

1.0 TECHNICAL APPROACH

Infrastructure Engineers, Inc.'s developed project approach is comprehensive and demonstrates our commitment to exceeding your expectations to provide timely, carefully-designed contract documents and performance that adhere to all FHWA criteria. Our technical approach addresses each presentation task required by the FHWA, insuring our excellent performance throughout this contract.

Sean A. Patrick, P.E., will be assigned as the Project Manager (PM), responsible for overall management of the project and serving as a staff member on individual work assignments as appropriate. He is capable of managing multiple work authorizations simultaneously and will be the FHWA point of contact for this project. He has extensive experience performing as a NHI course developer and instructor through his previous employer, Michael Baker, Jr., Inc.

As a small business enterprise, Infrastructure Engineers has the depth of staff and expertise to present multiple shorter-duration bridge inspection courses. As a certified NHI Instructor since 1999, Sean Patrick has both the technical credentials and managerial experience presenting NHI Course 130053, "Bridge Inspection Refresher Training". His familiarity and knowledge fully eliminates the inherent learning curve of a new vendor, and ensures a smooth seamless transition for NHI.

In consideration of these factors, we are hereby submitting on the following courses in order of our preference for task assignment:

1. NHI 130053, "Bridge Inspection Refresher Training"
2. NHI 130091, "Underwater Bridge Inspection"

Infrastructure Engineers takes great satisfaction in our commitment to adult learning principles. Our project manager has been recently been recertified as an NHI Instructor. And to further demonstrate our commitment, Infrastructure Engineers hosted NHI's Instructor Development Course (IDC) at our corporate headquarters in January 2006. All staff who may potentially work on this NHI contract attended the training. Not only did this present them with the opportunity to obtain certified NHI Instructor status in the future, it also reemphasized adult learning principles and ISD techniques.

Infrastructure Engineers hosted NHI's Instructor Development Course (IDC) at our corporate headquarters in January 2006.

1.1 Task Order Objective

The primary objective is to provide complete technical expertise and instructional systems design (ISD) services for the presentation of at least two training sessions per month, using existing government furnished curriculum materials for the following Structures Area courses:

- 130053: Bridge Inspection Refresher Training
- 130091: Underwater Bridge Inspection

To allow trainers to accurately confirm the training's impact, NHI has chosen to develop courses that test to Kirkpatrick Level II. For measurement, instructors will be required to facilitate question-and-answer sessions, quizzes, and pre and post assessments for courses.



1.2 Kick-off Meeting

The Kick-off Meeting is a post-contract award communications meeting to understand one another's roles and responsibilities in course development and delivery. The meeting is coordinated by the Contracting Officer's Technical Representative (COTR) and includes the Contractor team (principal and project manager) and the Programs Office and will be held within three weeks of contract award. The contractor shall prepare the agenda to include the following items as a minimum:

- Introduction of attendees
- Review project work plan (e.g., instructor combinations, logistics approach)
- Review NHI Standards and Requirements (e.g., NHI Style Guide, participant focused interactive training and instructor certification process)
- Review course outline for each course awarded (e.g., modules, case studies and exercises)
- Review course reference material for each course awarded
- Review deliverable requirements
- Review sign-off and acceptance process
- Review process of a technical review and/or walk through
- Review, and if necessary, revise timelines and milestones

1.3 Regular Course Presentations

The major challenges facing any team in providing NHI with training services lies in the ability to integrate different skill sets into a cohesive unit. Because our project manager has both a technical and an ISD background, he is able to serve as the glue between our subject matter experts (SME) and our ISD experts. In addition, many of our team members have worked with NHI on a contractual basis; this provides our team with a solid understanding of the expectations as well as the contract management procedures, including dealing with the Contracting Officer (CO) and COTR.

What our team knows from experience is that technically competent, credible instructors properly trained in adult learning principles is only one part, albeit a major part, of successful course delivery. Logistical considerations, while appearing mundane, will greatly affect the participant's perception of the course, and ultimately the course value.

1.3.1 Learner-Focused Training Methods

In order to effectively deliver a properly designed and developed course, the instructor should have a basic understanding of core instructional concepts. These concepts include learning domains, learning styles, training styles, group development, and behavior modeling.

Learning Domains. Our team's instructors have a working knowledge of Bloom's three learning domains; cognitive, affective, and psychomotor. The Cognitive Learning Domain is exhibited by a participant's intellectual abilities, and cognitive learning behaviors are characterized by observable and unobservable skills such as comprehending information, organizing ideas, and evaluating information and actions. Cognitive activities may include:

- Lectures
- Brainstorms
- Discussions

The Affective Learning Domain addresses a participant's emotions towards learning experiences. A participant's attitudes, interest, attention, awareness, and values are demonstrated by affective behaviors. Affective activities may include:



- Values clarifications exercises
- Nominal group processes
- Consensus-seeking activities

The psychomotor domain, also known as the behavioral domain, refers to the use of basic motor skills, coordination, and physical movement. Behavioral activities may include:

- Role plays
- Simulations
- Teach backs

Learning Styles. Our team's instructors also have a working knowledge of the three learning styles: visual, auditory, and kinesthetic. While individuals are generally dominant in one area, effective instruction utilizes all three styles. This is because we retain approximately 10 percent of what we see; 30 to 40 percent of what we see and hear; and 90 percent of what we see, hear, and do. These three learning styles are typically described as follows.

Visual learners tend to learn by looking, seeing, viewing, and watching. They need to see an instructor's facial expressions and body language to fully understand the content of a lesson. They tend to sit at the front of the classroom to avoid visual distractions, think in pictures, and learn best from visual displays. Effective methods of engaging visual learners include:

- Transparencies
- Videos/Slides
- Flip charts
- Readings
- Demonstrations

Auditory learners tend to learn by listening, hearing, and speaking. They need to hear and speak information to fully understand the content of a lesson. They interpret the underlying meaning of speech by listening to voice tone, pitch, and speed and other speech nuances. Written information has little meaning to them until they hear it. Effective methods of engaging auditory learners include:

- Lectures
- Group discussions
- Informal conversations
- Stories and examples
- Brainstorms

Kinesthetic learners tend to learn by experiencing, moving, and doing. They need to touch and feel information to fully understand the content of a lesson. They have difficulty sitting still for long periods of time, and easily become distracted by their need for activity and exploration. Effective methods of engaging kinesthetic learners include:

- Role plays
- Simulations
- Practice demonstrations
- Writing/Note taking
- Activities

Training Styles. Our team's instructors will have each self-evaluated their personal training styles. Different instructional specialist use many ways of describing these various styles. However, they can generally be grouped into one of the four following areas:

- Formal Authority: An instructor-centered approach where the instructor feels responsible for providing and controlling the flow of content which the learner receives and assimilates.
- Demonstrator or Personal Model: An instructor-centered approach where the instructor demonstrates and models what is expected (skills and processes), and then acts as a coach or guide to assist the learner in applying the knowledge.



- **Facilitator:** A learner centered approach where the instructor facilitates and focuses on activities. Responsibility is placed on the learners to take initiative to achieve results for the various tasks.
- **Delegator:** A learner-centered approach whereby the instructor delegates and places much control and responsibility for learning on individuals or groups of participants.

When evaluating their personal styles, our instructors recognize that some styles are more instructor-centered and some are more learner-centered. However, since adult learning principles are learner-centered, our team's instructors use learner-centered styles. Further, research supports the view that when the instructor's teaching style is learner-centered, and that is matched with adult learning principles that are learner centered, participant motivation and achievement usually improve. Both of these benefits require our instructors understand and utilize different training styles depending upon the situation. This adaptability not only allows them to be more consistently successful, it also provides them with tools to more effectively operate in a team teaching environment, for example with an FHWA co-instructor. This is the result of our team's ability to match their individual teaching style to that of their co-instructor.

Group Development. Our team's instructors are all introduced to the basics of group development. This introduction is based upon the Tuckman Model, which suggests all groups go through the model's five stages and must fully transcend one stage before becoming fully productive. The five stages and example characteristics are:

Forming – during this stage, the group is not yet a group, simply a collection of individuals. At this stage, members focus on the group's purpose, composition, leadership, and life span. This stage is when trust is developed, ground rules/norms are established, goals are clarified, and objectives are introduced.

Storming – during this stage, the group goes through conflict, following what appears to be the initial consensus resulting from the forming stage. If handled successfully, storming results in more realistic objectives, procedures, and norms. This stage is particularly important to the formation of trust within the group despite the fact that it is characterized by dissatisfaction, competition, conflict, etc. Ultimately, this lays the foundation for productive group dynamics.

Norming – during this stage, the group establishes norms and patterns that govern how it functions. Members test the group's receptiveness and establish their commitment levels. Structure develops and harmony increases. A group consensus emerges; it comes to an agreement on its purpose. Members are clear what their roles and responsibilities are. The group has a sense of identity and members strive to work together.

Performing – during this stage, the group reaches its optimal performance after successfully completing the three preceding stages. A group in this stage is achievement oriented and productive, and members understand and accept group structure, norms, and behavior. Members work with each other, and can effectively handle disagreements and misunderstandings.

