



DEPARTMENT OF COMMUNITY DEVELOPMENT SERVICES

Administrative Division

m e m o r a n d u m

TO: Laurel Lunt Prussing, Mayor

FROM: Elizabeth H. Tyler, FAICP, Director

DATE: April 2, 2009

SUBJECT: An Ordinance Revising the Annual Budget Ordinance (Professional Services, Meijer Noise Abatement)

Description

City Council is requested to adopt an Ordinance revising the Annual Budget Ordinance in order to pursue a professional assessment of noise generated at the loading dock area of the Meijer store and its impact upon nearby residences. An amendment to allocate \$9,200 from the General Reserve Fund is requested to fund the study proposed by Schomer and Associates, Inc. of Champaign, Illinois.

Background

Since its opening in late 2008, the City has received numerous complaints about noise generated by the loading activities of the Meijer store upon nearby residential neighbors on Lydia Court West. The City has worked closely with Meijer's and with the Atkins Group to accomplish a number of mitigating actions, but the noise concerns remain unresolved. These prior actions include the construction of a fence and placement of additional landscaping between the loading area and the residences and efforts by Meijer's to limit the number and hours of loading operations. The noise impacts caused by the loading area are exacerbated by the close lineal distance between the two uses and by the higher elevation of the Meijer's building pad relative to the residential area. The noise impacts of the loading dock were not fully anticipated during City review of the Meijer's site plan, which showed the placement of a berm between the residential area and the Meijer's store. As constructed, this berm has not served as an adequate buffer between the two land uses.

Discussion

Paul Shomer, Ph.D., P.E., of Schomer and Associates, Inc. is a nationally recognized consultant in acoustics and noise control who has worked on similar projects. His resume and proposed

scope of services are attached. The services will include measurement of noise levels during loading operations, comparison with State standards, and identification of appropriate mitigation strategies. Since requesting Dr. Schomer's services, City staff has learned that Meijer's is also conducting their own independent noise evaluation. We will ask Dr. Schomer to review this study and will continue to work with Meijer's to ensure that State standards are met and that the nearby homes are protected from the noise impacts.

Fiscal Impact

The City does not have any dedicated revenue for environmental studies in this location. Therefore, the estimated \$9,200 for the noise assessment is proposed to come from the savings in the General Reserve Fund.

Recommendation

Staff recommends that Council adopt the attached Ordinance Revising the Annual Budget Ordinance to allow City to retain Schomer and Associates, Inc to assess the noise impacts at the Meijer loading dock area and to offer mitigative solutions.

Attachments: Draft Ordinance
 Excerpt of Site Plan showing area of concern
 Schomer and Associates, Inc. qualifications and proposal

Ordinance No. 2009-04-032

AN ORDINANCE

REVISING THE ANNUAL BUDGET ORDINANCE

(Professional Services, Meijer Noise Abatement)

WHEREAS, the Annual Budget Ordinance of and for the City of Urbana, Champaign County, Illinois, for the fiscal year beginning July 1, 2008, and ending June 30, 2009, (the "Annual Budget Ordinance") has been duly adopted according to sections 8-2-9.1 et seq. of the Illinois Municipal Code (the "Municipal Code") and Division 2, entitled "Budget", of Article VI, entitled "Finances and Purchases", of Chapter 2, entitled "Administration", of the Code of Ordinances, City of Urbana, Illinois (the "City Code"); and

WHEREAS, the City Council of the said City of Urbana finds it necessary to revise said Annual Budget Ordinance by deleting, adding to, changing or creating sub-classes within object classes and object classes themselves; and

WHEREAS, funds are available to effectuate the purpose of such revision; and

WHEREAS, such revision is not one that may be made by the Budget Director under the authority so delegated to the Budget Director pursuant to section 8-2-9.6 of the Municipal Code and section 2-133 of the City Code.

NOW, THEREFORE, BE IT ORDAINED BY THE CITY COUNCIL OF THE CITY OF URBANA, ILLINOIS, as follows:

Section 1. That the Annual Budget be and the same is hereby revised to provide as follows:

FUND:	General Reserve Fund (Savings)	
ADD EXPENSE:	Meijer Noise Abatement	\$9,200
REDUCE:	Fund Balance	\$9,200

Section 2. This Ordinance shall be effective immediately upon passage and approval and shall not be published.

Section 3. This Ordinance is hereby passed by the affirmative vote of two-thirds of the members of the corporate authorities then holding office, the "ayes" and "nays" being called at a regular meeting of said Council.

PASSED by the City Council this _____ day of _____, _____.

