



JVA, Incorporated
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COMPANY BACKGROUND

www.jvajva.com

JVA, Incorporated (JVA) is a Colorado structural, civil, and environmental consulting engineering firm. Since 1956, JVA has provided engineering services to architects, owners, municipalities, and special districts for building, site development, and water/wastewater projects throughout the Rocky Mountain area and nationwide. The firm's team consists of over 140 engineers, designers, and administrative professionals. JVA staff hold professional registrations in most states and many are members of industry associations and professional organizations.

STRUCTURAL ENGINEERING

JVA's structural department provides engineering services for new construction, renovation, and historic preservation projects across the United States. We also offer forensic engineering services to evaluate the performance of existing buildings.

CIVIL ENGINEERING

JVA's civil department provides engineering for a variety of services including site development, commercial and institutional sites, residential, parks, trails, and sports fields. We also provide utility infrastructure, drainage control, roadway and parking area design services.

ENVIRONMENTAL ENGINEERING

JVA's environmental department provides engineering services to municipalities, special districts, and private clients with a focus on water treatment and distribution and wastewater treatment and collection. These services include planning, design, permitting, funding assistance, and construction administration.

PROJECT SUMMARY – SITE ASSESSMENTS

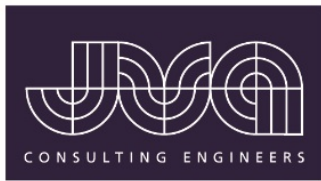
Site assessments are a foundational step in the civil design process, and they rely heavily on manual interpretation of images, survey data, and field notes. Determining pavement conditions, slope grades, and ADA accessibility often requires time-intensive analysis, field verification, and review of prior reports and exhibits.

We propose developing an **AI-powered site assessment tool** that leverages aerial imagery, site photos, and survey files to automate key evaluations—specifically focusing on **slope analysis, ADA accessibility, and pavement condition assessments**. The application will feature a visual-first interface, where users upload site assets or select a location, prompting the system to generate structured evaluations aligned with civil engineering standards.

Ranking	Condition	Appearance	Maintenance Needed
9-10	Excellent	Like new	None
8	Very good	No longitudinal cracks. Occasional transverse cracks that are at least 40' apart from each other	Little or no maintenance needed
6-7	Good	Minimal cracks with some traffic wear	Routine crack filling and sealcoating
4-5	Fair	More cracking, more traffic wear, slight rutting or distortions	Sealcoating, patching, surface overlay
3	Poor	Extensive cracking, potholes, surface distortion	Patching, resurfacing, or complete recycling
2	Very Poor	Severe cracking and distortions, multiple potholes	Reconstruction with extensive base repair
1	Failed	Extensive damage and loss of integrity	Total reconstruction needed

Inputs to be provided by the JVA team:

- **Site Photos** – identifies surface condition, slopes, and visible accessibility elements
- **Surveys & Nearmap Aerial Imagery** – evaluates contours, grades, and layout



- **Ortho Imagery and Lidar Data from others** – Denver Regional Council of Governments (DRCOG) is working on providing LIDAR data for the Front Range of Colorado that would be valuable for this sort of effort.
- **Historical Project Reports** – extracts contextual insights from similar prior sites

KEY FEATURES

Outputs desired:

- **Visual Assessment Report** with annotated maps and images
- **Slope & ADA Compliance Summary**
- **Pavement Condition Index Scorecard**
- Flagged areas for follow-up or site inspection
- Export-ready documentation for internal use or client reporting

AI-Powered Assessment Capabilities:

- **Slope Evaluation**
 - Derive slope maps from survey contours and photogrammetry
 - Flag potential grade compliance issues for pedestrian pathways or parking
- **ADA Accessibility Analysis**
 - Identify ramps, curb cuts, crosswalks, and pathway slopes
 - Assesses compliance with ADA slope, clearance, and surface standards
- **Pavement Condition Assessment**
 - Evaluates surface cracking, raveling, and general wear
 - Rates condition using a standardized Pavement Condition Index (PCI) scale
 - Compiles results into a standard JVA report format.

KEY SKILLS

- Python Programming
- Computer Vision & Image Processing
- Photogrammetry & 3D Modeling Tools
- Geospatial Data Handling (GIS)
- AI/ML Model Implementation (Azure AI)
- API Integration
- GUI Development

TEAM SIZE

We expect this work to be more suited to a team of 5.

RESOURCES

As part of our project support, JVA will provide server and data base infrastructure to facilitate the application development. Data resources and subscriptions can be provided contingent upon pricing and usage requirements.



MEETINGS & LOCATION

JVA is based in Boulder, with offices located in Denver, Fort Collins, Winter Park, and Glenwood Springs. We'll be available to meet with the student project team through bi-weekly video calls, with the option to arrange one or two in-person meetings at either our office locations or your campus as needed.

INTELLECTUAL PROPERTY

Students participating in this project will be asked to sign an agreement assigning ownership of all resulting intellectual property to JVA.

PROJECT CONTACTS



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