To: Customers  

From: David J. Celik, P.E.  
City Engineer  

Re: Akron Engineering Bureau, 2004  

Enclosed for your review and consideration is the 2004 Akron Engineering Bureau Annual Report.

2004 was highlighted by significant activity in design and construction of several major projects, including the High-Main Parking Deck to serve the new Main Library and commercial development in the downtown historic district. In total, we awarded $33.9 million in construction contracts and paid out $26.9 million in construction contract billings.

We achieved significant progress on our goals. Most notably, in workplace flexibility and cross-training of our employees.

Our participation in the World Class Organization (WCO) initiative continued last year. The draft Action Plan was found to be aligned with the WCO vision by the Continuous Improvement Team (CIT). It was then distributed to affected employee groups for comment.

The Engineering Bureau also completed work on an initial Resource Loading analysis and began work on a Balanced Scorecard. The Engineering Bureau is also represented on the Continuous Improvement Team.

The Engineering Bureau is prepared to meet the new challenges in 2005.
Akron Engineering Bureau (AEB)
Vision 2002

Our vision is to provide professional engineering services that meet the infrastructure needs of our customers by:
- Planning projects that meet the goals of the City.
- Designing projects in a cost effective manner.
- Constructing projects in compliance with the contract documents.

To reach this vision means:
- Utilizing the experience, education and training of our employees to create a more flexible work force.
- Empowering our employees to manage projects more independently.
- Use of innovative plan development, design and construction techniques to minimize project costs.
- Maintaining the highest level of ethics and professionalism.

Long Term Vision Affirmation

We will affirm and re-enforce our vision by operating the AEB with the following philosophy:

Reduce the need for supervision by creating additional Engineering Technician III and Civil Engineer III promotional opportunities, and filling those positions with capable and motivated employees who can independently coordinate all aspects of a project.

Assign employees based on:
- The overall needs of the AEB.
- The experience level necessary to administer the specific project.
- The opportunity to diversify the experience of the workforce.
- The expectation of minimizing project costs.

Rotate employees between the Design/Environmental Division and the Construction Division so that all employees become proficient in both project design and construction administration.

Maintain the proper balance between in-house design and consultant design.

Determine and monitor overhead rates including project development and programming costs in order to fully understand the cost-effectiveness of the AEB.
The Akron Engineering Bureau (AEB) is responsible for the planning, design and construction of the public improvement projects of the City of Akron. Our goal is to produce high quality projects on schedule and within budget. In 2004, the Akron Engineering Bureau awarded over $33.9 million worth of public improvements. The Bureau also paid out over $26.9 million in construction payments during the year. The types of projects include: street and sidewalk reconstruction, bridge maintenance and reconstruction; parks, playgrounds and athletic fields; building construction and rehabilitation and public utilities (water, storm and sanitary sewer system improvements).

AEB employees maintain cooperative working relationships with the public, City Council, the Administration, other City divisions, consulting engineering firms, utility company representatives, contractors, developers, suppliers and federal, state, county and other municipal agencies. While accomplishing our mission, the highest level of ethics and professionalism is maintained.

The Engineering Bureau continued its active participation in the World Class Organization (WCO) initiative in 2004. The City Engineer is a member of the Continuous Improvement Team (CIT) and Bureau employees have continued the work of the E3 Core Design Team.

In August of 2004 the draft Action Plan was presented to the CIT. The CIT found the draft Action Plan to be aligned with the WCO vision and recommended that the plan be distributed to effected employee groups. The draft plan was distributed and several Tool Box Talks were held in the fourth quarter of 2004. All the comments and questions on the plan were tabulated, categorized and discussed. This activity was completed in early 2005 and a final disposition will be available in May 2005. Based on the comments, input provided at the Tool Box Talks and direction from the Service Director, the proposed Action Plan is scheduled for completion in May 2005.
2004 Goals

Reduced our in-house costs by increasing flexibility of employees working for multiple divisions.

implemented the first phase of the Customer Service Request system.

Completed the 2003 project manpower projections.

Conducted an in-house training seminar for 19 Project Managers for our consultant contract development process.

Assigned fifteen Engineering Technicians to the Construction Division from the Design and Environmental Divisions for the construction season.

Assigned six Engineering Technicians to the Design or Environmental Divisions for the winter season.

Assigned four Civil Engineers to the Construction Division from the Design and Environmental Divisions to be Resident Project Representatives in an effort to reduce construction administration costs and develop design skills.

In 2004 the Engineering Bureau processed 324 contractor invoices for $26.9 million, and 539 consulting invoices for $5.7 million, totaling $32.6 million.

The Engineering Bureau awarded and administered 43 construction contracts with 31 different contractors for a total of over $33.9 million in 2004.

