



**INGRAM ENGINEERING SERVICES**

AN VIEW - WICK DRAIN LOCATY



“ QUALITY COMES BEFORE PROFIT. THAT ISN'T A SLOGAN. IT'S HOW WE DECIDE WHICH RECOMMENDATIONS WE'D PUT OUR NAME ON. ”

**Ingram Engineering Services** is built on the conviction that the right engineering solution is the simplest one meeting technical specs. Founded in 2007 by **Chadd W. Ingram, P.E.**, IES has grown into a team of 20+ professionals offering **structural and geotechnical engineering, construction material testing, and an AASHTO-accredited materials lab**. Clients stay because they can entrust entire projects to one team.

Our work spans **residential, commercial, industrial, and infrastructure sectors**. We serve national firms, developers, contractors, and municipalities. Regardless of scale, our commitment to technical excellence and practical problem-solving remains constant.

SIMPLEST SOLUTION,  
FULL TECHNICAL RIGOR

ECONOMICAL  
SOLUTIONS

TURNKEY ACROSS  
DISCIPLINES

NO COORDINATION  
GAPS

QUALITY  
ABOVE PROFIT



STRUCTURAL

GEOTECHNICAL

SUBSURFACE  
IMPROVEMENTS

CONSTRUCTION  
MATERIAL TESTING

LABORATORY  
TESTING

## GEOGRAPHY AND LICENSURE

Primary service area: **Pennsylvania, New Jersey, Delaware, Maryland.**  
Primary field operations within a 150-mile radius of Philadelphia.

Licensed Professional Engineers: **AL, CT, DE, FL, IL, MA, MD, MI, NJ, NY, PA, TX, VA,** with additional states available through affiliation.

Contact us to confirm coverage for projects outside the primary service area.

