

Case study  
Environmental

DIEHLUX, LLC

# Standing out in the crowd: How using Fulcrum gives environmental consultant DIEHLUX a competitive advantage

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**DIEHLUX**

Colin Diehl  
CEO and Co-Founder

## Challenges



Contractors, clients and regulators all use different software that need to be fed the data that's collected



Written reports are limited in their ability to meaningfully inform clients and stakeholders of site conditions



Adding photos to Word docs or spreadsheets is time-consuming and error-prone



Collecting data using spreadsheets or manual methods results in extra hours each day spent manually inputting information and creating daily PDF reports



Using seasonal and inexperienced workers can result in incomplete or inaccurate data collection

## Key Outcomes



Easy integration with other platforms provides reports and the supporting documentation to stakeholders in formats they can use



Site inspection videos, complete with GIS data, timestamp, and notation of direction where the camera is facing helps to paint a complete picture



Annotating photos in the field when they're taken ensures that the picture stays with the correct description



Generating a daily report is done automatically from the app, without requiring any manual entry or report creation



With mandatory and conditional fields along with in-app reference materials, every team member is guided to the same level of consistent data collection

## Background

DIEHLUX, LLC (DIEHLUX) is an innovative ecological and natural resource consulting company specializing in nimble and adaptive solutions for energy, telecommunications, water resources, and private land development markets.

Colin Diehl, CEO and Co-Founder, explains, "DIEHLUX was founded in 2014 as a niche consultant working with large scale civil engineering firms to facilitate environmental compliance. Our ecological work is based primarily on the pre-construction planning and permitting side of the projects, followed by the construction phase with environmental monitoring and inspection. We're also involved in postconstruction monitoring for compliance and permit closures."

A need to streamline and simplify field data collection efforts led DIEHLUX to begin using Fulcrum in 2019. Since then, it has used Fulcrum to optimize its environmental compliance field operations.

## Before Fulcrum

Before Fulcrum, the inspection process was not nearly as simple as it is today. Diehl says, "We would use a Word document or an Excel spreadsheet, either prebuilt by the client or using our own template."

The process for adding photos to reports was particularly onerous. "If I went out and did fieldwork, I'd bring back the photos on my camera," says Diehl. "I'd download the photos from the camera, put them

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on a hard drive, then upload them to a shared file in Google. After that, I had to add the photos to the correct place in the reports, making sure they were correctly annotated.”

The resulting data and end products did not always meet DIEHLUX’s high standards for accuracy and consistency. “Everything was subjective,” recalls Diehl. “There were things that were left out, and questions that weren’t answered. If there were changes, we’d have to copy and share the documents in another email. We were running into version control and chain of custody issues, and had to make sure no revisions were made that weren’t approved. There was a lot of room for error, and many layers of redundant communications.”

## After Fulcrum

After implementation of Fulcrum for its field work, DIEHLUX saw immediate, concrete benefits in multiple areas.

### Saving time and money for clients

The thoroughness and accuracy of data collected by Fulcrum often translates into significant time and cost savings for its clients. Diehl provides an example: “We had two cell tower projects where we

used Fulcrum videography to provide geospatially referenced virtual terrain for regulatory agencies. Being able to provide this irrefutable documentation saved each project \$10,000 in additional studies and consultation fees.”

The savings for the client go far beyond the surface \$20,000, however. “In this case, the client had a very strict build-out schedule for their cell towers. So while we saved the client \$10,000 per tower by avoiding additional consultation costs, that doesn’t include the cost of permitting delays, which are exponentially larger.”

### Saving time and money for DIEHLUX

Fulcrum’s ability to automatically create annotated photo logs for every record and generate reports from collected data is instrumental in maintaining DIEHLUX’s competitiveness. “We’ve got two elements here – how much time Fulcrum saves on the data collection side with the built-in photo annotations, and how much time Fulcrum saves on the reporting side by eliminating the need to manually enter data and generate reports,” says Diehl.

“It’s hard to overstate the significance of this increased efficiency,” he continues. “We’re seeing time savings of between two and five hours per day, per employee. As a small company, the cost reduction associated with that time reduction is enormous.”

