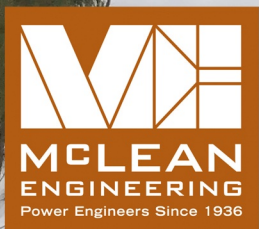
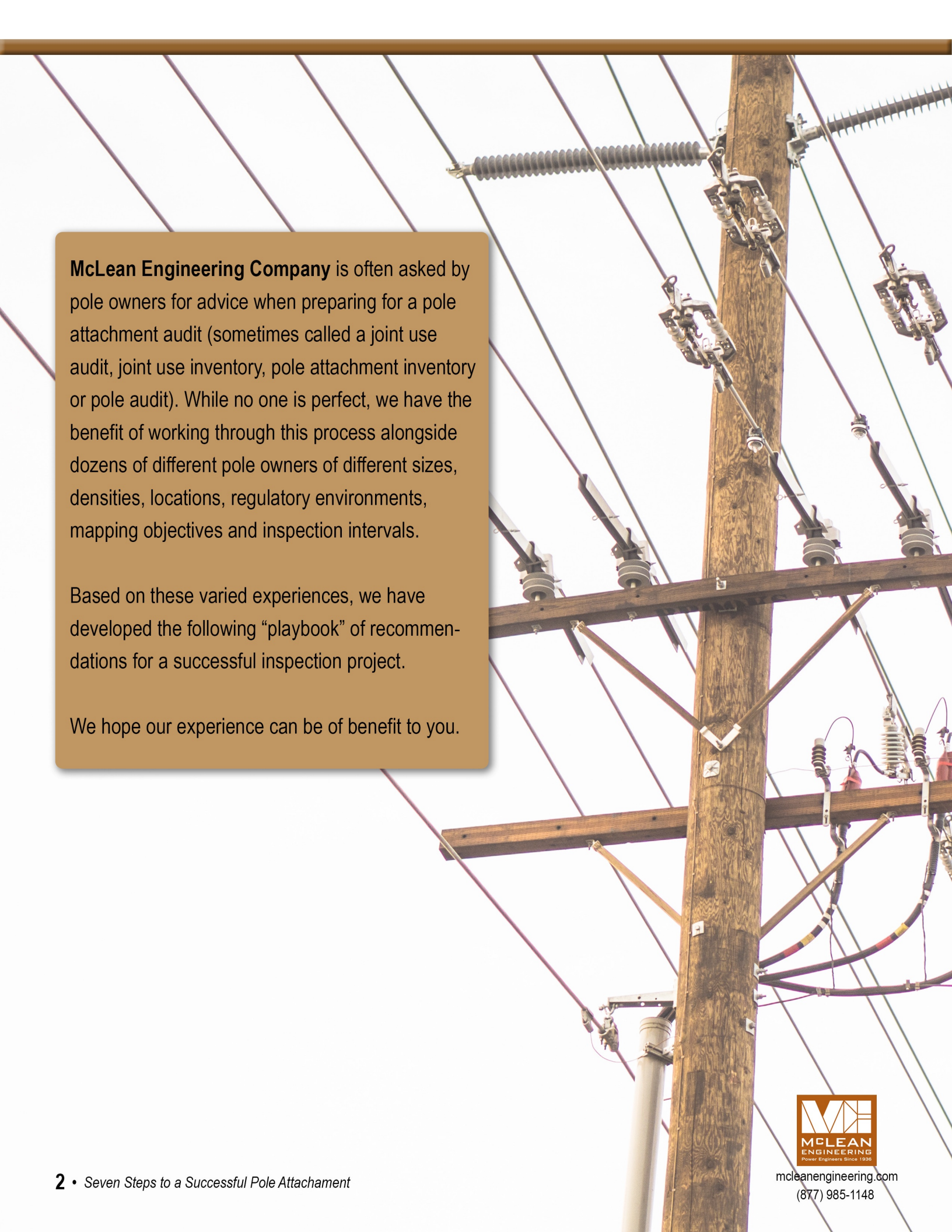


7 Steps to a Successful Pole Attachment Audit



mcleanengineering.com
(877) 985-1148



McLean Engineering Company is often asked by pole owners for advice when preparing for a pole attachment audit (sometimes called a joint use audit, joint use inventory, pole attachment inventory or pole audit). While no one is perfect, we have the benefit of working through this process alongside dozens of different pole owners of different sizes, densities, locations, regulatory environments, mapping objectives and inspection intervals.

