

27.1 INTRODUCTION

This chapter summarizes and responds to all substantive comments on the Draft Generic Environmental Impact Statement (DGEIS) published in January 2004 for the World Trade Center Memorial and Redevelopment Plan (Proposed Action). Public review for the DGEIS began on January 22, 2004, with publication and distribution of the document. The Lower Manhattan Development Corporation (LMDC) held two joint public hearings to receive comments on the document February 18, 2004, one from 1 PM to 5 PM and one starting at 6 PM in the Michael Schimmel Center for the Arts at Pace University, located at Spruce Street between Park Row and Gold Street in the Borough of Manhattan. The public comment period remained open through March 15, 2004.

On January 20, 2004, LMDC's Board approved the DGEIS and a press release announcing the document and hearings were sent to all media outlets in the area. A separate floodplain notice was published in the *New York Post* on January 30. On January 22, the DGEIS was made available at Community Boards 1, 2, and 3, and at branches of the New York Public Library in Lower Manhattan and at Fifth Avenue and 42nd Street. It was also circulated to involved and interested agencies and other parties and posted on LMDC's website and notice of its availability and the public hearings was published in the Federal Register on January 23, 2004 and the New York State Environmental Notice Bulletin on January 28, 2004. To advertise the public hearings, LMDC published notices in the *New York Times*, *New York Post*, *El Diario*, *New York Daily News*, *Battery Park City Broadsheet*, and other local newspapers on or about January 23, 2004. The U.S. Environmental Protection Agency also announced the commencement of the public comment period in the Federal Register on January 30, 2004.

LMDC is also in the process of conducting a parallel review under Section 106 of the National Historic Preservation Act (NHPA). LMDC coordinated the Section 106 process with the Federal Transit Administration (FTA) and the Federal Highway Administration (FHWA) regarding the WTC Site's eligibility for listing on the National Register of Historic Places. On February 6, 2004, LMDC, FTA, and FHWA issued a Coordinated Determination of Eligibility for the WTC Site, and requested comments on that document. On March 31, 2004, following receipt of such comments, a Coordinated Determination of National Register Eligibility (DOE) (attached as Appendix K) was issued finding the entire WTC Site eligible. Each agency is separately determining the effects of its action on historic resources in the action's area of potential effect and on the WTC Site. On February 9, 2004, LMDC released a Proposed Finding of No Adverse Effect on February 9, 2004 for public comment. In response to those comments, LMDC has proposed to enter into a Programmatic Agreement pursuant to 36 CFR § 800.14(b) with the New York State Historic Preservation Officer (SHPO) and the Advisory Council on Historic Preservation (ACHP) setting forth specific commitments relating to the Memorial and

¹ This entire chapter is new to the FGEIS.

procedures for future consultation in order to avoid, minimize, or mitigate any potential adverse effects on historic properties. Comments on the Proposed Finding of No Adverse Effect are nevertheless included in this chapter.

LMDC also made available the Amended General Project Plan for the World Trade Center Memorial and Cultural Program (Amended GPP), which was adopted by LMDC's Board on September 16, 2003. Public hearings on the Amended GPP were held on February 18, 2004 together with the hearings on the DGEIS. Notice of the public hearings for the Amended GPP was published in the *New York Times*, *New York Post*, and *New York Daily News* and *City Record* on January 16, 2004. The public comment period on the Amended GPP remained open through March 19, 2004. Comments received on the Amended GPP are also included in this chapter.

This chapter of the Final Generic Environmental Impact Statement (FGEIS) identifies the organizations and individuals who commented on the DGEIS, the Amended GPP, and LMDC's Proposed Finding of No Adverse Effect under Section 106. The chapter then summarizes and responds to all such comments made at the public hearings or received through the close of the comment periods noted above. Section 27.2 below lists all agencies, elected officials, organizations and individuals that commented on the DGEIS. Section 27.3 contains a summary of all comments made and a response to each of those comments. These summaries convey the substance of the comments made, but do not necessarily quote the comments verbatim. Comments are organized by subject matter and generally parallel the chapter structure of the FGEIS. Where similar views were expressed by more than one commenter, those comments have been grouped and addressed together. Written comments and a copy of the transcripts from the two public hearings and copies of the public notices are contained in Volume 3.

27.2 LIST OF COMMENTERS

27.2.1 AGENCIES

1. United States Department of the Interior (DOI)
2. United States Environmental Protection Agency (EPA)
3. New York State Department of Environmental Conservation (NYSDEC)
4. New York State Department of State Division of Coastal Resources (NYSDOCR)
5. New York City Department of Environmental Protection (NYCDEP)
6. New York City Department of Transportation (NYCDOT)
7. City Planning Commission, City of New York (CPC)
8. The City of New York Landmarks Preservation Commission (LPC)
9. Manhattan Community Board No. 1 (CB1)

27.2.2 ELECTED OFFICIALS

10. Jerrold Nadler, U.S. Representative
11. Sheldon Silver, New York State Assembly Speaker
12. Deborah Glick, New York State Assembly Member

13. Martin Connor, New York State Senator
14. C. Virginia Fields, Manhattan Borough President
15. Alan Gerson, New York City Council Member

27.2.3 ORGANIZATIONS

16. Alliance for Downtown New York (Downtown Alliance), Jennifer Hensley, Director of Intergovernmental and Community Affairs
17. American Lung Association, Louise Vetter, Director of Communications and Advocacy
18. Asian American Business Development Center (AABDC), John Wang, President
19. AT&T, Sarah M. Ayer, Senior Attorney
20. BPC United, David E. Stanke, President
21. Brookfield Financial Properties, Ken Lowenstein
22. Building Trades Employers' Association and Construction Industry Partnership (Building Trades Employer's Association), Louis Coletti, President of BTEA and Co-Chairman of CIP
23. Chinese Progress Association, Mae Lee, Executive Director
24. Civic Alliance, Petra Todorovich
25. Clean Air Campaign, Marcy Benstock, Executive Director
26. Coalition of 9/11 Families (Coalition), Anthony Gardner, Executive Board member
27. Coalition to Save West Street, Marilyn Gaull Howard
28. Consolidated Edison Company of New York, Inc. (Con Edison), Peter Garam, Associate General Counsel
29. Environmental Defense, Janea Scott, Staff Attorney; James T.B. Tripp, General Counsel; Andy Darrell, Director of Living Cities program
30. Family Association of Tribeca East (FATE), Caroline Martin
31. Gateway Plaza Tenants Association, Jeff Galloway, Executive Board member
32. Good Old Lower East Side (GOLES), Marie Christopher
33. Greek Orthodox Archdiocese and St. Nicholas Church (St. Nicholas Church), George Schira
34. Historic Districts Council, Robert Kornfeld, Director
35. Independence Plaza Tenants Association, Pat Dillon, Chair of Environment Committee
36. Institute for Rational Urban Mobility, Inc. (IRUM), George Haikalis, President
37. Labor Community Advocacy Network to Rebuild New York, Rebuild with a Spotlight on the Poor Coalition and New York City Environmental Justice Alliance (LCAN), Christine Hemphill and David Dyssegaard Kallick.
38. League for the Hard of Hearing, Joseph F. Brown, Co-Executive Director

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39. Lower Manhattan Emergency Preservation Fund (composed of Municipal Art Society, National Trust for Historic Preservation, New York Landmarks Conservancy, Preservation League of New York State, World Monuments Fund) (LMEPF), Kenneth Lustbader
40. Municipal Art Society (MAS), Frank Sanchis, Senior Vice President
41. Neighbors Against Noxious Odors Incessant Sounds and Emissions (NOISE), Tim Lannan, President
42. New York City Audubon (NYC Audubon), E.J. McAdams, Executive Director
43. New York Environmental Law and Justice Project (NYELJP), Joel R. Kupferman, Executive Director and Colleen Delaney
44. New York New Visions, American Institute of Architects, New York Chapter, Metro Chapter of the American Planning Association (NYNV), Ernie Hutton, Co-Chair; Jordan Gruzen, Co-Chair; Marcie Kesner, Co-Chair; Ethel Sheffer, President of the Metro Chapter of the American Planning Association
45. 9/11 Environmental Action and Concerned Stuyvesant Community (9/11 Env. Action), Jenna Orkin
46. 9/11 - Health Alerts, Diane Dreyfus
47. Northeast States for Coordinated Air Use Management (NESCAUM), Glenn Goldstein
48. NYPIRG Straphangers Campaign (Straphangers), Gene Russianoff, Senior Attorney
49. Pace University (Pace), Dan Slippen, Director of Government and Community Relations and the Center for Downtown New York
50. Partnership for New York City (NYC Partnership), Patricia Noonan, Vice President, Research and Policy
51. Rebuild with a Spotlight on the Poor Coalition (Spotlight on the Poor), Barbara Caporale, Steven N___z (illegible), Peggy Earisman
52. Regional Rail Working Group (composed of New Jersey Association of Railroad Passengers, Empire State Passengers Association, Committee for Better Transit) Albert Papp
53. Riverkeeper, NY/NJ Baykeeper, Soundkeeper and the Natural Resources Defense Council (Riverkeeper)
54. Silverstein Properties, Janno Lieber, Director of Development
55. Team Twin Towers, Jonathan Hakala
56. Verizon and its subsidiary, Empire City Subway Company (Verizon), Johan J. Bachmore and Thomas Dunn
57. Wall Street Rising, Julie Menin, President and Founder
58. World Trade Center Restoration Movement (WTC Restoration Movement), Joe Wright
59. World Trade Center Survivors' Network (WTC Survivors' Network), Carrie Sullivan
60. Chabrera Worldwide International Foundation

27.2.4 INDIVIDUALS

61. Steven Abramson, Resident of Lower Manhattan
62. Martin Acosta
63. David C. Allen, Visitor
64. Cecilia Andersen, Resident
65. Alan D. Anderson, Resident of Gateway Plaza
66. Karina Arabachian, Resident of Gateway Plaza
67. Beatrice Aron, Resident of Gateway Plaza
68. Adrienne Austermann, WTCM-Focus
69. Sandy Badami-Moskowitz, Resident of Gateway Plaza
70. Martin Baron, Resident of Lower Manhattan
71. Tal Barzilai
72. Harold Becker, Resident of Gateway Plaza
73. Katherine T. Bendo, Resident of Gateway Plaza
74. Robert Berg, P.E., Chairman of the Committee on Social and Environmental Concerns of the Construction Institute of the American Society of Civil Engineers
75. Elise Berkower, Resident of Gateway Plaza
76. Nora Berner, Resident of Gateway Plaza
77. Janell Bevan, Ramapo Neighborhood Assessment Inc., Ramapo College
78. Ellen Biancaniello, Hopkins Foodservice Specialists
79. Isaac Blech, Resident of Gateway Plaza
80. Liz Bleiweiss, student
81. Jerry Block, Resident of Gateway Plaza
82. Bill Blum, Resident of Gateway Plaza
83. Wendy Bond, Resident of Gateway Plaza
84. Daniela Borntraeger
85. Kathryn Brady, Resident of Gateway Plaza
86. Tom Brady
87. Charles M. Brass, Resident of Gateway Plaza
88. Lawrence Braun, Resident outside of tri-state area
89. Kathleen Britton, 9/11 survivor
90. Harvey Brown, Resident of Gateway Plaza
91. Kathleen E. Bruzza, Resident of Gateway Plaza

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92. Prof. Paolo Bulletti, Studio Art Centers
93. Joseph and Janet Burstein, Resident of Gateway Plaza
94. Morris Burnstein
95. Alexander M. Butziger, member of WTC Restoration Movement
96. Blythe Cain, Former resident
97. Joseph M. Calisi
98. Karen L. Campbell, Resident of Gateway Plaza
99. Cynthia D. Carter, Resident of Gateway Plaza
100. Emanuele Casmai, Resident of Gateway Plaza
101. Jacqueline Chait, Resident of Gateway Plaza
102. JoAnne Chernow, Resident of Gateway Plaza
103. Andrea B. Chester, Resident of Gateway Plaza
104. Felice S. Cohan, Resident of Gateway Plaza
105. Marti Ann Cohen-Wolf, Resident of Gateway Plaza
106. Kimberly Conte, Resident of Lower Manhattan
107. Mildred Center, Director of Center Design
108. Carlton Chew, member of Local Union No. 3
109. Jennifer Cole, Jhonce Cole, Resident of Gateway Plaza
110. Beth Coleman, Resident of Gateway Plaza
111. Marshal Coleman, Resident of Gateway Plaza
112. Collins Family, Resident of Gateway Plaza
113. Audrey Comisky, Resident of Gateway Plaza
114. Denise Cordiviano, Resident of Gateway Plaza
115. Todd Cossman, Resident of Gateway Plaza
116. Daniel Crupnin, Resident of Gateway Plaza
117. Brett Cuvin, member of Team Twin Towers
118. Lisa Dellaportas, Real estate owner in Lower Manhattan
119. Louise Demirjian, Resident of Gateway Plaza
120. Ammonn Dennis, Resident of Gateway Plaza
121. Chuck Desler, Architect
122. Deborah DiIono, Resident of Gateway Plaza
123. Christina DiMichele, Resident of Gateway Plaza
124. Hilton Divnet, Resident of Gateway Plaza

125. Edward A. Doberman, Resident of Gateway Plaza
126. James Dostle, Resident outside of tri-state area
127. Cuquita Douglas, Resident of Gateway Plaza
128. Diane Dreyfus, Urban and Regional Planning, Unitech Operations
129. John Driscoll, member of Local Union No. 40
130. Herbert Duane, Jr.
131. Jenna Dunne, student
132. Isaac Eida, Resident of Gateway Plaza
133. Lois Eida, Resident of Gateway Plaza
134. Michael Edelstein, Professor at Ramapo College
135. Akiko Endo, Resident of Gateway Plaza
136. Louis Epstein, member of WTC Restoration Movement
137. Emanuel Falcone, M.D., Resident of Gateway Plaza
138. Janice Feinson, Resident of Gateway Plaza
139. Cherie Fernandez, Project Avatar
140. Lucrecia Fernandez-Serrano, Resident of Gateway Plaza
141. Kristin Forbes, Resident of Gateway Plaza
142. Ken Fitch
143. Kevin Flynn, member of Local Union No. 3
144. Kris & Charles Frederick, Resident of Gateway Plaza
145. Chris Freyberg, Resident of Gateway Plaza
146. Tobe Gerson & Morton Gerson, Resident of Gateway Plaza
147. Joseph Gibney, Resident of Gateway Plaza
148. Bernard Goetz
149. Joy E. Goldberg
150. Ariel Goodman, Resident of Gateway Plaza
151. Coco Gordon, resident
152. Carole A. Gottlieb, Resident of Gateway Plaza
153. Proh and Tony Grabe, downtown residents and workers (Grabe)
154. Vicki Grooms, Resident of Gateway Plaza
155. Howard A. Grossman, Resident of Gateway Plaza
156. Dr. Christina Gruber, Resident of Gateway Plaza
157. Catherine Guinee, Resident of Gateway Plaza

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158. Christian Gutierrez, Resident of Gateway Plaza
159. Gary Guss, Resident outside of Tri-State area
160. Holly Haff, member of WTC Survivors' Network
161. Audrey Harkins, Resident of Gateway Plaza
162. George M. Harvey, Resident of Gateway Plaza
163. Matt Hayworth, Resident of Lower Manhattan
164. Betty Heller
165. Benjamin Hemric, Resident of Lower Manhattan
166. Le Hoang, Resident of Gateway Plaza
167. Edgar & Mary Anne Holley, Residents of Gateway Plaza
168. Barbara Marion Horn
169. Bill Hough
170. Douglas Huang, Resident outside of tri-state area
171. John and Vivian Hummler, Residents of Gateway Plaza
172. Carol Jarecki, Resident of Gateway Plaza
173. Dr. Robert Jarvik
174. Trupti Jhaveri, Resident of Gateway Plaza
175. Jeff Johns, Chairperson of the WTC Focus Group
176. Joey Jolley, Resident outside of tri-state area
177. Matthew Jones, student
178. Kathy B. Jely, Resident of Gateway Plaza
179. Buff Kavelman, Resident of Gateway Plaza
180. Kazko Kawai, Resident of Gateway Plaza
181. Tamar Keil, Resident of Gateway Plaza
182. Veronica Kelly, Resident of Gateway Plaza
183. Charles Kerner, Resident
184. Esther Kornblau, Resident of Gateway Plaza
185. Seymour Kornblau, Resident of Gateway Plaza
186. Angela Krevey, Resident of Gateway Plaza
187. John Krevey, Resident of Gateway Plaza
188. Deborah Kriksciun, Resident of Gateway Plaza
189. Ellen Kruse, Resident of Gateway Plaza
190. Julie Kuehndorf, Resident of Gateway Plaza

191. David Kupferberg, Team Twin Towers
192. Jennifer and Bill Lalor, Resident of Gateway Plaza
193. Scott Lamb, Principal Project Manager with Ramapo Neighborhood Association
194. Igor Lamsey, Resident of Gateway Plaza
195. Arthur Land, Resident of Gateway Plaza
196. Tim Lannan, Resident of Lower Manhattan
197. Peter Larsen, Resident of Gateway Plaza
198. Layes, Artist
199. Larry Lazar, member of Local Union No. 3
200. Alisa R. Lebensohn, Resident of Gateway Plaza
201. Linda M. Lemiecz, Resident of Gateway Plaza
202. Bruce Leong, resident outside of US
203. Frederick F. Ling, PE, Earnest F. Gloyna Regents Chair Emeritus in Engineering and Distinguished William Howard Hart Professor Emeritus, Rensselaer Polytechnic Institute
204. Joanne Lipton, Resident of Gateway Plaza
205. Paul Liubicich, Commuter to Lower Manhattan
206. Joseph Llanos, member of Local Union No. 3
207. Bill Love, resident of BPC and Vice-Chair of Coalition to Save West Street
208. John Lumea
209. Alan Luper, Resident of Gateway Plaza
210. Barbara Lyons-Dillie, WTCM-Focus
211. Robert Mabry
212. Dimitrios Makras, assistant architect
213. Gregory P. Mango
214. Gerald H. Marcus, Resident of Gateway Plaza
215. Marilyn R. Masaryk, Resident of Gateway Plaza
216. Brian Massa, Real estate owner in Lower Manhattan
217. Daniela Massa, survivor of 9/11
218. Frank Massa, Real estate owner in Lower Manhattan
219. Louis Massari, Resident
220. Nikki Mazer, Resident of Gateway Plaza
221. J. McCall, Resident of Gateway Plaza
222. Thomas McGarry, Resident of Gateway Plaza

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223. Catherine McShane, 9/11 widow
224. Catherine McVay Hughes, resident
225. Angelina Mercado, Resident of Gateway Plaza
226. Thomas Messina, member of Local Union No. 3
227. Kate Millea, Resident outside of tri-state area
228. Sonia E. Miller, Resident of Gateway Plaza
229. Elliott Milling, Resident of Gateway Plaza
230. Kshitij Misra, Resident
231. Mary Mooney, Resident of Gateway Plaza
232. Kathleen Moore, Resident
233. Patricia L. Moore, Resident
234. Michelle L. Morey, Resident of Gateway Plaza
235. Harvey Moskowitz, Resident of Gateway Plaza
236. Eryn Moss, Resident
237. B. Muehlbach, Resident of Gateway Plaza
238. Ray Nemschick, William F. Collins Architects
239. Ruth Nesbitt, Resident of Gateway Plaza
240. Evelin Nichifor, Resident of Gateway Plaza
241. Krista Nieder-Eichholz, Former resident of Lower Manhattan
242. Peter Nordahl, Norwegian Center for Design
243. Andrew Oliff, M.D., Ph.D.
244. Elena Olivo, Resident of Gateway Plaza
245. Raymond Ordille, Resident of Battery Park City
246. Nicole Palumbo, Resident of Lower Manhattan
247. Joseph Parente, Survivor of 9/11
248. Michal and Michael Paryente, Resident of Gateway Plaza
249. Glenn Pasanen, resident of Battery Park City
250. Andrew and Nicole Phelps, Resident of Gateway Plaza
251. Karen and Paul Picciadi, Resident of Gateway Plaza
252. Eddy Pierre Pierre, Resident of Gateway Plaza
253. Jackie Pleats, Resident of Gateway Plaza
254. Craig Pless, Visitor
255. Lorre Powell, Former resident of Lower Manhattan

- 256. Lawrence Provost
- 257. Todd Rader, Resident of Gateway Plaza
- 258. Pedro Ramos
- 259. Joseph Rayder, member of Local Union No. 3
- 260. Esther Regelson, Survivor of 9/11
- 261. Residents of 125 Cedar Street
- 262. John Richardson, construction electrician
- 263. Woodrow M. Riley
- 264. Larry Russo
- 265. Paul Schneider, Resident of Gateway Plaza
- 266. Terry L. Harlow Schoen, Resident of Lower Manhattan
- 267. Seymour J. Schreiber, Resident of Gateway Plaza
- 268. Katharine Schuchman, Resident of Gateway Plaza
- 269. Richard and Viviana Schuemacher, Resident of Gateway Plaza
- 270. Andrew Scott, Construction
- 271. Helene Seeman, BPC United
- 272. Bernhardt R. Seifert
- 273. Pyramid Sellers, Resident of Gateway Plaza
- 274. Michael Shamiyeh, Rescue worker for 9/11
- 275. Arline Shapiro, Resident of Gateway Plaza
- 276. Gail Silberman, Resident of Gateway Plaza
- 277. ean Silliman, resident
- 278. Michael Sinansky, Resident of Lower Manhattan
- 279. Janice Smith, Battery Park resident
- 280. N. Smitten
- 281. Rachael Snyder, member of Team Twin Towers
- 282. Georgia Sparks, Resident of Gateway Plaza
- 283. Albert & Renee Spielman, Resident of Gateway Plaza
- 284. Audrea Starr, Resident of Gateway Plaza
- 285. Alan Sturm, Resident of Gateway Plaza
- 286. Barnet & Judith Sultzer, Resident of Gateway Plaza
- 287. Kazu Suzuki, Resident of Gateway Plaza
- 288. Margery Szczepanski, Resident of Gateway Plaza

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- 289.** Mona J. Tashman, Resident of Gateway Plaza
- 290.** Lorraine Terracina, Resident of Gateway Plaza
- 291.** George Thurston, faculty at NYU School of Medicine
- 292.** Susan Topol, Resident of Gateway Plaza
- 293.** Christopher R. Torella, Resident of Gateway Plaza
- 294.** Bernard Tuchman, Urban Environmental Law Center
- 295.** Allison Tupper, Resident
- 296.** Unidentified owner of real estate in Lower Manhattan
- 297.** Unidentified person
- 298.** Unidentified, Rescue worker for 9/11
- 299.** Unidentified, Resident of Gateway Plaza
- 300.** Unidentified Resident, Resident of Gateway Plaza
- 301.** Nancy Van Goethem and Lawrence Joseph, Resident of Gateway Plaza
- 302.** Angelique Vandervis, Resident of Lower Manhattan
- 303.** Aiko Wada, Resident of Gateway Plaza
- 304.** Frances Wallach, Resident of Gateway Plaza
- 305.** Randi Weisblatt, Resident of Gateway Plaza
- 306.** Mary White, Resident of Gateway Plaza
- 307.** Walter Wickiser, Resident of Gateway Plaza
- 308.** Karlene Wiese, Resident of Gateway Plaza
- 309.** Ruth William Meyers, Resident of Gateway Plaza
- 310.** Seth Wilpan, Resident of Gateway Plaza
- 311.** Sarah Wilson, Resident of Gateway Plaza
- 312.** Linda (DiPasquale) Wisner, Ph.D., Resident of Gateway Plaza
- 313.** Michael D. Wolf, Resident of Gateway Plaza
- 314.** Pauline Wolf, Resident of Gateway Plaza
- 315.** Marianne E. Wolkstein
- 316.** John Woodburn, Resident outside of tri-state area
- 317.** Eric Vish, Resident
- 318.** Joe Wright
- 319.** Sam Young, member of Local Union No. 40
- 320.** Maria Zamparelli, Resident of Gateway Plaza
- 321.** Layes Fadiga

27.2.5 COMMENTERS ON PROPOSED FINDING OF NO ADVERSE EFFECT

- 322. Alliance for Downtown New York, Jill Oberlander, General Counsel
- 323. BPC United, David E. Stanke, President
- 324. Coalition of 9/11 Families (Coalition), Anthony Gardner, Executive Board Member
- 325. Coalition to Save West Street, Bill Love
- 326. Historic Districts Council (HDC), Robert Kornfeld, Director
- 327. Municipal Art Society, (MAS), Frank Sanchis, Senior Vice President
- 328. National Trust for Historic Preservation (National Trust), Elizabeth Merritt, Deputy General Counsel
- 329. New York Landmarks Conservancy, Peg Breen, President
- 330. Preservation League of New York State, Scott Heyl, President

27.3 COMMENTS AND RESPONSES

27.3.1 AMENDED GENERAL PROJECT PLAN/OVERALL PROJECT DESCRIPTION

This section responds to comments received on the Amended General Project Plan (Amended GPP) followed by comments on the overall project description presented in Chapter 1 of the DGEIS.

Comment 1: We support LMDC's plan. The plan sets forth a balanced approach to expedite construction while minimizing impacts on businesses, residents, and workers in Lower Manhattan. Aggressive steps to reinvigorate and restore Lower Manhattan must be taken. This plan has been made with considerable public input and is a good plan that will restore the vitality of Lower Manhattan. (NYC Partnership, Messina, Llanos, Building Trades Employers' Assn., Rayder, Richardson, Chew, Center, Silverstein Properties, Brookfield Financial Properties, CB1, Flynn)

Response: Comment noted.

Comment 2: The Amended GPP establishes a sound framework for future planning and design, consistent with the general principles which have guided planning efforts since adoption of the *Revised Blueprint for the Future of Lower Manhattan*, issued on June 5, 2002. In particular, the Amended GPP takes important steps towards reintegrating the former WTC Site into the rest of Lower Manhattan; creating a mixed-use neighborhood of commercial, retail and transportation uses; providing for new cultural institutions in Lower Manhattan; and creating an accessible and attractive open space system for the site. By incorporating Michael Arad and Peter Walker's memorial design concept, "Reflecting Absence," the Amended GPP respects the WTC Site as a place of remembrance. (CPC)

Response: Comment noted.

Comment 3: Pace University supports the plan, including the reintroduction of the street grid into the community, the commitment to develop facilities that will provide for educational and cultural learning, and the other projects sponsored by other agencies such as the reopening of the PATH and the upcoming opening of the Fulton Transit Hub and the permanent PATH Terminal. The commitment to use environmentally conscious designs throughout the reconstruction effort is a good one. (Pace)

Response: Comment noted.

Comment 4: The Libeskind plan should not be used. The Amended GPP should be discarded and replaced by a plan to rebuild the Twin Towers. (Oliff, Russo, Barzilai, Fernandez, WTC Restoration Movement, Lumea, Makrias, Cuvin, Hough, Epstein, Snyder, Butziger, Ramos, Team Twin Towers)

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- Response:** As detailed in section 1.4 of Chapter 1, “Project Description,” Studio Daniel Libeskind’s “Memory Foundations” concept achieved broad public support and fulfilled many of the goals articulated by the public. The concept best balances the need to preserve the setting and remember those whose lives were lost with the need to rebuild what was lost and bring vitality back to the area. As refined, the plan is the most appropriate plan to serve as the catalyst for the revitalization of Lower Manhattan.
- Comment 5:** The plan ignores children. The plan calls for a bus garage at Site 26 that is right near schools and a ball park, and a bus garage should not be planned for prime real estate in a residential area. Tourists should come by mass transit instead. (Heller, Love)
- Response:** Site 26 has been removed from consideration as a potential location for the bus garage.
- Comment 6:** The solemn aspects and historic significance of the site should be balanced with the need to maintain a residential ambience in the surrounding neighborhoods. (Gerson)
- Response:** The plan seeks to accomplish such a balance.
- Comment 7:** To accommodate the large number of expected visitors, a bus parking facility must be included in the plan. This facility should be located within the Project Site, rather than on Site 26 in Battery Park City. Page 7 of the Amended GPP should be revised to state: “This shall include a bus parking facility.” (CPC)
- Response:** The possible location of the bus garage at Site 26 is no longer under consideration. CPC’s comment is noted.
- Comment 8:** With plans to further develop the south of Liberty Street neighborhood as a residential district, the south of Liberty Street alternative for a bus parking garage is not feasible. The bus parking garage should be located on the WTC Site rather than in surrounding residential communities. (Residents of 125 Cedar St., BPC United, Seeman, Gerson)
- Response:** The possible location of the bus garage south of Liberty Street is still under consideration. Comment noted.
- Comment 9:** The ratio of retail space should favor above-ground uses. Page 6 of the Amended GPP should be revised to state: “The new retail program at the WTC Site will provide up to 1 million square feet of retail, most of which would be located at or above-grade in the hotel and office buildings.” (Fields, CPC, Civic Alliance, LCAN, MAS, Downtown Alliance)
- Response:** The current plan contemplates an even distribution of retail space both above and below grade. Although still in design, the retail space would be located at and above street level in Towers 2, 3, 4, and 5, as well as underground along the east/west and north/south pedestrian connections. In addition, while retail at grade in the cultural facilities is desired, this space would be designed by the selected cultural institutions.
- Comment 10:** The phasing of new retail should favor the creation of street-level retail prior to the creation of underground retail. (Civic Alliance, Downtown Alliance, Gordon)
- Response:** Street-level and below-grade retail are anticipated to open at approximately the same time.
- Comment 11:** The ratio of retail space should favor underground uses. (Epstein, Butziger, Oliff, Ramos)
- Response:** See response to Comment 9.
- Comment 12:** Despite the stated importance of siting retail space at grade in the DGEIS, there is an absence of retail space at street level in the current design. (NYNV, LCAN)
- Response:** As noted in response to Comment 9, there is retail at grade. The space at street level throughout the plan is used for entries to the lobbies of commercial and cultural buildings, entries into the below-grade transportation network, and retail uses. Retail uses at grade will be maximized while providing appropriate space for other uses.
- Comment 13:** The location of uses, including retail, is unclear from the sketchy description and incomplete diagrams. The amount and location of below-grade retail use is not specified. (NYNV)
- Response:** See response to Comment 9. Approximately half of the retail square footage that was located at the original WTC would be located below grade (200,000 – 300,000 square feet). It would be located on two levels, lining the below-grade pedestrian connections. The exact locations and sizes would be determined as planning proceeds.

- Comment 14:** The public does not need 10 million square feet of office space. The amount of planned office space should be decreased in favor of affordable housing and civic amenities necessary to support the increased population of families in the Lower East Side and Chinatown. (GOLES, Spotlight on the Poor, MAS)
- Response:** Replacing the commercial uses destroyed on September 11 has been an important planning goal for the Proposed Action and has received broad support from elected officials, involved agencies, area residents and businesses, and the public. Independently from the Proposed Action, LMDC proposes to fund the creation of affordable housing units. Specifically, Partial Action Plan No. 6 proposes to allocate funding to create affordable housing for low, moderate and middle-income individuals and families. More details about this Partial Action Plan can be found on LMDC's website at www.renewnyc.com under Funding Initiatives -Partial Action Plans.
- Comment 15:** Not restoring all of the lost office space will result in adverse environmental impacts throughout the region, as jobs are forced to move to the suburbs due to insufficient space in the city, leading to suburban sprawl. (Hough)
- Response:** The Proposed Action would restore 10 million of the total 11.4 million square feet of office space lost on the WTC Site and the Southern Site.
- Comment 16:** The "Wedge of Light" will actually be covered in shadow during the morning of September 11 and all references to it should be deleted from the analysis. (Hough, Ramos)
- Response:** Chapter 7, "Shadows," analyzes shadow patterns on September 21 (autumnal equinox). These studies indicate that sunlight would fall on Wedge of Light Plaza during the morning of September 21; since September 11 has slightly more daylight, more, not less, sunlight would fall on the plaza on that morning.
- Comment 17:** The observation deck entrance to Tower 1 should be prominently placed on Fulton Street across from the Memorial and next to the Performing Arts Center. (CPC)
- Response:** The street-level entrance to the Freedom Tower observation deck is currently being designed, but would likely be located on the western portion of the building at Route 9A between Fulton and Vesey Streets.
- Comment 18:** On page 6 of the Amended GPP, under heading "Streets and Public Open Spaces," a new paragraph should be added that provides for minimum sidewalk widths in order to optimize the pedestrian experience. For Greenwich and Fulton Streets (with the exception of the north edge of the Memorial Site) and the west side of Church Street and south side of Vesey Street, the minimum widths should be 25 feet. For Dey and Cordlandt Streets, between Church and Greenwich Streets, the minimum widths should be 15 feet. (CPC, Butziger)
- Response:** Comment noted. All sidewalk widths within the Project Site are expected to be a minimum of 25 feet, with the following exceptions: along the north side of the Memorial on the south side of Fulton Street between Route 9A and Greenwich Street, and sidewalks surrounding Tower 5.
- Comment 19:** The Performing Arts Center should be physically separated from Tower 1 in order to enhance the architectural prominence of this Center and promote its identity as a major new cultural institution. A 30-foot-wide separation of the two structures would facilitate pedestrian access to the site. (CPC)
- Response:** The site plan has been modified to provide this separation.
- Comment 20:** Open space in front of the Performing Arts Center on Fulton Street should remain a part of the Amended GPP. (CPC)
- Response:** With a larger Freedom Tower footprint and the separation of the Performing Arts Center from the Freedom Tower, the cultural facility parcel has decreased in size. Realities in space planning for a world-class performing arts facility may dictate a larger building footprint than originally anticipated, and LMDC has reflected this thinking in the latest site plan. However, the individual institution and design architect for the facility would design the building to suit the individual program. The institution would be encouraged to activate the parcel at street-level with pedestrian-friendly uses. All of Fulton Street between Wedge of Light Plaza and Route 9A would be designed with a continuous decorative paving treatment, and may contain other pedestrian amenities, such as benches.

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Comment 21: The Amended GPP makes no provision for public parking for visitors. LMDC and the Port Authority should make tenant parking areas accessible to patrons of the Performing Arts Center in the evenings or to shoppers on weekends. (CPC)

Response: LMDC is exploring with the Port Authority and Silverstein Properties the possibility of making some of the employee parking available for evening patrons of the Performing Arts Center, but there are significant security issues that would need to be addressed. Use of that parking for weekend shopping is not required, as indicated in Chapter 13A, “Traffic and Parking,” and might encourage additional auto use by weekend visitors.

Comment 22: The DGEIS should consider the possibility of making the restored Fulton and Greenwich Streets “auto free,” as well as Cortlandt and Dey Streets. (IRUM, Regional Rail Working Group, Civic Alliance)

Response: The GEIS examines traffic conditions in Chapter 13A, “Traffic and Parking” when Greenwich and Fulton Streets are both open and closed to traffic. The results show additional adverse effects to area traffic conditions if these streets are closed to traffic. However, the streets may be closed from time to time for special events or for security purposes.

Comment 23: No new streets should be added to the existing Amended GPP. Consideration should be made to limiting Greenwich and Fulton Streets to public transportation. The WTC is a public transportation hub and priority should be placed on supporting pedestrian movement on, around and under the site. (BPC United)

Response: As stated in the response to Comment 22, the GEIS examines the possibility of closing Fulton and Greenwich Streets to auto traffic, and finds substantial adverse effects to area traffic operations would result. The *Sustainable Design Guidelines* provide for facilitation of pedestrian movement and mass transit connections.

Comment 24: The impact of extensive automobile, bus, and truck traffic directly adjacent to the Memorial is of great concern and should motivate the consideration of pedestrian-only streets. Fulton and Greenwich Streets should not be reopened. Reopening Fulton Street will disrupt the sanctity of the Memorial. Reopening these streets poses security and safety risks and will increase traffic congestion, noise, and air pollution. (Civin, Barzilai, Epstein, Lumea, Oliff, Ramos, McShane)

Response: As stated above, the GEIS examines traffic conditions when both Greenwich and Fulton Streets would be closed to traffic, as may occur from time to time for special events or security purposes. Closing the streets for special occasions, such as on September 11, could be an appropriate way to remember the day in a more solemn setting.

Comment 25: Fulton and Greenwich Streets should be restored as through streets. Dey and Cortlandt Streets should be extended as real streets between Church and Greenwich. Liberty Street should be a two way street. (Fields, CPC, NYCDOT, Downtown Alliance)

Response: Much consideration has been given to the street plan in and surrounding the Project Site. LMDC believes it is important to balance the needs of pedestrians and vehicles, and believes that the street grid and directions analyzed in the FGEIS achieve an appropriate balance. Chapter 13A, “Traffic and Parking,” describes and analyzes the impacts of the proposed street plan.

Comment 26: The directions of streets within the Project Site and their lane capacities should be established in the Amended GPP, it being recognized that directions and lane capacity may change over time. A new second paragraph should be added to page 6 of the Amended GPP that says: “Streets through the Site shall be designed and built to meet or exceed NYCDOT standards and shall have the following directions and lane capacity, except as may be agreed to by NYCDOT:

<u>Street</u>	<u>Direction</u>	<u>Number of Lanes</u>
Church	Northbound	5
Greenwich	Southbound	4 or 5
Vesey	Eastbound	5
Fulton	Westbound	3
Dey	Eastbound	3
Cortlandt	Westbound	3
Liberty	Two-way	4 or 5*

- Response:** *In the event truck ramp is located elsewhere on the Project Site. Direction and lane capacity to be determined in the event the truck ramp is not relocated.” (CPC)
- Response:** LMDC is working with the Port Authority, NYCDOT, and NYSDOT to incorporate street directions and lane configurations substantially as suggested by this comment. LMDC believes the street directions and lane configurations analyzed in the GEIS represent one of the best solutions to a challenging situation.
- Comment 27:** The description of tour bus operations suggests that Albany Street would be reversed to allow buses to turn right from Greenwich Street and then right again on West Street in order to access the access ramp to the underground garage. NYCDOT believes this reversal is incompatible with the intersection of Albany and West Streets and that Cedar Street should be designed to allow right turns by tour buses at Greenwich and West Streets. (NYCDOT)
- Response:** As suggested, the GEIS analyzes tour bus routing along Cedar Street.
- Comment 28:** Streets should be open to the sky because the use of platforms across streets to provide continuous retail or above-grade pedestrian concourses is detrimental to the public realm. The 2003 Site Plan shows a platform connecting Towers 3 and 4. Such sky bridges or other similar platform devices significantly diminish light and air, obstruct view corridors, and reduce street level activity. (CPC, Fields, NYCDOT)
- Response:** Creating an attractive retail development that serves the central role played by the former WTC retail center may require a connection above Cortlandt Street in order to provide continuity between the two parcels.
- Comment 29:** The location of the truck ramp on Liberty Street could seriously impede pedestrian movement to and from the Memorial and the waterfront and has the potential to compromise the integrity of the Memorial Site as a location for contemplation and reflection. The ramp precludes two-way traffic on Liberty Street, which is an important element of traffic flow across the site. The Amended GPP should be modified to state: “The Liberty Street truck ramp shall be relocated if a feasible alternative location within the Project Site is identified by the LMDC and the Port Authority, and the environmental effects of such alternative location are no greater than those associated with the Liberty Street location.” (CPC)
- Response:** Comment noted. LMDC will consider the suggested modification.
- Comment 30:** The current location of the vehicular entrance and exit ramp on Vesey Street obstructs the Washington Street view corridor. The ramp should be relocated at least 30 feet east of the Washington Street Corridor. (CPC)
- Response:** The low walls of the ramp would not substantially block the Washington Street view corridor. It is not possible to move the ramp further east and provide for the slope required.
- Comment 31:** The wall of buildings along Church Street will isolate and deaden neighborhoods, log jam pedestrian traffic, and create undesirable shadowing and wind tunnel effects. (Fernandez)
- Response:** Buildings along Church Street (Towers 2, 3, and 4) would have appropriate streetwall heights and setbacks in order to maximize light and air. Additionally, towers would be situated in a spiral pattern recommended by the Libeskind concept. The massing of the towers would not concentrate their bulk along Church Street, but rather Towers 2 and 4 would be near Greenwich Street, while Tower 3 would be near Church Street.
- Comment 32:** The Amended GPP must be clear and unequivocal that the Design Guidelines are binding upon the redevelopment of the Project Site unless modified pursuant to an agreed-upon process. Thus, the language on pages 8 and 9 of the Amended GPP that states that the Design Guidelines “constitute a significant component of the land use plan and controls for the Project Site” and “will form part of the land use plan and controls for the Project Site” should be retained. (CPC)
- Response:** Comment noted.
- Comment 33:** The Amended GPP should be modified to require streetwall and setback requirements as an element of the Design Guidelines. (CPC)
- Response:** The suggested revision will be considered as LMDC prepares the final GPP.