Adjourning – during this stage, group members might experience grief and a sense of loss as they disband. Members also might lose energy and they might experience anxiety over what might happen next and how to apply what they have learned. This is where experience is validated, transference of learning is discussed, and members develop action plans.

By understanding the mechanics of group dynamics, our team's instructors know when to introduce objectives, when to provide perspective, when to help structure decision-making, and when to let the group perform. This leads to better participation and ultimately to higher participant satisfaction and more effective learning.



Behavior Modeling. Our team's instructors are all taught the value of positive behavior modeling. Dr. Robert Mager has noted that modeling itself is a powerful instructor. Our instructors use the principles he identified to optimize the learning environment. These principles include:

- Learners learn by watching and imitating
- Learners imitate those who have prestige
- Learners respond positively to positive reinforcement
- Learners respond positively to negative reinforcement

Our instructors will implement these principles by ensuring the classroom is maintained as a safe learning environment. They will arrive prepared to teach, and competent in their course's technical material. They understand it is impossible to know everything, and are willing to research answers they do not possess. Positive reinforcement is the class norm, with the instructor establishing intolerance for derogatory demeanor.

1.3.2 Course Logistics

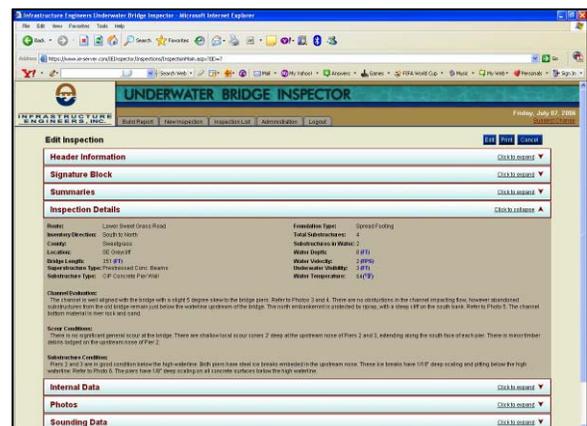
While it is important that instructors possess knowledge of, and an ability to apply, adult learning principles they must also possess the ability to manage the logistics of arranging and delivering a course. As evidenced by our resumes, our team has extensive experience in this area, delivering both instructional and technical courses for NHI and others.

To ensure session to session uniformity and that no task is overlooked, an activity checklist will be developed and utilized for each course delivery to include individual responsibilities and deadlines.

A Local Coordinator from the host agency will provide form FHWA-1530 with requested dates and training sites to the NHI Course Scheduler, who, in turn, will contact the contractor's Project Manager (PM). The PM will then contact the Local Coordinator within seven calendar days and discuss possible dates for the course. Once a list of potential dates is compiled, the PM will check on the availability of the instructors. The PM will confirm the delivery date with the Local Coordinator, NHI Course Scheduler, and instructors.

The NHI Course Scheduler will then submit the FHWA-1530 with the agreed date to the COTR for approval. Once the COTR approves the FHWA-1530, the course session is formally scheduled for the agreed dates and training site, as this also will formally authorize the contractor to conduct the course.

Within thirty days of the scheduled course, the instructors will contact the Local Coordinator and local agency's technical representative. They will verify the course starting date, the location, the physical arrangements (such as ensuring the seating supports the planned interactivity, accounting for flip charts and notepads, and requesting any special audio/visual needs such as a VCR and television), and the course times. The times may be adjusted to reflect local work hours, traffic demands, or preferences. Our instructors will also discuss local issues, and use these local issues to support the



In-house web based management system

content during course delivery. In addition, instructors at this time will obtain directions to training facility, discuss host agency requirements, obtain lodging recommendations for the instructors, check that all of the appropriate course material has arrived, discuss desired case studies and furnish a course agenda and instructor biographies.

At the time of presentation, our instructors will ensure each participant signs the NHI Class Roster, completes the NHI Course Registration Form, and completes the NHI Evaluation Form. The PM will fax the Class Registration Form to NHI within five days after the course. The PM will then mail the COTR the original class registration, course evaluations, and student registration forms and the course evaluation score summary within two weeks of the course's completion. In addition to these administrative activities, our instructors will administer and proctor any end-of-course assessments, including both formal (post test) and informal (group activity) applications. Finally, the PM will gather any noted changes to the material and any participant comments and recommendations, and provide these to the COTR as well.

To assist our PM and instructors with managing these tasks, an in-house database management tool will be developed, at no cost to NHI.

To assist our PM and instructors with managing these tasks, an in-house database management tool will be developed, at no cost to NHI. Infrastructure Engineers has designed and developed a similar web-based management system for bridge and underwater inspections and envisions enhancing the software to include training management and coordination activities. The database allows users to track the project progress and view and print reports in PDF format from any location with access to the Internet.

Infrastructure Engineers fully understands that for NHI Structures Courses, the PM and instructors are responsible for a wide range of logistical considerations throughout the entire process from initial scheduling to the course wrap-up activities performed in the office. To ensure session to session uniformity and that no task is overlooked, an activity checklist will be developed and utilized for each course delivery to include responsibilities and deadlines. The database checklists will be broken down in accordance within a prescribed timeline relative to a confirmed course start date as follows:

- I. Before Session Presentation
 - A. Office Activities
 - B. Host Agency Coordination
 - C. Instructor Preparation
- II. At Session Presentation
 - A. Course Setup (first day)
 - B. Course Wrap-up (last day)
- III. After Session Presentation
 - A. Course Wrap-up
 - B. Final Deliverables
 - C. Invoice and Billing

By taking these extra steps, we will provide outstanding service to NHI and the COTR. We will insure the COTR is not required to expend an inordinate amount of time administering our



contract, and we act as a seamless extension of the FHWA/NHI training team. Maintaining these high standards results in a mutually beneficial partnership; FHWA/NHI strengthens its reputation for high quality training and we develop a strong relationship with FHWA/NHI.

By taking these extra steps, we will provide outstanding service to NHI and insure the COTR is not required to expend an inordinate amount of time administering our contract.

The envisioned prototype checklist for the *Before Session Presentation* tasks is demonstrated below. The management tool will also track the actual date completed and the individual who performed the task with any pertinent comments as needed.

| | Project Manager | Course Director | Co-Instructor | Admin Assistant | Early Date | Late Date |
|--|-----------------|-----------------|---------------|-----------------|----------------------------------|-----------|
| I. Before Event | | | | | | |
| A. Office Activities | | | | | | |
| 1. Contact local coordinator to coordinate session dates | P | | | S | Within 7 days of notice from NHI | |
| 2. Contact NHI Scheduler with agreed upon dates | P | | | S | Upon agreement with host agency | |
| 3. Ensure confirmation e-mail received | P | | | S | - | 08/02/06 |
| 4. Create course file | | S | | P | - | 08/02/06 |
| 5. Assign instructors | P | | | | - | 08/02/06 |
| 6. Provide NHI eLMS session number to instructors | P | | | S | - | 08/02/06 |
| 7. Ensure instructors have registered as such on NHI website | P | S | | | - | 08/02/06 |
| 8. Make instructor travel arrangements | | S | | P | - | 08/02/06 |
| 9. Prepare session agenda | | P | | S | - | 08/02/06 |
| 10. Prepare one page instructor biography | S | | | P | - | 08/02/06 |
| 11. Check contents of shipping cases | | P | | S | 08/20/06 | 08/25/06 |
| <ul style="list-style-type: none"> - Instructor Guide, one copy for each instructor - PowerPoint Presentation or transparencies of presentation slides - A computer (and backup, if possible) loaded with PowerPoint 2000 - An LCD projector compatible with a notebook computer - Cables necessary to connect projector to computer - Spare projector bulb, if the local agency cannot provide projector - Electronic remote device to advance slides in the PowerPoint | | | | | | |
| B. Host Agency Coordination | | | | | | |
| 1. Review file for previously hosted courses, if applicable | | P | S | | - | 08/02/06 |
| 2. Obtain directions or map to course location | | P | | S | - | 08/02/06 |
| 3. Arrange for equipment and supplies from the local agency | | P | | S | - | 08/02/06 |
| <ul style="list-style-type: none"> - LCD projector as backup, if possible - Cables necessary to connect projector to computer, if possible - Spare projector bulb, if possible - Electronic remote device to advance slides in - Projection screen - Power strip - TV and VCR - Whiteboard with dry mark pens and eraser - Flip chart pads (at least five) - Large markers, assorted colors (at least seven sets) - Large black markers (at least one for every two participants) | | | | | | |
| 4. Verify proper NHI training materials have arrived | | P | | S | 08/25/06 | 08/29/06 |
| <ul style="list-style-type: none"> - Session materials - Three ringer binders, if applicable - NHI session roster - NHI sign in sheet - NHI certificates - NHI course evaluations - NHI participant registration forms - NHI name tents | | | | | | |
| C. Instructor Preparation | | | | | | |
| 1. Review the Instructor Guide and PowerPoint Presentation | P | | P | | - | 08/18/06 |
| 2. Review Reference Manual | P | | P | | - | 08/18/06 |
| 3. Review selected case study materials | P | | P | | - | 08/18/06 |
| 4. Familiarize yourself with the Participant Workbook | P | | P | | - | 08/18/06 |
| 5. Review any local documentation that addresses current issues | P | | P | | - | 08/18/06 |
| 6. Assign instructor presentation topics | P | | S | | 08/04/06 | 08/18/06 |
| <p>P - Primary responsibility S - Secondary responsibility</p> | | | | | | |

1.4 Curriculum Revisions

Typically, briefings will be conducted under a task order to develop, revise, or update an NHI course. Our team's skills provide an outstanding ability to provide this service for NHI. Our team has personnel with demonstrated marketing prowess, technical experts who are recognized throughout the country, and ISD experts who are recognized throughout the world. For each of these expertise areas, we have experts who have the unmatched ability to convey their information in a logical, easy-to-understand manner.