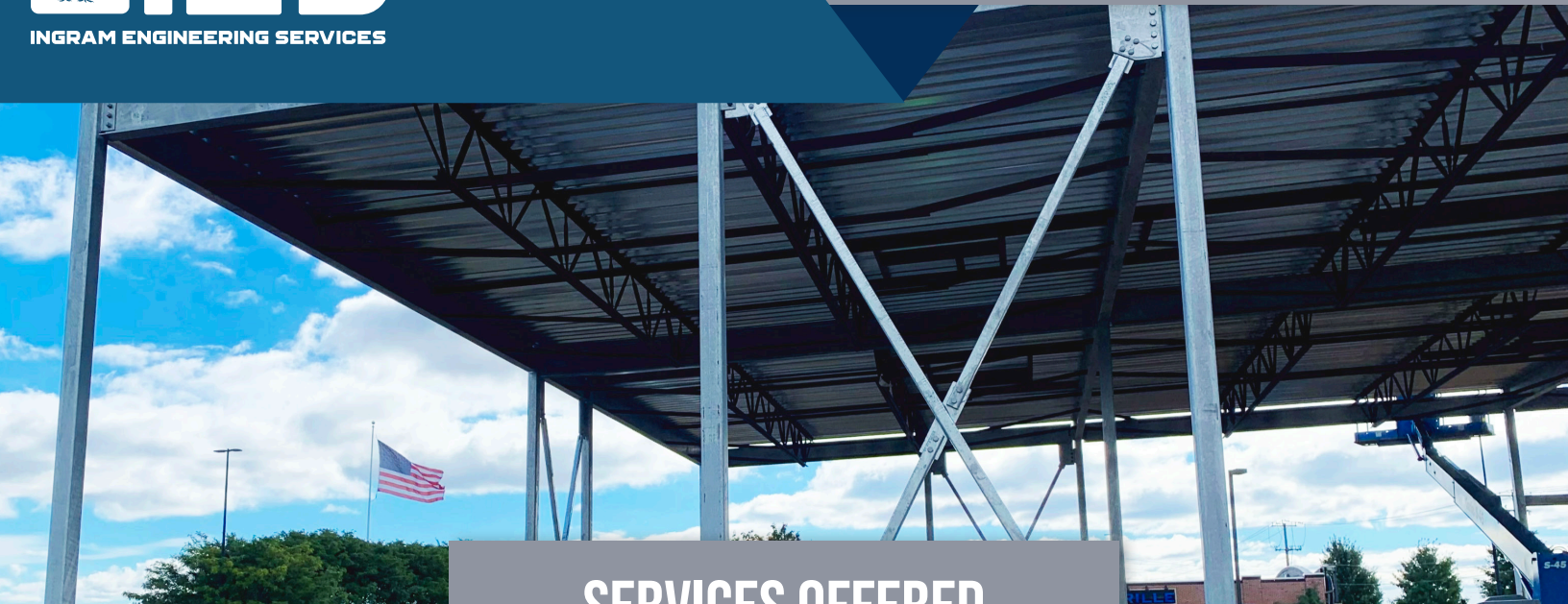
## MARKETS AND PROJECT TYPES

- Commercial and mixed-use buildings
- Residential developments and custom homes
- Industrial and warehouse facilities
- Educational and institutional buildings
- Healthcare and medical facilities
- Senior living and assisted care
- Infrastructure, bridges, and retaining walls
- Parking structures
- Renovations, rehabilitation, and adaptive reuse
- Site development and civil works
- Forensic investigations and dispute resolution
- Public sector, municipal, and HOA communities

### New Business Inquiries

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ingram-engineering.com

16 Hagerty Blvd, Suite 400 | West Chester, PA 19382



## SERVICES OFFERED

**Ingram Engineering Services** provides structural engineering for projects of every size and complexity, from **residential additions** and **light-gauge framing** to **multi-story commercial** and **institutional buildings**, **industrial facilities**, and **forensic investigations**. We partner with architects, developers, contractors, institutions, and property owners across **PA, NJ, DE, and MD** as the standalone structural lead or as a coordinating member of a larger design team. Our scope includes underpinning design and inspections for both new construction and existing structure remediation.

### Residential Design

New homes, additions, and renovations; structural efficiency and code compliance

### Commercial Building Design

Office, retail, mixed-use, institutional; steel, concrete, masonry, timber

### Structural Assessments

Evaluation and design for renovations, repairs, and structural modifications

### Cold-Form Framing Design

Light-gauge steel framing with complete calculation packages

### Steel Connection Design

Member connections and bracing assemblies per current AISC standards

### Industrial Structures

Warehouses, manufacturing, and process facility structural systems

### Retaining Wall Design

Design of retaining walls using multiple different materials.

### Deep Foundations and Excavation Support

Piles, caissons, and shoring for heavy loads and challenging conditions

### Special Inspections

Third-party verification of structural construction per design and code

### Forensic Engineering

Failure assessment, remediation strategies, and expert analysis for restoration or litigation



## WHY ENGAGE IES FOR STRUCTURAL ENGINEERING

### Practical solutions, Right specifications

IES actively looks for the most buildable, cost-effective answer that meets technical and code requirements. We do not add complexity that does not serve the project.

### Direct access, Fast turnaround

Clients reach experienced engineers who provide analysis and a path forward without internal lag. Responsiveness is not a promise, it is how IES operates.

### Turnkey if You need it

Structural, geotechnical, subsurface improvements, inspections, and laboratory services available from one team. Survey coordination handled when needed.

### Multi-material Expertise

Concrete, steel, masonry, wood, cold-formed metal framing or light gauge steel, and composite systems across project types and scales

### Code Fluency

IBC, ACI 318, AISC, and regional requirements across PA, NJ, DE, and MD; familiar with local building officials

### Forensic and Retrofit capability

Assessment, investigation, and remediation design for existing structures, not just new construction





**SERVICES OFFERED**

**Ingram Engineering Services** delivers rigorous subsurface investigation, comprehensive geotechnical analysis, and innovative solutions for **foundations, retaining walls, pavements, site development, and stormwater management**. Our geotechnical practice integrates field exploration with in-house laboratory testing to produce site-specific recommendations. Each one is built around the most practical, constructible solution that meets technical and code requirements. We do not add complexity that does not serve the project. We serve **project managers, property owners, developers, civil engineers, contractors, and public-sector clients**.

