F. EXAMPLE PROJECTS WHICH BEST ILLUSTRATE PROPOSED TEAM'S QUALIFICATIONS FOR THIS CONTRACT

(Present as many projects as requested by the agency, or 10 projects, if not specified. Complete one section F for each project.)

20. EXAMPLE PROJECT KEY NUMBER

21. TITLE AND LOCATION *(City and State)*	22. YEAR COMPLETED	
	PROFESSIONAL SERVICES	CONSTRUCTION *(If applicable)*
AVL Powertrain Test Facility Ann Arbor, MI	2003	2004

23. PROJECT OWNER'S INFORMATION

a. PROJECT OWNER	b. POINT OF CONTACT	c. POINT OF CONTACT TELEPHONE NUMBER
AVL Powertrain Engineering, Inc.	Mr. Terry Rhoades, PE	

24. BRIEF DESCRIPTION OF PROJECT AND RELEVANCE TO THIS CONTRACT *(Include scope, size and cost)*

SCOPE OF WORK

Elite was responsible for the engineering and design of all civil, electrical, mechanical, fire detection and suppression, and structural systems for conversion of an existing 40,900 sq. ft. commercial building into an engine, powertrain and vehicle durability and emissions test facility. Elite prepared demolition plans of existing facility and detailed construction plans and specifications for the new construction work. Elite provided engineering support during construction. The engineering fee for the project was $550,000.

The facility included 20 engine test cells, multiple fuel handling systems, process cooling water systems, engine exhaust and cell ventilation systems, control room HVAC, rest/break rooms, waste oil and hazardous wastes systems, fuel drum storage, vehicle fueling, engine build, circulation, temperature controls, emergency soak, office, lunch and chassis dynamometer rooms.

Due to the nature of the test facility, the design included separate, specialized fire detection and suppression systems for both the test cells and the utility trenches servicing them.

MECHANICAL SPECIALITY DESIGN

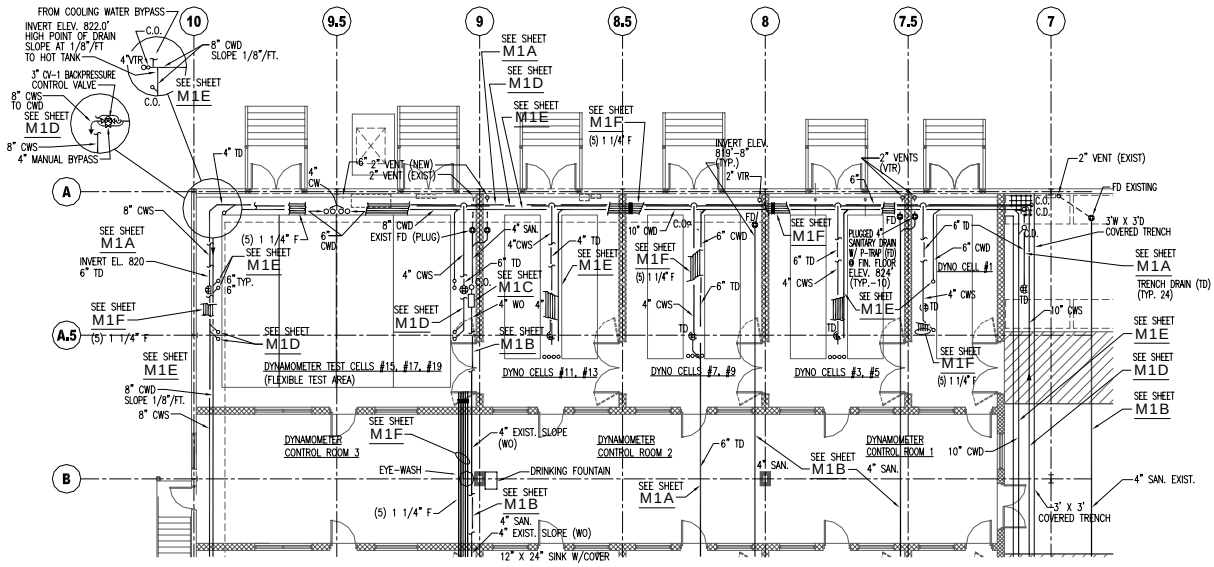
Engineering and design work for each test cell included the design of individual HVAC, engine fuel and exhaust systems to support the testing of combustion engines varying in size from motor cycle engines to large caterpillar diesel engines. Each test cell had to be capable of handling a wide range of engine types and sizes.

ELECTRICAL SPECIALITY DESIGN

Design of all electrical systems and lighting to support the conversion of the commercial rated building to a world class engine test facility. Existing transformers were relocated and new transformers were installed to supplement the existing system. Several of the test cells required the design of special circuits to facilitate dumping electricity generated by the dynamometers back into the electrical grid.

RELEVANCE

Elite is experienced in designing state of the art facilities with a focus on quality, functionality and economy.



UNDERGROUND PLAN (PARTIAL PLAN)

P-000063

25. FIRMS FROM SECTION C INVOLVED WITH THIS PROJECT

	(1) FIRM NAME	(2) FIRM LOCATION *(City and State)*	(3) ROLE
a.	Elite Engineering Services, Inc.	Jackson, MI	Project Engineer