AYES:

NAYS:

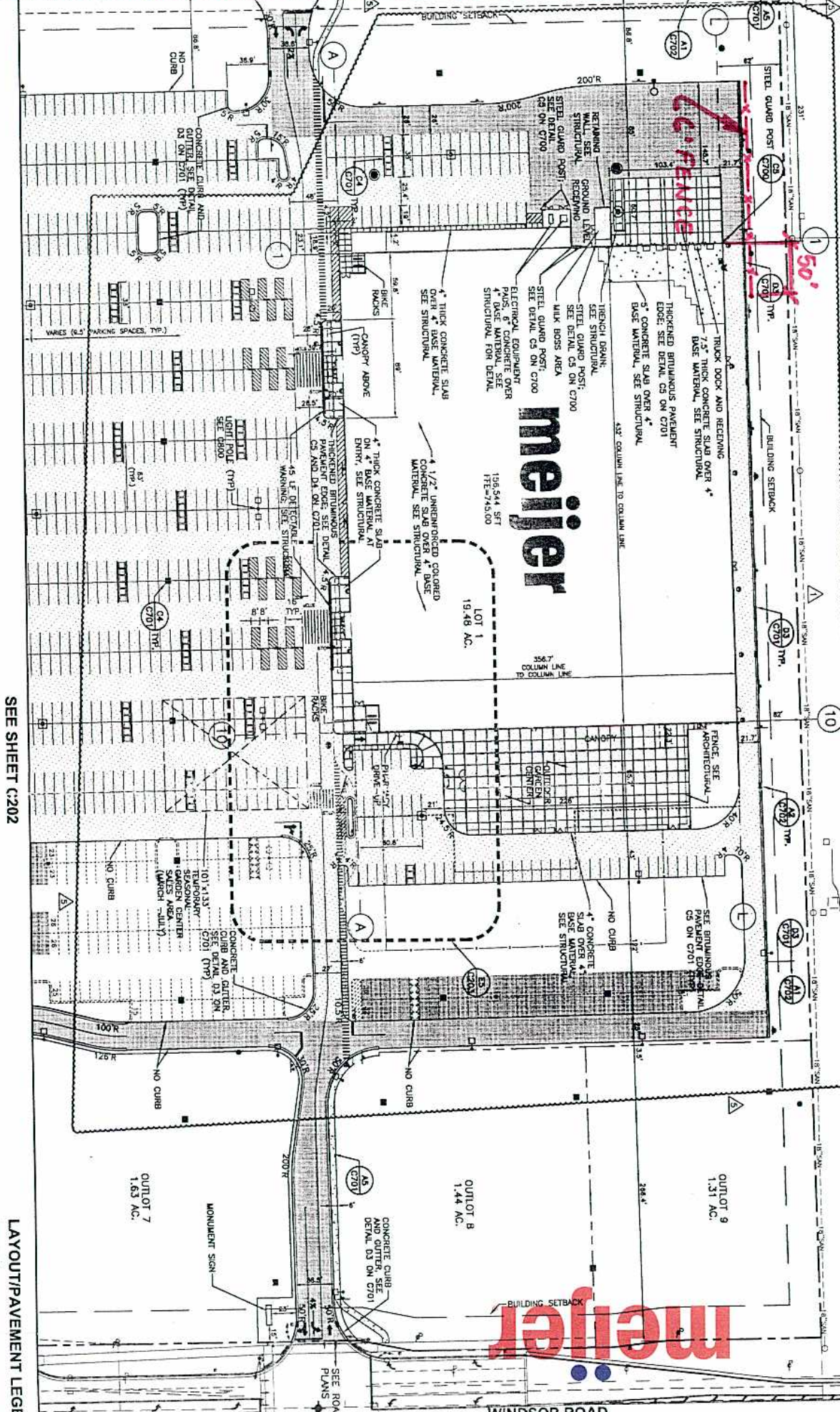
ABSTAINED:

Phyllis D. Clark, City Clerk

APPROVED by the Mayor this _____ day of _____, _____.

Laurel Lunt Prussing, Mayor

AMBER LANE



SEE SHEET C202

- LAYOUT/PAVEMENT LEGEL**
- INDICATES LIGHT DUTY PAVEMENT
 - INDICATES HEAVY DUTY PAVEMENT
 - INDICATES CONCRETE SLABS/SEEMA

meijer

WINDSOR ROAD

OUTLOT 7
1.63 AC.

OUTLOT B
1.44 AC.

OUTLOT 9
1.31 AC.

LOT 1
19.48 AC.

