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Security Consulting and Management

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Incorporated in 1986, CTI Consulting is recognized as one of the most prominent security consulting, planning, and design corporations in the United States today. CTI's experience, professionalism and dedication to customer service is evident by the many multi-year projects awarded to the firm; in some cases, CTI's services have been retained on a continuous basis for over 15 years.

CTI has extensive and comprehensive knowledge and experience in all areas of safety, security, training, counter-terrorism, design, and emergency and crisis management, with an emphasis on proactive measures for the management and protection of personnel, operations, information, facilities, and equipment during routine operations and emergency conditions. CTI has provided these and many other related services for the civil aviation industry, public works departments, public-use facilities (such as convention centers and hospitals), educational facilities, the military, and law enforcement (federal and local) and government entities (federal, state, and local). CTI has the experience and resources to ensure additional services are available during any "surge" request, for the completion of any task.

CTI has a tremendous amount of experience conducting Threat, Vulnerability, and Risk Assessments. CTI is adept at completing large assessment projects under aggressive deadlines. For example, CTI conducted vulnerability studies of over 1,500 Federal buildings subsequent to the Murrah Building bombing in Oklahoma City within a 10 month period.

In the area of aviation security, CTI is second to none. CTI is currently working, or has recently completed projects, in over forty domestic airports, including fifteen of the twenty-one U. S. Category X airports. The specialized services offered to the aviation community include security assessments, design of integrated security and telecommunications systems, and comprehensive security program support.

CTI prides itself in its master planning for security to assist clients with expansion and growth. These master security plans are based on an assessment of existing security programs, identification of future security needs based on growth and expansion, and the development of plans, designs, and other recommendations for integrating new security programs with existing ones.

CTI also provides planning, design, and construction oversight services. These services include bid development and selection, installation oversight, and owner acceptance testing and testing guidance support, as well as consulting services related to operational/programmatic issues to ensure seamless integration between physical and technical security elements. For example, CTI has performed design and construction oversight of Emergency Operations Centers (EOC). Along with providing the design and specifications, CTI addresses required operations and maintenance support. Additional services available includes development/revision of facility security planning, present and future security staffing requirements, emergency and contingency plans, training and training needs assessment, policy and procedures development, and mock disaster drill development and evaluations.

CTI staff members stay abreast of the newest and most cost-effective technologies in security. They are currently assisting clients in the transition to new technologies, including biometrics, and in the integration of these new technologies into existing infrastructure. Also, CTI does not represent any security equipment or products, nor does it have any alliances with manufacturers or vendors offering products or services, which ensures our objectivity and provides our clients with the assurance that our only goal is total client satisfaction and the successful completion of all project tasks.

Areas of Capabilities

CTI's staff utilizes the latest techniques when providing security solutions; CTI staff constantly updates their knowledge of physical security hardware, including the latest equipment, mitigation techniques and industry trends, as well as current terrorist tactics based on intelligence information. CTI has conducted numerous vulnerability assessments and has provided security solutions designed to mitigate identified vulnerabilities, as well as enhance existing operations, equipment, and procedures to ensure the highest level of security possible.

CTI's knowledge of security technologies has been crucial in its work with local, state, and federal agencies, airports and numerous commercial clients since 1986. CTI is a member of many technical security committees and organizations, including the NIST Biometric Consortium.

CTI provides recommendations for all aspects of a client's existing conditions - physical, technical and operational. CTI's staff has the knowledge and experience to provide appropriate security solutions utilizing time-tested and proven methodologies, in coordination with new and innovative approaches, as well as existing, planned, or recommended technical security systems to ensure the most effective solutions to reduce vulnerabilities and improve the client's security posture.

The following are areas of capabilities through which CTI supports clients and their respective security programs.

Security Assessments

- Comprehensive Security Surveys
- Threat Vulnerability & Risk Assessment
- Bomb Blast Effectiveness Analysis
- Vehicle Barriers
- Roadway Considerations

Emergency & Crisis Management Support

- Emergency Plan Development
- Security Exercise Development
- Disaster Recovery Planning

Organizational Support

- Merger Feasibility Studies
- Training and Training Needs Analysis
- Law Enforcement Resource Development
- Counter Terrorism Support
- Staffing and Equipment Analysis

Security System Design & Integration

- CCTV Design
- ID Badging System Design
- Access Control Systems
- Communication Center Design
- Crisis Management Center Design
- Perimeter Control Systems
- Bid Preparation and Evaluation
- Construction Management/Oversight

Security Program Support

- Security Consultant Support
- Policy and Procedure Development
- Information Systems Management
- Computer Security
- On-Site Staff Support
- Technical Surveillance Countermeasures
- Regulatory Compliance



Comprehensive Threat, Vulnerability, and Risk Assessments

CTI provides full-scale, comprehensive threat, vulnerability, and risk assessments for clients, regardless of property makeup (campus-type setting [several facilities, roadways, 100+ acres] or single-facility setting). CTI conducts security assessments to evaluate three critical security factors; the type and level of potential threats against a facility; the areas and components which make the facility vulnerable to external and internal threats; and the effectiveness of its technical, procedural and personnel capabilities. This includes individual studies on physical security, technical security capabilities, security/police operations and administration, among others.

CTI's methodology for these comprehensive, in-depth studies includes key personnel interviews and analyses and observations of operations, site visits to functional operations, and a review of pertinent documentation including existing policies and procedures. Moreover, the TVRA's are developed based on an identification, evaluation and analysis process that includes a methodical approach in which members of the CTI team weigh existing conditions and objectives of the client's physical protection system against known and other considered targets, threats, methods, and tactics. The results of this methodology are the identification of assets, unwanted events, threats, and vulnerabilities, which are then applied to a risk rating formula for the identification of 'conditional risk'. The results are then used to facilitate development of countermeasures to use towards decreasing the severity of the 'conditional risk' and associated 'quantified' damage to the point of "acceptable risk" - the state that the client is able and willing to bear by way of enhanced protection measures justified by effectiveness, cost, and operational impact.