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In the event that NHI requests a specific task order briefing, we will be happy to prepare and present material or participate in a discussion. Our role may include attending and participating in a Course Development Workshop or a Technical Review Committee for courses not under development by our team. This process allows us to help NHI achieve the highest quality products and services even if we are not the primary consultant.

We are also willing to prepare and present briefings regarding NHI products and activities; this may mesh well with our marketing abilities. Such briefings could be internal to FHWA, helping NHI advise FHWA of goals and needs, or external to FHWA including NHI partners and customers such as AASHTO, the LTAP centers, NACE, APWA, ITE, and others. With our abilities, we can help these groups understand the value of NHI's products and services.

As NHI has learned over the last several years, courses developed using ISD techniques and adult learning principles provide higher participant satisfaction and greater learning effectiveness. Therefore, our team will revise and update courses under this contract with strict adherence to the well accepted ISD structure and adult learning principles.

Adult Learning Principles

Part of designing effective courses involves understanding how adults learn best. We know that compared to children and teens, adults have special needs and requirements as learners. The following characteristics accurately reflect this knowledge.

- **Adults are relevancy-oriented;** they must see a reason to learn something. Learning must be applicable to their work, other responsibilities, or personal goals to be of value to adults. Therefore, effective course design must show participants how the class will help them reach their professional or personal goals. Properly designed courses typically do this by identifying objectives for adult participants at the beginning of the course or before, and tying those objectives to the participant's "need to know." Occasionally, the course design can further this effort by letting participants choose segments, projects, or applications that reflect their own interests. This can be accomplished through interactive exercises that are group specific.
- **Adults are autonomous and self-directed.** Courses must actively elicit adult participants in the learning process. Specifically, course design must allow opportunities to gather participants' perspectives about what topics to cover and let them focus on segments, projects, or applications that reflect their interests. Courses designed with adult learning



principles should allow the participants to share responsibility for presentations and group leadership. This is often accomplished through interactive exercises that reinforce lessons.

- **Adults have accumulated a foundation of life experiences and knowledge that includes work-related activities, family responsibilities, and previous education.** To facilitate the learning process, the course design needs to connect learning to this knowledge/experience base. This includes incorporating potential biases into the course design and addressing them early. An example would be older structural design philosophies (Allowable Stress Design) versus current structural design philosophies (Load Resistance Factor Design). An effective way of doing this involves drawing out participants' experience and knowledge about the topic early in the course. The course must then relate new theories and concepts in a setting familiar to participants.
- **Adults are goal-oriented.** Upon enrolling in a course, they usually know what goal they want to attain or what task they wish to accomplish. Therefore, they appreciate an organized course design with clearly defined elements. With an appropriate structure, a course can more easily connect with a participant's goals, allowing the training to be better received. A method of addressing this need is defining the course goals and objectives early in the course. These goals and objectives are then revisited throughout the course, demonstrating how the course is meeting each goal and objective.
- **Adults are practical.** As a result, they will focus on the aspects of a course most useful to their work or personal goals. They may not be interested in knowledge for its own sake. Therefore, the course design must continually and explicitly remind participants how the lesson will be useful to them either professionally or personally.

Our team has over 100 years of extensive adult learning experience; this provides not only a theoretical knowledge of these principles, but more importantly the application of these principles in course design. With decades of applying this knowledge to both technical and non-technical course design, our team has demonstrated ability to incorporate adult learning principles into both new and existing courses.

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Learning Assessment

In addition to adult learning principles, effective course design includes a learning assessment component. For NHI, this is a particularly important component of complying with the International Association of Continuing Education and Training (IACET) guidelines. These guidelines allow NHI to provide continuing education units (CEUs) for NHI courses. Given the typical participant holds a registration or certification requiring continuing education, the ability to obtain CEUs from NHI courses is a major benefit. Therefore, NHI courses must be developed in accordance with IACET guidelines.

To ensure continued IACET certification, NHI courses follow Bloom's taxonomy as well as IACET's "A Practical Handbook for Assessing Learning Outcomes in Continuing Education and Training." As most recognized training standards are based upon the Kirkpatrick Model of Training Evaluation, NHI has chosen to develop courses that test to Kirkpatrick Level II. While



the Kirkpatrick Model consists of four levels; reaction, learning, behavior, and results, we will limit our information to the first two levels in the interest of space.

Level 1 – Reaction. This level measures participants' satisfaction immediately following the training and includes reactions toward the overall course (i.e. did they like the course?). It also includes measurement of participants' reactions or attitudes toward specific components of the program, such as the instructor, the topics, the presentation style, the schedule, audiovisuals, etc. Learning (Level II outcomes) is unlikely to occur unless participants have positive attitudes toward the training program. Therefore, it is important to determine participants' reactions to the training program.

Level 2 – Learning. This level measures learning results. In other words, did the participants actually learn the knowledge, skills, and attitudes the course was supposed to teach? To show achievement, participants typically complete a pre-test and post-test, making sure that test items or questions are truly written to the learning objectives. By summarizing the scores of all participants, trainers can accurately see the training's impact.

To assure the IACET guidelines are followed, our team will determine the appropriate assessment during the course development process. The assessment will be designed to measure the achievement of course outcomes, and can be either formal (post test) or informal (group activity) as long as the instructor(s) can measure that the participants met the course outcomes. The course outcomes will dictate the form of assessment used to measure the learner's knowledge, skill, or ability gained during the course, and will be sufficient to adequately measure participant mastery of each course learning outcome. These assessment forms can include multiple choice, matching, true/false, or fill-in-the blank. It may also include a performance assessment such as requiring the Bridge Inspection Refresher Training participants to complete an actual bridge inspection or to perform an in-class case study with appropriate visuals provided.

For measurement, instructors may facilitate question-and-answer sessions, quizzes, and pre and post assessments for courses. If a formal post test is given, the participants will be considered to have "passed" the assessment if they score a 70% or higher. As no segment of course delivery occurs in a vacuum, course descriptions and marketing materials must reflect the outcomes and the method of assessment to be used for measurement. Further, the instructor must describe the assessment process at the beginning of the course.

1.5 Section 504 and 508 Standards Requirement

Having worked extensively with FHWA and other governmental agencies, our team understands the necessity to comply with electronic formatting guidance. We fully understand the benefits of providing NHI products to the broadest possible audience. Therefore, we will work with NHI to make certain any products and services comply with appropriate Section 508 and 504 standards.

We fully understand the benefits of providing NHI products to the broadest possible audience.

As Microsoft Word, Excel, and PowerPoint are available to most modern screen readers, ensuring Section 508 compliance is a relatively basic process. Word documents will have a proper structure that assistive technology devices can interpret and navigate. All graphics will have appropriate descriptions that can be read by assistive technology devices, and tables will be properly constructed. For Excel, we will insure that any column and row headers are clearly



labeled, any comments are viewable as plain text, and any graphics have appropriate descriptions that can be read by assistive technology devices. In a nutshell, all non-text elements shall be provided with text equivalents.

For PowerPoint, all presentation material will be prepared in outline view; this allows us to textually describe any graphics or images on the slide. Not only does this assist with Section 508 compliance, it can also be a benefit to new instructors learning the course materials as they have a concise description of the graphic's pertinent points. As with Word and Excel, any non-text elements (graphics) shall be provided with text equivalents that can be read by assistive technology devices.

Any software developed under this contract will also comply with Section 508 requirements. These requirements mirror those discussed above, with particular requirements for navigation within the program and interactive functions.

Section 504 guidelines generally will be applied to the training environment. While the local host coordinator is responsible for providing compliant facilities, our team's instructors will verify the facilities upon our arrival and notify the local host coordinator should any facility not adequately address the participants' needs.



2.0 STAFFING

Infrastructure Engineers, Inc. has assembled a fully-qualified staff that gives the FHWA the confidence that the team has the resources and abilities to complete the tasks for NHI courses 130053 and 130091 on or ahead of schedule and exceeding the quality required by FHWA. In selecting our team, FHWA gains a consultant resource that already understands the FHWA culture and procedures. Members of our team, including our proposed project manager, have prior experience with the FHWA training program; these team members can provide a seamless transition for the delivery of these courses.

