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EMERGENCY MANAGEMENT

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On the cover: the Cedar Rapids flood of June 2008 (photo: City of Cedar Rapids, Iowa)
Public Works stands guard this flu season

Larry T. Koehle, P.Eng., MPA
APWA President

This year’s flu season ushered in not only the seasonal flu, but also the H1N1 influenza virus which has caused widespread concern and initiated a call to action that transcended community, state, provincial and country borders. In late April 2009, U.S. health officials issued a public health emergency after 20 H1N1 cases were diagnosed. Canadian health officials followed shortly thereafter, diagnosing six cases. Less than eight weeks later, the World Health Organization announced on June 11 that the rapid spread of the H1N1 virus triggered an international pandemic. As the severity of contagion grew, federal, state, provincial and local governments, and first responders—including public works—banded together to protect communities during this difficult time.

It is now January 2010—almost eight months after the first H1N1 cases were diagnosed. How has public works impacted mitigation, response and recovery efforts in the wake of this pandemic?

At the federal level in the U.S., we maintain national visibility by working alongside first responder stakeholders and government officials to formulate and disseminate the latest mitigation, response and recovery data and strategies. Currently, we are a member of the Department of Homeland Security’s (DHS) Emergency Services Sector Coordinating Council (ESSCC) and the National Homeland Security Consortium (NHSC). The NHSC is a forum for public- and private-sector disciplines committed to protecting America in the 21st century. Consisting of 21 national organizations, Chris Walsh, Chair of the APWA Emergency Management Committee, serves as APWA’s representative to this important multi-disciplinary group.

We served on the ESSCC Pandemic Planning Work Group which released a pandemic flu white paper in September 2009. Endorsed by APWA, the white paper provides a comprehensive overview of the H1N1 influenza virus, emphasizes the vital need for first responders to coordinate their emergency preparation and response efforts at the state and local levels, and offers continuity of operations guidelines in the event of an emergency situation. Since its release, the white paper has been sent to key White House and DHS officials, as well as the 16 other DHS Critical Infrastructure and Key Resources sectors to help guide them during the pandemic.

Through the NHSC, we have also gained access to federal and state experts on the H1N1 influenza virus. We have heard from key DHS, Federal Emergency Management Agency, and Centers for Disease Control personnel on the H1N1 pandemic flu outbreak. Areas of focus have included federal, state and local pandemic flu prevention and response, the development of an H1N1 vaccine, virus mutation, and comparisons of H1N1 to the Spanish Flu outbreak of 1918. At the NHSC semi-annual meeting, speakers discussed current H1N1 status in the Southern Hemisphere, as these countries experienced their winter.
Diversity Awareness Corner

“If we don’t believe in freedom of expression for people we despise, we don’t believe in it at all.”

— Noam Chomsky, American educator, author and linguist
n December 2009, Teresa Scott, member of APWA’s Emergency Management Committee, attended the National Homeland Security Consortium (NHSC) semi-annual meeting in Santa Fe, N.M., as APWA’s representative. Consortium participants heard from a variety of speakers, namely Tim Manning, FEMA Deputy Administrator for National Preparedness; Richard Reed, Special Assistant to the President for Homeland Security and Senior Director for Continuity Policy; and David Kaufman, FEMA Director of Policy and Program Analysis. Tim Manning opened the consortium meeting with FEMA Administrator Craig Fugate’s mantra: “FEMA is not the team, but part of the team.” Manning impressed upon NHSC members that FEMA will continue its efforts to reach out to stakeholders and mobilize state and local jurisdictions in an effort to improve catastrophic disaster planning and response operations. Importantly, he emphasized that no two municipalities face the same threats or hazards, whether they are natural or man-made. Accordingly, DHS and FEMA must work to address the various protections communities must be afforded while simultaneously creating consensus-driven emergency management guidelines and policies.

In an effort to streamline homeland security and emergency management policy, Richard Reed provided an update on Homeland Security Presidential Directive-8 (HSPD-8), which was issued by President George W. Bush in 2003 and formally recognizes public works as a first responder. Since the summer of 2009, the White House’s Resilience Directorate has been revising HSPD-8. According to Reed, the draft directorate takes an all-hazards approach to emergency management through the lens of resiliency—a key element of President Obama’s approach to protecting the nation. It is anticipated that the new version of HSPD-8 will encompass the Resilience Directorate’s definition of a resilient nation which is “one in which individuals, communities and our economy can adapt to changing conditions as well as withstand and rapidly recover from disruption due to emergencies.” Currently, the Resilience Directorate is seeking feedback from DHS and FEMA, and will eventually request comments from emergency management stakeholders—including APWA. The agency review is expected to take approximately two months before the draft is made public.

APWA also had the opportunity to hear from David Kaufman, who provided an update on the development of the National Disaster Recovery Framework. At the request of President Obama, Homeland Security Secretary Janet Napolitano and Housing and Urban Development Secretary Shaun Donovan formed a Work Group that has been reaching out to stakeholders seeking input on disaster recovery management issues since October 2009. Moreover, a new interagency website, www.DisasterRecoveryWorkingGroup.gov, was launched to assist federal disaster recovery officials solicit public comments from state, local and tribal partners, and the public.

According to Kaufman, stakeholder comments collected thus far have revealed the following emerging themes:

• It is vital to integrate resilience policy and mitigation practices into disaster planning.
• Pre-disaster planning, training and public education are key to preparedness and recovery.
• States must have a supporting, leading role when communities are struck by a disaster.
• Disaster recovery is an evolving process that must be adaptable to different situations.
• Applying for disaster assistance funds is often tedious and time consuming. It is imperative that disaster assistance programs be improved so funds reach communities more quickly.

Stakeholders’ contributions will help to develop a report to the President and a National Disaster Recovery Framework. The former will include recommendations for improving long-term disaster recovery, while the latter will provide detailed operations guidance to recovery organizations under existing authorities. A draft of the report will be circulated for public comment in February prior to the President receiving the final report on April 1, 2010. The framework is scheduled to be released in June 2010.

The NHSC meeting provided additional insight into the progress of DHS and FEMA’s homeland security and emergency management initiatives, and also afforded APWA the opportunity to interface with Obama Administration officials. As these initiatives move forward, APWA will continue to work closely with key White House, DHS and FEMA staff, and provide insight from the public works perspective.

Laura Berkey is the legislative liaison to the Emergency Management Committee. She can be reached at (202) 218-6734 or lberkey@apwa.net.
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When the Federal Emergency Management Agency (FEMA) was established by an Executive Order in July 1979, APWA worked tirelessly to establish a strong, long-lasting relationship with this agency. Thirty years later, APWA continues to maintain close ties with FEMA working with key officials and personnel on various emergency management-related policies and initiatives. In January 2009, the Obama Administration ushered in yet another new era for FEMA and over the past year, the Emergency Management Committee has furthered APWA’s priorities while simultaneously earning recognition as a prominent stakeholder that represents first responders.

With a new FEMA Administrator well settled into his position, Emergency Management Committee members capitalized on the opportunity to meet with Craig Fugate. APWA’s discussions with Fugate primarily focused on public assistance programs and local mutual aid agreements. APWA members emphasized that proper education and training on public assistance programs and establishing mutual aid agreements will ensure a community’s ability to maintain critical infrastructure systems before, during and after emergencies. Fugate acknowledged that various public assistance programs can be confusing and asked APWA to pinpoint specific areas of concern. Moreover, Fugate expressed the need to work with APWA on education and training initiatives through FEMA’s regional and state branches in order to build stronger, more efficient relationships with public works personnel.

Taking Administrator Fugate’s lead, committee members began working closely with FEMA’s Public Assistance Directorate to further joint efforts to improve access to training so local jurisdictions will have a better understanding of FEMA’s requirements regarding reimbursement documentation. The committee is hoping to partner with FEMA staff and host a public assistance education and training session during Congress this August. Moreover, according to James Walke, Director of the Public Assistance Directorate, and Heather Smith, Intergovernmental Affairs Division – Office of External Affairs, FEMA is in the process of identifying areas where Public Assistance Programs can be improved, such as hazard mitigation. FEMA intends to form an internal work group to tackle this issue and plans to consult the Emergency Management Committee.

Moreover, in early 2009 FEMA asked APWA to designate representatives to participate in an Education Focus Group—the goal of which was to identify gaps in educational opportunities for public works professionals with regards to emergency management. Understanding the importance of representing a broad spectrum of declared emergencies, APWA carefully chose six individuals who had experienced one or more floods, hurricanes, tornadoes or extreme snow events. The group met with Emergency Management Institute (EMI) personnel and APWA staff for two days at the EMI campus in Emmitsburg, Maryland. The final outcome of the discussion, facilitated by the contracted consultant, was a proposal submitted to FEMA which included updates to current programs and a request for new educational opportunities. Based on the recommendation, FEMA authorized funds for the development of a two-hour, web-based training program defining the role of public works in emergency management. However, the release date has yet to be determined at this time.

Aside from partnering with the APWA Emergency Management Committee to help further APWA’s priorities, FEMA is soliciting nominations for appointments to national offices for the August 2010–September 2011 year. Step forward and offer your expertise to your profession. Contact your local chapter to let them know you have an interest in serving at the national level. Information on appointments may be obtained on the APWA website at www.apwa.net/membersonly/nominations or from Kaye Sullivan at National Headquarters at ksullivan@apwa.net or at (800) 848-APWA, ext. 5233. A brief bio must be completed online or through hard copy. Nominations must arrive at headquarters by close of business March 1, 2010.
very active spearheading initiatives to improve its all-hazard approach to emergency management. Two such initiatives in which committee members are heavily involved are the Target Capabilities List (TCL) Implementation Project and the Long Term Recovery Working Group.

Since 2008, FEMA has been revising and restructuring the TCL, a vital component of the National Response Guidelines. Currently, committee members are serving on eleven TCL Work Groups that range from Continuity of Operations, to Mitigation, to Critical Infrastructure Protection, etc. Based on the need for community-specific emergency preparedness, the TCL Work Groups are developing a series of Target Capability Frameworks to help states and local jurisdictions determine whether they need a given capability to be prepared, and if so, at what level. The TCL is scheduled to be released at the end of this year.

Additionally, FEMA invited APWA to participate in the Long Term Disaster Recovery Working Group and to assist in the creation of a National Disaster Recovery Framework. Beginning in September 2009, the Work Group—which is co-chaired by the Secretaries of the Departments of Homeland Security and Housing and Urban Development—have been reaching out to stakeholders seeking input on disaster recovery management issues via live forums, video teleconferences, and informal comment periods. The Emergency Management Committee has been proactive providing input, as APWA’s contribution will help to develop a report to the President and a National Disaster Recovery Framework. The former will include recommendations for improving long-term disaster recovery, while the latter will provide detailed operations guidance to recovery organizations under existing authorities.

As the year moves forward, the Emergency Management Committee will continue to be proactive, as committee members have multiple objectives to accomplish. Importantly, the committee will work to strengthen existing relationships with FEMA officials while seeking additional opportunities for stakeholder involvement—as the possibilities are endless in 2010!

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All of us face challenges each day to achieve more, improve performance, and solve a wide variety of public works-related problems with limited resources. Although we can justify the need for more resources, due to the poor economy many cities, counties and government agencies have faced deep cuts in capital improvement programs and operational budgets, as well as reductions in their workforce. This has compounded the difficulty with staying current with the ever-growing demands for providing services and addressing our aging infrastructure repair and replacement issues.

Despite the difficulty, public works officials realize that we must find ways to continue to overcome these challenges even in a bad economy. Some local government agencies have broken new ground with a unique approach to capture the talent and experience of retired professionals to help them solve today’s challenges. They have realized that just because a person has retired does not mean that all their expertise is lost or their desire to share it has evaporated. These retirees can still contribute in a meaningful way.

Many retired professionals have worked hard throughout their careers and have chosen to retire and move out of high-pressure environments that result in 60- and 70-hour workweeks, which limits the time they spend with their families and friends. However, many now find themselves uncomfortable taking a seat in the bleachers when they could be on the field as a team player. The chance to participate again on a limited basis is appealing.

Most communities have retired professionals who possess unique experience and knowledge, which in some cases could equal or surpass current staff members. To tap this resource and direct it toward assisting the community in addressing a major challenge or a complicated issue can be rewarding for all concerned. This approach can save a community time and money by providing problem-solving suggestions that could help further stretch limited resources. Let’s face it—you can’t play golf or go fishing all day every day.

The Department of Public Works in Salina, Kansas, is one of a number of organizations to utilize retired professionals. Our group is called the Infrastructure Advisory Team (IAT) and has been working with the Public Works Department staff since January 2008. The team is made up of six retired professionals as well as the Salina City Engineer and Director of Public Works. Past experience ranges from a former city engineer, transportation engineer, soil and water conservation engineer, hydraulic/civil engineer, water resources engineer/consultant, and a residential developer. Each has had a distinguished career and is respected within our community.