## Integration

Working as a subcontractor, DIEHLUX has to ensure that the data it collects is accessible to multiple parties such as other contractors, regulatory agencies, and clients. “With large projects and multiple stakeholders, integrating with whatever systems are in place is critical,” says Diehl. “The client is able to use its own software to pull information directly from Fulcrum reports to include in its weekly and monthly reporting, almost without doing anything. And since all the Fulcrum report’s geospatial references are imported into its KMZ files and GIS mapping infrastructure, the Fulcrum data provides shareable levels of transparent information to back up the actual written report that’s being created.”

Fulcrum also allows DIEHLUX to share PDF copies of reports by email with a simple finger tap. “I can hit send, and get a PDF to whomever I want at the end of the day. It’s that easy.”

## Creating a story

DIEHLUX provides value to its clients by adding videos to its work product, going beyond a mere report to create a narrative about the site conditions. “When you’re watching a video of the site side-by-side with an image showing where you are in space in time and which direction your camera points while you walk, this creates a story. There is real power behind the imagery that you’re sharing to back up the words you’re writing.” Diehl finds video to be particularly helpful in proving site conditions. “Providing the client with a Word or Excel file with some photos attached isn’t enough to prove anything,” says Diehl. “That can all be manipulated. But when you have a video that shows exactly where you were and what time it was when

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the video was taken, that provides evidence that things are as you say. This video and the corresponding GIS and timestamp information tells the complete story of a site in a way that a written report simply cannot.”

## Working wherever, without a network

As much of DIEHLUX’s work is done in remote areas, being able to collect – and use – data even when offline is critical. “With Fulcrum, you can still work offline while you’re filling out your reports and collecting your data, and just sync them when you get somewhere with a connection,” explains Diehl. “Also, since we always need to have GIS reference data in the field, we download maps so we have them to use when we’re without a network. This lets us have maps at our fingertips without having to worry about being online – it’s a real game changer.”

## Helping projects go well in entirety

Diehl embraces the notion that DIEHLUX is not just a contractor for one particular component of a project, but a facilitator for the work as a whole. “Typically, these big companies don’t have a corporate-wide solution in place. So you’ll have one department using one thing, and others



using something else. So I talk to the different teams, and show them how Fulcrum improves how you do work, and not just on the environmental side,” says Diehl.

“I feel we have an obligation to help make sure projects go well in their entirety, not just within DIEHLUX’s role. So, we advise that everything our clients are doing should be done using Fulcrum, and every discipline should have Fulcrum accessibility. It makes that much of a difference in efficiency.”

## Beating out competitors

As a small company working alongside much larger contractors, DIEHLUX wants to make sure that it’s not left behind by its competitors. “We built our brand from being a good consultant every time we work on a project,” explains Diehl. “So when clients ask what makes us different, I tell them that we can get them the data that other subcontractors can’t. Fulcrum lets us be confident we’ll have the answers when the questions get asked. So, even as a small

company, our clients come back to us again and again because when it comes to data, we’re miles ahead of everybody else.”

## Consistency and accessibility of data

In addition to its seasoned full-time staff that support its ecological and environmental monitoring projects, DIEHLUX also is proud to hire seasonal and new college graduates just starting out in their careers. Using Fulcrum, DIEHLUX can be sure that the data collected is uniformly complete and accurate, no matter who does the collecting.

“Our environmental inspection programs are consistent from team member to team member. Nothing is subject to personal interpretation; everything they need to know is right there in the app,” says Diehl. “The ability to make certain fields required or not really takes the guesswork out of data collection. Even working with young, early career biologists doing their first real jobs, I know that we’re going to get the required level of data

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every time. It also helps inexperienced employees feel more comfortable and confident going out to do field work alone, so they're not needing to have someone go along to hold their hand."

In addition, Fulcrum provides continuity of data when workers move on or retire. "Even with senior folks retiring, we still have this layer of documentation that remains," says Diehl. "It's not like, 'Scott went to the site three years ago, but he retired last summer, so we have to start from scratch.' We can always start where we left off, and know the data is available."

## Risk Mitigation

DIEHLUX often works on large, complex projects with many different – and sometimes adversarial – stakeholders. Fulcrum allows DIEHLUX to more effectively mitigate risk with thorough, irrefutable documentation.

Diehl says, "Big contentious projects really need Fulcrum because it gives the answers – good, bad, or indifferent – that we need. And if there is a lawsuit, the client will have documentation to support those answers, including geospatially referenced and timestamped photos and videos."