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Infrastructure Engineers recognizes that its success is a reflection of the staff's technical expertise. The firm's business philosophy includes an emphasis on professional development, which includes the completion of FHWA-sponsored courses. Our employees are specifically trained to perform with excellence on inspection projects which translates into technical expertise that is unmatched by our competitors. As shown in the following sections, our team possesses the technical experience to meet and exceed the FHWA's expectations for course delivery and technical expertise. Please refer to the Appendix for detailed resumes.

TECHNICAL CERTIFICATIONS

| COURSE NAME | David Reser, P.E. | Sean Patrick, P.E. | Gregg Hostetler, P.E. | Robert Hoehne, P.E. | Philip Fish, P.E. | Keith Trimels, P.E. | Martin Neaman | Jeff Zawacki | Fred Meek | David Orr | Andrew Young, E.I. | Chace Hulon, E.I. | Aaron McHan, E.I. |
|--|-------------------|--------------------|-----------------------|---------------------|-------------------|---------------------|---------------|--------------|-----------|-----------|--------------------|-------------------|-------------------|
| FHWA / NHI 13046 Stream Stability and Scour | ✓ | | ✓ | | | | | | | | | | |
| FHWA / NHI 13047 Stream Stability & Scour for Inspect | | | ✓ | | | | | ✓ | | ✓ | | | |
| FHWA / NHI 130051 Bridge Management Training | ✓ | ✓ | ✓ | | | | | ✓ | | ✓ | | | |
| FHWA / NHI 130053 Bridge Inspection Refresher Training | | ✓ | ✓ | ✓ | ✓ | | ✓ | ✓ | ✓ | ✓ | | | |
| FHWA / NHI 130054 Engineering Concepts for Inspect | | ✓ | | | | | | ✓ | | | | | |
| FHWA / NHI 130055 Safety Inspect of In-Service Bridges | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |
| FHWA / NHI 130078 & 13036 Fracture Critical for Steel Bridges | ✓ | ✓ | ✓ | | ✓ | | ✓ | ✓ | ✓ | ✓ | | | |
| FHWA / NHI 130087 Inspect & Maint. Ancillary Structures | | | | | ✓ | | | | | | | | |
| FHWA / NHI 130091A Underwater Bridge Inspection | | | | | | | | | | | ✓ | | |
| FHWA / NHI 420018 Instructor Development Course | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |
| COMMERCIAL DIVER | ✓ | | ✓ | ✓ | | | | ✓ | ✓ | | | | |

✓ - PLANNED FOR OCTOBER 2006

✓ - SUCCESSFULLY COMPLETED



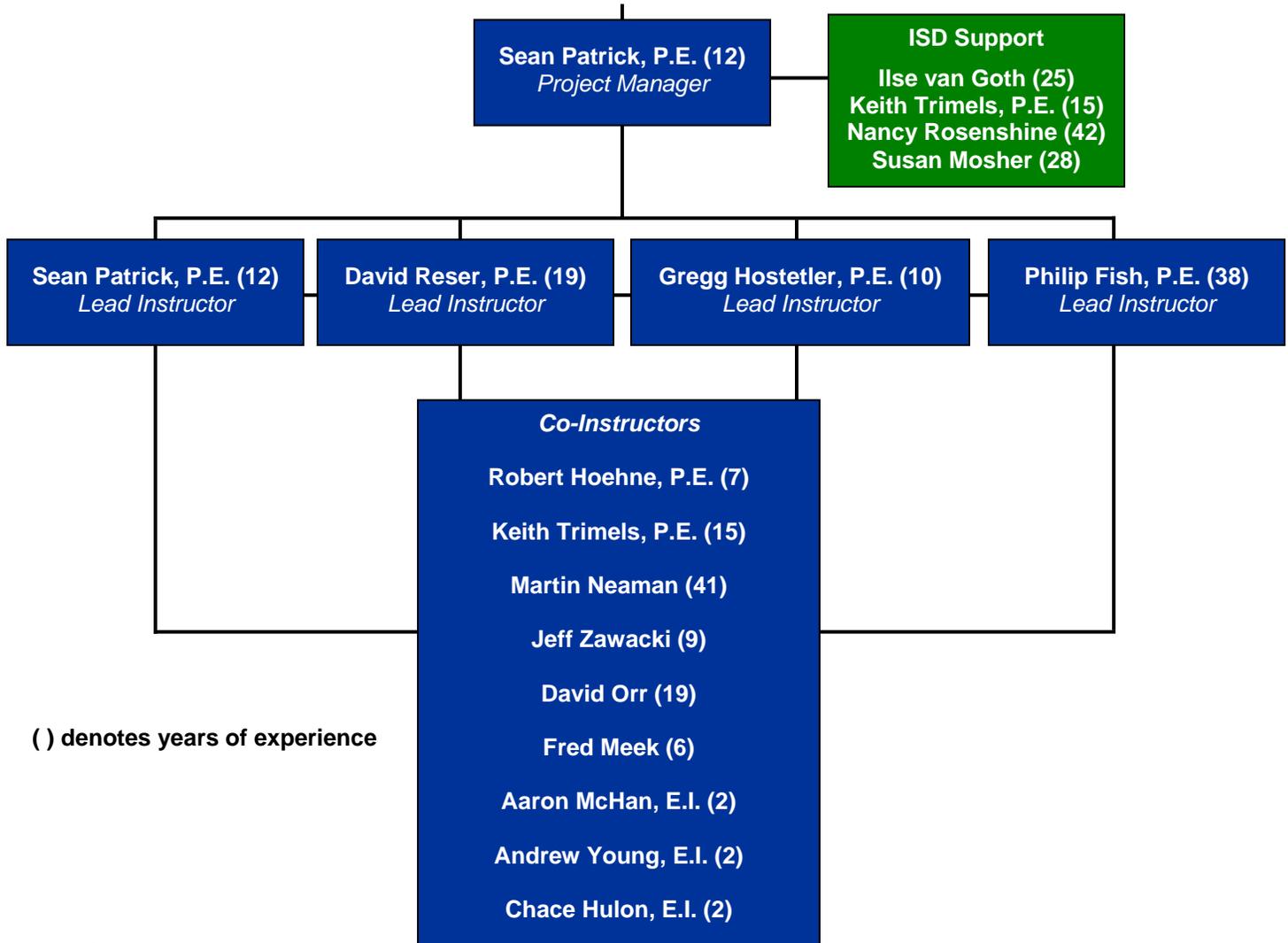
2.1 Staffing Plan and Credentials for NHI 130053

Infrastructure Engineers, Inc.'s proposed teaching team for NHI 130053, "Bridge Inspection Refresher Training" is shown in the chart below. As the chart indicates, we are able to supply four teaching teams at one time if required. Of our eight lead instructors, only one is designated to teach both courses. Two lead instructors may also be paired together or with an FHWA instructor for maximum flexibility to meet the needs of FHWA. The table on Page 11 identifies the specific NHI and professional certifications for each instructor. Detailed resumes for each team member are included in the Appendix.

ORGANIZATIONAL CHART – NHI 130053



**FEDERAL HIGHWAY
 ADMINISTRATION**
 Larry Jones, COTR



Our team provides technical expertise that is unmatched by the competition. Lead instructors and their relevant qualifications for this course include:

Sean A. Patrick, P.E.

Lead Instructor

Education: University of Pittsburgh, Bachelor of Science in Civil Engineering, 1994

Sean Patrick is a professional engineer and has twelve years of experience, specializing in structures management and operations services. His background includes structural design and analysis, bridge construction inspection and NBIS safety and element level inspections. His background also includes the development of several updates of FHWA/NHI bridge inspection training courses, including:

- FHWA/NHI Course No. 130055, *Safety Inspection of In-Service Bridges* – Mr. Patrick's duties included the creation of a table of contents, daily schedule, instructor's guide, participant's workbook, and visual aids. The update program included the revision and additional text writing of the BITM/90 that is used as a reference throughout the program.
- FHWA/NHI Course No. 130078, *Fracture Critical Inspection Techniques* – Mr. Patrick served as the Engineer/Principal Developer for this 3 ½ day course covering the concepts of fracture critical, reporting and managing practices, inspection techniques for various bridge details and hands-on demonstrations of non-destructive methods.
- FHWA/NHI Course No. 130051 - *Bridge Management Training Program* – As Engineer/Developer, Mr. Patrick's project duties included the development of training manuals and classroom presentation materials. The program includes exercises in element level data collection techniques using case study bridges.

In addition to Mr. Patrick's aforementioned credentials as a course developer, he has served as a certified bridge inspection instructor for the FHWA for the past seven years. He has served as the lead instructor for the following NHI courses:

- FHWA/NHI Course No. 130053, *Bridge Inspection Refresher Training*
- FHWA/NHI Course No. 130054, *Engineering Concepts for Inspectors*
- FHWA/NHI Course No. 130055, *Safety Inspection of In-Service Bridges*
- FHWA/NHI Course No. 130078, *Fracture Critical Inspection Techniques for Steel Bridges*

David R. Reser, P.E.