**Site Evaluation & Soil/Foundation Investigations**

Test pits, borings, SPT, and DCP testing; due diligence through final design phases

**Foundation & Settlement Investigations**

Evaluation of cracking, settlement, and water intrusion with corrective recommendations

**Retaining Walls**

MSE, gravity, and cast-in-place concrete wall design with global stability analysis

**Stormwater Management**

Infiltration testing, BMP design support, and corrective action for failing facilities

**Scour, Erosion and Flood Resilience**

Analysis and mitigation for structures in flood-prone or coastal environments

**Sinkhole, Karst and Carbonate Geology**

GPR and non-destructive investigation of subsurface voids and unstable ground

**Due Diligence, Forensic and Remediation**

Phase I ESA per ASTM E1527, contamination screening, and foundation distress evaluation

**Pavement and Slab Evaluations**

Coring, in-situ CBR, and bearing capacity testing for existing and proposed surfaces

**Deep Foundation Design**

Piles, drilled shafts, caissons, micropiles, and helical piers

**Environmental Sampling**

Site condition identification to support due diligence and regulatory compliance



## WHY ENGAGE IES FOR GEOTECHNICAL ENGINEERING

### Regional soil Knowledge

Northeast and Mid-Atlantic geology, groundwater conditions, and problematic soil types are familiar ground.

### Direct access, Fast turnaround

Clients reach experienced engineers who provide analysis and a path forward without internal lag. Responsiveness is not a promise, it is how IES operates.

### Turnkey if You need it

Structural, geotechnical, subsurface improvements, inspections, and laboratory services available from one team. Survey coordination handled when needed.

### Value-oriented Solutions

Pragmatic foundation and remediation alternatives that reduce cost without compromising safety

### Public sector Expertise

Extensive experience with and referrals by numerous municipal engineers and building code officials

### Forensic and Retrofit capability

Sinkhole studies, GPR scanning, Phase I assessments, and corrective design for complex existing conditions