Our team of retired professionals has volunteered their time to meet once a month to assist City staff with rewriting the City of Salina Construction Standard Specifications. This is a 29-chapter document that outlines how new infrastructure will be constructed. It provides specifications for the construction of streets, storm sewers, water and sanitary sewer lines, curb and gutter, and sidewalks. Many of these specifications are outdated, inconsistent, lacking in detail, and in some cases, provide unnecessary information.

In addition, the IAT is assisting City staff with the review and analysis of the engineering scope of services for a proposed Master Plan for a seven-mile, old river channel redevelopment project. The old river channel, which runs through the city, was replaced around 1960 by a diversion channel that routed the river away from the city. The old river channel now serves as part of the stormwater collection system inside the flood control levee system. The proposed plan envisions the reintroduction of running water from the Smoky Hill River through the old river channel, and the development of the adjacent land next to the channel for recreational purposes with hike and bike trails and possible future downtown retail improvements and expansion. The
project is intended to provide connectivity and better utilize community resources. This concept has captured the interest of many residents. However, there are a number of complicated issues and challenges associated with the proposed plan that need to be investigated and analyzed prior to a decision on the feasibility of this major community project.

It has been exciting and rewarding to watch the chemistry between these retired professionals and our younger professional City staff as they work together to analyze, discuss and debate the technical and procedural issues surrounding alternative courses of action, as applied to engineering design and construction principles. The energy and enthusiasm produced by our team of volunteer professionals in reviewing infrastructure projects is inspiring.

There are other organizations that have invited back retired professionals with certain skills and abilities to handle a specific project, assist educating staff, serve as an advisor, provide support in an interim capacity, or even work part-time on various tasks. Some positions and roles are voluntary and others may be paid. These persons may work several days a week or only a few days a month. Typically, the cost to taxpayers for utilizing retired professionals is much less than hiring a full-time person with benefits or hiring a consultant.

One of the rewards of recruiting local retired professionals from your area is that these persons have a vested interest in the success of your community as well as in the projects and services provided. They take extra pride in contributing their expertise and feel appreciated for being offered the opportunity to once again contribute.

The use of retired professionals in addressing current issues and challenges opens a new door in discovering additional resources for public problem resolution teams. These persons offer extra added value in expertise and experience, which is sometimes difficult to acquire on certain types of projects or where experience is limited. In these times when departmental staffs are being reduced, work hours are limited, and consulting budgets are cut, considering the use of retired persons could help to keep projects on track with a successful conclusion.

APWA has recognized the importance of creative thinking and the value in sharing ideas with others in our public works field. Over the next year the APWA Diversity Committee, Subcommittee on Generational Issues will be working with chapter leaders and Association members to develop a strategy to help our membership tap into this resource and develop opportunities for retired professionals who might be interested to rejoin the team and get back into the game. Your input on this endeavor is greatly appreciated.

If your APWA chapter, department or community has a program designed for retired professionals, please let us know. We would like to hear from you. I can be contacted by e-mail at mike.fraser@salina.org.

2010 Editorial Calendar

The topics for the APWA Reporter’s 12 issues in 2010 are presented below.

January: Emergency Management
February: Water Resources
March: Solid Waste Management
April: Facilities and Grounds; Annual Buyer’s Guide
May: Sustainability; Top Ten Public Works Leaders of the Year
June: Engineering and Technology
July: Transportation; Public Works Projects of the Year
August: Congress Show Issue; Utility and Public Right-of-Way
September: Fleet Services
October: Congress Highlights
November: Winter Maintenance
December: Leadership and Management

Columns & Features:

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World of Public Works Calendar
The changing role of the public works director

William A. Sterling, P.E.
Director of Public Works (Ret.)
City of Greeley, Colorado
Past Member, APWA Leadership and Management Committee

Introduction
The public works director of today faces many of the same challenges of the director of yesterday, except the problems are now more complex, costly and regulated. In addition, the present recession is having a significant effect on the operations of a public works agency. The lack of adequate funding has always been with us, but now it is much more pronounced. In many cases throughout the country, it is extremely difficult to carry out the basic functions of public works, much less the “nice” things we used to do. I believe that we will come out of the recession; but how we come out and what our agencies will look like will be different. Many of you have experienced layoffs, wage cuts and furloughs, leaving those workers who remain to carry out the function of the agency. I call them “survivors.” I don’t believe that many of those who have been laid off will be rehired. I believe strongly that how we do the business of public works will have to change. There is a good book, Change is Good… You Go First, by Mac Anderson and Tom Feltenstein, that you might want to read.

Putting aside the issue of the recession, I believe that there are 10 changes that are affecting the “new” public works director. Administrators are learning to “do more with less,” while trying to maintain productivity. The vastly expanded role of the director goes beyond technical competence. The role requires dynamics of leadership, communication, analytical skills and foresight. In addition, the administrator of today must have the stamina to work closely with elected officials, union representatives, special interest groups and a highly educated (or informed) citizenry. The administrator must be a leader with a vision. He/she must wear many hats, play many roles and be able, as Rudyard Kipling’s poem “If” so aptly states, “to works with kings, nor lose the common touch.” With that in mind, what are some forces now bringing about the changing role of the public works director; in addition to the current recession?

In my opinion, there are at least 10 factors that bring about this change:

1. Technology/Information Explosion
2. Personnel/Human Relations
3. Computers
4. Infrastructure Management/Maintenance
5. Higher Costs of Services/Scarce Resources
6. Diversity of Services
7. Citizen/Council/Employee Involvement
8. Federal/Provincial/Local Regulations/Legal Concerns
9. Planning/Coordination
10. Communications

Technology/Information Explosion
It has been said that there have been more technological advances during the last 50 years than in all of recorded history. A director must have a working knowledge of the technology applicable to his/her area of operations. Technology gives the director frequent and dependable access to job status reports, new methods of providing services and new equipment to efficiently and effectively perform the service, and provides a choice of solutions to problems. The technology runs the gamut from pavement management systems to computer-aided design, from traffic control systems to snow/ice control methods. How, then, is a director able to find and utilize this information? The major sources are product manufacturers and suppliers, technological transfer centers, government clearing houses (EPA, RTAP), professional organizations (APWA, AWWA), technical seminars, advanced university study and professional trade publications. Obviously your best reliable source of information is the American Public Works Association.

Personnel/Human Relations
Much has been written about how to get along with people; how to negotiate, mediate, and facilitate; and how to manage resources. (An article, entitled “Dealing with Difficult Employees” by William A. Sterling, was published in the June 2009 issue of the APWA Reporter.) In the field of public works, the greatest asset a manager has is his/her personnel. The staff can, and often does, perform minor miracles and makes the manager and the department look good. Motivation and productivity is the key to any successful organization. With the more mobile and less dedicated employee, the diversity of the workforce, the retirement of the Baby Boomers and the Generation X workers entering into the workforce, the manager of today must employ better techniques such as team building, training, employee participation, job enrichment, cross-training, open communications/feedback and a series of incentives for good employees. Employee
empowerment and self-directed work teams are a necessity in the future. During this economic downturn, it becomes critical that a manager relates to the staff.

Computers
The thread that runs through all of the discussions about management is the need for information and communication. Information, and its availability, is reshaping management’s approach to solving problems. Are you working efficiently and effectively? Almost all managers now have PCs on their desks, just as yesterday’s managers had bulky, hard copies and files. E-mail and the Internet have become commonplace. There was a time that I thought a “Blackberry” was a fruit. New programs such as Face Book, YouTube and others, are ways to keep in touch; and with the advent of wireless communications, you can no longer hide! PDAs are now becoming more common in the field along with GPS. Now you can’t even get lost if you have a GPS in your vehicle or on your Blackberry (and don’t even get me started on cell phone technology and iPods).

Data can be entered and massaged to provide virtually any type of management report desired. However, all information must be timely, complete, concise, accurate and relevant. The technical advances now provide a manager with timely information along with ease of use (if you’re not an “old” director, such as me).

Infrastructure Management/Maintenance
While the “hot” topic continues to be the infrastructure and the need to maintain and replace our aging facilities, the key to any infrastructure management is infrastructure inventory. The inventory must include both the quantity and the condition of the infrastructure. The detailed information may well be required in financial statements (GASB 34), as an unfunded liability. This is not to say that you’ll get more resources to maintain the infrastructure, but you’ll have a better “handle” on what the community needs are. Annually, ASCE publishes a “Report Card” on the nation’s infrastructure. In my opinion, no one pays attention to that “Report Card”; therefore, we, as public works practitioners, must develop a better and more consistent way to get our point across to the public on infrastructure needs.

Higher Costs of Services/Scarce Resources
The cost of providing the same level of services each year is rising and, in most cases, at a rate that is higher than the rate of revenues. This is especially true during these hard economic times. This requires a manager to continually assess operational methods, equipment needs, and frequency of...
service and applicability of the service provided (back to the basics). The APWA Leadership and Management Commit-
tee has begun a new series of articles, entitled “Back to the Basics,” which will address this issue. Look for the articles in the APWA Reporter.

Constant communication with the council and citizens is required to determine the acceptable level of service delivery. While there are no “new” sources of revenue, there are many methods of generating additional revenues. These sources may range from improvement districts to drainage utilities, from user fees to sales and property taxes, from street maintenance utilities to bonding and from federal/provincial, state and private grants to donations. However, to gain public support for any “new” revenue source, a manager must constantly assess operational activities to produce services at the lowest cost possible. A manager must be more than efficient; the manager must be effective also. Innovative service delivery systems such as outsourcing and deleting programs and services must be considered.

Diversity of Services
A continuing trend is to group a local government’s physical development activities and its delivery of service in a public works department. If it doesn’t fit anywhere else, put it in public works! No longer is the public works agency charged with only street maintenance, design/construction and traffic control activities. Today’s agencies are as diverse as the municipalities in which they serve. In my career I have had Animal Control and a Cemetery. My last agency consisted of eight divisions ranging from Engineering to Equipment Maintenance. In most jurisdictions, the functions allocated to the public works agency can be categorized as either developmental or operations functions. The 6th edition of the Public Works Management Practices Manual has 37 chapters devoted to the field of public works. New physical activities initiated by city governments were usually allocated to public works because the activity did not seem to “fit” into any other structured agency. Coming out of the recession may increase this model as cities will have to reorganize due to downsizing. Today’s director must be able to manage a wide range of activities and a wide range of technical staff. He/she may become in-house consultants to other departments.

Citizen/Council/Employee Involvement
During the late 1960s and early 1970s, there was a major change in citizen involvement, brought about by urban renewal and community redevelopment. Citizens began to question government’s role in changing their lives. They began to question, then demand, and became involved. Citizens became more knowledgeable. The birth of the N.I.M.B.Y. questioning began. The new terms of “NOTA” and “BANANA” are becoming more prevalent in local government. Most federally-funded projects now require citizen input through environmental assessments. Even when there is no federal funding involved, a public works agency would be wise to get as much input into any project or service in order to make the best decisions. The best projects are those that have citizen involvement—so do it now rather than later.

The level of council involvement in the operations of the agency is also increasing. Many council members have been elected because of single issues and, in order to remain in office, sometimes get involved. Because of citizen involvement, council members are getting involved. While they may not get directly involved with your operations, they will ask questions through your city manager or your mayor.

Employee involvement has increased tremendously during the past ten years; and this is a good thing! Team building, unionization, participation in decision making and self-directed work teams all contribute to a better organization. Getting involved with the APWA Self Assessment and Accreditation Program will greatly help your agency to function better.

The manager of today must be aware of the employees’ concerns—they are the experts in what they do. In public works agencies, the manager’s greatest assets are people and their ability to achieve the city’s and the agency’s goals within budget and in a timely manner. This is especially true during this economic downturn. You are asking them to do even more with even less. Sometimes it feels that we are now expected to do anything with nothing.

Federal/Provincial/Local Regulations/Legal Concerns
Public works officials are empowered, compelled, limited and governed by law. Second only to nuclear power production, local government may be the most regulated industry in the nation. The legal system is now as complex as the infrastructure system. The public works manager must have a working knowledge of the various laws and regulations, or at the very least, recognize when to confer with the appropriate legal staff. Funding can be lost, fines can be levied, and directors can be held personally liable for not complying with the appropriate regulations. Awareness of the issues, adherence to duties and established policies, and the willingness to seek legal assistance when in doubt should be the guidelines to good management. It is most helpful if the agency has a thorough and updated set of written policies and procedures. Again, APWA’s Self Assessment and Accreditation Program is a good place to start the process of reviewing and updating the way you do business.