The Engineering Bureau attended 24 public meetings to inform the public about City projects and procedures.
Core Functions

- Programming/Budgeting
- Detail Design
- Project Management
- Public Involvement
- Transportation Program
- Consultant Contract Administration
- Standards and Specifications
- Plan Review
- Surveying
- Mapping
- Subdivision and Plan Review

Jim Anderson Wayne Bachus Travis Capper Jeff Caston Andrew Davis Michelle DiFiore Rick Fischer Bob Geiser Jason Harris Dennis Hawthorne Christine Jonke Randy Keirns Leah Lee Mike Madonio Bill Magyar Bill Marras Beth Mettle Jeff Miller Dianne Reed Phil Rohr Chad Root Rob Scarlatelli Adam Staller Sanford Taylor Michael Teodecki Don Vardon Jim Vechery David Wilkerson
2004 Goals

Conducted in-house AutoCAD training for eighteen employees by the end of January.

Provided monthly in-house training opportunities throughout the entire year for the Design staff on relevant topics.

Initiated a play equipment study that will organize and identify the criteria used to determine the acceptability of various play equipment systems.

Major Accomplishments

Completed plans for the Middlebury Streetscape improvements in conjunction with the new grocery store development.

Completed plans for full improvements of Cuyahoga Street Phase 2 from Lodis Street to Tallmadge Avenue.

Completed plans for public improvements on Hickory Street from Memorial Parkway to 1000' south.

Completed plans for the South Arlington Street Signalization and Resurfacing project for new signals, video detection and closed loop master system from East Market Street to Waterloo Road, and resurfacing from East Exchange Street to Waterloo Road. Construction to occur in 2005.

Completed plans for the Idaho Street et al project the 4th phase of the Kenmore II Neighborhood Development Area. Construction to occur in 2005.

Worked successfully with LeBron James through Nike to construct two new indoor basketball courts at Ed Davis Community Center and Joy Park. Outdoor courts were upgraded at Summit Lake and Prentiss Park.

Completed plans for improvements to support the redevelopment of the Elizabeth Park Homes housing area made possible by a Hope VI grant to AMHA.

Performed a study identify the current conditions of all parks throughout the City.

Worked with Traffic Engineering, Public Works, Planning, and the Wheeling & Lake Erie Railroad to set up a program to replace deteriorated crossings. Construction to take place on the first crossing in 2005.

Training

Field Checking Curb Grades
Ohio Utilities Protection Service
Subsurface Utility Engineering
CAD Standards
Concrete Pavement Presentation
Overview of New 2004 Spec Book
Sports Complex Design
GIS/GPS Mapping of Akron Light Poles
ADA Tactile Systems
Retaining Wall System Demonstration
Tensar Geogrid presentation
Soil Nailing

Sexual Harassment Awareness Training
AutoCAD Training
CAD Forum
RPR Seminar
Family Medical Leave Act
World of Concrete 2004 AMATS Annual Meeting
ODOT District 4 Government Day Systems Engineering for ITS and Freeway Management Systems

AutoCAD 2004-2005 Update
2004 Autodesk University Conference
Environmental Division

Core Functions

- Detailed Design
- Project Management
- Developer Assistance, Coordination and Plan Review
- Storm Water Management
- Sanitary Sewer Evaluation Studies
- Water Pollution Control Station
- Joint Economic Development Districts (JEDD)
- Slope Stability/Erosion Control
- Brownfields
- Facilities Planning
- Combined Sewer Overflows (CSO)
- GIS
- Industrial Park Site Development
2004 Goals

Provided an in-house Project Management/Designer seminar for the Design and Environmental Division staff.

The Storm Water Task Force completed a project/complaint status list (database), file system and storm water Capital Improvement Project (CIP) requests for the 2005 Capital Budget.

The Environmental Division Studies Library was updated and indexed.

Training was provided on tunneling construction and Inflow/Infiltration.

Major Accomplishments

The City was selected to receive a $200,000 Brownfields Grant. The grant is for the assessment of petroleum contaminated sites throughout Akron. Successful applications were submitted for Middlebury Phase II ($187,000) and Morgan Ave. ($195,000) to the Clean Ohio Assistance Fund. The funds will be used to perform environmental site assessments.

The Army Corps of Engineers approved the funding for conducting preliminary evaluation studies on the Cuyahoga River and the Little Cuyahoga River.

At the end of 2004 the City bid the CSO Rack 40/31 Project. This project entails the construction of a 9.5 million gallon concrete basin in order to reduce combine sewer overflows from CSO Racks 40 and 31. This project is the first part of the CSO Long Term Control Plan. The cost of this project is $15.1 million. This CSO is the largest single overflow in the Akron system.

The infrastructure on Ascot Industrial Park Phase II was completed in 2004. Two new manufactures moved into the park in 2004. They were Applied Vision and Ultra Tech.

The first ever Lock 3 Holiday Fest took place in 2004. Engineering assisted in the coordination of the operational functions of the park. We also assisted the Administration as needed to help realize this successful event.