Once the characterizations (assets, unwanted events, threats, and vulnerabilities) are identified, they are compared with the client's in-place physical protection system's elements of detection, delay, and response, where they exist, for the development of 'conditional risk' as described above. Additionally, CTI uses a national and industry recognized ratings scale for the development of a critical asset, threat, vulnerability and risk matrix. The results of this methodology is the development of a 'Phased' enhancement option implementation plan to use towards decreasing the severity of the 'conditional risk' and associated 'quantified' damage

Bomb Blast Effects Analysis

CTI assists government agencies, and corporations in determining the effect of bomb blasts on existing or proposed buildings, parking structures, and other facilities. Moreover, CTI staff work closely with architects and engineers in the design phase of a facility to insure that it meets present and potential threat levels.

Vehicle Barriers

Vehicle-borne attacks are a major consideration in today's world; CTI's expertise regarding available mitigation techniques and applications are routinely utilized. CTI provides recommendations for clients regarding vehicle-borne attacks, including addressing operational considerations and existing solutions, such as cabling systems, high security fencing, bollards, jersey barriers, retractable barricades, and next-generation barrier systems.

Roadway Considerations

CTI routinely assesses existing and planned roadway configurations to identify existing problem areas and other areas of concern. CTI provides recommendations and design support in consideration of roadway mitigation techniques including roadway modification; in addition, CTI provides recommendations for vehicle control, such as identification and installation of designated lanes, speed control devices, temporary and permanent vehicle barriers, and alarm systems for immediate emergency response to unauthorized vehicles and oversized vehicles.

Emergency & Crisis Management Support

Emergency Plan Development

Emergencies or unusual incidents can occur from time to time. Examples of these events include: interruption of utilities, accidents or incidents that result in facility or roadway closures, hazardous material incidents, law enforcement activity, security incidents and fire or smoke alarm incidents. Emergencies or unusual incidents are generally unanticipated and may disrupt or halt specific operations, or affect them in a negative way. CTI is experienced in developing Emergency Plans designed to provide guidance during emergency situations. CTI's approach to the development of an Emergency Plan is as follows: the plans include procedures to evaluate and respond to incidents and/or threats; procedures within the plans address the nature and credibility of the threat and anticipated response in accordance with the procedures developed in the plan; and procedures by which appropriate agencies such as police and fire departments, OSHA, CDC, etc, can be contacted for purposes of notification and/or consultation.

Additionally, CTI-generated Emergency Plans generally include direction regarding: command and control; step-by-step procedures (specific to those entities with responsibilities detailed in the document) for a host of emergency situations; maps and/or drawings showing routes and facilities (where applicable); recommended recovery efforts; and training requirements. In addition, the plans can be coordinated with any other plans to ensure compatibility, proper allocation of resources, proper designation of responsibilities, and to limit redundancy and to address issues and/or concerns of authorization. Also, emphasis is placed on structuring the plans in accordance with the National Incident Management System (NIMS), which was developed by the Secretary of Homeland Security at the request of the President and integrates effective practices in emergency preparedness and response into a comprehensive national framework for incident management; developing the plans in accordance with NIMS guidelines and standard practices will enable responders at all levels to work together more effectively to manage incidents no matter what the cause, size or complexity.

Security Exercise Development

Organizations are recognizing the need to conduct security related tabletop and simulation exercises on a more regular basis and with the participation of all segments of the organization. CTI assists its clients in developing, presenting, and/or evaluating such exercises and in developing related manuals for use on annual basis. In developing these exercises, CTI works closely with the entire organization and, if need be, local public safety agencies serving as first responders. If requested, CTI develops an exercise whose scenarios will be unknown to the organization.

Disaster Recovery Planning

CTI provides professional Disaster Recovery Planning and Crisis Management services to private and governmental corporations and agencies. CTI's experience ranges from work with a national computer center and fossil fuel and nuclear power plants, to airports and transportation companies. CTI assists these entities in developing the in-house capacity to design, revise, and maintain disaster recovery plans and procedures to minimize the potential for devastating financial and human loss in the event of a sustained loss or disaster. CTI develops appropriate disaster preparation and recovery plans, procedures, and manuals; conducts risk assessments and disaster simulation exercises; designs and develops the crisis centers and situation rooms; develops the crisis procedures, manuals and training courses; and ensures environmental compliance and planning.

Organizational Studies & Support

Merger Feasibility Studies

CTI has completed Unified Command studies to determine the impact of a merger between police departments on the quality of service to the public. When conducting such studies, CTI assesses the existing overall police services, the current unified command structure of police services between the departments, and provides recommendations designed to optimize services through the best use of available resources.

Additionally, CTI typically evaluates the following as part of a study: a cost analysis of having overlapping municipal law enforcement agencies; an analysis of current training; an assessment and identification of current mission and mandates of both departments and their ability to achieve them; the ability of the law enforcement entities involved to respond to major incidents; review of the response protocols of the relevant law enforcement agencies and identification of any deficiencies in command, control, and communications; assessment of the need for tactical response capabilities and recommendations for the most effective method of deploying those resources; and identification of community expectations as to the delivery of law enforcement and security services and how to best deliver services that meet those expectations.

Training and Training Needs Analysis

The technical and programmatic skill needs of today's personnel require the most cost-effective basic, refresher and advanced training programs possible. CTI assists clients in identifying training needs of various departments based on careful analysis of job skills demands and the present level of staff capability. CTI also performs job task analysis of various positions to assist clients with personnel training and performance evaluation.

