

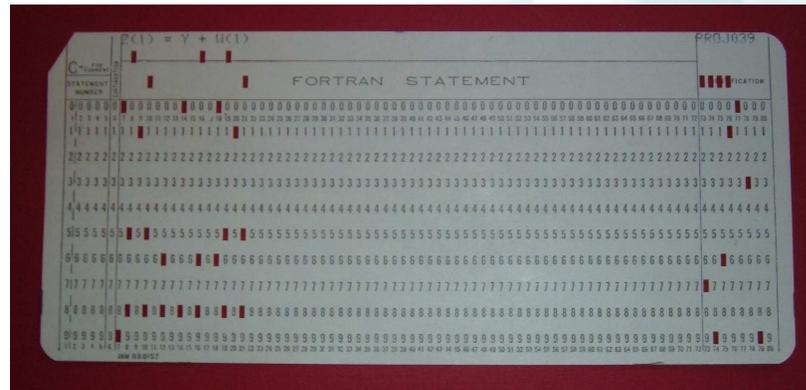
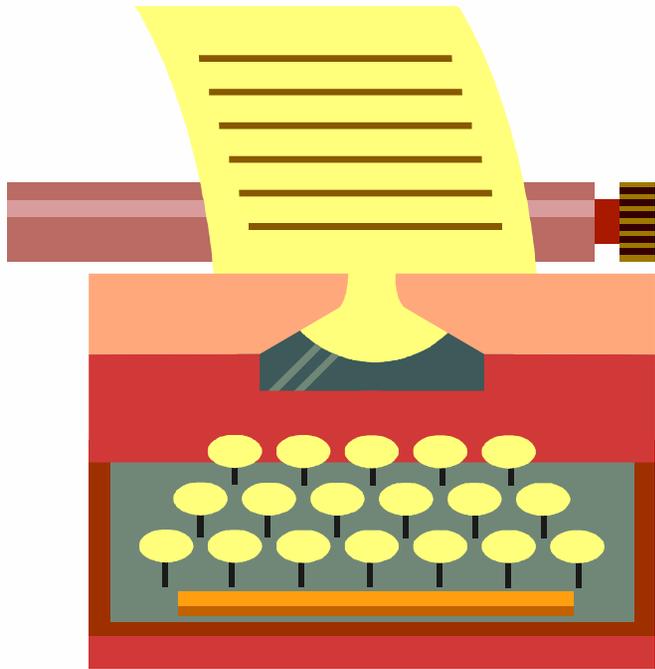


How Will Mobile Computing Technology Change the Illinois AML Program?

By: Lawrence L. Lewis, P.E.



