



## Application of the Federal Research and Development Tax Credits

Architectural and Engineering Services Firms

White Paper

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# Federal Research and Development Tax Credits – How They Impact the Architectural and Engineering Services Industry

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Research and Development Tax Credits have been in place for 30 years, but have been virtually inaccessible for the majority of companies until recently. In late 2003, the Federal Government expanded the R&D Tax Credit laws to allow a greater number of businesses to recoup a portion of their tax liabilities for activities related to product and process improvements. With these recent changes, Architectural and Engineering Services Firms, which invest heavily in product and process improvements, have a greater opportunity for substantial R&D tax credits in open tax years.

R&D activities are frequently undertaken in response to market demand for greater competency in design and compliance, and include the following topics:

- Safety
- Environment
- Structural and Mechanical Integrity
- Sustainability

The R&D Tax Credits can be used to the firm's benefit; to effectively increase the R&D budget, improve cash flow, improve ROI, etc.

The architectural and engineering function is a rich and oftentimes complicated process that transforms concept into physical substance. As is true for many industries, architectural and engineering firms vary broadly in scope and function. For this reason, the research and development tax credit studies must be case-specific endeavors focused on factors unique to each client.

Despite the unique nature of specific projects, generalizations about the industries can help bring clarity to the type of activities that may qualify as research and development under section 41 of the tax code. The generalizations provided here, for Architectural and Engineering firms, are meant as a starting point that must be refined, expanded and/or contracted based on the specific facts of any entity.

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## The A/E Process

Although the nature, scope, and specialty of A/E firms are wide and varied, the services they bring to the market may be broken down into the following phases:

### Selection

The selection process varies in its formality and complexity. The structural formality can range from rigid compilation of predetermined forms to abstract and dynamic shapes. Further complicating this is a variety of mechanical requirements ranging from rote repetitive systems to groundbreaking sophisticated support systems that are unique to the architectural & engineering field.

### Conceptualization / Initial Programming

The conceptualization and programming phase comprises the initial efforts to translate the program requirements into built form. This includes preliminary discussions between the architect/engineer and the client to determine the client's functional needs, general aesthetic goals and projected budget.

### Schematic Design

The schematic design phase is a vehicle to present potential design solutions for approval. The architect and/or engineer and client discuss the merits of potential designs to conclude the viability of each combination. The designs are of increasing detail, and will include floor plans and exterior elevations. These schematic designs provide the client with the opportunity to verify that the architect or engineer has correctly interpreted the client's functional requirements in relation to the aesthetic requirements and budget constraints. This is an ongoing development process that frequently takes several iterations to resolve.

### Design Development

The design development phase provides the framework for formalizing the physical form and technological underpinnings that will be reflected throughout the remainder of the design process. This demands increasing detail, and incorporates scale drawings, models, and detailed renderings to document specific structural features. Client input is essential to the architect and engineer at this time, as the design development drawings are used as the basis for the construction drawings and preliminary cost estimates.

While there are significant differences between types of firms – architectural vs. engineering, structural vs. geotechnical, etc. – we believe the basic process of problem solving for the client is executed in a consistent pattern across the industry.

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## Construction Drawings

This final design stage is a compilation of highly specific data provided by the architect and the builders. Based upon client-approved design development drawings, construction drawings are prepared through a host of traditional and new technologies, the results of which should provide drawings specific enough for a contractor to build the project as illustrated.

## Bidding

The architect and/or engineer provides expertise and oversight during the bidding phase to ensure that contractors' capacity to perform according to the designs. This includes an analysis of the contractor's technical proficiency and commitment to the construction process.

## Construction Observation

During the construction observation phase, the A/E professional remains available to identify deviations from the original construction drawings and advise on potential alternatives and setbacks. Adaptation to unforeseen building sight problems, budget constraints, and technological adjustments is essential to the proper fabrication of unique structures, and frequently is the genesis for new technologies and solutions.