CTI has been assisting its clients with training and security awareness programs for their employees and the public for over fifteen years. CTI's services related to training includes conducting comprehensive training needs analysis and designing and presenting training programs for security and police personnel in all facets of security including physical security, access control, counter terrorism, policies and procedures, and management and supervision, as well as employee/public security awareness.

CTI's training experience includes developing and presenting training courses for international students. CTI staff served as Project Manager/Coordinators on the DoS' Anti Terrorist Assistance Program (ATAP), training key security, military, and public safety staff from more than 20 countries. These programs, developed for police forces and security forces, and conducted for as many as five countries at a time, included such courses as Counter-Terrorist Vital Installation Security; Building Security; Counter Terrorism Command and Control; Counter Terrorism; Trainer Development; Counter Terrorist Patrol Tactics; Refinery and Pipeline Security; Human Relations; Disciplinary Systems, and Internal Investigations; and Bomb Detection Dog Training. These courses included practical exercises and also development projects that included formulating of security plans, policies, and procedures for facilities and personnel.

Organizational Studies & Support

Law Enforcement Resource Development

Another major area of the CTI Team's training and evaluation services is Law Enforcement Resource Development, which can include the following topics: Executive Development, Mid-Management Development, Supervisory Development, Human Relations Training, Productivity Enhancement, Manpower and Resource Allocation, Public Information Officer Development, and Management of Training Programs. CTI's expertise in law enforcement provides our clients with the needed expertise and benchmarking experience to provide guidance on the latest "best practices" techniques.

Counter Terrorism Support

CTI has experience working with federal agencies and multi-national corporations to develop strategies and programs for combating terrorism and other international crimes. CTI staff have conducted seminars and workshops for several clients, such as the Department of State, FBI, and the International Association of Chiefs of Police, where topics have included: Special Weapons and Tactics; Response to Hostage Incidents; Hostage Negotiation Techniques; Terrorism and the Nuclear Industry; Dignitary Protection; Executive Protection; Management of the Intelligence Function; and Management of the Intelligence Analysis Function.

Staffing and Equipment Analysis

Staffing issues, such as inadequate or overburdened personnel, challenge administrators and other decision makers and pose a variety of serious problems; also, staff costs can make up a large percentage of an annual budget. Such a costly resource must be carefully managed, and assessing staff needs and allocating staff properly are complex tasks. Good staffing plans and practices go a long way toward achieving the ability to provide programs and services, decrease potential liability, and help ensure that costly staff resources are used in the most efficient way. CTI performs staffing and equipment analysis designed to help improve client operations by improving staffing practices and procedures and by identifying proper equipment resources and workspace. CTI assists clients by creating an initial staffing plan for a new facility or conducting a comprehensive staffing analysis for the first time; reviewing and evaluating an existing staffing plan; or revising an existing plan in response to changes at the facility or in policy.

Security System Design and Integration

Closed Circuit Television (CCTV) System Design

CTI assists clients with their CCTV cameras systems and central alarm monitoring centers by assessing existing CCTV systems; upgrading, expanding, and replacing present systems; designing completely new CCTV systems; performing feasibility and cost benefit analysis; reviewing planned or proposed systems; and assessing new products and systems for its clients. CTI has developed a strong expertise in the newest digital recording systems and their use in prevention and investigation as well as the newest facial recognition systems, their utility, capabilities and limitations, and cost effectiveness at various types of facilities and institutions.

ID Badging System Design

CTI has played an active role in the design and upgrade of state of the art ID badging systems with databases as large as 50,000 employees. CTI assists clients in the design of ID badging offices and ID badging systems; development of procedures; training of badging personnel; support of automated fingerprinting programs; and development of system user awareness programs on related procedures.

Access Control Systems

An Access Control System (ACS) is recognized as a key aspect of an organization's security program. In its work with important clients such as the U.S. State Department and major airports such as O'Hare, Logan, Detroit, JFK, and Atlanta Hartsfield, CTI has developed a strong expertise in the newest, most effective, and most cost efficient access control systems. CTI utilizes this knowledge in reviewing existing systems for clients, reviewing proposed systems, designing systems for existing or planned facilities, and in the management and oversight of system installation.

CTI also assists clients with the integration of adjunct and related systems; performs assessments of current systems; performs cost benefit analysis of upgrades, replacements, or expansions; and conducts assessment of vendor proposed programs/ upgrades. CTI is also presently working with federal government, corporations and major airports in the use of biometric access control systems. CTI is a member of the NIST biometric standards committee.

Communication Center Design

CTI provides its clients assistance in the design and construction administration of consolidated communication centers. These centers include computer aided dispatch (CAD) systems; dispatch for police, fire and security; integration of access control, alarm monitoring, CCTV, ID badging, intercom, LAN/WAN systems; and even enhanced 911 call systems. CTI also develops staffing requirements for these centers and provides dispatcher/system operator training.

Crisis Management Center Design

CTI assists clients in the design and construction of crisis management centers. These emergency operations centers typically are integrated with a communications center and, whenever possible, are designed by CTI to be multifunctional, such as doubling as a training center when not used for emergencies. CTI also assists clients in the development of procedures on, and training personnel in, crisis center activation and operation.

Security System Design and Integration

Perimeter Control Systems

CTI works with clients in assessing, designing, and upgrading perimeter fencing systems, security lighting, access gates, access barriers, high-tech security fencing, and remote automated access control points. In its work with sensitive government facilities and airports, CTI's staff is familiar with the newest, most effective perimeter security systems and measures.