SCHOMER AND ASSOCIATES, INC.

Consultants in Acoustics and Noise Control

Paul D. Schomer, Ph.D., P.E.
Member; Board Certified
Institute of Noise Control Engineering

2117 ROBERT DRIVE
CHAMPAIGN, ILLINOIS 61821
PHONE: (217) 359-6602
FAX: (217) 359-3303

February 18, 2009

Mr. Robert Myers
City of Urbana
Urbana, IL 61801

Dear Mr. Myers,

I will be happy to provide Urbana with consultative services regarding environmental noise issues. You may note from the attached résumé that I chair both the American National Standards Institute (ANSI) working group and the International Organization for Standardization (ISO) working group dealing with environmental noise, I head the USA delegation to ISO for all of acoustics and noise, and I am the Standards Director of the Acoustical Society of America. I have my Ph.D. from here at the University of Illinois specializing in acoustical engineering, I am an adjunct full professor of Electrical and Computer Engineering, and I am a **Board Certified** member of the Institute of Noise Control Engineering.

I have consulted on numerous general plant noise issues, and, in particular, I have consulted on noise at at least 3 loading docks. Notably, I am cited in Appellate Court of Illinois, Second District¹, on loading dock noise issues.

In summary, I have the credentials and experience to best provide you assistance with these environmental noise issues, and at this juncture, it is creative engineering solutions that are required, and not just measurements.

My rate for this effort will be \$175 per hour, a rate which is guaranteed for the duration of these two present issues. And being local, there will be no travel costs or mileage charges. Other expenses will be billed at cost.

I look forward to assisting you and the City of Urbana with these environmental noise issues.

Very sincerely,



Paul Schomer, Ph.D., P.E.

¹ Anthony Roti, Karen Roti, Paul Rosenstock, and Leslie Weber, Petitioners-Appellees, v.LTD Commodities, Respondent-Appellant (the Pollution Control Board, Appellee)—(WL 348152(Ill.App, 2 Dist.))

Member, Board Certified; Institute of Noise Control Engineering

MEMBER FIRM, NATIONAL COUNCIL OF ACOUSTICAL CONSULTANTS

<http://www.SchomerAndAssociates.com>

Email: schomer@SchomerAndAssociates.com

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PAUL D. SCHOMER Acoustical Engineer

BS, Electrical Engineering, University of Illinois, 1965.
MS, Electrical Engineering-Acoustics, University of California, 1966.
Ph.D., Electrical Engineering-Acoustics, University of Illinois, 1971.

EXPERIENCE

Dr. Schomer has extensive experience, publications, and patents in the areas of environmental noise and its assessment, human and community response to noise, instrumentation and methodology for the measurement and monitoring of noise, architectural acoustics, and acoustical measurements of building parameters. He is a consultant to industry and government, an adjunct Professor of Electrical and Computer Engineering (Acoustics) and member of the graduate faculty of the University of Illinois, and a research leader in acoustics. His recognition by his peers as an international leader in the area of environmental noise is demonstrated by his chapters in reference books, his over 35 refereed publications, his leadership in Standards organizations and professional societies, and his awards and honors. Dr. Schomer is also standards Director for the Acoustical Society of America.

As an international leader in the area of environmental noise, Dr. Schomer is chairperson of the United States delegation to International Organization for Standardization (ISO) Acoustics and Noise committees, chairperson of the American National Standards Committee dealing with noise, chairperson of the ISO working groups which deal with environmental noise and with impulsive noise measurement, chairperson of the American National Standards Institute working group which deals with environmental noise, and he is the United States representative to the International Organization for Standardization in the areas of aircraft noise and impulsive sources. He is the Standards Director for the Acoustical Society of America, a member of the Society of Automotive Engineers Aircraft Noise Committee, a principle contributor to current efforts in the area of standardizing airport noise monitoring, and Executive Director, past vice-president for membership, and twice a past member of the board of the Institute of Noise Control Engineering.

Dr. Schomer has 36 years of experience dealing with noise measurement and the effects of noise on people and communities. This experience includes blast and mining noise, gunfire noise, airport, aircraft, helicopter, construction and traffic noise, and general industrial and urban noise. The citation for his selection as a Fellow of the Acoustical Society of America references his studies on community response to noise, and most of his work with the National Academy of Science has been concerned with noise assessment.

MEMBER FIRM, NATIONAL COUNCIL OF ACOUSTICAL CONSULTANTS

MEMBERSHIPS AND AWARDS

Fellow - Acoustical Society of America.