## General Overview of the R&D Tax Credit

Section 41 of the Internal Revenue Code provides a tax credit that is based on a taxpayer's spending on "qualified research." The research credit is often erroneously considered to be available only for "product" development costs in a traditional sense, and is often not considered for other development costs, e.g., the costs of developing ground-breaking architectural designs. However, IRC §41(d) defines qualified research as research for the purpose of developing new or improved "business components." Business components are defined by the Code as products, processes, computer software, techniques, formulas, and inventions, whether held for sale or lease by the taxpayer or used in the taxpayer's trade or business. To the extent a taxpayer's development activities constitute qualified research, they may be able to claim a research credit based on their costs for developing such business components.

The credit is available for both in-house and contract costs incurred by the taxpayer in conducting "qualified research." The following discussion contains a description of the definition of qualified research.

The seven phases of project development:

- Selection
- Conceptualization/Initial Programming
- Schematic Design
- Design Development
- Construction Drawings
- Bidding
- Construction Observation

The Code defines *qualified research* as research and development activities involving a process of experimentation, designed to develop new or improved products, processes, or assets (including computer software).

## Research or Experimental Activities

The first requirement of the definition of qualified research is that the costs of the development activities be deductible under

§174 of the Code (although the costs need not actually be deducted under IRC §174(a)). This means that the activities must be development activities in the “experimental or laboratory sense.” To satisfy this requirement, the development activities must be intended to discover information that would eliminate uncertainty concerning the development or improvement of a business component. Uncertainty exists if the information available to the taxpayer does not establish the capability or method for developing or improving the business component, or the appropriate design of the business component. The qualification of uncertainty applies when the taxpayer must ask:

- (1) If it can develop the business component it wants to develop, or
- (2) How to develop the business component it wants to develop, or
- (3) What is the appropriate design of the business component to be developed?

Thus, even if the taxpayer knows that it can develop a product, the development activities may satisfy this first requirement if the taxpayer is uncertain about how to design or develop the product, or is uncertain about the appropriate design of the product. Whether the taxpayer’s development activities satisfy this requirement depends on the nature of the development activities, not the nature of the product or improvement being developed or the level of technological advancement the product or improvement represents.

### Process of Experimentation

The second requirement of the definition of qualified research is that substantially all the development activities (potentially 80 percent or more of the development effort) constitute a “process of experimentation.” To satisfy this requirement, the development activities must satisfy the “research or experimental” requirement described above.

Thus, a process of experimentation is a process designed to evaluate one or more alternatives to achieve a result where the capability or the method of achieving that result, ***or the appropriate & final design of that result, is uncertain as of the beginning of the taxpayer’s research activities.*** It is important to note that a taxpayer may undertake a process of experimentation if there is no uncertainty concerning the taxpayer’s capability or method of achieving the desired result so long as the ***appropriate design*** of the desired result is uncertain as of the beginning of the taxpayer’s research activities.

Four components that qualify a project:

- Research that intends to eliminate uncertainty
- Uses a process of experimentation to remove uncertainty
- The activity must be technological in nature
- It must relate to a new or improved function of a process or product

For purposes of the technology requirement, the issuance of a patent by the Patent and Trademark Office under the provisions of 35 U.S.C. 151 (other than a patent for design issued under the provisions of 35 U.S.C. 171) is conclusive evidence that a taxpayer has discovered information that is technological in nature. However, issuance of a patent is not a precondition for credit availability.

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A process of experimentation may include developing one or more hypotheses designed to achieve the desired result,

designing and conducting an experiment to test and analyze those hypotheses, and refining or discarding the hypotheses as part of a design process to develop or improve the business component; **including Trial & Error**

### Technological in Nature

The third requirement of the definition of qualified research is that the development activities be designed to discover information that is “technological in nature.” This means that the development activities must involve research in the physical or biological sciences, **engineering**, or computer science. Qualified research cannot be in the “soft” sciences, such as economics, psychology, or management sciences.

The application of this requirement does not call for the taxpayer to seek information that exceeds, expands or refines the common knowledge of skilled professionals in the particular field of science or engineering in which the taxpayer is performing the research. In addition, a determination that research is undertaken for the purpose of discovering information that is technological in nature does not require that the taxpayer succeed in developing a new or improved business component.