Planning/Coordination
The basic construction of a public improvement is a complex process. Good planning and input will help ensure that the facility is properly designed, adequate funding is available, and the effects on other agencies, the neighborhood and the traveling public are minimized. The Capital
Improvement Program process is a complex process requiring a knowledge of financing methods, design alternatives, scheduling, contract administration and coordination with a variety of entities—both within the local government and outside. In the future, the allocation of goods and services, as they affect planning and public works agencies, will be carried out in a climate of limited resources—even after the recession. Planning, coordination and allocation of scarce resources will be more critical; the public works manager of the future must possess those skills to ensure a reasonable level of success.

Communications
Public works has expanded from streets, roads, water, sewer and public buildings to the entire built-up environment. Communications is a major function of the public works manager—explaining assignments to employees, listening to citizen issues, presenting your programs to the governing board and the media, and working with citizen groups. The need for communication has grown because of legal issues, cable television, higher educational level of citizens and employees, interdepartmental coordination, and the high costs of providing services.

The director of the future must have the training and ability to communicate with a variety of people in a variety of ways. Hostile press, informed (and sometimes uninformed) citizens, new council members and a diversity of employees all demand a diplomatic communicator and negotiator at all times. In short, a director must have outstanding public relations skills.

Summary
It is true that a well-run public works agency may not be particularly conspicuous to the general public. It has been pointed out that these services, accomplished day-by-day, are so much a part of life and living that they are taken for granted. Only in their absence, or a break in their continuity, are they suddenly missed. It is also true that the professionals who make public works succeed pride themselves in the anonymity of their activities. This must change in the future; public works must market themselves in the same manner as the fire and police departments do. We are a vitally important agency—we are a first responder.

From the viewpoint of the professional public works manager, however, the aspects of the services they provide are seldom dull or devoid of excitement. Fiscal crises, labor relations, the political process, new technology, limited resources, natural disasters, increased environmental concerns and the changing workforce all demand a higher standard of professionalism and leadership.

Donald C. Stone, in Professional Education in Public Works/Environmental Engineering and Administration, stated: “New administrators should be knowledgeable in social, economic and technological interfaces. They need more sophistication to enable them to work in a complex political environment while serving the total public interest. The public works administrator of the future must be an expert public manager in the broadest meaning of the term. Technology must be made the servant, not the overlord, in the development of people-oriented infrastructure and services.” I wonder what Mr. Stone thinks of today’s public works managers. Unfortunately, the older generation of managers will be moving on and the new managers may not be ready to take up the challenge. There is hope—through APWA and its resources.

Resources
Public Works Administration, American Public Works Association
Public Works Institute Learning Model, American Public Works Association
The Price of Government, Osborn, David & Hutchinson, Peter

William A. Sterling, P.E., is a past member and past chair of the APWA Leadership and Management Committee and a recipient of the APWA Top Ten Award and the APWA Swearingen Award. He can be reached at (970) 356-1159 or sterling@publicworksmanagement.com.

New APWA staff
Joan Awald joined the APWA staff in November as a Professional Development Coordinator. Among her duties and responsibilities are supporting Technical Committee Liaisons, Click, Listen & Learns, Continuing Education Units, Internet research and other support functions in the department.

For the past four years, Joan has worked for Cancer Action. She has a B.S. in Geography and was a project manager for several U.S. Geological Survey logistical contracts; she also worked on the Brookings County (SD) rural addressing project. Joan has always been fascinated by public works projects and the planning and maintenance they require.

She and her husband, John, lived in South Dakota for several years before moving to Kansas City in 2005. The Awalds spend their free time doing home improvement projects at their home in Brookside, casting rhubarb leaves in concrete, and playing with their grandson.
If you have the desire to gain new ideas to improve your agency’s winter maintenance program, the 2010 APWA North American Snow Conference is the place to be!

**ACQUIRE** insight into the latest snow equipment and technology

**DISCOVER** new ways of interpreting weather forecasts

**EXPLORE** ways of improving community relations

**LEARN** how to plan for effective snow and ice removal

**NETWORK** with top snow and ice experts from across North America

The American Public Works Association is the public works community’s number one resource for information and expertise on winter operations. The 2010 Snow Conference will showcase four days of quality programs and technical tours with opportunities to interact and exchange ideas with manufacturers, distributors, consultants, and other public works professionals.

The Snow Conference Exhibit Floor is bigger and better than ever, with more than 120 companies participating! Everything from innovative new equipment and technology to ground-breaking new products and services focused on snow & ice removal and winter operations will be on display. Come kick some tires at The Show for Snow!

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Hosted by the APWA Nebraska Chapter

www.apwa.net/snow

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**Snow Conference at a Glance:**

**Sunday, April 18**
5:00 – 7:00 p.m.  
Exhibit Open

1:00 – 2:00 p.m.  
Education Sessions

2:15 – 3:15 p.m.  
Education Sessions

3:30 – 5:00 p.m.  
Opening General Session  
Keynote Speaker: Stacey David

5:00 – 7:00 p.m.  
Exhibit Opening and Welcome Reception

**Monday, April 19**
9:00 a.m. – 3:30 p.m.  
Exhibit Open

8:00 – 9:30 a.m.  
General Session “Talk Show”  
Plowing Through the Media

9:30 – 10:30 a.m.  
Coffee Break on the Exhibit Floor

10:30 – 11:20 a.m.  
Education Sessions

12:45 – 1:45 p.m.  
Roundtable Discussion Groups

2:00 – 2:50 p.m.  
Education Sessions

2:50 – 3:30 p.m.  
Non-compete Exhibit Time

3:30 – 4:30 p.m.  
Education Sessions

5:00 – 7:00 p.m.  
Non-compete Exhibit Time  
Lunch on the Exhibit Floor

12:30 – 1:30 p.m.  
Education Sessions

1:45 – 2:45 p.m.  
Education Sessions

3:00 – 4:30 p.m.  
Closing General Session  
Keynote Speaker: Tom Osborne

5:30 p.m.  
Buses depart for Dinner at the Strategic Air and Space Museum

**Wednesday, April 21**
8:00 a.m. – 12:00 noon  
Technical Tour  
Fleet Maintenance and Snow & Ice Operations

Go to www.apwa.net/snow for more information and to register for the 2010 North American Snow Conference!
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**Tuesday, April 20**

8:30 a.m. – 12:30 p.m.
Exhibit Open

8:00 – 9:00 a.m.
Education Sessions

9:00 – 10:10 a.m.
Coffee Break on the Exhibit Floor

10:10 – 11:00 a.m.
Education Sessions

11:00 a.m. – 12:30 p.m.
Non-compete Exhibit Time
Lunch on the Exhibit Floor

12:30 – 1:30 p.m.
**Education Sessions**

1:45 – 2:45 p.m.
**Education Sessions**

3:00 – 4:30 p.m.
**Closing General Session**
Keynote Speaker: Tom Osborne

5:30 p.m.
Buses depart for Dinner at the Strategic Air and Space Museum

**Wednesday, April 21**

8:00 a.m. – 12:00 noon
Technical Tour
Fleet Maintenance and Snow & Ice Operations
La Center learns to manage a wetland

Bart Stepp, P.E., Public Works Engineer, City of La Center, Washington; Barb Vining, Wetland Steward Project Leader, La Center, Washington

La Center is a city of 2,500 people located in southwest Washington. In 1997-1998, 10.6 acres of enhanced wetlands were constructed as mitigation for other wetlands filled in for a subdivision. Wetland construction included two ponds to provide open water with a stream between them, tree and shrubbery plantings, and a scrub/shrub shoreline. Snags were imported to provide raptor perch poles and large woody debris was placed within the riparian zone and ponds to provide micro-habitats and perch areas for animals. The ponds and fringe wetlands provide stormwater detention to prevent downstream flooding. Stormwater entering the wetland area passes through one of several bio-filtration swales to remove pollutants and sediment. For humans a pedestrian path was installed along the north side of the wetland that crossed the west side of the lower pond to provide public access for viewing and recreation.

The subdivision final plat stated the HOA was responsible for maintenance of the wetland. The HOA did not form, however, until late 2004 due to a lack of occupied residences. From 1998-2004 minimal maintenance was done by the developer still responsible for the wetland. A 2000 monitoring report indicated a 34% die-off of planted species and recommended a replanting to replace the dead plants. A monitoring report completed after the HOA took over in 2004 indicated over 50% of the planted species had died and that Reed Canarygrass, an invasive species, covered approximately 70% of the riparian and buffer zones. There were also other invasive species present including Blackberries and Canada Thistle. The lack of maintenance had clearly diminished the overall quality of the wetland and a maintenance program was needed to improve the wetland functions. The HOA felt they could not maintain the wetlands properly and asked the City to take over ownership of the wetland which it did on September 8, 2004.

City manages wetlands

The wetland park is supposed to provide treatment and detention of stormwater runoff, wildlife habitat, and recreational opportunities for the public. To maintain these three functions the City needed to reduce the amount of invasive species, prevent the ponds from filling in, and increase plant diversity and tree canopy.

To remove invasive species, the 2004 monitoring report recommended annual herbicide treatments combined with cutting and removal. The City instead chose to mow multiple times a year to control growth. Due to the large area and the City’s limited staff, offender crews are used for mowing. This has significantly reduced the coverage of Blackberries and Canada Thistle. Reed Canarygrass is still prevalent, but the frequent mowing has allowed larger shrubs and trees to establish in the wetland area. As the trees mature, the increased shade canopy should reduce the amount of Reed Canarygrass allowing native grasses to flourish.

Over time, natural wetlands fill in with sediment and vegetation. Pond buildup in a managed wetland used for stormwater control must be minimized to maintain stormwater detention volume. During 2005 and 2006, vegetation and algae buildup in the ponds was substantial during the summer months. In July 2007, the City released 30 Triploid Grass Carp into the ponds. The carp consume almost every submerged weed and can live more than 10 years. Their presence resulted in cleaner ponds in 2008 and 2009. Soon after the carp were released, unfortunately, herons and osprey were seen hunting at the ponds. While the public enjoys viewing these large birds, their predation on the carp is costly. It is believed all carp were eaten by August 2009. The City will need to restock the ponds in a year or two if pond buildup increases. Predation is an unfortunate byproduct in the shallow ponds, but the alternative to carp is spraying herbicides which the City considers environmentally unfriendly.
The 2004 wetland assessment said greater than 50% of the trees and shrubs originally planted in 1998 had died. In response the City planted 350 native trees and shrubs in 2007. Continued mowing of the area has allowed a large percentage of these plantings to survive and establish. Additional trees that were naturally seeded from the 2007 plantings are now taking root.

Managing wildlife

The wetland attracts a variety of wildlife. Birds include swallows, songbirds, herons, ospreys, hummingbirds, red wing blackbirds, and multiple duck species. Tree frogs, turtles, and a large bullfrog population are present. Mammals seen in the wetland include coyotes, mice, raccoons and, unfortunately, a beaver in the summer of 2009.

Bullfrogs are not native to La Center and dominate other native frog species. But bullfrogs do not present any problems to the stormwater function of the wetlands and their large population helps control the mosquito population. Despite being an invasive species, the City has no active plan to reduce bullfrog levels.

Beavers have the potential to do serious damage to the wetlands by removing valuable trees and flooding ponds and homes. In July 2009, a beaver established residence in the lower pond and started damming up the outlet, raising the level of the pond. The City obtained a nuisance animal permit from Fish and Wildlife and trapped a solitary male beaver in early August which stopped the dam building. The City will need to be prepared to remove any other beavers that reach the park from the Lewis River which is a mile away.

Wetland stewardship program

In the spring of 2008, the City and residents of La Center began a wetland stewardship program, utilizing the talents and service of local residents and participants from the local schools. The wetland stewardship program is co-led by the Public Works Director and a Wetland Steward Project Leader. A strategic planning team composed of the Public Works Director, the Wetland Steward Project Leader, and residents with experience in strategic planning, plant identification, soil survey, hydrology, wetland function, and bird identification was formed. The team has written a ten-year Strategic Plan, which outlines the goals, objectives and plan of work for the next ten years to enhance the wetland to meet the original performance objectives.

Over 2,000 volunteer hours coupled with City staff time devoted to the enhancement of the wetlands has produced a comprehensive weed management plan and a rough draft of a Reed Canarygrass management plan. In addition, an inventory of planted and native plants, a soil survey, and the protocol and procedures for a pond volume survey have been completed. The plants and soil surveys will assist a wetland biologist in producing a planting plan for the fall of 2009 and spring of 2010. In an upcoming community-wide planting event, wetland stewards, City employees, and Cooperative Extension Service employees will be holding demonstrations and handing out literature to help residents understand how the actions they take in their own yards affect the health of the wetlands. They are working on a self-assessment tool (identifying potential problems) coupled with fact sheets (identifying solutions) based on the Homestead Assessment System Program.