Data sharing in the 1980's



Computer Technology in the 1980's



How Mobile Computers would have looked in the 1980's

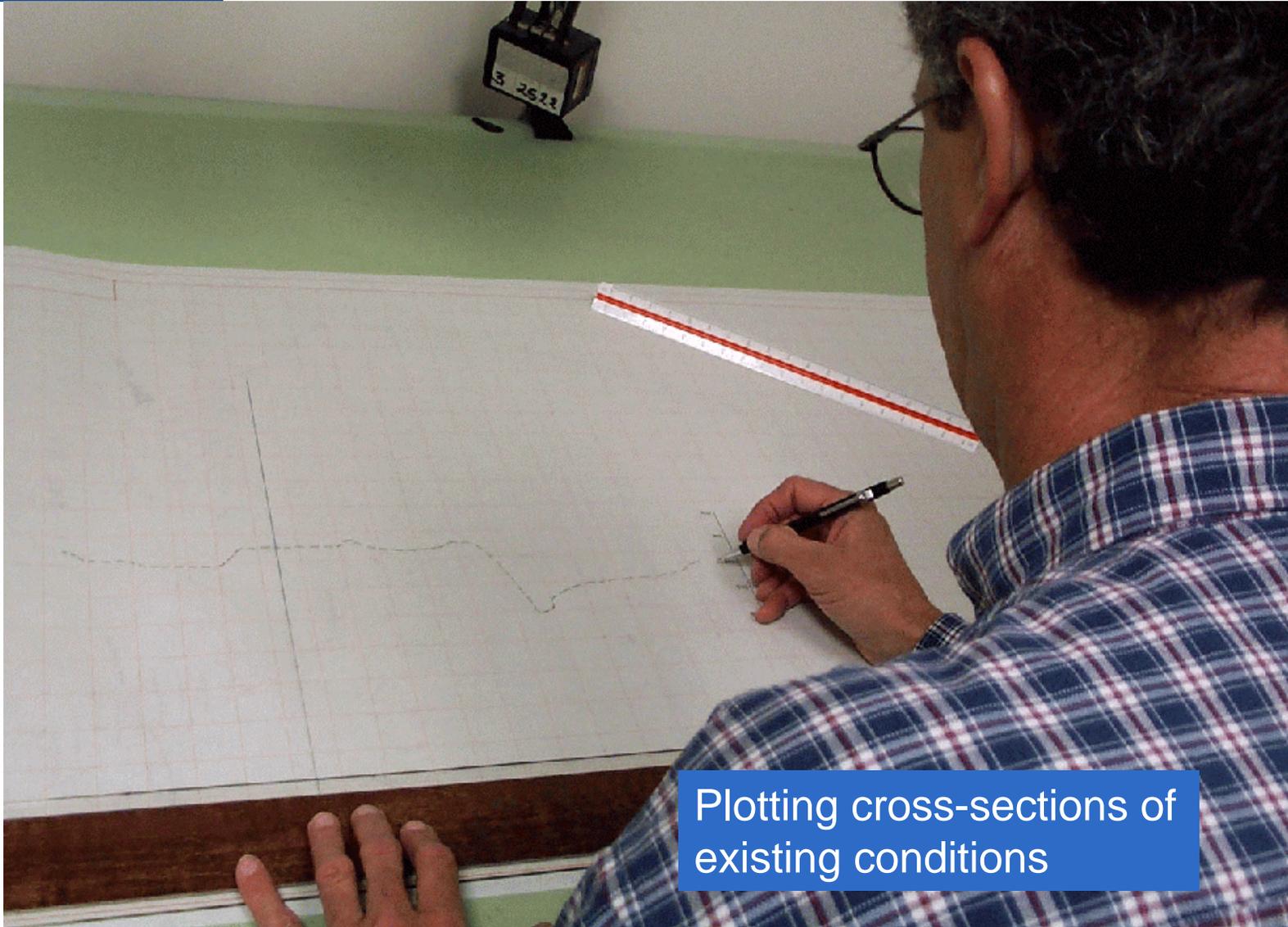


Reclamation Plan Design in the 1980's



Drafting a baseline

Reclamation Plan Design in the 1980's



Plotting cross-sections of existing conditions

Reclamation Plan Design in the 1980's