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- Comment 34:** The Amended GPP should be modified to require maximum slope, elevation and other grade controls for streets and sidewalks as an element of the Design Guidelines in order to provide appropriate streetscape transition between level changes and protection of view corridors, as well as to avoid pedestrian conflicts. (CPC)
- Response:** The suggested revision will be considered as LMDC prepares the final GPP.
- Comment 35:** The Amended GPP should be modified to include design standards for security devices installed in streets, sidewalks or other open spaces as an element of the Design Guidelines in order to ensure, to the maximum extent possible consistent with security needs, that such devices are integrated with streetscape elements and do not impede pedestrian flow. (CPC)
- Response:** The suggested revision will be considered as LMDC prepares the final GPP.
- Comment 36:** The Amended GPP should be revised to require that the Design Guidelines prescribe minimum retail frontage and transparency requirements for ground floor retail. (CPC)
- Response:** The suggested revision will be considered as LMDC prepares the final GPP.
- Comment 37:** The Amended GPP should be revised to require that the Design Guidelines include provisions to maximize the amount of ground floor retail. (CPC)
- Response:** The suggested revision will be considered as LMDC prepares the final GPP.
- Comment 38:** The Amended GPP should be revised to include signage controls as a required element of the Design Guidelines. (CPC)
- Response:** The suggested revision will be considered as LMDC prepares the final GPP.
- Comment 39:** The Port Authority should enter into a Memorandum of Understanding or other agreement at the earliest possible date by which it will commit itself to redevelop the site in accordance with the terms of the Amended GPP. (CPC)
- Response:** LMDC and the Port Authority will enter into agreements as may be appropriate following all necessary reviews and approvals related to the plan.
- Comment 40:** The Port Authority should commit to not acquiring any extra land to build the proposed hotel, or any other buildings of the Proposed Action, through eminent domain. (FATE)
- Response:** The Proposed Action does not contemplate acquisition of land outside of the Project Site.
- Comment 41:** The Freedom Tower will not be the tallest building in the world. The public will only have access to 70 stories. The Freedom Tower fails to boldly restore the New York City skyline and is not inspirational. (Oliff, Russo, Barzilai, Fernandez, WTC Restoration Movement, Lumea, Makras, Cuvin, Hough, Epstein, Snyder, Butziger, Brady, Ramos)
- Response:** Comments noted. Many have expressed admiration for the design of Freedom Tower.
- Comment 42:** The Freedom Tower's antenna should be extended to 2,000 feet in order to provide HDTV to the metro area and make the Freedom Tower the tallest structure in the world. The antenna should not be placed asymmetrically atop the Freedom Tower in order to save structural steel and funds. (Butziger, Barzilai)
- Response:** The overall conceptual design of the Freedom Tower has been well received by the public. Commercial design guidelines would guide the overall building envelopes for the commercial towers, including the location of the structural support for the antenna. Details of the design, height, placement, and function of the antenna are being developed by Silverstein Properties and are subject to the approval of the Port Authority. The Federal Communications Commission and the Federal Aviation Administration also have roles in the approval of the antenna.
- Comment 43:** The structural top of the Freedom Tower's windfarm should be increased from 1,500 to 1,776 feet in order to generate more energy, provide for a greater skyline presence and make it possible to raise the upper observation deck to the 1,776 feet as promised by LMDC. (Butziger)
- Response:** Comment noted.
- Comment 44:** A "wind farm" on the top of the Freedom Tower will make the Freedom Tower look very clumsy. (Ramos)
- Response:** Comment noted.

- Comment 45:** The original plan for the Freedom Tower and the spire was wonderful. The new, open windmill structure atop the 70 stories weakens the once grand plan. I hope that there will be further changes to incorporate a smooth transition between the building and windmills. (Woodburn)
- Response:** Comment noted.
- Comment 46:** The DGEIS provides an unresolved and incomplete definition of the Proposed Action because the plan is made up of independently created component parts. (NYNV)
- Response:** The Proposed Action addresses the maximum development envelope for each of the uses contemplated on the Project Site. The purpose of the Amended GPP is to outline a comprehensive plan for redevelopment of the Project Site with a Memorial and commercial, retail, cultural and open space uses. As detailed in Chapter 1, "Project Description," the evolution of the current Memorial and Redevelopment Plan was achieved through broad public consensus in several areas. In balancing the need to remember with the need to rebuild, LMDC has developed a comprehensive plan that replaces the office and retail space lost on September 11, while putting the Memorial and cultural uses at its heart. This comprehensive plan will continue to evolve in response to public input and relevant engineering, design and environmental considerations.
- Comment 47:** There is a lack of clarity as to pedestrian and vehicular connections to surrounding communities. For example, one section of the DGEIS refers to reopening east-west and north-south connections, while other sections mention that "streets may be closed" (section 1-20). (NYNV)
- Response:** Fulton and Greenwich Streets would always be open to pedestrian traffic. The Port Authority may close the streets to vehicles from time to time for events or for security purposes. There would also be open pedestrian connections at Cortlandt and Dey Streets between Church and Greenwich Streets, as well as at Washington Street between Vesey and Fulton Streets. The at-grade portion of the Memorial would allow for additional pedestrian circulation options.
- Comment 48:** The meeting of the Memorial, PATH Terminal, cultural buildings and several office buildings at Greenwich Street is the least developed area in the plan and requires collaboration between the four owner groups. The Freedom Tower, memorial elements, cultural buildings and the PATH Terminal should have an overriding system of pedestrian movement that leads neighbors, workers and visitors through various above-grade spaces and underground passages. (NYNV)
- Response:** LMDC, the Port Authority, NYSDOT, and Silverstein Properties and other relevant entities have been coordinating at every level of the planning effort and would continue to do so throughout the construction process. The Project Site's commercial buildings and public open spaces would be subject to design guidelines which would address the issue of pedestrian movement through and around the Project Site. These guidelines would address significant pedestrian amenities both above and below grade.
- Comment 49:** A large open park surrounding the new Greek Orthodox Church is not the best massing solution to the southern boundary of the Memorial plaza. Another cultural building with proper blast protection would be a preferred solution. (NYNV)
- Response:** LMDC believes that the park area south of Liberty Street is a major benefit of the Proposed Action that should be maximized to the extent feasible. A church building footprint of approximately 5,000 square feet is reasonable and allows a substantial amount of non-Memorial open space programming at the Project Site.
- Comment 50:** The wind turbines on the Freedom Tower present a hazard to birds and pose serious constructability issues. (Fernandez, Ramos)
- Response:** At high altitudes, the presence of wind turbines poses no more threat to bird strikes than does the presence of a building with a glass curtain wall. Silverstein Properties is currently studying the engineering feasibility of constructing the wind turbines and is committed to exploring all practicable options for the location and construction of the turbines.
- Comment 51:** The Freedom Tower is space inefficient in terms of rentable space. (Fernandez)
- Response:** Silverstein Properties is designing Freedom Tower to meet the requirements of Class A office space in New York City, maintaining lease spans that are typically 45 feet. LMDC understands that it is the

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opinion of Silverstein Properties that the floor efficiencies would be comparable to or better than any other office development that has been recently completed in Manhattan.

Comment 52: If the Libeskind plan is used, then all of the towers built on the WTC Site should be taller than 1,000 feet. A hotel could then occupy floors 71 through 110 on at least one of those towers. (Butziger)

Response: The commercial design guidelines referenced in the GEIS will guide the overall building envelopes for the commercial towers, including the relative height and position of each tower. The precise design of each tower will be determined by the Net Lessee in conjunction with the Port Authority. The hotel is presently anticipated to occupy the lower floors of the eastern portion of the northeast quadrant.

Comment 53: The Memorial has been relegated to a fraction of the 16-acre site and will be dwarfed by commercial office buildings. The description of the plan and the discussion of rebuilding diminish the significance of the WTC Memorial and the WTC Site as the focal point for respectful remembrance of our loved ones. (Hemric, Coalition)

Response: The Memorial is at the heart of the Proposed Action. LMDC's mission in developing the Proposed Action has always focused on the history of the WTC Site and the events of September 11. The approximately 4.87-acre Memorial would be a major new open space and primary place for remembrance. Together with Liberty Park, Wedge of Light Plaza, PATH Plaza and September 11th Place, over one-third of available land would be dedicated to the public realm.

Comment 54: A religious building (i.e., temple, church, synagogue or mosque) should be constructed on the site. (Fadiga)

Response: Comment noted.

27.3.2 MEMORIAL

Comment 55: The victims' names should be part of the Memorial. (Lazar)

Response: Victims' names would be inscribed as part of the Memorial.

Comment 56: The DGEIS does not define what it means by the term "footprints." Although this has been a matter of discussion for more than two years, LMDC continues to refuse to acknowledge that the "footprints" are the outlines of the Twin Towers delineated by the remains of the exterior support box-beam columns presently visible at the lowest exposed level of the site, not some mythical void suspended in mid-air. There is no discussion in the DGEIS about how LMDC will honor its public statements that the Memorial design will allow access to the "footprints." This is particularly worrisome since LMDC announced on February 12, 2004 that underground infrastructure requirements might make it impossible to honor the commitment from numerous public officials that "nothing will be built where the towers stood." LMDC's attempt to downplay the importance of the physical remnants of the Twin Towers is typified by the fact that no pictures of the "footprints" are included in the DGEIS. (Coalition)

Response: LMDC acknowledges that the footprints are delineated in part by the visible bases of the box-beam columns at the lowest level of the bathtub. The box-beam columns did not exist in all areas of the South Tower where there were structural transfers to accommodate the PATH tracks and trains running at the lowest level. However, while most of the column bases may now be visible, many consider the footprints of the buildings to be the areas the towers occupied at grade. The proposed Memorial design recognizes both definitions by allowing access to the box-beam column bases and acknowledging the voids at grade.

Comment 57: The need to "convey historic authenticity" by including "surviving original elements" and "preservation of existing conditions of the WTC Site," have been given only minor consideration. The DGEIS does not identify which in situ surviving original elements will be preserved and which will be destroyed or adversely affected. "Footprints" represented by mid-air voids have no "historic authenticity." (Coalition)

Response: A great deal of thought has been given to remnants of the WTC Site and will be considered as plans are developed further. The Memorial would provide access to portions of the west slurry wall and truncated box-beam column bases. Because plans are still being developed, effects on existing

remnants are addressed in a proposed Programmatic Agreement among LMDC, NYSHPO and ACHP. Preserving existing conditions on the Project Site is considered throughout the technical analyses as the Future without the Proposed Action.

Comment 58: The selected design for the Memorial should not be built. The process was rushed. The design disregarded the Studio Daniel Libeskind master plan, the Memorial mission statement and the program elements created by LMDC. (Mango, Jarvik, Austermann, Lyons-Dillie, Johns, Makrias, Cuvin, Hough, Epstein, Snyder, Oliff, Epstein)

Response: LMDC developed the Memorial Mission Statement and Program over many months with the Families Advisory Council and other advisory groups. In April 2003 the Memorial jury was selected. It deliberated for over eight months and the winner was announced in January 2004. The winning design incorporates many elements of the Memorial Program and has been endorsed by Studio Daniel Libeskind as consistent with the “Memory Foundations” concept.

Comment 59: The selected design for the Memorial would require a flow of 15,000 gallons per second, energy in excess of 10 megawatts and cost over \$6 million per year. The design will cause water purification chemicals to become windborne over wide areas. (Jarvik, Ramos, Epstein)

Response: As discussed in Chapter 12, “Infrastructure”, and Chapter 1, “Project Description”, the Memorial fountains are expected to use approximately one million gallons of potable water per day with a filtration rate of approximately 900 gallons per minute. While final design of the fountains has not been completed, it is expected that approximately 320 kilowatts per hour, at a cost of approximately \$140,000 per year would be required to pump that water. Assuming the fountains are lit every night of the year, approximately 30 additional kilowatts per hour equal to a cost of \$13,000 for LED type fixtures would be required. The design of the Memorial pools would include measures to deflect water from spraying onto visitors. Treatment of the water would follow New York City Health Department standards for filtration and chlorination.

Comment 60: The Proposed Action does not provide for survivors of the events of September 11, 2001. The interpretive center for the Memorial should create a separate space restricted exclusively to survivors, and the WTC Survivors’ Network should be given a lead role in designing the space. Representatives of the WTC Survivors’ Network should be appointed to the WTC Site Memorial Foundation or be given advisory status to LMDC and the Memorial Foundation. (WTC Survivors’ Network, Haff)

Response: LMDC has been committed to including representatives of all interested parties, including the survivors of the September 11 attacks, in the redevelopment process from the beginning, and will create a Memorial Center Advisory Committee to provide input on the content and design of the Memorial Center. The WTC Memorial Foundation’s Board is still in formation.

Comment 61: A curator should be hired to put together the display at the Memorial Center without any input from the families or other community members. (Seeman)

Response: It is expected that the Memorial Foundation would be the institution that ultimately creates the Memorial Center. It is anticipated that the Center would be staffed by professional curators assisted by experts. As stated above, LMDC is in the process of creating a Memorial Center Advisory Committee to provide input on the content of the Memorial Center.

Comment 62: The Arad/Walker Memorial plan is illustrated in the DGEIS but the text refers to an LMDC competition as underway. With the relationship of the Memorial to the site plan still in flux, how can their impacts be accurately estimated? (NYNV)

Response: The text in the FGEIS has been changed to reflect the current design state of the Memorial and Memorial Center. At the time the DGEIS went to press, the design was in its early stages.

Comment 63: All four sides of Memorial site should be integrated with adjacent uses and provide for auto, bus and pedestrian access. (NYNV)

Response: The selected Memorial design, “Reflecting Absence,” contemplates pedestrian access on all four sides. Buses would drop off passengers at the east side of the Memorial at Greenwich Street. Buses would park underground.

Comment 64: The Memorial design should have added penetrations from grade to the subterranean spaces to allow visual and physical connectivity between levels. (NYNV)

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Response: The Memorial design is currently being refined, but it is expected to optimize pedestrian flow and provide all required emergency egress and disabled access points. Areas such as the inclined walkways and pools would allow natural light into many spaces; additional use of natural light is not precluded.

Comment 65: There should be a serious re-examination of the compatibility of adjacent below grade space uses. The underground spaces would be architecturally more expressive and satisfying if provided with natural light from above. (NYNV)

Response: The proposed design of the Memorial incorporates substantial natural light from the two central “voids” that are the central elements of the “Reflecting Absence” design. The remaining below-grade uses beyond the Memorial are primarily service-oriented. Areas related to Memorial Uses would allow natural light to filter into many spaces, and additional use of natural light is not precluded.

Comment 66: The slurry walls should have substantial visibility from areas other than the lower levels of the Memorial. (NYNV)

Response: As the design is refined, the Memorial design team and the Port Authority will explore all options for slurry wall stabilization and visibility.

Comment 67: The Memorial should include the sculpture “Double Check” created by J. S. Johnson Jr. (Burnstein)
Response: “Double Check,” a sculpture of a businessman, was not located on the WTC Site prior to September 11 but rather sat on a bench in Liberty Plaza. “Double Check” is not the property of LMDC or the Port Authority. The Memorial Center Advisory Committee will solicit and discuss all suggestions for the inclusion of objects as part of the Memorial experience.

Comment 68: The architects and planners should rethink the Memorial. No better stark representation of what happened on September 11 could be had than to reconstruct the skeleton of what remained of the South Tower wall on Liberty Street after September 11. (Regelson)

Response: LMDC would create a Memorial Center Advisory Committee to provide input on the content of the Memorial Center. LMDC, the Memorial Foundation, and the Advisory Committee will also consider input on potential artifacts installed at-grade by that group.

Comment 69: The memorial should be a smaller replica of the original WTC with all the victims’ names. The NYPD and FDNY should at least have special mention. (Brady)

Response: Comment noted.

Comment 70: The FGEIS should include a study of the environmental impacts of the water usage, chemical usage, electrical requirements, pump noise and water resources related to the Memorial Redevelopment Plan. The building of the Memorial should be included in the air quality, traffic and noise studies. (FATE)

Response: The analyses consider the potential impacts noted in the comment in various chapters of the GEIS. The water usage, water resources, and water quality impacts are discussed in Chapter 18, “Natural Resources.” Chapter 12, “Infrastructure,” discusses water usage and energy usage. Chapter 11, “Hazardous Materials,” discusses chemical usage. Potential impacts from the construction of the Memorial are discussed in Chapter 21, “Construction.”

27.3.3 SUSTAINABLE DESIGN GUIDELINES AND DESIGN GUIDELINES

Comment 71: The buildings at the Project Site will be pioneering in terms of energy efficiency, environmental impact and quality of life for both tenants and people in the area. The buildings will capture rainwater for use in toilets and landscaping, provide ultra filtration of indoor air, include state of the art exterior glass to maximize natural light and minimize energy consumption, and generate electricity by capturing energy from steam that otherwise would be wasted. Wind turbines will also be incorporated in order to generate electricity. The goal is to achieve and exceed the U.S. Green Building Council’s Leadership in Energy and Environmental Design (LEED) awards. (Silverstein Properties)

Response: Comment noted.

Comment 72: We applaud LMDC’s development of and commitment to the *Sustainable Design Guidelines*. The implementation of these innovative and proactive guidelines will provide long term environmental

- benefits, to water and air quality in particular, and demonstrate the feasibility of such measures for future projects. (EPA)
- Response:** Comment noted.
- Comment 73:** We consider the sustainable building guidelines set forth in Appendix A to be a sound product. We find the statement in the DGEIS that the Freedom Tower will have wind turbines that have the capacity to generate 20 percent of the energy needs of that building to be particularly impressive. (Environmental Defense)
- Response:** Comment noted.
- Comment 74:** The city, acting through the Department of City Planning, should have a role in design guideline adoption and modification commensurate with that of the LMDC and Port Authority. (CPC)
- Response:** LMDC and the Port Authority are considering this request.
- Comment 75:** A streetwall requirement of 85 to 130 feet for commercial buildings and a minimum first setback of 15 feet at the top elevation of the streetwall should be considered as part of the Design Guidelines. (CPC)
- Response:** Streetwall and setback requirements are contemplated, although their precise dimensions are still under review with the Port Authority and Silverstein Properties.
- Comment 76:** The site grading and sidewalk elevations should follow the natural contours of Lower Manhattan, sloping in a consistent manner downward from Church Street to West Street, similar to the grades that existed on the site prior to the development of the original World Trade Center. Likewise, the effect of grade changes, where they do occur, should be softened through use of stairs, ramps or benches. In general, blank retaining walls adjacent to public sidewalks should be avoided. (CPC)
- Response:** Comment noted.
- Comment 77:** In order for ground floor retail to activate the streets, it must form a continuous presence around building perimeters on key streets and that storefronts must be open and visually accessible from the street. For example, Midtown Zoning on streets such as Madison Avenue show that a minimum retail frontage requirement of 80 percent and a requirement that at least 50 to 75 percent of each storefront is of a transparent material can achieve this objective. (CPC)
- Response:** Appropriate retail frontage and transparency requirements are contemplated as part of the Design Guidelines.
- Comment 78:** In order to maximize the amount of ground floor retail space relative to ground floor lobby and other uses, the design guidelines could include, for example, a minimum ground floor retail coverage requirement of 75 percent. They should also include provisions to encourage third-floor elevated lobbies that would be reached by escalator in Towers 2, 3 and 4. (CPC)
- Response:** See response to preceding comment.
- Comment 79:** The design guidelines must include signage controls for retail signage to address such issues as size, height, projection and illumination. Particular attention should be given to retail signage on the Greenwich Street frontage facing the Memorial Plaza in order to ensure appropriate respect for and sensitivity to the Memorial use. (CPC)
- Response:** Appropriate signage requirements are also contemplated as part of the Design Guidelines.
- Comment 80:** The objective to significantly reduce bird collisions should be added to the *Sustainable Design Guidelines* in Appendix A. This proposed Bird Collision Reduction objective is consistent with LEED reference standards for Innovation and would put the guidelines at the forefront of sustainable design in the international community. This proposed Bird Collision Reduction objective is consistent with LEED reference standards for Innovation and would put the guidelines at the forefront of sustainable design in the international community. (NYC Audubon)
- Response:** Certain measures will be undertaken by the Port Authority and Silverstein Properties separately to address this issue.
- Comment 81:** The final design guidelines should include the design goal of “state-of-the-art telecommunications reliability.” (Downtown Alliance)
- Response:** LMDC agrees. Silverstein Properties is designing the commercial buildings to allow state-of-the-art telecommunications facilities with maximum reliability.

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- Comment 82:** SEQ-5 at Appendix A should include all moving vehicles such as concrete trucks or hauling trucks used on the Project Site as well as tour buses, limo services and cars in order to decrease pollution. The action under Guideline UEQ-8 that NY State Agency and other governmental on-site vehicles must have 50 percent and 100 percent alternative fuel or hybrid vehicles by 2005 and 2010, respectively, should be strengthened. All government vehicles, as well as delivery vehicles should conform to this requirement, as soon as the technology is available. As technology progresses for ultra-low sulfur fuel and retrofit technologies, the requirements should become correspondingly more stringent. (Hughes, CB1, Civic Alliance, Gerson, Silver)
- Response:** The purpose of SEQ-5 is to address emission from off-road construction equipment and it is not practicable to apply those requirements to on-road vehicles making deliveries to or otherwise servicing the Project Site. The alternative fuel and hybrid vehicle components of guideline UEQ-8 already represent a significant advance over current practice.
- Comment 83:** SEQ-5 in Appendix A should be modified to include diesel retrofit technology for non-road construction equipment of 50 horsepower or greater to comply with City Law A-191, not the proposed 60 horsepower rate. The *Sustainable Design Guidelines* should require the use of ultra low sulfur diesel fuel for all construction vehicles with a carrying capacity in excess of five tons and for all portable generators. (Hughes, CB1)
- Response:** The *Sustainable Design Guidelines* have been modified to reflect the requested horsepower specification for off-road construction equipment. Ultra low sulfur diesel fuel will be required for all on-site diesel-burning construction equipment.
- Comment 84:** The Proposed Action should exceed the Battery Park City Authority Green Guidelines and LEED guidelines. For instance, the BPC Guideline mandate increased energy efficiency by 20 percent over current New York State Energy Code measured in terms of dollar whereas the LMDC states the Proposed Action would only achieve a minimum of 20 percent in energy cost above American Society of Heating, Refrigeration and Air Conditioning Engineers (ASHRAE) 90.1/1999. In addition, the Proposed Action's 20 percent calculation should exclude the wind turbines just in case this technology does not work. (Hughes, Gordon, CB1)
- Response:** The *Sustainable Design Guidelines* call for the buildings to be able to achieve LEED Certification and provide for many other elements beyond the USGBC LEED Guidelines. It is hoped that these guidelines will lead to a level of energy efficiency at least as great as, if not greater than, that required at Battery Park City. Since Battery Park City is primarily residential, different technical considerations apply. The energy to be generated from the wind turbines is not included in the Proposed Action's calculations of energy efficiency.
- Comment 85:** The *Sustainable Design Guidelines* in Appendix A should not be listed in isolation. Sustainability is not static. Sustainability cannot be listed to one subset of systems, as in of green building design, but must be applied to the overall community. The guidelines should incorporate fiscal and environmental accountability for using externalized life-cycle total costs and be upgraded as new technologies improve. Ongoing monitoring and adjustments must be built into the guidelines. (Gordon, Tuchman)
- Response:** The *Sustainable Design Guidelines* would be a living document and would be a chapter of the overall design guidelines for the commercial and open space redevelopment.
- Comment 86:** The draft *Sustainable Design Guidelines* concerning noise and vibration levels should be adopted. (Wall Street Rising)
- Response:** The final *Sustainable Design Guidelines* would be part of the overall design guidelines for the commercial and open space redevelopment along with the Environmental Performance Commitments made by LMDC and the Port Authority.
- Comment 87:** The DGEIS states that the *Sustainable Design Guidelines* are regional and on a neighborhood scale. The document is not clear as to how this all works. The word "sustainability" should be defined. (Dunne)
- Response:** "Sustainability" refers to the responsible and efficient use of natural resources in order to help preserve those resources for future generations. As a large site with multiple mass transit stations and

- numerous streets and open spaces, many of the guidelines consider both regional and neighborhood scale, such as Urban Environmental Qualities UEQ-1 to UEQ-8.
- Comment 88:** Has LMDC looked into energy efficient landscaping and sustainability in terms of landscaping? (Bevan)
- Response:** Yes. Consistent with the *Sustainable Design Guidelines*, open space and the Memorial would include such feasible aspects.
- Comment 89:** The enforcement of the draft sustainability guidelines in Appendix A must be articulated and strengthened. (Civic Alliance, 9/11 Env. Action, Hughes, Glick, Wall Street Rising, CB1)
- Response:** LMDC and the Port Authority are developing an administrative mechanism relating to the overall design guidelines, including the sustainability guidelines.
- Comment 90:** The final version of Appendix A should spell out the scope and structure of the Implementation Authority (including a funding commitment from the Port Authority and New York State) and mandate an open process to inform the public and foster maximum public participation. (Tuchman)
- Response:** See response to Comment 89.
- Comment 91:** The air quality management portion of Appendix A is a general “do the best you can.” Criteria by which to judge whether the developer is doing the best that can be done need to be explicated, and made part of the selection criteria. (Tuchman)
- Response:** See response to Comment 89.
- Comment 92:** The guidelines should specify who will pay for ongoing verification, maintenance, and energy systems management. What are the consequences of failure to comply with a commitment once the project is fully commissioned? Any penalty should be crafted to be an effective incentive for compliance—neither too minor to affect the operator’s performance, nor so drastic that it is never applied. (Tuchman)
- Response:** See response to Comment 89.
- Comment 93:** The Port Authority must commit in the FGEIS to follow best practices during design and construction and agree to follow the recommendations of the New York City Department of Buildings’ World Trade Center Building Code now before the New York City Council. The Port Authority and anyone else in charge of building on the site should include in the design team fire engineers, fire marshals and a National Institute of Technology representative. The FGEIS should include a memorandum of understanding specifically agreeing to make the Project Site subject to the New York City Building codes. The signing of such a memorandum of understanding should be made public and attested to in the FGEIS. The signing of such a memorandum of understanding should be made public and attested to in the FGEIS. (FATE)
- Response:** Under the lease between the Port Authority and Silverstein Properties, and under the Port Authority Tenant Construction Review Manual, the Port Authority requirements provide for public safety that is equal to or greater than that provided in the requirements of the New York City Building Code. In accordance with these requirements a fire safety plan for each building is created, and reviewed with FDNY and approved by them.
- Comment 94:** The GEIS must include a study of the entire site and its environs that sets forth sustainability measures that will be common to all projects and allocates responsibility for those measures. The sustainability guidelines, while at the leading edge, do not seize the unprecedented opportunity to set new benchmarks that will advance state-of-the-art sustainability practices and technologies. (NYNV)
- Response:** Commercial sustainable guidelines are unprecedented in New York State for a development site like the World Trade Center. No other commercial office building in New York City has been LEED-certified, yet the guidelines propose that all towers on the site be eligible for LEED-certification, with Freedom Tower potentially at LEED’s “Silver” level. The current guidelines go beyond even LEED in requiring twelve “plans,” many of which evaluate the specific sustainable element and the building’s relationship to the site.
- Comment 95:** The LMDC must provide clear yardsticks of performance, so that the public can judge how well the work on the WTC redevelopment project matches its high expectations. The standard environmental resource-conservation criteria should be measured quantitatively (in tons emitted or consumed).

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These include emissions of air pollutants, water use and impact on water quality, noise, waste generation and energy consumption. (Tuchman, Gordon)

Response: Comment noted.

Comment 96: Greenhouse gas impact can serve as a framework for evaluating a wide range of environmental and resource impacts. A commitment to leadership in reducing greenhouse gas emissions is a particularly important yardstick of performance. (Tuchman, Gordon)

Response: Comment noted.

Comment 97: A public information policy of continuous inclusion can start with ambient air monitoring posted on the internet—recording both real-time and past readings. While it is important that this be established during the construction phase, it must be ongoing to determine if traffic mitigation measures (or other air pollutant mitigation measures) need to be strengthened. Monitoring and reporting on diesel exhaust is particularly important. (Tuchman)

Response: LMDC is considering a variety of environmental management practices for Lower Manhattan. See also responses to comments in Section 27.3.30 below.

Comment 98: The greatest obstacle to achieving long-term sustainability goals is the natural tendency of developers and project managers to adopt business-as-usual approaches which focus on limited short-term economic objectives. Governmental authorities responsible for overseeing this large-scale undertaking must create an open structure that would foster a continuing high level of public participation. (Tuchman)

Response: Comment noted. The Sustainable Design Guidelines would be reviewed annually to ensure that long-term sustainability goals are met.

Comment 99: The project area should be greenhouse gas neutral, even if this means buying or supporting emissions reductions elsewhere. (Tuchman, Gordon)

Response: Conditions with the Proposed Action would represent an improvement over pre-September 11 conditions. The proposed development of the Project Site would take place with increased energy efficiency utilizing state-of-the-art technology to achieve the environmental goals set forth in the Sustainable Design Guidelines.

Comment 100: The WTC project has an important showcase role as an early-adopter and anchor market for innovations. The cost of playing this role should be explicitly recognized, and funds from agencies such as NYSERDA and EPA should be solicited to support this function. (Tuchman, Gordon)

Response: LMDC is actively working with NYSERDA, EPA, and other agencies to develop and implement sustainable strategies for Lower Manhattan.

Comment 101: Page 1 of Appendix A should provide a tenant selection process in which the developer considers factors beyond the lease price in choosing building occupants. A tenant's application should spell out its contribution to the value of the overall project, including whether it is committed to adopting high performance standards for sustainability in its equipment and operations. (Tuchman)

Response: Business considerations will govern the acceptance of tenants in the commercial buildings. However, tenants will be encouraged to engage in sustainable construction and operations. The developer will establish an exemplar space demonstrating a broad range of environmentally sound products and services.

Comment 102: In selecting developers for project elements, the Implementation Authority should give preference, to the extent appropriate, for proposals that include measures in which the developer agrees to bear the burden of incremental costs in order to attain energy conservation and other environmental and sustainability goals. (Tuchman)

Response: The developers have already been identified, based on the prior leases on the WTC. LMDC's commitment to establish a Memorial, Memorial Center, and other cultural uses will include energy-conscious and other sustainable design objectives as noted in Chapter 12, "Infrastructure."

Comment 103: The Implementation Authority should also have within its assigned mission the goal of assisting developers in securing subsidies for environmental benefits which are not mandated and are not directly cost-effective. (Tuchman)

Response: Comment noted. See response to Comment 100.

- Comment 104:** The statement on page 17 of Appendix A that says “Use a minimum of 20 percent of all building materials (based on cost) that are manufactured within a 500 mile radius of the site” needs further justification. (Tuchman)
- Response:** Limiting building materials to within 500 miles of the project would reduce total vehicle miles traveled by trucks making material deliveries.
- Comment 105:** The design guidelines do not yet exist in a publicly accessible form and therefore it is difficult for any member of the public to assess the possible effects of the Proposed Action and its implementation mechanisms. (NYNV, MAS)
- Response:** LMDC made available a draft of the *Sustainable Design Guidelines* as part of the DGEIS so that the public could review and comment as part of the environmental review process. The Commercial Design Guidelines, of which the *Sustainable Design Guidelines* is a part, are still under development.
- Comment 106:** Wind power is not mentioned as a possible alternative energy source in Appendix A. The five key issues that must be addressed on wind power are safety, noise, vibration, icing and bird mortality, as well as approval by the city. The analysis should also examine maintenance (i.e., blade cleaning). (NYNV, Residents of 125 Cedar Street, Civic Alliance, Ramos)
- Response:** Wind power was mentioned in Chapters 4, 12, 15, 20, and 23 of the Draft Generic Environmental Impact Statement (DGEIS). Appendix A mentions renewable energy (at 6), of which wind power is an example.
- The DGEIS addressed the issues of safety, noise, icing, and birds. Also, Silverstein Properties recently issued a Request for Qualifications to wind energy providers that specifically mentions safety, noise, vibration, and bird flight-way as issues that must be addressed by firms seeking to develop and operate the wind turbines.
- The turbines would be designed to operate safely. According to the DGEIS, safety measures would include “materials selection to reduce accretion of ice in cold weather.” Considering the elevation of the turbines above 1,000 feet and the substantial background noise at receptor locations, noise would not likely be discernible at receptor points. Bird mortality, discussed in Chapter 12, “Infrastructure,” would be no more likely due to wind turbines than due to the presence of tall buildings. The design team has consulted with leading experts who study this issue and is working to identify methods to reduce bird mortality. The issue of low-frequency noise vibrations is addressed a length in response to Comment 470.
- LMDC is not aware of any legal provision requiring the wind turbines to be approved by the City of New York.
- Comment 107:** The design wind loads of the WTC buildings should take into consideration the more frequent occurrence of serious storms. (Butziger)
- Response:** Similar to all major high rise buildings, the design wind loads are established by boundary layer wind tunnel testing performed by an independent laboratory. These wind tunnel tests take into account actual meteorological data for the site and surrounding conditions. Industry standard safety factors are then applied to the design specific elements in addition to the wind loading.
- Comment 108:** The buildings and transportation facilities in the Proposed Action must all be the best that can be built and set a new international standard. Therefore, though the 20 percent minimum energy efficiency target is a start, the Proposed Action can and must do far better. Furthermore, an agreement to set a goal of zero-net greenhouse gas emission from on-and off-site energy consumption, including the purchase of offsets, is even more important than a strong minimum energy efficiency requirement. Such a pledge would propel this already promising endeavor far beyond any other large-scale building effort. Additionally, the renewable energy section of the guidelines should also not just talk about a transition to renewable technologies. As can be seen by the pledge to use wind power at the Freedom Tower, some renewable technologies (e.g., wind, photovoltaics and anaerobic digesters) are ready today. (Civic Alliance)
- Response:** Comment noted. See responses to preceding comments. Chapter 23, “Alternatives,” also addresses additional renewable technologies under the Enhanced Green Construction Alternative.

Comment 109: If wind turbines are found not to be a feasible source of energy for the Freedom Tower, another renewable energy source, such as solar power or fuel cells should replace the turbines in order to produce at least 20 percent of the building's energy by renewable methods. (Civic Alliance)

Response: The requirement for renewable energy will be satisfied by either onsite generation or the purchase of renewably generated electricity, per the requirements of EO-111. Thus, if the wind turbines are found not to be feasible, other renewable technologies may be explored, such as photovoltaics, or the purchase of renewable energy may be implemented.

27.3.4 SAFETY AND SECURITY

Comment 110: The proposed buildings should meet or exceed all New York City building, fire and safety codes and New York State and federal codes, guidelines, regulations and requirements relating to safety. There should be an analysis of the difference between "applicable building codes and guidelines" and what would be required by current and pending New York City, New York State and federal requirements. (FATE, 9/11 Env. Action, NOISE, McShane, Dowling, NYELJP)

Response: The proposed buildings would meet or exceed the substantive safety standards provided for in the NYC Building Code and guidelines. The design of all structures on the Project Site would be required to incorporate life safety provisions equal to or exceeding the relevant current building code requirements. The design for the Freedom Tower would meet or exceed the substantive requirements of all New York City building and safety codes. It would meet or exceed the current New York State Building Code and the most widely used model code in the United States: the International Building Code. It is not possible to commit to compliance with requirements that have not been written by governmental authorities, but the office towers to be constructed after Freedom Tower would reflect state-of-the-art building safety at the time they are built.

Comment 111: The DGEIS does not have any provisions for anti-terrorism and anti-bacteriological attack. These considerations should be incorporated into the designs. (Berg)

Response: Security will be considered in the final design and execution of the Proposed Action and consideration is being given to including provisions for anti-terrorism and anti-bacteriological attacks. Consideration is being given to ultrafiltration of indoor air in the commercial towers as a way of providing protection from a chemical or biological attack. Other design measures are being considered that would address explosive devices delivered by vehicles and/or persons, firearms, sabotage equipment, water contamination, and arson. Although specific provisions are being incorporated into the designs, the need to maintain the confidentiality of such design elements limits their public disclosure.

Comment 112: The area should be made defensible from attack. This requires methods to stop vehicles from easily reaching buildings. There should be ways to search for weapons at all entry points to the WTC. (BPC United)

Response: The Port Authority is developing a security plan for the WTC.

Comment 113: The DGEIS does not address emergency evacuation of the site or provide provisions for the rapid emptying of the site. There are no standards for evacuation space to accommodate double wide stair cases. NFPA is in the process of creating such a standard. What evacuation space will Silverstein supply? (Berg, Dreyfus)

Response: The office tower structures would incorporate necessary life safety provisions. Such provisions may include concrete reinforcement of the tower core throughout the height of the building, including exit stairs, elevators and lobby space. The reinforced building cores would provide protected space to the occupants during emergency egress. The width of the exit stairs would exceed applicable building codes, allowing for more rapid evacuation and emergency response access. Exit stairs would have emergency lighting redundancy, be widely separated, and be pressurized to resist smoke intrusion. Additional measures such as photoluminescent and electroluminescent marks would enhance the usability of exit stairs in case of emergency. At each floor, stair landings would provide refuge space for wheelchair occupants. The egress system would be designed for redundancy, with interconnecting corridors allowing alternative exit options. Exits would flow directly to the exterior of buildings, eliminating the confusion associated with exiting through the building lobby.

- Comment 114:** LMDC should determine if a PATH train derailment would knock out columns from under the Freedom Tower. Security measures to forestall the possibility of terrorists getting a train of fuel laden tank cars under the Freedom Tower should be adopted, including the best possible fire proofing on the PATH track level of the Freedom Tower. (Butziger)
- Response:** Security threats have been and will continue to be considered in the design and execution of the Proposed Action. Potential emergencies, intentional or accidental, would be evaluated in the final design of all elements of the Proposed Action. A PATH train derailment is not expected to affect the core support structures of the Freedom Tower, as the Freedom Tower and other office tower structures on the Project Site would be strengthened through a concrete reinforcement of the building cores. Also, the likelihood of a PATH derailment is low since the PATH trains travel at low speed when leaving the terminal in the area under the Freedom Tower. The PATH system tracks are dedicated to PATH trains and operations, not commercial freight. Fuel tank cars do not and would not operate on the PATH tracks.
- Comment 115:** The new WTC towers should implement the evacuation procedures used by the Taipei Financial Center and Shanghai World Financial Center (for example, smoke resistant elevators). (Butziger)
- Response:** The efficacy as well as the safety of using elevators for widespread evacuation is being debated in engineering circles. A comprehensive evacuation plan would be written for the Freedom Tower that would include the use of elevators manned by trained personnel. Similar measures would be made to the other office towers as well.
- Comment 116:** The DGEIS does not include an analysis of the potential impact of fuel stored on the site for emergency generators and other uses. No diesel fuel or flammable liquids should be stored above-ground. The tanks and generators should include state-of-the-art redundant systems for preventing and fighting fires. (NOISE, FATE)
- Response:** Normal and reserve power would be provided to tall and other applicable buildings by separate emergency diesel generators to serve emergency life safety loads. Emergency generators would be located to reduce vulnerability to potential threat or accidental emergency, providing greater reliability to on-site power resources. Only necessary diesel fuel for generators and flammable liquids used for routine maintenance and cleaning of the structures and equipment would be stored above ground. The fuel oil for emergency generators related to the Freedom Tower, including its tenants, would be stored below-grade and outside of the building footprint.
- Comment 117:** FDNY must have a role in the decisions over fire and safety codes for the rebuilding of the WTC Site. (Horn)
- Response:** FDNY does have a role pursuant to a number of memoranda of agreement entered into between the Port Authority and FDNY pertaining to fire and safety codes. Each building of the Proposed Action would have a fire safety plan that would be reviewed and approved by FDNY and, where appropriate, other safety review processes.
- Comment 118:** The following safety and security issues should be considered in the rebuilding of Lower Manhattan:
- greater first aid provisions should be made, e.g., more defibrillators and provision of CERT team training, to compensate for the expected increase in ambulance delays resulting from construction activities;
 - streetlights and other electrical apparatus should be properly secured at all construction sites, to ensure that there is no risk of electrocution to the public; and
 - state-of-the-art disaster preparedness should be in place during the construction and operational phases of the various downtown projects. (Gerson)
- Response:** During construction, a site safety plan will be prepared that includes procedures for emergency response and evacuation.
- Comment 119:** The Freedom Tower's design does not appear to allow for roof egress or a helicopter landing to pick up people stranded on the roof due to fires on the lower levels. The FGEIS should clearly state that appropriate fire rating tests will be done on all structures including the Freedom Tower. The FGEIS should contain a mass evacuation plan for all buildings. (FATE)

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Response: Provisions for roof evacuation are seen by most experts as being counterproductive and dangerous for emergency personnel and the public at street level. Effort is put to better use in improving the reliability of the fire suppression and enhanced egress systems. Freedom Tower will employ very aggressive safety measures, including the hardening of the core that surrounds exit stairways, elevators, and building systems; widening of stairs and other methods to allow faster egress, and access of emergency personnel; special emergency lighting provisions; and other measures described in section 1.7 of the DEIS.