Bid Preparation and Evaluation

CTI assists agencies and corporations in the comprehensive process of contract bid development and award. Services include assistance in bid package planning, specifications, and text; the development of plans and drawings; bid evaluation criteria; bid review, evaluation, and selection; contract, warranty, and maintenance agreement negotiations, and awards. CTI also assists in conducting acceptance testing before turning over a system to the client.

Construction Management/Oversight

CTI provides project oversight and management support for the construction of physical security systems, command center, and crisis management center construction and implementation. CTI engineers, inspectors and technical specialists ensure compliance by the construction contractor with the design, functional specifications, and job punch lists. CTI conducts field verification testing, acceptance testing, and assists with other start-up tasks. Previous projects include the \$53 million integrated security system at O'Hare Airport and the security system for the \$1 billion renovation of Chicago Midway Airport.

Security Programs Support

Security Consultant Support

CTI presently serves as security consultant for organizations of all sizes who rely on CTI for technical and program advice. These services are provided on retainer or task order type contracts and may require assigning consulting staff permanently to a facility or having dedicated staff on call for that client, depending on need. Quality of these services is demonstrated by the fact that CTI has been the security consultant for major clients for as long as 15 years.

Policy and Procedure Development

An organization's security policies and procedures constitute the day-to-day implementation of its security program providing the program's necessary structure. CTI assists clients in developing, reviewing, and updating their policies and procedures, developing procedures manuals, developing employee directives, and updating facilities' master security plans.

Information System Management

CTI's experienced staff works with clients in providing information systems management support for document and data control, system maintenance and network support, and physical and electronic security of computer systems and their environments. Our experience in the design of prototypes for network and database management makes us uniquely qualified for the subsequent monitoring and maintenance activities necessary to ensure the optimal integrity and performance of these systems.

Computer Security

CTI conducts audits of computer facilities in both the commercial and public sectors, to determine the measures necessary to ensure proper security for the handling and processing of different levels of sensitive information. For Federal government agency clients, this service includes the review, evaluation and application of existing Federal regulations for computer information. Staff development programs that address both physical and electronic security of computer systems, and depending on the nature of the potential vulnerabilities, a combination of encryption systems, password protection systems, port protection devices, and security awareness training for personnel can be custom designed. CTI's experience includes the implementation of TEMPEST security programs, and the design and supervision of the installation of security systems and programs for computers and peripherals containing top-secret information.

On-Site Staff Support

CTI provides extension of staff services to several clients; CTI provides site-specific personnel assigned to provide day-to-day functions on various projects. CTI provides on-site staff support in specialized functions such as access control coordinators, employee history investigation auditors, ID badging staff, fingerprinting specialists, regulatory compliance specialists, auditors, program managers, project managers, customer service/help staff, and administrative, technical and regulatory compliance support. Past contracts where CTI provided personnel to fulfill specific positions, with active clearances where required, include the Holocaust Memorial Museum, the Federal Energy Regulatory Commission, Baltimore/Washington International Airport, Chicago Department of Aviation, Department of State, and Brookhaven National Laboratory (BNL).

Security Programs Support

Technical Surveillance Countermeasures (TSCM)

CTI assists its clients in developing and maintaining information security through the prevention, detection and elimination of information leaks. CTI's professionals are experts in the use of electronic countermeasures and procedural security programs to detect and eliminate electronic-information security leaks in telephone, computer, and FAX systems. Using the most sophisticated electronic "sweeping" techniques, CTI can efficiently neutralize industrial espionage and prevent electronic eavesdropping, with minimal or no disruption to a client's business operations. CTI is capable of detecting numerous advanced tools frequently used by industrial spies to intercept voice communication. CTI's counter surveillance techniques have effectively detected microelectronics, a new generation of listening devices that combines power supplies, microphones, and transmitters that are undetectable by traditional TSCM methods.

Regulatory Compliance

CTI provides regulatory compliance support to clients in preparing position papers, responses to Notice of Proposed Rulemaking regulatory compliance documentation, and regulatory analysis. CTI assists clients by researching the impact of proposed regulatory reform to their organization and operations. In addition, CTI provides guidance regarding federal regulations, where applicable, to ensure regulatory compliance and to ensure satisfactory outcomes regarding audits and inspections. The staff of CTI is familiar with federal regulations, proposed and in-place, that affect various entities regarding security operations, regardless of industry.

Project Experience

CTI has recently completed projects with the following customers:

- Anaheim Arena Complex
- ABC Television Network
- Austin-Bergstrom International Airport
- Baltimore/Washington International Airport
- Bank of America
- Birmingham Airport Authority
- Bureau of Engraving and Printing
- California Museum of Science and Industry
- Camp Dresser McKee
- Charlotte Douglas International Airport
- Chicago Department of Aviation
- Chicago Water Department
- City of San Juan, PR
- City of Van Nuys, CA
- Detroit Metropolitan Wayne County Airport
- DuSable High School
- El Camino College
- Federal Energy Regulatory Commission
- Hartsfield Atlanta International Airport
- Holocaust Memorial Museum
- Houston Airport System
- Howard Hughes Medical Institute
- Independent School District of Austin, TX
- Intelsat Corporation
- Internal Revenue Service
- International Association of Chiefs of Police
- Kansas City International Airport
- Long Beach Convention Center
- Los Angeles Convention Center
- Los Angeles World Airports
- LSG Sky Chefs
- Massachusetts Port Authority
- Maverick Recording Studios
- Mercy Southwest Hospital
- Metropolitan Washington Airports Authority
- NASA
- National Institute of Health
- National Sheriff's Association
- Office of Naval Intelligence
- Pennsylvania Convention Center
- Phoenix Department of Aviation
- Pittsburgh International Airport
- Port Authority of New York and New Jersey
- Rio Hondo College
- San Bernardino County New Medical Center
- San Diego International Airport
- San Gabriel Valley Medical Center
- Seattle-Tacoma International Airport
- SEPTA
- Social Security Administration
- SunGard
- Tallahassee Regional Airport and Health System
- The Johns Hopkins Hospital
- T. Rowe Price
- The Port of Boston/Tobin Memorial Bridge
- Union Bankshares Corporation
- United States Postal Service
- University of California
- U.S. Department of Energy (Brookhaven National Lab.)
- U.S. Customs Service
- U.S. Department of Agriculture
- U.S. Department of Commerce
- U.S. Department of State
- U.S. Supreme Court
- Veterans Administration Hospital
- Walkersville High School
- Walt Disney Imagineering



