

## CITY COLLEGE OF NEW YORK, DEPARTMENT OF CIVIL ENGINEERING ENGINEERING REPORT FORMAT

### CONTENT

**Transmittal memo:** To the course instructor from the group leader on behalf of the group, identifying the objective of your experiment and the report, the group members and each of their contributions

**Cover page:** Provide the school name, the course name, the semester, the title of the project, the names of the lab partners, the date due and the submission date

**Table of Contents:** List the major sections given below, tables and figures, and the page on which they begin.

**Abstract:** Include the objective of the experiment, a brief summary of how it was performed, the most significant points of discussion, and your major conclusions. The abstract should be complete and it should stand on its own.

**Objective:** In one to two sentences, state the problem and identify the objective of the experiment and the report. These objectives are the ones that will be met by completing the report!

#### Introduction:

- Give the engineering definition of the property being experimentally determined, the quantities it depends on, and its importance or relevance
- Conduct a brief literature review of one or two journal papers that directly relate to the experimental topic, describing what was evaluated and the major findings, as they relate to your topic. Be sure to cite and reference these papers.
- Identify any pertinent codes or criteria and provide their threshold values

#### Methods and procedure:

- If you developed an experimental procedure, detail it in order and in enough detail (specify how, when, where, and to what extent) that someone could reproduce your results if they followed your procedure. If your procedure was given to you, describe its general approach and refer to the detailed procedure (which should be included in the appendix). Clearly state whether the experimental procedure was strictly followed and how it deviated from relevant standards.
- Specify the equipment you will use and the data (and how much of it) you will collect
- Explain the analysis procedure in detail. State and justify any assumptions you will make, identify all sources of information (what is your data vs. data from the literature), and present the equations that will be used to process the raw data to meet your objectives, using consistent names for parameters that show up in multiple equations, defining each term in the equation and giving its units.

#### Results and discussion:

- Referring to equation numbers already presented, do an example calculation that begins with raw data and shows the full analysis to the desired parameter.
- Present all results (including the example result) in summary form in tables and graphs that are numbered with appropriate titles, and explain what you want the reader to see in the results.
- State all results explicitly in verbal form, explaining whether they make sense and discussing special features of the results to demonstrate you understand the significance of your results
- Identify any concerns with the procedure

- Identify possible sources of error, estimate the magnitude of the error, and explain how the error will affect your main conclusions
- Comment on how your results compared to the literature or to acceptable recommended values presented in codes

**Conclusions:** Briefly summarize your findings and comment on whether and how your objectives were met

**References:** Include all sources of information used in your experiment and analysis, including codes or manuals you referred to. Use the proper format!

**Appendix:** Include the detailed experimental procedure if it was given, your raw data in its original form, and detailed calculations for the results not calculated in the text of the report.

**FORMAT** (with select examples shown in boxes)

**Language:** The reports should be well written. Students are urged to seek the help of the CCNY Writing Center. Reports should use proper English, be free of grammar and spelling errors, be clear, concise, without repetition, and without contradictory or inconsistent statements. Reports should be written in the 3<sup>rd</sup> person (no “I”, “we”, or “us”), so it is important to clearly reference and cite the source of any data, results, and discussion points that are presented

**Organization:** The content sections described above should all be included and presented in the order given above. Use headings for the content sections given above and subheadings for sections that are long. All equations, figures and tables should be inserted in the text close to where they are first mentioned and numbered in order of appearance.

1.0 OBJECTIVE
2.0 INTRODUCTION
3.0 PROCEDURE
3.1 Detailed procedure
3.2 Equipment and materials
3.3 Analysis       ....

**Font and paragraph format:** Text is uniformly formatted throughout report with 12 point “Times New Roman” or “Arial Narrow” font for all text in report, figures, tables and equations; single spacing; and 1” margins. Page limit is met.

**Tables and figures:** All tables should be prepared in MS word and all figures should be prepared in MS Excel. All table columns and rows and figure ordinates should be properly labeled with units for each variable plotted or listed in the table. Numerical values should be presented with a proper number of significant figures and units. Table numbers and titles are given above the table. Figure numbers and captions are given below the figure. They should be discussed and explained in the text of the report and referred to by their number.