Comment 120: The FGEIS should include a comprehensive security assessment for Lower Manhattan and the WTC Site. (Silver)

Response: The Port Authority is conducting a security assessment for the Project Site. Security for the balance of Lower Manhattan is the responsibility of New York City.

27.3.5 OTHER LMDC PROJECTS

Comment 121: The DGEIS violates the NEPA requirements as it does not discuss how the HUD funding is to be used and distributed among all the LMDC projects. For instance, there is no mention of funding to the Hudson River Park Trust. There needs to be a scoping document and a single environmental impact statement to address all HUD funding. (9/11 Env. Action, Tupper, Clean Air Campaign, Spotlight on the Poor, LCAN, Legal Services)

Response: Development of the Hudson River Park project was ongoing long before the attacks of September 11, 2001. Any additional funding that LMDC provides to the Hudson River Park Trust to provide additional amenities to that park is unrelated to and entirely independent of the Proposed Action and is the subject of its own environmental review. All other projects for which LMDC seeks funding through HUD are subject to environmental review pursuant to the HUD requirements at 24 CFR Part 58.

Comment 122: A new location needs to be determined for the Greenmarket that reopened in June 2003 at Liberty Plaza but has subsequently closed due to plaza renovations. (Hughes, Jones, CB1)

Response: LMDC is working with the Port Authority, the City's Council on the Environment and other Lower Manhattan stakeholders to resolve the issue regarding the location of the green market.

27.3.6 PROJECTS OF OTHER AGENCIES

Comment 123: The DGEIS is flawed because it does not include a thorough analysis of the environmental and fiscal costs of the proposed bypass tunnel on Route 9A. While the DGEIS says Route 9A questions will be addressed in a separate environmental impact statement, the DGEIS alludes to the bypass tunnel in several places and in fact makes a good case that there is no need for such tunnel. Not only is the proposed bypass tunnel extremely expensive to construct and would subject the workers and residents around Route 9A to several known environmental risks, such a project would also require a new slurry wall that would have to go down to bedrock and require the relocation of a large sanitary sewer line among other utility changes. The entrance and exit ramps for the tunnel lanes will decrease connectivity at points that BPC workers and residents frequently use to cross Route 9A—at Albany Street and at Murray Street. Also, it may create another target for terrorists. The local elected officials, Community Board 1, BPC residents and others all oppose this tunnel. (Pasanen, Smitty, Silliman, Barzilai, Love, Ling, CB1, Moss, Civic Alliance, BPC United, Parente, Seeman, D. Massa, Liubicich, Smith, Mabry, Britton, Nieder-Eichholz, Hayworth, F. Massa, Dellaportas, Wolkstein, Vandervis, Ordille, Gerson, Gateway Plaza Tenants Assn, Anderson, Arabachian, Aron, Badami-Moskowitz, Becker, Bendo, Berkower, Berner, Blech, Block, Blum, Bond, Brady, Brass, Brown, Bruzza, Burstein, Campbell, Carter, Casmai, Chait, Chernow, Chester, Cohan, Cohen-Wolf, Cole, Coleman, Coleman, Family, Comisky, Cordiviano, Cossman, Crupnin, Demirjian, Dennis, DiIono, DiMichele, Divnet, Doberman, Douglas, Eida, Eida, Endo, Falcone, Feinson, Fernandez-Serrano, Forbes, Frederick, Freyberg, Gerson, Gibney, Goodman, Gottlieb, Grooms, Grossman, Gruber, Guinee, Gutierrez, Harkins, Harvey, Hoang, Holley, Hummler, Jarecki, Jhaveri, Jely, Kavelman, Kawai, Keil, Kelly, Kornblau, Kornblau, Krevey, Krevey, Kriksciun, Kruse, Kuehndorf, Lalor, Lamsey, Land,

Larsen, Lebensohn, Lemiecz, Lipton, Luper, Marcus, Masaryk, Mazer, McCall, McGarry, Mercado, Miller, Milling, Mooney, Morey, Moskowitz, Muehlbach, Nesbitt, Nichifor, Olivo, Paryente, Phelps, Picciadi, Pierre Pierre, Pleats, Rader, Ramos, Schneider, Schreibman, Schuchman, Schuemacher, Sellers, Shapiro, Silberman, Sparks, Spielman, Starr, Sturm, Sultzer, Suzuki, Szczepanski, Tashman, Terracina, Topol, Torella, Unidentified, Unidentified, Goethem and Joseph, Wada, Wallach, Weisblatt, White, Wickiser, Wiese, William Meyers, Wilpan, Wilson, Wisner, Wolf, Wolf, Zamparelli)

Response: LMDC is not responsible for the proposed Route 9A Reconstruction Project; which would be undertaken and is being reviewed by NYSDOT. The comments received by LMDC on that reconstruction project have been forwarded to NYSDOT. Because NYSDOT is examining both an at-grade and a bypass tunnel option for Route 9A, LMDC assessed its Proposed Action with both NYSDOT's alternatives to ensure that all impacts of the Proposed Action were properly disclosed. LMDC takes no position as to which option for Route 9A is preferable.

Comment 124: The DGEIS should describe the Route 9A project in greater detail. The existing Verizon infrastructure, consisting of conduits and cables installed below the surface of Route 9A after September 11, 2001, will need to be relocated as a result of the Route 9A reconstruction. This may affect the ability of Verizon and other infrastructure providers to respond to the WTC Redevelopment Plan. (Verizon)

Response: As noted above, LMDC is not responsible for the Route 9A Reconstruction Project; that project is being undertaken and reviewed by NYSDOT.

Comment 125: I urge you to proceed with the plan to route the high volume of through-traffic on West St. below ground in a tunnel. The incremental construction effort is not the huge deal the anti-development zealots make it to be. The Route 9A bypass should be built to provide pedestrian safety and comfort over the danger and disruption of the automobile. (Kerner, Dennis)

Response: See response to the preceding comment.

Comment 126: What effects would entry and exit ramps for a West Street tunnel have on surrounding areas, both visually and in terms of traffic and pedestrian safety? How would these ramps affect entry and exit from Battery Park City. (Hemric)

Response: Visual and traffic impacts of the Route 9A Reconstruction alternatives would be examined in detail by NYSDOT, as stated above. Chapters 4 and 13A of the FGEIS for the Proposed Action examine the visual and traffic impacts of the Proposed Action under both the short bypass or at-grade options for Route 9A.

Comment 127: If NYSDOT determines that West Street would become a raised street over a depressed through highway, then the service road will allow easier pedestrian access from the World Financial Center and Battery Park City to the Memorial plaza level. West Street's elevation will affect the availability of drive-by viewing into the Memorial site from automobiles and buses on the service road. (NYNV)

Response: The Memorial design and other site elements will be designed to function effectively under either Route 9A Reconstruction alternative chosen by NYSDOT.

Comment 128: The Proposed Action does not address Route 9A or the PATH Terminal, both of which are inextricably linked to the site plan. (NYNV)

Response: As addressed in Chapter 1, "Project Description," and Chapter 2, "Methodology," the DGEIS included considerations of other independent projects currently being studied by other agencies, including the permanent PATH Terminal and Route 9A reconstruction. The DGEIS also included the cumulative construction impacts of all such other projects during the peak construction year 2006 (see Chapter 21, "Construction"). The Route 9A Reconstruction and permanent PATH Terminal projects are the subjects of separate environmental impact statements that will have their own public reviews.

Comment 129: Construction activity may trigger flashbacks of September 11 or other emotional problems in members of the Lower Manhattan community. Given that funding for Project Liberty counseling and other support programs that deal with such issues will expire soon, the need for continuation of such programs should be discussed in the DGEIS. (Gerson)

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Response: A continuation of the present condition of the site is a constant reminder of the events of September 11. A large number of commenters—both individuals and organizations—from Lower Manhattan have expressed a desire for the WTC Site to be rebuilt. LMDC is not responsible for funding Project Liberty counseling and support programs, which are beyond the scope of the Proposed Action. Other programs funded or proposed to be funded by LMDC are addressed by LMDC’s Partial Action Plans, available on LMDC’s website: www.renewnyc.com.

27.3.7 ACTIONS AND APPROVALS

Comment 130: There is no mention of the role of the NHPA Section 106 process in the discussion of the legislation related to environmental review. (Coalition)

Response: Chapter 5, “Historic Resources” states that the Proposed Action is also being reviewed by LMDC under NHPA Section 106 and includes comments by the ACHP and NYSHPO in the list of required reviews in Chapter 1, “Project Description.”

27.3.8 GEIS PROCEDURES AND PUBLIC PARTICIPATION

Comment 131: While the summary, table of contents and abstract download, the DGEIS does not download. The public needs access to the DGEIS. (Unidentified persons)

Response: With regard to downloading documents off the LMDC website, the ability to download documents depends on the size of the document, the speed of the internet connection, and the internet service provider. Larger documents take longer to download. The faster the internet connection, the faster the document can download, and the less likely the internet service provider will terminate the connection. Thus, high-speed connections will rarely experience problems downloading documents or software, while slower dial-up connections may be terminated by their internet service provider. For this reason, each chapter of the DGEIS was made available for separate downloading on LMDC’s website.

In order to ensure that all interested persons had an opportunity to review the DGEIS, LMDC provided, at no charge, a compact disk (CD) of the DGEIS to all persons requesting the DGEIS in that form. In addition, LMDC offered, at less than the cost of reproduction, hard copies of the entire DGEIS. Copies of the DGEIS were also made available at four local libraries, three community board offices, and LMDC’s office. An additional copy was provided to the New York Public Library Humanities and Social Sciences in midtown. LMDC also provided one hard copy of the DGEIS at no cost to numerous elected officials, community and civic organizations, and each community-based organization requesting one. Beyond this, the entire DGEIS was posted on LMDC’s website, www.renewnyc.org.

Comment 132: The project must stay on schedule. There is an economic need to begin construction of the commercial portions of the plan. Commencing construction of the project alone will generate 85,000 construction jobs over 10 years and over \$400 million per year in tax revenue combined to the city and state. The plan will provide 75,000 jobs once fully operational and \$885 million combined per year to the city and state. The plan must be expedited in order to provide Class A office space to firms that need it, otherwise those firms will move elsewhere. The longer it takes to rebuild, the more jobs will be outsourced to other countries. We support Governor Pataki’s aggressive time schedule to rebuild. (NYC Partnership, Messina, Llanos, Building Trades Employers’ Assn., Rayder, Lazar, Downtown Alliance, Young, Driscoll, AABDC, Silverstein Properties, BPC United, Richardson, Chew, Wall Street Rising, Coalition to Save West Street)

Response: Comment noted.

Comment 133: In the two and one-half years since the attacks, the economy of Lower Manhattan has shrunk 40 percent, 15 percent of small businesses have closed their doors and 75 percent of small businesses are barely breaking even or are in the red. Thus the plan must move forward expeditiously as planned. (Center)

Response: Comment noted.

- Comment 134:** Pace supports the schedule and urges LMDC to continue its swift progress in the redevelopment efforts. Pace has made a major commitment to downtown, but Pace can only grow and thrive in a vibrant, renewed environment. The success of Pace's plans to grow the university is dependent on the ability of Lower Manhattan to rebound quickly from the devastating events of September 11. (Pace)
- Response:** Comment noted.
- Comment 135:** The process is too rushed and the DGEIS is inaccurate. The usual three-year EIS process has been reduced to one. The public hearing occurred too fast given the burden on the public to absorb so much information in so little time. The public comment period for the DGEIS should be extended by an additional two months until May 15, 2004. The FGEIS should explain why this extension has not been granted. HUD issued or signed a notice on January 16, 2004 in the *Federal Register* prior to approval of the DGEIS by the Board. The FGEIS must include affidavits of publication of notices regarding the DGEIS. (9/11 Env. Action, Edelstein, Lamb, Provost, Spotlight on the Poor, FATE, Epstein)
- Response:** The comment period on the DGEIS met or exceeded all applicable requirements and was an adequate period of time to permit substantial public participation, as evidenced by the number of oral and written comments received (see list of commenters at section 27.2). The DGEIS was approved on January 20, 2004 and made available on the internet starting on January 21, 2004. There was extensive press coverage regarding the approval and eligibility. The notice of availability for the DGEIS was published by HUD in the *Federal Register* on Friday, January 23, 2004 (69 FR 3382). A notice regarding the commencement of the public comment period on the DGEIS was published by EPA in the *Federal Register* on Friday, January 30, 2004 (69 FR 4512). Notices were also published in the New York State Environmental Notice Bulletin on Wednesday, January 28, 2004, in several newspapers on or around Friday, January 23, 2004, and on LMDC's website on Thursday, January 22, as was outlined in section 27.1 of this chapter. Copies of such notices along with the Affidavit of Publication are included in Volume III. LMDC also provided for significant public participation regarding the plan and Proposed Action well before issuing its Draft Scope. While such significant public participation prior to the scoping process is unusual under NEPA, such early public involvement permitted LMDC to listen to the public and modify its plans in accordance with public input even before commencing the formal environmental review process.
- Comment 136:** LMDC must wait 30 days following the release of the FGEIS before making a decision on the Proposed Action and must inform the public about how to comment on it. (FATE)
- Response:** The comment period on the FGEIS will meet or exceed all applicable requirements. The FGEIS contains information on how the public may submit comments on the FGEIS during the comment period.
- Comment 137:** The FGEIS must include proof of affirmative solicitation of comments on the DGEIS from the people providing the 13,000 public comments through the "Plans in Progress" and the seven community workshops as required by NEPA. The database of participants of "Listening in the City" and "Neighborhood Workshops" should have been contacted. (FATE, NYELJP)
- Response:** LMDC mailed copies of the DGEIS to every agency, organization and individual on the DGEIS distribution list and to any party requesting one. The DGEIS was also posted on LMDC's website. LMDC published the notice of availability of the DGEIS in a variety of newspapers and publications. See response to preceding two comments.
- Comment 138:** The proposed timeline and deadlines are too aggressive to incorporate the necessary reflection and historic significance of the site. (McShane)
- Response:** Since the draft scope of work for the DGEIS was released for public comment in June 2003, LMDC has considered and solicited public input on historic resources at and around the WTC Site both through the NEPA process described above and through the parallel Section 106 review under the NHPA.
- Comment 139:** LMDC is legally required to provide a copy of the FGEIS to anyone who comments on the DGEIS. (Oliff, FATE)
- Response:** LMDC intends to provide a copy of the FGEIS to every person, organization or agency which submitted substantive comments on the DGEIS.

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- Comment 140:** Why were there so few copies of the DGEIS available on such a limited basis for comment? (NYELJP)
- Response:** See response to Comment 131.
- Comment 141:** Why were there no comprehensive translations of the DGEIS into Chinese and Spanish? (NYELJP)
- Response:** LMDC made available both Chinese and Spanish language translators at the public hearings on the DGEIS. There is no legal requirement to publish the 2,000-page DGEIS in these languages, which would have been an extremely costly and time-consuming undertaking.
- Comment 142:** What steps were taken to supply timely data and announcements to those without computer access? (NYELJP)
- Response:** See response to Comment 135.
- Comment 143:** LMDC has failed to take into account public sentiment or reflect the desires of the majority of New Yorkers in choosing a project design. The redevelopment of the WTC Site must be driven by a broad conception of the public interest and not by private interests or the parochial goals of individual public agencies. (Oliff, Hough, Snyder, NYNV, Epstein, Fitch, Spotlight on the Poor, Goldberg, Ramos, Unnamed Resident)
- Response:** LMDC engaged in extensive public outreach during the selection of the project design and the environmental review associated with the Proposed Action. Please see Chapter 1, "Project Description," for further information regarding this outreach.
- Comment 144:** LMDC should provide New York Environmental Law and Justice Project (NYELJP) funding to assist the residents in reviewing the DGEIS. (Spotlight on the Poor)
- Response:** NYELJP has commented extensively on the DGEIS. LMDC is under no obligation to single out that organization for financial assistance in commenting further on the DGEIS.
- Comment 145:** Absent a contract with the Port Authority, LMDC does not have the legal authority to design or construct a Memorial at the WTC Site and should be excluded from further participation in the process. (Jarvik)
- Response:** LMDC and the Port Authority have been collaborating on the Proposed Action and General Project Plan since early 2002 pursuant to agreements between the agencies. Additional agreements to implement the Proposed Action relating to specific designs and construction of the Memorial are contemplated following completion of the environmental review process.
- Comment 146:** Chapter 5 of the DGEIS contains a long discussion of LMDC's "Extensive Involvement of the Public" but it does not mention that LMDC has afforded participants in the NHPA compliance process only very limited time frames to comment on an extensive, complicated technical document; has attempted to limit participation of groups such as the Coalition of 9/11 Families; has refused to provide copies of key technical documents; and has refused to respond to Freedom of Information Law request for copies of those documents. (Coalition)
- Response:** LMDC is fully committed to respecting both the spirit and statutory requirements of the Section 106 process. LMDC, along with the Federal Transit Administration and the Federal Highway Administration, hosted a series of meetings for SHPO and approximately 60 consulting parties (individuals and organizations with a demonstrated interest in the undertaking) that has allowed for extensive opportunities for all participants to share their views with the three cooperating agencies, as well as the SHPO, ACHP and other consulting party representatives. The comment periods on the Draft Coordinated DOE for the WTC Site, the Coordinated DOE for the WTC Site and the Proposed Finding of No Adverse Effect all exceeded any applicable legal requirements. LMDC will continue to make appropriate information available as the Section 106 process proceeds and to reach out to all consulting parties and other interested persons, organizations and local community boards. LMDC is also exploring with the consulting parties, SHPO and ACHP the possibility of a Programmatic Agreement to continue to provide an opportunity for the consulting parties to comment on any potential impacts to the WTC Site as more detailed plans are developed for the Proposed Action.
- Comment 147:** Given that the identification of historic properties on the WTC Site has not been completed, and that a determination of effect cannot be completed until it is, the public will not have an opportunity to make fully informed comments on the effects of the Proposed Action on historic resources prior to

the planned issuance of the Final EIS. To rectify this problem, a supplement to the DGEIS, and/or a Programmatic Agreement or Memorandum of Agreement with the Advisory Council on Historic Preservation should be prepared. (Coalition)

Response: See response to preceding comment.

Comment 148: The statement (p. 5-2) that the determination of eligibility [of the historic significance of the WTC Site] and effect will be made through the Section 106 process and the results incorporated into the FGEIS has only removed this issue from proper public review during the EIS process. The public will be presented with a *fait accompli* in the FGEIS. Historic resource-related issues should be addressed in a supplemental DGEIS after final determinations of eligibility and effect have been made. (Coalition)

Response: The eligibility of the WTC Site for inclusion on the National Register of Historic Places has been the subject of extensive comment, by the Coalition and others, in the parallel Section 106 process, as well as in comments on the DGEIS. As a result of those comments, LMDC and the involved federal agencies have determined that the entire WTC Site is eligible for listing on the National Register.

27.3.9 METHODOLOGY

Comment 149: The DGEIS uses the wrong baseline. It assumes the pre-September 11 and the post-September 11 are isolated events and establishes two baselines. But pre-September 11 and post-September 11 are connected events. The DGEIS does not adequately consider impacts on the residential community because it bases a finding of no significant impact on whether such impact is no greater than the original impacts from the Twin Towers. Potential impacts should be mitigated as de novo effects. (Edelstein)

Response: As described in the GEIS, because of unique historical circumstances, the complexity of the planning context, and the scale of the Proposed Action, the GEIS presents two analysis scenarios. While the Current Conditions scenario allows a comparison to post-September 11 conditions, the Pre-September 11 Scenario provides a comparison to conditions if the events of September 11 had not occurred. As described in Chapter 2, "Methodology," this provides a framework for depicting a full consideration of the impacts associated with the Proposed Action while recognizing both former and present conditions.

Comment 150: The analysis using the Current Conditions Scenario is inappropriate and the only appropriate method of analysis is the Pre-September 11 Scenario because the reconstruction of the World Trade Center originates from an unprovoked attack and not a planned redevelopment. (Hough)

Response: See response to preceding comment.

Comment 151: While pre-September 11 conditions do make an interesting reference point for comparison, there is no authority for using anything other than current conditions in making formal determinations of impact significance under NEPA and SEQRA. Any project impacts that will be significant compared to existing conditions must be treated as significant under NEPA and SEQRA (e.g., with respect to mitigation measures and findings), even if those impacts are not significant when compared to pre-September 11 conditions. The Pre-September 11 Scenario describes only cumulative impacts to conditions that no longer exist. It tacitly accepts adverse environmental conditions that existed prior to September 11, and discusses only incremental impacts from a non-existent baseline. The result is a minimizing of adverse effects. (Riverkeeper, Coalition)

Response: As discussed in the response to Comment 149, the Pre-September 11 Scenario permits a comparison of the conditions with the Proposed Action to those that would have been expected in the absence of the events of September 11. In most cases, this represents a more appropriate baseline for assessing potential impacts than current conditions, which reflect the absence of long-established commercial and retail activity on the WTC Site and the Southern Site. It would therefore have been inappropriate to measure impacts for traffic, air quality, and open space solely by reference to current conditions. On the other hand, for construction, hazardous materials, and the unique historic resources assessed in this GEIS, current conditions are a more appropriate baseline for comparison of impacts. This approach, which includes disclosure of all changes from both current and pre-September 11

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conditions, represents, in LMDC's judgment, the most appropriate way of assessing impacts and permitting informed decision-making by all involved and cooperating agencies.

Comment 152: An additional baseline condition should be added to the analysis as an objective for which mitigation should aim to achieve. Stricter standards for the mitigation of adverse impacts to match the goal of meeting environmental sustainability objectives, as set forth in the 2002 *Blueprint for the Future of Lower Manhattan*, should be used. This new target scenario may be formulated by using the Current Condition Baseline and projecting operational objectives for target years 2009 and 2015 if all commercial *Sustainable Design Guidelines* are followed. Unavoidable adverse impacts should then be mitigated to this standard. (Civic Alliance)

Response: The suggested third baseline would assume or require imposition of all commercial *Sustainable Design Guidelines* on projects beyond the control of LMDC and the scope of the Proposed Action. While that may be a desirable goal it is not a reasonable analysis scenario under NEPA or SEQRA, which seek to identify likely adverse impacts from a proposed action against a reasonable baseline absent that action. Sustainability is considered in the GEIS and the formulation of the Proposed Action itself, as demonstrated by the Proposed Action's *Sustainable Design Guidelines*.

Comment 153: A third baseline for impact assessment and mitigation purposes should be incorporated that is based on best available technology that is economically available. The use of a best available technology baseline would foster LMDC's and the Port Authority's continued pursuit for the best possible technology. (Environmental Defense)

Response: See response to preceding comment.

Comment 154: The DGEIS does not appropriately consider either the individual impact of certain elements of the Proposed Action or the cumulative impact of the Proposed Action when considered with other projects expected to proceed concurrently with the Proposed Action, including the new PATH Station, new Fulton Transit Center, Second Avenue Subway or reconstruction of Route 9A. The FGEIS should consider potential effects of the Proposed Action in all environmental areas, including air quality, on the community, both on an individual basis and in the context of these concurrent projects. (CB1, Gerson, FATE, Straphangers)

Response: Each of the individual elements of the Proposed Action has been accounted for and analyzed in the GEIS, which considers the potential impacts of all of the components of the Proposed Action. In accordance with standard practices and environmental regulations, these elements are not evaluated as individual "stand-alone" projects, but rather the Proposed Action in its entirety is assessed. As described in Chapter 2, "Methodology," two analysis years, 2009 and 2015, are considered for each of the GEIS technical areas and a third analysis year, 2006, is considered for analyzing construction impacts. The 2009 analysis year represents a time frame in which the initial phases of the Proposed Action would have been completed. The 2015 analysis year represents the time when all aspects of the Proposed Action are assumed to be completed and occupied—a "full build-out" condition that evaluates the total operational effects of the Proposed Action.

The GEIS also accounts for the effects of the Proposed Action together with other projects occurring in the area. A detailed list of all of the projects considered throughout the GEIS is included in Tables 2-3 through 2-6. Among many others, these include the Permanent WTC PATH Terminal, Fulton Street Transit Center, and the Route 9A Reconstruction Project. These and certain other major projects are also assessed as part of the cumulative construction impact analysis of the GEIS, which looks at the potential impacts of concurrent construction-period activities occurring from all of these large-scale projects (for more information see Chapter 21, "Construction.")

The portion of the proposed Second Avenue Subway in the vicinity of the Project Site is not expected to be operational by either 2009 or 2015. Therefore, it is not considered as part of background conditions in the future without the Proposed Action. Similarly, construction of that project in Lower Manhattan is not expected to begin until well after 2006, the construction peak for the Proposed Action and the other Lower Manhattan Recovery Projects. A separate environmental review is underway for the Second Avenue Subway by the MTA.

- Comment 155:** The FGEIS should take into account the anticipated population growth in Lower Manhattan for planning purposes and for determining impact and appropriate mitigation. (CB1)
- Response:** The FGEIS takes into account the significant background growth expected by 2009 and 2015. As shown in Tables 2-3 through 2-6 and Figures 2-2 and 2-3 of the FGEIS, this includes almost 100 residential, commercial, institutional and other projects in the area south of Canal Street. These form the basis for the “Future without the Proposed Action” scenarios throughout the GEIS, and the impact analyses (as well as mitigation) take these projects and their associated populations into account.
- Comment 156:** The secondary area for analysis should be expanded and include the suburbs. The economic and social impact of the business and residents of the surrounding areas, including Battery Park City and Chinatown, should be given more study. (Berg, Chinese Progress Association)
- Response:** The GEIS analyzes the geographic area in which the Proposed Action could potentially result in significant adverse impacts. The socioeconomic analysis—which looks at commercial real estate markets, housing conditions, population statistics, and displacement issues—does include Battery Park City, as well as numerous other residential and mixed-use areas in Lower Manhattan, such as Tribeca and Chinatown. A regional analysis of the larger metropolitan area is not within the scope of this project and is not warranted as part of the GEIS.
- Comment 157:** The Proposed Action should evaluate the impact of the possibility of leaving the three-story pedestals of the other office towers, which will be constructed by 2009, without office towers for years or even decades following their construction. The DGEIS should evaluate the impacts of this scenario for effects on the downtown economy, the urban design composition of the master plan, open space and wind conditions, among other items. While reduced office density onsite may in fact be a desirable outcome, this scenario should be planned for and occur by design rather than by default. (Civic Alliance)
- Response:** The GEIS analyzes the potential impacts of the Proposed Action on residential and commercial real estate markets in 2009, when retail space would be fully built, but only the office space in Freedom Tower would be developed. In terms of urban design, open space and related impact areas (including wind conditions), the conditions analyzed for 2009 would continue until completion of the remaining office towers.
- Comment 158:** A section should be added to the DGEIS to address children’s needs. Children’s lungs and psyches are different than adults. (Gerson)
- Response:** September 11 and its aftermath were undoubtedly a difficult period for both children and adults alike. However, it is important to note the distinction between the tragic events of September 11 and the components of the Proposed Action that are analyzed in this GEIS. The EPCs proposed during construction of the Proposed Action are designed to protect the health and well-being of all age groups. The air quality standards used to assess potential impacts take into account sensitive populations such as children. When promulgating National Ambient Air Quality Standards, EPA must consider the health of children in adopting such standards.
- Comment 159:** A section should also be added to the DGEIS to address the needs of senior citizens, including ADA accessibility and provision of human services. (Gerson)
- Response:** The design guidelines will account for ADA accessibility.
- Comment 160:** An EIS, no matter how skillfully done, does not replace the need for comprehensive planning that examines in a less structured format the interrelationships among a wide range of planned and proposed actions within a larger geographic area. (NYNV)
- Response:** The purpose of this GEIS is to analyze and disclose the potential for the Proposed Action to result in significant adverse environmental impacts. The GEIS describes and analyzes the overall WTC Memorial and Redevelopment Plan that outlines future development of the Project Site, accounts for other projects expected to occur in the area, and where appropriate, discusses the Proposed Action’s relationship to them. The GEIS is not intended to be a master plan for all of the developments taking place in Lower Manhattan. As described in Chapter 1, “Project Description,” a significant amount of coordination has been undertaken (and continues to be undertaken) among numerous federal, state and local agencies including LMDC, the Port Authority, HUD, FTA, MTA, NYSDOT, NYCDCP and other agencies.

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Comment 161: The DGEIS does not address impacts of the Proposed Action on schools and libraries in Lower Manhattan. In order to ensure that every contingency is taken into account to protect the residents and their children, schools and libraries must be included in the FGEIS. (Connor)

Response: Since the Proposed Action would not add any residential units or school students to the Project Site, an analysis of impacts on the demand for public school seats is not warranted. Similarly potential effects on libraries are considered only for residential development. The air quality and noise analyses do take into consideration sensitive receptors, such as schools, when identifying analysis locations.

Comment 162: The terminologies in the DGEIS for the different scenarios were not always consistent (i.e., traffic and parking chapter). (EPA)

Response: Chapter 13A has been clarified in response to this comment.

Comment 163: The DGEIS states that the Proposed Action will be the “last of the Lower Manhattan construction projects implemented.” This is confusing, since construction for the Proposed Action is scheduled to start in the fall of 2004, *before* construction begins on the other projects. This cannot be classified, as the DGEIS does, as a “conservative” approach. (Coalition)

Response: The text of the FGEIS has been changed to clarify the explanation of the analysis approach.

Comment 164: It is unclear where many of the assumptions in the DGEIS are drawn from. The FGEIS must include an exhaustive methodology section that divulges to the public all measures and proxies used to construct the FGEIS and provide the public a period of time to comment on the methodology. (Silver)

Response: Chapter 2, “Methodology,” contains a description of the analyses approaches used in the GEIS. In addition, each of the technical chapters of the GEIS contains a discussion of methods specific to that area. Prior to publication of the DGEIS, a Scope of Work outlining the methodologies proposed to be undertaken in the DGEIS was distributed for public review and comment.

Comment 165: The FGEIS should include a study of the environmental impacts of the water usage, chemical usage, electrical requirements, pump noise and water resources related to the Memorial Redevelopment Plan. The building of the Memorial should be included in the air quality, traffic and noise studies. (FATE)

Response: The analyses consider the potential impacts noted in the comment in various chapters of the GEIS. The water usage, water resources, pump noise and water quality impacts are discussed in Chapter 18, “Natural Resources.” Chapter 12, “Infrastructure,” discusses water usage, energy usage and pump noise. Chapter 11, “Hazardous Materials,” discusses chemical usage. Potential impacts from the construction of the Memorial are discussed in Chapter 21, “Construction.”

Comment 166: The information concerning “Projects In Construction or Planned to Be Completed in 2009” is inaccurate. For example, the New York City Buildings Department has no record of 52 Franklin Street. (FATE)

Response: As referenced in Chapter 2, “Methodology,” information on projects planned or proposed in the future throughout the study area, independent of the Proposed Action, was compiled from a number of different sources including the New York City Department of City Planning, Lower Manhattan Development Corporation, Metropolitan Transportation Authority, New York State Department of Transportation, Alliance for Downtown New York, Manhattan Community Board One, Battery Park City Authority, and previously published EISs. Development of many of these projects has already begun. However, a number of sites are identified for future development which have yet to enter into the development process. For example, although development has not begun at 52 Franklin Street, this site is expected to be developed for residential use in the future.

27.3.10 LAND USE AND PUBLIC POLICY

Comment 167: The Proposed Action should comply with the New York City Zoning Code. (NYELJP)

Response: As discussed in Chapter 3, “Land Use and Public Policy,” the WTC Site is owned by the Port Authority. (As part of the Proposed Action, the Port Authority, LMDC, and/or ESDC also propose to acquire some or all of the Southern Site.) The 1962 legislation authorizing the development of the WTC provides that, so long as the WTC is owned by the Port Authority, the New York City Zoning Resolution does not apply to the WTC Site. Pursuant to the New York State Urban Development

Corporation Act, LMDC and ESDC would also have the power to override local land use and building laws, ordinances, codes, charters, and regulations on the Southern Site after any acquisition.

Comment 168: Interim uses of land parcels on the WTC Site, prior to their development according to the proposed plan, should be discussed in the DGEIS. (Gerson)

Response: During the first phase, the entire Project Site would be under construction or used for construction staging. The 2009 analysis describes the interim development condition.

27.3.11 URBAN DESIGN AND VISUAL RESOURCES

Comment 169: On September 11, we lost two skyline elements. The 70-story Freedom Tower will barely pierce the skyline and will not be visible from New Jersey, Brooklyn or midtown. (Ramos)

Response: Freedom Tower will be taller than the comment suggests. The cable work structure above the solid portion of the building—though transparent to light and air—and the broadcast antenna above that, would become visible features of the New York City skyline.

Comment 170: The site plan for the proposed building on the southeast corner of the WTC Site should be revisited as the adjacent residential block at Cedar Street that consists of low rise buildings is a buffer between the 21st century redevelopment and historic New York. (Residents of 125 Cedar St.)

Response: Tower 4 would face south to the block bounded by Liberty, Church, Greenwich, and Cedar Streets. It would be the second shortest of the five towers proposed. It would be of a similar scale to One Liberty Plaza, the building it would face to the east. Chapter 4 of the GEIS, “Urban Design and Visual Resources,” indicates that the Proposed Action would increase the bulk along Church Street. However, the proposed towers are in keeping with the tradition of Lower Manhattan as a locus of high-rise buildings. Tower 5 on the south side of Cedar Street between Washington and Greenwich Streets would be the shortest of the five towers proposed as part of the Proposed Action. It would replace the existing damaged, high-rise building at 130 Liberty Street. However, Tower 5 would be set south of Cedar Street, allowing for the reopening of the street and its view corridor.

Comment 171: “Visual resources” are defined to include “natural or built features, as seen from publicly accessible locations.” Under this definition the physical remains of the WTC including the slurry wall and the box-beam columns forming the footprints of the Twin Towers, are “visual resources” and should be addressed in this chapter. All above-ground historic properties are “visual resources.” If the public’s ability to appreciate a historic resource is significantly enhanced by the ability to see it, and would be negatively affected by a Project-related change that would reduce or eliminate the ability for the public to view the resource, then an adverse effect will occur. (Coalition)

Response: The box-beam column bases and the slurry wall, as well as other existing elements of the WTC Site, are not in their current condition visual resources at the site, which is essentially a restricted construction site not accessible to the general public. The No Action Alternative that would allow these resources to remain in their current condition is fully analyzed throughout the GEIS and does not accomplish the purpose and need of the Proposed Action. To the extent these elements may have historic significance, they are discussed in Chapter 5, “Historic Resources,” and in the parallel Section 106 process referred to in that chapter.

Comment 172: The DGEIS notes that “portions of below-grade structures from the former WTC” remain. It is unclear whether these are mentioned because they are considered “visual resources.” (Coalition)

Response: See response to Comment 171, above.

Comment 173: The remains of portions of the Hudson and Manhattan (H&M) Terminal (a potential historic property) are dismissed from consideration because “they are not visible from street level.” However, they may be visible from other perspectives. The DGEIS notes that remains of the Hudson Tubes (a potential historic property) are “visible.” (Coalition)

Response: A ring of the Hudson Tubes on the east slurry is visible from the second floor of the Winter Garden in the World Financial Center. However, it is not considered a visual resource.

Comment 174: Impacts to on-site visual resources are not discussed for any of the scenarios. It is clear from the generic plans for the Project that views of these resources will change and in some cases, for example the box-beam columns that form the footprints, will be reduced or eliminated. (Coalition)

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Response: See response to Comment 171, above.

Comment 175: Certain sentences seem to imply that destruction of the Twin Towers was a good thing since views were improved. (Coalition)

Response: There is no such implication and none was intended. However, the analysis scenarios consider both pre-September 11 conditions and current conditions, in which some resources are more visible. As noted in Chapter 1, "Project Description," the Proposed Action would restore the open space, commercial and other uses while memorializing the events that destroyed the towers and surrounding area.

27.3.12 HISTORIC RESOURCES

Comment 176: The boundaries of the Primary Area of Potential Effect should be adjusted to include all of City Hall Park and the Battery Park Garage. Fulton Street from Nassau Street to Water Street should be considered as a Secondary Area of Potential Effect and include historic resources identified in preliminary documentation of Fulton Street, prepared by the Lower Manhattan Emergency Preservation Fund (LMEPF) because the Fulton Street corridor has the potential to be dramatically affected by the Proposed Action. The Greenwich South Corridor should include the following historic resources: 74-80 Washington Street, 109 Washington Street, 98-100 Greenwich Street, 21-23 Thames Street, 32-42 Trinity Place a.k.a. 69-79 Greenwich Street. In Figures 5-4 and 5-8, the buildings within the known historic districts should be shaded to indicate that each one is a known historic resource. (LMEPF, MAS)

Response: The boundary of the primary Area of Potential Effect (APE) has been redrawn to include all of City Hall Park and all of the Battery Garage. Figures 5-4 and 5-8 have been updated. As addressed in this chapter of the GEIS, the Proposed Action would not have any effect on historic resources at City Hall Park and the Battery Park Garage.

Adding Fulton Street as a potential secondary APE is not warranted. Further, Fulton Street is closed to vehicular access during the midday. No adverse impacts on traffic due to the Proposed Action were identified on Fulton Street at either Water Street or at Broadway. The material regarding the potential resources provided by the LMEPF for the above addresses in the Greenwich South Corridor was submitted to the New York State Historic Preservation Office (SHPO) and New York City Landmarks Preservation Commission (LPC). The text of the FGEIS reflects their determinations regarding those resources.

Comment 177: The language from the final determination of eligibility for the WTC Site National Register nomination should be adapted and included in the Historic Resources chapter. (LMEPF, MAS)

Response: Relevant portions of the Coordinated DOE, dated March 31, 2004, have been added to the FGEIS.

Comment 178: Functional integrity is not a standard criterion for evaluating the resources on historic sites or ruins. (HDC, NYNV)

Response: The reference to functional integrity was deleted from the text.

Comment 179: The planning of the project does not adequately connect to the surrounding historic area. (Fitch)

Response: The Proposed Action would benefit surrounding historic resources. Greenwich Street would reconnect the historic structures south of Liberty Street to the historic districts and structures of Tribeca. Fulton Street would reconnect historic resources east of Church Street with Route 9A, the highway which has traditionally carried traffic along the west side of Manhattan. Further, the proposed Liberty Park would have a positive impact on the historic resources south of Liberty Street which would benefit from such an open space. Overall, reconstruction of the WTC Site and the Southern Site would greatly improve the context in which the surrounding historic resources exist. Indefinitely, continuing to stand next to the WTC Site excavated by the recovery efforts and the damaged and shrouded building at 140 Liberty Street would not be conducive to their restoration and reuse.