Health Care Facilities

CLIENT: National Institutes of Health - NIH

LOCATION: Bethesda, MD

PROJECT DESCRIPTION: Analyzed the security vulnerabilities of the supply line program for basic supplies for NIH. This included the main NIH warehouse in Rockville, MD to each internal supply store in and around Bethesda, MD. Conducted security survey of the research laboratories using animals after the actions of an animal rights group caused a major problem on the main campus. CTI reviewed and made recommendations for improved security at the main campus, Gerontology Research Center in Baltimore, MD as well as the facility near Gaithersburg, MD. Provided video surveillance equipment and services to detect theft of critical assets. CTI also provided Technical Surveillance Countermeasures (TSCM) for espionage devices to various elements of the NIH main campus to include the office and residence of the US Surgeon General, office and residence of the main scientists for AIDS research, and the NIH's version of the IG's office.



CLIENT: The John Hopkins Hospital and Health System

LOCATION: Baltimore, MD

PROJECT DESCRIPTION: Conducted Technical Surveillance Countermeasures (TSCM) for espionage devices to various elements of John Hopkins Hospital.



CLIENT: Veterans Administration Hospital

LOCATION: Albuquerque, NM

PROJECT DESCRIPTION: Provided design services to produce construction documents and perform construction administration services for process controls for a solar collector system to provide steam and hot water for the hospital.



CLIENT: Mercy Southwest Hospital

LOCATION: Bakersfield, CA

PROJECT DESCRIPTION: Provided engineering and design services to produce construction documents and perform construction administration services for security, nurse call, code blue, birthing center intercom, and city wide pocket pager systems for the new 60 bed facility.



CLIENT: Howard Hughes Medical Institute

LOCATION: Bethesda, MD

PROJECT DESCRIPTION: Performed security evaluation of existing systems and recommended upgrades or replacements to all aspects of physical security including access control, CCTV, intrusion detection, perimeter detection, intercom system, lighting, and policy evaluation.

CLIENT: City of Chicago Water Department

LOCATION: Chicago, IL

PROJECT DESCRIPTION: CTI was contracted to provide security consulting and management services to the City of Chicago Department of Water at 15 facilities, including the world's first and second largest water filtration plants. Phase One of the project provided a preliminary security assessment of all Department of Water facilities with a view toward the potential for system disruption caused by terrorist bombings directed against facilities or the intentional contamination of the water supply. Phase Two provided for a more in-depth security assessment, including a threat and vulnerability study. Areas of focus included the potential for physical destruction of water buildings and facilities by terrorists or criminals, contamination of the water system, planning for Weapons of Mass Destruction, and threats posed by "insiders." Based on CTI's findings, interim procedures and equipment upgrades were implemented to enhance the Department's security posture. Additional phases included a security staffing study; security training needs assessment; development of new security programs, policies and procedures based on post-September 11th security paradigm; design and engineering of an integrated electronic security system; and the creation of contingency plans to manage high-threat situations.



CLIENT: Camp Dresser McKee

LOCATION: Greenwood, SC; Cary, Concord & Gastonia, NC; Arlington, VA

PROJECT DESCRIPTION: CTI was retained by Camp Dresser McKee to provide security-consulting services to the cities of Greenwood, SC, Cary, Concord and Gastonia, NC and Arlington, VA. The scope of work included performing a threat and vulnerability assessment, as required by the U.S.E.P.A. under the "Public Health Security and Bioterrorism Preparedness and Response Act of 2002. The Sandia Methodology was used in the performance of the assessment. Areas of focus include the potential for physical destruction of water department buildings, facilities, and water conduits by terrorists or criminals, contamination of the water system, planning for Weapons of Mass Destruction, and threats posed by insiders, outsiders and outsiders in collusion with insiders. Recommendations for upgraded security procedures and systems were forwarded to the water department.



CLIENT: Maryland Department of Environment

LOCATION: State of Maryland

PROJECT DESCRIPTION: Assisted in the development of Security Strategic Plan for the Maryland Department of the Environment to assist community water systems throughout the state during times of emergency, and to provide emergency planning and response guidance for all water utilities in the state of Maryland. The developed plan provided a comprehensive all-hazards approach encompassing routine water emergencies as well as incidents of national significance such as the intentional contamination of a water system by terrorists. The Security Strategic Plan takes into account federal water security guidance, such as EPA's Response Protocol Toolbox, and the findings of national groups such as the Water Security Working Group of the National Drinking Water Advisory Council (NDWAC)

US Postal Facilities

CLIENT: US Postal Facility

LOCATION: Oakland, CA

PROJECT DESCRIPTION: Performed preliminary security engineering and design services for new US Postal Service International Mail Processing facility involving access control, Photo ID, and CCTV systems.



CLIENT: US Postal Facility

LOCATION: Carson, CA

PROJECT DESCRIPTION: Performed preliminary security engineering and design services for new US Postal Service International Mail Processing facility involving access control, Photo ID, and CCTV systems.