Training

- AutoCADD Training
- AutoDesk Training
- Construction RPR Seminar
- WCO Presentations
- Tour of CSO Facilities
- WEFTEC 2004
- OWEA Section Meeting and Tours
- Brownfields
- EEO Laws
- Supervisory Training
- Fire Safety
- Arbitration Dispute Resolution
- WEFTEC 2004
- Plan Room Training
- FMLA
- WWTP Tours (Massillon, German Facilities, & NEORSD)
- Storm Water and I/I Forum
- AMSA/CSO Partnership
- Collection Systems Workshop
- Ohio EPA Sustainable Development Training
- Wetland Delineation and Permitting
- Cuyahoga River RAP
- ASCE Predicated Bed Scour
- Storm Sewer Systems Design
- Storm Water Detention Basins Design
- Design Div. Training Sessions
Core Functions

Construction Project Administration
Plan Review
Materials Testing Laboratory
Bridge Inspection and Inventory
Public Involvement
2004 Goals

Continue the development of a continuing education program for Resident Project Representatives.
Update the Resident Project Representative Source Book.
Conducted the Resident Project Representative Seminar.
Continue to monitor Gypsy Moth infestation and work with the Ohio Department of Agriculture to have the highest levels treated.
Have at least 50 percent of the Resident Project Representatives using hand-held computers for daily reports.
Begin the process of getting our Material Testing Laboratory ASHTO certified.
Develop a means to quantify contractor’s performance so as to better estimate construction duration on future project.

Major Accomplishments

Transportation
Carnegie Avenue Bridge over Nesmith Lake
Cuyahoga Street/Alberti Court
High Street Viaduct
S. Main Street (Cole Avenue to Firestone Parkway)
Sand Run Road Slope Stabilization

Parks and Recreation
Canyon Trail Play Equipment
Copley Road Soccer Complex
Ed Davis Community Center Gym Floor
Grace Park Sidewalk and Playground
Hardesty Park Playground
Hardesty Park Walking Path
Joy Park Community Center Gym Floor
Middlebury Run Park Bridge
Reservoir Park Basketball Courts
Summit Lake Park Basketball Court Resurfacing

Buildings
Beech Street Power Plant Asbestos and Hazardous Waste Abatement
Cascade Deck Concrete Repairs - 2003
High Street/Market Street Parking Deck
Municipal Services Center CSR Facilities

Utilities
Canfield Road Pump Station - JEDD
Commerce Drive Sewer - JEDD
Harrington Road/Warner Road Water - JEDD
Oak Grove/High Grove Water - JEDD
Pigeon Creek/Copley Road Sewer - JEDD

Petitioned Streets
Campbell Street
Celtic Street/Edwin Avenue
Honodle Avenue, et al

Emergency Contracts
Camp Brook Trunk Sewer
Cascade Deck Plaza
Ed Davis Gym Roof
Maiden Lane Alley
Mud Run Truck Sewer
Philip Avenue Sewer

Training
AutoCADD
Self-Discipline & Emotional Control
RPR Seminar
Concrete
World of Concrete
Asphalt paving
Design-Build
Bridge painting
Architectural Projects
seminar
Build-A-Form
Bridge inspection
Core Functions

Legislation
Contract Preparation
Street Improvement Petitions
Street Dedication Petitions
Private Development Agreements
Underground Records
Central Records Files
Service Counter
Secretarial Staff
Computer Mapping/GIS
Resolving Legal Claims
Computer Hardware Support
Computer Software Support
2004 Goals

Transferred as-built project information from 67 construction projects to the Sewer Underground Record Maps by the end of the year.

Provided copies of all of the Sewer Underground maps in the JEDD areas to the Sewer Maintenance Division by the end of June.

Reduced paper and filing costs and increased the availability of documents by sending scanned images of correspondence via e-mail to those on the copy list of all correspondence. Scanned correspondence is saved and available from the computer on each employee’s desk.

Made available the Notices of Commencement on the Engineering Bureau’s web site for the convenience of our customers.

2004 Budget

2004 Engineering Operating Budget

- Labor: 66.34%
- Interfund Charges: 9.06%
- Capital Outlay: 0.24%
- Debt Service: 0.33%
- Insurance: 0.22%
- Direct Expenditures: 2.84%
- Fringe Benefits: 20.68%
- Rentas & Leases: 0.00%
- Utilities: 0.29%
- Capital Outlay: 0.24%

Training

- Morf Software Training
- Secretarial Support
- Cross-Training
- FMLA Laws Training
- Labor Relations Training
- Suspicious Package Training
- GIS Seminar
- Consultant Contract Seminar
- ODOT LPA Project Administration
- AutoCAD Forum
- RPR Seminar
- Public Records and Open Meeting Laws in Ohio Seminar
- Front Desk Safety and Security
2004 Sources of Revenue
- Income Tax: 31%
- General Obligation Debt: 8%
- Sewer Capital Fund: 6%
- Water Capital Fund: 6%
- Community Development: 7%
- Federal & State Transportation Funds: 15%
- Ohio Public Works Commission Funds: 21%
- Other: 8%

2004 Program Expenditures
- Public Utilities: 26%
- Transportation: 24%
- Economic Development: 4%
- Debt Service: 3%
- Housing & Human Resources: 15%
- Public Facilities: 19%
- Parks & Recreation: 5%
- Other: 4%