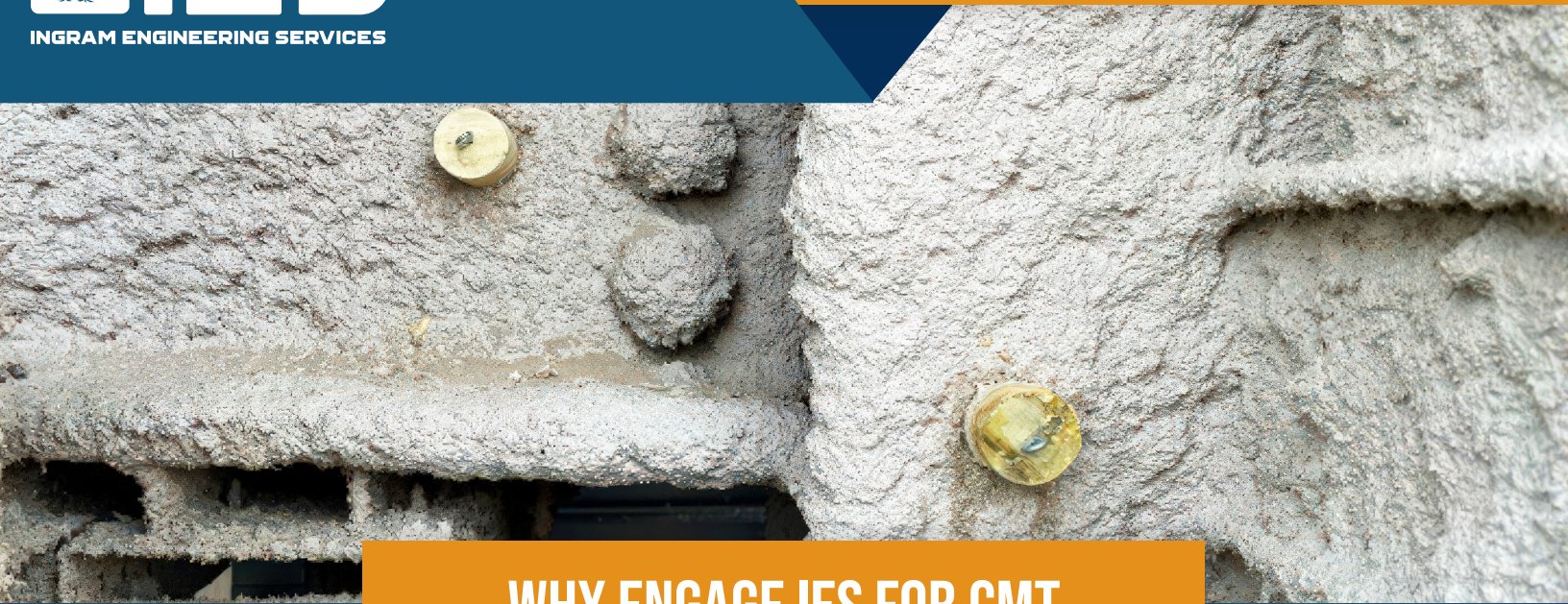




**SERVICES OFFERED**

**Ingram Engineering Services** provides comprehensive Construction Materials Testing (CMT) and special inspection services across PA, NJ, DE, and MD. Our ICC- and ACI-certified technicians serve as an independent third-party inspection agency (TPIA), verifying that construction materials and methods conform to design documents, project specifications, and the International Building Code. We work with commercial owners, general contractors, architects, engineers of record, municipalities, and institutional clients. Throughout construction, clients reach experienced engineers directly for analysis and a clear path forward without internal lag. Responsiveness is not a promise, it is how IES operates.

<p><b>Concrete Testing</b> Slump, air, temperature, and compressive strength per ACI; Windsor Probe, Schmidt hammer, and coring</p>	<p><b>Compaction Testing and Subgrade Evaluation</b> Nuclear method (ASTM D-6938) and DCP testing prior to foundations, slabs, and pavements</p>
<p><b>Reinforcement and Masonry Inspections</b> Rebar placement, tie and lap verification, mortar and grout testing, void-fill review</p>	<p><b>Structural Steel, Bolting and Welding</b> Visual weld inspection, bolting verification, steel erection review, NDT/CWI on request</p>
<p><b>Retaining Walls and Slope Reinforcements</b> Reinforcement, compaction, drainage, embedment, and block placement inspections</p>	<p><b>Fireproofing and Firestopping</b> Spray-applied and intumescent coating inspections; EIFS compliance review</p>
<p><b>Paving, Subbase, and Sitework</b> Density Testing of placed and compacted asphalt, aggregate subbase, and structural fill to verify compliance with project specifications.</p>	<p><b>Stormwater Infrastructure</b> Infiltration testing, trench backfill, and NPDES qualified visual site inspection</p>



## WHY ENGAGE IES FOR CMT





**EMERGENCY MOBILIZATION AVAILABLE WITHIN 5 BUSINESS DAYS.  
WRITTEN CORRECTIVE ACTION PLAN DELIVERED WITHIN 24 TO 48 HOURS.**

When site soils fail to support conventional foundations, traditional remove-and-replace or deep foundation solutions are not always the most practical or economical path. **IES engineers and implements cost-effective subsurface improvement methods that stabilize and strengthen existing site conditions in place, saving time and budget** without compromising technical performance. A Licensed Engineer or Qualified Representative thereof is on site full-time during all improvement operations, providing real-time decisions and eliminating the disconnect between design intent and field execution.

## SUBSURFACE IMPROVEMENT METHODS

### Soil Cement Stabilization

In-place mixing of Portland cement with native soils to dramatically increase bearing capacity and reduce settlement. Avoids excavation and disposal costs associated with remove-and-replace.

### Redensification

Mechanical recompaction of existing fill or disturbed soils to restore design bearing capacity without import material.

### Crushing, Screening, and Redensification

On-site processing of existing site material to produce reusable engineered fill, eliminating both import and export costs.

### Compaction Grouting

Pressure injection of low-slump grout to densify loose soils and lift settled structures from below.

### Combination Approaches

Innovative multiple-stabilization methods applied in sequence or tandem when site conditions require a layered solution.

## STORMWATER MANAGEMENT AND DRAINAGE REPAIR

### BMP Repair and Restoration

Investigation and corrective action for failing stormwater management facilities per DEP standards in multiple states. Infiltration, wetland, and amended soil facilities.

### Drainage Investigations

Diagnosis of surface and subsurface drainage failures, including scour, erosion, standing water, and underdrain system deterioration.

### Pipe and Structure Replacement

Aging or failed conveyance systems replaced or lined to restore function without full excavation where feasible.