CLIENT: United States Postal Service

LOCATION: Van Nuys, CA

PROJECT DESCRIPTION: Provided engineering and design services to produce construction documents and perform construction administration services for a DDC based energy management control system for HVAC control and facility monitoring, facility security system, and facility fire alarm system for new 800,000sf General Mail Handling and Vehicle Maintenance Facility. Provided construction administration services for facility fire suppression system.



CLIENT: US Postal Facility

LOCATION: Alhambra, CA

PROJECT DESCRIPTION: Provided engineering and design services to produce construction documents and perform construction administration services for a DDC based energy management and control system for the new 500,000sf general mail handling and vehicle maintenance facility.



Convention Centers

CLIENT: Pennsylvania Convention Center

LOCATION: Philadelphia, PA

PROJECT DESCRIPTION: CTI provided engineering survey services for the complete renovation & upgrade of the Communications Center and the systems associated with the Center: security access control and alarm monitoring, CCTV, system upgrade, proposal package development, contractor selection, construction administration, testing and initiation of the access control system. Also provided by CTI were security policies and procedures manuals and a staff study.



CLIENT: Long Beach Convention Center

LOCATION: Long Beach, CA

PROJECT DESCRIPTION: Provided engineering and design services to produce construction documents and perform construction administration services for new centralized security system and control room for the convention center expansion project.



CLIENT: Los Angeles Convention Center

LOCATION: Los Angeles, CA

PROJECT DESCRIPTION: Provided engineering and design services to produce construction documents and perform construction administration services for new integrated facility wide HVAC control system and facility wide voice and data systems cabling and support structures for the new convention center facility and the renovation and integration of the existing facility.



CLIENT: Anaheim Arena

LOCATION: Anaheim, CA

PROJECT DESCRIPTION: Provided engineering and design services to produce construction documents and perform construction administration services for a DDC based HVAC control and facility monitoring system for the new sports arena.



Educational Facilities

CLIENT: DuSable High School

LOCATION: Chicago, IL

PROJECT DESCRIPTION: In 2001, CTI conducted a security assessment of the security program, with an initial focus on the closed circuit television (CCTV) camera surveillance system. The goal of this CCTV assessment was to evaluate the current system, identify surveillance needs based on existing conditions and problems, and provide the Chicago Public Schools with various options for system upgrade, including the advantages of each option, respective costs, and CTI recommendations on the best option. Another CTI school recently assessed was Steinmetz High School, where CTI conducted a study of its security program.



CLIENT: Independent School District

LOCATION: Austin, TX

PROJECT DESCRIPTION: In 1999, CTI completed a security assessment of the Austin Independent School District and its 111 schools. This study was part of a greater performance audit conducted for the Texas School Performance Review Board with the goal of enhancing the performance of the AISD. As part of its study, CTI assessed the present school security program including its physical security needs, policies and procedures, security staffing levels, security program budget, security/safety systems construction and installation, coordination with local law enforcement, and security needs impact on new construction and renovation projects.



CLIENT: Walkersville High School

LOCATION: Walkersville, MD

PROJECT DESCRIPTION: CTI conducted a comprehensive safety and security assessment, evaluating and assessing a complete security program to include the school's physical layout, building(s), grounds, intrusion, fire, and other existing alarm systems; interviews with faculty, administrators, local law enforcement, and community residents; existing safety and security programs, with special attention to travel routes, parking procedures, visitor and delivery practices; and study of training, employee hiring, student disciplinary programs, and community and law enforcement liaison practices.



CLIENT: University of California

LOCATION: Irvine, CA

PROJECT DESCRIPTION: Provided engineering and design services to produce construction documents and perform construction administration services for security system for the new 17,000 sft ICS Engineering Research Facility, and the 220,000 sft Science Library. Also provided the University with an evaluation of the existing campus wide base security system along with recommendations for upgrading the system to keep up with their projected growth and was retained as on-call security consultant for the University for one year and provided guidance in the areas of fire alarm and HVAC control system designs.



CLIENT: Los Angeles World Airports

LOCATION: Los Angeles International Airport

PROJECT DESCRIPTION: Completed a merger feasibility study between the Los Angeles World Airports Police Department (LAWAPD) and the Los Angeles Police Department (LAPD). To conduct an objective study of this issue, CTI reviewed a variety of areas and issues that directly affected the questions of potential cost saving and enhanced services to the City and the Airport Community. CTI assessed the existing overall police services at LAX, the current unified command structure of police services between the LAWAPD and the LAPD, and provided recommendations designed to optimize the overall security posture of the Airport through the best use of LAWAPD and LAPD resources. CTI also completed a cost analysis of having overlapping municipal law enforcement agencies at LAX; an analysis of current training; an assessment of the ability of the law enforcement entities at LAX (LAWAPD, LAPD, FAA, FBI, TSA, CHP, DHS, DEA, CBP, LA Sheriff's Department, etc.) to respond to major incidents with a focus on identifying any deficiencies in command, control, and communications; an assessment of tactical response capabilities at LAX and recommendations for the most effective method of deploying those resources; and identification of community expectations as to the delivery of law enforcement and security services at LAX and whether the LAWAPD or the LAPD were best able to meet those expectations.



CLIENT: IACP

LOCATION: Alexandria, VA

PROJECT DESCRIPTION: CTI has experience in development of training programs, instructor development, investigations training, writing training manual, training foreign police, security, and military officials, and investigative training, including surveillance and counter surveillance techniques. CTI provided these services to the International Association of Chiefs of Police (IACP). CTI was responsible for developing, marketing and presenting specialized, and client specific training programs and seminars in the U.S. and abroad to support the IACP's Training, Seminars and Special Programs section.