Member, Board Certified, Institute of Noise Control Engineering

Selected as Corps of Engineers Engineer of the Year and One of the Top 10 Federal Engineers of the Year (1990)—National Society of Professional Engineers

Several times a member of the board and/or officer; Institute of Noise Control Engineering.

Former Executive Director, Institute of Noise Control Engineering of the USA, Inc.

Standards Director, Acoustical Society of America

Chairman, Acoustical Society of America Committee on Standards

Head of U.S. Delegation, International Organization for Standardization, Technical Committee 43 (acoustics) and Subcommittee 1 (noise).

Convener (chairman), International Organization for Standardization, Working Group 45 dealing with environmental noise assessment.

Chairman, S.A.E. Construction Site Sound Level Subcommittee, S.A.E. ConAg Committee.

Member, S.A.E. Aircraft Noise Committee and the noise monitoring subcommittee.

Reviewer for *Applied Mechanics Review*, *Journal of the Acoustical Society of America*, and *Noise Control Engineering Journal*.

Fellowship, University of Illinois (1968-1971).

Registered Professional Engineer (DC).

Member, Institute of Noise Control Engineering, Acoustical Society of America, Institute of Electrical and Electronic Engineers, German Acoustical Society (DEGA), European Acoustical Association

BOOKS

Handbook of Acoustical Measurements and Noise Control, Chapter 50. Community Noise Measurements, 2nd edition, John Wiley and Sons, Inc., New York, 1991.

Reference Data for Radio Engineers, Chapter 40. Electroacoustics, 7th edition, ITT Press, a subsidiary of MacMillan, Inc., Indianapolis, 1985.

Reference Data for Radio Engineers, Chapter 40. Electroacoustics, 8th edition, Sams Publishing, Prentice-Hall Computer Publishing, Indianapolis, 1993.

MAJOR JOURNAL PUBLICATIONS

“Uncertainties in measuring aircraft noise and predicting community response to it,” *Noise Control Engineering Journal*, **55**(1), 82-88, (January/February 2007).

“When there are audible rattle sounds, annoyance may depend only on the worst case— independent of number of events,” INTERNOISE 2006, Paper N190, Honolulu, HA, USA, 3-6 December 2006.

“A-weighting sometimes works for assessing environmental noise—sort of; it should be retired,” INTERNOISE 2006, Paper N202, Honolulu, HA, USA, 3-6 December 2006.

“A statistical description of sound propagation: A comparison of elevated and near-ground sources,” *Noise Control Engineering Journal*, **54**(3), 25-36, (May-Jun 2006).

“Biases introduced by the fitting of functions to attitudinal survey data,” NOISE-CON 2005, *Institute of Noise Control Engineering*, Minneapolis, MN, USA, 17-19 October 2005.

“Criteria for assessment of noise annoyance,” *Noise Control Engineering Journal*, **53**(4), 132-144, (July/August 2005).

“Overview of the theoretical development and experimental validation of blast sound absorbers,” *Noise Control Engineering Journal*, **53**(3), 70-80, (May/June 2005).

“Basic results from full-scale tests at Ft. Drum,” *Noise Control Engineering Journal*, **53**(3), 94-109, (May/June 2005).

“Some Important Factors in Community Response to Sonic Booms,” NOISECON 2004, *Institute of Noise Control Engineering*, Baltimore, MD, USA, 12-14 July 2004.

“The importance of proper integration of and emphasis on the low-frequency sound energies for environmental noise assessment,” *Noise Control Engineering Journal*, **52**(1), 26-39, (January/February 2004).

“Noise Assessments: Interaction with the Public—Simplicity and Truth Will Help,” INTERNOISE 2003, Paper N706, pp 1216-1220, Seogwipo, Korea, 25-28 August 2003.

“Does the Soundscape Concept Have Real Utility,” INTERNOISE 2003, Paper N161, pp 2825-2826, Seogwipo, Korea, 25-28 August 2003.

“Noise Assessment Metrics and Criteria in a United States Department of Transportation Multi-Modal Noise Model,” NOISECON 2003, Paper No. 023, *Institute of Noise Control Engineering*, Cleveland, OH, USA, 23-25 June 2003.

“A statistical description of ground-to-ground sound propagation,” *Noise Control Engineering Journal*, **51**(2), 69-80, (March/April 2003).

“On Normalizing DNL to Provide Better Correlation with Response,” *Sound & Vibration*, pp 14-23, December 2002.

“Further Results Using Loudness-Level Weighting to Assess Noise Annoyance,” NTERNOISE 211002, Paper No. N489, *Institute of Noise Control Engineering International*, Dearborn, MI, US1A, 19-21 August 2002.