## HOA AND COMMUNITY INFRASTRUCTURE

### Retaining Wall Repair and Replacement

Assessment and repair of failing community walls where space, utilities, or proximity to structures limits conventional methods. Concrete bin block, segmental, and gravity solutions.

### Sinkhole and Subsidence Remediation

Investigation and closure of sinkholes and voids using bentonite, flowable fill, impermeable liners, and engineered soil caps with proper drainage redirection.

### Infrastructure Assessment and Budgeting

Existing infrastructure evaluation to assist HOA boards with short-term repair prioritization and long-term capital budgeting.



**24 - 48 HRS**

Written corrective action plan

**7-10 DAYS**

Typical emergency mobilization

**20-50% SAVINGS**

Versus deep foundations

**25+ YRS**

Engineering experience behind every solution

Soil cement is the most frequently misunderstood alternative to conventional foundation solutions. It is not a temporary fix, it is a tried and tested innovative technique approved by the Army Corp of Engineers. When implemented correctly and installed under licensed professional oversight, soil cement transforms problem soils into a stable, load-bearing platform that supports conventional shallow foundations, eliminating the cost and schedule impact of deep foundations or complete soil removal.

## WHEN SOIL CEMENT IS THE RIGHT ANSWER

*Most sites with poor soil conditions are presented with two choices: remove and replace, or install deep foundations. Both carry significant cost and schedule implications. Soil cement is an innovative option that is frequently overlooked because it requires expertise and laboratory backed data to design and execute correctly. It is most effective when:*

- Existing soils have excessive moisture content that prevents compaction
- Urban fills or loose native soils fail to meet clean fill or bearing capacity standards
- Soft, wet, or elastic soils present settlement risk for conventional construction
- Project budgets cannot absorb the premium of deep foundation systems
- Schedule constraints require a solution that can mobilize and execute rapidly

## FEATURED PROJECTS

### CubeSmart, Neptune, NJ 3-Story, 105,000 SF Storage Facility

Wet elastic silts threatened foundations for this 105,000 SF facility. An 8,000 CY soil cement program produced a uniform bearing platform with settlement under 0.5 inches. IES also handled NJ DCA special inspections through the vertical build.

### AutoZone, South Philadelphia, PA 2,700 CY Soil Cement Stabilization

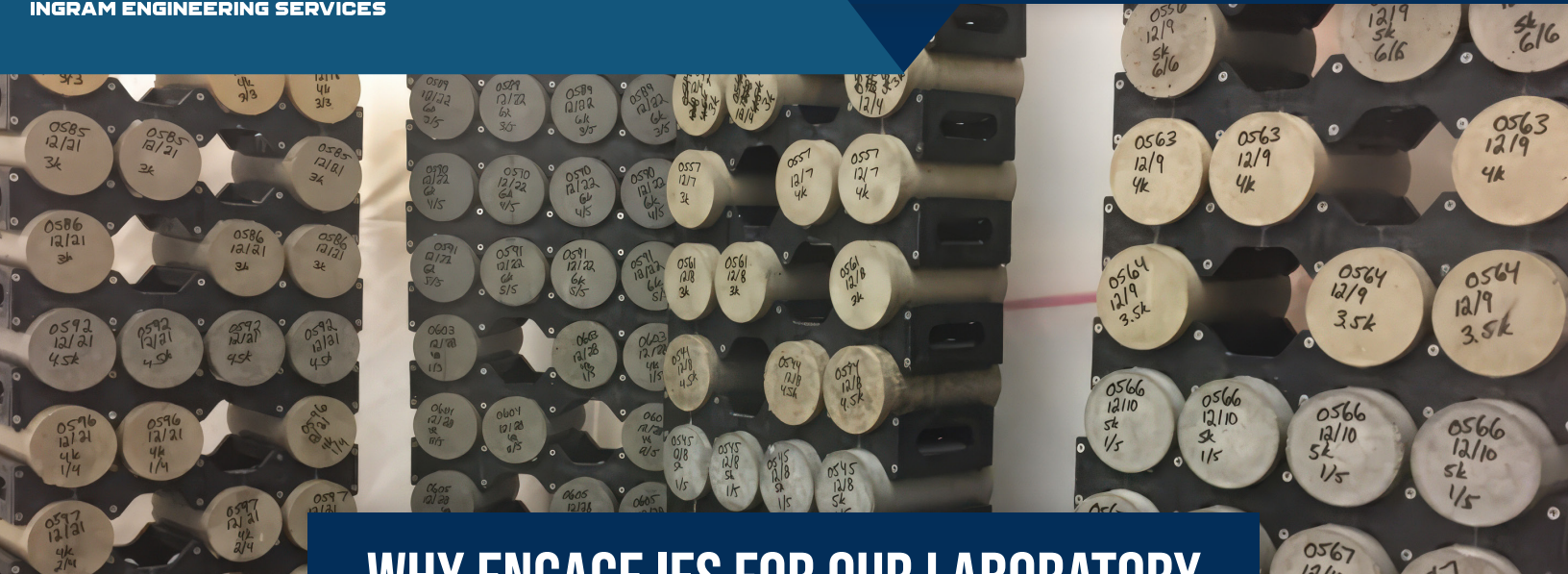
Loose urban fills failed clean fill standards. Other firms proposed remove-and-replace or deep foundations. IES delivered a 2,700 CY soil cement program instead: a far more affordable alternative that met all structural requirements.