By implementing this program, La Center intends to enhance the stormwater control functions of the wetland park and provide friendly habitat for its human and non-human residents, showing that managed wetlands can be successful in small cities.

Bart Stepp, P.E., is the Public Works Engineer for the City of La Center and lives next to the wetlands; he can be reached at bstoppelacenterwaus or (360) 263-2889. Barb Vining is a resident of La Center and is the Wetland Steward Project Leader; she can be reached at wetlandstewardshipciacenterwaus.
Listed in this index are all of the articles published in the 12 issues of the *APWA Reporter* during 2009. They are categorized by subject, with subject headings in alphabetical order. All of the articles can be found on the *APWA Reporter* web page at www.apwa.net/Publications/Reporter.

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Engineers Without Borders-USA (EWB-USA) is a nonprofit humanitarian organization established to support community-driven development programs worldwide through partnerships that design and implement sustainable engineering projects. EWB-USA members, comprised of professional and student engineers or other disciplines, volunteer to work with local communities and non-governmental organizations (NGOs) in over 45 developing countries around the world on projects such as water, renewable energy, sanitation and more.

Dubbed as the Blueprint Brigade by *Time* magazine, EWB-USA has grown from little more than a handful of members in 2002 to over 12,000 members today and has over 350 projects worldwide. Working in partnership with the local community for no less than five years, EWB-USA chapters design and implement low-cost, small-scale, replicable and sustainable engineering solutions to problems identified by the community. EWB-USA projects are rigorously reviewed by professionals to ensure sustainability, cultural appropriateness and proper functionality. These projects are then monitored and maintained by trained local community members and NGOs.

EWB-USA has over 250 dedicated chapters, including university chapters on 180 campuses in the United States, and has touched the lives of more than one million people worldwide. APWA’s International Affairs Committee supports APWA membership involvement with EWB-USA and has provided this information for our members’ benefit. For more information about EWB-USA, please visit www.ewb-usa.org.

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Back to the basic supervision

Dan Hartman
Director of Public Works
City of Golden, Colorado
Member, APWA Leadership and Management Committee

As public works agencies come face to face with tough economic conditions, it is important to look back and thoughtfully consider what your charge and purpose is for the community. For many years you have been adding more and more “nice” things that really may not contribute to the health, safety and welfare of the residents you serve. Now that you are doing more with less, this series of articles is designed to help you reflect on what should be basic for your efforts and how you may have to adjust your thinking to meet your mission.

The economic times we find ourselves in have forced all public works employees to engage in the challenge of continuing to protect and maintain our communities’ critical infrastructure, even with reduced financial resources. The role and challenges of supervisors are particularly critical in this cash-strapped environment.

To begin, let’s look at the supervisor’s role. The classic definition of supervise, according to the American College Dictionary I took to college 40 years ago, is “to oversee (a process, work, workers, etc.) during execution or performance; superintend; have the oversight and direction of.” I looked for a more modern description and to my surprise the definition I found at Dictionary.com was, word for word, exactly the same. Does that mean that the role back then is the same as now? I think while the definition remains the same, the role and duties of a successful supervisor have definitely expanded.

So what is the proper role? Well, 40 or more years ago that role was likely being a boss, and the word boss conveys control and command. I had an employee named Tony years ago who always referred to the bosses in this manner—“the bosses told me to do this or that.” In his world, the boss told you what to do and then checked that you did it. Additionally, in Tony’s world, you did what the boss said and the way he said to do it, and that was likely the way it had been done for years.

I had a minor epiphany as I was doing research to write this article. Supervisors more often than not are promoted or placed in their first supervisory position having had little or no supervisory training and are forced to learn on the fly. This appears to be true across the employment spectrum including public works. The result of being thrown into the fire leaves many supervisors without a clear understanding of their role and the tools they need to succeed. This explains why many workers like Tony perceive the role of supervisor as a boss.

Today the role of a supervisor is really more properly defined as that of a coach. The coach is responsible to lead his team. He designs the strategy for the game and identifies the best use of the available talent. He communicates the role each player has to fulfill in the game, supports the players, adjusts strategy as necessary during the game and, finally, provides feedback to the players to ensure continued improvement.

The supervisor must first understand the job to be done and the equipment that will best provide efficiency, assign crews, look after safety, check quality and provide feedback. In doing all these things the supervisor must also engage the employees to look for efficiency and embrace productivity-enhancing technology. The supervisor needs to understand the state of employee morale and the issues driving it.

The supervisor must provide constructive feedback and goals for employees. Finally, he must provide clear information to his manager about equipment and resource needs, costs to properly maintain assets, and potential opportunities to make improvements.

The supervisor must be a good communicator, both in providing information as well as in listening to employees and managers. The need to convey to management the resources and equipment needed to complete work in the most efficient and productive manner has never been greater. Conversely, it has also never been more important for the supervisor to clearly convey to crews what must be done, that what they do is vital, and that it is critical that it be completely and efficiently done.

Public works maintains critical infrastructure, and our supervisors are on the front lines ensuring that it is well maintained and available. Critical infrastructure doesn’t recognize slow economic times; it is no less critical in an economic downturn. That makes efficiency, innovation and planning from our supervision even more imperative.

The supervisor must also be a good at delegating work and, in doing so, empower the employees to successfully complete the job. By this, the supervisor must be clear about what must be done and what the finished product should be, but refrain from detailing how as if the employee does not have the capability to do the job.

The willingness to empower employees is perhaps one of the most important roles the supervisor will need to fulfill. The best example I can give is one from our Street Division. We all know that the retroreflectivity regulations will
add to already strained budgets and workloads. We have been preparing for the challenge that this will bring. One Street Division employee who showed interest and energy was given a wireless mobile GPS device and free access to our asset management and GIS staff. Together they have used technology and smart planning to reduce the inspection cost from over $5.00 to under $1.00 per sign; with thousands of signs this is a considerable annual savings. Clearly, by delegating and listening in this case, our supervisor added significant value to the department.

A good supervisor also must recognize and commend good work. Mark Twain said, “I can live for two months on a good compliment.” That is especially true for our front-line employees. What we praise and recognize we will likely get more of.

So what are the roles of a supervisor?

- Planning
- Communicating
- Delegating
- Inspecting
- Evaluating
- Leading
- Teaching
- Motivating
- Innovating

Just like a coach, it is critical that supervisors have a well-thought-out game plan, and are not just coming up with one play at a time—or worse, running the same play over and over. It is also important that they have the experience, training and support to succeed as they are thrown into the fire.

APWA has always been a great resource to find the training and support in all areas of public works including supervision. If you follow these links you will find a basic supervision training package and a book that provides a comprehensive look at supervisory practices. These are a good place to start.


The APWA Resource Center and chapter and national training programs also provide great opportunities to improve supervision with training tailored to public works.

Let’s not ever have a newly-promoted or longstanding supervisor left without the tools and support needed to be successful. I hope to never again have a Tony who looks at his supervisors as simply bosses. We can and must do better than that.

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Awards Program

APWA’s Awards Program recognizes individuals, groups and chapters for their outstanding contributions to the profession of public works. Some of the awards presented include Professional Manager of the Year Awards, Young Leader, Public Works Project of the Year, and Top Ten Public Works Leader of the Year, to name just a few.

Each award is listed on the APWA website. Criteria and nomination forms for the 2010 Awards Program are now available online.

Nominations are due March 1, 2010! Visit www.apwa.net/awards10.

Nominate Your Award-Winners Today!
MGP is the acronym for FEMA’s Hazard Mitigation Grant Program authorized under the Robert T. Stafford Disaster Relief and Emergency Assistance Act, 42 U.S.C. 5165, as amended by the Disaster Mitigation Act of 2000. The program provides grants to states, and tribal and local governments, following a major disaster declaration in that state. The HMGP is intended to provide funding to assist in implementation of long-term hazard mitigation measures during the immediate recovery phase in order to reduce the loss of life and property caused by natural disasters.

The program is administered through the states which are required to establish mitigation priorities. Applications are submitted to the state, and FEMA provides a final eligibility review to ensure compliance with federal regulations. The amount of funding allocated is based on a sliding scale formula based on the percentage of funds spent on Public and Individual Assistance programs for each Presidentially-declared disaster. FEMA will provide up to 75 percent of the estimated project cost and either the state or the applicant will cover the remaining 25 percent; in-kind services and materials can be used as the match.

Projects eligible under the HMGP are to address long-term solutions to specific risks such as the elevation of a flood-prone structure to allow the floodwaters to flow under the structure rather than through it; construction of floodwall systems to protect critical facilities; and acquisition of flood-prone structures with the subsequent relocation or demolition of the structure.

It is important to understand before applying for grants, that all local governments are required under 44 CFR Part 201.6 to have a FEMA-approved Local Mitigation Plan in order to apply for and/or receive grants under the hazard mitigation assistance programs administered by FEMA including the Hazard Mitigation Grant Program. In addition, an approved plan is required to apply for and receive funds under the Pre-Disaster Mitigation, Flood Mitigation Assistance, Repetitive Flood Claims Program and the Severe Repetitive Loss program.

To assist local governments in development of a Local Mitigation Plan that is in compliance with requirements of 44 CFR Part 201.6, FEMA published the Local Multi-Hazard Mitigation Planning Guidance which can be found on their website at http://www.fema.gov/library/viewRecord.do?id=3336. The Local Mitigation Plan must be reviewed and updated, and resubmitted to FEMA for approval within five years.

The Guidance document states that the two common elements that are found in the most successful mitigation plans are use of comprehensive risk and capability assessments as the foundation for decision making and participation of a broad stakeholder group in identifying and implementing mitigation actions.

In Alachua County, Florida, we established a county-wide LMS Work Group with voting members representing county and municipal governments, school board and the local college and university. Non-voting members representing local businesses and private property owners are also invited to participate. Regular meetings are held of the group and min-
utes are taken and distributed. These agendas and minutes are then used to provide evidence of the process in which the plan is reviewed and updated.

The LMS has adopted by-laws outlining the responsibilities of the group: 1) to identify, analyze hazards threatening Alachua County and the vulnerabilities to those hazards as well as to assist in the definition of actions to mitigate the impacts of those hazards; 2) to define structural and non-structural actions needed to decrease the human, economic and environmental impacts of disasters and to prepare for consideration and action by the LMS Work Group a strategy for implementation of those initiatives in both the pre- and post-disaster time frame; 3) to define the general financial vulnerability of the community to the impacts of disasters; 4) to assist with identification of initiatives to minimize vulnerabilities; and 5) to seek funding sources for all priority mitigation initiatives identified in the mitigation strategy developed by the LMS Work Group.

The LMS Work Group also developed and adopted Project Ranking Procedures they use to review and update the LMS Project Ranking List each year. The criteria used by the Work Group in evaluating the prioritization of projects are:

1. The percentage of jurisdiction benefited
2. Health and safety considerations
3. Environmental and human health impact
4. Consistency with other plans and programs
5. Reduction of future damage risk
6. Support of essential or critical services
7. The probability of funding
8. The feasibility of implementation
9. Support of the Community Rating System
10. Repetitive loss considerations
11. Estimated Benefit to Cost/Cost-Impact Ratio
12. Benefits not identified
13. Jurisdiction Population

Each local government representative then takes responsibility to ensure that their respective jurisdiction adopts the Local Mitigation Plan. We have found that this procedure allows us to be prepared to quickly apply for grants under the HMGP following a Presidentially-declared disaster.

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Cedar Rapids: Repositioning a city post-disaster

Jason S. Hellendrung, ASLA, Principal, and Laura Marett, Landscape Architect, Sasaki Associates, Inc., Watertown, Massachusetts

Context
Cedar Rapids, Iowa, is an industrial Midwestern city with an aging population that straddles the Cedar River. In 2007 the City developed a Vision Plan, which focused on drawing investment to the river’s edge and attracting and retaining a next-generation workforce. In the spirit of this plan, Cedar Rapids crowned 2008 the “Year of the River”—a name that took an ironic turn when an extreme flood hit the city in June 2008, inundating the river’s-edge neighborhoods and a large part of downtown with a record-breaking 31.5 feet of water. The “Flood of 2008” crested 11.5 feet higher than any previous flood, covering 10 square miles of the city with upwards of 12 feet of water. It forced thousands of evacuations and caused billions of dollars in damage.