Based on these varied experiences, we have developed the following “playbook” of recommendations for a successful inspection project.

We hope our experience can be of benefit to you.



Step 1: Read the Contract

At the risk of stating the obvious, joint use and pole attachment relationships are business-to-business relationships between pole owners (typically electric utilities and telephone companies) and those entities attached to their poles. These agreements have been in place for a very long time and speak to most aspects of the relationship, including the pole attachment audit (sometimes called an inventory). The contract often speaks to many aspects of this project including how often it should be conducted, how to select a contractor, how cost-sharing should occur, and how far in advance the initiating party (typically the pole owner) needs to notify the other party. Reading the contract is always a great place to start.

Step 1a: (When to) Ignore the Contract

Obviously, it is never sound advice to ignore a binding contract. However, as with all contracts, there are gaps in joint use and pole attachment agreements. These gaps often come to light when thinking of a hub-and-spoke relationship between the pole owner (generally the electric utility) and its attachers. The pole owner has a one-to-one relationship with each attacher, but the attachers do not have contractual relationships with each other.

In the context of a pole attachment audit, this means that it falls to the pole owner to act as the “common ground” for all entities that have attachments to poles on its system and to execute a comprehensive plan that works well for all parties. This often means finding “mutually agreeable” or reasonable solutions to issues that are not clearly – or consistently – handled by the various one-to-one contracts the pole owner has with each party. For example, all parties should share in the inspection cost of the inventory in a reasonable prorated way, even though all parties don’t have contracts with each other.

It is often up to the pole owner to develop extra-contractual solutions all parties can buy in to.





Step 2: Notify and Communicate

Once you have reviewed the contract, the next step is to communicate to other parties when, where and how the audit will take place. We recommend the following best practices:

- **Follow the contractually required notice period.** If the contract requires advanced notice to one of the parties, it is important to provide that notice or reach mutual agreement with the other party that the notice period can be waived.
- **Invite all parties to attend the kickoff meeting.** We know what you are thinking: “they won’t show up” or “this will be awkward” or maybe even “they don’t like us.” That may all be true, but it is probably not. Even if it is, do it anyway. While it is not always perfect, we have found a kickoff meeting to be invaluable in setting clear expectations for all parties involved in the process and creating a forum for discussing issues that may have long been waiting for resolution. If all else fails, bring donuts. Everyone likes free donuts.
- **Communicate process/expectations.** Managing expectations is always necessary to achieve success. Communicating what data you will be collecting and how it will be used builds trust into the process. Providing project timelines allows for attachers to prepare to receive data and budget for the inspection costs.
- **Ask for help.** While this may also seem counterintuitive, asking all involved parties for their help in the process by sharing their knowledge and data often yields helpful information. All parties share the goal of getting accurate, useful data out of the process. Most are willing to contribute their knowledge and information in support of that goal. Note that it is often necessary to sign a non-disclosure agreement before receiving map data from a telecommunications provider. It is important to respect the fact that they may not want their data shared with other parties, who may be their competitors.



Step 3: Inspect! (Finally)

Perform on GIS basis. In the present age, this may seem obvious to some, but it's not. Clear communication starts with clear information. If you are collecting field data, it needs to be done on a geographically referenced basis so all parties can review shared mapping data when reviewing results.

Standard Items to Include. Below is the minimum necessary data that must be collected in a pole attachment audit to true-up billing records and resolve issues.

- Attachments by owner/type (top to bottom)
- Owner of each pole
- Stub poles
- Transfers Needed
- Needs to Attach
- Obvious NESC code violations
- Urgent unsafe conditions
(call in to dispatch)

Step 3a: What'll Ya Have?

When developing your inspection scope of work, do not miss the opportunity for the utility to place its order. Like a customer at the much loved Atlanta fast food institution, The Varsity, the utility engineer has an opportunity to decide "what'll ya have".

The bulk of the cost of an inspection is in getting a qualified worker out in the field to conduct a safe inspection. This creates a good opportunity for the utility to collect additional information that may otherwise be cost-prohibitive.

Additional items of interest to utility:

- Photos
- Lighting Inventory
- Submeter GPS location information
- Pole-top assembly information
- Transformer and pole-mounted device information
- Maintenance issues

It is important for the pole owner to request separate line-item costs (typically unit-based) for these items so the cost of collecting additional items is paid separately by the requesting party and not charged to attachers.