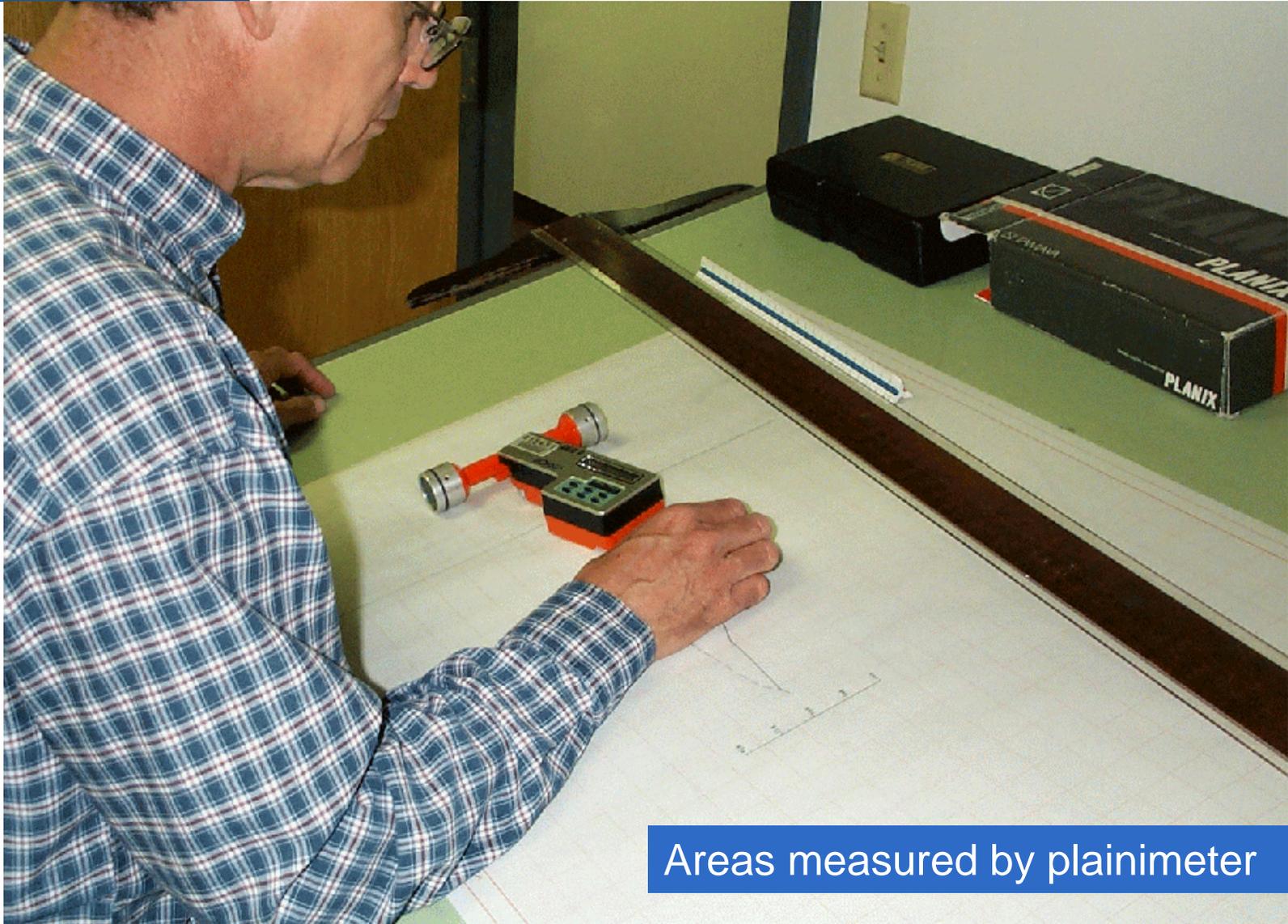
Plotting proposed contours

Reclamation Plan Design in the 1980's



Plotting cross-sections of proposed conditions

Reclamation Plan Design in the 1980's



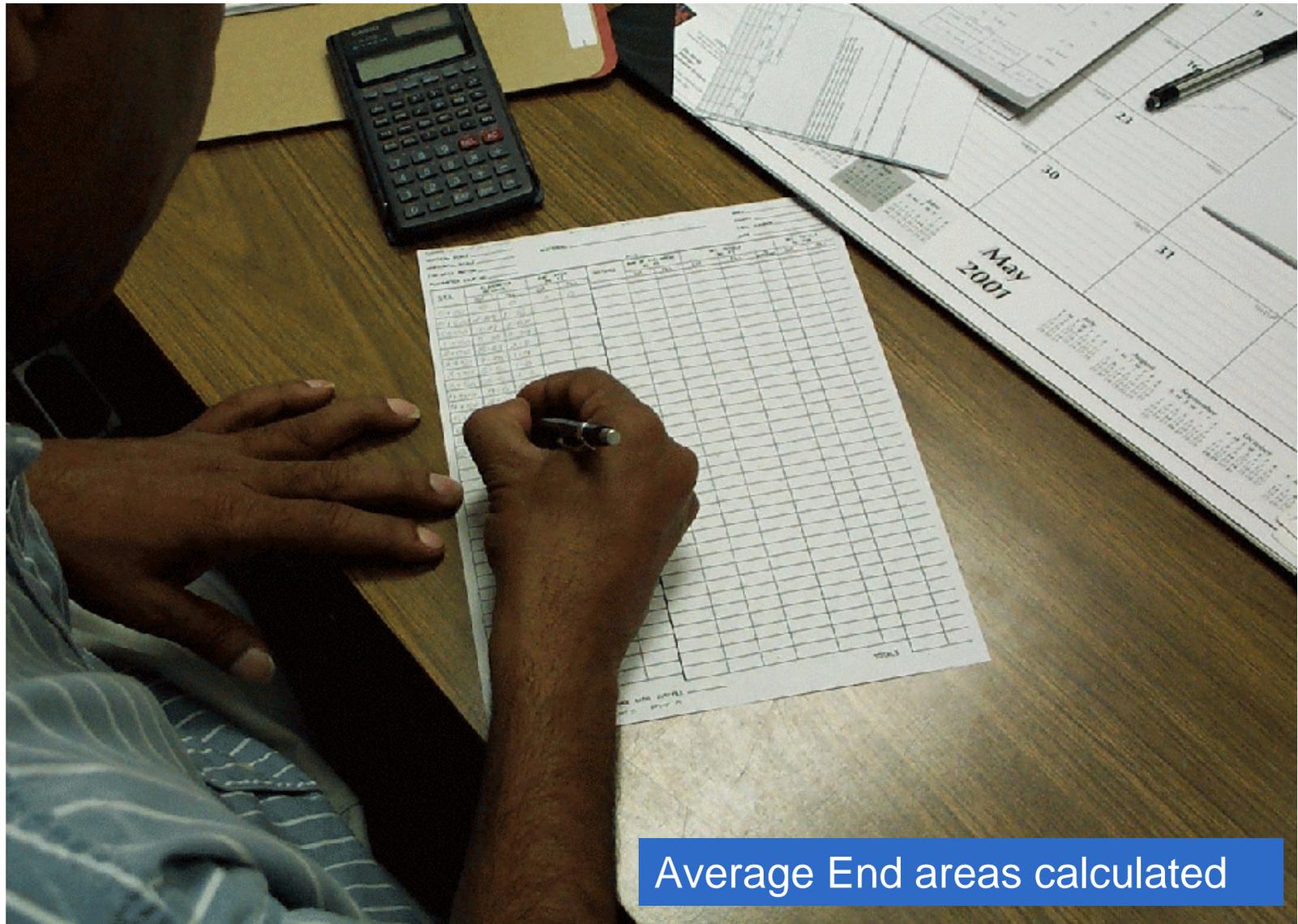
Areas measured by planimeter

Reclamation Plan Design in the 1980's



Balance cut / fill volumes

Reclamation Plan Design in the 1980's