Comment 180: The analysis leading to the proposed finding of no adverse effect on historic resources is problematic. For example, it does not address whether the slurry walls, with stabilization, could be preserved. (NYNV)

- Response:** The Coordinated DOE, issued by LMDC, the Federal Transit Administration (FTA) and Federal Highway Administration (FHWA) stated that the basement (slurry) walls could not continue to stand without the structure of the below grade levels of the WTC, which were removed during the recovery efforts. Stabilization to retain the walls as now exposed would further compromise their integrity and would not serve to provide permanent stability.
- Comment 181:** The DGEIS started from the premise that the project would have no adverse effect on historic resources, but does not contain enough information about the actual form of the project on the ground to determine how it will affect historic resources. (Coalition, HDC, NYNV)
- Response:** The Proposed Action is adequately defined both in Chapter 1, “Project Description,” and in Chapter 5, “Historic Resources.” Throughout the planning process for the Proposed Action, LMDC has made every effort to avoid any potential impacts through modification of aspects of the Proposed Action. For example, the Project Site was expanded to include the Southern Site in order to avoid having vehicular ramps and parking in the area of the Twin Towers’ footprints. Further, as stated in the FGEIS, the Proposed Action is not expected to have significant adverse impacts on historic resources on the Project Site—namely the WTC Site itself—or elsewhere in the APE under either analysis scenario. The Proposed Action would, however, have the potential to adversely affect some of the remaining remnants at the WTC Site. In implementing the Proposed Action, LMDC and the Port Authority would undertake appropriate efforts to avoid, minimize or mitigate any such adverse effects or any unexpected adverse effects on other historic resources. These efforts would include both the Environmental Performance Commitments described in Chapter 21, “Construction,” and the measures described in Chapter 22, “Mitigation,” and the Programmatic Agreement under consideration by LMDC.
- Comment 182:** The Proposed Action is still far too vague for its potential effects to be adequately assessed. (MAS)
- Response:** See response to comment above.
- Comment 183:** The DGEIS does not adequately address what aspects of the WTC Site contribute to its historical significance (e.g., the box-beam columns that outline the footprints on bedrock). (Coalition, HDC)
- Response:** The Coordinated DOE addresses the aspects of the WTC Site that contribute to its significance. The FGEIS has been updated to reflect the Coordinated DOE.
- Comment 184:** The Proposed Action is still far too vague for its potential effects to be adequately assessed. (MAS)
- Response:** See response to comment above.
- Comment 185:** The DGEIS stated that “The Plan proposes to conserve portions of the slurry wall and building footprints in order to create an appropriate Memorial” (p. 5-2), but does not identify which portions of these features will be “conserved” and which will be destroyed. (Coalition, HDC)
- Response:** Plans for the Memorial and the Memorial Center have evolved since preparation of the DGEIS. The FGEIS contains LMDC’s commitment to provide appropriate access to portions of the west slurry wall on the WTC Site and the box-beam columns outlining portions of the former Twin Towers. The Memorial area at grade would be accessible on all sides.
- Comment 186:** The DGEIS notes (p. 5-9) that there are four criteria for evaluating the National Register eligibility of historic sites, but it considers only one. LMDC’s determination of eligibility for the WTC Site also addresses only one criterion. It ignores the fact that many archaeologists and historic preservation experts believe at least several criteria apply, especially those that deal with the historic significance of the physical remains of the Trade Center. These criteria must be given full consideration since they directly determine how the project will affect historic aspects of the site. (Coalition, HDC)
- Response:** In drafting the Coordinated DOE, LMDC, FTA, and FHWA considered the applicability of each of the four national register criteria for evaluating significance. The FGEIS also considers the applicability of each of the four national register criteria for evaluating significance. The WTC Site is eligible for listing under Criterion A: “associated with events that have made a significant contribution to the broad patterns of our history.” The WTC, which was lost on September 11, might also have been eligible under Criterion B: “associated with the lives of significant persons in our past.” However, Criterion B is generally restricted to properties that illustrate, rather than commemorate, a person’s important achievement, and, therefore, Criterion B is not applicable. The

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WTC might also have been eligible under Criterion C: “embodies the distinctive characteristics of a type, period, or method of construction, or that represents the work of a master, or that possesses high artistic values, or that represents a significant and distinguishable entity whose components may lack individual distinction.” However, while the WTC may have been important in terms of its design and construction, the buildings and structures representing those qualities of design and construction no longer exist, and, therefore, Criterion C is not applicable. Criterion D pertains to archaeological resources which may yield information about our history and prehistory that would otherwise not be available to us. The events of September 11 and its aftermath are well-documented. Therefore, Criterion D is not applicable.

Comment 187: The DGEIS states that “The design of the Twin Towers and the WTC complex also required a number of innovative design and construction techniques “Perhaps the best known is the use of a slurry wall to create the bathtub . . .” (p.21-1). Yet LMDC, FTA, and FHWA in the Coordinated DOE for the WTC Site have taken the position that the WTC Site is NOT significant under National Register Criteria C—Design and Construction. (Coalition)

Response: As stated in the response above, although the WTC may have been important in terms of its design and construction, the buildings and structures representing those qualities of design and construction no longer exist, and, therefore, Criterion C is not applicable.

Comment 188: The discussion of archaeological resources at the WTC Site is based on two reports prepared in October 2003 which LMDC has not made available to the public. Why has LMDC refused to respond to Freedom of Information Law request for copies of these reports? (Coalition)

Response: LMDC has provided a copy of the reports to the Coalition of 9/11 Families. These reports are also on file with the SHPO and LPC.

Comment 189: The DGEIS states that “The last of the columns projecting into the floor of the bathtub were removed on May 28, 2002.” (p. 5-17) This is incorrect. The remains of the box-beam columns that form the “footprints” of the Twin Towers are intact and are clearly visible at the bottom of the bathtub. (Coalition)

Response: This text has been deleted as the chapter was modified to reflect the content of the Coordinated DOE.

Comment 190: The statement that the WTC Site “does not retain integrity of the overall design, materials, or workmanship” (p. 5-18) is unsupportable. The slurry wall and the exterior box-beam support columns were engineering features unique to the World Trade Center and were the reasons its construction was even possible. The physical remains of these features are intact and clearly document the key components of the World Trade Center’s design, materials, and workmanship. (Coalition)

Response: Chapter 5, “Historic Resources,” of the FGEIS has been revised to reflect the Coordinated DOE and, as a result, this text has been deleted.

Comment 191: Section 21.6.7 of the DGEIS states that “The potential that construction activities could lead to temporary but adverse cumulative effects was recognized by the agencies.” How then does LMDC justify its position that the project will have no adverse effect on historic properties? (Coalition)

Response: The chapter acknowledges the potential for adverse cumulative construction effects on cultural resources, which are then analyzed. LMDC has been working with all of the federal, state, and local agencies involved in the rebuilding efforts in Lower Manhattan to coordinate construction plans to avoid significant adverse impacts in terms of air quality, noise, traffic, economics, and cultural resources. Specifically in terms of historic resources, LMDC, the Port Authority, and Silverstein Properties are committed to following Environmental Performance Commitments as well as Construction Protection Plans while rebuilding the Project Site as detailed in Chapter 21, “Construction.” Therefore, the conclusion reached is one of no significant adverse impacts due to construction.

Comment 192: The period of potential significance is described as beginning on September 11, 2001. This should be revised to include the 1993 bombings and the original construction of the Twin Towers. By confining the period of significance to September 11 and later, no consideration is given to any of the historic components of the site that pre-date September 11. These include remains associated with the original

- WTC construction, remains associated with the H&M Terminal and Hudson Tubes, known and potential 19th century archeological remains, and the remains of the *Tynger*. (Coalition)
- Response:** See response to comment above.
- Comment 193:** The DGEIS notes the need to honor those who died at the WTC “on September 11, 2001 and on February 26, 1993 . . .” (p.21-2) Yet LMDC, FTA, and FHWA in the Coordinated DOE for the WTC Site have taken the position that the 1993 bombings do NOT contribute to the significance of the WTC Site. (Coalition)
- Response:** See response to two comments above.
- Comment 194:** The final determination of National Register eligibility starts the period of historic significance of the WTC Site on September 11, 2001. This needs to be extended backward to include the period of construction. At present the significance of the Twin Towers, the very thing that made them the targets of the September 11 attacks, is ignored. (Coalition)
- Response:** The period of significance begins on September 11, 2001, as that is the date when the significant event occurred. It is the significance of this event that qualifies the WTC Site for National Register eligibility. Prior to September 11, 2001, the Twin Towers and other buildings on the WTC Site were not listed on or considered eligible for listing on the National Register. In fact, in December 1989, the SHPO had determined these structures not eligible for listing on the National Register. But more importantly, since the buildings no longer exist, they cannot be evaluated based on their period of construction. Thus, the period of significance does not include the period when the Twin Towers were constructed or standing, as this is not the period during which the significant event occurred that qualifies the WTC Site for National Register eligibility.
- Comment 195:** The following properties in Table 5-1 should be updated to indicate that they have been heard by the LPC: item 14, 45-47 Park Place; item 15, 23-25 Park Place; item 59, 94 Greenwich St.; item 60, 94 ½ Greenwich St.; item 61, 96 Greenwich St.; item 69, 67 Greenwich St. The remainder of the text is acceptable for architectural resources. (LPC)
- Response:** Table 5-1 has been updated.
- Comment 196:** The LPC notes that the text reflects the findings of Historical Perspectives’ Phase 1As for B 54 and B 56 and for B 58 both dated November 2003. The LPC noted on January 14, 2004 that these reports should be revised to include the individual lot histories of the lots that HPI noted may contain archaeological resources before the need for further archaeological research can be established as until this work is completed no assessment of the potential significance may be made. In addition, the LPC further notes that more research is needed to verify that any archaeological resources on B 58 may have survived construction of the WTC. The text for the DGEIS should be changed to reflect these recommendations. (LPC)
- Response:** The text has been changed to reflect these recommendations.
- Comment 197:** St. Nicholas Church should be considered in the off-site historic resources analysis. (St. Nicholas Church)
- Response:** LMDC did consider the potential significance of the former St. Nicholas Greek Orthodox Church. While destroyed in the aftermath of the events of September 11, it does not satisfy any criteria for listing on the National Register. Background information on this property was sent to SHPO and LPC, and both SHPO and LPC concluded that the church site is ineligible for listing on the National Register and for designation as a NYCL, SHPO and LPC.
- Comment 198:** The redevelopment planning never included a meaningful investigation of historic resources on the WTC Site. The security restrictions of the emergency operation obscured public awareness of the ruins, such as the bases of the perimeter and core box columns that comprise the footprints of 1 WTC and 2 WTC. In fact, the study performed initially by LMDC did not identify any of the ruins of the WTC as historically significant and contributing to the eligibility of the site. All of the contributing features that have been recognized so far, and others that should be recognized, have been brought to LMDC’s attention by the consulting parties to the Section 106 review. LMDC did not perform its due diligence in examining the historic resources of the WTC Site. A proper assessment of historic resources should have been conducted at the start of the planning process in order to incorporate

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significant features in a sensitive and appropriate manner in the Proposed Action, consistent with the Secretary of the Interior's Guidelines. (HDC, NYNV)

Response: Remaining features on the WTC Site were documented in a field investigation and summarized in the Coordinated DOE. The significance of the physical remains on the WTC Site was considered as part of the Section 106 process and in the Coordinated DOE. The FGEIS, as well as the Coordinated DOE, have been revised to identify contributing elements.

Comment 199: There has not been a coordinated effort to identify and catalogue artifacts that were removed from the WTC Site, and many of which should be returned. More than two years after the disaster there is still not an inventory of which items exist and who has custody of them. This should have been an integral part of the planning process. (HDC)

Response: The Port Authority has completed an inventory of items that are in storage at Hanger 17 at John F. Kennedy Airport. In addition, the New York State Museum has prepared a draft inventory of items stored at their museum facility. Both these inventories are discussed in the appendix to the Coordinated DOE.

Comment 200: The DGEIS requires substantial revision to allow it to catch up with developments in the Section 106 review process. For example, the DGEIS identifies the footprints as existing at grade and 30 feet below grade. It does not acknowledge that the footprints are actually a historically significant place that exists at the bedrock level, defined by the bases of the tube and core box columns of 1 WTC and 2 WTC. Moreover, the DGEIS still indicates that parking for buses may be located below grade on the WTC Site, as well as many other infrastructure items and commercial functions. Nothing in the plan precludes these functions from being located on the actual footprints of the towers. The DGEIS refers only to access to unspecified, "portions of the bathtub at bedrock." (HDC)

Response: The FGEIS has been modified to reference the updated Section 106 process. The Coordinated DOE identified the box-beam column bases as elements that contribute to the significance of the Site. As part of the Proposed Action, bus parking would be located either on the Southern Site, or elsewhere on the WTC Site—but not on the footprints.

Comment 201: The statement "the Proposed Action is not expected to result in any significant adverse effects to historic resources . . ." is not supported by the data in the DGEIS. There is no explanation of what constitutes a "significant" adverse effect. Are there "non-significant" adverse effects? (Coalition)

Response: The text of the FGEIS has been clarified. The Proposed Action is not expected to have significant adverse impacts on historic resources on the Project Site—namely the WTC Site itself—or elsewhere in the APE under either analysis scenario. The Proposed Action would, however, have the potential to adversely affect some of the remaining remnants at the WTC Site. In addition, LMDC is considering a Programmatic Agreement that would include specific commitments and address any potential adverse effects on historic resources.

Comment 202: It is unclear why discussions of LMDC funding and LMDC's involvement process are included in this Chapter, on page 5-19. They should be removed, as they are not relevant to a discussion of historic resources. (Coalition)

Response: This text has been deleted. It was included in the DGEIS prior to the completion of the Coordinated DOE.

Comment 203: In discussing the Section 106 process (p. 5-7), the DGEIS notes that preparation of a Programmatic Agreement in accordance with the Section 106 implementing regulations is appropriate "when effects on historic properties cannot be fully determined prior to approval of an undertaking." That is exactly the reason why a Programmatic Agreement must be developed for the Proposed Action. (Coalition)

Response: LMDC is considering a Programmatic Agreement that addresses any potential adverse effects on historic resources.

Comment 204: The definition of the Area of Potential Effect (APE) in the Executive Summary is inconsistent with the definition provided in other sections of the DGEIS. (Coalition)

Response: Each analysis completed as part of the GEIS has its own unique study area, appropriate for the subject being analyzed. Thus, the study area (or Area of Potential Effect) for historic resources is different than the study area for other analyses, such as Land Use.

- Comment 205:** The southern boundary of the APE should be revised to include the entire Battery Garage structure. (Coalition)
- Response:** The southern boundary has been expanded to include the entire Battery Garage.
- Comment 206:** The WTC Site is *not* being considered for listing on the National Register of Historic Places. It has been determined eligible for listing. (Coalition)
- Response:** When the DGEIS was issued the WTC was being considered for listing on the National Register. Since completion of the DGEIS, the WTC Site has been determined eligible for listing in the National Register. The FGEIS has been updated to reflect this.
- Comment 207:** The statement that “In the Pre-September 11 Scenario there were no historic resources on the Project Site” is incorrect. The WTC itself, although never formally designated, was a historic site. Other potentially significant historic resources, including the original Hudson and Manhattan Railroad Tubes, were located on the WTC Site. Eligibility for the National Register is not dependent upon formal evaluation or designation. (Coalition)
- Response:** See response to comment above.
- Comment 208:** The statement that “As of September 11, none of the buildings on the WTC Site and Southern Site were listed on or determined eligible for listing on the S/NR or designated as a New York City Landmark,”(p.5-46) while true, is misleading. A more correct statement would be that none of the buildings on the WTC Site were ever evaluated to determine if they were S/NR eligible. Such an evaluation would have occurred only if a state or federal undertaking that would have affected the WTC Site was involved. Listing on the National Register would have required the consent of the Port Authority. The mere fact that the WTC Site was never listed or determined eligible for the State or National Registers of Historic Places does not mean it would not have satisfied the criteria for listing or eligibility. (Coalition)
- Response:** See response to comment above.
- Comment 209:** The DGEIS notes that “Historically, Lower Manhattan’s skyline was developed with the most technologically advanced buildings of the time,” but does not discuss historic technological innovations associated with construction of the Twin Towers. Page 5-3 does note that the H&M Terminal and the Twin Towers “were pioneering achievements for their time of construction” but does not discuss why. (Coalition)
- Response:** Structural and engineering features associated with construction of the Twin Towers were discussed in the Coordinated DOE. However, as described earlier, although the WTC and H&M Terminal may have been important for their design and construction, since the buildings and structures representing those qualities no longer exist, they cannot be considered significant.
- Comment 210:** LMDC acknowledges that the Twin Towers “represented American innovation and were a remarkable technological advancement (p.7-1). Yet Chapter 5 (Historic Resources) of the DGEIS, and the Coordinated DOE for the WTC Site, fail to take note of this when considering the historic significance of the WTC Site. (Coalition)
- Response:** As noted in the GEIS, the Twin Towers were the tallest buildings in the world at the time of their completion. The unprecedented events of September 11 destroyed those buildings. As described in the Coordinated DOE, the period of significance for the WTC Site begins with those events on September 11; thus, the technological advancements associated with the Twin Towers are outside this period. In addition, since the buildings and structures that would have represented those qualities no longer exist, they cannot be considered significant.
- Comment 211:** The DGEIS notes that “in the aftermath of the terrorist attacks, the Twin Towers became a symbol of antiterrorist resolve” (p.5-2). It would be more accurate to say, “the ruins of the Twin Towers became a symbol . . .” (Coalition)
- Response:** Images of the WTC in the aftermath of September 11 were widely broadcast to show the horror of the attacks and the dedication of many to the search and rescue efforts. As demonstrated in the spontaneous memorials and commemorative materials, images of the standing Twin Towers and renderings of them along with the United States flag were found all over the region and the country.

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- Comment 212:** The discussion of the Pre-September 11 Scenario (p. 5-3) makes no mention of the site’s historic association with the 1993 terrorist bombings. (Coalition)
- Response:** The purpose of the Pre-September 11 Scenario was to describe baseline conditions that existed on September 11, 2001, not to discuss the prior history of the site. The 1993 terrorist bombing is discussed in the Coordinated DOE and the FGEIS.
- Comment 213:** The identification of historic properties in the Proposed Action’s Area of Potential Effect was not completed at the time the DGEIS was issued. In addition LMDC has not completed its evaluation of the Action’s effects on historic properties. Yet discussions of both the Pre-September 11 and Current Conditions Scenarios contain the statement that “it is not expected that the Proposed Action would have an adverse effect on historic resources.” These statements were clearly premature and may be inaccurate given that LMDC has subsequently determined that the WTC Site is a historic property. (Coalition)
- Response:** Although the WTC Site had not yet been determined eligible, its potential eligibility was considered in the DGEIS. The text of the FGEIS has been clarified. The Proposed Action is not expected to have significant adverse impacts on historic resources on the Project Site—namely the WTC Site itself—or elsewhere in the APE under either analysis scenario. The Proposed Action would, however, have the potential to adversely affect some of the remaining remnants at the WTC Site. In addition, LMDC is considering a Programmatic Agreement that would include specific commitments and address any potential adverse effects on historic resources.
- Comment 214:** The physical remains of the WTC Site are dismissed in the discussions of architectural resources (p. 5-5) with the statement that “Certain below-grade elements remain.” What “elements” are being referred to, and what is their historic significance? (Coalition)
- Response:** This text has been deleted. Since completion of the DGEIS the Coordinated DOE for the WTC was completed. This document identifies elements of the WTC Site that contribute to its historic significance.
- Comment 215:** The DGEIS notes that federal agencies (which in this instance includes LMDC as HUD has delegated its NHPA responsibilities) must exercise a higher standard of care when considering undertakings that may affect National Historic Landmarks (NHLs) (pp. 5-7, 5-8). However, mention of the fact that the National Park Service is reviewing a request for NHL status for the WTC Site is deferred to a discussion of onsite *architectural* features (p. 5-14). This fact should be mentioned in this section. (Coalition)
- Response:** Text regarding the request for NHL status is appropriately located under the discussion of the WTC Site.
- Comment 216:** Although the historic resources chapter contains photos of virtually every structure surrounding the WTC Site, there are no photos of the on-site historic resources such as the box-beam column remnants that form the footprints of the Twin Towers. (Coalition)
- Response:** Photographs of surviving features on the WTC Site are included with the Coordinated DOE in Appendix K.5 as well as in Appendix K.6.
- Comment 217:** The DGEIS states that the Coalition of 9/11 Families has requested the National Park Service to consider “the footprints to bedrock of the Twin Towers for NHL status.” This is incorrect. The Coalition has requested that NPS consider the entire WTC site for NHL status. That would include the actual footprints of the Twin Towers as delineated by the remains of the box-beam support columns on the floor of the bathtub (*at* bedrock)—not the midair “footprints” implied by LMDC’s “*to* bedrock” (emphasis added) phrasing. (Coalition)
- Response:** The text in the FGEIS has been modified to reflect this comment.
- Comment 218:** The DGEIS implies that the slurry wall does not have integrity because “it was not designed to be freestanding and left without structural support.” (p. 5-18) This incorrectly implies that any historic site requiring stabilization could not be eligible for the National Register. (Coalition)
- Response:** The Coordinated DOE identified the slurry walls as contributing elements of the WTC Site. The FGEIS has been updated to reflect this.

Comment 219: The DGEIS states that the SHPO has determined that remains of the Hudson and Manhattan Terminal and the Hudson Tubes do not satisfy the criteria for National Register eligibility. Reference is made to an August 19, 2003 Field Inspection Report. However, none of the information from that report is provided and it has not been made available to any of the Consulting Parties in the Section 106 process. The field inspection report should be included as an appendix. There is no discussion of the Hudson and Manhattan Cofferdam, a potentially significant historic resource still extant and functioning on the WTC Site (briefly noted in Chapter 11). There is no mention of the fact that DGEIS Chapter 21 says that the remains of the H&M Terminal will be demolished. (Coalition)

Response: The inventory of the WTC Site included in the Coordinated DOE and FGEIS is based, in part, on the August 19, 2003 Field Inspection Report. The H&M Terminal has been in part determined ineligible for listing in the National Register; therefore, a discussion regarding specific elements associated with the former terminal was not warranted.

Comment 220: The Coalition objects to the unqualified statement that “The victims’ families called for rebuilding of the WTC Site.” (p. 5-19) A more correct statement would be that “The victims’ families called for rebuilding of the WTC Site in a manner that respects the historic aspects of the site.” The EIS should be changed accordingly. (Coalition)

Response: The text has been deleted as the FGEIS was updated to reflect the Coordinated DOE.

Comment 221: The DGEIS states that the Proposed Action “would make visible each of the one acre areas occupied by the Twin Towers, allow access to *a portion* [emphasis added] of those footprints at bedrock . . .”(p. 5-42) There is no discussion of how this will be done, or of what “a portion” means. Anything less than full public access in a manner that allows the historic and emotional significance of the footprints to be fully conveyed is an adverse effect and must be addressed. On March 11, 2004, LMDC verbally advised the Consulting Parties in the NHPA Section 106 process that responsibility for insuring access to the footprints would be the responsibility of the final designer for the Memorial. This issue must be addressed in future versions of the DGEIS. (Coalition)

Response: In developing its plans for the WTC Site, LMDC has committed to provide for appropriate access to portions of the west slurry wall on the WTC Site and the box-beam column bases outlining portions of the former Twin Towers.

Comment 222: The Electric Bond and Share Company Building should be more properly referred to as the EBASCO Building. (Coalition)

Response: The acronym “EBASCO” was added to the description of this building in the FGEIS.

Comment 223: The discussion of 90 West Street (p. 5-33) does not discuss the significant engineering accomplishments associated with the construction of this building. (Coalition)

Response: Since 90 West Street is already a known resource, documented in several written sources, only a brief description of the property was necessary.

Comment 224: Restoring street linkages through the WTC Site is described as beneficial to historic resources. While this may be true, there is no discussion of how this would affect other historic resources, particularly the extant physical remains of the WTC. It is likely that restoration of some street linkages would adversely affect these features. (Coalition)

Response: It is not anticipated that the reintroduction of streets would have an adverse effect on the WTC Site. LMDC is considering a Programmatic Agreement that addresses any potential adverse effects on historic resources.

Comment 225: Reopening streets through the WTC Site will destroy historic resources by paving up much of the site with asphalt for vehicular access. (Oliff)

Response: See response to comment above.

Comment 226: The statement that “Overall, the Proposed Action is not expected to have any adverse contextual or visual effects on any known or potential historic resources in the area surrounding the WTC Site” (p. 5-43) is not supported by the information in the DGEIS. The qualifier “overall” should be eliminated from the statement. Other chapters of the DGEIS acknowledge that there will be adverse visual impacts (shadows) to known historic properties. The subjective explanation for the “no adverse effect” conclusion regarding “contextual” effects is meaningless. This evaluation should be conducted

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using the standards of adverse effect used in Section 106 review as they relate to “historic context” and “setting.” This will insure a uniformity of analyses relating to historic properties and result in evaluations consistent with those derived through the Section 106 process. (Coalition)

Response: The comment implies that additional shadows on the graveyard at St. Paul’s Chapel would have an adverse effect on that historic resource and that text in Chapter 5 should be changed to reflect this analysis of shadows. The comment is incorrect. The context or setting (in the language of 36 CFR § 800.5 Assessment of Adverse Effects) of St. Paul’s Chapel has long included high-rise buildings which cast shadows, as is typical of most locations in Lower Manhattan. Therefore, the return of high-rise construction to the WTC Site and the shadows that the proposed buildings would cast would not alter or adversely affect the setting of the historic resource or the characteristics that make St. Paul’s Chapel eligible for listing on the State and National Registers.

Comment 227: The conclusion that increased traffic levels would not have an adverse effect on historic resources is unsupported (pp. 5-44, 5-46). The DGEIS acknowledges that there will be a cumulative increase in traffic-related effects. Rather than the subjective analysis employed here (or the other criteria employed in Chapter 14), the more objective criteria of adverse effect used in the NHPA Section 106 process should be applied. Chapter 14 of the DGEIS acknowledges that there will be an increase in carbon monoxide (CO) and particulates (PM_{2.5} and PM₁₀) as a result of the Proposed Action. These increases can be directly related to an increased potential for materials damage and the acceleration of on-going damage processes. (Coalition)

Response: The comment implies that traffic generated by the Proposed Action would result in increased air pollution specifically CO and PM which would damage building façade materials and accelerate on-going damage processes.

Carbon monoxide (CO) is considered a nonreactive gas. It does not react rapidly with surfaces and has low water solubility. Therefore CO would not impact surfaces of surrounding buildings made of stone, brick or terra cotta. Building facades would be most impacted by acidic deposition and soiling, due to particulate matter (PM) emissions in general and compounds that are converted into acidic gasses. Since that process takes place over time in the atmosphere, it is generally a regional or long-range-transport issue, not a local one. The Proposed Action is not predicted to have a significant impact on regional emissions.

Diesel engines emit PM, much of which is soot which is associated with the soiling of structures. During construction, LMDC would employ the best available PM reduction technologies, thus significantly reducing the general emission of PM and its constituents. LMDC construction engines would also be using ultra low sulfur diesel, so negligible amounts of sulfur would be emitted, virtually eliminating the potential for increased sulfuric acids.

Comment 228: The historic significance of the physical remains of the WTC are still being evaluated. At this time it is not possible to say whether or not they will be adversely affected. (Coalition)

Response: LMDC is considering a Programmatic Agreement that addresses any potential adverse effects on historic resources.

Comment 229: It is unclear why “new open spaces” would improve the setting of historic resources (p. 5-45). There would certainly be a change in setting, and one could just as easily argue that the new setting is inconsistent with the original historic context (setting) of these same resources. (Coalition)

Response: It is anticipated that the new open spaces that would be created as part of the Proposed Action would improve the setting of historic resources by increasing view corridors and providing additional views to historic resources located in the Area of Potential Effect.

27.3.13 COMMENTS ON ARCHAEOLOGICAL RESOURCES

Comment 230: The DGEIS states that “For archeological resources, the APE is generally the area to be excavated by the Proposed Action” (p. 5-10). However, that definition is not appropriate for the Proposed Action. There are archeological resources present in areas (notably the bathtub bottom) where no excavation will occur. These resources may be directly affected by removal, alteration, or destruction, but not by excavation. They may also be affected by actions outside the immediate area of disturbance if access

to them is impeded or their ability to convey their historic significance is impaired or reduced. (Coalition)

Response: According to both 2002 LPC and 1994 SHPO standards, the APE for archaeological resources is defined by the limits of proposed new ground disturbance.

The box-beam column bases are not archaeological artifacts; they are architectural elements. As noted in the National Register Bulletin Guidelines for Evaluating and Registering Archeological Properties (2000), archaeology is the study of past ways of life through material remains (page 7). The study of archaeological resources has three goals: (1) to reconstruct sequences of societies and events in chronological order in local and regional contexts; (2) to reconstruct past lifeways; and, (3) to achieve some understanding of how and why human societies have changed through time (page 7).

A determination of archaeological significance is usually based on the National Register of Historic Places' Criterion D, which states that a site has "yielded or may be likely to yield information important in prehistory or history." As noted by the National Register Bulletin No. 22, *Guidelines for Evaluating and Nominating Properties that Have Achieved Significance Within the Past Fifty Years*, sites that are less than 50 years of age are difficult to justify. "Scholarly information sufficient to determine the comparative value of recent archaeological sites tends to be very limited. It is especially difficult to determine what kinds of information can be derived from site remains as opposed to that available in written records, oral testimony, and photographs" (page 14).

The remaining architectural elements of the WTC serve as reminders of a recent and horrific event; they are not, however, features that can be analyzed for in-depth insights into cultural processes.

Comment 231: The DGEIS fails to consider that the WTC Site is itself a historic property. The WTC Site is both a ruin and an archeological site. Treating the WTC Site as an archeological site would allow for the recognition that the site has numerous components associated with different time periods and different historic contexts. (Coalition)

Response: The WTC cannot be considered an archaeological site until field investigations are conducted and there is substantive evidence that the site could yield important information for our understanding of the past that would not be available in construction records or other available documents. Extant components of historic-era construction on this location, i.e., transportation structures and elements of the WTC foundation, do not automatically constitute an archaeological site or district. As described in Chapter 5, Phase IB testing has been recommended for the north and south portions of the WTC Site, east of the No. 1/9 IRT subway and portions of the Southern Site.

Comment 232: Phase IB archeological investigations are recommended in the area east of the bathtub. Whose recommendation is this? There is no commitment from LMDC to do so, and no discussion of what would happen if the Phase IB (and possibly subsequent Phase II) investigation locates significant archeological remains. (Coalition)

Response: Based on Phase 1A research, Historical Perspectives, Inc. recommended archaeological investigations of potential pre-1850 historic resources on the south side of Vesey Street (between Church and Greenwich Streets) and the north side of Liberty Street (between Church and Greenwich Streets) east of the bathtub, in addition to Block 56. Upon review of the 1A technical reports, LPC requested topic-intensive investigations of the flagged historic lots. The topic-intensive report is in final draft stages. LPC requires a fully detailed testing protocol prior to the initiation of any field investigation. A function of the protocol is the specification of treatment during and after excavation of recovered artifacts. It is premature at this time to define processes that may or may not be applicable to future action, approved by LPC, or the responsibility of the DGEIS authors. In addition, LMDC is considering a Programmatic Agreement that addresses treatment of potential archeological resources.

Comment 233: The DGEIS states (page S-56) in reference to archeological resources that "the Proposed Action would have one or more significant adverse impacts that would require mitigation measures to avoid

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or reduce impacts.” This directly contradicts other statements that there will be no adverse effects. (Coalition)

Response: The text of the FGEIS has been revised in response to this comment.

Comment 234: Site 26 was never discussed in the archeological assessments used as a basis for the DGEIS. Although Site 26 is located on landfill, the depth of disturbance associated with the Proposed Action is unknown. As a result, there is a possibility that excavation on Site 26 could intersect former land surfaces with a potential to contain Native American archeological sites. (Coalition)

Response: Site 26 is no longer under consideration and has been removed from the FGEIS as part of the Project Site.

Comment 235: Neither the DGEIS nor the archeological assessments refer to the most recent geoaicheological research in lower Manhattan (e.g., studies conducted in connection with the Foley Square Federal Courthouse, and 107-111 Worth Street) which has identified a buried soil horizon believed to extend across lower Manhattan and dated to approximately 2000 BP (Before Present). Determining if this soil horizon is present or has been intersected and removed by modern construction is essential to evaluating the archeological sensitivity of the Project Area outside the limits of the bathtub. There is no evaluation of boring data collected specifically for the Proposed Action as referenced in Chapter 11 of the DGEIS. (Coalition)

Response: According to the geoaicheological report generated for the Worth Street site, which summarizes the studies conducted for the Foley Square project (Schuldenrein 2002), the buried soil horizon in question was found only in discontinuous locations within a geographically circumscribed portion of lower Manhattan, bounded roughly by Broadway on the west, Worth Street on the north, and the Foley Square/Five Points area on the south and east. Furthermore, the report associates this buried soil horizon with specific geological formations (such as glacial kames, or low and steep-sided hills), found within the Worth Street study area vicinity, but not necessarily across all of lower Manhattan. Although the report claims that this soil horizon might be found throughout lower Manhattan, there is no evidence presented that confirms its location beyond the particular sites that were investigated. Last, it should be noted that although this buried soil horizon was documented at several locations, no precontact period archaeological resources were found in association with this soil in any of the samples. Thus, it appears that the possible presence of this soil horizon within the Project Site cannot necessarily be assumed, nor is there any evidence to date that confirms the presence of this soil horizon is directly related to the recovery of precontact archaeological resources.

Comment 236: According to the DGEIS, “East of Greenwich Street it is likely that pre-contact [Native American] resources [archeological sites] would have been destroyed by basement construction in these areas as well as construction activities associated with the WTC.” This statement cannot be supported by the analysis in the archeological assessments and is contradicted by other data. The DGEIS notes that “Research on the Paleo-shoreline [which ran roughly along Greenwich Street] indicates the possibility of a bay from Cedar Street to north of the WTC and an irregular shoreline forming a spit of land near Vesey Street at about 40 feet below current sea level.” Such a location would be considered a likely location for Native American occupation and is included among the types of terrain preferred for Paleo-Indian sites according to the archeological assessment prepared for the project. Both the DGEIS and the archeological assessment note at least two areas east of Greenwich Street that have not been disturbed to a depth sufficient to have eliminated the potential for the presence of historic period archeological remains. The maximum depth of disturbance in these areas as documented in the archeological survey report is 24 feet below grade. According to the archeological assessment report for the area immediately south of the WTC Site, pre-WTC grade at Greenwich and Liberty Streets was 11 feet above sea level. The maximum depth of disturbance in these areas is 13 feet below sea-level, well above the height of the Paleo-shoreline at 40-feet below sea level where Native American archeological remains may be extant. (Coalition)

Response: The Paleo Shoreline would only have existed in areas once under the Hudson River, and not in areas east of Greenwich Street, which during precontact times appear to have been on firm ground. Thus, the depth of 40 feet below modern sea level applies only to those areas that were once inundated by waters of the Hudson River. Prior studies which concluded that there is no precontact sensitivity in

the LMDC study lots has been accepted by SHPO/LPC (Rutsch, West Side Highway, 1983 and HAA/HPI, Route 9A Reconstruction, 1989).

Comment 237: The statement that “On the Southern Site, any precontact archeological resources that may have once existed have almost certainly been destroyed by exposure to the elements along the ancient Hudson River shoreline” is not supported by any data in the DGEIS or the archeological assessments. It is equally likely that sediments deposited as sea levels rose in the area over the last 12,000 years would have buried archeological remains. A figure in the archeological assessment (reproduced from a 1983 archeological study prepared for the Westway Project) notes that sea level in the area at 12,000 years ago was as much as 100 feet below its current level. (Coalition)

Response: As described above, the Paleo Shoreline would only have existed in areas once under the Hudson River, and not in areas east of Greenwich Street, which during precontact times appear to have been on firm ground. Prior studies which concluded that there is no precontact sensitivity in the LMDC study lots has been accepted by SHPO/LPC (Rutsch, West Side Highway, 1983 and HAA/HPI, Route 9A Reconstruction, 1989).

Comment 238: The statement that “the Project Site is not considered sensitive for prehistoric archeological resources” is incorrect and should be eliminated or revised. (Coalition)

Response: Prior evaluations for possible, deeply-buried paleo shoreline sites on Manhattan’s Lower West Side have concluded that these fragile environments were certainly subject to strong tidal action of the Hudson River and subsequent dredging activities and compaction due to extensive landfill (Geismar 1987; Historical Perspectives, Inc. 1997; Historical Perspectives, Inc. 1989).

Comment 239: The Dutch ship *Tyger*, which burned on the Manhattan shoreline in 1613, is mentioned only briefly. The DGEIS notes that in 1916 the remains of the *Tyger* were recovered during construction of the IRT subway from within what is now the WTC Site near what was Greenwich Street near Dey Street. It does not consider that it is possible that remains of the *Tyger* remain embedded in the east side of the slurry wall along Greenwich Street. It is unclear from any of the information contained in the DGEIS or the archeological assessment if the edge of the excavation for the IRT subway abuts the slurry wall. If it does not, there is a possibility that some portion of the *Tyger* may still exist in the intervening area. This needs to be discussed in the DGEIS. (Coalition)

Response: According to the Port Authority drawings HPI reviewed, as well as the field visit, it appears that the slurry wall abuts the IRT subway wall. If there is any soil remaining between the slurry wall and the subway wall, it is invisible today. HPI’s understanding of the slurry wall construction (from the document referenced as Port Authority 2003 in the Phase IA reports) is that it is a solid wall of concrete which replaced the soil once located there. So unless the ship parts were excavated in preparation for construction of the slurry wall, then re-interred along with the concrete, it seems impossible that they could be imbedded within the slurry wall, as is suggested above.

Comment 240: The potential for the presence outside of the “former WTC construction footprint” of archeological shaft features (wells, privies and cisterns) which can be a source of important archeological information is noted. Although the possibility of pre-1850 remains on former lots that at one time had buildings with basements up to 20 feet deep is acknowledged, additional archeological investigation is recommended only on those lots that had basements less than 10 feet deep. (Coalition)

Response: The Phase IA report concluded that former lots which once had basements of up to 20 feet were probably too disturbed to yield remains of shaft features. Historic wells would have been excavated at least as deep as the historic water table, which is assumed by Port Authority engineers to be at approximately sea level, or zero elevation (the historic water table depth may have been higher in elevation, but should not have been lower in elevation). The surface elevation of the lots on Liberty Street and Vesey Street ranged from 11 to 25 feet above sea level, meaning that a 20-foot deep basement likely would have destroyed former shaft features. Based upon this information, these former lots were assigned a low archaeological sensitivity; a designation that does not completely rule out the possibility of shaft feature recovery, but acknowledges that this would be an unlikely occurrence.

Comment 241: The DGEIS notes that the archeological assessment for the Southern Site concluded that there is a potential for the presence of 18th and 19th century archeological remains on former Block 56 and

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- recommends archeological monitoring of construction “Since avoidance is not feasible.” This contradicts other statements in the DGEIS that adverse affects will be avoided. (Coalition)
- Response:** Phase IB investigations were recommended to document potential archaeological features. These areas cannot be considered as archaeologically important until field investigations are conducted and there is substantive evidence that the site could yield important information for our understanding of the past.
- Comment 242:** Quoting the archeological assessment, the DGEIS states that “Prior to any excavation work, an archeological monitoring plan should be developed.” There is no commitment in the DGEIS to prepare or implement such a plan. No information is provided on what the plan would include, and there is no discussion of how public comments on the plan would be considered. (Coalition)
- Response:** Any archaeological field work on the Project Site, whether pre-construction testing and/or archaeological monitoring, would be developed by LMDC in consultation with LPC (2001). LPC’s Guidelines (2002) outline the consultation process. In addition, LMDC is considering a Programmatic Agreement that addresses treatment of potential archeological resources.
- Comment 243:** The DGEIS notes that “Potential archeological resources on the Project Site could be impacted by construction of the permanent WTC PATH Terminal.” (pp. 5-40, 5-44) These statements need to be explained. The relationship between construction activities related to the Proposed Action and those related to future PATH construction in the same archeologically sensitive areas needs to be explained. (Coalition)
- Response:** This statement provides background information relating to the “Future Without the Proposed Action 2009” conditions. Under that analysis, the Proposed Action would not be implemented. In general, however, LMDC expects that construction activities would be coordinated among the public and private projects, as outlined in Chapter 21, “Construction.”
- Comment 244:** The DGEIS states that Phase IB archeological investigations on the WTC Site will be conducted prior to construction to “avoid adverse effects.” (pp. 5-41, 5-45 and 5-48) The carrying out of a Phase IB investigation would not avoid adverse effects. If the Phase IB investigations identified archeological remains, additional investigations, possibly culminating in archeological data recovery, would be necessary. This would constitute mitigation of an adverse effect. (Coalition)
- Response:** The text of the FGEIS has been modified.
- Comment 245:** On pages 5-41 and 5-45, the DGEIS states that the Hudson River bulkhead might be affected by tunnel construction if the bus garage were located on Site 26, and that the existing Programmatic Agreement for the Hudson River Park would be the “basis of coordination . . . to avoid, minimize, or mitigate adverse effects.” There is no mention that the bulkhead has been determined eligible for the National Register of Historic Places. No details about the content of the Programmatic Agreement for the Hudson River Park, or the proposed basis for mitigation, are included here or anywhere else in the DGEIS. Provisions to protect the Hudson River Bulkhead should be part of a broader Programmatic Agreement for the entire WTC Memorial and Redevelopment Plan Project. (Coalition)
- Response:** Site 26 is no longer under consideration and has been removed as part of the Project Site.
- Comment 246:** There is no discussion of “unavoidable significant adverse impacts” to historic properties. The possible need for archeological data recovery in three areas identified by LMDC as archeologically sensitive may constitute mitigation, but it does not avoid an adverse effect. (Coalition)
- Response:** Phase IB investigations were recommended to document potential archeological features. LMDC is considering a Programmatic Agreement that addresses treatment of potential archeological resources.
- Comment 247:** The statement that “the project Site is not considered sensitive for prehistoric archaeological resources” is incorrect and should be eliminated or revised. (Coalition)
- Response:** Prior evaluations for possible, deeply-buried paleo shoreline sites on Manhattan’s Lower West Side have concluded that these fragile environments were certainly subject to strong tidal action of the Hudson River and subsequent dredging activities and compaction due to extensive landfill (Geismar 1987; Historical Perspectives, Inc. 1997; Historical Perspectives, Inc. 1989).