Lead Instructor

Education: Oklahoma State University, Bachelor of Science in Civil Engineering, 1987

Boston University, Master of Science in Business Administration, 1992

David Reser has over nineteen years experience as a civil engineer in bridge inspection, including underwater inspection. Mr. Reser has nationwide experience in bridge inspection, having led teams for the NBIS inspection of bridges for a variety of projects including:

- Team Leader, Nationwide NBIS Bridge Inspection and Inventory, Bureau of Indian Affairs
- Team Leader, Nationwide NBIS Bridge Inspection, United States Navy
- Team Leader, Routine and Fracture Critical Bridge Inspections, Holston Defense Corporation



His experience includes the inspection of fracture critical, through truss, through girder, timber trestle, AASHTO girder, steel girder, and concrete box beams and railroad bridges. Mr. Reser has successfully completed the *NHI 420018 "Instructor Development Course"*, and also serves as the Lead Instructor for our subsidiary company, the Florida School of Commercial Diving (FSCD), responsible for the quality of all classroom instruction. The school's curriculum includes electronic presentation graphics utilizing Microsoft PowerPoint, student workbooks, student exercises, skills testing through quizzes and final exams, hands-on practical exercises, and homework assignments.

Gregg A. Hostetler, P.E.
Lead Instructor

Education: University of Central Florida, Bachelor of Science in Civil Engineering, 1996

Gregg Hostetler began his ten year engineering career with Infrastructure Engineers, Inc., and has performed bridge and sign structure inspections nationwide on over 2100 structures. His experience includes load ratings, non-destructive testing, and scour analysis. In addition to his Professional Engineer license, Mr. Hostetler is also a Florida Certified Bridge Inspector and Association of Diving Contractors International-certified commercial diver. Mr. Hostetler's engineering experience includes both structural inspection and design projects. His technical expertise of field techniques and environments gained through his inspection work for the United States Navy insures his ability to effectively lead classroom activities. His experience includes:

- Project Manager/Team Leader, Nationwide NBIS Bridge Inspection, United States Navy
- Project Manager, NBIS Structures Inspection-Northern System, Florida Department of Transportation-Turnpike Enterprise
- Project Manager/Team Leader, Nationwide NBIS Bridge Inspection and Inventory, Bureau of Indian Affairs

Philip Fish, P.E.
Lead Instructor

Education: University of Wisconsin, Bachelor of Science in Civil Engineering, 1990

Philip Fish is a former supervisor for the Wisconsin Department of Transportation Bridge Inspection Program, and has 38 years of experience. Mr. Fish has directed fabrication quality assurance programs for fabrication of major steel and mechanical bridges. He supervised the certification of "Certified Weld Inspectors" and "Nondestructive Testing Evaluators". He also supervised construction and rehabilitation of major steel bridges in the field. He implemented the Fracture Critical Bridge Inspection program for the Wisconsin Department of Transportation and developed an inspection policy and procedures for inspection of major "Fracture Critical Bridges". He has performed nondestructive testing and inspection on numerous structures. Mr. Fish has performed analysis on fatigue susceptible connections and welds in addition to failure analysis on failed members. He has served as instructor for the following NHI courses:

- FHWA/NHI Course No. 130055, *Safety Inspection of In-Service Bridges*
- FHWA/NHI Course No. 130078, *Fracture Critical Inspection Techniques for Steel Bridges*
- FHWA/NHI Course No. 130087, *Inspection & Maintenance of Ancillary Highway Structures*

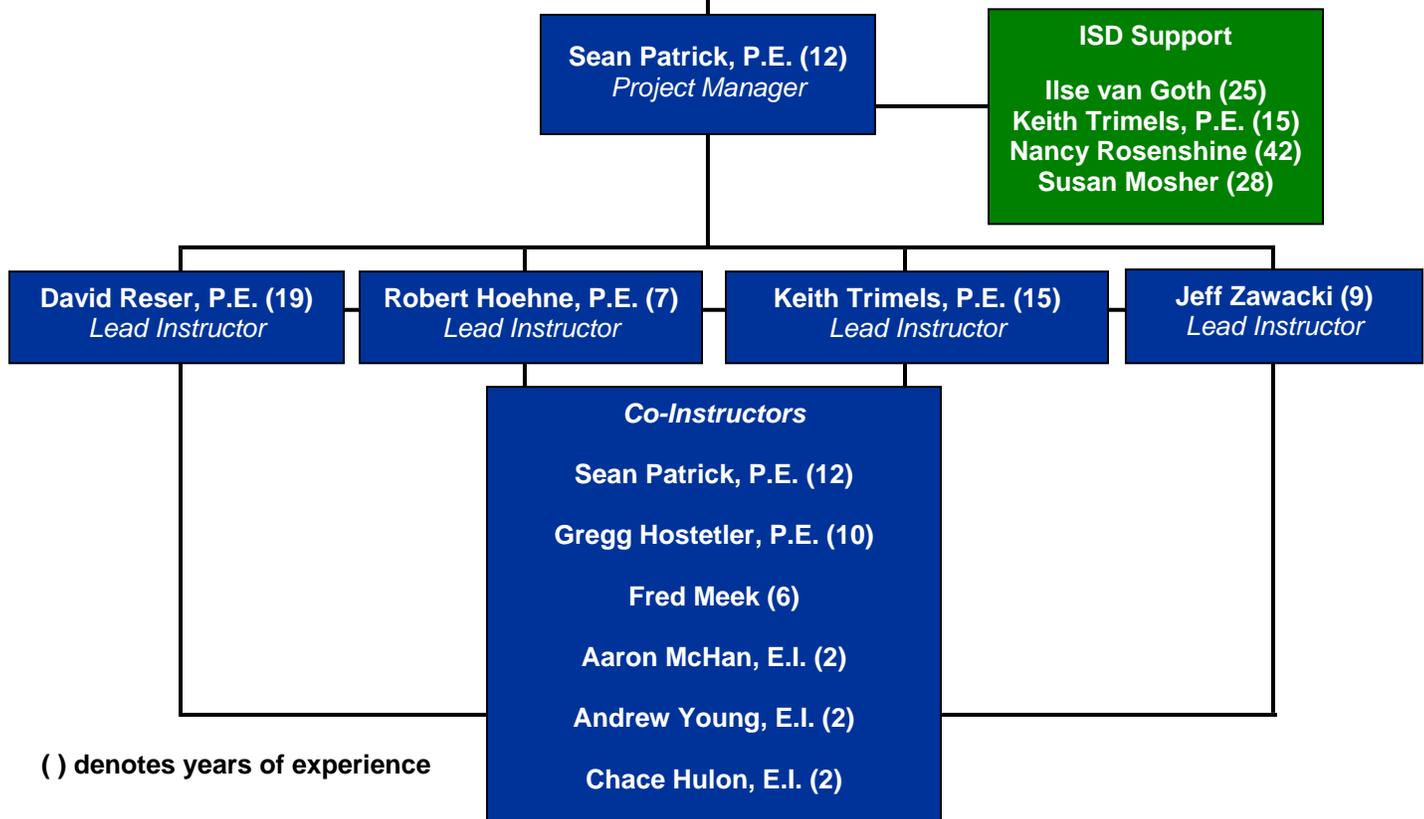
2.2 Staffing Plan and Credentials for NHI 130091

Infrastructure Engineers, Inc.'s proposed teaching team for NHI 130091, "Underwater Bridge Inspection" is shown in the chart below. As the chart indicates, we have the capability and flexibility to assign four teams at one time for course delivery if required. Similar to our approach for NHI 130053, two lead instructors may be paired together or with an FHWA instructor to meet any timetable or schedule. The table on Page 11 identifies the specific NHI and professional certifications for each instructor. Detailed resumes for each team member are included in the Appendix.

ORGANIZATIONAL CHART – NHI 130091



**FEDERAL HIGHWAY
 ADMINISTRATION**
 Larry Jones, COTR



Infrastructure Engineers, Inc. has been providing underwater bridge inspection to federal, state and local government agencies since its founding in 1994. Our nationwide underwater inspection experience in 40 states insures the highest level of technical expertise from our skilled bridge inspectors and commercial divers.

In 2005, Infrastructure Engineers, Inc. received a license from the Florida Department of Education to operate a trade school through our wholly owned subsidiary company Infrastructure Underwater, Inc. The school operates under the name Florida School of Commercial Diving (FSCD) (www.floridadiveschool.com). The school's mission statement of is:

"To provide industry standard commercial diver training to degreed engineers and other personnel, emphasizing inland diving operations with extensive hands-on, in-water exercises."

The school emphasizes training for engineers, but the curriculum is designed to meet the needs of the entire commercial diving industry.

David R. Reser, P.E.
Lead Instructor

Education: Oklahoma State University, Bachelor of Science in Civil Engineering, 1987
Boston University, Master of Science in Business Administration, 1992

David Reser has over nineteen years experience as a civil engineer in the areas of analysis and evaluation of bridges and marine structures, repair design, underwater inspection and marine construction. As an engineer diving officer with the U.S. Army Corps of Engineers, Mr. Reser performed underwater construction and inspection projects throughout Europe. He has conducted underwater inspections using a variety of equipment, with both conventional and unconventional techniques. As a Navy-trained construction diver, he is qualified to 200-feet on air, and has extensive experience with concrete repairs in a marine environment. He has performed over 2500 inspection dives on bridges and marine structures worldwide, and has served as a project manager and team leader for every underwater inspection project the firm has completed since its founding in 1994. Mr. Reser has successfully completed the *NHI 420018, "Instructor Development Course"* and serves as the lead instructor for the Florida School of Commercial Diving.