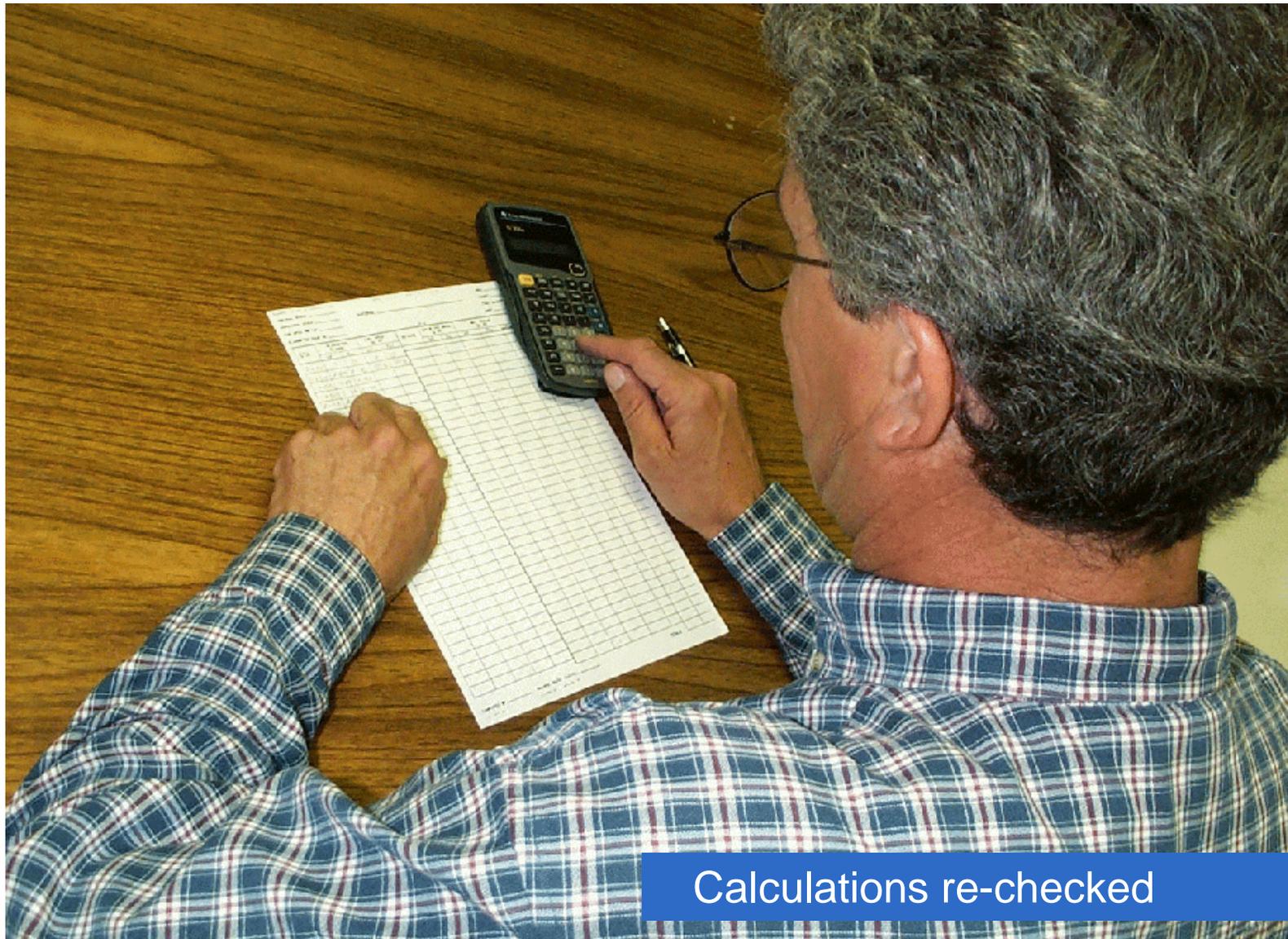
Average End areas calculated

Reclamation Plan Design in the 1980's



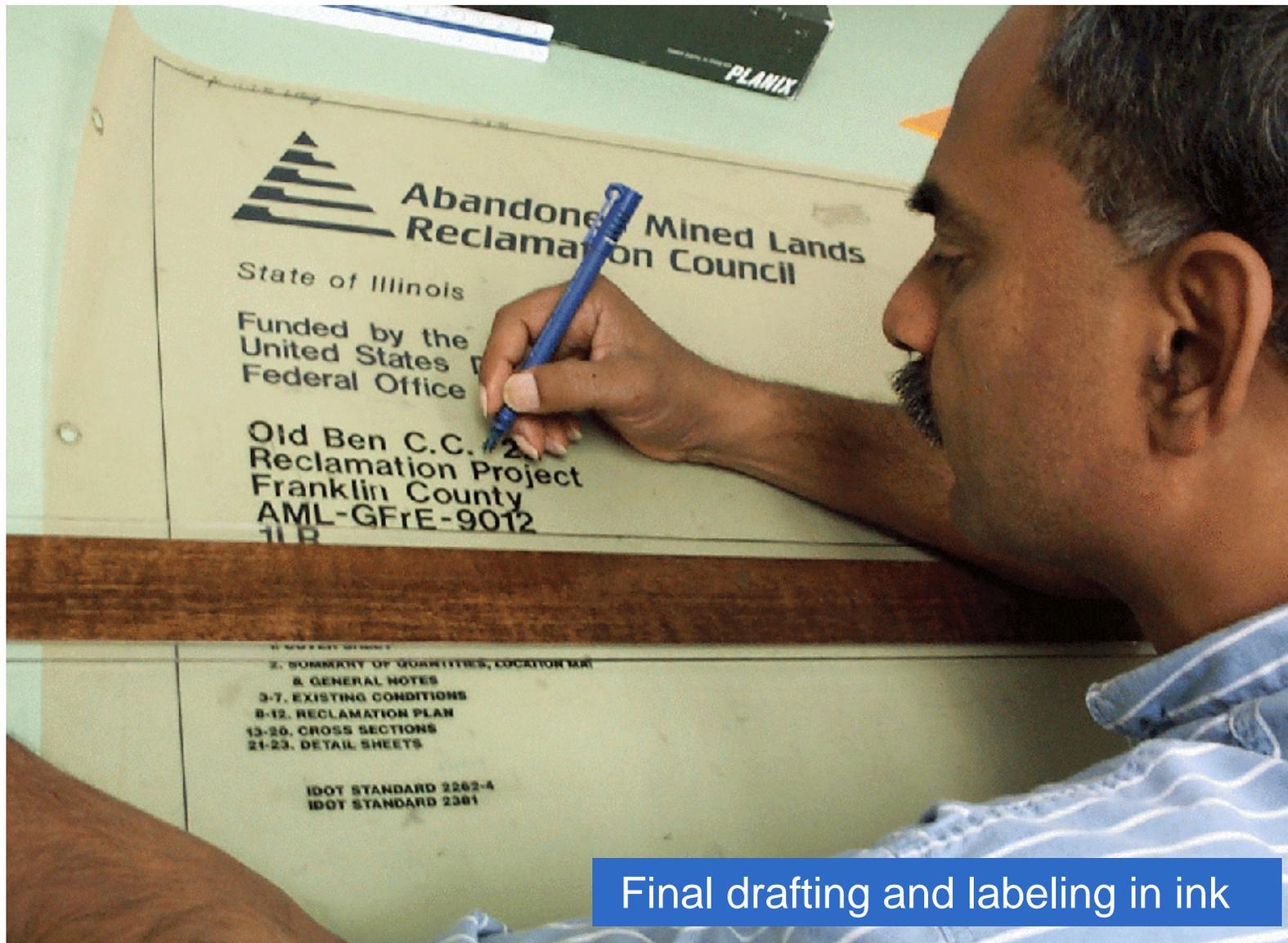
Pencil drafting details

Reclamation Plan Design in the 1980's



Calculations re-checked

Reclamation Plan Design in the 1980's



Final drafting and labeling in ink

IAMLR Design Work in 1980's

Preliminary

Intermediate

Final

85 Tech. Staff Hours

40 Tech. Staff Hours

40 Tech. Staff Hours

Total Time involved: 165 Tech Staff Hours



IAMLR Projects designed by Consultants 1985-90

Year of Grant	# of Projects Designed by Consultants	Amount paid to Consultants
1985	11	\$540,625
1986	8	\$241,330
1987	6	\$377,390
1988	11	\$553,771
1989	9	\$665,708
1990	6	\$356,861