By most estimates, the Cedar Rapids flood is considered the fifth or sixth worst natural disaster financially in the history of the United States. City Manager Jim Prosser describes the difficulty of the recovery efforts: “The post-flood recovery challenges faced by Cedar Rapids were complex and expensive. Our initial estimate, which turned out to be reasonably accurate, was that the City would need to invest about $2.5 billion in flood control measures, neighborhood redevelopment, and repair and replacement of city facilities. Most funding would need to come from federal and state sources including Water Resource grants, the Federal Emergency Management Agency (FEMA), Small Business Administration, Community Development Block Grant (CDBG), state disaster grants and economic development programs.”
Meeting the challenge

When the flood hit, the city mobilized. Rescue efforts successfully evacuated all residents from the flood-affected neighborhoods, preventing any flood-related deaths. Recovery planning began immediately; within days of the flood, Cedar Rapids City Council had outlined a series of strategic recovery goals. With a strategy in place, the City and its lead consultant, Sasaki Associates, embarked on multiple phases of community engagement for future flood protection and recovery planning.

The first phase of planning, the Flood Management Strategy, sought to minimize future flooding risk and improve the City’s relationship to the river. The consultants led a series of open houses that engaged residents in evaluating several options for the future of their city. These options included three radically different approaches: a floodwall lining the Cedar River throughout the city; a drastically expanded floodplain that would displace most of the downtown neighborhoods; and a combination of a floodplain greenway with levees and floodwalls, which would displace about 650 properties at the river’s edge. Community members rallied behind the floodplain greenway option, noting that it would allow for the best visual and spatial connection to the river. The Phase One process also resulted in the development of non-structural measures, including improvements to evacuation planning, interim flood protection, flood proofing, and flood warning systems, as well as advocacy for a larger civic initiative to address Cedar River watershed issues.

Phase Two, the Framework for Neighborhood Reinvestment, engaged community members in reinvestment planning for the city’s nine flood-affected neighborhoods. Collectively, the plans developed through this process envision a sustainable Cedar Rapids characterized by strong pedestrian, transit and vehicular connections between downtown, the neighborhoods and the river, with a network of diverse open spaces, a variety of housing types, diverse economic opportunities, and thriving cultural destinations.

Calling all resources

With an ambitious scope and a need for quick action, cooperation has been essential in the development of a viable recovery strategy. The planning process has been a partnership between community members, multiple City departments, the Cedar Rapids City Council, an interdisciplinary consultant team, and numerous agencies ranging from the local to the federal level such as the U.S. Army Corps of Engineers, FEMA, U.S. Department of Housing and Urban Development (HUD), the downtown district, the Chamber of Commerce, Linn County, and multiple departments of the State of Iowa. Sasaki Associates assembled a broad consultant team, including landscape architects, urban designers, hydraulic engineers, urban planners, civil engineers, transportation planners, architects, hydrologists, ecologists, sustainability specialists, market analysts and watershed management experts.

In an unprecedented community feedback process, Phase One engaged over 2,680 community members at three milestone open houses. The interdisciplinary consultant team worked closely with the U.S. Army Corps of Engineers to test and synthesize community feedback into a preferred alignment for future flood management.

In Phase Two, the consultant team and 70 trained City staff members facilitated public meetings in an engagement process that sought to increase community leadership, promote neighborhood governance, and test a new model for interaction with City government. Over 1,420 citizens attended eight public meetings and spent over 6,070 hours collaborating to create the Framework Plan for Reinvestment, outline a detailed action plan, and establish the community’s role in ongoing review.

Moving ahead

In November 2008, the City Council formally adopted the Flood Management Strategy, allowing the City to move forward with interim planning and the acquisition of damaged parcels with FEMA and CDBG funding. The U.S. Army Corps of Engineers is currently studying the community’s preferred flood protection alignment and will present conclusions in 2010.

In May 2009, the City Council unanimously voted to adopt the Framework for Neighborhood Reinvestment, a guide for the flood-affected neighborhoods for the next 15 years. Residents provided over 440 action steps, including roles and responsibilities, to accomplish 25 planning initiatives, ranging from repairing flood-damaged utilities to strengthening the economic sustainability of downtown.

The Final Neighborhood Planning Framework contains transportation and open space system improvements as well as focus areas for housing, business and arts reinvestment. (Image courtesy of Sasaki Associates, Inc.)
Multiple other initiatives are ongoing to help with the recovery. As Dave Elgin, Director of the Cedar Rapids Public Works Department explains, “The ongoing challenges (and opportunities) for the Public Works Department include supporting not only the planning and programming of the neighborhood recovery plan, but also ongoing support of the flood mitigation plans, completing the flood-damaged horizontal and vertical infrastructure repairs (estimated to cost in excess of $300 million), providing the ‘normal’ services to the 90% of the community outside the flood-impacted areas, and moving forward with an aggressive property acquisition program for voluntary buyouts of more than 1,400 flood-damaged properties.” Ongoing flood recovery initiatives include:

• A community process to prioritize replacement of flood-damaged City facilities, including City Hall, the Library, Central Fire, CR Transit, and a potential new City Operations Center as a consolidation of Public Works and other City Departmental facilities and maintenance yards.

• Coordination with FEMA and HUD on the acquisition of flood-damaged properties. Over 7,000 properties were damaged during the flood, and the City is working with property owners on the acquisition of roughly 1,400 properties that were damaged beyond repair.

• Coordination with the State and HUD on the distribution of Community Development Block Grants to assist in the reconstruction of flood-damaged infrastructure, such as water wells, damaged roads and sidewalks, and destroyed utility lines.

• Coordination with the U.S. Economic Development Agency on grants to assist in economic development initiatives to help rebuild and strengthen the damaged local economy.

• Coordination with housing developers to help deliver high-quality, sustainable replacement housing for those that lost their homes during the flood, as well as to help bridge the gap of affordable homes that existed in the community prior to the flood.

• A community engagement process to shape the Parks and Recreation Master Plan and integrate the future 220-acre floodplain greenway into the parks system.

This complex process of flood recovery will require years of collaboration between residents, City departments, and experts from the consultant team. Christine Butterfield, Director of Community Development, has said of the flood recovery process: “The goal was not to simply rebuild, but to rebuild better than before. It’s important to note that even though we were able to organize a plan for 10 neighborhoods in five months, which is unprecedented under normal circumstances, the implementation of these plans will take between 10 and 15 years. That is why it has been so important for the community to be engaged in the decision-making.”

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Responding to emergencies has always been a major responsibility of public works agencies, especially at the local level. Emergencies can range from incidents limited by impacted area and duration, such as flash-flooding along small streams to much larger crises that encompass a wider region and extend over days or even months. Too often, however, public works has been in a reactive mode as long-term planning and preparation for disasters usually gets lesser priority than the core functions of constructing and maintaining infrastructure, and providing various essential services.

The horrific events of September 11, 2001, led to the creation of the Department of Homeland Security (DHS). Though much of the focus initially was on anti-terrorism measures, the scope broadened to include enhancing the nation’s capabilities for responding to other disasters. Shortcomings at the federal, state and local levels were tragically evident in the aftermath of Hurricane Katrina several years later. Since then more emphasis has been placed on the realization that municipalities and counties have the primary responsibility, and burden, of initially managing emergencies and events. Law enforcement, fire and rescue, and emergency medical services are the disciplines most commonly considered as “first responders”; however, Homeland Security Presidential Directive 8 (HSPD-8) in 2005 officially recognized the public works discipline as a first responder:

"those individuals who in the early stages of an incident are responsible for the protection and preservation of life, property, evidence, and the environment... include emergency response providers as well as... public works... that provide immediate support services during prevention, response, and recovery operations."

By 2007 Congress mandated that the Federal Emergency Management Agency (FEMA) establish a National Advisory Council (NAC) comprised of the various public, private and non-government segments that have a stake in planning, preparation, response and recovery to major disasters and crises. APWA was invited to participate, and volunteer representatives from APWA now serve on several NAC subcommittees including NIMS, the National Incident Management System.

NIMS is based on the Incident Command System (ICS) and the Unified Command System (UCS), developed initially by fire services in the western states. NIMS creates a proactive system that can be used for both unplanned and planned events and focuses on five major components:

- Preparedness
- Communications and Information Management
- Resource Management
- Command and Management
- Ongoing Management and Maintenance

The key benefits of NIMS are that it:

- Enhances organizational and technological interoperability and cooperation
- Provides a scalable and flexible framework with universal applicability
- Promotes all-hazards preparedness
- Enables a wide variety of organizations to participate effectively in emergency management and incident response
- Institutionalizes professional emergency management and incident response practices.

NIMS training consists of a series of courses aimed at specific levels of responsibility and authority. The basic level
courses, 100 and 200, are required for nearly all employees of public works agencies in order for those entities to be eligible to receive federal disaster reimbursement. Unlike the police and fire services, incorporating NIMS into the routine, everyday operations of public works is difficult and the fundamentals are usually forgotten. It is recommended that agencies conduct their own refresher sessions on a regular basis and support annual drills or tabletop exercises with the other disciplines.

The National Response Framework

HSPD-8 also established policies to strengthen “all-hazards” preparedness of the United States. Due to the unprecedented series of disasters and emergencies in the U.S. in recent years, national response structures have evolved and improved to meet these threats. DHS has developed the National Response Framework (NRF), a guide that enables all response partners to prepare for and provide a comprehensive national all-hazards approach to disasters and emergencies from the smallest incident to the largest catastrophe. Such incidents include actual or potential emergencies or all-hazard events that range from accidents and natural disasters to actual or potential terrorist attacks. Such incidents also range from limited events wholly contained within a single community to others that are catastrophic in nature and national in their scope of consequences.

The National Response Doctrine is based on five key principles:

- Engaged Partnerships
- Tiered Response
- Scalable, Flexible, and Adaptable Operational Capabilities
- Unity of Effort through Unified Command
- Readiness to Act

Of particular note to public works is that the NRF emphasizes that incidents must be managed at the lowest possible jurisdictional level and supported by additional capabilities when needed. As incidents change in size, scope and complexity, the response must adapt to meet varying requirements. In every community incidents will occur that the local agencies must handle either without state or federal assistance or where that assistance may not be made available for 24-72 hours. It is then incumbent upon the local public works agencies to be able to promptly and effectively respond and to sustain that effort for several days.

Additionally, the NRF identifies 15 Emergency Support Functions (ESF) that provide the structure for grouping functions most frequently used to provide federal support to states for both declared disasters and emergencies under the Stafford Act. ESF 1 – Transportation and ESF 3 – Public Works and Engineering are the most relevant.

The New Role of Public Works in Emergency Management

As mentioned, until recently public works agencies have generally regarded emergency management as an important, but not predominant, responsibility. These agencies were reactive, responding when requested by police and fire and serving in a support capacity. Certainly, in some situations public works would have a heightened role and, in particular events, would take the lead. Snow removal is one example where public works has primary responsibility and authority. In locales with high probability of recurring catastrophic occurrences (i.e., earthquakes in Los Angeles, hurricanes in southern Florida), the public works agencies have been more involved in planning, prevention, mitigation, preparation and response. Thus they have developed fairly detailed plans and participated in regular training and drills with other responder disciplines.

Disasters, emergencies and other incidents that could likely involve public works with other disciplines can be categorized as followed:

natural incidents
- flooding
- tornadoes, hurricanes, windstorms
- snow and ice storms, avalanches
- wildfires
- landslides, mudslides, cave-ins
- earthquakes, tsunamis, volcanic activity
- extreme droughts, heat waves

constructed-world incidents
- water, gas, oil pipeline ruptures
- electrical system black-outs
- industrial fires, explosions
- haz-mat spills/leaks
- transportation-system accidents (auto, rail, aviation, marine)
- large structural failures (bridges, tunnels, towers, dams, buildings)

human-derived events
- large, planned special events
- disturbances and major crimes
- acts of terrorism
- pandemics

Most public works agencies are fairly small and are not as tightly structured as their counterparts in police and fire. Most are also not likely to provide “24-7” staffing and operations as do the uniformed services. Furthermore, public
works organizations concentrate on core functions of infrastructure construction and repair, and operation of various systems and services. Unlike police and fire departments which are singularly focused and organized very similarly in jurisdictions across the country, public works departments vary widely as to composition; some functions conducted by public works departments in some jurisdictions may be handled elsewhere by other departments, agencies or contractors.

Additionally, the departments are usually divided between office-based engineers and technicians, and maintenance and operations field staff. The latter are the employees who will actually be “on the ground” in response to emergencies. The following are examples of how public works employees have been and could be used:

**incident site; immediate**
- traffic control
- first-aid
- fire suppression
- rescue
- evacuation
- site security/control
- material containment
- debris clearance/removal
- fatality recovery

**general area; extended duration**
- detours
- evacuation routes
- perimeter security/access
- restoration of services
- aid/relief stations
- transport supplies/equipment
- damage assessment/repair
- animal control
- decontamination
- shelter

To change from a reactive to a proactive posture requires commitment of time, staff and resources. The foundation is the development of a comprehensive emergency management plan based on four essential elements:
- Prevention and mitigation
- Preparedness
- Response
- Recovery

Prevention and mitigation entails a complete inventory of assets that may be affected by disasters and taking appropriate measures to reduce or eliminate damage, disruption or loss. Reinforcing existing levees and dams is one example.

