

# Sophisticated tracking system developed for NMH

By the time the \$580 million Northwestern Memorial Hospital (NMH) is completed in January 1999, tens of thousands of decisions will have been made, documents written, RFI's answered, photos taken, costs tracked and changes approved or rejected.

Tracking this monumental volume of activities is a sophisticated project controls system developed specifically for NMH using a combination of client-preferred Expedition and the more flexible Microsoft Access software.

"When the project began, the hospital wanted us to use Primavera and Expedition software to track all information," says Bill Campanella, senior project engineer. "Eventually NMH acknowledged that Expedition limited Power/CRSSC's ability to meet project requirements because it has very fixed ways of entering data, running queries and altering tables. Additionally, it is very difficult to customize reports in Expedition," Bill said.

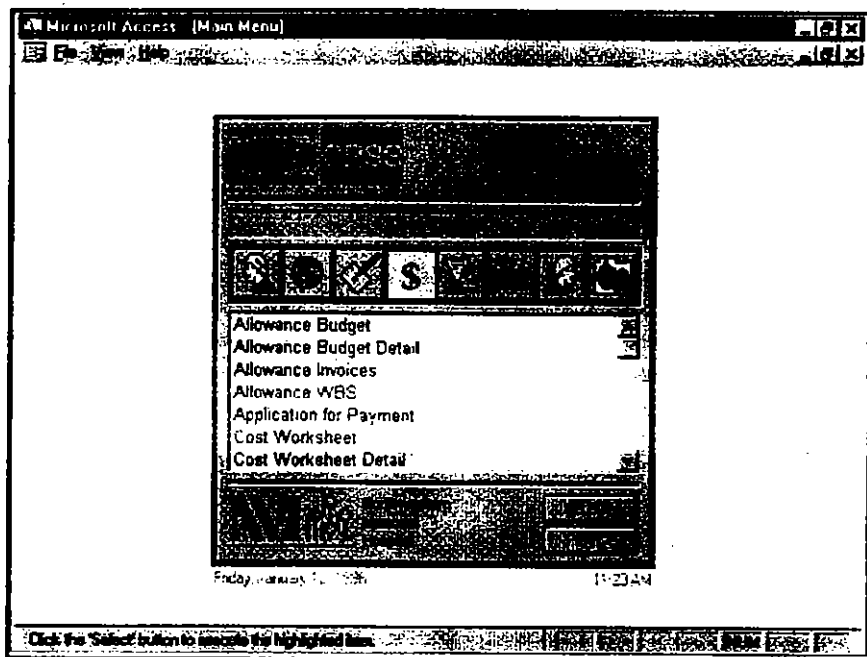
A comprehensive project controls system evolved incorporating contract costs and vendor information tracked in Expedition and integrated with detailed support information tracked in Access. The Access program provided a single source for the 25-user construction management team and to adapt to NMH's needs.

The main menu contains eight options, each linked to a sound file which, when depressed, announces the area of the menu you are opening. Below are the eight options:

- *Project* - identifies company and general project information which appears on the forms and reports.
- *Communication* - contains prime contract management meetings notes, telephone records, transmittals, and vendor information.
- *Contract* - contains all prime contract management information, RFI's, and other requests and changes, etc.
- *Cost Control* - contains all prime contract costs (\$340 million) and applications for payment.
- *Logs* - contains all correspondence sent and received, decision tracking, progress photos, construction progress videos, submittals, daily logs, and other construction logs.
- *Reports* - customized reports and criteria tailored to all project requirements.
- *General Conditions* - separate module to track \$21 million general condition costs.

*Joint Venture Files* - secure area to track joint venture accounts, budgets and expenses.

The tracking system has an Issue-Build feature that allows a user to search through the attached tables with 48 levels of criteria. All sets matching the search criteria are displayed in a table format. Double clicking on any line



item moves the user to the selected document (meeting minutes, field observation notices, RFI's, etc.). Once the issue is built, it can be saved for future reference or discarded.

The Issue-Build command uses 275 lines of MS Access Code and took the team approximately three weeks to develop. Two key members of the team are CRSSC's Project Director Pat Newman, who had the commitment and leadership to develop a comprehensive project controls system, and joint venture subconsultant Chris Chapel, who had the construction experience and technical skills to create a user-friendly package.