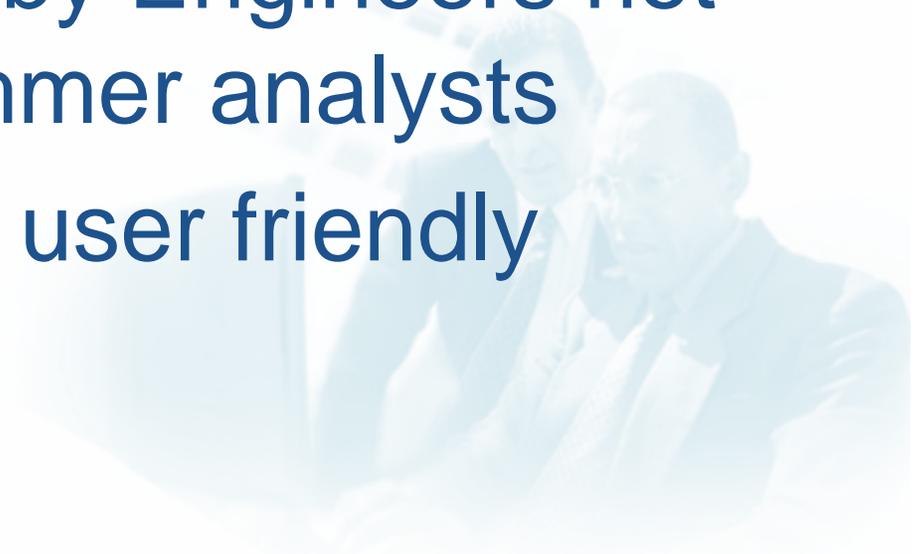
OSM CADD FORUM

March of 1993 – Denver Colorado

Bruce Carlson – SurvCADD

Software developed by Engineers not
just by programmer analysts

AutoCAD based user friendly





IAMLR Projects designed by Consultants 1991-96

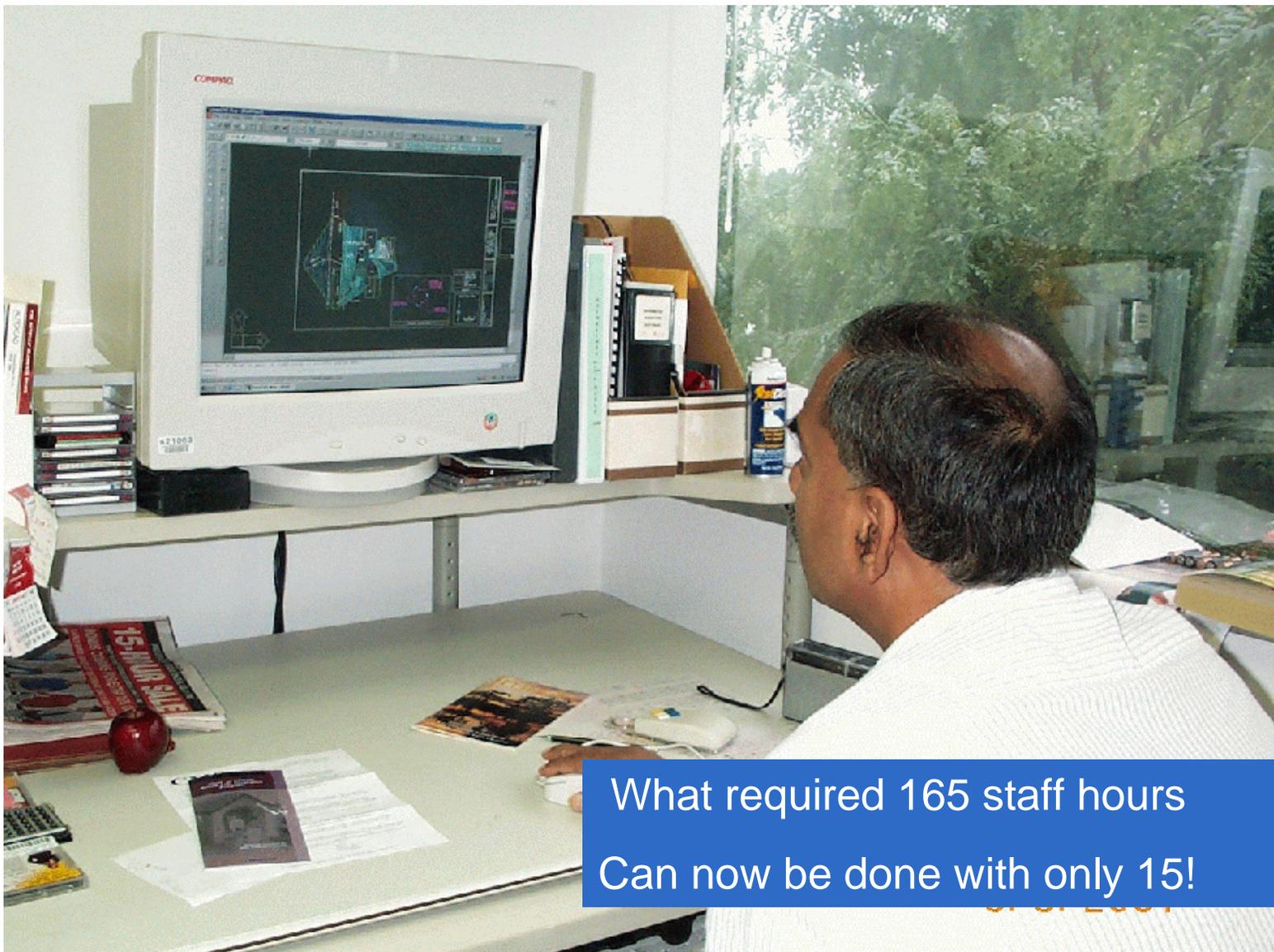
Year of Grant	# of Projects Designed by Consultants	Amount paid to Consultants
1991	7	\$374,175
1992	1	\$12,486
1993	10	\$691,404
1994	2	\$105,553
1995	1	\$61,078
1996	6	\$716,726