FEMA defines preparedness as “a continuous cycle of planning, organizing, training, equipping, exercising, evaluating, and taking corrective action in an effort to ensure effective coordination during incident response.” In the planning process, all conceivable and probable scenarios should be examined. These will vary considerably depending upon region of the country (geology, topography, meteorology, ecology) and conditions and situations specific to the locale. Density and size of population, transportation networks and activity volumes, major utility systems, important institutions and industries are all factors in the planning process.

An in-depth review of probable scenarios can discover additional weaknesses that need attention. For example, the public works agency may not have sufficient reliable equipment to handle certain tasks. The agency can then explore various options such as borrowing or renting specialized equipment or using contractors. If staff size is insufficient for dealing with certain emergencies, obtaining additional personnel from other departments or from neighboring jurisdictions is one solution. Mutual aid agreements are commonly used.

Training is very important but an area that is quite deficient in the public works discipline. Employees do receive formal and on-the-job training in operation of equipment and performance of specific tasks. What is often lacking is dealing with massive destruction and casualties. Drills and exercises help but more formal instruction and guidance is needed. Public works employees should be regularly retrained on the basics of NIMS and it should be incorporated as part of the routine organization and operation as much as possible.

Response activities obviously are determined by the scope and duration of an incident. The collapse of the I-35 bridge in Minneapolis, Minnesota, in 2007 required a much different response than hurricanes in the Gulf Coast. Flexibility, adaptability and versatility should be the hallmarks of public works agencies. Public works agencies can provide important resources for access, rescue, evacuation, containment, investigation and restoration of mobility and services.

Whereas the uniformed disciplines will be the primary first responders and take initial command of the incident, public works will likely take command or lead when the longer recovery processes begin. NIMS should still apply until the situation has been officially declared as over.

An often overlooked aspect is providing continuity of regular operations and functions when so many of the staff personnel are involved with the emergency. Logistical support for sustained operations both in the field, especially if deployed outside of the immediate area assisting others, and at “home base” is vital.

APWA has several valuable publications, including *Field Manual for Public Works, Emergency Planning*, and *Writing
Your Emergency/Disaster Plan. APWA’s Emergency Management Committee is extensively involved in working with federal agencies, Congress and allied organizations in further development of legislation, programs and policies that better define and support the role of public works in emergency management.

The Emerging Role of Public Works in Traffic Incident Management

Traffic incidents often cause secondary crashes that result in additional property losses, deaths and injuries including many first responders who have been seriously hurt or killed while working at or near the incident scenes. Traffic incidents also are responsible for delays costing commercial carriers billions of dollars annually. The magnitude of the problem demands dramatic improvement in the handling of such emergencies.

Chapter 6-1 of the Manual on Uniform Traffic Control Devices (MUTCD) defines a traffic incident as, “an emergency road user occurrence, a natural disaster, or other unplanned event that affects or impedes the normal flow of traffic.” The following are typical causes of traffic incidents:

- collisions
- breakdowns
- non-accident-related medical emergencies
- debris or spills of materials
- flooding or icing
- mudslides, landslides, or avalanches blocking road
- heavy smoke or fog
- animals on the roadway
- significant pavement damage
- bridge, overpass, or tunnel failure
- law enforcement activity on or near roadway

The MUTCD classifies traffic incidents as:

- Minor – expected duration under 30 minutes
- Intermediate – expected duration of 30 minutes to 2 hours
- Major – expected duration of more than 2 hours

In 2004, the Federal Highway Administration (FHWA) sponsored the creation of the National Traffic Incident Management Coalition (NTIMC) to bring together public, private and nonprofit entities that represented first responders, support services and highway users. A number of successful initiatives arose from NTIMC to promote better management of traffic incidents, most notably the development of the National Unified Goal. The NUG, as it is commonly termed, has three major objectives:

- Enhanced safety of responders
- Quick, safe clearance of scenes
- Interoperability of communications

To achieve these objectives, eighteen strategies were identified. The one that is most pertinent to public works and transportation agencies is #2, Multidisciplinary NIMS and TIM (Traffic Incident Management) training. NIMS training is already required, as mentioned in earlier sections, for employees of public works and transportation agencies. While it is the cornerstone for all-hazard emergency management, Traffic Incident Management (TIM) training is more specific and involves what are termed “Multidisciplinary Core Competencies” such as scene management, chain of command functions, and use of TTC (Temporary Traffic Control).

Improper traffic control at accident site

This is where public works and transportation employees already have strong knowledge and experience. They routinely use the same practices for temporary work zones on roads and highways. Police, fire and EMS lack such training and even the basic equipment such as traffic cones and STOP/SLOW paddles. Until November 2008, when it was federally mandated, most responders from these disciplines did not even wear proper reflective vests, which has long been a standard practice for public works/transportation employees.

The FHWA’s Office of Emergency Transportation Operations (ETO) states that, “Transportation agencies are typically responsible for the overall planning and implementation of traffic incident management programs. Typical operational responsibilities assumed by transportation/public works agencies include:

- assist in incident detection and verification
- initiate traffic management strategies on incident-impacted facilities
- protect the incident scene initiate emergency medical assistance until help arrives
- provide traffic control
- assist motorists with disabled vehicles
• provide motorist information
• provide sand for absorbing small fuel and anti-freeze spills
• provide special equipment clearing incident scenes
• determine incident clearance and roadway repair needs
• establish and operate alternate routes
• coordinate clearance and repair resources
• serve as incident commander for clearance and repair functions
• repair transportation infrastructure”

Training
Traffic incident responder training is continually evolving; several organizations such as ATSSA (American Traffic Safety Services Association) and IMSA (International Municipal Signal Association) have developed or are developing TIM courses. The National Highway Institute (NHI) offers a three-level certification course for mid-level management and supervisory personnel involved in traffic incident response.

Another useful reference is the “Model Procedures Guide for Highway Incidents” developed by the National Fire Service Incident Management System Consortium. The potential target audience for this guide includes not only public safety but also public works/transportation agencies. This guide is currently under revision in collaboration with APWA’s Emergency Management Committee.

As noted in FHWA’s “Best Practices in Traffic Incident Management”:

“Traffic agencies...are relatively new to TIM and, therefore, lack substantive training materials. Unlike public safety agencies, whose personnel devote much of their time to training for emergency or life-threatening situations, transportation personnel are typically not trained in such areas.”

Handling Planned Special Events
Lastly, the same principles, concepts and techniques used for handling emergencies can be applied to planned special events such as political conventions, major sports and entertainment events, demonstrations, etc. Even small jurisdictions will eventually have an event that will draw large crowds. Security, safety and access in and around the event must be ensured and public works is often involved in some capacity. NIMS should be used to facilitate the planning, preparation and implementation of event management.

From the FHWA/ETO web page on planned special event preparedness:

“Unlike traffic incidents, natural disasters, and adverse weather, public agencies typically have access to information on the location, time, duration, and demand expected for a planned special event. Planning for these events also provides an opportunity for agencies to plan, coordinate, [and] share resources. This advanced planning, management, and control of traffic in support of planned special events are not yet commonly accepted or consistently applied practices.”

Summary
The convergence of all-hazards emergency management and traffic incident management in recent years means that public works/transportation has a dramatically different role in planning, preparing and responding to disasters and events. Clearly evident is that public works is now regarded as a first responder, and agencies, particularly at the local level, must step up to that responsibility. The profusion of related laws, mandates, programs and the rapidly evolving body of training and knowledge-sharing can make staying abreast of these changes overwhelming. It becomes a daunting task for a public works or transportation department, especially smaller ones, to sort through the available information and develop goals, objectives and strategies, and obtain the resources needed to fulfill this new mission.

As most disasters and incidents will occur at the local level, it is incumbent on municipal, county and tribal governments to plan accordingly. Police, fire and emergency medical services will still be the primary responders and usual incident commanders; but, as they adapt to new practices, policies and procedures, certain functions they have traditionally performed may now be the responsibility of public works/transportation. Our unique capabilities and diverse resources will be of vital importance to the safety, security, mobility and well-being of communities and the nation.

References
• National Traffic Incident Management Coalition, http://timcoalition.org

Dave Bergner is Superintendent for the Overland Park, Kansas, Public Works Department. He is APWA’s representative to the FEMA NIMS Subcommittee, the International Municipal Signal Association’s representative to the NTIMC (National Traffic Incident Management Coalition) and a member of ITE’s (Institute of Traffic Engineers) new Emergency Transportation Operations Committee. Dave also serves on APWA’s Winter Maintenance Subcommittee and the Transportation Research Board (TRB) Winter Maintenance Committee and Maintenance and Operations Personnel Committee. He can be reached at (913) 327-6661 or dbergner@opkansas.org.
The May 2008 Wenchuan earthquake: emergency response and recovery

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There were serious obstacles to emergency response efforts in the wake of the massive May 2008 Wenchuan, China earthquake. Hundreds of landslides blocked roads and destroyed bridges. Flooding restricted travel in and out of the affected areas. As a result, numerous towns and cities were isolated, hindering emergency response efforts.

Given the magnitude of the 7.9 earthquake, the widespread damage zone—totaling more than 278,000 square miles—and the inaccessibility of the damaged areas, the Chinese government’s response should be highly commended. Their ability to appraise the situation, mobilize relief personnel and organize the international relief efforts to help the more than 45 million impacted Chinese could be used as a model for future disaster responses anywhere in the world.

Initial government response

Immediately after the quake struck at 6:28 a.m. the morning of May 12, 2008, the Chinese government established a rescue headquarters. Government, army and political leaders formed an emergency response and rescue which included rescue, medical and security groups as well as infrastructure, production recovery and monitoring groups. Within five hours, this team was in the Wenchuan area. By midnight, there were over 20,000 army and police personnel in the disaster area, in addition to more than 220 medical personnel in Dujiangyan City, the largest city in Wenchuan County.

The deployment of troops was impeded by fallen bridges, thousands of landslides and blocked roads. Yet by the second day, many rescuers had marched over the landslides into the damaged areas to begin rescue and relief efforts. By day three, helicopters landed in Wenchuan, dropping 12.5 tons of food and other relief supplies. Soldiers parachuted into Maoxian County and provided the first reports as to deaths, injuries and infrastructure damage. Initially, however, the Chinese government did not have enough helicopters, especially the larger ones, to fully deploy into the damaged areas.

Within five days, the Mianyang Food and Drug Administration had established a relief team to set up rescue and psychological counseling teams in the affected areas. Pharmaceutical companies stepped up production to assure an adequate supply of medicines and equipment. The Chinese Ministry of Health also sent $441,000 worth of medical equipment to 26 disease control centers in the earthquake zones.

Within seven days, the government had deployed over 100,000 troops, opened two major highways and sent more than 5,000 medical workers into the damaged areas. Army units and the China Red Cross delivered nearly 300,000 tents, 790,000 blankets, 1.7 million jackets and 218 million Yuan worth of food and water. Within two weeks, the government expanded these deliveries to over 400,000 tents, 2.3 million blankets, and three million jackets. International and domestic donations at this point totaled 21.4 billion Yuan.
Rainy weather and the formation of landslide-caused lakes created additional challenges for the rescue and restoration efforts. Heavy equipment was flown in to construct spillways and open blocked rivers, releasing water from behind the dams to prevent catastrophic failures. Heavy rains caused mudflows in the landslide-scarred region, further injuring people and hindering rescue and relief efforts. Even six months after the event, roads were still being cleared and many were only open to one-way traffic.

The international community steps in

Due to the earthquake’s magnitude, the Chinese government was willing to accept assistance from the international community. The United Nations (UN) immediately responded by making a contribution through the Central Emergency Response Fund (CERF). The multi-agency UN Disaster Management Team coordinated the UN system in China’s overall relief and early recovery efforts.

From May to July, UN agencies began a series of field visits to assess the needs of the affected areas. Through the summer months, the UN system continued to deliver immediate assistance. CERF received over $10 million from other agencies to augment supplies.

The UN made an appeal to the international community for $33.5 million in aid to assist victims. This resulted in donations of over $18 million from Canada, Norway, Saudi Arabia, Sweden, Belgium, Finland, the European Union, and Luxembourg with the remaining funds coming from other countries.

The UN Educational, Scientific and Cultural Organization provided training on Disaster Risk Reduction, which included translating educational and emergency-related materials and distributing them to the quake-affected areas. They also led a team to prevent and respond to domestic violence. In addition, they helped rebuild and restore world heritage sites in Sichuan Province, including the Giant Panda sanctuaries, the ancient Taoist temple in Mount Qingcheng and the Duijiangyan Irrigation System. They also rehabilitated the television station in Ma’erkang County, Sichuan.