“Alternative Methods to A-Weighting for Environmental Noise Assessment,” NTERNOISE 2002, Paper No. N475, *Institute of Noise Control Engineering International*, Dearborn, MI, USA, 19-21 August 2002.

“Evaluation of loudness-level weightings for assessing the annoyance of environmental noise,” *Journal of the Acoustical Society of America*, **110**(5) Pt. 1, 2390-2397, (November 2001).

“Criteria for the Assessment of Noise Annoyance,” NOISECON 2001, Paper No. NC01_018, *Institute of Noise Control Engineering USA*, Portland, Maine, 29-31 October 2001.

“Use of the New ISO 226 Equal Loudness Contours as a Filter to Assess Noise Annoyance,” NTERNOISE 2001, Paper No. 197, *Institute of Noise Control Engineering International*, The Hague, Holland, 27-30 August 2001.

“A statistical description of blast sound propagation,” *Noise Control Engineering Journal*, **49**(2), 79-87, (March/April 2001).

“Using fuzzy logic to validate blast noise monitor data,” *Noise Control Engineering Journal*, **48**(6), 193-205, (November/December 2000).

“A comparison between the use of loudness level weighting and loudness measures to assess environmental noise from combined sources,” INTERNOISE 2000, Paper No. 101, *Institute of Noise Control Engineering International*, Nice, France, 27-30 August 2000.

“A test of proposed revisions to room noise criteria curves,” *Noise Control Engineering Journal*, **48**(4), 124-129, (July/August 2000).

“Proposed revisions to room noise criteria,” *Noise Control Engineering Journal*, **48**(3), 85-96, (May/June 2000).

“Loudness-Level Weighting for Environmental Noise Assessment,” *Acustica and Acta Acustica*, **86**(1), 49-61 (January/February 2000).

“Revision to the ISO 1996 series--Description, measurement and assessment of environmental sound,” INTERNOISE 98, Paper No. 190, *Institute of Noise Control Engineering International*, Christchurch, New Zealand, November 1998.

“On spectral weightings to assess human response, indoors, to blast noise and sonic booms,” *Noise Control Engineering Journal*, **46**(2), 57-71, (March/April 1998).

“Evaluation of a re-analysis of the relationship between the results obtained in laboratory and field studies on the annoyance caused by high-energy impulsive sounds,” *Noise Control Engineering Journal*, **45**(6), 251-255 (November/December 1997).

“A comparative study of human response, indoors, to blast noise and sonic booms,” *Noise Control Engineering Journal*, **45**(4), 169-182 (July/August 1997).

“The new ANSI method for assessing combined noise environments; comparison with other methods,” INTERNOISE 97, 1047-1052, *Institute of Noise Control Engineering International*, Budapest, Hungary, August 1997.

“On the contribution of noticeability of environmental sounds to noise annoyance,” *Noise Control Engineering Journal*, **44**(6), 294--305 (November/December 1996).

“Penalties for assessing helicopter noise annoyance—There is none?” NOISE-CON 96, 581-584, *Institute of Noise Control Engineering*, Seattle, WA, September 1996.

“A Comparative Study of Human Response to Blast Noise and Sonic Booms,” INTERNOISE 96, *Institute of Noise Control Engineering International*, Liverpool, UK, July 1996.

“Development of a New ANSI Standard for Assessment of Combined Noise Environments,” INTERNOISE 96, 3265-3270, *Institute of Noise Control Engineering International*, Liverpool, UK, July 1996.

“25 Years of progress in noise standardization,” *Noise Control Engineering Journal*, **44**(3), 141-148 (May/June 1996).

“Human and community response to military sounds: Results from field-laboratory tests of small arms, 25 mm cannon, helicopter and blast sounds,” *Noise Control Engineering Journal*, **43**(1), 1-13 (January/February 1995).

“Amendments to ISO Part 2: The Impulse Noise Penalty,” INTERNOISE 95, *Institute of Noise Control Engineering International*, 851-856, Newport Beach, CA, USA, 1995.

“New descriptor for high-energy impulsive sounds,” *Noise Control Engineering Journal*, **42**(5), 179-191 (September/October 1994).

“SoundProp Fast, accurate prediction of sound propagation under varying weather conditions and over hard or soft surfaces,” INTERNOISE 94, 555-558, *Institute of Noise Control Engineering International*, Yokohama Japan, August 1994.

“A revised statistical analysis of blast sound propagation,” *Noise Control Engineering Journal*, **42**(3), 95-100 (May/June 1994).