### Whitford Country Club, Exton, PA Sinkhole & Stream Erosion Repair

After multiple failed repair attempts by other firms, IES restored a severe sinkhole and stream erosion condition using a bypass pump, cofferdam, flowable fill, impermeable liner, bentonite, and full stream bank restoration.

### Whiteland Woods, Exton, PA HOA Retaining Wall & Drainage

For a 200+ home HOA experiencing repeated retaining wall failures, IES traced the root cause to hydrostatic pressure. A stone-lined swale and roof leader connections addressed the drainage issue and ended the failure cycle.



## WHY ENGAGE IES FOR OUR LABORATORY

### Practical solutions, Right specifications

IES actively looks for the most buildable, cost-effective answer that meets technical and code requirements. We do not add complexity that does not serve the project

### In-house Coordination

Testing by the same firm performing field investigations reduces interpretation errors and speeds decisions

### Turnkey if You need it

Structural, geotechnical, subsurface improvements, inspections, and laboratory services available from one team. Survey coordination handled when needed

### Qualified Professionals

Laboratory staff hold AASHTO, ACI, ICC, and NICET certifications with 20+ years of combined experience

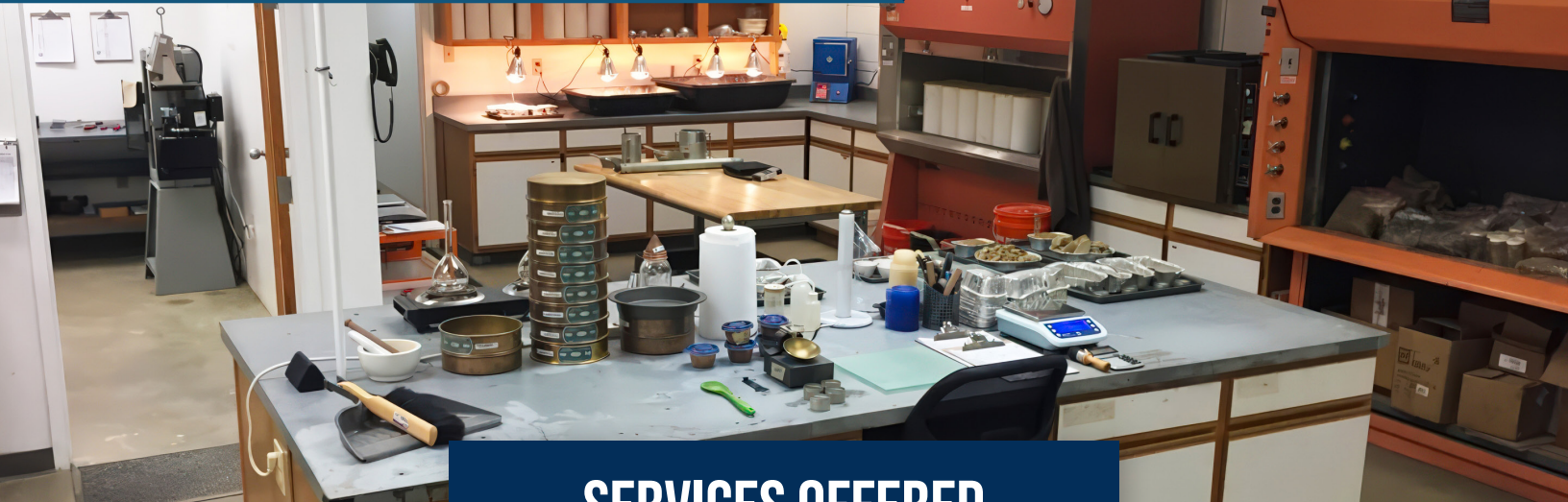
### AASHTO Accreditation

Formal recognition of laboratory competency for specific test methods on construction materials

### Flexible Engagement

Accepts standalone testing work and supports IES engineering and inspection projects as part of an integrated team





## SERVICES OFFERED

**AASHTO-Accredited.** Ingram Engineering Services operates a full-service soils and materials testing laboratory at our West Chester, PA office, accredited through the AASHTO Accreditation Program. All testing follows strict ASTM and AASHTO standard procedural requirements. Clients work directly with our lab team for results and analysis without internal lag. Responsiveness is not a promise, it is how IES operates.

**Materials tested:** Soil and subgrade, aggregates, concrete, grout, mortar, rock core, asphalt, sprayed fire resistive materials (SFRM), soil-cement, and landscaping materials.

### Soil Classification and Gradation

USCS, AASHTO, USDA; sieve and hydrometer; Atterberg limits; Proctor; permeability; CBR; direct shear

### Compressive Strength Testing

Concrete cylinders, grout, mortar, rock core, and soil specimens

### Aggregate Testing

Gradation, quality, and material characteristics for construction applications

### Asphalt Testing

Confirmation of field density testing for placed and compacted asphalt to verify Marshall density values and compliance with project specifications.