AMOUNT PAID TO CONSULTANTS FROM 1985 - 1996

Approx. \$5 MILLION



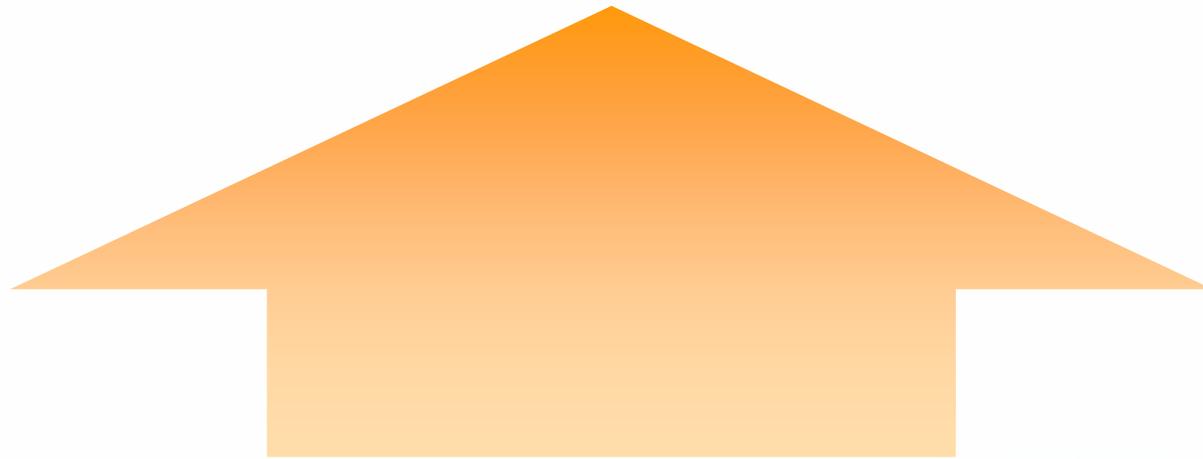
Reclamation Plan Design with SurvCADD



What required 165 staff hours
Can now be done with only 15!