“Human and community response to military sounds: Results from field-laboratory tests of small arms, tracked vehicles, and blast sounds,” *Noise Control Engineering Journal*, **42**(2), 71-84 (March/April 1994).

“Activity and sleep interference; A new measurement technique,” INTERNOISE 93, *Institute of Noise Control Engineering International*, Leuven, Belgium, July 1993.

“Time-average aircraft noise descriptors; Confusion with no benefit,” INTERNOISE 92, **2**, 987-992, *Institute of Noise Control Engineering International*, Toronto, Canada, July 1992.

“On Using the Generalized Concept of Loudness to Predict Annoyance,” INTERNOISE 91, *Institute of Noise Control Engineering International*, Australia, December 1991.

“Decibel annoyance reduction of low-frequency blast attenuating windows,” *Journal of the Acoustical Society of America*, **89**(4), April 1991.

“Descriptors for Community Noise Assessment; logical Extensions to DNL,” NOISECON 90, *Institute of Noise Control Engineering*, Austin TX, October 15-17 1990.

“Reduction of Wind Noise for Unattended Blast Noise Monitoring,” *Noise Control Engineering Journal*, **34**(2), March/April 1990.

“Indoor human response to blast sounds that generate rattles,” *Journal of the Acoustical Society of America*, **86**(2), August 1989.

“On a theoretical interpretation of the prevalence rate of noise-induced annoyance in residential populations: High-amplitude impulse noise environments,” *Journal of the Acoustical Society of America*, **86**(2), April 1989.

“The role of Helicopter noise-induced vibration and rattle in human response,” *Journal of the Acoustical Society of America*, **81**(4), April 1987.

“High-energy impulsive noise assessment,” *Journal of the Acoustical Society of America*, **79**(1), January 1986.

“Assessment of community response to impulsive noise,” *Journal of the Acoustical Society of America*, **77**(2), February 1985.

“Descriptor for rotary-wing aircraft noise,” American Institute of Aeronautics and Astronautics, October 1984.

“A survey of community attitudes towards noise near a general aviation airport,” *Journal of the Acoustical Society of America*, **74**(6), December 1983.

“Noise monitoring in the vicinity of a general aviation airport,” *Journal of the Acoustical Society of America*, **74**(4), April 1983.

“Sampling strategies for monitoring noise in the vicinity of airports,” *Journal of the Acoustical Society of America*, **73**(6), June 1983.

“An analysis of community complaints to noise,” *Journal of the Acoustical Society of America*, **73**(4), April 1983.

“Time of day noise adjustments or ‘penalties’,” *Journal of the Acoustical Society of America*, **73**(2), February 1983.

“A model to describe community response to impulse noise,” *Noise Control Engineering Journal*, **18**(1), January/February 1982.

“The growth of community annoyance with loudness and frequency of occurrence of events,” *Noise Control Engineering Journal*, **17**(1), July/August 1981.

“Temporal sampling requirements for estimation of long-term average sound levels in the vicinity of aircraft,” *Journal of the Acoustical Society of America*, **69**(3), March 1981.

“Development of temporal sampling strategies for monitoring noise,” *Journal of the Acoustical Society of America*, **66**(3), September 1979.

“High-amplitude/low-frequency impulse calibration of microphones; a new method,” *Journal of the Acoustical Society of America*, **65**(2), February 1979.

“Growth function for human response to large-amplitude impulse noise,” *Journal of the Acoustical Society of America*, **64**(6), December 1978.

“Human response to house vibrations caused by sonic booms or air blasts,” *Journal of the Acoustical Society of America*, **64**(1), July 1978.

“Statistics of amplitude and spectrum of blasts propagated in the atmosphere,” *Journal of the Acoustical Society of America*, **63**(5), May 1978.

“Evaluation of C-weighted L_{dn} for assessment of impulse noise,” *Journal of the Acoustical Society of America*, **62**(2), August 1977.

“Correlation techniques applied to acoustical measurements in reverberant rooms,” *Journal of the Acoustical Society of America*, **56**(5), 1974.

“Measurement and characterization of off-road construction vehicle noise,” *Noise Con73*, 247-249, 1974.

STATE OF ILLINOIS REPORTS

Proposed Revisions to Property-Line-Noise-Source Measurement Procedures, ENR Report No. REEA91/10, Illinois Department of Energy and Natural Resources, 1991.

Impulse Noise Study, ENR Report No. REEA90/16, Illinois Department of Energy and Natural Resources, November 1990.

A Demonstration of Airport Noise Impact Mitigation, ENR Report No. 83/25, Illinois Department of Energy and Natural Resources, June 1983.