Some other features of the tracking system are:

- standard meeting agendas are automatically created from the previous opened meeting minute items,
- transmittals are automatically generated for all outgoing correspondence, i.e., submittals, RFI's, field orders, change orders, etc.,
- multiple submittals are grouped and tracked by package. Rejected items are linked to the corresponding package and tracked separately, and

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# TDCJ Rebate

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provide TDCJ with required quick turn-around time to ensure that sufficient coverage was in place at the outset for this very fast-track program, and eliminate cross litigation among multiple carriers.

Don noted that the Emergency Prison Bed Program, with its geographic dispersion, speed of construction and number of concurrent activities, necessitated innovation in both the approach to construction safety and in claims management. "The CIP was successful because of aggressive management of claims and a stringent safety program. We were able to reduce by half the number of injuries for this class of construction," he stated.

"Our first priority was to provide a safe working environment, then, in the event of an accident, to be sure an injured worker got the best possible medical care," MacCormack said. Management of the CIP focused on three key issues:

- initiation of a safety management process to assure the protection of workers from serious injury,
- providing the best medical care for those workers who were injured or became ill, and,
- creating the most effective claims management to assure rapid medical response to injured workers.

A stringent project-wide safety program involving weekly meetings on safety issues, safety managers "riding the circuit" to each job site and monthly coordination meetings with insurance carriers' safety engineers helped to reduce the potential for accidents. Safety focused on the "critical few" causes of serious (and costly) injury — falls from elevation, electrical contact and safe handling and storage of materials.

"Due to the safety program, the cost resulting from injuries was substantially below industry standard," Don explained. "On a \$140 million project, the average cost of medical-only type claims can average \$1,000; actual on this project was \$386. The average temporary disability claim can run \$30,000; actual on this project was \$22,000. The average permanent disability claim costs usually exceed \$250,000; actual on this project was zero. There were no permanent disability claims.

"At first there was some resistance to the CIP, but that was overcome with education as to its benefits. At the end of the program, everyone was praising the accomplishments," Don said. "They realized that safety was improved, injury claims were substantially reduced, and there were no third party claims cases that arose requiring protracted litigation."

# Morgan

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was the recent award to CRSSC of the \$30 million mixed use facility project for the American Kennel Club.

"We look forward to an expanding role in helping Morgan with corporate real estate analysis for future facilities, including a new office building to be constructed in mid-town Manhattan, and in their international projects in Europe and South America," Mike said.

Mike credits the excellent relationship with Morgan to unexcelled commitment by Austin Chavous, senior project manager; Joe Tooley, project manager; Al Lauritano, senior field engineer; and Rod Cornell, project executive. "Most of them have been with Morgan from the beginning," Mike said. In addition to the long-term team, other current staffers on the Morgan projects are: John Howell, senior field engineer; Loren Roller Schnitzer, field engineer and project engineer; Christine Kelly and Nella D'Amato, field engineers.

# Northwestern

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the system electronically stores construction videos and sound clips to document field progress.

The program and data currently take up about 75 megabytes of space and are expected to grow to about one gigabyte. It is run on a four gigabyte file server networked to 25 users with 100mhz Pentium processor PC's using 16 megs of RAM.

Since MS Access has an operational capacity of 1.2 gigabytes and the present system has an inefficient link to Expedition, we are currently modifying the tracking system to efficiently handle a larger amount of information. The Modifications target the front end, or the user interface of the tracking system by standardizing the data entry forms using Visual Basic. This revised system will have several flexible advantages.

- **Expansibility** - The system will accommodate a large amount of data without losing its integrity.
- **Convertibility** - The system will attach to a number of back end data bases, such as Oracle, SQL Server, WATCOM, as well as MS Access.
- **Versatility** - The system will readily accommodate individual projects, or a number of simultaneous projects.

"The outcome? This system could be used throughout the company. Although most projects won't need this level of sophisticated project controls, project managers will be able to use specific parts of the tracking system," Reynolds. "As technology continues to improve, I'm confident that CRSSC will stay on the leading edge to better serve our clients."