Keith Trimels, P.E.
Lead Instructor

Education: Arizona State University, Bachelor of Science in Civil Engineering, 1991

Mr. Trimels has been a scuba diver for 10 years, and is currently certified as an Advanced Open Water Instructor (AOWI). This training has provided him with decompression theory along with rescue and situation management skills. In addition, he has been a member of the Laramie County Underwater Search and Rescue team since 1999 where he has performed multiple surface-supplied dives. His duties on the team have included locating and repairing underwater structures as well as performing underwater recoveries.

During his tenure at the Bureau of Indian Affairs, Mr. Trimels was responsible for bridge inspections on two reservations. To successfully perform those duties, he attended the FHWA NHI course "Safety Inspection of In-Service Bridges" and received FHWA certification as a bridge inspector. He then applied those NHI lessons to the bridges located over a 600 mi² area. As a result, one in-service bridge was determined structurally unsound and was removed from service.



Jeffery P. Zawacki
Lead Instructor

Jeff Zawacki has been a professional diver for 24 years, and has nine years of underwater bridge inspection experience. He is a team leader for inspection projects within the state of Florida, and serves as a team member for out-of-state underwater inspection projects. Having established himself as a careful, detailed inspector, he has conducted over 2,000 inspections during the course of his career. Throughout his career, Mr. Zawacki has received extensive inspection training through Federal Highway Administration courses, as indicated by the chart on Page 11. Mr. Zawacki has successfully completed the *NHI 420018, "Instructor Development Course"*, hosted at our office in St. Cloud, Florida. Mr. Zawacki also serves as a senior instructor for the Florida School of Commercial Diving, responsible for classroom instruction, practical exercises, skills testing, and evaluations. Examples of his relevant experience include:

- Team Leader, Districtwide Moveable Bridge inspections (16 Bridges), Florida Department of Transportation, District Six
- Team Leader, Underwater Bridge Inspection (144 bridges), Florida Department of Transportation, District Two
- Team Leader, Districtwide Underwater On and Off System Bridge Inspection (165 Bridges) Florida Department of Transportation, District Five

Robert H. Hoehne, P.E.
Lead Instructor

Education: University of South Florida, Bachelor of Science in Civil Engineering, 1999

Robert Hoehne has seven years of experience in bridge inspection, bridge design, and corrosion-related research. His corrosion-related experience includes the creation of data acquisition software and analysis of data from FDOT-sponsored research. He has also performed onsite training and recording of data, at both the Niles Channel Bridge and the Mid-Bay Bridge in Tampa, FL. Mr. Hoehne has successfully completed *NHI 420018, "Instructor Development Course"*, hosted at our office in St. Cloud, Florida. His inspection experience includes bridges throughout the United States for various state and federal agencies, including:

- Team Leader, Underwater Bridge Inspections (74 Bridges), Colorado Department of Transportation
- Team Leader Underwater Bridge Inspections (217 Bridges), Mississippi Department of Transportation
- Team Member, Underwater Bridge Inspections (21 Bridges), Arkansas State Highway and Transportation Department

2.3 Staffing Plan and Credentials for ISD Support

We have carefully selected subconsultants based on our Project Manager's personal experience working with them, and the consultant's experience on similar NHI projects. These subconsultants will be directly responsible to our project manager, Sean Patrick, for all work performed. Sean Patrick will be the primary point of contact for FHWA, and will assign the subconsultant to a task assignment if their specific discipline is needed.

Ilse van Goth
ISD Specialist

Education: University of Maryland, Bachelor of Arts, 1977
University of Maryland, Master of Arts, 1979
Doctoral Studies, Completed Required Classes/ABD



Ms. van Goth possesses over 25 years of experience as an Instructional Systems Designer, Adult Learning Specialist, Master Trainer, Training Coordinator and Organizational Developer. She has provided instructional services for the US Department of Defense (DOD) Dependent Schools in Europe, the US Department of Transportation (USDOT), state and local transportation agencies, foreign governments, universities, and private companies. Ms. van Goth has provided management, leadership, and communication training to these clients as well as course development and instructor education/certification services. She is internationally known as an effective communicator, using cross-cultural communication skills to form partnerships with a wide range of leaders at all organizational levels. Her satisfied clients occupy the African, Asian, European, and North and South American continents. Currently, she is an adjunct faculty member for Northern Virginia Community College where she regularly delivers leadership and management courses to post-graduate professionals.

Keith Trimels, P.E.
ISD Specialist

Education: Arizona State University, Bachelor of Science in Civil Engineering, 1991

Keith Trimels has extensive experience in the design and development of training. Specialty areas include technical/engineering, business process/management, leadership, organizational development, and instructor/instructional training. He has also been recognized by the Federal Highway Administration (FHWA) and FHWA's National Highway Institute (NHI) as both a national technical resource as well as an instructional system design (ISD) expert. As a result, he has been a technical/ISD advisor on multiple NHI courses covering Intelligent Transportation Systems, traffic engineering and highway safety, as well as similar courses developed for the FHWA Resource Center and FHWA Headquarters offices.

As technical advisor and subject matter expert (SME), Mr. Trimels advised on technical matters such as accurately explaining engineering concepts, appropriately interpreting legislation, and incorporating new research into existing courses. As an ISD advisor, he both recommended and implemented adult learning principles such as course goals and objectives, suitable audio/visual tools and group activities, preparation of instructional guidance, and development of reference materials.

Nancy R. Rosenshine, M.S.
ISD Specialist

Education: Duquesne University, Bachelor of Arts in Journalism, 1967
Johns Hopkins University, Master of Science in Organization & Human Resource Development, 1995

Nancy R. Rosenshine, M.S. has 41 years of experience in service provision, training, facilitation, and organization development consulting in a variety of public and private sector venues. Her work efforts have resulted in improved organization effectiveness, staff skills and employee commitment, and increased employee sensitivity to individual and cultural differences. She is nationally and internationally recognized and sought as a consultant, facilitator, trainer, and coach.

She has developed and conducted a three-day **FHWA/NHI 420018 Instructor Development** course for the National Highway Institute (now expanded to four and one-half days) to help instructors adopt interactive methods based on the needs of their learners. Her course development experience also includes an *Effective Presentations* course for the Office of Motor Carriers.

Susan Mosher
ISD Specialist

Education: Muhlenberg College, Bachelor of Arts, 1967
State University of New York at Albany, Master of Business Administration

Susan Mosher has over 27 years of ISD experience, and has prior experience with NHI working in instructor development, through her consultant work with GKY Associates, an NHI course development and training consultant. She provides consulting as an adult education specialist for GKY in the development and piloting of these courses as well as revision of existing courses. Ms. Mosher also has experience in the design and delivery of NHI courses, including **FHWA/NHI 420018 Instructor Development**, in which every NHI instructor is certified by demonstrating effective training techniques. Her role as the trainer/facilitator/coach provided dynamic, targeted training and coaching that allows the participant to succeed in receiving certification.

2.4 Replacing Key Personnel

We recognize that personnel stability is critical to consistent reliable performance on this project. Infrastructure Engineers, Inc. has been very successful at retaining key employees over its 12 year history. Our goal is to keep employees for the entirety of their careers. Our engineering staff turnover rate averages five percent, indicating very good stability. We retain our personnel by insuring they have very competitive compensation packages, with benefits that exceed the industry standard. Additionally, our management staff prides itself on their hands-on approach to quickly addressing personnel concerns and providing a challenging and rewarding work environment.

Our goal is to keep employees for the entirety of their careers. Our engineering staff turnover rate averages five percent, indicating very good stability.

Our first line of defense against key staff departure is depth. We have team depth and personnel with overlapping skills. Our team does not rely on one person for success, which includes the upper management and our subconsultants, as illustrated by the four ISD support specialists assigned.

Three key senior staff members we have assigned to this project; Sean Patrick, David Reser and Gregg Hostetler all have extensive experience managing large IDIQ inspection contracts for federal agencies as detailed in their resumes. Any of them can perform as project manager if called upon to do so.

Additionally, to minimize the impact any departure of a key staff member would have on this project over the contract life, we have implemented an "Apprentice" program. We will assign a less experienced member of our staff to a specific task assignment to develop his understanding of the process and prepare them for participation in the future. The "Apprentice" would observe certain elements of the project based on the task assignment scope and their availability.

The "Apprentice" program is internal, and we will implement it at no cost to the FHWA, as we consider this part of our normal internal professional development program. We would expect a junior engineer to participate in the apprentice program at some level for several years before he would be ready to participate in the execution of a task assignment, which would normally coincide with them receiving their professional engineer license.