The Economic Impact Study of Proposed Airport Noise Regulations, R774 Volume 1: Technical Study of Public Airports in Chicago, ENR Report No. 81/38, Illinois Department of Energy and Natural Resources, November 1981.

The Economic Impact Study of Proposed Airport Noise Regulations, R774 Volume 1: Technical Study of Public Airports Outside Chicago, ENR Report No. 81/02, Illinois Department of Energy and Natural Resources, January 1981.

Human and Community Response to Impulse Noise: A Literature Review, IEEQ Report No. 78/07, Illinois Institute for Environmental Quality, March 1978.

Motorcycle Noise Levels: A Report on Field Tests, Report of the Illinois Task Force on Noise, June 1975.

Control of Noise from Motor Vehicles Part III: Technical Study in Support of Proposed Motor Vehicle Noise Regulations, Report of the Illinois Task Force on Noise, June 1974.

Sound Transmission Loss Between Spaces Connected by Multiple Paths: A New Measurement Technique, Ph. D. Thesis, University of Illinois, August 1971.

PATENTS

Logarithmic Statistical Distribution Analyzer, Patent No. 3995500.

Microphone Droop and Sensitivity Measurement Device, Patent No. 4347410.

TYPICAL PROJECT EXPERIENCE

AIRPORT NOISE ASSESSMENT AND PART 150 STUDIES

Conducting the acoustical analysis and measurements contained within airport Part 150 studies including (1) the generation of present and future, predicted noise contours, (2) the execution of noise monitoring, the comparison of monitoring results with noise contours, and the analysis of monitoring results by aircraft type, operation, and runway, and (3) the development and analysis of noise mitigation strategies.

HELIPORT DESIGN AND ASSESSMENT

Assessment of the heliport noise. Establishing the need for mitigation. Assessing mitigation alternatives.

ENTERTAINMENT NOISE

Evaluated measurements for a large, outdoor music venue. Evaluated band and DJ noise from a club as it affected the neighborhood. Suggested mitigation methods. Evaluated measurement and monitoring plans for an outdoor music performance arena.

EXPERT WITNESS REGARDING NOISE PREDICTION AND ITS EFFECTS ON PEOPLE

For the defense: Class action suit of homeowners against ARCO Oil.

For the plaintiff: Class action suit of homeowners against Peabody Coal Company.

Performed analysis of the physical noise and its predicted levels in the community. Performed assessment of the received noise and its effect on individuals and the community.

For the defense: Analyzed the audibility of gun shot sound.

For the defense/plaintiff: Predicted, measured and analyzed noise from parked outdoor refrigerator trucks in a special situation.

For the plaintiff: Predicted and analyzed the effect of strip-mining explosions on a distant factory structure.

Analyzed the audibility of off-road truck noise in a quarry delivery plant. Analyzed the audibility of a backup alarm in the presence of lawnmower noise. Analyzed the audibility of siren noise. Analyzed the audibility of truck noise in the presence of other neighborhood noise.

For the community: Class action suits against airport noise.

GUN CLUBS/POLICE FIRING RANGES

Performed noise assessment and mitigation at several civilian and police small arms firing ranges including siting, layout, operations, and noise mitigating structures and fixtures.

INDUSTRIAL NOISE CONTROL--OUTDOORS

Performed noise assessment and mitigation at a variety of outdoor industrial operations such as an asphalt plant, a kitty-litter plant (similar drum to asphalt plant for drying clay), an ammunition disposal plant (again a heated drum), and grain elevators.

MOTOR RACEWAY NOISE

Performed assessment, evaluated existing and planned mitigation and developed alternatives. Evaluated management and operational plans and developed alternative strategies.

PRODUCT DEVELOPMENT

Design, testing and evaluation of outdoor warning sirens.

VEHICLE/HIGHWAY NOISE

Assessment of highway noise. Monitoring highway noise. Establishing the need for mitigation. Assessing mitigation alternatives.

ILLINOIS NOISE REGULATIONS

Examination of the adequacy of existing noise regulations contained in Subtitle H, 35 Illinois Administrative Code. Analysis of the existing rules and whether they appropriately encompass the various types of discontinuous noise and specifically, impulse noise. Recommendations for changes to sections of the Code dealing with definitions and regulatory levels.

REVISIONS TO ILLINOIS PROPERTY-LINE NOISE MEASUREMENT PROCEDURES

Examination of existing measurement procedures as related to American National Standards. Recommendation of measurement procedures for determination of octave-band 1-hour equivalent levels corrected for background ambient. (No American National or International Standards exist for this type of measurement, but these are the type required by the Illinois Pollution Control Board.)