“Any honest process must allow for quality review and correction.”

Step 4: QA/QC/Post-Processing

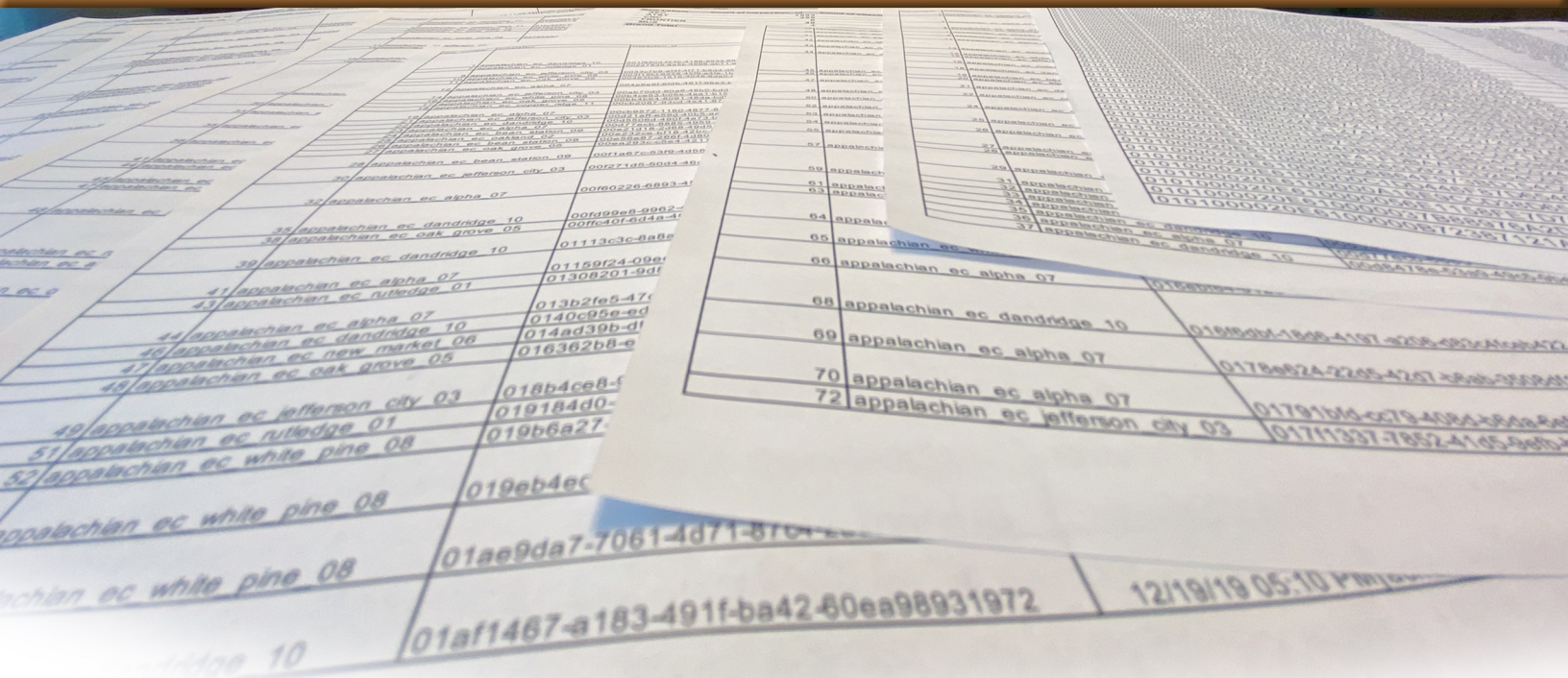
Good data collection is always the best solution, and there are many ways to improve data with training, experience, and automation. However, no matter how good your inspectors and processes are, they all still suffer from the reality that humans make mistakes. Any honest process must allow for quality review and correction. As your inspection data flows in from the field, it must be reviewed for quality assurance.

When completing data integrity and quality assurance processes, we recommend the following practices:

- **Collect more data than you need.** The most acute pain of any inspection process is having to make two trips to the same point. It is much better to collect data and exclude it from the final deliverables than to wish you had collected information and have to make another trip.
- **Do not wait until the end.** Examining data early in the inspection process will allow time for correction. Better to move slowly at the beginning than to learn later you missed the mark.