27.3.14 COMMENTS ON PROPOSED FINDING OF NO ADVERSE EFFECT

Comment 248: The committee present at the Section 106 hearings and the views expressed were not an honest reflection of the opinions of the community at large. LMDC's plans for the site must go forward. (Seeman, BPC United, Coalition to Save West Street)

Response: LMDC's planning is going forward. All comments received at the consulting party meetings and all comments received in writing have been considered by LMDC.

Comment 249: The Proposed Finding of No Adverse Effect is not based on an acceptable Determination of Eligibility. The Determination is deeply flawed and lacks a factual and conceptual understanding of the Project Site's historic features, the basis of their significance, the aspects of integrity that they possess, and their contribution to the significance of the Project Site as a whole. (HDC, Coalition, Landmarks Conservancy)

Response: The Coordinated DOE has been updated to reflect comments received from the consulting parties. The content of the DOE addresses the significance of the WTC Site as well as the aspects of integrity it possesses. In addition, SHPO has concurred with the finding of the DOE.

Comment 250: The Proposed Finding of No Adverse Effect cannot be substantiated under the criteria in the Section 106 regulations, 36 C.F.R. § 800.5. Although the proposed finding is conceived as a "conditional" no-adverse-effect determination, i.e., predicated on conditions to ensure that adverse effects will be avoided, 36 C.F.R. § 800.5(b), the conditions are so vaguely defined that it would be impossible to provide any such assurance. For example, the proposed finding states in several places that allowing public access to bedrock, and to the truncated box-beam columns and a portion of the slurry wall, would "avoid" an adverse effect. However, the finding is not conditioned on any specific degree or quantity or quality of "access." (National Trust)

Response: LMDC is considering a Programmatic Agreement that would include specific commitments and address any potential adverse effects on historic resources.

Comment 251: A finding of No Adverse Effect is premature. The plans for the Memorial and the redevelopment are simply not detailed enough yet to enable LMDC to conclude with assurance that all adverse effects will be completely and utterly avoided. (HDC, Landmarks Conservancy, National Trust, Coalition)

Response: Following all comments received on the DGEIS and through the Section 106 process, Chapter 5, "Historic Resources," has been revised to include an updated discussion of the WTC Site.

Comment 252: LMDC's Proposed Finding and the Proposed Action allows for preservation and incorporation of historically significant materials in an appropriate manner. (Downtown Alliance)

Response: This comment supports LMDC's finding.

Comment 253: LMDC's Finding of No Adverse Effect is appropriate, since it leaves room to restore the important design elements of the WTC. (BPC United)

Response: Comment noted.

Comment 254: The Proposed Finding does not contain any technical reference to support any of the conclusions presented. Other than referring back to the DGEIS, there is no discussion of sources or resources consulted. (Coalition)

Response: The Coordinated DOE, on which the Proposed Finding is based, includes a detailed bibliography of technical and other sources consulted.

Comment 255: The appropriate mechanism for compliance with Section 106 in this case would be to develop a Programmatic Agreement (PA) or Memorandum of Agreement to govern the process for taking into account the effects of LMDC's proposed actions as the planning goes forward for the memorial and redevelopment and each should include any Memorial advisory committee. (National Trust, Landmarks Conservancy, Coalition, HDC)

Response: LMDC is considering a Programmatic Agreement that would include specific commitments and address any potential adverse effects on historic resources.

Comment 256: The February 9, 2004 letter transmitting the Proposed Finding states that the Proposed Finding "is conditioned on certain commitments by LMDC, namely, that the Proposed Action will be carried out consistent with the description contained in the enclosed document." The Proposed Finding does not

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describe any commitments by LMDC, nor does it contain a description of the Proposed Action. (Coalition)

Response: LMDC is considering a Programmatic Agreement that would include specific commitments and address any potential adverse effects on historic resources .

Comment 257: The Area of Potential Effect (APE) is not defined in the Proposed Finding or the DGEIS. LMDC has not provided the Consulting Parties with any documentation indicating that the APE was defined in consultation with the SHPO or the Consulting Parties . (Coalition)

Response: The APE is defined in Chapter 5 of the GEIS. SHPO has concurred with the APE.

Comment 258: The third paragraph of the Proposed Finding states that the Proposed Action was developed with due consideration to four factors: pre-September 11 uses of the WTC Site, the events of September 11, the need to remember those who were lost, and the urgent need to rebuild. There is no mention of the need to consider the significance of the physical remains of the September 11 attacks. Those remains constitute the principal tangible evidence of the attacks and deserve full consideration during the redevelopment process. (Coalition)

Response: The significance of the physical remains on the WTC Site were considered as part of the Section 106 process and in the Coordinated DOE. The FGEIS has been updated to reflect the Coordinated DOE, which addresses the aspects of the WTC Site that contribute to its significance.

Comment 259: The fourth paragraph of the Proposed Finding states that “Chapter 5 sets forth the reasons why LMDC believes that the Proposed Action will not adversely affect those historic resources in the APE that are not on the WTC Site.” However, in Chapter 5, discussion of impacts to historic properties in the APE beyond the WTC Site (for the Proposed Action 2009-Current Conditions Scenario) is limited to less than two pages. Further, the basis for the no adverse effect conclusion in the DGEIS is that Construction Protection Plans will be developed. More information on those plans must be given. (Coalition)

Response: The FGEIS concludes that the Proposed Action would have no significant adverse impacts on historic resources on the Project Site or elsewhere. The Proposed Action would, however, have the potential to adversely affect some remaining remnants of the WTC Site. As described in Chapter 21, “Construction,” LMDC would implement the Environmental Performance Commitments, as well as Construction Protection Plans. Specific recommendations for the Construction Protection Plans have been added to Chapter 21, “Construction.” In addition, LMDC is considering a Programmatic Agreement that would include specific commitments and address any potential adverse effects on historic resources.

Comment 260: LMDC has misquoted the Criteria of Adverse Effect. The Proposed Finding states that “Under Section 106, an adverse effect is found if an undertaking *will* (emphasis added) alter directly or indirectly, any of characteristics of a historic property that qualify the property for inclusion in the National Register in a manner that would diminish the property’s location, design, setting, materials, workmanship, feeling, or association.” This is identical to section 800.5(a)(1) of the Section 106 regulations except that LMDC has replaced the word “may” with the word “will.” LMDC’s citation of the Criteria of Adverse Effect sets the threshold for a finding of Adverse Effect higher than if the Section 106 standard was used. (Coalition)

Response: Comment noted.

Comment 261: LMDC has omitted all discussion in the Proposed Finding of the examples of adverse effects contained in § 800.5(a)(2) of the Section 106 regulations. For example, LMDC has omitted mention of the fact that “physical destruction of or damage to all or part of the property” is an adverse effect. LMDC has not discussed if or how the unidentified “physical remains” that it acknowledges “possess integrity” will be destroyed or damaged by the undertaking. (Coalition)

Response: Following all comments received on the DGEIS and through the Section 106 process, Chapter 5, “Historic Resources,” has been revised to include an updated discussion of the WTC Site. LMDC is considering a Programmatic Agreement that would include specific commitments and address any potential adverse effects on historic resources.

- Comment 262:** Nowhere in the Proposed Finding or in LMDC’s determination of eligibility for the WTC Site is the setting of the WTC Site defined or geographically bounded. (Coalition)
- Response:** As defined in National Register Bulletin 15, “setting is the physical environment of a historic property.” There is no geographic boundary used to define setting, as it “refers to the character of the place in which the property played its historical role.” The Coordinated DOE adequately defines the setting of the WTC Site.
- Comment 263:** The Proposed Finding of No Adverse Effect appears self-contradictory because it makes reference to several proposed mitigation measures. (HDC)
- Response:** LMDC is considering a Programmatic Agreement that would include specific commitments and address any potential adverse effects on historic resources.
- Comment 264:** The Proposed Action clearly has adverse effects. For example, in terms of setting, the disaster created a 16-acre open space comprised of the ruins of the WTC. Surrounding it on all sides were street walls of buildings damaged as a result of the disaster. The Proposed Action would reduce the open space from 16 to about 4-1/2 acres, surrounded on three sides by interposed new buildings and on the fourth by a new highway. The ways that the Proposed Action mitigates these adverse effects should be stated and justified. (HDC)
- Response:** LMDC is considering a Programmatic Agreement that would include specific commitments and address any potential adverse effects on historic resources.
- Comment 265:** It is not clear that full access to the footprints of 1 WTC and 2 WTC is assured. If not, this must be addressed as an adverse effect. Although the footprints do not need to remain exposed permanently, the character of the cover and the space that it creates is a primary consideration for evaluating mitigation. (HDC)
- Response:** LMDC is considering a Programmatic Agreement that would include specific commitments and address any potential adverse effects on his toric resources.
- Comment 266:** Access to box-beam footprints and slurry wall can contribute to the design of the Memorial, but it is not critical to preserve them in their entirety. (BPC United, Coalition to Save West Street)
- Response:** LMDC is considering a Programmatic Agreement that would include specific commitments and address any potential adverse effects on historic resources.
- Comment 267:** Anything less than providing for full public access to all of the extant box-beam columns (the Twin Tower’s “footprints”) in a manner that allows for their significance and emotional impact to be fully appreciated and interpreted would constitute an adverse effect. (Coalition)
- Response:** LMDC is considering a Programmatic Agreement that would include specific commitments and address any potential adverse effects on historic resources.
- Comment 268:** The voids in the grade level Memorial, known as “Reflecting Absence,” are intended to define the volume once occupied by the towers. It would be an adverse effect if this volume is reduced. (HDC)
- Response:** LMDC is considering a Programmatic Agreement that would include specific commitments and address any potential adverse effects on historic resources.
- Comment 269:** The statement in the Proposed Finding, “The importance of the transcending events of September 11 and its aftermath, the heroic rescue and unprecedented recovery efforts, do not depend on the presence of the actual structures in and around which they took place,” is unfounded. Such historical features, intact or ruined, have an unmatched power to convey the significance of the events with which they are associated. This is particularly true of events such as the World Trade Center disaster, which is so closely associated with a particular site, yet had such wide-reaching influence. The presence of authentic historical features on the World Trade Center Site is highly significant. (HDC, Coalition, Provost)
- Response:** Following all comments received on the DGEIS and through the Section 106 process, Chapter 5, “Historic Resources,” has been revised to include an updated discussion of the WTC Site.
- Comment 270:** The text refers to leaving “open the space at grade level where the Twin Towers stood...,” and refers to the “...appropriateness of recognizing the footprints in this manner...” This concept is supported with a quote from one of the consulting parties: “a footprint can be something that is written on the

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psyche or in the soul and on the heart and not necessarily always in steel and cement and concrete.” This quote has been taken out of context and should be deleted. (HDC, National Trust, Coalition)

Response: Comment noted.

Comment 271: At the March 12, 2004 meeting LMDC officials maintained that they have recognized that the physical footprints at bedrock level are distinctive features and that the creation of openings at ground level and thirty feet below are not a substitute for their preservation. If that is the case, the text should be completely revised to reflect that distinction. The text should indicate any adverse effects to either the physical footprints at B-6 bedrock level or to the grade level voids that define the volume that the towers once occupied. (HDC)

Response: LMDC is considering a Programmatic Agreement that would include specific commitments and address any potential adverse effects on historic resources.

Comment 272: Identification of the footprints at ground level is sufficient to preserve the integrity of location. (BPC United, Coalition to Save West Street)

Response: Comment noted.

Comment 273: The section headed “Materials” notes “Some physical remains on the WTC Site possess integrity of materials.” The “truncated box-beams outlining portions of the footprints of the Twin Towers” and the slurry wall are discussed in the context of physical remains “frequently identified by the consulting parties and others.” It is unclear if LMDC agrees that these are the physical remains that possess integrity of materials. If they are, the Proposed Finding should clearly say so. If they are not, the Proposed Finding should explain why they do not, and identify what remains LMDC does consider to have integrity of materials. (Coalition)

Response: Following all comments received on the DGEIS and through the Section 106 process, Chapter 5, “Historic Resources,” has been revised to include an updated discussion of the WTC Site.

Comment 274: The materials and workmanship remaining at the Site are not worthy of historic preservation. (BPC United, Howard)

Response: Following all comments received on the DGEIS and through the Section 106 process, Chapter 5, “Historic Resources,” has been revised to include an updated discussion of the WTC Site.

Comment 275: Several major historic features, including the ruins of the garage beneath 6 WTC, which are slated to be demolished, are dismissed as lacking “functional integrity.” However, their significance does not stem from their original function, and their viability as historic features does not rely on their performing their original function if preserved. In fact, they would not be permitted to perform their original function if preserved because they would be treated as historic ruins. Their demolition should be counted as an adverse effect. (HDC, National Trust, Landmarks Conservancy, Coalition)

Response: Following all comments received on the DGEIS and through the Section 106 process, Chapter 5, “Historic Resources,” has been revised to include an updated discussion of the WTC Site. LMDC is considering a Programmatic Agreement that would include specific commitments and address any potential adverse effects on historic resources.

Comment 276: The remnants of the parking and service levels under 6 WTC, the stair and escalator platform on Vesey Street, and the elevator contribute to the significance of the World Trade Center Site and if they will be altered or destroyed as part of LMDC’s undertaking, that is an adverse effect and ways to avoid or mitigate that adverse effect should be a topic for discussion among the agencies and the Consulting Parties. Photographic recording of these features, as proposed by LMDC in the Proposed Finding, may be an appropriate mitigation measure, but does not justify a no adverse effect determination. (Coalition)

Response: LMDC is considering a Programmatic Agreement that would include specific commitments and address any potential adverse effects on historic resources.

Comment 277: The bathtub and retainer wall do not have integrity of location and do not qualify for preservation on this basis. (BPC United)

Response: Following all comments received on the DGEIS and through the Section 106 process, Chapter 5, “Historic Resources,” has been revised to include an updated discussion of the WTC Site.

- Comment 278:** Several major historic features, including the ruins of the garage beneath 6 WTC, which are slated to be demolished, are dismissed as lacking “structural integrity.” Based on all information made available it appears that they are viable with stabilization and that this is not a valid consideration. No study or report has been cited to support a position that they would not be viable as ruins if protected and stabilized. (HDC, National Trust, Landmarks Conservancy)
- Response:** Following all comments received on the DGEIS and through the Section 106 process, Chapter 5, “Historic Resources,” has been revised to include an updated discussion of the WTC Site.
- Comment 279:** A number of significant elements within the site may well be relocated as decisions are made during the planning process. The effects of these potential choices have not been analyzed. For example, the Vesey Street stair and escalator platform, and building remnants with smoke scars, are significant, contributing elements that should be relocated in order to integrate them into the Memorial and ensure public access to these important features. (National Trust).
- Response:** LMDC is considering a Programmatic Agreement that would include specific commitments and address any potential adverse effects on historic resources.
- Comment 280:** LMDC should not preserve the smoke scars in the remains of the parking garage on the WTC Site, as it would focus on preserving the handiwork of terrorists rather than emphasize the preservation of the historic legacy of the WTC Site through rebuilding revitalization. (Coalition to Save West Street)
- Response:** Following all comments received on the DGEIS and through the Section 106 process, Chapter 5, “Historic Resources,” has been revised to include an updated discussion of the WTC Site.
- Comment 281:** The proposed finding states in the section on materials that certain physical remains were not “intended” to be used in the future, i.e., that the “intent” was to remove them, and thus, by implication, that carrying out the prior intent should not be considered an adverse effect. This suggests that a decision made prior to compliance with Section 106 should trump any meaningful analysis of effects, regardless of what information may later become available to make a decision that takes into account historic properties. (National Trust)
- Response:** Following all comments received on the DGEIS and through the Section 106 process, Chapter 5, “Historic Resources,” has been revised to include an updated discussion of the WTC Site. LMDC is considering a Programmatic Agreement that would include specific commitments and address any potential adverse effects on historic resources.
- Comment 282:** The Proposed Finding states in both the Materials and Feelings sections that “The Proposed Action would allow access to bedrock and truncated box-beam columns.” It does not explain how this is to be accomplished or what the quality of access will be. (Coalition)
- Response:** LMDC is considering a Programmatic Agreement that would include specific commitments and address any potential adverse effects on historic resources .
- Comment 283:** LMDC notes that the slurry wall was never intended to be exposed to the elements, yet LMDC’s determination of National Register eligibility starts the period of the site’s significance on September 11, 2001, just before the slurry wall was exposed for the first time by recovery efforts. It is the *exposed* slurry wall that contributes to the significance of the site. The Proposed Finding contains no description of how the slurry wall would be affected by LMDC’s undertaking, making it impossible to render either a finding of adverse effect *or* no adverse effect. (Coalition)
- Response:** The Coordinated DOE has been revised to address the elements of the WTC Site that contribute to its significance. The FGEIS has been updated to reflect this. LMDC is considering a Programmatic Agreement that would include specific commitments and address any potential adverse effects on historic resources .
- Comment 284:** The “Materials” section devotes a paragraph to the “remnants of the parking and service levels under 6 WTC at the north end of the bathtub, the heavily damaged stair and escalator platform on Vesey Street, and a specific elevator pit at the base of each tower” that the Consulting Parties identified as being of concern. The Proposed Finding states that “none of these remnants are considered defining in relationship to the WTC as a symbol of American commerce or to the attacks or to the rescue and recovery efforts.” LMDC has excluded the significance of the pre-attack World Trade Center from its National Register eligibility determination, and gone on record as saying that the Pre-attack World

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Trade Center was not National Register-eligible. In that context it is puzzling to see a reference to the WTC as a “symbol of American commerce.” The exposed remnants of the formerly subterranean parking and service levels at 6 WTC are, after the slurry wall, the most visually dominant component of the site as it exists today. They convey, perhaps even better than the slurry wall, the magnitude of the destruction that occurred on September 11. (Coalition, NYNV)

Response: Prior to September 11, 2001, the WTC was not eligible for listing in the National Register. Although the WTC was evaluated by SHPO in 1989 as part of the Route 9A Project and was determined ineligible for listing in the National Register, it was still considered a symbol of American commerce. The Coordinated DOE identifies the elements that contribute to the significance of the WTC Site. The FGEIS reflects the Coordinated DOE.

Comment 285: The elevator pits were identified by the Consulting Parties as significant because they are sole remnants of one of the three unique engineering aspects of the Twin Towers that made their construction possible (the others two being the exterior box-beam support columns and the slurry wall). However, LMDC by failing to acknowledge the significance of the construction of the Twin Towers, avoids having to address the fact that affecting the physical remains of these features, which document the unique engineering aspects of the Twin Towers, is adverse. (Coalition)

Response: The elevator pits were not considered to be contributing features of the site’s significance. In addition, the construction of the Twin Towers is outside the period of significance defined for the WTC Site in the Coordinated DOE.

Comment 286: The proposed finding states that “the importance of the transcending events of September 11 do[es] not depend on the presence of the actual structures in and around which they took place.” However, in that case, the integrity of feeling at the site would be adversely affected by the destruction or loss of the physical remains that survive. (National Trust, Coalition)

Response: LMDC is considering a Programmatic Agreement that would include specific commitments and address any potential adverse effects on historic resources.

Comment 287: Much of the Proposed Finding is devoted to discussion of ways in which features are not contributing rather than issues of effect. This is material that procedurally belongs in the Determination of Eligibility because it should already be established prior to assessing adverse effects. For example, the Proposed Finding states “none of these remnants are considered character-defining in relationship to the WTC as a symbol of American commerce,” a statement that does not reflect the essence of what the Determination found historic about the site. It also states that most of the ruins on-site are not character-defining in relationship “to the attacks or to the rescue and recovery efforts.” This is wrong since the disaster and subsequent recovery efforts gave shape to what remains. (HDC)

Response: The Coordinated DOE has been updated to identify elements of the WTC Site that contribute to its significance. The FGEIS has been updated to reflect the Coordinated DOE.

Comment 288: The Determination of Eligibility’s flaws stem from a misinterpretation of the guidelines being followed for State and National Register Eligibility review. The issue of “integrity”—which comes up frequently in the Finding of No Adverse Effect has been misconstrued. The event of import in this situation is one of massive destruction. What took place on September 11 resulted in the World Trade Center Site looking the way it does today, and it has been declared that those same events are the reason the site is eligible for the Registers in the first place. That being the case, whether the buildings and features that stood on the site *before* September 11 can still be said to maintain their “functional integrity” is not at all relevant to the Determination of Eligibility. In this very special situation, the word “integrity” should be interpreted to mean “providing evidence of the events of September 11.” If the agencies involved cannot interpret “integrity” in this manner, the issue of “integrity” should be taken out of this review, as it cannot possibly apply to a site where the meaningful event, by its definition, robbed all of the built features of their “functional integrity.” A new interpretation of “integrity”—or its removal from the discussion—would allow a more accurate assessment of important features of the site as it stands today, and would lead to a very different Determination of Eligibility and Finding of Affect. (MAS)

Response: Comment noted.

- Comment 289:** If the Proposed Finding stands it would draw the Section 106 process to an abrupt end without a successful resolution of outstanding issues. (HDC)
- Response:** Following all comments received on the DGEIS and through the Section 106 process, Chapter 5, “Historic Resources,” has been revised to include an updated discussion of the WTC Site. LMDC is considering a Programmatic Agreement that would include specific commitments and address any potential adverse effects on historic resources.
- Comment 290:** LMDC has failed to provide the Consulting Parties with information about what constitutes an adverse effect and under what circumstances a finding of no adverse effect is appropriate or to adequately involve the Consulting Parties in the application of the Criteria as required by the Section 106 regulations. (Coalition)
- Response:** LMDC has provided a great deal of information to the public and the consulting parties regarding the Proposed Action, engaged public participation throughout, and adhered to the letter and spirit of the NHPA. Following all comments received on the DGEIS and through the Section 106 process, Chapter 5, “Historic Resources,” has been revised to include an updated discussion of the WTC Site.
- Comment 291:** Although LMDC provided the Consulting Parties with hard copies of Chapter 5 of the DGEIS and a CD form of the entire document on February 4, it did not identify where within the DGEIS other than Chapter 5, information on historic properties is discussed. As a result, the Consulting Parties are being forced to conduct a line-by-line review of a 2000-plus-page document to assemble the information needed to participate in the Section 106 process in a meaningful manner. (Coalition)
- Response:** Historic properties were only discussed in detail in Chapter 5, “Historic Resources.” Any cross-reference to other chapters in Chapter 5 were clearly marked.
- Comment 292:** The Proposed Finding contains no description of the Proposed Action. It refers indirectly to the DGEIS. The Project Description contained in Chapter 1 of the DGEIS contains only general “principals for rebuilding,” “preliminary design concepts,” “design guidelines,” and a “mission statement.” This level of detail may be appropriate for a generic analysis and may satisfy the requirements for a generic environmental impact statement under NEPA, but it is totally inadequate for purposes of National Historic Preservation Act compliance. (Coalition)
- Response:** The Proposed Action is adequately defined both in Chapter 1, “Project Description,” and in Chapter 5, “Historic Resources.”
- Comment 293:** The restoration of the WTC Site should be given precedence over the preservation of historic artifacts and the memorial design. (BPC United)
- Response:** LMDC is committed to redeveloping the WTC Site. Both the Plan and Memorial that forms its heart reflect a powerful commitment to the history and historic significance of the WTC Site as a result of the events of September 11, 2001.
- Comment 294:** The features that survived the attacks of the World Trade Center and were left in place after the recovery and clean up operations are physical links to the site’s period of significance and convey the devastation of the attacks. They therefore should be recognized and described as contributing features in the National Register Nomination. (Landmarks Conservancy)
- Response:** The Coordinated DOE identifies the elements of the WTC Site that contribute to its significance. The FGEIS has been updated to reflect the Coordinated DOE.
- Comment 295:** The salvaged artifacts from the site currently stored in Hangar 17 at JFK Airport, as well as in various other locations, should be inventoried by thematic designation and included in the Determination of Eligibility. (New York Landmarks Conservancy)
- Response:** Artifacts stored in Hangar 17 and artifacts stored at the New York State Museum have been inventoried. Both these inventories are discussed in the Appendix to the Coordinated DOE.
- Comment 296:** The following feature should be deemed as contributing to the significance of the site: the slurry wall, the box column stubs that outline the perimeter of the two towers, the Vesey Street stair and entrance, portions of the garage with evidence of smoke and fire damage, and the column and beam construction in the form of a cross. (Landmarks Conservancy)
- Response:** The Coordinated DOE identifies the elements of the WTC Site that contribute to its significance. The FGEIS has been updated to reflect the Coordinated DOE.

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Comment 297: Downtown Alliance provided specific recommendations for changes to the text of the Proposed Finding of No Adverse Effect. (Downtown Alliance)

Response: Comment noted.

Comment 298: The physical condition of historic assets in the APE should be documented prior to the commencement of construction and then carefully monitored for any changes. Monitoring should include the use of devices that measure movement of settlement cracks and other pre-existing flaws as well as separate devices placed in strategic locations that measure vibrations and which set a certain limit to the amount of movement, or particle acceleration that can be safely tolerated by these buildings. (Landmarks Conservancy)

Response: As outlined in Chapter 21, "Construction," Construction Protection Plans, will be developed in consultation with SHPO for historic properties within 90 feet of construction activities for the Proposed Action.

27.3.15 OPEN SPACE

Comment 299: The CEQR standard specifies 0.15 acres per thousand people for workers and visitors, and 0.5 acres per thousand people for residents. This is because visitors and workers are thought to be passing through in a crowd, whereas the residents are seen taking more leisurely strolls with companions. (Dreyfus)

Response: The guidelines in the *CEQR Technical Manual* call for 0.15 acres of passive open space per thousand non-residents and 0.50 acres per thousand residents as a planning goal. As clearly stated in the *Manual*, these are not benchmarks against which potential impacts are to be measured, but rather optimal guidelines. Further, although most of Manhattan falls far short of these planning guidelines, for all conditions under both analysis scenarios the open space study area provides for more than the planning guideline of 0.15 acres and 0.50 acres of passive open spaces for every 1,000 non-residents and residents, respectively.

Comment 300: If LMDC actually complied with CEQR, the visitor and worker space would work out to be about six square feet for workers and visitors and 20 square feet for residents. But they don't. (Dreyfus)

Response: The *CEQR Technical Manual* guidelines do not require any particular amount of open space on a Project Site. Rather, they provide for measurement of open space in a given study area, because it is expected that workers and visitors will utilize passive open space within ¼-mile of a Project Site (and workers and visitors to other areas within the ¼-mile study area would use the passive open space amenities on the Project Site). The analysis includes all expected visitors, workers and residents in the study area, not just those generated by the proposed project.

As shown in Table 6-1, open space in the Study Area for the Proposed Action studied in this GEIS would surpass the recommended guideline in the *CEQR Technical Manual* for both non-residential and residential populations both before and after construction of the Proposed Action.

Comment 301: Given the projected figures for 2015, 68,000 visitors and workers and 33,155 residents, LMDC has provided for less than 60 percent of the CEQR standards for workers and visitors and less than 40 percent of residents' requirements. (Dreyfus, Civic Alliance)

Response: As shown in Table 6-1 of the FGEIS, there would be an estimated 62,530 workers and visitors on the Project Site (for a study area total of 212,944 workers and visitors) and an estimated 30,015 residents in the study area (but not living on the Project Site) in 2015, in the Current Conditions Scenario. As explained above, open space ratios for impact analyses are not calculated based on the Project Site alone. Table 6-1 calculates the amount of passive open space per 1,000 residents and non-residents, respectively, within the study area. The open space for resident and non-residents within the study area would surpass the recommended guideline in the *CEQR Technical Manual* in every condition.

Comment 302: Examining the original World Trade Center Plan you will notice that the side along Route 9A did not count as open space until after September 11. But the DGEIS includes the road shoulder on the other side of Route 9A in the open space calculations. (Dreyfus, Lumea)

Response: The area of the WTC Site along Route 9A prior to September 11 had few amenities and was not used as passive open space. It did not fulfill the definition of passive open space as outlined in the *CEQR*

Technical Manual and it was therefore not counted as useable open space in the pre-September 11 baseline conditions. Currently there is no area open to the public between Route 9A and the WTC Site. As analyzed in the DGEIS, the Proposed Action was assumed to provide an approximately 12,000-square-foot Memorial viewing area as well as a 17,080-square-foot widened sidewalk plaza in front of Freedom Tower, both with pedestrian amenities. However, with the new Memorial design, the Freedom Tower building footprint, and other plan changes since the DGEIS, the overall open space areas have changed and the analysis provided in this FGEIS has been revised to reflect those changes.

Open space on the other (west) side of Route 9A is counted in every scenario, before and after September 11, and in all future analysis years. It is a well-used bikeway/walkway extending from Battery Park north along the Hudson River.

Comment 303: The figures used for open space areas are inconsistent and should be reconciled in the FGEIS. In Table 2-1 open space areas total 4.85 acres. The area analyzed in Chapter 6 is 5.52 acres or a 13 percent overstatement. (Dreyfus, Civic Alliance)

Response: Table 2-1 included the primary named components of the Proposed Action, but was not intended to show every open space in the overall plan. Therefore, major open spaces such as Wedge of Light Plaza and Liberty Park were listed, but smaller spaces were not shown in that table. The number used in the DGEIS open space analysis (5.52 acres excluding the Memorial) correctly represented the amount of open space that would be provided on the Project Site, based on the DGEIS site plan. In the FGEIS all open space areas and analyses have been recalculated to reflect changes in the overall site plan, including the selected Memorial design, Freedom Tower, and the permanent WTC PATH Terminal entrance.

Comment 304: Neither the 4.85 acres cited in Chapter 2 nor the exaggerated 5.52 acres in Chapter 6 restore the net loss of residential amenities—open space pre-September 11 was 8.13 acres. (Dreyfus)

Response: The perceived acreage inconsistency is addressed in the above response. The DGEIS states that the 5.52 acres analyzed would represent less space than was on the WTC prior to September 11. However, based on qualitative factors such as location, accessibility, amenities, and scale (among others), the analysis concludes that the Proposed Action would not have a significant adverse impact on open space. The open spaces proposed in both the DGEIS and this FGEIS would be substantially more accessible, attractive, and inviting to the public than were Tobin Plaza at the former WTC and the upper level plaza of 130 Liberty Street.

As noted above, since the DGEIS was published, the site plan has been revised and the general design of the Memorial has been selected. Most notably the Memorial has been largely raised to grade and made easily accessible from the surrounding sidewalks. Because the selected design includes at-grade open space for quiet contemplation, it is included in the calculations for open space in the FGEIS analysis. As revised and described in Chapter 6, “Open Space,” the Proposed Action provides a total of approximately 5.62 acres of open space including the Memorial.¹

Comment 305: LMDC must verify and explain a number of assumptions with regard to open space. For example, the DGEIS indicates that “open spaces include sidewalks and streetscape” (page 2-4, Table 2-1). The FGEIS must recalculate purely “park” space and verify overall open space and confirm that the amount of usable open space in Lower Manhattan will not in fact decline as a result of the Proposed Action instead of increasing to improve the quality of life and account for significantly increased populations. (CB1, Nadler, Lumea)

Response: In general, urban open space includes not only “traditional” park land (such as Central Park or Union Square), but other areas that include amenities that are used for enjoyment and relaxation. Some examples of non-park open spaces would include urban plazas and elements such as sidewalk benches. Even some areas that are not intended to serve as open space resources, such as the steps of the New York Public Library, are often accounted for in open space analyses since they do function

¹ This calculation of passive open space acreage on the Project Site is a conservative estimate based on the revised site plan and Memorial Design.

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as such. None of the open spaces at the Project Site prior to September 11 were “traditional” parkland, but were urban plazas and sidewalk sitting areas. In addition, a portion of the Church Street sidewalk and service road were used for a greenmarket. For the purposes of the analysis in this GEIS, widened sidewalks or streetscapes that feature passive open space amenities such as benches, plantings, trees, tables and chairs, are included in the calculations of open space. Sidewalks and streetscapes that do not provide amenities are not counted.

Comment 306: The DGEIS indicates that the Proposed Action would result in “comparable” pedestrian-level wind conditions, but then later notes at some times wind conditions “may produce difficult walking conditions and pose potential safety problems...” unless measures are taken to reduce and mitigate undesirable wind effects. Appropriate mitigation measures must be taken to reduce any deleterious effects of wind. (CB1, Civic Alliance)

Response: The Project Site, located close to the Hudson River, would inevitably experience pedestrian wind effects during some periods. However, this is to be expected, and wind conditions would be no worse in the future with the Proposed Action than they were prior to September 11. A site-specific pedestrian-level wind analysis will be performed as the Memorial design is refined.

Comment 307: LMDC and the WTC Site developer must commit to: (1) conduct wind tunnel studies to determine how wind conditions will specifically affect 140 West Street, (2) take appropriate design measures to minimize adverse wind effects, and (3) design the WTC Project such that the new buildings do not channel winds at gale force or greater. (Verizon, Remschick)

Response: Comment noted. Wind conditions at the site are to a great extent attributable to nature, rather than design. However, an aggressive effort will be made to mitigate pedestrian level wind effects. These effects cannot be modeled with any degree of accuracy until design details are available for the performing arts center, the cultural spaces, the permanent PATH terminal, and other features.

Comment 308: The Proposed Action would benefit from a further reduction of building footprints to increase the amount of open space, at least to the amount presented in the original version of the Studio Libeskind master plan. In reducing building footprints and increasing open space, special attention should be paid to the relationships between buildings and activities and pedestrian flows to and from these activities. (Civic Alliance)

Response: The Proposed Action represents a balance of uses between memorial, commercial office, retail, pedestrian circulation, and vehicular circulation as well as open space for events and for recreation. In adding the Southern Site, LMDC and the Port Authority significantly increased the amount of open space provided by the Proposed Action.

Comment 309: The interim wind conditions resulting from the construction of three-story building pedestals before towers are fully built out should be studied. (Civic Alliance)

Response: The 2009 condition, in which the building pedestals but not the towers are constructed, will be assessed as part of the wind studies to be undertaken as described in the comments above.

Comment 310: Public space should be designed for year round use. (BPC United)

Response: Access to open spaces would not be limited during any time of the year, and it is anticipated that use of open spaces, particularly the Memorial, would continue year-round. Because of unavoidable seasonal weather conditions, it is probable that certain open spaces on the Project Site would be used more heavily in warmer months than during the winter months.

Comment 311: It is possible that the open space—set out in stingy no-contiguous plots—will not be sufficient for evacuating the new buildings. (Dreyfus)

Response: The proposed open spaces on the Project Site would have direct at-grade access to surrounding streets and sidewalks, providing potential egress routes for evacuation of the buildings on the Project Site. The extension of Greenwich and Fulton Streets through the Project Site would facilitate pedestrian and vehicular access to and from buildings on the Project Site. Further, sidewalks on the Project Site would generally be 25 feet wide, allowing for pedestrian movement in emergency conditions.

Comment 312: The use of the Deutsche Bank site for open space should be clarified. (Gerson)

Response: As described in Chapter 1, “Project Description,” under the Proposed Action the entire portion of 130 Liberty Street bounded by Liberty, Greenwich, Cedar and Washington Streets, would be incorporated into the proposed Liberty Park.

27.3.16 SHADOWS

Comment 313: The shadows analysis does not address the impact that shadows from the five towers will have on existing buildings in neighborhoods beyond the Project Site. (NYNV)

Response: The methodology in the *CEQR Technical Manual* requires shadow analyses to consider impacts on publicly accessible open spaces, sun-sensitive historic resources (such as stained glass windows), and natural features. These resources are studied because they or their users are sun-sensitive and could be affected by the shadows of a proposed project by limiting usage of the resource, affecting vegetation growth or reducing the beauty of a feature. Shadows are a normal feature of the urban environment. Therefore, shadows on building facades are not normally part of shadows analyses.

Comment 314: The DGEIS uses the standards in New York City’s *CEQR Technical Manual* as the basis for assessing visual impacts. That standard states “An adverse shadow impact is considered to occur when the shadow from a proposed project falls on publicly accessible open space, historic landscape, or other historic resources if the features that make the resource significant depend on sunlight.” While this may be the appropriate standard to apply for certain aspects of the environmental analysis, the adverse effect criteria defined in Section 106 implementing regulations should also be applied when dealing with historic properties. (Coalition)

Response: The implementing regulations of the NHPA state that an “adverse effect is found when an undertaking may alter, directly or indirectly, any of the characteristics of a historic property that qualify the property for inclusion in the National Register in a manner that would diminish the integrity of the property's location, design, setting, materials, workmanship, feeling, or association.” Examples of this include the introduction of atmospheric elements that diminish the integrity of the property's significant historic features. In the case of the Proposed Action, the historic buildings in the shadow sweep are not considered particularly shadow sensitive because they are part of such a densely developed area, where shadows from tall buildings are the norm.

Comment 315: Chapter 7 of the DGEIS described how several historic properties will be affected by incremental shadows. However, that analysis is limited to open spaces and ignores visual impacts on buildings and structures, including numerous National Historic Landmarks. (Coalition)

Response: The shadow analysis considers historic resources that have sun-sensitive features. While there are many historic resources in the area, the only sun-sensitive historic resource that would be potentially affected by shadows from the Proposed Action is the graveyard at St. Paul’s Chapel. The graveyard is considered sun-sensitive because it has trees, a path and benches. Incremental shadows on the graveyard at St. Paul’s Chapel are discussed in Chapter 7.

Comment 316: The statement that “No other historic resources [other than the graveyard at St. Paul’s Chapel] were identified that would be in the shadow path but not already shadowed by intervening structures” is incorrect. The DGEIS in section 7.6 notes that City Hall Park will be affected. City Hall Park is part of the African Burial Ground and the Commons Historic District which is listed on both the State and National Registers of Historic Places and is a New York City Landmark. All other historic properties within the shadow path associated with the Proposed Action should be addressed. (Coalition)

Response: The GEIS considered the impacts of the Proposed Action on City Hall Park. The FGEIS has been revised to clarify that City Hall Park is an open space that is also part of the African Burial Ground and the Commons Historic District. Similar to the Graveyard at St. Paul’s Chapel, City Hall Park has been in the shadow of tall buildings, some of which are historic skyscrapers, for many years. Therefore, the additional shadow would not affect this historic resource.

Comment 317: Undue impacts from shadows at Cedar Street from the Proposed Action should be reconsidered. (Residents of 125 Cedar Street)

Response: Shadow impacts consider only existing publicly-accessible open spaces, and sun-sensitive historic resources, and natural features. On Cedar Street, only Liberty Park qualifies for such assessment. As

described in Chapter 7, “Shadows,” incremental shadows from the Proposed Action would fall on Liberty Park. However, because Liberty Park would be created by the Proposed Action, such incremental shadows are not considered a significant adverse impact.

27.3.17 COMMUNITY FACILITIES

Comment 318: The FGEIS should explain why the DGEIS determines there are sufficient fire and police personnel when Appendix B states that the New York City Fire Department has not seen the WTC plans and the New York City Police Department will have 24 fewer staff than on September 11, 2001. The FGEIS must examine the need for additional police officers, firefighters and other emergency service workers, as well as the significant additional use of hospitals, daycare centers, parks and other open spaces and libraries under the Proposed Action. (FATE, Wall Street Rising, Gerson, Nadler)

Response: The guidelines of the *CEQR Technical Manual* do not require an analysis of community facilities if an action does not have a direct effect on police and fire facilities and would not introduce a new residential population. However, given the unique circumstances of September 11 and the size of the development proposed, it was determined that an analysis of certain community facilities was appropriate for inclusion in the GEIS. Therefore, the community facilities analysis examines the relevant public services that include the services of the New York City Police Department (NYPD), Fire Department of New York City (FDNY), and the Port Authority Police Department (PAPD), as well as local hospitals serving the area. It also discusses qualitatively the potential for library and day care facilities to be incorporated into future development on the Project Site. A fully quantified analysis of hospitals, public day care centers, and public libraries is not warranted, as these community facilities serve a primarily residential population.