### Fireproofing Inspection

Thickness, density, and bond strength per project and code requirements. We inspect both SRFM (Spray-applied) and IFRM (Intumescent)

### Soil-Cement Analysis

Strength characteristics and suitability for construction applications

### Environmental Sampling

Phase I & Phase II Environmental Site Assessments (ESAs), and Clean Fill Certifications for site compliance and material export/import.

### Landscaping Materials Testing

Physical characteristics and suitability for materials approval for use and amendment recommendations based on project specifications.



## CERTIFICATIONS, ACCREDITATIONS, AND LICENSURE

The professional qualifications listed below are a direct measure of the competence and accountability behind every IES engagement, spanning structural engineering, geotechnical engineering, special inspections, and laboratory testing.

### INSPECTION CERTIFICATIONS

#### **International Code Council (ICC)**

Special Inspector certifications qualifying IES as a third-party inspection agency (TPIA) under IBC Chapter 17. Applicable to commercial, institutional, residential, and specialty projects.

#### **American Concrete Institute (ACI)**

ACI-certified inspectors covering concrete field testing, strength testing, laboratory testing, and aggregate testing.

#### **NRC Qualified Inspectors**

Nuclear moisture and density testing qualified by the Nuclear Regulatory Commission, including operator training and routine HAZMAT transportation refreshers to current standards.

#### **New Jersey Special Inspector**

NJ Department of Community Affairs recognized certification for special inspection scope in New Jersey.

#### **Philadelphia Licenses and Inspections**

Recognized inspection authority for applicable project scopes within the City of Philadelphia.

### LABORATORY ACCREDITATION

#### **AASHTO Accreditation Program (AAP)**

Full-service soils and materials testing laboratory. All testing performed per ASTM and AASHTO standard procedures. Formally recognizes laboratory competency for specific test methods on construction materials.

### SAFETY CREDENTIALS

#### **OSHA 10-Hour**

General industry and construction safety outreach training.

#### **OSHA 40-Hour HAZWOPER**

Hazardous Waste Operations and Emergency Response. Required for environmental field work.

### PROFESSIONAL ENGINEERING LICENSURE

#### **Licensed Professional Engineers**

Active PE licensure: AL, CT, DE, FL, IL, MA, MD, MI, NJ, NY, PA, TX, VA. Additional states available through affiliation. Contact us to confirm coverage.