- **Provide real-time feedback** to inspectors/utility staff. In addition to reviewing data for quality, sharing patterns of information with inspectors and utility staff will help to achieve the utility's objectives and ensure standard data collection across inspectors.





Step 5: Data Delivery

Data is the lifeblood of inspection work. Without providing good, actionable data, an inspection is nothing more than a pleasant drive. In order to ensure data collected becomes data that is used, we recommend the following:

- **Capture data in flexible format.** Data collected in an inspection will be used by a variety of different stakeholders in a variety of different software formats over an extended period – and the stakeholders and software formats are likely to change. To the extent data can be provided in open source and standard formats, this will help to “future-proof” your data and maximize your investment. This means the best solution may not be to use your proprietary GIS system for collecting field data, particularly if it is bulky or unwieldy for collecting data in the field or difficult to provide data to your attachers out of this system.
- **Do not wait until the end.** As with QA/QC previously mentioned, data delivery should not wait until the end of the process. If your system is large enough to allow for a pilot project, take the pilot all the way through to the data delivery phase. If not, it is still important to review the data before the conclusion of the project. You will likely learn something you did not expect that will influence how you would like to receive or collect information.

- **Provide on Substation Basis.** How do you eat an elephant? One bite at a time. Select some reasonable interval to receive data delivery on a consistent basis. This helps to create a rhythm for the project and helps to prevent data overwhelm. For electric utility pole owners, we typically provide data on a substation-by-substation basis. Receiving data by circuit, wire center, or district can also work.
- **Get it Multiple Ways.** Data can be useful on a GIS basis for mapping, a CSV basis for maintenance items, and a summary basis for billing. Again, if you have collected flexible data, get the good out of it for all parts of your organization.

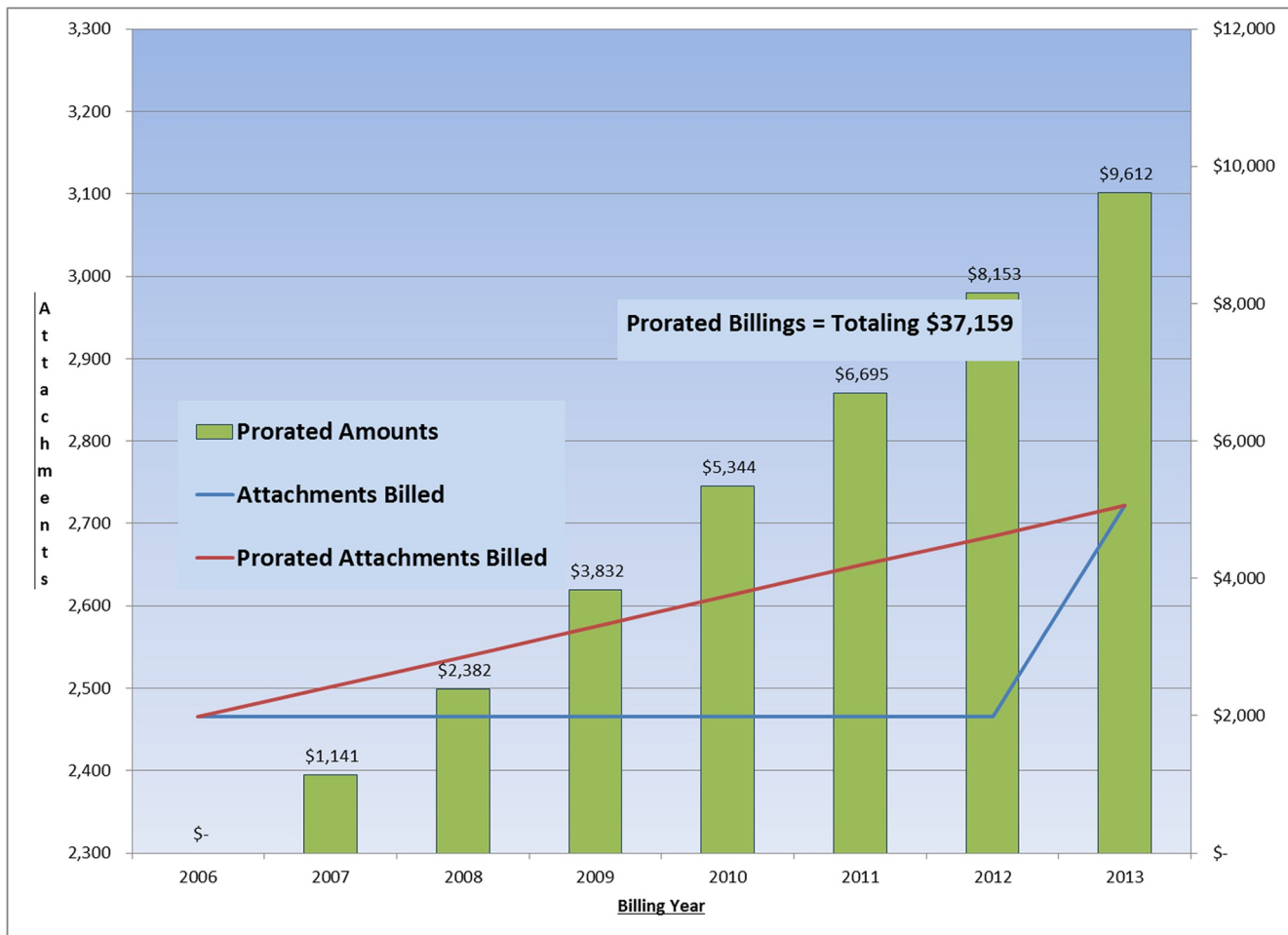
“ How do you eat an elephant?
One bite at a time.
Select some reasonable
interval to receive data
delivery on a
consistent basis. ”