As described in Chapter 8, “Community Facilities,” the PAPD would be responsible for providing day-to-day police services to the WTC Site. PAPD officers are also trained as emergency responders. In addition, the building managers and the managers of the Memorial and the cultural facilities would provide private security in coordination with PAPD. It is the responsibility of the NYPD and FDNY to provide sufficient protection to all areas under their jurisdiction. Any additional need for personnel or equipment created by the Proposed Action would be met by PAPD, NYPD and FDNY, though specific needs and the timing of deployment would be determined as portions of the Proposed Action are constructed.

An analysis of open space was undertaken as described in Chapter 6, “Open Space.”

Comment 319: The potential impact on existing schools, libraries, and day care centers, open spaces, recreational facilities and hospitals and the need for new facilities to serve the anticipated increase in the population of residents, workers and tourists in Lower Manhattan should be covered by the FGEIS. It is not accurate to conclude that, simply because the Proposed Action does not include residential development, there will be no impact on the community facilities that typically serve residential populations, such as schools, day-care centers and recreational facilities. In fact, the Community Board No.1 district has historically experienced significant load on such facilities from commuting workers who choose to have their children attend schools and day care facilities near the commuters’ place of work. (CB1, Gerson)

Response: The number of workers and visitors introduced to the Project Site as a direct result of the Proposed Action would be similar to the number of workers and visitors on the Project Site prior to September 11. If public schools and day care facilities experience an additional load due to children going to school or day care near a parent’s workplace on the Project Site, it would likely be similar to that which existed prior to September 11. It could be accommodated on the Project Site. There was a day care facility on the Project Site prior to September 11. If there is sufficient demand for day care, the Proposed Action would allow for such a facility. The New York Public Library located on Murray Street just north of the Project Site would experience comparable demand as prior to September 11. Additionally, a proposed library is expected to be constructed independent of the Proposed Action in Battery Park City by 2009. Open space and recreational facilities are addressed in Chapter 6, “Open Space.” It is expected that health care facilities would experience a slight increase in demand for services, but would not be significantly and adversely affected by the Proposed Action.

Comment 320: There is no analysis of the impact from traffic congestion on emergency services, such as ambulances stuck in traffic. (Gerson)

Response: The traffic analyses presented in Chapter 13A identify intersection delays and levels of service which would affect all modes of travel, including buses, taxis, autos, trucks, and to a lesser degree, ambulances and other emergency vehicles. Chapter 22, "Mitigation Measures," also identifies the specific capacity improvement measures that would mitigate most traffic impacts of the Proposed Action. Were congestion to exist at a certain location, ambulances and other emergency vehicles would be expected to utilize their capacity to avoid or get around such congestion points, much as they do today in all parts of New York City.

As described above, PAPD officers are also trained as emergency responders and they would be located on-site. In addition, Engine 10/Ladder would be expected to be designated as first responders for the Project Site. They are located immediately across Liberty Street and would therefore have a very short distance to travel to the Project Site.

Comment 321: In order to address future fire threats, the option of building additional or expanding existing fire stations around the WTC Site should be examined. (Butziger)

Response: FDNY constantly evaluates and responds to additional demands when they arise. The Fire House at 124 Liberty Street, which is newly renovated, as well as additional fire companies serving the Project Site (as listed in Table 8-1 of the DGEIS) would expand services, personnel, or facilities as necessary in the future with or without the Proposed Action (see Volume 2).

Comment 322: The DGEIS states that the NYPD and FDNY are adequately prepared to handle any situation, yet given the enormous influx of visitors, workers and new residents, LMDC must ensure that NYPD and FDNY are staffed according to planned growth of the area and that communications between the NYPD, the FDNY and the PAPD be fully integrated so as to avoid problems that have occurred in the past when the departments failed to communicate with each other. (CB1)

Response: The population introduced as a direct result of the Proposed Action (both workers and visitors) is comparable to the population at the WTC prior to September 11. Since September 11, measures have been taken on the local, state, and national level to improve inter-departmental communication among emergency services. These measures are described in greater detail in Chapter 8, "Community Facilities." In addition, the building managers as well as the managers of the Memorial and cultural facilities would provide private security personnel in coordination with PAPD.

Comment 323: The DGEIS should include an informed sign-off of the Proposed Action by NYPD and NYFD. (FATE)

Response: FDNY does have a role pursuant to a number of memoranda of agreement entered into between the Port Authority and FDNY pertaining to fire and safety codes. Each building of the Proposed Action would have a fire safety plan that would be reviewed and approved by FDNY and, where appropriate, other review processes. Consultation between the Port Authority and NYPD is ongoing.

27.3.18 SOCIOECONOMIC CONDITIONS

Comment 324: The Partnership for New York City issued its "Economic Impact Analysis of September 11" eight weeks after the attacks that found the future of Downtown Manhattan will be determined by the clarity and the pace of the rebuilding effort. Urban recovery efforts after several major earthquakes provide an invaluable lesson: those cities that quickly agreed on a recovery plan, even though it may have taken years to implement, maintained their economic strength. (NYC Partnership)

Response: Comment noted.

Comment 325: Many small businesses in Lower Manhattan will soon be faced with renewing leases. In order to remain in Lower Manhattan, they must be confident of its future. (NYC Partnership)

Response: Comment noted.

Comment 326: Construction jobs alone in Lower Manhattan will generate business to the local small businesses, bringing significant economic benefits to New York City. Construction jobs also bring significant tax revenue to the city, and could then offset the recent increases in property taxes and bridge tolls that

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force workers to move out of the city. The LMDC plan must move forward. (Messina, Building Trades Employers' Assn., Rayder)

Response: Comment noted. Sections 9.3.6 and 9.4.6 of the GEIS describe the estimated economic and fiscal benefits that would be generated by the Proposed Action's construction activities.

Comment 327: The construction industry workforce today is 40 percent minority. The new workforce entering the apprentice system is 85 percent African American, Latino and women, with 43 percent coming from Brooklyn, 24 percent from the Bronx and 18 percent from Queens. The Proposed Action will provide an incredible job creation, business expansion and increase in tax revenue benefits not just for Manhattan, but throughout the five boroughs of New York City. (Building Trades Employers' Assn.)

Response: Comment noted.

Comment 328: The DGEIS does not address the expected population growth of 25,000 persons by 2005 anticipated by Community Board 1. This growth will impact schools, open space, parking, pedestrian walkways, demand on services, community facilities, and traffic. (Silver, CB1)

Response: As described in Chapter 2, "Methodology," the GEIS accounts for anticipated growth based on future development without the Proposed Action for each scenario—i.e., those projects that are known to be planned for the study areas, and those projects that were generally known and expected prior to September 11. All quantitative analyses, including those referenced by the commenter, are consistent with this methodology. A background growth factor is also used in the analysis. The lists of future development, and the corresponding analyses, have been updated in the FGEIS; see Tables 2-3 and 2-4.

Comment 329: The socioeconomic chapter of the FGEIS should analyze the possible effects of slow economic growth and competition from other major projects and development following full build-out of the Project Site. (Fields)

Response: To determine the effects of the Proposed Action, the socioeconomic analysis uses all available information on the residential and commercial real estate markets within the Primary and Secondary Study Areas—including trends in residential and commercial rents, inventories, vacancies, employment, and absorption rates—and applies this information to known development expected to occur by the 2009 and 2015 analysis years. Analyzing possible economic conditions beyond 2015 is outside the scope of this GEIS analysis. In addition, competition, in itself, is not a factor for determining significant impacts within an environmental impact statement.

Comment 330: The FGEIS should study the effect of a loss of rental tenants when the LMDC grants run out in May, 2005. (FATE)

Response: The LMDC grant program is not a part of the Proposed Action, and the grant program is expected to expire irrespective of the Proposed Action. The GEIS evaluates the potential effects of the Proposed Action based on conditions expected to exist in the 2009 and 2015 analysis years. The GEIS analysis finds that Lower Manhattan has sustained, and will continue to experience, an increasing residential presence, as evidenced by the large number of residential development projects planned for Lower Manhattan by 2009. Even in the years prior to September 11, when the referenced program was not available, this trend was evident.

Comment 331: The office program is still too large and not based upon objective market analysis. (NYNV, Civic Alliance)

Response: The GEIS is not a market analysis; it analyzes the maximum amount of development expected to occur on the Project Site by the 2009 and 2015 analysis years. The purpose and need for the Proposed Action includes the revitalization of Lower Manhattan by providing the additional space necessary to attract new or returning tenants to Lower Manhattan. The socioeconomic conditions analysis finds that the approximately 11.5 million square feet of office space available in the future without the Proposed Action would fall short of expected demand, based on historic demand levels in Lower Manhattan by approximately 2.3 million square feet. In addition, the proposed office space would insulate the office market from dramatic upward spikes in rent that can occur under conditions of high office demand and tight supply. This was the case in some Lower Manhattan submarkets just prior to September 11, when vacancy rates below 3 percent led to substantially higher average rents compared to periods when vacancy rates were higher.

- Comment 332:** The DGEIS does not analyze the impact of the retail program. (NYNV)
- Response:** Chapter 9, “Socioeconomic Conditions,” includes analyses of the effects of developing up to 1 million square feet of retail space planned as part of the Proposed Action.
- Comment 333:** The assumptions about the proposed amount of retail space for Fulton Street should be included in the retail analysis for the Proposed Action. The Proposed Action needs to be more formally linked, analyzed, and coordinated in combination with other Lower Manhattan projects. (Civic Alliance, NYNV, MAS)
- Response:** The GEIS analyzes the effects of developing up to 1 million square feet of retail under the Proposed Action. As stated in the GEIS, it is anticipated that this retail space would serve as an anchor for shopping throughout Lower Manhattan, including on Fulton Street, which is close enough to the Project Site to be expected to benefit from this effect. As described in Chapter 2, “Methodology,” the Proposed Action is analyzed taking into consideration other projects anticipated for Lower Manhattan. Ongoing coordination efforts among the Lower Manhattan Recovery Projects are also described in Chapter 1, “Project Description,” and Chapter 21, “Construction.”
- Comment 334:** If 10 million square feet of office space is to be complete by 2015, the GEIS should analyze the impact of excess office space on vacancy rates, business activity, employment and quality-of-life in Lower Manhattan. The projected rate of absorption of 1.16 million square feet of office space in Lower Manhattan between 2010 and 2015 in the DGEIS may be optimistic considering forecasts of slow employment growth and competition from potential new office space in midtown, Jersey City and Manhattan’s Far West Side. The impacts of a glut of subsidized office space may not be as benign as the DGEIS indicates. (Civic Alliance)
- Response:** The GEIS analyzes the maximum amount of development that could potentially occur on the Project Site by the 2009 and 2015 analysis years in order to identify an outer envelope of significant impacts. The socioeconomic conditions analysis finds that the approximately 11.5 million square feet of office space available in the future without the Proposed Action by 2015 would fall short of historic demand levels in Lower Manhattan by approximately 2.3 million square feet. Additionally, the historic demand does not account for the lost employment due to the destruction of approximately 13.4 million square feet of office space on September 11. One of the purposes and needs of the Proposed Action is to revitalize Lower Manhattan by providing the additional space necessary to attract new or returning tenants to Lower Manhattan. The proposed office space also would insulate the office market from dramatic upward spikes in rent that can occur under conditions of high office demand and tight supply. Nevertheless, the actual phasing of the 10 million square feet of commercial office space would ultimately be determined in part by future demand for commercial space; if the 10 million square feet of office space were not fully developed by 2015, some of the economic benefits generated by office employment on the Project Site would be deferred.
- Comment 335:** The DGEIS fails to perform an environmental justice analysis as required by federal and state law and fails to address or analyze the effect of the Proposed Action on racial minorities or poor people. The DGEIS did not consider any alternatives that might address racial disparities and income inequities. (Spotlight on the Poor)
- Response:** The GEIS includes an environmental justice analysis in Chapter 20, “Environmental Justice.”
- Comment 336:** The DGEIS should reveal the results of the demand assessment done for commercial office space downtown in order to plan for the possibility that Silverstein only recovers one half of the insurance proceeds assumed to be available by the DGEIS. (Silver)
- Response:** The GEIS makes no assumptions as to the recovery of insurance proceeds. In addition to full completion of the Proposed Action in 2015, the GEIS analyzes conditions in 2009, which represents a partial build-out of the Project Site.
- Comment 337:** The Proposed Action needs to be more formally linked, analyzed, and coordinated in combination with other proposed actions located in Lower Manhattan. For example, the document referenced on page 9-72 of the DGEIS, “LMDC, Fulton Corridor: Creating a Vision for Enhanced Retail + Arts + Cultural Activities in Lower Manhattan, June 12, 2003, Volume 1, Strategic Plans,” should be made available to the public by inclusion on the LMDC web site. (MAS, Civic Alliance)

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- Response:** LMDC will make this document available as part of the environmental review record and the anticipated study report on the Fulton Corridor.
- Comment 338:** The DGEIS used 1990 and 2000 census data for population, race and economic characteristics, which is no longer timely. Updated data should have been used. (Spotlight on the Poor)
- Response:** As described, the Pre-September 11 Scenario is based primarily on 2000 census data. Because the census is performed only at 10-year intervals, it is impossible to obtain a fully accurate 2003 demographic and housing profile of the study areas. Thus, the Current Conditions Scenario is based largely on 2000 census data, and updated with anecdotal information and survey data compiled by LMDC and various other agencies and organizations involved in the development of Lower Manhattan. Much of the 2003 housing and population update is based on an assessment of housing units built in the study areas between 2000 and 2003, and corresponding population estimates based on 2000 average household sizes for each subarea. The list of recent housing development was compiled from a variety of other sources.
- Comment 339:** The DGEIS should have included an analysis of the number of housing units lost when calculating total housing units for the future. (Spotlight on the Poor)
- Response:** As described in the GEIS, the Proposed Action would not result in the direct displacement of any housing units. In terms of future development without the Proposed Action—i.e., those projects that are known to be planned for the study areas, as well as those projects that were generally known and expected prior to September 11—there are no known projects in the study areas that are displacing existing housing units. Given that the Proposed Action and other known projects would not displace housing units, there is no need for such analysis in the GEIS.
- Comment 340:** The secondary study area used does not make sense. For example, it splits the Chinatown community in half. It should have also included the Lower East Side. (Spotlight on the Poor)
- Response:** The primary and secondary study areas used for the “Population and Housing” sections of the socioeconomic conditions analysis conform to the Final Scope and are consistent with the primary and secondary study areas used in Chapter 3, “Land Use and Public Policy.”
- Comment 341:** The conclusion in the DGEIS that the Proposed Action would have no indirect residential displacement is incorrect. (Spotlight on the Poor)
- Response:** Chapter 9, “Socioeconomic Conditions,” finds that under either scenario the Proposed Action would not result in significant indirect residential displacement. The analysis of indirect residential displacement is consistent with the guidelines of the *CEQR Technical Manual*.

27.3.19 NEIGHBORHOOD CHARACTER

- Comment 342:** The DGEIS does not include enough information on the wider residential community. (Lamb)
- Response:** The neighborhood character analysis focuses on those areas, both residential and non-residential, that are most likely to be affected by the Proposed Action. Generally, the area nearest the Project Site would be the most likely to experience those effects, since pedestrians and auto traffic would be most concentrated on and adjacent to the site, and new structures, amenities and other proposed elements would be most apparent from the streets and sidewalks near the site. Since neighborhood character is a result of many contributing factors, such as land use, urban design, historic resources, socioeconomics, and traffic, the analysis drew on the other chapters for those technical areas. The study area boundaries common to these technical analyses help to define the study area for neighborhood character, which is essentially the same as the primary land use study area. The residential communities within that area are discussed throughout the chapter.
- Where warranted, the residential communities farther from the Project Site are addressed in other chapters, such as Chapter 3, “Land Use and Public Policy,” and Chapter 9, “Socioeconomic Conditions.”
- Comment 343:** The effect of a doubling of the area devoted to retail should be carefully evaluated. (Fields)
- Response:** The neighborhood character analysis concludes that increasing the amount of retail on the Project Site compared to pre-September 11 conditions and locating a substantial portion of that retail above ground would result in a livelier streetscape on and adjacent to the Project Site. This is considered a

beneficial effect that would enhance the pedestrian experience and benefit the immediate and surrounding areas. The increased retail presence at the Project Site could serve as an anchor for the Lower Manhattan shopping experience, drawing customers to the area, many of whom would then proceed to shop at other Lower Manhattan locations. (See also Chapter 9, “Socioeconomic Conditions.”)

Comment 344: The DGEIS asserts that “the Proposed Action would have substantial positive effects on neighborhood character throughout the study area and all of Lower Manhattan” (p. 10-25), while at the same time acknowledging that there will be “substantial pedestrian and vehicular traffic congestion” and “thousands of tourists filling the streets, sidewalks, and subway stations on weekdays and weekends”—all of which will have a significant impact on the overall character of each adjacent neighborhood as well as the entire study area. Many who currently live in these neighborhoods may disagree that “neighborhood character throughout the study area would be both enhanced and improved by the Proposed Action, and no significant adverse impacts would occur” (p. 10-16). To fully understand the potential impacts and how they might be mitigated, the DGEIS should provide a thorough analysis of the unique character of each of the surrounding neighborhoods and a detailed study of the potential impact of the Proposed Action on neighborhood character. (CB1, Nadler)

Response: According to the *CEQR Technical Manual*, a significant impact identified in one of the technical areas that can contribute to neighborhood character is not automatically equivalent to a significant impact on neighborhood character. The analysis recognizes that certain changes, such as increased traffic levels, can be expected throughout the Study Area. However, these effects would not be such that they would have a significant adverse impact on the overall character of the area. For example, many of the traffic impacts identified would occur on streets already characterized by high levels of traffic. In addition, mitigation measures have been identified to help relieve some of this congestion (see Chapter 22, “Mitigation”). Similarly, the context of the area has historically been one of a busy urban crossroads located in the heart of the central business district, and noise levels would continue to represent a relatively noisy urban environment. These factors are balanced against the expectation of the Proposed Action to revitalize Lower Manhattan as a center of commerce, culture, and residential living, and to remove post-disaster blighted conditions that currently exist at the Project Site and have a corresponding detrimental effect on the surrounding area. Generally, neighborhoods that are more varied in context, such as those that surround the Project Site, can tolerate greater changes without experiencing significant impacts to neighborhood character.

Comment 345: The DGEIS should analyze potential increases to commercial rents that drive out businesses and amenities that cater to residents rather than tourists. (CB1)

Response: Chapter 9, “Socioeconomic Conditions,” analyzes the potential effects of the Proposed Action on existing commercial office and retail rents. The analysis finds that the Proposed Action would not result in significant indirect commercial office or retail displacement due to increases in commercial rents. The anticipated uses on the Project Site, developed over time, would be consistent with the existing economic activity in the area, and would be of the type and amount that would support renewed economic activity. In addition, the development on the Project Site would provide neighborhood amenities, including open space and neighborhood retail, to serve the existing and future residential population as well as those working in the area.

Comment 346: The DGEIS should analyze anticipated impact on small businesses, including street closings, signage changes, restricted pedestrian access, construction barriers and other similar factors. (CB1)

Response: As stated in Chapter 9, “Socioeconomics Conditions,” the Proposed Action would result in an increase in foot traffic and overall activity throughout the study area, improving economic activity by increasing the customer base for small businesses in the area. The Proposed Action would make the area more attractive to retain existing and gain new businesses, and help to strengthen Lower Manhattan’s reputation as a major economic center for both small and large businesses. Workers, residents, and tourists would support small businesses throughout the study area by purchasing goods and services. The neighborhood character analysis does not include an analysis of temporary, construction period impacts. These are discussed in Chapter 21, “Construction Impacts.”

Comment 347: The DGEIS should analyze the Proposed Action’s potential to change property values. (CB1, Gerson)

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- Response:** Chapter 9, “Socioeconomic Conditions,” analyzes whether the Proposed Action would indirectly displace residents and businesses by increasing property values and rents, thereby making it difficult for some residents and businesses to remain in the area. The analysis finds that the Proposed Action would not result in significant indirect residential or commercial displacement, nor would it adversely affect the residential real estate market. To the contrary, the amenities associated with the Proposed Action would make the area livelier and would serve as a key component of the broader initiative to make Lower Manhattan a more attractive place to live, work, and visit.
- Comment 348:** The DGEIS should analyze anticipated increases of noise and traffic—especially at nights and on weekends—in neighborhoods that are now relatively quiet after working hours. (CB1, FATE)
- Response:** The neighborhood character analysis recognizes that traffic and noise levels would increase at the Project Site and in the surrounding study area as a result of the Proposed Action, but not to the degree that there would be significant adverse impacts to neighborhood character. As discussed above, many of the traffic impacts would occur on streets already burdened with high levels of traffic, and mitigation measures have been identified to help relieve some of this congestion. Traffic and noise impacts are not expected on many of the interior streets in the surrounding neighborhoods. As a result, no significant adverse impact to neighborhood character is expected in these surrounding neighborhoods.
- Comment 349:** The DGEIS should analyze potential threats to safety and health, including impact of increased traffic and potential for increased crime. (CB1)
- Response:** An EIS analysis of neighborhood character generally does not address issues of safety, health, and crime unless a proposed action is expected to have a substantial effect on these factors such that they would cause considerable changes to the surrounding neighborhoods. As defined in the *CEQR Technical Manual*, neighborhood character is an amalgam of various elements that give neighborhoods their distinct personality. These elements can include land use, urban design, visual resources, socioeconomics, historic resources, traffic, pedestrians, and noise. The focus of the neighborhood character analysis is on changes to neighborhood character resulting from changes in these technical areas. Safety and security on the Project Site is described in section 1.7 and police and fire services are also discussed in Chapter 8, “Community Facilities.” Overall, the Proposed Action is not expected to have a material impact on crime rates.
- Comment 350:** The DGEIS should analyze implications for the thousands of students who go to PS-234, BMCC, PS/IS-89, Stuyvesant High School, and other downtown schools. (CB1)
- Response:** The Proposed Action does not include a residential component, and it is not expected to add any significant number of students to area schools, as noted in Chapter 8, “Community Facilities.” Students living near or passing by the Project Site will generally experience the same neighborhood character, open spaces, and other benefits or impacts of the Proposed Action as other members of the public.
- Comment 351:** Although, in discussing its methodology for assessing impacts to neighborhood character, the DGEIS states that historic resources play a major role in determining neighborhood character, the fact that the WTC Site is a historic property is never mentioned in the discussion of the Project Site in section 10.3.1. (Coalition)
- Response:** As discussed in Chapter 10, “Neighborhood Character,” land use, urban design, visual resources, historic resources, traffic, pedestrians, and noise may each play a role in shaping the character of a neighborhood. To understand the extent to which the Proposed Action may affect a given neighborhood, it is necessary first to identify which of the above factors play a major role in determining that neighborhood’s character. Where applicable, the effect that each of these factors may have on neighborhood character at the Project Site and throughout the surrounding study area is addressed. However, every factor does not contribute to the overall character of every neighborhood. While the WTC Site as a historic property is discussed in detail in Chapter 5, “Historic Resources,” other factors, such as land use and urban design, are more prevalent in defining the existing character of the Project Site.
- Comment 352:** The Coalition strongly disagrees with the statement that “The design concept would respect the original footprints of the Twin Towers both at-grade [sic] to approximately 30 feet below . . .”(p. 10-

12). These mid-air voids are not the “original footprints” of the Twin Towers. The footprints are the outlines of the Twin Towers as delineated by the remains of the exterior support box-beam columns visible on floor of the bathtub. At its March 11, 2004 meeting with NHPA Section 106 Consulting Parties, LMDC acknowledged this. (Coalition)

Response: The Memorial voids represent the footprints of the former Twin Towers, and reflect the absence of the towers. As quoted above and stated in Chapter 10, “Neighborhood Character,” the Memorial design concept would respect the footprints of the Twin Towers through voids at grade and would provide access to the truncated box-beam column bases below grade.

Comment 353: The DGEIS should analyze potential to change residential demographics and the corresponding impact of such changes. (CB1)

Response: The Proposed Action does not include a residential component and therefore would not directly affect residential demographics. In terms of potential indirect effects, Chapter 9, “Socioeconomic Conditions,” analyzes whether the Proposed Action would increase property values and rents, thereby making it difficult for some existing residents to afford their homes. The analysis finds that under both the Pre-September 11 and Current Conditions Scenarios, the Proposed Action would not result in indirect secondary displacement that would lead to changes in residential demographics. The Proposed Action would restore the office presence on the Project Site to levels comparable to what existed prior to September 11, while the additional retail and other amenities would promote a more vibrant overall presence. Lower Manhattan has long been a center of world finance and a major economic engine for the entire region, but it has more recently become the fastest-growing residential neighborhood in the city. The various amenities planned as part of the Proposed Action reflect an existing and projected need from residents, rather than an effort to alter or accelerate trends in neighborhood character.

Comment 354: The effect of the Proposed Action and related construction activities on connectivity among neighborhoods, and the goal of making Lower Manhattan a model pedestrian neighborhood, should be discussed in the DGEIS. (Gerson)

Response: One of the goals of the Proposed Action is to extend streets back through the superblock and to reestablish the underlying fabric of Lower Manhattan neighborhoods with better connections between the areas to the north, south, east, and west of the Project Site. The GEIS examines the effects of this aspect of the Proposed Action.

Comment 355: To integrate the Project Site into the surrounding neighborhood would destroy the distinctive character of the Site. To turn the neighborhood into a 24-hour community would destroy its distinctive character. (Epstein)

Response: As described in the preceding response, a stated goal of the Proposed Action is to reconnect the Project Site with the surrounding neighborhoods. The plan for the Proposed Action provides a distinctive setting and restores the Lower Manhattan skyline, while meeting this goal. The analysis concludes that the Proposed Action would not have a significant adverse impact to neighborhood character.

27.3.20 HAZARDOUS MATERIALS

Comment 356: The GEIS must include the fact that a remediation for hazardous materials downtown was never performed even though the WTC Site is clearly a Brownfield site (massive diesel spills) and a Superfund site (toxins from building materials). (Grabe)

Response: The EPA, supported by the U.S. Coast Guard, assumed lead responsibility for the collection and disposal of hazardous materials at the WTC Site and in the surrounding area during the rescue and recovery actions. Based on their work, the EPA has not placed the WTC Site on the National Priorities List (i.e., Superfund) and NYSDEC has not characterized the WTC Site as a Brownfield site.

Comment 357: The DGEIS does not mention further testing of soil as the Proposed Action moves forward. The DGEIS also does not mention further testing of existing structures containing elevated asbestos and metal concentrations as the Proposed Action moves forward. (Hughes, Jones)

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- Response:** As indicated in the discussion of the Soil Management Plan in Chapter 11, “Hazardous Materials,” soil sampling would be performed during construction to document that the soil taken off-site meets the disposal facility’s permit requirements. Existing structures containing elevated asbestos and metal concentration would be cleaned prior to construction, removing these contaminants in accordance with all applicable regulations. See Chapter 11, “Hazardous Materials,” for further details.
- Comment 358:** LMDC should monitor the soil for compliance with all applicable federal, state and local rules and regulations in accordance with the Health and Safety Soil Management Plans and such post monitoring data should be provided on the LMDC website. (CB1)
- Response:** As indicated in the discussion of the Soil Management Plan in Chapter 11, “Hazardous Materials,” soil sampling would be performed during construction to document that the soil taken off-site meets the disposal facility’s permit requirements. As presented in the DGEIS discussion of the Health and Safety Plan and Soil Management Plan in Chapter 11, “Hazardous Materials,” dust control measures would be implemented. LMDC would consider appropriate format and timing of data dissemination.
- Comment 359:** The project should include the installation of metal grates at exits to clean tires of vehicles leaving the WTC Site and the spraying of water to contain debris within the site. (Hughes, Jones, CB1)
- Response:** Vehicles and equipment prior to leaving the site would be cleaned as indicated in the discussion of the Health and Safety Plan in Chapter 11, “Hazardous Materials.” The specific methods for cleaning will be determined prior to the start of construction and will include the cleaning of tires.
- Comment 360:** The Health and Safety Plan discusses spraying water around the Project Site and area when the ground is dry and that dirty vehicles should be cleaned before leaving the site. However, special provisions need to be made during the winter months when the water would freeze. In addition, the public has yet to see any vehicles or equipment cleaned prior to leaving the site or a washing station set-up. (Hughes, 9/11 Env. Action, Jones)
- Response:** During winter months, provisions would be made to maintain effective dust control and vehicle cleaning. As presented in the Soil Management Plan discussion in Chapter 11, “Hazardous Materials,” environmentally safe chemical foams may be used to control dust and the vehicle washing station may be constructed and/or heated to prevent the wash water from freezing, which are consistent with Port Authority practices. LMDC has not previously played a role in site management with regard to past site management and equipment practices.
- Comment 361:** The hazardous materials chapter has several incorrect references to other sections within the Chapter. (EPA)
- Response:** The internal cross references in the chapter have been revised.
- Comment 362:** LMDC and the Port Authority should continue to consult with the EPA and the NYSDEC regarding the treatment of hazardous materials, soils, and ground water. (EPA)
- Response:** LMDC and Port Authority agree.
- Comment 363:** The hazardous materials sampling/analysis conducted in November/December of 2003 only covered the Southern Site and the southeastern portion of the WTC Site. The document should disclose why an analysis of the northeastern corner and slurry wall portion of the WTC Site, as well as Site 26, was not conducted. (NYCDEP)
- Response:** The environmental sampling program consisted of the collection of soil and groundwater samples from the Southern Site and the accessible portion of the WTC Site. The northeastern portion of the WTC Site was not sampled due to access considerations (presence of building remnants and the temporary PATH Station). It was also expected that the concentrations of contaminants present in the fill and native soil, as well as groundwater located beneath the southeastern portion WTC Site, would reflect conditions elsewhere at the WTC Site, since there were no reported releases of contaminants in the northeastern portion of the site that would have contaminated subsurface soil or groundwater. Soil and groundwater samples were not collected from within the bathtub area of the WTC Site since no excavation is proposed as part of the Proposed Action. Dust and materials analyses of the slurry wall portion of the WTC Site were not performed for the GEIS due to the expectation that contaminant concentrations on the surfaces sampled in the northeast an southeast portions of the WTC Site would

reflect the range of contaminant concentrations found elsewhere on the site. Site 26 is no longer included in the Proposed Action.

27.3.21 INFRASTRUCTURE

Comment 364: The DGEIS does not describe the impact of the Proposed Action on power, gas, steam, water, sewer and telecommunications infrastructure on Liberty Street, West Street and other neighboring streets. Impacts could potentially trigger relocation of these utilities to neighboring streets. Mitigation should include installation of new utility infrastructure in the restored street network or elsewhere on the Project Site. (NYCDOT)

Response: The responsibility for maintaining utility services to the WTC Site and surrounding area rests with utility companies and responsible city and state agencies. After engineering plans for such work have been completed, work would be carried out according to accepted practices, which would likely involve temporary street openings associated with infrastructure improvements. LMDC and the Port Authority would continue to consult with responsible public and private entities in an effort to minimize any such temporary impacts.

Comment 365: There must be greater coordination among the public agencies and a greater degree of certainty introduced into the public planning process so that private companies, such as Verizon and AT&T, may continue to successfully conduct their businesses in Lower Manhattan. There is a significant risk that the restoration projects planned for Lower Manhattan may be delayed and that telecommunications service, including emergency services, to Lower Manhattan may once again be disrupted. To avoid such problems, the following measures are proposed:

- Immediate and permanent designation of the location for Verizon and other carriers' sub-surface infrastructure by the applicable New York State and City agencies;
- Designation of an additional entry point to the World Trade Center site for Verizon conduits, to permit network diversity for future tenants;
- Granting of a permanent easement for Verizon Sub-surface infrastructure, for any portion of the infrastructure route not located within New York City mapped streets;
- Granting of uninterrupted and unimpeded access to all conduits and manholes on the WTC site and other project areas in Lower Manhattan, during construction and thereafter;
- Provision of sufficient time to Verizon and other carriers to remove existing and install new infrastructure;
- Greater coordination among New York State and City agencies involved in the rebuilding of Lower Manhattan; and
- Reimbursement to Verizon and other carriers by LMDC for infrastructure installation and relocation costs. (Verizon, AT&T).

Response: It is anticipated that LMDC, Silverstein Properties and the public agencies involved in the rebuilding process will continue to consult with private telecommunications companies to ensure seamless development and delivery of networks and systems related to telecommunications needs.

Comment 366: Liberty Street is a main east-west corridor for the routing of Verizon conduits and cables. The expansion of the bathtub south of Liberty Street in the vicinity of what is now 130 Liberty Street, and the construction of a new truck ramp and below-ground high security garage at this location, would require the relocation of these conduits and cables. (Verizon)

Response: Comment noted. See responses to Comments 364 and 365.

Comment 367: The infrastructure chapter of the DGEIS does not mention that a new conduit entrance will be required on the southern or eastern side of the WTC Site that had two telecommunications conduit entrance feeds: one located on Vesey Street, between West and Washington Streets, which is still intact and usable; and a second on Liberty Street, between Greenwich and West Streets, which although still intact, would become inaccessible with the expansion of the bathtub south of Liberty Street. (Verizon)

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- Response:** Comment noted. See response to Comments 364 and 365.
- Comment 368:** Telecommunications infrastructure at the WTC should be upgraded to support a Wireless Redundancy Network. Final plans for each new building on the Project Site should include dual points of entry, dual carrier-neutral risers and a wireless contingency system on the roof. We also support development of WiFi in the WTC's open spaces that can be integrated into the Downtown Alliance's existing network. (Downtown Alliance)
- Response:** The details of the telecommunications infrastructure at the Project Site are unknown at this time, however, LMDC supports investment in a redundant telecommunications network, and a wireless (WiFi) network.
- Separate from the Proposed Action, LMDC has prepared a Partial Action Plan for Utility Restoration and Infrastructure Rebuilding that includes among its objectives the revitalization and redevelopment of Lower Manhattan as a world-class commercial and residential community by encouraging investment in energy and telecommunications infrastructure.
- Comment 369:** The selected design for the Memorial would require a waterflow of 15,000 gallons per second—which is 5 million tons of water a day and almost two billion tons a year—require energy in excess of 10 megawatts, and cost over \$6 million per year. (Jarvik)
- Response:** As discussed in Chapter 12 “Infrastructure”, and Chapter 1, “Project Description”, the Memorial fountains are expected to use approximately one million gallons of potable water per day with a filtration rate of approximately 900 gallons per minute. While final design of the fountains has not been completed, it is expected that approximately 320 kilowatts per hour, at a cost of \$280,320 per year would be required to pump that water. Assuming the fountains are lit every night of the year, approximately 30 additional kilowatts per hour equal to a cost of \$13,000 for LED type fixtures would be required. The design of the Memorial Pools will include measures to deflect water from spraying onto visitors. Treatment of the water would follow New York City Health Department standards for filtration and chlorination.
- Comment 370:** Does the projected demand of 31,054 gallons per day (gpd) of water for the Memorial include the water required to operate the two fountains proposed for the footprints of the former towers? From what water source will the fountain water be obtained? If the city is the water source, is there a plan in place to deal with drought emergencies? (NYCDEP)
- Response:** The projected demand for water (now revised to 36,074 gpd due to minor Proposed Action element revisions) for the Memorial, does not include the Memorial Pools. The Memorial Pools will require an initial 310,000 gallons of potable water for operation, and 4,500 gpd of water for maintenance and replacement of water due to evaporation. Potable water will be drawn from the New York City water supply. Although the Memorial Foundation would operate the Memorial, it is anticipated that water usage would likely be guided by City drought emergency policies.
- Comment 371:** Con Edison supplied comments to clarify language used in the DGEIS regarding underground utilities. (Con Edison)
- Response:** Appropriate clarifications have been made to the text of the FGEIS.
- Comment 372:** The FGEIS should explain the total electrical load on the grid, including the commercial and cultural buildings, the Memorial, the PATH station and the hotel. (FATE)
- Response:** Chapter 12, “Infrastructure,” details the electrical load estimated for both the Pre-September 11 Scenario and the Current Conditions Scenario. In addition, tables throughout the chapter indicate the projected energy demand for each type of use (commercial, retail, Memorial, hotel, cultural facilities, etc.) on the Project Site. Additional detail has been added to FGEIS to show the expected load from the Memorial pools.
- Comment 373:** The DGEIS should evaluate a plan that would reduce solid waste, sewer generation and power uses' burdens on environmental justice communities. On-site energy generation, water conservation and reduction of solid waste through recycling should be evaluated. (LCAN)
- Response:** Several measures to reduce infrastructure demands have been evaluated and are expected to be implemented. The *Sustainable Design Guidelines* (see Appendix A) list opportunities for reducing infrastructure demands. The Design Guidelines seek to encourage a more efficient use of resources,

and to lessen the potential impact on surrounding areas through a number of measures that would be conducted on site. As discussed in Chapter 12, "Infrastructure," a 30 percent reduction of water use in the commercial spaces would be implemented in addition to a greywater system that would collect stormwater from the site for subsequent reuse. Energy usage would be reduced by a minimum of 20 percent below industry (ASHRAE) standards. In addition, on-site energy generation in the form of wind turbines incorporated in places for Freedom Tower would further reduce energy needs in Freedom Tower. In total, it is expected that the infrastructure needs of the Proposed Action would be less than those required pre-September 11.

27.3.22 TRAFFIC AND PARKING

Comment 374: The DGEIS fails to consider alternatives to buses for getting tourists to and from the WTC Site. A strict regulatory program that would prohibit tourists' buses within a prescribed area of Lower Manhattan should be analyzed. This would be coupled with an active campaign (e.g., in cooperation with hotels and their staff, airport and train terminals, other tourist sites and points of entry) to keep tourists informed of convenient cleaner and less obtrusive transportation alternatives to reach Lower Manhattan and the WTC Site. (Civic Alliance, Straphangers, Gerson, LKAN)

Response: Tour buses represent just one of several traffic modes assumed to serve the WTC Site; the vast majority of tourists are expected to come by other public transportation services. As planning for the site continues, many alternatives will be considered, but a strict prohibition of tour buses is not envisioned, since some groups—such as school groups, for example—may need direct access to the Memorial and museum.

Comment 375: The GEIS must assess the traffic patterns and pedestrian flows on streets adjacent to and running through the WTC Site within the context of the heightened security environment. (Downtown Alliance)

Response: At this point security plans which may direct or limit vehicular and pedestrian flows have not yet been developed. The DGEIS does account for tour buses and taxis dropping off and picking up passengers along Greenwich and Fulton Streets within the WTC Site, and does not envision a significant level of other general traffic passing the WTC Site on these two streets. Pedestrians are assumed to cross the site without restrictions.

Comment 376: The boundaries for the primary and secondary study areas should be clearly stated in the text. (NYCDOT)

Response: The boundaries appear in Figure 13A-1, and are also noted in the text on page 13A-4.

Comment 377: An explanation justifying the exclusion of the weekend midday and weekday evening peak hours for traffic analyses should be included. (NYCDOT)

Response: It is expected that the weekday AM, midday, and PM peak hours are most critical, considering the combination of background traffic plus newly generated traffic from the Proposed Action. Weekend traffic, especially weekend evening traffic, is significantly lower than the weekday AM and PM peak hours and generally lower than the weekday midday peak hour.

Comment 378: The New York Stock Exchange (NYSE) Security and Streetscape Improvements project also headed by LMDC is proposing multiple diversions that are similar to the traffic diversions from security measures currently in place because of the events of September 11. A couple of these diversions are along Broadway (at Wall Street and Exchange Place) and could have a broader impact on traffic circulation around the WTC Site. The NYSE project is not mentioned in the discussion of existing conditions on Broadway (page 13A-9). The NYSE security project's proposed permanent traffic diversions (Phase I) are to be completed by Summer 2004 and should be taken into consideration when discussing the existing conditions on Broadway. (NYCDEP)

Response: The NYSE security improvements formalize temporary conditions that were in place when the DGEIS counts and analyses were performed. Accordingly, LMDC does not expect traffic generated by the Proposed Action to be significantly affected by NYSE security improvements.