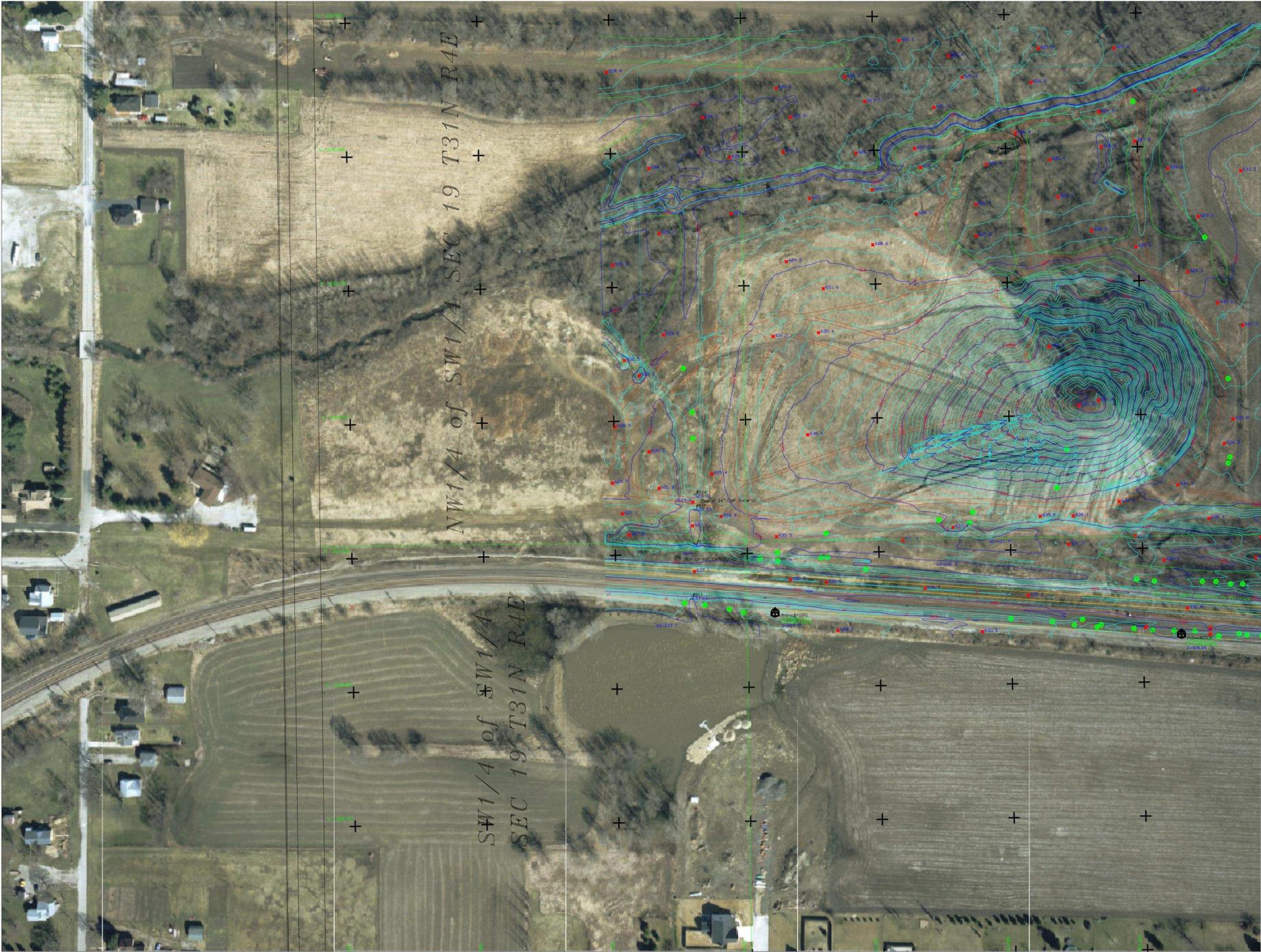


IAMLR Program changes 1994-96



4 persons added to
the Technical Staff

Topographic mapping
contracted out



NW1/4 of SW1/4 SEC 19 T31N R4E

SW1/4 of SW1/4
SEC 19 T31N R4E



IAMLR Projects designed by Consultants 1997-Now

Year of Grant	# of Projects Designed by Consultants	Amount paid to Consultants
1997	0	\$0
1998	0	\$0
1999	0	\$0
2000	0	\$0
2001	0	\$0
2002-now	0	\$0





Quantifying “the change”

**\$5 MILLION TO CONSULTANTS
FROM 1985 - 1996**

**Project that from 1997 to NOW and adjust
for inflation and additional projects
designed and you have**

Practically \$10 MILLION !!!!





Mobile Computing Equipment

**Fujitsu ST5011D tablet computer with a
Teletype v3.0 GPS receiver**

iX104C2 Xplore Tablet Computer





06/29/2007



06/29/2007

















09/25/2007





Conclusions

Mobile Computing has tremendous potential to improve the Illinois AML program.

However, the amount of improvement will depend on other things changing.





MOBILE COMPUTING & ITS IMPACT ON THE IAMLR PROGRAM?

**With the current technology & support
If the technical staff is increased –
Millions of \$ in future grants can be used
To accomplish “on-ground” results
versus,
Increasing profits of professional
engineering companies**





MOBILE COMPUTING & ITS IMPACT ON THE IAMLR PROGRAM?

“THE FUTURE IS NOW”





ACKNOWLEDGEMENTS

Bruce Carlson, founder of Carlson software

**Vinod Patel, P.E., Civil Engineer IV with the
AMLR Division, Illinois Department of Natural
Resources**

**Joe Pelc, Environmental Protection Specialist
IV, with the AMLR Division, Illinois
Department of Natural Resources**

**OSM, Mid-Continent Regional Office technical
staff and the TIPS program**





MOBILE COMPUTING & ITS IMPACT ON THE IAMLR PROGRAM?

QUESTIONS ???????