3.0 PAST PERFORMANCE

This task order requires that selected consultants utilize technical expertise to effectively deliver course curriculum in a classroom setting. Since 1994, bridge and underwater inspection has been a core business for our firm, accounting for over 50 percent of our engineering work. Infrastructure Engineers, Inc. possesses the technical expertise, paired with a clear record of excellent past performance, to fulfill the instructional requirements for NHI courses 130053 and 130091.

Since 1994, bridge and underwater inspection has been a core business for our firm, accounting for over 50 percent of our engineering work.

3.1 Current Technical Expertise for Delivery of NHI 130053

UNITED STATES NAVY

Routine Inspection of Bridges and Other Waterfront Structures

CLIENT: Naval Facilities Engineering Command
720 Kennon Street SE, Suite 333
East Coast Detachment
Washington Navy Yard
Washington, DC 20374
Ted Wisniewski, P.E.
Phone: 202.433.5194

CONTRACT NO.: N47408-02-D-8301

CONTRACT TYPE: IDIQ

CONTRACT LENGTH: 08/02-08/05
(2 contracts)

COST OF CONTRACT: \$1,000,000
per year not to exceed \$3,000,000

DESCRIPTION:

Infrastructure Engineers, Inc. performs routine inspections of waterfront structures and bridges located throughout the United States and in Okinawa, Japan. Each inspection requires the preparation of an engineering report describing the condition of the bridge and recommending maintenance and repairs. The inspections may include a narrative description of the bridge, narrative summary of the inspection results – including photographs, channel profile, load ratings, NBIS Inventory and Appraisal form, and cost estimate for repairs. Load ratings are prepared on most bridges to include accommodating specialized military transport vehicles used to move missiles to submarines from storage facilities.



CONTRACT QUALITY AND SCHEDULE COMPLIANCE:

This project is an indefinite delivery-indefinite quantity contract with an annual renewal option. We recently have been selected to perform a second consecutive IDIQ contract for bridge inspections. Our firm's first contract had been renewed for all three years of the project, demonstrating the quality level of our work. As a full service bridge engineering firm, Infrastructure Engineers, Inc. supplies complete expertise in contract project management. One of our performance reviews for this project is shown on the next page, along with a recent letter of commendation, dated Feb. 28, 2006.

Performance Evaluation
 Completed by Reference

Contract Name: INFRASTRUCTURE ENGINEERS, INC.
 Contract/Project Manager: GREGG WESTLER
 Contract Number/Description: (If not used, please check the box if you are not currently being performed)
 Contract No: N47408-02-D-8317 | Description: UNDERWATER INSPECTION

Project Area: Facility Design Plans, Specs & Estimate Transportation Study Right of Way Station Bridge Inspection

Contract Information: (Optional)
 Start Date: 6/5/05
 End Date: 7/1/06

Please rate each criterion on a scale of 1 to 10 (10 being the highest rating):

| | |
|--|------------|
| 1. How do the contractor's personnel and staffs' individual perseverance and variety of bridge structures, all tasks were completed on time? | 10 |
| 2. Did the contractor meet or exceed the budget of amount? | 9 |
| 3. Did the contractor meet or exceed the contract's schedule? | 10 |
| 4. Did the contractor meet or exceed technical standards and quality expectations? | 10 |
| 5. How do the contractor's communications, both oral and written, clear and concise? | 9 |
| 6. How do the contractor's contract management system utilization? | 9.5 |
| 7. How do the contractor's safety records for safety or through out? | 9.5 |
| Average Score (Average the score by adding the total score for the total number of criteria that was rated.) | 9.5 |

Contractor Information:
 Contract Name: NAVAL FACILITIES ENGINEERING SERVICE CENTER
 Contract Manager: GREGG WESTLER
 Contract Number: N47408-02-D-8317
 Contract Description: UNDERWATER INSPECTION, CONDITION ASSESSMENT, AND DESIGN OF REPAIRS FOR GOVERNMENT FACILITIES AT VARIOUS LOCATIONS WORLDWIDE

Average Score
 (Average the score by dividing the total score by the total number of criteria that was rated.)

9.5

**SCORE:
 9.5 out of 10**

 **DEPARTMENT OF THE NAVY**
 NAVAL FACILITIES ENGINEERING SERVICE CENTER
 EAST COAST DETACHMENT
 720 KENNON ST SE SUITE 333
 WASHINGTON NAVY YARD DC 20374-5063

February 28, 2006

Mr. David Reser, P.E.
 Infrastructure Engineers Inc.
 2121 Old Hickory Tree Road
 St. Cloud, Florida 34772

Subj: A/E CONTRACT N47408-02-D-8301, INDEFINITE QUANTITY CONTRACT FOR UNDERWATER INSPECTION, CONDITION ASSESSMENT, AND DESIGN OF REPAIRS FOR GOVERNMENT FACILITIES AT VARIOUS LOCATIONS WORLDWIDE

Dear Mr. Reser:

I would like to extend my sincere appreciation for the outstanding work your firm. During the period from 19 July 2002 to the present you have been responsible for over 180 topside and the under-

 **DEPARTMENT OF THE NAVY**
 NAVAL FACILITIES ENGINEERING SERVICE CENTER
 EAST COAST DETACHMENT
 720 KENNON ST SE SUITE 333
 WASHINGTON NAVY YARD DC 20374-5063

Subj: A/E CONTRACT N47408-02-D-8317, INDEFINITE QUANTITY CONTRACT FOR UNDERWATER INSPECTION, CONDITION ASSESSMENT, AND DESIGN OF REPAIRS FOR GOVERNMENT FACILITIES AT VARIOUS LOCATIONS WORLDWIDE

The field data you generated was closely monitored by our engineers and was consistently found to be without error. You have clearly demonstrated the highest level of professional performance on numerous NBIS Bridge Inspections for the Navy. Your cooperation with the Government, and eagerness to provide a quality product, has been unsurpassed. I have appreciated your support and thank you for a job well done.

this contract. Your engineers' and inspectors' extensive experience proved to be valuable in accurately determining the structural condition of the facilities. Through your staffs' individual perseverance and variety of bridge structures, all tasks were completed on time.

In the execution of these duties, you provided timely inspection reports for use by various commands. The information provided has been instrumental in the planning of future projects. The Navy's Shore Management community.

The field data you generated was closely monitored by our engineers and was consistently found to be without error. You have clearly demonstrated the highest level of professional performance on numerous NBIS Bridge Inspections for the Navy. Your cooperation with the Government, and eagerness to provide a quality product, has been unsurpassed. I have appreciated your support and thank you for a job well done.

Sincerely,


 J. F. Alling
 Commander
 Civil Engineer Corps
 United States Navy
 Officer in Charge

**DEPARTMENT OF THE INTERIOR, BUREAU OF INDIAN AFFAIRS
 NBIS BRIDGE INSPECTION AND INVENTORY**

CLIENT: Bureau of Indian Affairs
 Branch of Engineering & Operations
 1001 Indian School Rd. NW
 Suite 350
 Albuquerque, NM 87104
 Ken Scott, P.E.
 Phone: 505.563.3320

CONTRACT NO.: BIA-MOO-05-07
CONTRACT TYPE: IDIQ
CONTRACT LENGTH: 06/99-06/07
 (2 contracts)
COST OF CONTRACT: \$500,000
 per cycle

DESCRIPTION:

Infrastructure Engineers, Inc. has been awarded a second consecutive IDIQ contract for NBIS bridge inspection and inventory on Indian reservations nationwide. Services include engineering analysis of existing conditions, review and update previous inspection reports and drawings, recommendations for follow-up actions, cost estimates and documentation of findings in accordance with BIA, NBIS, and AASHTO reporting requirements. The bridge inspections include the underwater inspection of bridge substructures and scour analysis when required. Load ratings were performed on bridges with significant deterioration.



CONTRACT QUALITY AND SCHEDULE COMPLIANCE:

This project is an indefinite delivery-indefinite quantity contract with an annual renewal option. We recently have been selected to perform a second consecutive IDIQ contract for bridge inspections. Our firm's first contract had been renewed for all option years of the project, demonstrating the quality level of our work. All contractual requirements were met, and all schedules adhered to. A performance review for this project is included below:

| | | | |
|---|--|--|--|
| 13. OVERALL RATING <input checked="" type="checkbox"/> EXCELLENT <input type="checkbox"/> AVERAGE <input type="checkbox"/> POOR | | 14. RECOMMENDED FOR FUTURE CONTRACTS: <input checked="" type="checkbox"/> YES <input type="checkbox"/> NO (If "NO," explain in REMARKS on reverse) | |
| 15A. NAME AND TITLE OF RATING OFFICIAL Kenneth Scott, BIA Bridge Engr (COR) | | 16A. NAME AND TITLE OF REVIEWING OFFICIAL Richard Mason, Supervisory Highway Engr | |
| 15B. SIGNATURE | | 16B. SIGNATURE | |
| 15C. DATE 3/30/05 | | 16C. DATE 3/31/05 | |

**OVERALL RATING:
 Excellent**

**FLORIDA DEPARTMENT OF TRANSPORTATION, TURNPIKE ENTERPRISE
NBIS STRUCTURES INSPECTION, NORTHERN SYSTEM**

CLIENT: Florida Department of Transportation
Turnpike Enterprise
M.P. 65 - Florida's Turnpike
Pompano Service Plaza
Pompano Beach, FL 33069
Aran Lessard
Phone: 954.934.1234

CONTRACT NO.: 06805

CONTRACT TYPE: Districtwide 2 yr.