### Functional Development

The fourth requirement of the definition of qualified research is that the development activities relate to a new or improved function of a business component, or the business component’s performance, reliability, quality or durability.

### Qualifying Research and Development Activities

The “Qualifying R&D Activities” within the Architectural and Engineering Services Firms Industry are any projects which may give rise to eligible R&D costs, for example any activities which:

- Develop ideas that stretch current architectural or engineering expertise;
- Develop numerous iterations of a schematic design that will bring to life ideas;
- Develop designs that will integrate alternate materials with which to construct a structure or parts of a structure (e.g. pre-stressed concrete, glass);
- Design to improve acoustical qualities of a structure;
- Design for alternative water flow / plumbing systems;
- Design for alternative electricity conduction systems;
- Design for improved lighting within a structure;
- Design improved ventilation for a structure;
- Design surrounding alternative heating and cooling

Within the Architectural and Engineering Services industry, activities and projects typically have identifiable costs that qualify for the R&D Tax Credit based on current statutes, regulations, and legal precedence.

- systems;
- Determine alternative structural design;
- Work as part of a pilot plant, in the investigative or
  
- laboratory sense, for developing the concepts of a model or process;
- Design toxic waste and other waste disposal processes that will be integrated into the structure;
- Design product and material transportation systems that will be integrated into the functional design of the structure;
- Integrate environmental impact studies; and
- Integrate costs related to designing multiple co-dependent features, where the technical uncertainty may only be eliminated by designing the related components.

## How Do Architectural and Engineering Services Firms Understand and Access Their Available R&D Tax Credits?

The nation's leading R&D Tax Credit Firm, CTA's expertise was established in 2001. We are headquartered in Huntsville, AL. CTA Solutions maintains a national presence and a world class base of technical expertise.

CTA's engagement objective within an Architectural and Engineering Services Firm is to help recoup and reduce tax dollars paid to the IRS by identifying "Qualified Research Expenditures," which include:

- Employee Wages
- Supply Costs
- Contract Costs

These expenditures will be identified through:

- Tax Status Assessment
- Operations Review
- Document Analysis
- Employee Interviews

CTA has worked with many Architectural and Engineering firms to identify and recover R&D Tax Credits. CTA is not a general accounting firm; CTA specializes in obtaining qualified R&D Tax Credits for your firm. In doing so, CTA works closely with your CPA and makes the process of recovering your R&D Tax Credit dollars straight forward, efficient, cost effective and nearly risk-free. In total, a CTA engagement will typically span 6-8 weeks and occupy only 20-25 total hours of your staff's time.

CTA team members include:

- Senior CPA's from the Big 4 accounting firms
- Fortune 500 tax accountants
- Ex-IRS specialists
- Technology Executives
- Tax attorneys
- Engineering and process improvement experts

Benefits:

- Recover significant cash to fund growth
- Realize permanent tax savings
- Define path to achieve future additional tax savings
- Reduce overall effective tax rate
- Increase cash flow and earnings



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## What Are the Benefits to Architectural and Engineering Services Firms of Working with CTA to Recover Your R&D Tax Credits?

The average R&D Tax Credit recouped by Architectural and Engineering Services Firms is substantial - hundreds of thousands of dollars! If your firm is improving its products or processes to compete in today's marketplace, you probably qualify for tax credits. By taking the time to discuss your business with CTA, you can take advantage of the opportunity to recover cash based on your day to day activities.

**In addition:** A recent change to the Federal Research & Development Tax Credit, signed into Law the end of 2015, not only *extended* this incentive but in fact has now been made PERMANENT. Additionally, and this has been a substantial issue for a high percentage of tax payers (S. Corps, LLCs, Partnerships) the **Alternative Minimum tax** provision has been removed.

What this means is more benefit for those firms previously obstructed from these incentives because of AMT. Now is the time to reevaluate the Research Tax Credit if you have fallen into such a tax situation in the past.

Join the many Architectural and Engineering Services firms who have worked with Corporate Tax Advisors to increase their value by decreasing their tax liabilities and lowering cost and and specifically wage expenses.

For more information, please contact Corporate Tax Advisors, Inc.

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