CLIENT: United States Department of State

LOCATION: Washington, DC

PROJECT DESCRIPTION: CTI has a positive history with the DoS and has successfully provided security services to the agency's Bureau of Diplomatic Security since 1995. CTI provides support to DoS regarding security systems operations, and staff assigned to the DoS are currently providing assistance in developing, coordinating and executing plans, standards and policies to ensure maximum security for DoS facilities, personnel and classified information. CTI has provided physical security specialists to advise of the development, implementation and monitoring of daily security practices by advising on current Government security policy, procedures and regulations. In addition, these specialists ensure that DoS' security policies are implemented; developing a physical plan for each project and providing oversight and management of the plan. They also provide oversight for funding approval for the security plan; maintaining up to date security surveys for domestic facilities.



CLIENT: U.S. Supreme Court

LOCATION: Washington, DC

PROJECT DESCRIPTION: CTI conducted an assessment of the U.S. Supreme Court Building, which included findings and recommendations pertaining to Access Control, CCTV Surveillance and Screening systems. CTI also set up the package screening system and trained staff on procedures for both the screening and surveillance monitoring systems.



CLIENT: United States Department of Energy

LOCATION: Washington, DC

PROJECT DESCRIPTION: CTI provides, through Brookhaven National Laboratory, a member to the DOE Technical Survey Team to provide technical advice to Material Protection, Control and Accounting program senior managers on projects to improve protection for weapons-useable nuclear materials in Russia.



CLIENT: Kansas City International Airport

LOCATION: Kansas City, MO

PROJECT DESCRIPTION: CTI conducted a study of the Kansas City International Airport Police Division to assess its capabilities in carrying out its present mission and determine the feasibility and advisability of the Kansas City Police Department to assume those responsibilities. CTI looked at a variety of areas and issues that directly affected the questions of potential cost saving and enhanced services to the City and the Airport Community. These areas included the following: findings on the mission and responsibilities of the Airport Police; their capability in carrying out their mission; perceptions and opinions of Airport management, air carriers, Transportation Security Administration, City managers, City Council members and KCPD senior management; differences of the KCPD and Airport Police mission, Federal requirement compliance, training requirements; and specific benefits of combining both forces.



CLIENT: National Sheriff's Association

LOCATION: Nation-Wide

PROJECT DESCRIPTION: CTI conducted security program development services and training for the NSA in the subject area of high risk trials. Additional services for this project included assessment and recommendations for lock and key programs, alarm systems, metal detectors and screening systems, and protection programs for the Judges and witnesses. Some of the specific facilities and related programs under review were in Buffalo, New York; Alexandria, Virginia; Aspen, Colorado; Las Vegas, Nevada and Nashville, Tennessee. In addition, CTI developed a counter terrorism awareness program for court security personnel and scenario based training for the transference of prisoners to the court rooms. The program CTI developed as a result of this project was used toward NSA's training accreditation.



CLIENT: Chicago O'Hare International Airport (ORD)

LOCATION: Chicago, IL

PROJECT DESCRIPTION: CTI has been the security consultant for the City of Chicago Department of Aviation (DOA) since 1987, when CTI conducted a comprehensive security management study of O'Hare, Midway, and Meigs. CTI is presently a prime contractor for the operation, maintenance, and technical support of the O'Hare Communications/Dispatch Center (OCC). The OCC consists of: Police, Security, Fire/EMS Dispatch, access control alarm response; the ID Badging center; an enhanced-911 call system; and the crisis management center for command and control of airport response to emergencies. In 1991, CTI assisted the airport in the design of a command-communications-crisis management center complex, which also included security dispatch for FAR 107.14 alarms. In addition to working on the preliminary design and system specifications, CTI oversaw construction of the Division 17 systems. CTI currently has a 5-year contract to manage the OCC access control coordination center and support the OCC in systems administration, voice/data communication, LAN, telecommunications, CADD, and repair diagnostics.



CLIENT: Phoenix Sky Harbor International Airport

LOCATION: Phoenix, AZ

PROJECT DESCRIPTION: Completed a Security Master Plan for the City of Phoenix airport system (Phoenix Sky Harbor International Airport and two General Aviation airports - Deer Valley and Goodyear). Master Plan development required the completion of a threat, vulnerability and risk assessment for each airport and the development of a prioritized list of enhancement options (recommendations for improvements, critical milestones, options, system conceptual design, and cost-benefit analyses), and related threat matrices (Sky Harbor). Also completed individual security assessment reports specific to Sky Harbor regarding Information Technology Security, Cargo Security, Employee Security/Safety Training, and the Security Operations Center, as well as a detailed review of current and future construction projects and a complete re-write of the Airport Security Program (ASP). Additional work includes interpretation and operational guidance for all applicable federal regulations and public laws reference airports and national threat intelligence information and guidance; including collecting, evaluating and disseminating security and threat information for security planning, technical security guidance, equipment and system upgrade, and technology application.



CLIENT: Houston Airport System

LOCATION: Houston, TX

PROJECT DESCRIPTION: Completed a Security Master Plan for the Houston Airport System (George Bush Intercontinental, William P. Hobby, and Ellington Field). Master Plan development required the completion of a threat, vulnerability and risk assessment for each airport and the development of a prioritized list of enhancement options (recommendations for improvements, critical milestones, options, system conceptual design, and cost-benefit analyses), and related threat matrices. Additional work includes the completion of a Bomb Incident Prevention Plan (BIPP); re-write of the Airport Security Program (ASP); completion of a Staffing Analysis for the Public Safety Division, and consulting regarding interpretation and operational guidance for all applicable federal regulations and public laws reference airports and national threat intelligence information and guidance.