Comment 379: The issue of tour bus parking in Lower Manhattan must be carefully studied and addressed, as a solution was not presented in the DGEIS. (Wall Street Rising, Gerson)

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Response: The DGEIS assumed that tour buses serving the Memorial would park in an underground garage at the Project Site. Such underground parking of tour buses is reaffirmed in the FGEIS.

Comment 380: The DGEIS wrongly assumes the availability of Site 26. The GEIS must, analyze all alternatives for underground parking and their associated environmental impacts. (Gerson)

Response: Site 26 is no longer being considered for a potential underground parking garage. Potential environmental impacts of an underground parking garage on the Project Site are addressed in the GEIS. In addition, a more detailed assessment of air quality impacts of such a garage has been added to Chapter 14, "Air Quality."

Comment 381: The number of tour buses bringing visitors to the site may exceed expectations and so there needs to be an adequate plan for off-street parking of the buses. (Downtown Alliance)

Response: The DGEIS provided conservative estimates of annual and daily visitation to the Memorial. While future attendance cannot be known with certainty, these estimates represent the maximum level of visitation that is likely to occur. With respect to tour buses, during the peak visitor years (9 million annual attendance), the Memorial is estimated to generate 218 buses on a peak day and 144 on an average day. This level of traffic is reflected in the analysis of 2009 conditions. For 2015, when visitation is assumed to stabilize at 5.5 million annual visitors, the Memorial is estimated to generate 99 tour buses on an average day and 150 buses during a peak day. The buses, which are assumed to park in the underground garage at the Project Site, would be spread through the day. The heaviest arrivals are estimated to occur between 11 AM and 3 PM, with an average length of stay of two to four hours.

The volume of tour buses can be monitored and should the actual volumes exceed expectations, plans may be developed to direct some portion of the buses to discharge their passengers and to park outside of Manhattan at locations with convenient mass transit linkages to the Project Site.

Comment 382: The DGEIS fails to evaluate routes for buses taking tourists to and from the WTC Site. (LCAN)

Response: The DGEIS evaluated impacts with tour buses using City-designated commercial routes that would keep tour buses on arterials rather than on local residential streets.

Comment 383: How will LMDC enforce the routing plan whereby buses would be required to drop off passengers at a designated location and then move into a security check-point and into an underground parking facility? LMDC should develop a contingency plan for routing for when the number of buses could easily exceed the capacity of the facilities, such as the September 11 anniversary. (Downtown Alliance)

Response: LMDC would specify the routes and access points to be used by all tour bus operators approved to serve the WTC Site and would closely monitor where buses pick up and drop off passengers to ensure that they conform with specified plans. A contingency plan would be developed should tour bus activity exceed expectations since this is a very important component of managing traffic at the site. As noted in the response to Comment 376 above, the volume of tour buses can be directed to use discharge points and parking facilities outside of Manhattan, especially for special event type and/or commemorative event days at the Project Site.

Comment 384: The traffic impacts, including the trip generation data, appear to be understated. The DGEIS's predicted 5 percent increase in traffic levels is overly optimistic and the FGEIS must present a more realistic prediction of traffic changes. The analysis is based on square footage and not projected number of visitors/workers. The analysis fails to account for different types of vehicles (i.e., being stuck in traffic behind 10 trucks and buses has different impacts than if behind 10 cars). (Gateway Plaza Tenants Assn., Glick, Wall Street Rising, Connor, CB1, Nadler, Residents of Cedar St.)

Response: The traffic impacts are not understated; in fact, LMDC believes they are conservative in light of trip generation and modal split factors used in the analyses. The five percent overall increase encompasses a much larger area than the WTC Site and the streets adjacent to it. Some streets are expected to carry a much larger amount of additional traffic than five percent, as is documented in the DGEIS. For example, Route 9A and Church Street in particular are expected to have increases well above five percent while others should have increases that are less than five percent.

- Comment 385:** The summary of the peak hour person-trips for 2009 projects an AM peak hour inbound person-trip total of 6,604 attributable to office uses. The DGEIS at page 13A-21, however, assumes that the daily trip generation rate for commercial office space would be 18 person-trips per 1,000 square feet of commercial office space (including employees and visitors). Multiplying 18 by 2.6 million (the commercial square footage projected for 2009) and then dividing the total by 1,000 results in 46,800 daily-person-trips. Dividing this amount by 6,604 (the peak hourly rate), it appears that it would take over 7 hours of person-trips at the peak hourly rate to fill the commercial space. This does not seem reasonable; it implies that the peak hourly rate will be higher. (CB1)
- Response:** The referenced table is included in Appendix E.1 of the FGEIS. The conclusion drawn in the comment is incorrect in that it does not account for the fact that the trip rate accounts for trips throughout the day, and reflects departures as well as arrivals. Trips generated by the proposed office uses were estimated based on rates presented in the *New York Stock Exchange FEIS* and conform to rates presented in the *CEQR Technical Manual*. The daily rate of 18.0 person trips per day for office uses assumes 12.0 person trips per day associated with employees (including lunch, meetings, etc.) and 6.0 person trips per day associated with visitors; the rate represents all trips into and out of the building. The distribution of individual trips over the course of the day is accounted for in the temporal distribution rates, which are summarized in Table E.1-1 of Appendix E.1.
- Comment 386:** The low percentage of person-trips attributed to automobile traffic, including taxi trips, and the high percentage attributed to walking, runs counter to our personal experience living and working in the area. It is also unclear to us what the assumed point of origin is for the pedestrian trips. For employee person-trips to commercial office space, any pedestrian point of origin other than the pedestrian's home would appear to ignore the likelihood that the pedestrian used some other mode of transport into the vicinity of the WTC Site, and that mode should be counted as part of the totals for that mode. (CB1)
- Response:** Auto and taxi percentages were based on a variety of established sources (see Appendix E.1). For office use, the auto and taxi share of 3.0 and 2.0 percent is based on surveys at office buildings in Lower Manhattan and summarized in a report prepared for NYCDOP entitled "Localized Transit Trip Generation and Impact Analysis – World Trade Center/Battery Park City Area Final Report" (December 1987). The auto and taxi share percentages are also consistent with rates presented in the *CEQR Technical Manual*. Trips identified as being by pedestrian mode represent locally based trips that are walk only. However, for the purposes of the pedestrian impact assessment, the local portion of the trip by foot (for example, walking from the subway station), is also accounted for. Two percent of peak hour trips for employees were assumed to be walk only trips during the AM and PM peak hours. A higher percentage of walk only trips (e.g., 87 percent during the midday peak for office employees) account for employee trips into and out of the building for lunch hour trips.
- Comment 387:** The projection that office and retail uses will have higher rates of personal auto use than of taxis is counter-intuitive. (CB1)
- Response:** Percentages of auto and taxi use are generally based on surveys of Lower Manhattan office and retail uses, as approved by reviewers of the responsible agencies and utilized in other environmental impact statements.
- Comment 388:** The FGEIS should include a breakdown of the types of vehicles that will visit the Project Site, including all trip generation data, modal split assumptions, and the basis for trip assignments and passengers per trip. (FATE)
- Response:** This information is provided in Appendix E1.
- Comment 389:** Traffic calculations should be redone in the FGEIS to include private commuter buses, black cars, construction worker vehicles, and the effect of street closures and security checks. It should also include trucks from the truck routes and construction equipment traveling to and from the site. (FATE)
- Response:** The vehicle types cited have been included in the FGEIS traffic analyses. The FGEIS also included construction traffic within the study area.
- Comment 390:** The Manhattan Bridge should be included in all calculations. (FATE)

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- Response:** Trip assignments were completed for all of the bridge and tunnel crossings that would probably be used by vehicular traffic generated by the Proposed Action. These traffic projections do not indicate that there would be a substantial number of vehicles bound for or coming from the Manhattan Bridge during the peak traffic analysis hours. Projected traffic volume increases for the Manhattan side of the Manhattan Bridge are shown in the traffic volume maps in Appendix E.
- Comment 391:** The DGEIS did not do all of the following, as promised in the Final Scope: inventory street widths, sidewalk widths, traffic flow direction, lane markings, parking regulations, NYCDOT signal timings, and other items required for traffic analysis. (FATE)
- Response:** All of this information was collected as part of the DGEIS traffic analysis.
- Comment 392:** The significant adverse traffic impacts to be generated by the Proposed Action at 18 of 40 intersections by 2009 and 25 of 40 intersections by 2015 is not acceptable, nor is in keeping with the goal of enhancing environmental sustainability at the Project Site and surrounding areas. In light of the significant public investment in mass transit, car and truck trips should be reduced as much as possible, using a variety of regulatory measures including: increased and more attractive subway and bus service to and in Lower Manhattan, restriction on parking, the use of congestion pricing measures to reduce peak period use of motor vehicles, street management plans that favor pedestrians, and prohibition of tourist buses within prescribed areas of Lower Manhattan. (Civic Alliance, Straphangers, Environmental Defense, Gerson, LCN)
- Response:** LMDC supports policies and programs that enhance, improve, and promote transit use, but any such actions are not within LMDC's jurisdiction.
- Comment 393:** The DGEIS ignores the fact that, pre-September 11, the "service road" adjacent to the WTC along Church and Liberty Street and along a portion of West Street, functioned as a buffer area, absorbing certain traffic impacts, such as black cars and buses, and that the different geography of the Proposed Action will divert such traffic onto local streets absent adequate accommodation and planning for such traffic. Thus, even if the DGEIS estimate of only an overall five percent increase in traffic in comparison to the Pre-September 11 Scenario were correct, the DGEIS does not properly account for the fact that much of the Pre-September 11 Scenario high-impact traffic would be diverted onto neighboring streets under the Proposed Action. (CB1)
- Response:** The DGEIS assumes that most of the taxi and black car traffic would be focused on Greenwich and Fulton Streets and can be handled there. The DGEIS's depiction of an overall five percent traffic increase relates to the overall traffic increase within a larger study area; traffic increases would be highest on streets within the Project Site and along its immediate periphery. Traffic would not be diverted onto neighboring streets that are not part of the overall Project Site. "High-impact traffic," such as trucks must use and remain on city-designated truck routes for their entire trip until they need to connect to their specific destination, in this case, the Project Site's underground garage, which would be accessed via one block of Liberty Street adjacent to the site.
- Comment 394:** The truck approach on Liberty Street leads right through a residential community. Truck and bus traffic on Greenwich and West Broadway will impact residents in Tribeca. Residents of Tribeca and students and teachers at PS-234, BMCC, PS/IS-89, Stuyvesant High School, as well as users of Washington Market Park, will be adversely affected if Greenwich Street and West Broadway become alternatives to Broadway and Route 9A. (Gateway Plaza Tenants Assn., CB1)
- Response:** Trucks approaching the Project Site's truck entry point along Liberty Street are expected to use Route 9A as their primary route to the site, and then turn onto Liberty Street for a short distance east of Route 9A, before entering the underground garage and truck docks between Route 9A and Washington Street. Route 9A is a city-designated truck route, and the short segment of Liberty Street between Route 9A and Washington Street is not residential in nature. The GEIS describes the projected volume of new traffic on Greenwich Street and West Broadway, which is expected to be relatively small, with very few trucks and buses expected to use those streets en route to or departing from the Project Site.
- Comment 395:** Delivery truck impact on the residential neighborhoods south of the WTC Site and Greenwich Street is not adequately addressed. (CB1)

- Response:** The Proposed Action’s generation of truck trips has been fully addressed. The assignment of truck trips to the street network was primarily focused on truck routes such as Route 9A with connections made from Route 9A to specific buildings and uses on the Project Site. The analyses do not project significant truck use of residential streets south of the Project Site or Greenwich Street.
- Comment 396:** The effect of locating a ramp for delivery trucks on Liberty Street on traffic on Cedar Street and adjacent residential neighborhoods is not addressed, and the truck ramp and pedestrian traffic accessing the Memorial on Liberty Street will impede access to Battery Park City by Ladder Company 10. Alternative truck ramps should be considered as well as strategies for truck staging on Greenwich Street and other locations. (CB1)
- Response:** The ramp planned for delivery trucks to access the garage under the WTC Site would not have a significant effect on Cedar Street and adjacent residential neighborhoods. Trucks entering and exiting the WTC Site would primarily use Route 9A en route to and from the WTC Site. The truck ramp “begins” at-grade on the north side of Liberty Street at its intersection with Route 9A and drops below grade before reaching Greenwich Street. Trucks using this ramp should not impede access to Battery Park City by Ladder Company 10. The vast majority of pedestrian traffic accessing the Memorial would do so from mass transit services within the Project Site and should also not impede Ladder Company 10’s service of Battery Park City.
- Comment 397:** With the Route 9A bypass tunnel, LMDC assumes one-third traffic would be above-ground, but NYSDOT assumes one-half traffic would be above-ground. There is no explanation why the DGEIS assumes that two-thirds of traffic would choose tunnel lanes. Any underestimate of Proposed Action-generated traffic presumably understates the proportion of Route 9A traffic that would remain at-grade under the by-pass alternative. (Gateway Plaza Tenants Assn., CB1)
- Response:** The environmental analyses being prepared by both NYSDOT for Route 9A and by LMDC for this DGEIS were coordinated as to the major assumptions regarding use of NYSDOT’s bypass tunnel alternative. NYSDOT is still in the process of completing its Route 9A draft environmental impact statement, but at the time the LMDC DGEIS was being prepared, NYSDOT was assuming that about one-third of the Route 9A traffic would remain above ground, while the LMDC DGEIS assumed a volume between one-third and one-half (the opposite of what was commented at the Public Hearings). The reason the LMDC DGEIS has a higher volume assumption above ground reflects the higher volume of traffic expected to be generated by the WTC Memorial and Redevelopment Plan and thus needing to remain above ground to reach their on-site destinations.
- Comment 398:** The effect of delivery truck, commuter bus and tour bus traffic on Route 9A, including any differences in such effects under the alternative at-grade and by-pass scenarios, is not adequately addressed. The proposed truck and bus routing would take most truck and bus traffic to at-grade lanes on Route 9A, causing unacceptable congestion adjacent to the site. (CB1)
- Response:** The DGEIS fully addressed the use of and effects on Route 9A by delivery trucks and buses, for both the at-grade and bypass alternatives. Since Route 9A is a city-designated truck route that passes closest to the Project Site, it is appropriate to expect that most trucks will at some point use Route 9A to get to and from the Site.
- Comment 399:** Different types of traffic are not adequately differentiated. There must be a better accounting of different vehicle types, including: commuter and tour buses, trucks, private automobiles, black cars, etc. (Gerson)
- Response:** Each of the traffic modes have been accounted for separately, including autos, taxis/black cars, trucks, and buses.
- Comment 400:** The traffic study area should be expanded to Houston Street, particularly in view of the congestion expected along Canal Street and along Broadway. (Gerson)
- Response:** Traffic impacts along Canal Street are primarily associated with access to and from the Holland Tunnel. The DGEIS analyses do not project an impact at Canal Street and Broadway. Traffic originating from areas north of Houston Street would be expected to primarily use the FDR Drive and Route 9A, and not significantly utilize local streets to reach Lower Manhattan. The intersection of Route 9A and Houston Street was not required to be addressed because it is not as critical as the

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intersection of Route 9A with Canal Street, which is used by traffic heading to and from the Holland Tunnel.

- Comment 401:** A state-of-the-art layover and dispatch system should be examined for bus, limo and black car operations. (Gerson)
- Response:** Different layover and dispatch systems may be considered as planning for the site continues. The black car industry is already working to improve the efficiency of its dispatch operations.
- Comment 402:** The FGEIS should include consideration of the elimination of on-site parking and examine the benefits and costs associated with such an elimination. (IRUM)
- Response:** Provision of approximately 1,200 to 1,400 parking spaces is a reasonable amount of parking for a development of the size and mixed-use character of the Proposed Action. It is also considerably smaller than the amount of parking that existed on-site before September 11. Parking would not be open to the general public but would serve building tenants and possibly agency vehicles, should any public agencies occupy space within the Project Site. The elimination of all on-site parking could overload parking lots and other parking garages in the area, and could increase the circulation of vehicular traffic on local streets in search of specific lots and garages that would have available capacity. Therefore, a Proposed Action with no on-site parking was not proposed or evaluated.
- Comment 403:** Restoring Fulton and Greenwich Streets to the WTC Site will have adverse environmental impacts because it will encourage more vehicles to enter Lower Manhattan. (Hough, Hemric)
- Response:** In terms of traffic flow, the primary function of extending Fulton and Greenwich Streets through the Project Site would be to accommodate tour buses and taxis needing to drop off and pick up passengers at the multiple destinations within the overall Project Site. These are trips that would be made to the Project Site regardless of whether the two street extensions occur. The two street extensions would also provide an important curb space to be used by these travel modes to accommodate their passengers; without the two new street extensions, these vehicular activities would have to compete with other traffic for a more limited amount of curb space in the area, as well as make their passengers walk longer distances to and from their destinations within the Project Site.
- Comment 404:** Greenwich and Fulton Streets must be restored, but the DGEIS is puzzling as to why there is a scenario in which Greenwich and Fulton Streets are closed without an explanation why. The section describes severe traffic impacts that would result from such closures, but there is no mitigation proposed for such closures in Chapter 22. The section also does not describe the impact to on-street parking and curb utilization or the impact to city and express bus operations from the relocation of tourist bus loading and unloading to Church Street. (Fields, NYCDOT)
- Response:** Such closures might occur on special event days. On such days, special traffic management plans would need to be implemented, as opposed to permanent mitigation measures that are addressed in Chapter 22. Nonetheless, Chapter 22, "Mitigation" has been revised to address possible mitigation for when Greenwich and Fulton Streets are closed to vehicular traffic. Chapter 13A has also been revised to include the last comment.
- Comment 405:** The Final Scope promised the DGEIS would include an examination of the potential impacts on traffic flows and levels of service in the area if Greenwich and Fulton Streets were closed to vehicular traffic or if street screening for security purposes significantly affects traffic and identify and evaluate traffic improvement measures to address only significant impacts. (FATE)
- Response:** The requested analysis was completed in the DGEIS in Chapter 13A.6. A discussion of Mitigation measures for such street closures have been added to Chapter 22, "Mitigation."
- Comment 406:** If a security assessment recommends significant alterations to street and sidewalk systems (such as the mention of closing Greenwich and Fulton Streets), the altered plans should be analyzed to determine potential impacts and mitigation should be developed. (NYCDOT)
- Response:** If significant changes are proposed, such an assessment will be provided.
- Comment 407:** The solution currently shown for the access ramp leading from Liberty Street to the below-grade vehicle inspection station on the south edge of the Memorial site does damage to the pedestrian flow, the appearance of the street, and the integrity of the Memorial. Stacking of vehicles on the ramp can cause a problem at the intersection of Liberty and West Streets. (NYNV)

- Response:** The access network to the underground garage and vehicle inspection station has been designed by the Port Authority to avoid queuing back into the roadway and pedestrian network along Liberty Street. It is the most appropriate route for trucks to access the site and the roadway ramp width accommodates the forecasted truck traffic.
- Comment 408:** The FGEIS must recalculate all numbers for traffic and pedestrians to reflect activities related to the cultural and retail buildings in the Proposed Action. (FATE)
- Response:** The DGEIS accounted for all vehicular and traffic activities generated by cultural and retail facilities comprising the Proposed Action. A summary of trip generation by use is included in Appendix E.1 of the FEIS.
- Comment 409:** Heavy vehicle traffic created by the Proposed Action should, to the extent possible, be redirected along West Street instead of on local streets. When this is not possible, all possible mitigation measures should be adopted. (Wall Street Rising)
- Response:** It is a basic assumption in the DGEIS that truck activity will be directed by signage and by existing regulatory means to use Route 9A/West Street, a designated truck route, to the maximum extent possible. Where trucks leave the Route 9A corridor they will be at the immediate edge of the Project Site and will be directed by signage to enter the underground parking garage for one short block of Liberty Street. It is not expected that trucks will use local streets to any appreciable degree. Where mitigation measures are needed and warranted, they are identified, evaluated, and then outlined in both the DGEIS and FGEIS.
- Comment 410:** The DGEIS does not go into sufficient detail on the utilization of curb space on streets within or adjacent to the Project Site. It does not explain how truck and service vehicles will be accommodated, nor does it include forecasts for trucks or service vehicles. The Proposed Action does not provide sufficient curb space for bus loading/unloading, standing areas for the loading/unloading of passenger vehicles or for trucks and service vehicles. (NYCDOT)
- Response:** Utilization of the west curb of Greenwich Street between Fulton and Liberty Streets by tour buses, and the east curb in this section by taxis, is expected and is noted in the DGEIS. The DGEIS does explain that all delivery and service vehicles will be handled within the underground garage, and the Build trip generation tables in the DGEIS do provide the in/out forecasts by these vehicles for each analysis hour.
- Comment 411:** The Project Site must include designated areas for “black car” livery cabs and other special vehicles, like commuter buses, to wait for their passengers. (Wall Street Rising, BPC United)
- Response:** An allocation of curb space and definition of precise curb use regulations has not yet been developed, except that tour buses to the proposed Memorial will be accommodated along the west curb lane of Greenwich Street between Fulton and Liberty Streets, and that black cars/taxis dropping off and picking up passengers for the Memorial and other on-site uses will primarily use the east curb lane of Greenwich Street between Fulton and Liberty Streets. Designated areas for black cars will be identified as project plans are refined, if not within the Project Site then along nearby street locations. It is not anticipated that commuter buses will be accommodated within the Project Site.
- Comment 412:** The large number of anticipated “black cars” from the Proposed Action is not addressed. An underground staging of these vehicles is essential to avoid significant adverse effects throughout the area. (CB1, BPC United, Downtown Alliance)
- Response:** Black cars, like taxis, are included in the conditions analyzed. Black cars are treated like taxis. They constitute two vehicular trips—a trip into the site to drop off a passenger and then a trip away from the site either without a passenger or with a new passenger, or a trip to the site empty and then the departing trip with a passenger. Underground staging for black cars is not anticipated at this time. As described above, it is expected that taxis and black cars would primarily pick up and drop off along the east curb at Greenwich Street within the Project Site.
- Comment 413:** Taxi stands should be placed throughout Lower Manhattan to ease the difficulty caused by street and sidewalk closures, a situation which will be exacerbated by the Proposed Action and other major new developments projects. (Wall Street Rising)

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- Response:** Implementation of new taxi stands falls under the jurisdiction of NYCDOT, not LMDC. Temporary street lane closures and sidewalk closures may occur while construction activities occur on the Project Site and other independent developments in Lower Manhattan, but the Proposed Action envisions the creation of new street and new sidewalks which would enhance taxi and pedestrian opportunities.
- Comment 414:** Issues such as parking demand and use of curb space must be clearly and fully addressed in the FGEIS, including anticipated impacts from security measures. (Fields)
- Response:** A summary of off-street parking demand and utilization under projected No Build and Build conditions was provided in the DGEIS along with the anticipated use of curb space by tour buses and taxis along Greenwich Street between Fulton and Liberty Streets. The FGEIS provides additional information regarding expected curb space use elsewhere within the Project Site noting that due to the need for all delivery vehicle activities to occur within the underground parking garage, curb utilization on the periphery of the Project Site and beyond the Project Site would be substantially lower than would typically be expected. The FGEIS also advises public and private reviewers of the document that heightened security measures may be implemented in this area that could affect traffic conditions and curb use.
- Comment 415:** Tour and commuter bus parking are not adequately addressed. Adequate plans for underground parking of tour buses under the WTC Site, the site of the Deutsche Bank building or Site 26 is essential to avoid significant adverse effects throughout the area. The DGEIS indicates that the underground tenant parking will be underutilized even after the Proposed Action is completed in 2015. (CB1)
- Response:** Tour bus access and parking are fully addressed in the DGEIS. Current plans provide for tour bus parking underground. The comment on underground tenant parking is accurate given office tenant parking projections; it is possible that these parking spaces could be allocated for overnight parking for agency vehicles as occurred within the previous WTC garage. Commuter buses are expected to operate as they do now. Any changes in their operations or parking locations are the responsibility of NYCDOT, not LMDC or the Port Authority.
- Comment 416:** LMDC must find alternative ways for people from all over the world to see the new WTC, Memorial and other cultural spaces. The current proposal calls for using local streets as alternative routes for incoming traffic. These streets are too narrow for such use. (Connor)
- Response:** The traffic analysis assumes that the majority of Proposed Action-generated traffic will use Route 9A and Church Street. It is not assumed that narrow, local streets will receive substantial new traffic.
- Comment 417:** Will the absence of a screening building on West Street attract vehicular traffic and create “rubber necking” along the street because visitors will be driving by in autos and buses to see “Ground Zero?” (Hemric)
- Response:** We would expect that the high level of bus and taxi pickup/drop off activity on Greenwich Street adjacent to “Ground Zero” will reduce the likelihood of such “drive-by” traffic. Consideration is also being given to narrow the roadway width of Greenwich Street in this area as a “traffic-calming” measure to also reduce, if not eliminate, such drive-by traffic.
- Comment 418:** The analysis should use the background growth factor of 0.50 percent per year as per *CEQR Technical Manual* in the No Build Conditions 2009 and 2015. (NYCDOT)
- Response:** We believe the analysis presents a very conservative picture of future No Build conditions. The analysis used a 0.25 percent per year growth rate plus traffic generated by an extraordinarily high number of proposed development projects (approximately 80). Many of them are very small developments that would typically not need to be included separately but would be assumed to be covered within a higher annual background growth rate like the 0.5 percent per year growth rate.
- Comment 419:** A figure which indicates the location of no build soft sites planned for 2009 and 2015, and an accompanying table indicating trip generation and a map showing trip assignment should be added in the No Build Conditions 2009 and 2015. (NYCDOT)
- Response:** The summary of projects under construction or planned to be complete by the 2009 and 2015 analysis years are presented in Chapter 2, “Methodology,” of the DEIS as Tables 2-3 through 2-6, and Figures

2-2 and 2-3. Tables summarizing No Build trip generation are in Appendix E.1. Appendix E.2 includes the No Build trip assignment for all of the soft sites discussed in the DGEIS.

Comment 420: Travel demand assumption tables for the proposed development plan (i.e., office, retail including destination and local, hotel, cultural facilities, museum, etc.) identified for 2009 and 2015 should be provided. A table for peak hour truck arrival/departure and their loading and unloading locations should be added. (NYCDOT)

Response: Travel demand assumption tables are provided in the Appendices to the FGEIS. Truck arrival/departure volumes are shown in Tables 13A-6 (year 2009) and 13A-10 (year 2015). All truck loading and unloading will occur in the underground garage.

Comment 421: A progression analysis or corridor analysis should be conducted for Route 9A, Church Street, Vesey Street, Broadway and Liberty Street. (NYCDOT)

Response: These analyses were not in the EIS Scoping document and were not requested during the extended scoping period. A progression or corridor analysis is best prepared after all network changes currently under consideration, including street direction changes addressed in the FGEIS, are approved by all affected agencies, including NYCDOT. At that time, it would be appropriate to review specific signal timing adjustments on a corridor basis.

Comment 422: Taxis and black cars parking/layover areas should be identified. (NYCDOT)

Response: Taxis and black car pickups and drop offs would primarily occur along the extensions of Greenwich and Fulton Streets through the Project Site. There is no need for taxi parking/layover space; their activities at this location would be drop offs and pick ups only. Black car parking/layover areas have not yet been designated.

Comment 423: The impact of the project on pedestrian and motorist safety should be examined, especially for high accident locations within the study area. (NYCDOT)

Response: Pedestrian and motorist safety will be examined as part of the project planning post-FGEIS, as coordination with NYCDOT, NYSDOT, NYCDOP, and the PANYNJ continues. Any significant on-site issues have been, and will continue to be, addressed as part of this project planning process. Significant off-site issues are not currently anticipated since the area has always been characterized by high levels of vehicular and pedestrian activity.

Comment 424: Neither the NYSDOT, nor the DGEIS, have provided traffic data or impact analysis of the “weave” traffic conditions that would be created at the entrance to and exit from the so-called short by-pass tunnel on West Street. (Sinansky)

Response: We would anticipate that questions on traffic operations under NYSDOT’s short bypass tunnel design for Route 9A will be addressed in that project’s environmental impact statement.

27.3.23 TRANSIT AND PEDESTRIANS

Comment 425: The DGEIS does not address the broader issue of the increase in commuter bus traffic that will be necessitated by the increased worker population once the Proposed Action is completed. Where will commuter buses be stored in between the morning and evening rush hours? (Downtown Alliance)

Response: The demand for local and express bus service projected by the Proposed Action in 2015 would be similar to the level experienced prior to September 11, 2001. It is anticipated that most or all of the projected demand would be accommodated by unused capacity on the existing bus routes. MTA/NYCT should evaluate bus operations in 2015 to determine whether routing or frequencies need to be adjusted to accommodate any isolated increases in demand on specific local or express routes. With regard to storage of commuter buses, see responses to comments in section 27.3.22.

Comment 426: The DGEIS should consider local bus depots to house an expected increase in local and express buses servicing the WTC area. The depots should be close to the bus routes and not placed in low income, people of color communities. One place to do this would be the proposed bus parking lot under Site 26 at night. (LCAN)

Response: With the Proposed Action, the number of local and express buses on Lower Manhattan Streets is expected to be in the same order of magnitude, as compared to the pre-September 11 conditions. While the Proposed Action would provide for parking for tourist buses coming to the Memorial,

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providing a bus depot for NYCT buses and private express buses is beyond the scope of the WTC Memorial and Redevelopment Plan. Using the tourist bus parking garage for this purpose is not feasible for a number of reasons. There would be conflicts in usage. Tourist buses could come to the Project Site in the evening and some NYCT or Express buses might need to remain in a depot during the day for repair or maintenance. Further, since most ridership is still to Lower Manhattan in the morning and out of Lower Manhattan in the evening, having a bus depot on the Project Site is not practical. Finally, security considerations would argue against such use of the proposed bus parking garage. It is also noted that use of Site 26 is no longer contemplated.

Comment 427: The DGEIS does not address the utilization of ferries to a greater extent than they are being used now. Ferry use should be incorporated into the plan. (Berg)

Response: Based on “Localized Transit Trip Generation and Impact Analysis -WTC/Battery Park City Area and Battery Park City Fifth Supplemental Environmental Impact Statement,” approximately four percent of the workers traveling to the project’s office uses are expected to come by ferry. LMDC expects to support public transportation services, including ferry usage, to the Downtown area. The capacity of the World Financial Center ferry terminal is expected to be increased prior to 2015, and that terminal could accommodate an increase in ferry demand.¹ The private ferry operators serving the World Financial Center ferry terminal could adjust service to accommodate increased demand.

Comment 428: The transit trip generation numbers do not appear to be based on any estimate of total numbers of workers and visitors but based on a rate per square office foot. (CB1)

Response: Consistent with standard procedures and the guidelines in the *CEQR Technical Manual*, the office trip generation estimates are based on square footage allocated to that land use. Appendix E.1 shows the travel demand assumptions used in the FGEIS.

Comment 429: Assumptions regarding the basis of transit trip generation are not stated. The background rate of trip increase is larger for transit (0.5 percent) than for vehicles (0.25 percent), even though the source appears to call for using a 0.5 percent rate for both. (CB1)

Response: The overall trip generation procedures are outlined in Chapter 13A of the FGEIS. Transit trips were assigned to the pedestrian network using origin/destination data provided by the Port Authority based upon historical survey data. Pedestrians were assigned to individual subway stations based upon the origin/destination data and input from MTA/NYCT. The Pre-September 11 Scenario transit and pedestrian analyses account for a 0.5 percent annual background increase. The 0.5 percent annual background increase is consistent with the guidelines in the *CEQR Technical Manual*. The 0.5 percent increase accounts for all background pedestrian and transit growth in the immediate vicinity of the Project Site through 2015.

As noted on pages 13A-15 and 13A-16 of the DGEIS for the traffic analysis, traffic volumes were generated from trips associated with a substantial number of background development projects in Lower Manhattan for the Pre-September 11 Scenario of the Future without the Proposed Action. In addition to background projects identified, a background annual growth rate of 0.25 percent, rather than 0.5 percent, was added to the baseline traffic volumes to derive the Future without the Proposed Action traffic volumes through 2015.

The Current Condition Scenario for transit and pedestrians was based on the background projects identified in Chapter 2, “Methodology.” The Current Condition Scenario used the same methodology as described for the Pre-September 11 Scenario.

¹ Independent of the Proposed Action, the Port Authority is constructing a new ferry terminal at the World Financial Center on the Hudson River at the foot of Vesey Street. The new terminal is being constructed to accommodate a maximum of four end loading vessels and one side loading vessel. The public space provided at the terminal is designed to handle two full boat loads of 400 arriving passengers (800 total) and one-half of a boat loaded with departing passengers (200 total) at a given time. The construction of the terminal is expected to be completed by the end of 2005.

- Comment 430:** It appears that the DGEIS assumes that existing mass transit bus routes will satisfy all of the mass transit bus trips generated by the site. This does not appear to be a reasonable conclusion. (CB1)
- Response:** Based upon data provided by MTA/NYCT, the Pre-September 11, 2001 express and local bus routes serving the area of the WTC were essentially the same as in 2003. Obviously, the ridership is lower in 2003 than in 2001 and some of the frequencies of service are slightly less in 2003 than in 2001. The number of bus trips projected to be generated by the Proposed Action in 2009 and 2015 would increase the demand for local and express buses back to levels that were prevalent in 2001 when the WTC Site was fully operational. It is anticipated that most or all of the projected demand would be accommodated by unused capacity on the existing bus routes. It is recommended that MTA/NYCT should evaluate bus operations in 2009 and 2015 to determine whether routing or frequencies need to be adjusted to accommodate any isolated increases in demand on specific local or express routes. The increase in demand for bus service by the Proposed Action may require MTA/NYCT to operate bus service equivalent to or slightly higher than levels that were operated in 2001.
- Comment 431:** Cedar Street once went unobstructed from West Street to Broadway. The Deutsche Bank Building blocked this street. The plans shown indicate that Cedar street will remain obstructed. How will this affect connectivity and the plans to revitalize the area south of Liberty Street? (Hemric)
- Response:** Cedar Street is proposed to be open to pedestrian traffic as part of the Proposed Action and will enhance connectivity in the area south of Liberty Street.
- Comment 432:** The original WTC site plan had a very clever double-decked pedestrian system. The memorial plaza was essentially street level with Church and the World Financial Center concourse and served as a giant pedestrian bridge. The transportation/shopping concourse, contrary to the popular opinion, was virtually street level at West, Washington and Greenwich. Pedestrians could enter at street level on West Street and walk with virtually no change in grade to both the E and the N/R trains. This set up was ideal for the old, infirm and mobility impaired. Where will the new transportation concourse be located vis a vis the various mass transit lines? (Hemric)
- Response:** The new concourse will be constructed with escalators and elevators connecting to the street level and will be ADA compliant. The connection between the subway lines serving the WTC Site and concourse would be similarly ADA compliant.
- Comment 433:** The advantages of the Second Avenue Subway for Lower Manhattan, and possible linkages to other Lower Manhattan rail and surface transit modes, should be discussed in the DGEIS. (Gerson)
- Response:** The Second Avenue Subway is expected to benefit Lower Manhattan by improving access for the traveling public. An environmental impact statement has been prepared by MTA/NYCT to assess the environmental impacts of that project. There are no plans currently being contemplated that would connect the Second Avenue Subway to other subway lines in Lower Manhattan.
- Comment 434:** The Final Scope promised the DGEIS would include potential changes in transit passenger and pedestrian flows due to two proposed street extensions. (FATE)
- Response:** These street extensions were accounted for in the transit and pedestrian analyses conducted for the WTC FGEIS.
- Comment 435:** The pedestrians and traffic figure should be recalculated for the worst-case scenario. (FATE)
- Response:** As with many of the analyses conducted, LMDC made conservative assumptions to include a reasonable worst-case scenario for traffic and transit.

27.3.24 AIR QUALITY

- Comment 436:** The FGEIS should include a mesoscale analysis that estimates the total emissions impact of the individual project for all modes of travel, including on-road and transit, for the Regional Transportation Plan analysis years of 2005, 2007, 2012 and 2020. These analysis years are consistent with the years that the New York Metropolitan Transportation Council (NYMTC) analyzed in its last conformity analysis for the New York metro area, as well as the guidance provided by the Enhanced Interagency Consultation Procedure that is being used during NYMTC's conformity waiver period. The mesoscale analysis should also take into account the emissions from the envisioned bus terminal that is planned for the redevelopment site. This mesoscale analysis should not include emissions from

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off-road sources such as construction equipment, because those emissions will be accounted for in the General Conformity analysis. (EPA, NYSDEC, NYCDEP)

Response: These additional analyses have been included in the FGEIS.

Comment 437: Additional idling emissions from increased bus traffic needs to be addressed. (NYSDEC)

Response: The GEIS addresses potential impacts from increased bus traffic. In addition, one of the air quality sites (Greenwich Street) was specifically selected to address the potential impacts from buses idling and operating along this new street segment.

Comment 438: To ensure the on-road and transit air quality impacts of the project are reflected in the next NYMTC conformity determination, which is due to the Federal Highway Authority in October 2005, LMDC should coordinate with the NYMTC to have the Proposed Action coded into the base of NYMTC's newly released Best Practice Model. (EPA)

Response: In the period between the issuance of the DGEIS and FGEIS, LMDC met with the Interagency Consultation Group that reviews transportation conformity determinations for New York City, and LMDC agreed to coordinate with and provide pertinent trip generation information related to the Proposed Action to NYMTC, so that the Proposed Action is considered in future updates with the Best Practice Model for transportation conformity and long-range planning purposes.

Comment 439: The DGEIS discusses that a general conformity analysis will be done should LMDC determine that at least one of the requirements for such an analysis have been met. Since the project will occur in a non-attainment area, the FGEIS will need to include an applicability analysis if the emissions are shown to be below *de minimis* thresholds outlined in EPA's General Conformity regulation (40 CFR Part 93), or if above *de minimis*, a general conformity determination. (EPA, NYSDEC)

Response: The FGEIS includes the necessary data to support a general conformity applicability determination. In the time period between the issuance of the DGEIS and FGEIS, LMDC representatives met with the Interagency Consultation Group that addresses transportation conformity for New York City to determine which components of the project may be subject to transportation conformity, so that the appropriate elements that may be subject to general conformity are identified, and included in the general conformity determination. In parallel to the release of this FGEIS, LMDC has also released its Draft General Conformity Determination for Public Review.

Comment 440: The DGEIS does not indicate the methodology for how the carbon monoxide (CO) and particulate matter (PM) hotspot intersections were chosen. Intersections that are affected by the Proposed Action that are at a level of service D, E or F, or that will deteriorate to these levels due to increased traffic volumes, should be analyzed. (EPA, NYSDEC)

Response: As discussed in further detail in the FGEIS, EPA's general guidance on the selection of air quality receptor sites was followed. Additional information on the initial screening analyses that were performed to help determine the appropriate microscale modeling receptor site locations are also provided in the FGEIS.

Comment 441: As shown in Figure 14-2 of the DGEIS, why were only four receptor sites chosen for the mobile source analysis? Why are the majority (three out of four) receptors located along the western side of the WTC Site and none are located on the eastern side? Additional receptors on the eastern and northeastern sections of the study area should be considered in order for the mobile air analysis to be complete. (NYCDEP)

Response: The selection of receptor sites for the mobile source analyses were based on general modeling guidance provided by the EPA and the predicted changes in on-street traffic from the Proposed Action. As discussed in further detail in the FGEIS, the carbon monoxide modeling receptors were located at the locations with the overall highest traffic volumes, poorest levels of service and greatest predicted project incremental traffic. Based on these parameters, the most logical intersections of concern for carbon monoxide were identified along Route 9A. At intersection locations on the eastern side of the site, overall traffic volumes are expected to be much less than those on Route 9A, and thus, projected carbon monoxide impacts and overall concentrations resulting from the Proposed Action are expected to be much less than those subjected to quantified analyses on Route 9A. Thus, no quantified mobile source carbon monoxide analyses were undertaken at locations east of the Project Site. With respect to particulate matter, however, additional modeling was performed at locations

which could be affected by mobile source particulate matter emissions that would be generated by the Proposed Action. For example, in order to address the concerns of potential particulate matter from additional diesel bus operations along the extension of Greenwich Street through the Project Site, additional particulate matter receptors were subjected to quantified microscale modeling to determine maximum impacts. For the construction impact assessment of particulate matter impacts, receptors were placed around the perimeter of the Project Site and at additional off-site locations to address project and cumulative impacts from construction emissions. Language to clarify the location of these receptors has been added to Chapter 21, "Construction."

