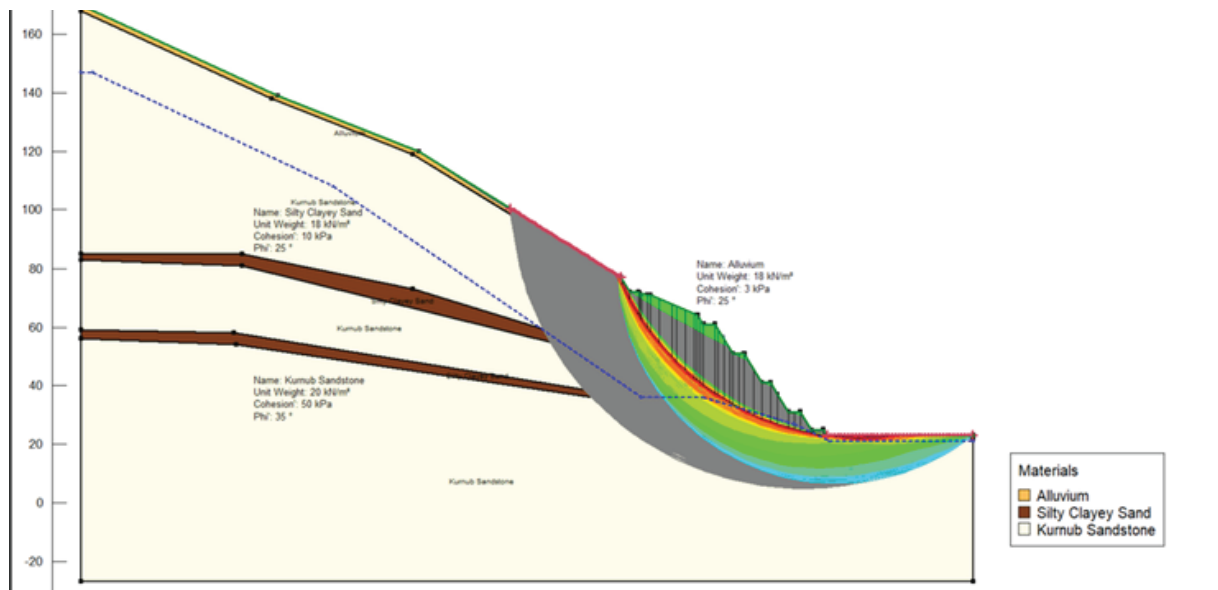
The selection of a soil nail system was driven by its constructability, adaptability to variable ground conditions, and economic efficiency. This method allows for staged excavation with immediate support, reducing risks associated with unsupported cuts while maintaining flexibility during construction. The combination of grouted nails, reinforced shotcrete, and systematic testing ensures a robust yet efficient solution, making it particularly suitable for urban environments where space limitations and adjacent structures govern design decisions.

Northeast Balqa Wastewater Treatment Plant

This project involved a detailed slope stability reassessment following observed instability, where the existing slope exhibited a Factor of Safety of approximately 1.05, indicating near failure conditions comprehensive . Through back-analysis and numerical modeling using SLOPE/W, the failure mechanism was identified as a deep-seated rotational slip influenced by excavation geometry, conditions, and groundwater reduced lateral confinement.



The study established revised geotechnical parameters and quantified the instability drivers to develop a targeted stabilization strategy.



A tieback anchored stabilization system was adopted as the most effective solution, allowing the slope to achieve the required long-term Factor of Safety without extensive regrading or reconstruction. This approach provides active restraint to the sliding mass, transferring forces into competent rock and significantly improving global stability . The solution was selected due to its ability to preserve the existing slope geometry, minimize construction disruption, and deliver a technically robust and economically efficient stabilization, ensuring long-term performance under permanent loading conditions.

Commercial Building Project

CONSTRUCTION SUPERVISION - Q1 2026

DRAB Engineering Consultants is providing full construction supervision services for this commercial building project, designed by DRAB. The supervision scope encompasses all major construction phases, from earthworks and excavation through foundation construction, reinforcement works, and formwork installation, ensuring that design intent, geotechnical requirements, and quality standards are consistently upheld on site.

DRAB's integrated supervisory role provides a single point of accountability across structural and geotechnical disciplines, bridging the gap between design intent and field execution at every stage of construction.



Supervision Scope & Site Progress

Commercial Building Project • February – March 2026



PHASE 1 • EXCAVATION & EARTHWORKS

Bulk excavation was carried out through overburden soils and limestone rock. Formation levels were established and verified by survey instrument, ensuring compliance with the design set-out before foundation works commenced.

- Excavation depth verified at each stage
- Cut face inspected for stability and overbreak
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PHASE 2 • FOUNDATION & REINFORCEMENT

Reinforcement cages were fabricated and placed per structural drawings. waterproofing membrane was installed beneath the base slab prior to each pour, with pre-pour inspections conducted at every foundation element.

- Bar size, spacing, and cover verified against design
- Lap lengths and starter bar positions checked
- Waterproofing membrane continuity confirmed
- Pre-pour sign-off issued before each placement



By late March 2026, timber formwork for the ground-floor walls and columns was fully erected and braced, with vertical rebar starters projecting to the required coupling heights. Column alignment and verticality were confirmed by survey prior to concrete casting. The project remains on programme, with superstructure concrete works scheduled for Q2 2026.

OUR APPROACH TO DESIGN

At DRAB, design is not treated as a theoretical exercise. Every solution is developed with a clear understanding of how it will be built, how it will perform, and how it will be maintained over time.

Our process is structured around:

- Ground-informed design: Engineering decisions driven by real geotechnical behavior
- Performance-based solutions: Selecting systems based on efficiency and reliability
- Constructability focus: Ensuring solutions are practical on site
- Adaptability: Allowing flexibility where ground conditions or constraints evolve

This approach allows us to consistently deliver solutions that are both technically sound and commercially viable.



ENGINEERING IN PRACTICE – FROM CONCEPT TO EXECUTION

Successful engineering lies in the transition from concept to execution. Early-stage decisions often define the success of a project long before construction begins

By investing in strong concept design and system selection, we:

- Reduce uncertainty during construction
- Minimize redesign and delays
- Improve cost efficiency
- Enhance overall project safety

Our work this quarter highlights the importance of getting the fundamentals right from the beginning.

PROJECTS KEY INSIGHTS FROM Q1



Across all projects, several consistent themes have emerged:

- No single solution fits all conditions
- Each site requires a tailored approach based on ground conditions, constraints, and project objectives.
- Early engineering decisions are critical
- Well-developed concept design significantly reduces downstream risks.
- Constructability drives success
- The most effective solutions are those that can be executed efficiently on site.
- Resilience is becoming essential
- Projects are increasingly focused not just on stability, but on long-term performance and adaptability.

LOOKING AHEAD – Q2 2026 AND BEYOND

As we move into the next quarter, DRAB continues to focus on expanding its footprint across regional markets while maintaining the quality and precision that define our work.

Our priorities remain:

- Delivering high-value design consultancy
- Expanding into larger and more complex infrastructure projects
- Strengthening multidisciplinary integration
- Building long-term partnerships with clients



We are committed to continuing this trajectory with the same clarity, discipline, and engineering rigor.

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CONTACT US

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