CLIENT: Baltimore Washington International Airport (BWI)

LOCATION: Baltimore, MD

PROJECT DESCRIPTION: CTI, which has been BWI's security consultant for the past 10 years is currently providing security and operations consulting services to BWI Airport. Areas that CTI is being tasked include Post 9-11 bomb blast analysis and vulnerability assessment, complete rewrite of the Airport Security Program, Airport Certification Manual and the Airport Emergency Plan, development of a Bomb Incident Prevention Plan (BIPP), Airport Rescue and Fire Fighting technical and administrative support, auditing numerous FAA and TSA mandated requirements, criminal history records check adjudication processing, evaluation and facilitation of FAA Part 139 required full-scale disaster exercise, and TSA required lock & key system audits to include development of comprehensive procedures.

In addition, CTI is performing Audit and Inspection Services for the Airport's Fire Department, Fire & Rescue Department records concerning the face piece fit-testing that is required for all Self Contained Breathing Apparatus (SCBA), inspection of lock & key, security center's training records to insure compliance with TSA 1542.231(D), (E), (F) and the operations center safety office records of ground vehicle accident reports.



Additional Projects

CLIENT: LSG Sky Chefs

LOCATION: Austin, TX

PROJECT DESCRIPTION: Provided engineering and design services to produce construction documents and perform construction administration services for a DDC based HVAC control and facility monitoring system for the new sports arena.

CTI completed two separate and specific missions with regards to LSG Sky Chefs. The first involved providing continued guidance and support, as necessary and/or when requested, of (1) current and future safety and security related issues within the civil aviation security industry, domestically and internationally, (2) their impact, potential or otherwise, on LSG Sky Chefs' security programs, and (3) sound provisions for consideration to ensure LSG Sky Chefs' continued compliance with regulated/non-regulated security matters. This included, but was not limited to, the development of policies, procedures, and/or other requested and agreed upon deliverables.

The second involved developing site survey materials, traveling to selected cities and performing security surveys, conducting interviews, and collecting security related documents (where they existed) of LSG CSC facility operations. CTI then assimilated CSC-specific findings from completed assessments and performed site-specific analysis in order to develop CSC-specific proposed security system design enhancements. CTI personnel then briefed and present the LSG Sky Chefs Security Team on the results of the assessments, designs, etc. and then, in direct coordination with LSG Security Team members, General Managers, etc, CTI finalized and developed CSC-specific security system designs and not-to-scale drawings.

In addition, CTI developed a security system specifications document, expandable to the national level, with remote monitoring capabilities, for CSC security system and system components, including site-specific specifications summary of work requirements for initially selected CSCs. Further, CTI provided supplemental specifications document(s) to the originally completed specification document(s); specifically CSC-specific system specifications summary of work requirements and support and assisted LSG Sky Chefs in their development of a Bid Package and selection of Vendor regarding the CSC Security Enhancement Project.



CLIENT: Intelsat Corporation

LOCATION: Washington, DC

PROJECT DESCRIPTION: CTI established the security requirements at Intelsat headquarters and earth stations worldwide. Translated user needs into design and specification packages, selected and managed contractors, and performed overall construction oversight management. Established new security polices and post orders, and participated in development of a business contingency / disaster recovery program. Recommended IT security improvements and worked with network group to install additional firewalls. Specifically, during a multi-year period, CTI worked at a number of Intelsat offices that include, Washington, DC, Hagerstown, and Clarksburg to enhance their overall security posture. Based on detailed assessments, CTI designed their access control, CCTV and alarm management systems and subsystems to determine operational and performance effectiveness. CTI established standards and guidelines for security systems to be developed and installed at each of the various sites. CTI also prepared the bid specifications and design drawings to be released with RFP.



Additional Projects

CLIENT: Social Security Administration (SSA)

LOCATION: Washington, DC

PROJECT DESCRIPTION: CTI completed a contract with the United States SSA, Office of Protective Security Services to provide vulnerability and security studies and threat assessments of approximately 1,500 of the Agency's buildings in every region of the United States within a one-year period. These studies included surveys of physical security systems, threats against staff and office, security action plans, security policies and procedures, violence in the workplace programs, office design, training programs, and local and surrounding area crime incidents and statistics. It also included observation of personnel on the job, office openings and closings, and area activity in the evening. Reports developed for each site included analysis, recommendations, drawings, and costing for implementation of security recommendations.



CLIENT: SunGard Recovery Services

LOCATION: Philadelphia, PA

PROJECT DESCRIPTION: CTI conducted a comprehensive analysis of SunGard's Mega Data Center totaling more than 700,000 square feet of space. The study included an assessment of all existing security systems and subsystems, which included access control, alarm monitoring, CCTV, access portals, and services provided by others. CTI provided a detailed report that included recommendations and detailed drawings showing equipment in place. All of the recommendations were followed by a justification and potential return-on-investment of monies invested. CTI provided design engineer for their security access control, CCTV, photo ID badge system at their co-location that totals more than 100,000 square feet of space. CTI provided cost estimate, bid process, cost administration and project management. Continue to advise SunGard as to existing buildings and new construction to ensure compliance with current corporate standards and guidelines are met. Act as liaison for projects and aid client in demonstrating capabilities to their customers.



CLIENT: T Rowe Price

LOCATION: Baltimore, MD

PROJECT DESCRIPTION: CTI's staff designed a network security system for a private financial institution in Maryland, to support and connect a five-building corporate campus and a remote data center operation. CTI's final design enhanced the existing network, which includes sites in California, Florida, Colorado and the company's headquarters in Baltimore. The system consists of multiple sub-systems that will eventually support approximately 5,000 users nationwide.

Design included interviews with the various user groups to determine the overall security needs of the facility, design of the security system, and coordination with the A&E team's architectural, electrical, and fire alarm designers for incorporating the security system into the facility. Security system was an integrated design to the software level utilizing the one-operator concept. Security system encompassed access control, intrusion detection, photo identification, closed circuit television, and security intercom.