The International Labor Organization provided over $1,000,000 in assistance to reestablish over 1,000 destroyed small businesses and set up 700 new businesses for those who lost their jobs. The Food and Agriculture Organization provided seeds and related production materials to two villages in Sichuan Province. UN-HABITAT delivered 21 prefabricated classrooms to accommodate more than 1,100 children.
In November, the International Federation of Red Cross and Red Crescent Societies provided $58 million in additional funding to meet survivors’ urgent needs and to help fund their relief programs through 2010. The Japanese Red Cross society supported the construction of 4,700 houses. They also are supporting the reconstruction of 12 elementary and junior high schools, as well as the reconstruction of 29 hospitals and 28 clinics.

The Hewlett-Packard Company collected and/or donated over $1,000,000 in support to the American Red Cross and the Red Cross Society of China. This included over $300,000 in technology equipment to help rebuild local schools. In addition, Hewlett-Packard provided volunteers to help set up and install the technology for the schools and communities that needed them.

Project HOPE, aided by grants from Johnson and Johnson and the Baxter International Foundation, initiated programs to begin training rehabilitative professionals at the local level. This training included dealing with injuries such as amputations, prostheses and crush injuries, and specialty items for children.

**Continuing efforts by the Chinese government**

By the end of 2008, the Chinese government had distributed more than 10.7 billion Yuan in aid to nearly 10 million people affected by the earthquake. This included 8.9 million people who lost their homes and/or income source.

To help stabilize the Chinese society in the damaged areas, the Chinese government allowed the media to keep the lines of communication open about the disaster. This included the prioritization of the installation of thousands of miles of fiber optic lines into the stricken zones.

The Chinese government is taking great steps towards the prevention of such monumental losses in future disasters. The government’s final Reconstruction Plan, released in November 2008, outlined plans to spend more than $146.5 billion over the next three years to rebuild damaged areas. The plan includes extensive disaster prevention and mitigation planning measures.

The Chinese government overcame serious obstacles to rescue injured citizens, provide relief supplies and temporary housing, and generally restore normal services. Their current efforts to develop a mitigation plan should go a long way towards the prevention of high death tolls in future disasters. Their highly efficient and coordinated response effort could be used as a model for disaster response across the globe.

Curtis L. Edwards is a vice president with Psomas, based in the firm’s San Diego, California office. He is a member of the APWA Emergency Management Committee. As a member of the American Society of Civil Engineering’s Earthquake Investigation Committee, Mr. Edwards visited the damaged areas in October 2008 and on the first anniversary in May 2009 to document damage to lifelines such as roads, bridges, dams and power systems. He can be reached at (858) 576-9200 or cedwards@psomas.com.
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Public works departments in small and rural communities face a range of challenges. As a public works professional in a small or rural community you are typically wearing many hats and you have multiple demands that must be met by small staffs and challenging budgets. You have more demands for training, licensing, and infrastructure needs than there is time available to you.

In 2004, the Department of Homeland Security released the National Incident Management System (NIMS). NIMS is a comprehensive system that improves local emergency response operations through the use and the standardization of the Incident Command System (ICS). This standardization allows communities to work together more effectively and coordinate with county, state and federal agencies in responding to events and the providing and receiving of aid. With a small department you may be asking, why do I need to worry about another rule/demand? Homeland Security Presidential Directive 5 (HSPD-5), Management of Domestic Incidents, requires all federal agencies and state and local governments to implement NIMS to receive federal preparedness funding. In effect, receipt of funding for emergency planning and potentially disaster recovery can hinge on whether your agency/community is NIMS compliant. Along with the funding issue, NIMS provides the basis for you to provide the critical support to your community during times of extreme needs.

You are now thinking, what do I need to do and what can be done to move my organization towards compliance? The very basics of NIMS involves the training of staff in NIMS and in the use of the Incident Command System, updating/developing operating plans, integrating NIMS and ICS concepts into operations, and coordinating and developing mutual aid agreements.

There are four basic training courses that are required. ICS 100 and ICS 200, Awareness and Basic Incident Command Training, provide a general overview of ICS. This training would be appropriate for all staff because it gives the basic understanding and language of ICS. The next two levels are IS-700, Introduction to NIMS, and IS-800 NRF, Introduction to National Recovery Framework, which are aimed for the higher-level supervisory staff in your department. The Director/Superintendent will take both the IS-700 and IS-800, and mid-level leadership will take IS-700. As a small department you will probably end up training mid-level (foreman) in the IS-700 because most likely this level will be coordinating an event and acting in an incident commander role. There are several ways to go about getting the training.

Being in a small community you probably have a working relationship with your fire and emergency services departments. Becoming NIMS compliant will give you a great opportunity to work closer with your Fire Chief or Emergency Management Director. In many jurisdictions fire departments have people who are certified as trainers and typically can provide the basic level course work, ICS 100 and 200. By having this joint training it gives public works staff an opportunity to interface with the emergency services staff. It also provides an opportunity for the emergency services folks to see how public works fits into the community response framework. You can even coordinate with surrounding communities and make it a day of learning and networking. For the higher-level courses and the basic courses, the Federal Emergency Management Agency through its Emergency Management Institute provides this training online at no cost. This method allows you to fit the training around your schedule, and individuals can do it at their own pace. If you use this source it is best if you have a high-speed Internet connection. In many communities the local library has high-speed connections. Working with the library staff is a way to work with another department within your community that you may not typically interface with.

An important planning tool is the development or updating of emergency response and operating plans. With the Internet there are a lot of resources available for small communities to develop and update various emergency and operational plans. The Environmental Protection Agency has a good template for small, rural water systems for emergency plans that can be easily adapted for other areas. These plans do not have to be complex and can be kept very simple. The development of plans typically has you ask your staff various questions and then document the answers. The asking of questions and developing of these plans gives you the ability to identify key staff and areas that you will need support during an event.
Finding support is an area that small and rural communities are very good at doing. To be eligible for federal funding during and after a disaster, a community must have mutual aid agreements in place prior to any event. These mutual aid agreements can identify resources that are available to your staff from other communities. The agreements can be simple and typically outline how aid is requested and given, how liability is covered, and how reimbursement is made. With the Internet, examples are readily available. The public works departments in New Hampshire have developed a mutual aid system and agreement, and the various documents can be found at the New Hampshire Technology Transfer Center website, www.t2.unh.edu/ma/.

Small departments have a significant number of demands and challenges. Being NIMS compliant is important to ensuring that your community is well served during and post-emergency. It may appear to be daunting to be NIMS compliant, but meeting the basic requirements—training in NIMS and in the use of the Incident Command System, the updating/development of operating plans, integration of NIMS and ICS concepts into operations, and developing of mutual aid agreements—is within the reach of small departments with a little creativity, flexibility and cooperation.

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Editor’s note: The following article was taken directly from the FEMA website. It describes the mission and history of FEMA and its predecessor organizations. For more information visit www.fema.gov/about/history.

FEMA Mission

FEMA’s mission is to support our citizens and first responders to ensure that as a nation we work together to build, sustain, and improve our capability to prepare for, protect against, respond to, recover from, and mitigate all hazards.


FEMA has more than 3,700 full-time employees. They work at FEMA headquarters in Washington, D.C., at regional and area offices across the country, the Mount Weather Emergency Operations Center, and the National Emergency Training Center in Emmitsburg, Maryland. FEMA also has nearly 4,000 standby disaster assistance employees (DAEs) who are available for deployment after disasters. Often FEMA works in partnership with other organizations that are part of the nation’s emergency management system. These partners include state and local emergency management agencies, 27 federal agencies and the American Red Cross.

The Robert T. Stafford Disaster Relief and Emergency Assistance Act, PL 100-707, signed into law November 23, 1988, amended the Disaster Relief Act of 1974, PL 93-288. This Act constitutes the statutory authority for most federal disaster response activities especially as they pertain to FEMA and FEMA programs.

FEMA History

The Federal Emergency Management Agency coordinates the federal government’s role in preparing for, preventing, mitigating the effects of, responding to, and recovering from all domestic disasters, whether natural or man-made, including acts of terror. FEMA can trace its beginnings to the Congressional Act of 1803. This act, generally considered the first piece of disaster legislation, provided assistance to a New Hampshire town following an extensive fire. In the century that followed, ad hoc legislation was passed more than 100 times in response to hurricanes, earthquakes, floods and other natural disasters.

By the 1930s, when the federal approach to problems became popular, the Reconstruction Finance Corporation was given authority to make disaster loans for repair and reconstruction of certain public facilities following an earthquake, and later, other types of disasters. In 1934, the Bureau of Public Roads was given authority to provide funding for highways and bridges damaged by natural disasters. The Flood Control Act, which gave the U.S. Army Corps of Engineers greater authority to implement flood control projects, was also passed. This piecemeal approach to disaster assistance was problematic and it prompted legislation that required greater cooperation between federal agencies and authorized the President to coordinate these activities.

The 1960s and early 1970s brought massive disasters requiring major federal response and recovery operations by the Federal Disaster Assistance Administration, established within the Department of Housing and Urban Development (HUD). Hurricane Carla struck in 1962, Hurricane Betsy in 1965, Hurricane Camille in 1969 and Hurricane Agnes in 1972. The Alaskan Earthquake hit in 1964 and the San Fernando Earthquake rocked Southern California in 1971. These events served to focus attention on the issue of natural disasters and brought about increased legislation. In 1968, the National Flood Insurance Act offered new flood protection to homeowners, and in 1974 the Disaster Relief Act firmly established the process of Presidential disaster declarations.

However, emergency and disaster activities were still fragmented. When hazards associated with nuclear power plants and the transportation of hazardous substances were added to natural disasters, more than 100 federal agencies were involved in some aspect of disasters, hazards and emergencies. Many parallel programs and policies existed at the state and local levels, compounding the complexity of federal disaster relief efforts. The National Governor’s Association sought to decrease the many agencies with which state and local governments were forced work. They asked President Jimmy Carter to centralize federal emergency functions.

Executive Order 12127

President Carter’s 1979 executive order merged many of
the separate disaster-related responsibilities into the Federal Emergency Management Agency (FEMA). Among other agencies, FEMA absorbed the Federal Insurance Administration, the National Fire Prevention and Control Administration, the National Weather Service Community Preparedness Program, the Federal Preparedness Agency of the General Services Administration and the Federal Disaster Assistance Administration activities from HUD. Civil defense responsibilities were also transferred to the new agency from the Defense Department’s Defense Civil Preparedness Agency.

John Macy was named as FEMA’s first director. Macy emphasized the similarities between natural hazards preparedness and the civil defense activities. FEMA began development of an Integrated Emergency Management System with an all-hazards approach that included “direction, control and warning systems which are common to the full range of emergencies from small isolated events to the ultimate emergency: war.”

The new agency was faced with many unusual challenges in its first few years that emphasized how complex emergency management can be. Early disasters and emergencies included the contamination of Love Canal, the Cuban refugee crisis and the accident at the Three Mile Island nuclear power plant. Later, the Loma Prieta Earthquake in 1989 and Hurricane Andrew in 1992 focused major national attention on FEMA. In 1993, President Clinton nominated James L. Witt as the new FEMA director. Witt became the first agency director with experience as a state emergency manager. He initiated sweeping reforms that streamlined disaster relief and recovery operations, insisted on a new emphasis regarding preparedness and mitigation, and focused agency employees on customer service. The end of the Cold War also allowed Witt to redirect more of FEMA’s limited resources from civil defense into disaster relief, recovery and mitigation programs.

In 2001, President George W. Bush appointed Joe M. Allbaugh as the director of FEMA. Within months, the terrorist attacks of Sept. 11 focused the agency on issues of national preparedness and homeland security, and tested the agency in unprecedented ways. The agency coordinated its activities with the newly formed Office of Homeland Security, and FEMA’s Office of National Preparedness was given responsibility for helping to ensure that the nation’s first responders were trained and equipped to deal with weapons of mass destruction.

A New Mission: Homeland Security

Billions of dollars of new funding were directed to FEMA to help communities face the threat of terrorism. Just a few years past its 20th anniversary, FEMA was actively directing its “all-hazards” approach to disasters toward homeland security issues. In March 2003, FEMA joined 22 other federal agencies, programs and offices in becoming the Department of Homeland Security. The new department, headed by Secretary Tom Ridge, brought a coordinated approach to national security from emergencies and disasters—both natural and man-made.

On October 4, 2006, President George W. Bush signed into law the Post-Katrina Emergency Reform Act. The act significantly reorganized FEMA, provided it substantial new authority to remedy gaps that became apparent in the response to Hurricane Katrina in August 2005, the most devastating natural disaster in U.S. history, and included a more robust preparedness mission for FEMA.