CONTRACT LENGTH: 06/05-06/07

COST OF CONTRACT: \$1.2 million

DESCRIPTION:

Infrastructure Engineers, Inc. was selected by Florida's Turnpike Enterprise to perform NBIS inspection services on its northern system. The project currently includes inspections for approximately 407 bridges, 330 sign structures, 210 high mast light poles, and 45 culverts. Each inspection requires a comprehensive engineering report and bridge load rating if applicable. The project includes structures in Hernando, Hillsborough, Orange, Osceola, Pasco, Polk, Seminole, and St. Lucie counties. The firm also provides emergency response services for weather-related and accident-related events.



CONTRACT QUALITY AND SCHEDULE COMPLIANCE:

This project is two-year contract. By providing experienced and skilled staff and applying expert methodology, we have provided outstanding service to the Turnpike Enterprise. The scope of this contract requires adherence to an aggressive inspection schedule. We developed an automated inspection tracking system in 1997 for this project. This database automatically updates the report status, and is provided to the client each week. This status report is an effective and useful tool for keeping the project team on schedule. We have never missed an inspection deadline, and understand the importance of timely completion of contract requirements.



Snooper inspection on Florida's Turnpike



Tree top peeper inspection

3.2 Current Technical Expertise for Delivery of NHI 130091

IOWA DEPARTMENT OF TRANSPORTATION STATEWIDE UNDERWATER BRIDGE INSPECTION

CLIENT: Iowa Department of Transportation
 800 Lincoln Way
 Ames, IA 50010
 Michael Todsen, P.E.
 Phone: 515.233.7726

CONTRACT NO.: 3900000S148
CONTRACT TYPE: Statewide 1 yr.
CONTRACT LENGTH: 07/02-12/02
COST OF CONTRACT: \$278,209

DESCRIPTION:

Infrastructure Engineers, Inc. was retained by the Iowa Department of Transportation to perform underwater inspections of 59 bridges throughout the state. Bridges included timber, steel, and concrete construction crossing streams and rivers with swift currents, limited access, and zero visibility. Each inspection required an in-depth engineering report with CAD drawings illustrating defects.



CONTRACT QUALITY AND SCHEDULE COMPLIANCE:

This project was one-year statewide contract. Our firm completed the inspection of 59 bridges, adhering to all contract requirements and schedule. A copy of a performance evaluation completed by the Iowa DOT project manager is included below.

| | | |
|---|-----------|--|
| Average Score (Average the score by dividing the total score by the total number of criteria that was rated.) | | <u>10</u> |
| Evaluator Information: | | |
| Firm/Company Name: Iowa Department of Transportation | | |
| Evaluator's Name: Michael J. Todsen, P.E. | | Evaluator's Title: <i>Special Projects Eng.</i> |
| 1. Was the firm's cost within budget related? | <u>10</u> | |
| 2. Did the firm complete the project within the contract schedule? | <u>10</u> | |
| 3. Did the firm meet all of your technical standards and quality expectations? | <u>10</u> | |
| 4. Was the firm's communication, both oral and written, clear and concise? | <u>10</u> | |
| 5. Was the firm's project management system effective? | <u>10</u> | |
| Totals: (This score is by adding the scores for criteria 1 through 5.) | | <u>60</u> |
| Average Score (Average the score by dividing the total score by the total number of criteria that was rated.) | | <u>10</u> |
| Evaluator Information: Firm/Company Name: Iowa Department of Transportation Evaluator's Name: Michael J. Todsen, P.E. Evaluator's Title: <i>Special Projects Eng.</i> Firm/Company Address: 800 Lincoln Way, Ames, IA 50010 Phone: 515-233-7726 Fax: 515-291-1076 Date: 3-20-03 | | |

**SCORE:
 10 out of 10**

**MISSISSIPPI DEPARTMENT OF TRANSPORTATION
STATEWIDE UNDERWATER BRIDGE INSPECTION**

CLIENT: Mississippi Department of Transportation
401 N West Street, 5th Floor
P.O. Box 1850
Jackson, MS 39215-1850
Lonny Pigott
Phone: 601.359.7200

CONTRACT NO.: BR-NBIS(058)
104050 101000
CONTRACT TYPE: Statewide 2 yr.
CONTRACT LENGTH: 12/03-12/05
COST OF CONTRACT: \$759,222

DESCRIPTION:

Infrastructure Engineers, Inc. was selected by the Mississippi Department of Transportation to perform underwater inspections of 217 bridges throughout the state. Two bridges cross the Mississippi River, while the majority of the crossings are over smaller rivers, creeks and other water bodies. Each inspection required an in-depth engineering report with scaled CAD drawings illustrating defects.



CONTRACT QUALITY AND SCHEDULE COMPLIANCE:

This project was two-year statewide contract. Our firm completed the inspection of 217 bridges, adhering to all contract requirements, budget, and schedule.

**ARKANSAS STATE HIGHWAY & TRANSPORTATION DEPARTMENT
STATEWIDE UNDERWATER BRIDGE INSPECTION**

CLIENT: Arkansas State Highway &
Transportation Department
10324 Interstate 30
Little Rock, AR 72209
Glenn Cheatham, P.E.
Phone: 501.569.2113

CONTRACT NO.: Various
CONTRACT TYPE: Statewide 1 yr.
(4 cycles)
CONTRACT LENGTH: 1998, 2001,
2003, 2006
COST OF CONTRACT: \$300,000
(average)

DESCRIPTION:

Infrastructure Engineers, Inc. was retained by the Arkansas State Highway and Transportation Department (AHTD) to conduct underwater inspections of state-owned bridges in 1998, 2001 and most recently, 2003. Several bridges were over the Arkansas River Navigational Channel. Four bridges crossed deep water lakes and entailed dives up to 120-feet deep and the availability of a recompression chamber. Typical water depth was 35-feet with generally poor diving conditions around moderate timber debris in black water.



CONTRACT QUALITY AND SCHEDULE COMPLIANCE:

These projects are one-year statewide contracts. Our firm completed the inspection of all bridges, adhering to all contract requirements, budget, and schedule.

3.3 Experience Developing or Delivering Learner-Focused Instruction to Adults

Infrastructure Engineers, Inc. has assembled a fully-qualified team that gives the FHWA the confidence of a project team which has the resources and abilities to complete the tasks on or ahead of schedule and exceeding the quality required by FHWA.

Project Manager's Experience – Prior to joining Infrastructure Engineers, our proposed project manager, Sean Patrick, taught the comprehensive bridge inspection training program sponsored by the FHWA to over 1000 other inspectors in 30 different states for government agencies all over the country for Michael Baker, Jr., Inc. The training program included the following courses:

- Engineering Concepts for Bridge Inspectors (NHI Course 130054)
- Safety Inspection of In-Service Bridges (NHI Course 130055)
- Bridge Inspection Refresher (NHI Course 130053)
- Pontis Element Level Data Collection (NHI Course 130051)
- Fracture Critical Inspection Techniques for Steel Bridges (NHI Course 130078)

He also has presented a seventy-eight hour "Safety Inspection of In-Service Bridges" course statewide for the Pennsylvania Department of Transportation (PennDOT) that incorporates PennDOT's BMS coding and a three-day "Refresher" course. The program met the requirements of the National Bridge Inspection Standards and is approved by the FHWA.



Firm's Experience – As a result of our commitment to underwater bridge inspection, one of our areas of expertise, Infrastructure Engineers, Inc. established the Florida School of Commercial Diving in 2005. This wholly-owned subsidiary of Infrastructure Engineers, Inc. is licensed by the Florida Department of Education, and provides professional training in the skills necessary to perform as a diver/tender and surface supplied diver in the commercial diving industry. The school offers two programs of study. Students that complete both the Entry Level Diver/Tender and Surface

Supplied Air (Mixed Gas) Diver courses receive an Entry Level Tender/Diver Commercial Diver certification card from the Association of Diving Contractors International, a non-profit industry trade association promoting safety, communication, and education.

Infrastructure Engineers' expert staff developed all curriculums, designed each training activity, and performs classroom instruction.

Infrastructure Engineers' expert staff developed all curriculums, designed each training activity, and performs classroom instruction. Our mobile classroom allows for off-campus learning in environments relevant to a particular subject. Performance is evaluated by written and practical exams, with the award of diplomas at the end of the 16-week program. All recruitment and administrative duties are performed by Infrastructure Engineers. This project demonstrates Infrastructure Engineers' performance in providing complete technical education. Our firm is responsible for all aspects of the training program including administration, admissions, curriculum development, course delivery, evaluation, recruitment, and placement assistance. The mobile classroom and equipment provide support resources that can be used for the instruction of NHI courses.