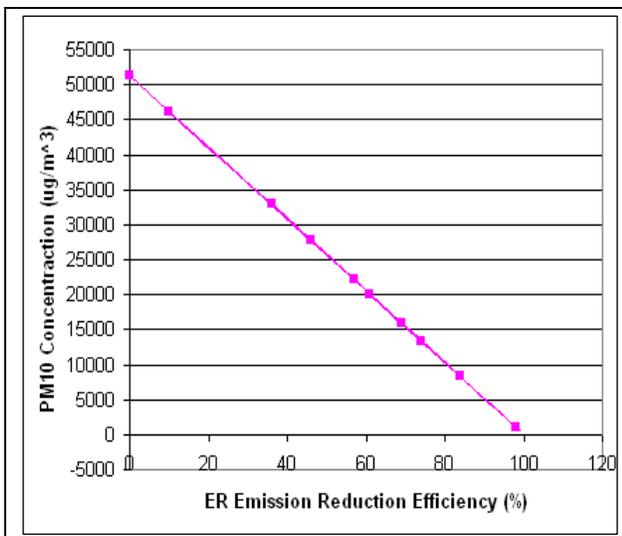


Figure 4. ER % and resulting PM10 concentration during demolition

Table 1. Threshold air pollutant levels used to evaluate the impact of the CCNY Campus Extension Project (Source: New York City Department of City Planning)

Pollutant	Averaging Time	Value
Carbon Monoxide (CO)	8-hour	2.0 ppm
Nitrogen Oxides (NO <sub>2</sub> )	Annual	60 µg/m <sup>3</sup>
Coarse Particulate Matter (PM <sub>10</sub> )	24-hour	91 µg/m <sup>3</sup>
Fine Particulate Matter (PM <sub>2.5</sub> )	24-hour	41 µg/m <sup>3</sup>

**Equations:** All equations are written in Equation Editor with superscripted exponents. Use Microsoft Equation 3.0 of MS Word to write your equations, which you will find under the button "insert", "object", "Microsoft Equation 3.0". Each symbol in an equation must be defined. An equation's number is given at the end of the line where the equation is inserted.

$$C(x, y) = \frac{Q}{\pi u_H \sigma_y \sigma_z} \exp\left(-\frac{H^2}{2\sigma_z^2}\right) \exp\left(-\frac{y^2}{2\sigma_y^2}\right) \quad (1)$$

Where: C(x,y)= concentration at ground-level at the point (x,y), (µg/m<sup>3</sup>)  
 x= downwind distance along centerline between source and receptor, (m)  
 y= horizontal distance between plume centerline and receptor, (m)  
 Q= emission rate of pollutants, (µg/s)  
 H= effective stack height, (m)  
 U<sub>H</sub>= average wind speed at the effective height of the stack, (m/s)  
 σ<sub>y</sub>= horizontal dispersion coefficient (standard deviation), (m)  
 σ<sub>z</sub>= vertical dispersion coefficient (standard deviation), (m)

**Drawings:** All drawings should be made in AutoCAD.

**Programs:** If your project involves the development of a program, include printouts of the source program and the input data file, and electronic copies of both. If you are allowed to program using Excel, include a printout of your spreadsheet with visible column letters and row numbers that show the formula that is computed, input information in separate cells, and an example calculation.

**References:**

Book - Okuda, Michael, and Denise Okuda. *Star Trek Chronology: The History of the Future*. New York: Pocket, 1993.

Journal Article - Wilcox, Rhonda V. "Shifting Roles and Synthetic Women in Star Trek: The Next Generation." *Studies in Popular Culture* 13.2 (1991): 53-65.

Newspaper or Magazine Article - Di Rado, Alicia. "Trekking through College: Classes Explore Modern Society Using the World of Star Trek." *Los Angeles Times* 15 Mar. 1995: A3.

Book Article or Chapter - James, Nancy E. "Two Sides of Paradise: The Eden Myth According to Kirk and Spock." *Spectrum of the Fantastic*. Ed. Donald Palumbo. Westport: Greenwood, 1988. 219-223.

Website - Lynch, Tim. "DSN Trials and Tribble-ations Review." *Psi Phi: Bradley's Science Fiction Club*. 1996. Bradley University. 8 Oct. 1997 <<http://www.bradley.edu/campusorg/psiphi/DS9/ep/503r.html>>.

Newspaper or Magazine Article on the Internet - Andreadis, Athena. "The Enterprise Finds Twin Earths Everywhere It Goes, But Future Colonizers of Distant Planets Won't Be So Lucky." *Astronomy* Jan. 1999: 64- . Academic Universe. Lexis-Nexis. B. Davis Schwartz Memorial Lib., Brookville, NY. 7 Feb. 1999 <<http://web.lexis-nexis.com/universe>>.