The data DIEHLUX collects not only can be useful in defending its clients against litigation, but also in preventing disputes from progressing to the point of filing suit. "For example, if we have a landowner who claims damage was done to their property, we can produce a fully timestamped, GIS video showing pre-existing problems that were present before any work began. It makes disputes much easier – and less costly – to resolve."

## Employee retention

Using Fulcrum not only helps the work get done more efficiently, but it also makes the process of collecting that data easier and less time-consuming for field teams. "In the past, our environmental inspectors would have to end their 10- or 12-hour work days by going back to their houses or hotel rooms and creating daily reports to email out. They'd pray that they didn't make any mistakes, because we had a maximum 24-hour turnaround to fix errors or make revisions. The hours spent doing the reports and making corrections were generally not included as part of their day rates for the jobs, meaning they would be uncompensated for this extra work," recalls Diehl.

This all changed with Fulcrum. “Our inspectors and field staff love Fulcrum because it makes their jobs so much easier. They enter the data in the field, and Fulcrum automatically creates reports to send to whomever right from their phones, so they don’t have to end their long days with entering data or creating a PDF,” says Diehl.

Using Fulcrum has also helped DIEHLUX maintain its small crew of dedicated workers despite industry-wide labor shortages. “With the hiring crisis and not having enough workers to go around, we can’t afford to lose any of our people because of inefficient processes that waste their time or require them to work longer hours,” says Diehl. “Fulcrum’s efficiency and ease of use help me retain the workers we have, and recruit more when we need them.”

## Tweaking old forms – and creating new ones

DIEHLUX’s data collection processes are iterative, with the goal of continuous improvement. Diehl explains, “Every day we subject our reports to QA/QC, and look to see where we can make forms better. We also get updates on state and federally-mandated forms that necessitate revisions on our end, and sometimes will need to create an entirely new form to conform to a client’s regulatory requirements.”

Fulcrum professional services is instrumental in creating these new data collection processes quickly so DIEHLUX’s team can get to work. “For example, stormwater inspection forms are state specific,” Diehl continues. “Every time we work in a new state, we must have an entirely new form created to accommodate individual requirements. We can send the new form to our Fulcrum rep, and within 24 hours a new app is built and ready to be used by our people in the field.”



## Repurposing impacted sites

As an environmental consulting firm, DIEHLUX sees its role to not just be environmental data collectors but also as facilitators in the process of rehabilitating sites with legacy issues. To that end, DIEHLUX is committed to the rapid integration of renewable and non-renewable energy infrastructure, utilizing existing oil and gas wells as new sites for wind and solar installations. “Oil and gas companies are paying lease payments on the surface damages and the surface rights, so it’s an ongoing expense,” explains Diehl. “By repurposing the previously impacted sites with renewable energy installations such as wind, biothermal, or solar, utilities can get the most value from these sites while improving their ESG postures.”

Fulcrum aids in these efforts by giving clients a boots-on-the-ground view of the site conditions that can be used to begin site repurposing projects. “With Fulcrum, we’re able to document it all,” says Diehl. “We tell them, this is what you have in the middle of nowhere. Here’s what it looks like, and here’s where it’s mapped. And you can share that across the entire organization so different teams can use the data to explore repurposing possibilities.”

## Documenting assets

DIEHLUX also aids its clients by documenting assets they have in the field. “We use Fulcrum to show what equipment clients have, where it’s located, and what condition it’s in,” says Diehl. DIEHLUX has found that this documentation not only gives clients insights into their own operations, but also provides financial benefits.

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“Having this evidence of what assets you’ve got in the field is great for when you’re looking to do a merger or acquisition and need a valuation, or you’re trying to get a loan for your next big project. The proof is there, and it can’t be falsified or manipulated,” says Diehl.

## Conclusion

With all the benefits that Fulcrum provides to DIEHLUX and its clients, perhaps its greatest feature is being able to provide answers. As Diehl says, “The biggest thing in this business is to have the answers when the questions get asked. That’s why we use Fulcrum. We’re documenting everything – with photos, with video, with the timestamps and GIS data. If we can’t answer a question outright, all it takes is a quick look through what we’ve collected to get the answer. That is why we keep getting called back time and again for the same clients. Fulcrum gives us the tools to answer the questions they ask – every time.”

## Ready to create your own digital transformation success story?

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