As it has for almost 30 years, FEMA’s mission remains: to lead America to prepare for, prevent, respond to and recover from disasters with a vision of “A Nation Prepared.”

For further information

FEMA provides extensive emergency management training opportunities for public works professionals, both online and at the Emergency Management Institute (EMI) located at the National Emergency Training Center (NETC) in Emmitsburg, Maryland. For more information regarding the available training visit www.fema.gov/prepared/train.

Submitted by Larry Lux, President, Lux Advisors, Ltd., Plainfield, Illinois, and former member of APWA’s Board of Directors.
Those two simple numbers generated not only a universal response of emotions and reactions, but also a renewed focus on security. In recent years, that security focus has expanded to an “all-hazards” approach, encompassing terrorist attacks, natural disasters and other emergencies.

Creating the NIPP

One result of 9/11 and the all-hazards security approach that evolved from it was the creation of the federal government’s National Infrastructure Protection Plan (NIPP). What is the NIPP and why is it important? The NIPP unifies into a single national program the critical infrastructure protection efforts of federal, state and local government departments and agencies, private-sector entities, and a growing number of regional consortia. These efforts revolve around what is called the nation’s Critical Infrastructure and Key Resources (CIKR).

The Department of Homeland Security’s website defines “critical infrastructure” and “key resources” as follows:

- **Critical Infrastructure** are the assets, systems and networks, whether physical or virtual, so vital to the United States that their incapacitation or destruction would have a debilitating effect on security, national economic security, public health or safety, or any combination thereof.

- **Key Resources** are publicly or privately controlled resources essential to the minimal operations of the economy and government.

Effective collaboration

The CIKR consists of 18 sectors. Each sector focuses on a specific aspect of critical infrastructure and is the responsibility of a particular federal department or agency, collectively referred to as Sector-Specific Agencies (SSA).

The SSAs are designated in Homeland Security Presidential Directive 7 (HSPD-7) in close collaboration with sector partners. HSPD-7 is the directive that establishes the U.S. policy for enhancing the protection of the nation’s CIKR and mandates a national plan to activate that policy.

A security threat, natural or man-made, against any of the CIKR could disrupt the function of both government and business and have a disastrous, cascading effect on our nation. That is why each SSA is charged with developing a Sector-Specific Plan (SSP). The SSA also has the task to work with state, local, tribal and territorial governments, as well as private-sector owners and operators of these CIKR, to help follow the NIPP Risk Management Framework (see Figure 1).

All of these partners are also tasked with identifying where there are interdependencies across CIKR lines and how they will work together to protect and support each other.
How does this affect public works? Most public works departments and officials have day-to-day responsibility for one or more of the CIKR sectors, such as water and wastewater, electric power or transportation services. These public works departments, along with the local government, will work with other cities on a regional level to identify their assets, identify risk to those assets, prioritize measures and set goals to protect these assets in the event of a major disaster. The public works departments will also determine how they can work with other CIKR sectors.

Strengthening national preparedness

In summary, the NIPP’s main goal revolves around two words: protection and resiliency. The SSA works to protect America from experiencing another 9/11 and, if and when disaster strikes, ensures that America’s CIKR is strong and flexible enough to recover rapidly and successfully.

Vince Slominski is a Disaster Management Training Coordinator for the Texas Engineering Extension Service (TEEX) and can be reached at vince.slominski@teexmail.tamu.edu. Under the auspices of the Department of Homeland Security, TEEX teaches the following disaster management courses dealing with public works and other critical infrastructure:

- MGT317 – Public Works: Planning for and Responding to a Terrorism/WMD Incident (24 hrs.)
- MGT342 – Senior Officials - Disaster Management for Water and Wastewater (4 hrs.)
- MGT343 – Disaster Management for Water and Wastewater Utilities (16 hrs.)
- MGT345 – Disaster Management for Electric Power Systems (16 hrs.)

You can visit TEEX by logging on to www.teex.org/itsi, calling 800-SAFE-811 (800-723-3811) or e-mailing itsi@teexmail.tamu.edu.

References:
“The community I work for has traditionally shied away from permitting any type of advertising on Village property. Now that revenues are down we are investigating other revenue sources. Does anyone have experience with advertising on local agency vehicles—police, public works, or community development? I would appreciate any contacts or information that is available.”

Many transit agencies appear to allow and even solicit advertising on their vehicles. With the new materials for covering vehicles it is more easily performed. But I see that you didn’t ask about these vehicles but rather, about police, public works, or community development. I cannot imagine a “politically correct” manner in which advertising could be sold and placed on these vehicles. The rationale for allowing it on transit vehicles is that these vehicles are used by the public for public transportation. Granted, funding comes from the local or federal government, but fares are paid for the travel and advertising funds are used as “matching funds” for grants. Advertising revenues have been realized from signs placed within city right-of-way for businesses located off the major streets. This is a common practice on highways with the signs approved and permitted by the various state departments of transportation. If cities are interested in pursuing something less politically charged, you might contact your state DOT for their feedback on how it works for them.

“I recently heard a discussion about using ‘permeable pavers’ to help address water quality. What exactly are they?”

“Permeable pavement” can include concrete pavers, plantable and drivable grass products, bricks, and recycled tires, as well as asphalt and poured-in-place concrete. According to the Interlocking Concrete Pavement Institute (ICPI), permeable pavement is a best management practice (BMP) for stormwater control under the National Pollutant Discharge Elimination System (NPDES). The pavement can receive Leadership in Energy and Environmental Design (LEED) points for sustainability and can help maintain the predevelopment hydrology of a watershed. According to the experts, all permeable pavements have high initial surface infiltration rates, and studies show that permeable pavement can significantly reduce runoff while lowering suspended solids, nutrients and metals.

One product gaining popularity is open-jointed paving blocks. Those who have used the blocks believe they are the easiest to use because they have a consistency in quality, can be mechanically installed, can be installed even in freezing temperatures, and are immediately traffic-ready. Following manufacturer’s directions for installation is the critical issue to long-term success. Users have found the products durable even in northern municipalities when sand is used and snowplows operate often. The products appear to be resistant to freeze-thaw cycles and deicing salt. Individual agencies need to be thorough in their prep work but aware that there are options available. Sarasota County, Fla., is working to develop low-impact development (LID) methods, in cooperation with the Southwest Florida Water Management District. You might contact them or the Water Environment Federation Research Foundation for additional information.

“Okay, I’ve heard it all now. I read a story that says some city is starting to track their trash by using technology. Why and how?”

The City of Seattle is working with the Massachusetts Institute of Technology (MIT) SENSEable City Lab to conduct real-time tracking of articles like boxes, Styrofoam, bottles and metal
scrap. Why? To assess the City's waste removal system. How? By affixing electronic tags to 3,000 items to see where they end up. The electronic tags utilize cell phone technology. Hundreds of citizen volunteers were recruited and each agreed to contribute 10-15 household items to participate in the study. Nearly half of the 800,000 tons of waste collected annually in the city ends up in landfills. The City enacted an ordinance in 2005 which prohibited the disposal of certain recyclables in commercial, residential and self-haul garbage. The purpose of the ordinance was to educate the public on proper recycling practices while keeping garbage rates low and saving businesses and residents $2 million annually.

The tags are about the size of matchboxes and are attached to various-sized items. Each tag on an item is registered along with its name, specifications and the location of its disposal. Because the tags embedded on the items communicate via cell-phone towers, they transmit a signal to a cell-phone provider each time they come within range of a tower. The data from the cell-phone provider is then sent to a server, where researchers analyze the data and provide real-time visualizations for the public to see. Data from the study will be used to determine if the current waste removal system is efficient. For more information, visit Seattle’s website at www.seattle.gov/util.

Is it appropriate to spend public dollars for things like flowers or memorials for an employee’s spouse? Here we are cutting jobs and benefits but our city is still spending taxpayer dollars on these things. I mean, come on, I’m not heartless but this hardly seems right.”

I'm sure a poll of our members would probably agree with you 100%. However, this has been perfectly acceptable in many agencies for many years. As time progresses, the issue has been re-visited and, due to lots of reasons, most groups have discontinued the practice. Writing a policy that can be kind but fully explanatory and enforced is not easy. How do you decide at what degree of relation do you cease being nice? With today’s blended families, it is no longer a cut-and-dried decision: one mother, one father, one wife, each child has become a question of “which” mother, father, wife, etc. And then, how much is fair and equitable? Is a wife worth more than a father? And on and on. And if it's fair for city employees to have tax dollars spent on the niceties, why not the everyday citizen that has paid his or her taxes faithfully for years? My suggestion it to take a collection within the department affected and be as nice as your collection allows. Better safe than investigated for misuse of funds.

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Quixote Transportation Technologies introduces new RWIS software

Quixote Transportation Technologies, Inc. (QTT) has released a new version of its Road/Runway Weather Information (RWIS) software, called Navigator. QTT’s Navigator is user-friendly software designed to view weather data collected from an RWIS station. Two options are available and the new software provides numerous improvements in capability and design, including user-personalization features. “Viewing your RWIS data is just as important as the system collecting it,” says Jon Tarleton, Marketing Manager and Meteorologist for QTT. Data collected from RWIS stations includes atmospheric weather data, pavement weather temperatures and status, as well as many other parameters depending on the customer’s system. For more information please visit www.quixotecorp.com.

Salah, Masters receive first place award

Stanley Consultants’ engineers Ahmad Salah, Ph.D., GISP and Jeff Masters, P.E., received a first place award for the Best Embedded GIS Application, at the 2009 ESRI Annual International User Conference held in San Diego, Calif. Their winning presentation was entitled “Infrastructure Needs Assessment for Land Use Planning in Salt Lake County, Utah.” The conference is considered the largest annual GIS user conference in the world and hosts about 15,000 attendees each year. Stanley Consultants’ Salt Lake City office opened in 1996. The firm provides engineering, environmental and construction services worldwide.
DewEze introduces Manual VT Series

DewEze Manufacturing announces the Manual VT Series Valve System featuring PosiFlow reservoir. The Manual VT Series combines the simplicity of cable-operated valves with the convenience of being tank mounted and environmentally protected. Known for superior hydraulic clutch pump kits, DewEze now offers a labor-saving tank-mounted valve for any light- or medium-duty truck in the snow and ice industry. This self-contained system features a weather-resistant compartment that prevents chemical corrosion while allowing the operator easy access to the valve. The VT Series is available for plows, plow & hoist, central systems, electric and manual valves, and electric spreader controls. For more information, call us at (800) 835-1042 or visit us at www.deweze.com.

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Larue D series snowblowers

Larue’s engineering department, quotes David Robichaud, Sales District Manager, had a mandate with the D series snowblowers to design a truly modern machine that would not exceed axial load limitations of the carriers or wheeled loaders. Our machines are built in North America to handle the worst conditions Mother Nature can throw at us. Operator concerns were also addressed to improve visibility by moving the center of gravity as close as possible to the loader and place the discharge chute commonly found in the center of these machines to an offset position. With the initial design parameters respected, making use of modern engineering practices, and the best available components, the finished product is the new millennia snowblower.

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2011  Sept. 18-21  Denver, CO
2012  Sept. 9-12  Indianapolis, IN
2013  Aug. 25-28  Chicago, IL
2014  Aug. 17-20  Toronto, ON

For more information, contact Dana Priddy at (800) 848-APWA or send e-mail to dprriddy@apwa.net.

North American Snow Conference

2010  Apr. 18-21  Omaha, NE
2011  Apr. 10-13  Spokane, WA

For more information, contact Brenda Shaver at (800) 848-APWA or send e-mail to bshaver@apwa.net.

National Public Works Week: May 16-22, 2010
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Incident Command System (ICS)
Pocket Guide
24 pp • 2006 • APWA • Emergency Management Committee

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PB.E801 • #2 DURING the Disaster—Resource Management
Member $19 / Non $22

PB.E802 • #3 AFTER the Disaster—Reimbursement
Member $59 / Non $69

Emergency Planning (1st Ed.)
552 pp • 2006 • John Willey & Sons, Inc. • Ronald W. Perry, Ph.D. and Michael K. Lindell, Ph.D.

In order for a community to be truly prepared to respond to any type of disaster, it must develop effective emergency planning. This book guides readers through outlining these plans, offering a number of strategies that will help ensure success. It delves into the patterns of human disaster behavior, social psychology, and communication, as well as the basics of generic protective actions, planning concepts, implementation, and action.

PB.A629 • Member $6 / Non $11

The Facility Manager’s Emergency Preparedness Handbook
400 pp • 2003 • American Management Association • Bernard T. Lewis and Richard P. Payant

This book is a definitive reference on facility safety and emergency response planning and management. It includes comprehensive instructions and checklists for categorizing potential emergencies, identifying the resources to be used, preparing, rehearsing, and testing plans, and establishing training.

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