Step 6: Billing and Inspection Closeout

Once the inspection is complete and the data has been delivered, you feel like you're almost finished, but the fun part is just getting started. It is time to take the all data that has been generated, boil it down to the billable components and share with attachers. Do the following:

- **Refer to the contract.** We have participated in many projects with pole owners who were not aware that they had the right to bill for some particular type of attachment, or to increase their billing rate based on a certain inflationary index, or that they owed an attacher a refund for some certain data discovery. The longer you avoid referring to your contract, the further from accurate your billing becomes (for better and for worse).
- **Be transparent.** If you have collected clear data (and at this point, you have), and reviewed your contract (check!), then you have nothing to hide. Sharing your calculations will build trust over the long term.
- **Inspection Cost Share and Prorated Backbilling.** Each pole attachment audit creates two important one-time billing events: 1) the inspection cost share, in which each party receives an invoice for its portion of the inspection cost – remember that this inspection cost should not be borne exclusively by the pole owner, since it would not be a necessary inspection if there were not attachers on the poles; and 2) the prorated backbilling, which is the process of adjusting or “trueing-up” the difference in rental payments indicated by the increase (or decrease) in attachments across the five years between inspections.



Step 7: Follow-Up

Addressing follow-up issues is the last step in the process. By this time many pole owners are exhausted with the process and overwhelmed by the data. The temptation to skip this step is huge. Do not fall into this trap! You will miss much of the value created by this process and find yourself wishing you had resolved these issues five years down the road when it is time for your next audit.

Below is a list of minimum recommended follow-ups from a pole attachment audit:

- Transfers Needed
- System Maintenance Issues
- Pole Ownership Reviews
- Obvious Code Violations
- Needs to Attach



“ The temptation to skip this step is huge. Do not fall into this trap! You will miss much of the value created by this process... ”

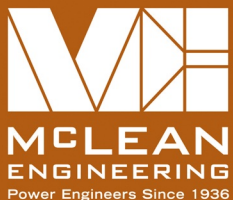


McLean Engineering seeks to provide the highest quality pole attachment audit in our industry based on our use of cloud-based, detailed GIS inspection data and subject matter expertise to reduce ambiguity and improve data for billing, pole ownership issues and contract administration. Most importantly, we focus on finding value for our clients and improving relationships between pole owners and attachers through this process.

Our goals are to help pole owners improve their relationships with attachers and to help create an orderly business environment for the pole attachment/joint use function of a pole owner's organization, all while recovering the costs to provide this service to attachers. We believe this objective is key to not only improving processes and relationships but will be key for broadband and 5G deployment success for smaller utilities, municipalities, and rural areas.

McLean Engineering has been recognized for our pole attachment expertise, serving clients, speaking at conferences and teaching courses throughout the United States.

For more information or to schedule a brief demonstration of McLean Engineering's pole attachment audit process, please contact us at info@mcleanengineering.com.



**mcleanengineering.com
(877) 985-1148**