HUMAN AND COMMUNITY RESPONSE TO NOISE

Conducting and supervising international research experiments designed to explain, qualify and quantify human and community response to noise of varying character, spectra and temporal patterns. This research concentrates on comparing and contrasting special noises such as small arms, rotary-wing aircraft, or large explosions to more common noise such as road vehicles or artificially generated noise. A key to this work is conducting these experiments in real houses with real sources of sound.

TEMPORAL SAMPLING STRATEGIES FOR MONITORING AIRPORT NOISE

Analysis of daily monitoring results from many of the nation's airports. Modeling of the results by auto-regressive moving average (ARMA) models, and analysis of the results by "Monte Carlo" methods. Recommendation of airport noise sampling strategies for obtaining the required degrees of precision.

SCHOMER AND ASSOCIATES, INC.

Consultants in Acoustics and Noise Control

Paul D. Schomer, Ph.D., P.E.
Member; Board Certified
Institute of Noise Control Engineering

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March 11, 2009

Mr. Robert Myers
City of Urbana
Urbana, IL 61801

Dear Mr. Myers,

I was very happy to meet with you, the Mayor, and all of the staff members on Monday afternoon. Meijers' noise is clearly an important issue to Urbana.

I would like to give you a precise cost estimate but there is one matter beyond my control. It is difficult to predict how much time will be spent waiting for trucks to arrive and make noise. From a statistical validity standpoint, our goal should be the measurement of at least 10 to 12 trucks with up to half of those being during nighttime hours. We also need to be certain that there are no fixed sources (e. g., compressor) that are causing noise problems.

I have reviewed all of the log sheets that you gave me, and it appears that the busiest days are Sunday, Monday, Tuesday, and Thursday which makes sense since they are either getting ready for the weekend or refilling after a busy weekend. The nighttime hours cited most are 10 PM to midnight and about 3:30 AM to 7 AM. Thus, a measurement plan would be to perform site setup and make daytime measurements on a Sunday afternoon followed by early Monday morning measurements (3:30 AM), and, if needed, measurements on a Thursday night (10 PM to midnight). The City alone or the City with us should confirm the early morning and late night activity with the complainants prior to measurements.

Simultaneous measurements will be made in the yards of the two houses on the cul-de-sac that abuts the Meijers' property. We will locate the instruments in a van that will be parked on the cul-de-sac with cables running to the microphones which will be situated on tripods. Logistically, our only requirement will be restroom facilities for which I assume we can use Meijers, and permission to locate the microphones in the yards of these two complainants.

Measurements will be followed by a brief period for data analysis and a short report documenting the current noise vis-à-vis the Illinois Pollution Control Board rules. At that point we should meet and decide on specific avenues of mitigation to explore. I have included a cost estimate for noise barrier analysis as I am sure we will want to consider this alternative.

MEMBER FIRM, NATIONAL COUNCIL OF ACOUSTICAL CONSULTANTS

In the estimate that follows, I have attempted to be as realistic as possible given the uncertainties described above. Costs could be somewhat lower or higher than those estimated herein. If it appears that the costs may be higher than those estimated, I will immediately advise you of this.

ESTIMATE OF EFFORTS

<u>A. Measurements:</u>		<u>\$2620-\$3645</u>
Senior consultant	10-15 hours	\$1750 - \$2625
Student assistants*	20-30 hours	\$ 270 - \$ 420
Equipment		\$ 500
Miscellaneous		\$ 100
(* paid-time-and-one-half during nighttime)		
<u>B. Analysis:</u>		<u>\$ 605</u>
Senior consultant	3 hours	\$ 525
Student assistants	8 hours	\$ 80
<u>C. Preliminary report:</u>		<u>\$ 380</u>
Senior consultant	2 hours	\$ 350
Student assistants	3 hours	\$ 30
<u>D. Meetings and calls:</u>	<u>4 hours plus</u>	<u>\$700+</u>
<u>E. Barrier mitigation analysis and report:</u>		<u>\$1850 - \$2775</u>
Senior consultant	10-15 hours	\$1750 - \$2625
Student assistants	10-15 hours	\$ 100 - \$ 150
<u>TOTAL</u>		<u>\$6155 - \$8105</u>

If you need a one number estimate I suggest \$7200. I look forward to our continued working together on this project.

Very sincerely,



Paul Schomer, Ph.D., P.E.
Member, Board Certified; Institute of Noise Control Engineering