Comment 442: One or more of the top three intersections in the nonattainment or maintenance area with the highest traffic volumes as identified in the State Implementation Plan should be analyzed if they too are affected by the Proposed Action. (EPA)

Response: As described in further detail in the FGEIS, the selection of receptor sites followed the general guidance provided by EPA. The locations where the maximum potential localized air quality impacts were identified. A list of the intersections analyzed in the carbon monoxide SIP demonstration are included in the FGEIS. The intersection of Delancey and Allen Streets are the nearest intersections modeled in *NYSDEC's Carbon Monoxide Attainment Demonstration New York Metropolitan Area* (November 1992). Along the Route 9A corridor, the nearest location that was analyzed in the SIP was at 42nd Street and Route 9A. Based on the maximum calculated air quality impacts from the Proposed Action at the predicted highly trafficked and congested intersections near the Project Site, projected impacts at the nearest intersections modeled in the SIP demonstration should be substantially less (since there would be less Proposed Action-related traffic generated at distances further from the Project Site). Therefore, no significant adverse air quality impacts from the Proposed Action are expected at the intersections included in the carbon monoxide SIP demonstration.

Comment 443: The DGEIS identified that several intersections will be significantly impacted by the Proposed Action, both during construction and in the 2015 timeframe. While the Traffic and Parking and Mitigation chapters indicated that a number of these impacted intersections would be mitigated with measures (e.g., parking restrictions or signal timing changes), the document was not clear if the levels of service at these intersections were returned to pre-September 11 conditions. This evaluation would be in conjunction with appropriately identifying which intersections would still need a hotspot analysis. The FGEIS should address this issue for both the construction period and for the ultimate build out years. (EPA)

Response: As discussed in further detail in the FGEIS, the selection of air quality receptor locations for the GEIS was based on the estimated Proposed Action-generated traffic, total traffic and predicted levels of service. The worst-case hotspot analyses of the potential mobile source impacts in the Build conditions without traffic mitigation did not result in predicted significant adverse air quality impacts for the locations with the combination of the greatest amount of Proposed Action-generated and total traffic, plus levels of service indicating relatively high congestion. Therefore, regardless of whether traffic mitigation returned such intersections to LOS conditions that were comparable to pre-September 11 conditions, no significant adverse air quality impacts are expected at these locations, since the worst-case locations indicated no significant adverse air quality impacts without such traffic mitigation.

Comment 444: The DGEIS discusses the issue of bus idling along the Greenwich Street corridor. The analysis of the emissions is presented, but the document does not discuss the implications of the analysis and how these emissions would be accounted for in the overall emission evaluation for the site. The FGEIS should summarize the results of the analysis and the impact to air quality, discuss if there are municipal ordinances to control the amount of bus idling time that would reduce the impact, and discuss the inclusion of these emissions in the overall evaluation in more detail. (EPA)

Response: The GEIS does discuss the New York City administrative code, whereby trucks and buses that are not legally authorized emergency vehicles may not idle for more than three consecutive minutes, except when powering a loading, unloading or processing device. This was included in the analysis under the assumption that buses would idle a full three minutes for each pick-up and drop-off. These emissions were modeled together with traffic at the intersection of Greenwich and Fulton Streets as a hotspot

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analysis. The results of these analyses indicated that the idling of such vehicles would not have a significant impact on air quality, and do not have any predicted significant influences on the overall evaluation.

Comment 445: The DGEIS relies on statements by the EPA that dioxin is not expected to cause long term health effects or that fine particulate was not high outside the site. Those statements are false. The highest PM_{2.5} levels were found at Stuyvesant High School. Filters taken from residential air conditioners have 500 times the acceptable amount for asbestos. (9/11 Env. Action, Rothman, NYELJP)

Response: The DGEIS includes a summary of what is known and what is still unknown about the impacts of September 11 from a variety of sources, including various academic studies, EPA and other sources. High levels of particulate matter measured outside the site after September 11 are presented in the DGEIS. The impact of September 11 and any ensuing air quality problems on the health of the surrounding community are still being studied as described in the DGEIS. Although the EPA takes sensitive populations into account when proposing and adopting outdoor ambient air quality standards, LMDC in coordination with other sponsors of Lower Manhattan reconstruction efforts have taken upon themselves a higher standard of environmental performance in order to ensure that emissions during construction and operation would be minimized wherever technically feasible.

Comment 446: The GEIS must address a New York Academy of Medicine 9/11 report on the impact of September 11 on city residents, including firefighters, borough residents and children. That report found that borough residents and children are gripped by a troubling mix of mental stress, substance abuse and respiratory problems. The City Health Department and Centers for Disease Control and Prevention, as well as the New York University School of Medicine, also found a vast amount of fiberglass in the dust sampled after September 11 which could potentially have long term health effects and perhaps has caused chronic breathing problems in firefighters and emergency medical workers. (Grabe)

Response: As discussed above, Chapter 14, "Air Quality," discusses September 11 related air quality issues based on numerous reports from multiple sources.

Comment 447: There needs to be a permanent PM_{2.5} monitoring station in Lower Manhattan. Mabel Dean, the one used in the DGEIS, is one mile away and may not be currently operating. (Thurston, Connor)

Response: The data from the monitoring station mentioned above are considered to be conservatively representative of measured data without local contributions. The Mabel Dean Station is no longer operating; the data used was from 2001, which was higher than data monitored at other monitors in subsequent years. The PS 19 station, which came on line in October, 2001 is currently operational; however, this station does not yet have full years of validated data, and the PM_{2.5} measured there to date has been lower than the monitor at Mabel Dean.

Comment 448: The WTC was the site of New York State's only ozone monitor in Manhattan. Ozone monitoring should be resumed in Lower Manhattan, and particulate levels should be monitored where public contact with traffic emissions is greatest. (Tuchman)

Response: NYSDEC and EPA determine where to site both ozone and particulate monitors. LMDC does not determine the siting of such monitors.

Comment 449: The air quality analysis has very limited information and uses the wrong threshold for determining significant impacts. The DGEIS assumes that only if the Proposed Action results in an exceedance of the National Ambient Air Quality Standards (NAAQS) would there be a significant impact. But any increase has increased health impacts (i.e., more hospital admissions, more asthma rates). (Thurston)

Response: In addition to addressing potential exceedances of the NAAQS as significant adverse impacts, the DGEIS addressed potential significant adverse impacts for PM_{2.5} and carbon monoxide by comparing the potential project and cumulative impacts to draft interim guidance and *de minimis* criteria issued by the NYCDEP. These criteria are utilized as conservative threshold incremental levels to ensure that potential localized impacts are addressed both in cases where the NAAQS are not projected to be exceeded, and in cases where the NAAQS are already exceeded without project contributions. In cases where the NAAQS are not exceeded, insignificant increments from the Proposed Action's air emissions would not have significant adverse health impacts.

Comment 450: How can the DGEIS make conclusions at this point that the effects of air quality on people are harmless without reasonable testing or monitoring in the area? (NYELJP)

Response: The DGEIS documented and accounted for the historical and current air quality monitoring data in and near the project study area. As a necessity, the EIS must project future conditions in the study area in order to address potential impacts from a proposed action into the future. When planning for future conditions, it is necessary to assess what impacts may occur in order to modify plans in such a way as to avoid or minimize such impacts to the extent feasible. To that end, the recommended EIS approach is to make conservatively high estimates of what would be expected in the future condition from an action to project whether significant adverse impacts could occur.

Comment 451: To reduce air pollution, the plan should require that all MTA and tourist buses use low sulfur fuel and be designed to retrofit to current low emissions technologies. (Hughes, Jones)

Response: LMDC has no ownership control over the operation of MTA or private bus companies. However, other than some buses operating on natural gas, all MTA/NYCT buses currently operate on ultra low sulfur diesel fuel (ULSD); approximately 40 percent of them currently include diesel oxidation catalysts (DOC); the rest include diesel particle filters (DPF) which have cleaner emissions than the DOCs, and by the end of 2004 all DOCs will be replaced with DPFs. In addition, ultra low sulfur fuel will be phased in for all on-road diesel fuels beginning in 2006.

Comment 452: The impacts of the trucks bringing the slurry to the site and the dust generated from mixing the slurry that is used in the slurry walls is missing from the calculations and should be added. (Hughes, Jones, CB1)

Response: While the comment suggests these potential activities were not addressed in the analyses, they have been accounted for in both the DGEIS and FGEIS, and the air quality calculations reflect their inclusion.

Comment 453: The Proposed Action should require that waste trucks and goods delivery trucks of all sizes use ultra low sulfur fuel and best available retrofit technology. (Environmental Defense)

Response: The private delivery of goods or the hauling or waste is not within the control of LMDC. There is also considerable legal uncertainty regarding the viability of regulating private waste and goods delivery trucks in Lower Manhattan (i.e., the Constitution's commerce clause).

Comment 454: There should be mitigation of air quality impacts. One example would be to offset the emissions (i.e., change buses to natural gas). (Thurston, Driscoll, Oliff, NYNV)

Response: Offsetting air quality impacts with off-site reductions is typically an option that is pursued when addressing new permanent point sources of pollution (e.g., new or increased power plant emissions) that exceed EPA-defined major source or major modification thresholds. The Proposed Action does not exceed the EPA-defined major source thresholds, thus offsets are not required. It should be noted, however, that LMDC has worked with many stakeholders, including environmental organizations, to incorporate green measures as part of the Proposed Action. Such measures are addressed in the *Sustainable Design Guidelines*, which would result in energy efficient buildings and other measures to reduce overall air emissions.

Comment 455: The DGEIS inadequately analyzes a potential bus garage at Site 26. Fumes would need to be vented, which likely will be near a playground and movie theatre in the neighborhood where people congregate outside in good weather. (Love)

Response: Site 26 is no longer under consideration as part of the Proposed Action.

Comment 456: The air quality analysis should extend beyond the Project Site. For instance, impacts to air quality from construction and traffic will impact Chinatown. Chinatown has seen a spike in new asthma cases since September 11. (Chinese Progress Association, NYELJP)

Response: The cumulative impact from construction vehicles was examined near the Project Site because that is where all vehicles converge, leading to the largest increments in pollutant emissions. Those increments were not predicted to be significant; increments at other locations such as Chinatown would be even lower.

In recognition of the impact of September 11 on local communities, LMDC is making efforts to further minimize impacts from construction with a special emphasis on air quality. Potential

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environmental impacts on Chinatown was specifically addressed in Chapter 20, “Environmental Justice.”

Comment 457: The air quality chapter does not mention VOCs from painting and/or other chemicals during construction or maintenance of the buildings. (Bleiweiss)

Response: Under the *Sustainable Design Guidelines*, a Materials Management Plan to minimize utilization of materials with high levels of volatile organic compounds (VOCs) and other toxic characteristics that adversely affect Indoor Air Quality (IAQ) will be developed and implemented. The materials must meet or be lower than those in the following standards: *Adhesives and sealants*—South Coast Air Quality Management District, Rule No.1168; *Paints and coatings*— Green Seal Standard GS-11; *Carpet and carpet adhesives*—Carpet and Rug Institute Green Label Indoor Air Quality Test Program. Where possible, non-urea-formaldehyde-based bonding agents would be used in composite wood and typical millwork applications such as veneer and plastic laminate applications, etc. Unprotected insulation in ducts, supply plenums and return plenums would be minimized per New York State Article 19.638.7(j).

Comment 458: The DGEIS does not address exhaust air from the subgrade parking, security check in, loading docks and bus stations as a source of air pollution. Section 14.4.2 of the DGEIS should disclose all locations of the proposed below grade parking facilities and related ventilation points. (NYNV, NYCDEP)

Response: As presented in the DGEIS chapter, ventilation for subgrade facilities would be designed in such a way as to ensure that no significant impacts will occur in publicly accessible spaces. All ventilation would be placed 40 feet above grade or higher. Detailed analysis of potential emissions from below-grade vehicular systems, including the parking garage, has been added to the FGEIS.

Comment 459: The air quality analysis should include an analysis of conditions from any mechanical equipment installed by LMDC underneath the three-story pedestals it anticipates will be built by 2009. (FATE)

Response: Chapter 14, “Air Quality,” has been updated to include an assessment of potential air quality impacts from underground parking facilities.

Comment 460: The air quality analysis on the FGEIS should not be regional, but reflect air quality in the immediate area of the Proposed Action. (FATE)

Response: The air quality analyses presented in the GEIS address both potential localized and regional air quality impacts from the Proposed Action.

Comment 461: The proposed project is expected to increase the vehicles miles traveled (VMT) in the region by 1.9 million VMT and by 1.541 million VMT in the New York region by the full build out year of 2015. What is the baseline used to generate these figures? By what percentages would VMT increase due to the Proposed Action? (NYCDEP)

Response: A new section with tables that address VMT has been added to Chapter 14, “Air Quality,” in response to this comment. In addition, pursuant to the request of the Interagency Consulting Group (ICG), all transportation data related to the Proposed Action will be sent to NYMTC.

Comment 462: The VMT analysis should take into account the addition of 900 taxi medallions by the year 2006 currently being proposed by the NYC Taxi and Limousine Commission. (NYCDEP)

Response: The VMT analysis accounts for increased vehicle mileage attributable to the Proposed Action and focuses on travel generated by project-related development. Any future changes due to increases in taxi medallions would occur independent of the Proposed Action.

27.3.25 NOISE

Comment 463: The exact location of the entrance/exit for both bus garage alternatives is not disclosed in the DGEIS. What are the expected hours of operation for the proposed bus garage? How many buses are expected to come and go per day? (NYCDEP)

Response: Site 26 is no longer under consideration as part of the Proposed Action; the entrance/exit of the underground bus garage would be located on the north side of Liberty Street, between West Street and Washington Street. The bus garage hours of operation would be approximately 8 AM to 8 PM. The daily number of buses during the peak visitor years (9 million annual attendance) is expected to

be 218 on a peak day and 144 on an average day. The daily number of buses during stabilized visitor years (5.5 million annual attendance) is expected to be 150 on a peak day and 100 on an average day.

Comment 464: St. Nicholas Church has been identified as a sensitive receptor site for noise for both bus garage alternatives. However, St. Nicholas Church is only in close proximity of the Southern Site bus garage alternative, it is not in close proximity of the Site 26 alternative. The potential for significant impacts to sensitive receptors adjacent or in close proximity to Site 26 should be analyzed. (NYCDEP)

Response: Site 26 is no longer under consideration as part of the Proposed Action.

Comment 465: The proposed Memorial Park should also be considered a sensitive receptor site for operation noise for both bus garage alternatives. (NYCDEP)

Response: Two receptor locations within the Memorial Area, ID Nos. 23 and 24, are analyzed in Chapter 15, "Noise," to account for mobile and stationary noise sources, including noise from the bus garage.

Comment 466: Other than noise generated by construction equipment, the DGEIS does not adequately address the potential impact of noise and assumes that, because the site is already noisy, additional noise is acceptable. (NOISE, Nadler)

Response: Chapter 15, "Noise," and Chapter 21, "Construction," provides data on monitored noise levels and projected noise levels that would have occurred prior to September 11. The background, or ambient, noise levels, were then compared with expected noise levels for 2006, 2009 and 2015 analysis years from mobile and stationary (non-road construction equipment) sources. Chapters 15 and 21 provide separate analyses of impacts from mobile and stationary sources. Mobile and stationary sources are also detailed in sections titled the "Future Without the Proposed Action" and "Future With the Proposed Action." The analysis does not assume that already noisy sites make it acceptable to add additional noise. Rather, the expected noise levels as a result of the Proposed Action alone or the cumulative actions from other Lower Manhattan Recovery projects in the analysis years 2006, 2009, and 2015 are measured against regulatory noise threshold criteria from three different agencies to determine whether impacts occur. While noise levels increase at several locations, the decibel levels at locations remain below significant impact threshold criteria.

Comment 467: Every effort should be made to meet HUD Site Acceptability Standards of 65 dBA for the Memorial. (NOISE, CB1)

Response: The HUD Site Acceptability Standards shown in Chapter 15, "Noise," are for interior noise levels for HUD sponsored residential projects. These standards do not contain a category setting a standard for Memorial type uses. However, while the Proposed Action is not a residential project, this highly conservative standard is provided for disclosure purposes, and three potential mitigations have been identified for impacts in 2009. First, alternative construction equipment such as the electrification of generators and air compressors could be employed to reduce noise at the source. Second, it is expected that the interiors of the Memorial Center and cultural buildings would be designed and constructed to meet HUD Site Acceptability Standards to the greatest extent practicable. Third, the 2009 Site 23 (72 dBA) and Site 24 (73 dBA) day-night averages (L_{dn}) result from the assumption that construction of Towers 2, 3, 4, and 5 would be occurring simultaneously in 2009. The elevated noise levels would be temporary until construction is completed. This highly conservative estimate could be mitigated by schedule changes due to market or other forces that may result in construction of one tower at a time, resulting in lower noise levels.

In 2015, the day-night average (L_{dn}) is expected to be 69 dBA resulting from traffic and pedestrians. The 69 dBA level is expected to be the same for "Future Without the Proposed Action" and "Future With the Proposed Action." HUD recommends noise level attenuation for residential project sites above 65 dBA, but not exceeding 70 dBA. HUD does not have a category standard for memorial type uses. While the Proposed Action is not a residential project, it is expected that the final site design and landscaping would contribute to attenuating the expected noise levels. It is also expected that many visitors would congregate at the Memorial's below-grade areas at each of the footprints, areas expected to have lower noise levels than at street level. It is also noted that the 2015 69 dBA level is lower than the projected pre-September 11 levels of 72 and 73 dBA.

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- Comment 468:** The entire Project Site should adhere to the HUD requirement to “be aware of the problem of noise and to take positive steps to protect residential and other sensitive land uses from high noise levels.” Therefore, anything other than a decrease in aggregate noise levels is unacceptable and the proposal to permit a 3 dBA increase should be rejected. The site, when fully built, should not exceed the current New York City Noise Code ambient noise quality criteria for noise quality zones N-3 of Leq-70 dBA measured for any one hour (subchapter 6, section 24-243). (NOISE, CB1)
- Response:** HUD criteria recommends noise level attenuation for new residential development with L_{dn} above 65 dBA. While not a residential development, the Memorial is expected to include attenuation measures to achieve acceptable noise levels for interior spaces to the greatest extent practicable.
- As shown in Table 15-6, the future with the Proposed Action would result in increases of one (1) dBA at two locations, with none of the other locations showing an increase in aggregate noise levels. The increases of 1 dBA at two locations are well below the 3 dBA relevant threshold criteria identified in the *CEQR Technical Manual* for receptors with existing noise levels exceeding 65 dBA. Table 15-5 provides results of noise measurements taken in 2003 for 24 receptor locations, all of which exceed 65 dBA.
- Comment 469:** The community opposes any wall or other physical barrier along West Street as inconsistent with the overall goal to integrate the WTC Site with Battery Park City and the waterfront. (CB1)
- Response:** As design of the Memorial continues, LMDC, in cooperation with NYSDOT, will strive to ensure that urban design and physical barrier issues are adequately addressed in a manner compatible with the Amended General Project Plan.
- Comment 470:** The LMDC and its project partners must ensure that sound receptor stations are established at various locations throughout and near the site and regularly monitored to ensure that agencies and contractors adhere to sound level guidelines. The public should have access to this noise monitoring data. (CB1, Gerson)
- Response:** A noise monitoring plan would be designed in conjunction with the Port Authority, Silverstein Properties and other Lower Manhattan project sponsors to ensure comprehensive noise monitoring and reporting procedures of noise levels prior to and during the peak construction period. It is anticipated that the monitoring program would be conducted in conjunction with the Lower Manhattan Construction Coordination Group.
- Comment 471:** Other than noise generated by construction equipment, the DGEIS does not adequately address the potential impact of noise and estimates of projected noise impacts from mobile sources, *i.e.*, projected noise from traffic and pedestrians, seem very low throughout the document. LMDC should explain how these estimates were reached. While the community supports the restoration of a commercial center on this site, the noise impacts to be expected from the development of a hub that will be active day and night and all weekend (unlike the WTC which was mostly 9-5 Monday through Friday) must be acknowledged and mitigated as much as possible. (CB1, NOISE, Gerson)
- Response:** The methodology, data and analyses for projected noise impacts from mobile sources for analysis years pre-September 11, 2006, 2009 and 2015 are documented in chapters 15, “Noise,” and 21, “Construction,” and Appendix J. Existing conditions (2003) ambient noise levels from mobile sources were obtained for peak and midday hours, and 24-hour measurements were taken at 24 sites within and near the Project Site.
- Pre-September 11 noise levels were estimated by adjusting the 2003 monitored noise levels for the change in traffic since September 11 (see Table 15-10). (See discussion in section 15.4.1 and Appendix H.) Noise levels for analysis years 2006, 2009 and 2015 were calculated based on the change in projected traffic levels in 2006, 2009 and 2015 at the 24 receptor locations. Projected traffic levels in all analysis years accounted for passenger, truck and buses, including construction-related traffic in 2006, by using the CEQR Technical Manual Passenger Car Equivalent (PCE) method. The PCE method accounts for higher noise levels resulting from trucks and buses compared to passenger cars. Using this method ensured that noise emissions from non-passenger car vehicles were fully incorporated in the analysis.

As shown in Tables 15-11 and 15-14, L_{eq} levels within the WTC Bathtub (sites 23 and 24) are expected to be the same whether or not the Proposed Action is in operation. Even after the construction activities for the Proposed Action have been completed, mobile sources, not operational sources such as commercial, cultural, Memorial or memorial-related uses, are expected to generate the most noise in and around the Project Site.

Comment 472: The Proposed Action should consider setting guidelines for stationary noise sources, similar to the *Sustainable Design Guidelines*, that meet or exceed all existing and pending codes and regulations and should set standards for the type, size, quality and placement of HVAC systems, generators and mechanical equipment. (NOISE, CB1)

Response: The Proposed Action will meet the substantive requirements of the New York City Noise Code, which are very stringent. The *Sustainable Design Guidelines* have additional measures for noise reduction.

Comment 473: Exterior condensing units should be eliminated as much as possible and all condensing units should be treated with high-quality sound absorbing panels to reduce reflection of sound to adjacent buildings. (CB1)

Response: See comment above.

Comment 474: The DGEIS should take into account that the New York City Noise Code is being revised and consider whether the Proposed Action would comply with revised code and, if not, what actions can be taken to ensure compliance. (NOISE, CB1, Gerson)

Response: Chapters 15 and 21 currently account for the existing Noise Code regulations as well as the CEQR Technical Manual Standards. Analysis against standards or pending legislation would be speculative.

Comment 475: The DGEIS does not provide the results of any studies that may have been done regarding the effects of wind turbines in close proximity to residential housing or address recent studies in the British press that suggest that low frequency sounds emitted by wind turbines can cause health problems, including headaches and depression in people living one mile away. (CB1, Gerson, FATE, Oliff)

Response: The DGEIS addressed the issue of noise from the wind turbines in chapter 15, concluding, at 15-13 (and again at 15-22): “Considering the elevation of the turbines above 1,000 feet and the substantial background noise at receptor locations, noise generated by the wind turbines would not be discernible at receptor locations.”

While the aforementioned UK *Telegraph* article of January 25, 2004 included claims regarding health impacts, the issue of low-frequency noise has been revisited. Evaluations of the available professional and academic literature on the issue, as well as consultation with experts in both the U.S. and abroad, demonstrate no likelihood of adverse impact.

First, the wind turbines planned for the Freedom Tower would not create a significant amount of low-frequency noise. Low-frequency noise is rare and has generally been associated with older-model downwind turbines (i.e., turbines whose rotors operate downwind of the support tower). The turbines at the Freedom Tower would use upwind turbines employing the latest design technology. Such turbines do not typically create low-frequency sound. Even if the turbines were downwind, a leading expert on wind energy and low-frequency noise believes that “careful designs [of downwind turbines] can reduce such emissions to below detectable levels and therefore will cause no community annoyance.”¹ In either case, the turbines would be designed and installed in a manner that low-frequency noise would likely be undetectable (if existent at all). Low-frequency noise, sound in the 20 to 100 Hz range, generally can be felt but not heard.

Second, even if low-frequency noise were to be created by the Freedom Tower wind turbines, no scientific support has been found for the proposition that low-frequency noise would cause health problems for anyone living near, working in, or visiting the area. The *Telegraph* article of January 25, 2004, included claims that wind turbines in rural locations caused ailments such as

¹ Dr. Neil Kelley, “Is Low Frequency Noise a Problem for Wind Turbines?”, available at <http://www.awea.org/faq/noise-lf.html>.

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headaches, stress, and depression, but leading health and energy experts—including the UK’s Science Minister—have dismissed these allegations. The UK’s Department of Trade and Industry, which oversees energy issues, states in a new draft report on the issue:

To date, there is no evidence which links the levels of low frequency noise emitted by wind turbines with impacts on human health. With over 50,000 wind turbines in operation around the world, some of which have been in place for 20 years, there has been ample opportunity for any ill effects to have been identified; that none have is further proof of the benign nature of this technology.¹

The *Telegraph* article also stated incorrectly that a report sponsored by the UK Department for Environment, Food, and Rural Affairs had endorsed the claims of health problems from turbines. In fact, the only mention of wind turbines in this exhaustive study is in a section noting that exposure to low-frequency noise “is ubiquitous in modern life.” It continues:

[Low-frequency noise] is common in urban environments, and as an emission from many artificial sources: automobiles, rail traffic, aircraft, industrial machinery, artillery and mining explosions, air movement machinery including wind turbines, compressors, and ventilation or air-conditioning units, household appliances such as washing machines, and some therapeutic devices.²

The issue of low-frequency noise would be carefully considered and monitored throughout the design process of wind turbines for Freedom Tower. The Request for Qualifications issued to wind energy providers by Silverstein Properties specifically mentions noise and vibration as issues that must be addressed by firms seeking to develop and operate the Freedom Tower wind turbines.³ However, it is unlikely that these wind turbines would create low-frequency noise and extremely unlikely that such noise would be discernible, or have any impact, at receptor locations.

Comment 476: The FGEIS must contain a more in-depth analysis of noise levels both during and after construction and include the exact level of exceedances of CEQR guidelines, details about the wind turbines chosen for the project, including estimates of the audible and low-level noise that will be emitted, along with analysis on how the expected vibrations will affect people on the surrounding area. The FGEIS should include a discussion of ways to decrease the noise from reconstruction as well as mitigation measures. (Glick, Civic Alliance, Gerson, FATE, Oliff)

Response: While LMDC is not subject to CEQR Guidelines as a subsidiary of a New York State agency, Chapter 15, “Noise,” includes an analysis and attenuation needs based on CEQR Guidelines. In addition, HUD-based noise guidelines were employed for the analysis of noise impacts on the proposed Memorial. A discussion of noise associated with wind turbines is included in Chapter 15, “Noise,” section 22.6.3, “Mitigation Measures—Noise” provides a discussion of potential opportunities to mitigate noise impacts and how they could be implemented.

Comment 477: Emergency generators should be hospital grade or better with acoustically treated radiator discharge, intake, and exhaust pipe. This treatment should include three feet sound traps for the radiator intake/discharge and a critical-grade muffler for the exhaust. (CB1)

Response: Silverstein plans to conform to this recommendation.

¹ UK Department of Trade and Industry, “Low Frequency Noise and Wind Turbines,” (Unpublished draft of March 9, 2004, provided by David Still, Renewables Advisor; Mr. Still notes that the draft reflects the Department of Trade and Industry’s current thinking and that it will carry out further research in the near future).

² Dr. Geoff Leventhal, “A Review of Published Research on Low Frequency Noise and its Effects,” UK Department for Environment, Food, and Rural Affairs, May 2003.

³ See Request for Qualifications (RFQ) to Develop and Operate Wind Energy Facilities (March 2004), at 5.

Comment 478: We are very concerned about noise and quality of life over the next 4+ years. This issue must be addressed as a high priority or there may be mass exodus from and limited entry into Lower Manhattan, affecting property values. (Schoen)

Response: Noise impacts have been fully examined in the GEIS. In addition, measures to reduce noise impacts are included in the *Sustainable Design Guidelines* and have been incorporated in the EPCs.

27.3.26 COASTAL ZONE

Comment 479: It would be appropriate to include the Department of State (DOS)—Coastal Zone Consistency Review in item 1.10.3, indicating the DOS’s review and decision-making is required as part of the decision-making of all of the involved federal agencies. (NYSDOCR)

Response: Although DOS is not a federal agency, it has a decision-making role in its review of activities undertaken, funded, or authorized by federal agencies occurring within the coastal zone. This role is distinct from the advisory role DOS has in relation to actions undertaken by state agencies. Item 1.10.4 has been modified to indicate that DOS consistency review and decision-making are required as part of the decision-making of all federal agency activities within the coastal zone.

Comment 480: Chapter 16 would be best located at the end of the GEIS, after all relevant analyses and assessments of affects on the natural and built environment, socioeconomics and all other relevant issues addressed in an GEIS. (NYSDOCR)

Response: Comment noted. The analysis presented in Chapter 16, “Coastal Zone,” compares the Proposed Action in the 2009 and 2015 to pre-September 11 conditions and, as appropriate, current conditions. Although Chapter 16 occurs sequentially within the GEIS, it accounts for the impacts of the Proposed Action on its environmental setting in the chapters presented before and after it in the GEIS.

Comment 481: Chapter 16 could use some editing to avoid misunderstandings regarding the roles and obligations of agencies considering and undertaking activities in the coastal area. (NYSDOCR)

Response: Chapter 16 has been edited as appropriate, consistent with this comment.

Comment 482: The discussion of the federal Coastal Zone Management Act and the State Waterfront Revitalization of Coastal Areas and Inland Waterways Act should be moved from its current place in Chapter 18, “Natural Resources,” to the section discussing SEQRA, CEQR, or NEPA, and perhaps the City of New York’s Zoning, Uniform Land Use Review Process or other land and water use regulatory programs. (NYSDOCR)

Response: Comment noted. Section 18.2 was intended to inform the reader of the federal and state programs that may apply to the Proposed Action and which may be relevant to water quality and aquatic resources within the vicinity of the Project Site. Both the federal Coastal Zone Management Act and the state Waterfront Revitalization of Coastal Areas and Inland Waterways Act were determined to be relevant to the protection of water resources although these laws do not involve the protection of specific natural resources.

Comment 483: The discussion of NYC Coastal Zone Policy 10.1 concerning the retention and preservation of designated historic resources is inadequate. This section of the DGEIS discusses only one designated historic resource, the Hudson River Bulkhead, to the exclusion of the scores of designated properties within what LMDC has defined as the Area of Potential Effect for the Proposed Action. (Coalition)

Response: As discussed in Chapter 5, “Historic Resources,” LMDC is considering a Programmatic Agreement which would address any potential adverse effects on historic resources. Through the Programmatic Agreement, LMDC will ensure consistency with this policy. The response to Policy 10.1 has been revised.

Comment 484: Conducting “Further investigations” and use of as-yet non-existent construction protection plans should not be equated with “preservation” as called for in Policy 10.1. These unspecified non-binding actions do not make the Proposed Action consistent with Policy 10.1 as the DGEIS states. (Coalition)

Response: See response to comment above.

Comment 485: In discussing NYC Coastal Zone Policy 10.2, the DGEIS incorrectly states that monitoring of archeologically sensitive areas on the WTC site would result in the avoidance of any potential

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impacts. Monitoring is not mitigation. There is no discussion of what would be done if during monitoring important archeological remains are identified. (Coalition)

Response: Mitigation measures, to be developed in consultation with LPC and SHPO, can take many forms and still be appropriate to the archaeological resource(s), context, and public need. Mitigation would only be undertaken after a protocol has been accepted by the reviewing agencies. Such protocols include management practices for “unanticipated discoveries.” It is premature to develop a protocol at this juncture. If archaeological remains are identified during monitoring, recovery of such remains would be undertaken in consultation with LPC and SHPO. LMDC is also considering a Programmatic Agreement that would address treatment of potential archeological resources.

Comment 486: In discussing possible impacts to the Hudson River Bulkhead, the DGEIS says that they will be addressed “through documentation in a New York State Historic Site Inventory Form.” Presumably LMDC is proposing this as mitigation. A substantial amount of documentation has already been developed about the historic significance of the Hudson River Bulkhead. The State Historic Preservation Office has raised numerous concerns about construction impacts to it in the course of reviewing several different projects. Preparation of an inventory form cannot be considered adequate mitigation. LMDC should acknowledge the potential for an adverse effect and the fact that mitigation of adverse impacts to the Hudson River Bulkhead may not be feasible. (Coalition)

Response: Site 26 is no longer being considered as a possible location for tour bus parking. Therefore, no impacts to the bulkhead are currently anticipated from the Proposed Action.

Comment 487: There is no way to support the contention that use of Construction Protection Plans which have not yet been written, would result in the avoidance of damage to historic structures from ground-borne vibrations. It is unclear why this issue is discussed in the context of Policy 10.2 which deals with *archeological* resources. (Coalition)

Response: The response to Policy 10.2 has been revised.

Comment 488: Policy 10.2 specifically calls for the preservation of archeological artifacts, yet there is no discussion of the artifacts from the WTC Site that are currently in the possession of the Port Authority. (Coalition)

Response: The Port Authority will continue safe-keeping of those artifacts which it has in its possession at Hangar 17. It is intended that some of those artifacts would be returned to the Memorial or the Memorial Center.

Comment 489: The DGEIS refers the reader to Chapter 5 for a further discussion, but there is no discussion of coastal zone consistency issues relating to historic resources in Chapter 5. (Coalition)

Response: The Proposed Action’s impacts to historic resources are fully discussed in Chapter 5, “Historic Resources,” and it is appropriate to refer the reader to the chapter that fully addresses such resources. In addition, through the implementation of the Programmatic Agreement, LMDC will ensure consistency with Policy 10.

Comment 490: The New York City Waterfront Revitalization Program Consistency Assessment Form included in the DGEIS and dated January 13 states that the Proposed Action would have no significant adverse impact on historic or archeological resources. How was this determination reached since LMDC has yet to completely identify all the historic resources on the WTC Site? (Coalition)

Response: Because that form requires that either the “yes” or “no” box be checked, a note was added after question number 51 on the form to clarify that LMDC expected that the Proposed Action would not have a significant adverse impact on historic resources and stated that the action was undergoing a separate Section 106 review.

27.3.27 NATURAL RESOURCES

Comment 491: The DGEIS proposes to mitigate the loss of migrating birds by a reduction in the amount of above-ground vertical exterior surface—63 percent less than the former World Trade Center. However, suggesting that the number of collisions will be reduced by 63 percent reflects a grave and fundamental misunderstanding of bird collisions at man-made structures. Surface area above 500 feet is largely irrelevant. (NYC Audubon)

- Response:** It is recognized that factors other than façade area above 500 feet affect bird strike potential. The façade surface area was used as a general basis for assessing the relative potential for bird strikes among the alternatives analyzed. The assessment has been refined and the analysis in the FGEIS reflects more detailed assumptions about collision rates.
- LMDC and the WTC design team will work with interested parties to identify opportunities for minimizing the potential for bird collisions through building design and management practices.
- Comment 492:** The lacy structure of tension cables called for in the Freedom Tower design, when lit up, will serve as an obstruction to night migrating birds. The assertion in the DGEIS that nighttime collisions are more common than daytime collisions is true of communication towers, but not of buildings. However, because the Freedom Tower incorporates the bird hazards of both, as currently designed it will be far deadlier to birds than its predecessors. (NYC Audubon)
- Response:** The potential for bird collisions under the Proposed Action is expected to be similar to the pre-September 11 condition. The Proposed Action will include a combination of towers and structures on top of the towers, such as antennae, similar to what was present on the site pre-September 11.
- Communication towers and antennae generally do not have high bird strike potential during daytime due to their small surface area. At night, antennae and similar structures can have more bird strike potential due to lighting requirements. Tall building structures have bird strike potential during daytime, due to the surface area and reflectivity of the façade, and during nighttime, due to the lighting requirements of the building.
- Comment 493:** The assertion that a greater number of birds striking buildings are slightly injured or temporarily stunned rather than killed is not correct. Approximately two thirds of collision victims reported to NYC Audubon volunteers are fatalities, and many more die 24 to 48 hours later. (NYC Audubon)
- Response:** As stated in the GEIS, birds that are stunned or injured may not survive.
- Comment 494:** The statement that 75 percent of neotropical migratory birds fly at altitudes between 500 and 6,000 feet during migration is incorrect. Radar studies reveal that 75 percent of songbirds migrate between 500 and 2,000 feet. Bird density is greatest at levels of 985 feet, with the second greatest density at 500 and 1475 feet, all of which are well within the height of the proposed Freedom Tower. (NYC Audubon)
- Response:** Additional information is provided in the FGEIS, consistent with this comment.
- Comment 495:** Individual threats to birds need to be considered in the aggregate, not in isolation. Data shows that thousands of birds can be killed in a single night at a single structure. (NYC Audubon)
- Response:** The effects with the Proposed Action on individual birds as well as groups of birds are expected to be similar to pre-September 11 conditions. No bird collision events have been documented since the destruction of the WTC, which induced mortality of thousands of birds in a single event. As stated in the GEIS, the total number of collisions and resulting bird mortality would be insignificant when compared to the total number of birds migrating along the Atlantic Flyway.
- Comment 496:** The partial list offered on page 18-35 of the DGEIS regarding bird strike data is highly abridged. (NYC Audubon)
- Response:** Additional information has been added to the list in the “Terrestrial Resources” subsection of section 18.4.1 in the GEIS.
- Comment 497:** The DGEIS states “Because of the removal of birds by cleaning crews and scavengers, collisions reported by the NYCAS monitoring program may not represent the total number of bird collisions.” (p. 18-62) The phrase “may not” should be replaced with “do not.” Monitors were on-site for less than one hour per visit and therefore actual totals were undoubtedly considerably higher. (NYC Audubon)
- Response:** Comment noted.
- Comment 498:** The fact that the WTC Site will include trees and shrubs makes it all the more important that nonreflective, patterned glass be used at least to 4 stories above the ground plane to prevent collisions. (NYC Audubon)

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Response: LMDC and the WTC design team are investigating opportunities to reduce bird collision, including the application of glass surfaces non-conductive to bird collision. The GEIS recognizes that the potential habitat offered by landscaping may increase the potential for bird collisions.

Comment 499: Three promising directions in the DGEIS need to be expanded and mandated: (i) with regard to reducing reflective glass surfaces, the FGEIS should look into creative glass design that will mitigate bird collisions, for example, the fritted glass proposed for Swarthmore College's new science center; (ii) the reduction in interior lights during spring and fall migration by tenants must be mandatory; and (iii) the reduction in duration of nighttime decorative lighting during spring and fall migration must be mandatory on building management. Fritted glass and mandatory policies for reducing interior and exterior lights would lead to marked reductions in energy use. (NYC Audubon, Civic Alliance, Independence Plaza Tenants Association, DOI)

Response: As described in the FGEIS, LMDC and the WTC design team continue to explore opportunities to reduce bird collisions as the design advances. Such opportunities include management of operation, including dimming or selective activation of light savers during nighttime, especially during elevated periods of bird collision potential. Incorporation of such measures would be balanced with requirements for safety and security and the iconic role of Freedom Tower. LMDC and the WTC design team will work with interested parties to identify opportunities for minimizing the potential for bird collisions through building design and management practices.

Comment 500: The DGEIS's discussion of impacts from the cooling water intake system (CWIS) hinges on an erroneous assertion that adverse environmental impact is determined by comparing the mortality from the CWIS to the overall commercial catch of selected fish or the population of selected fish on the east coast. The NYSDEC has long maintained that any mortality of fish from the use of water for cooling purposes is an adverse environmental impact. Importantly, this approach was recently confirmed by a recent decision of the United States Court of Appeals in *Riverkeeper, et al. v. USEPA*, 358 F.3d 174 (2d Cir. 2004). (NYSDEC)

Response: Use of the population or commercial catch size is an appropriate and recognized benchmark against which to gauge fish losses and is widely used to determine whether such losses are significant. Federal agencies (e.g., NMFS, USFWS), interstate agencies (e.g., ASMFC), and the scientific community have long used methods such as those presented in the GEIS for setting acceptable loss levels for specific activities that may adversely affect fish species. The EPA used these methods to forecast consequences of impingement and entrainment losses of early life stages for adult population, fishery harvest, and population biomass production for its estimation of benefits in the case study analysis for the Proposed Section 316(b) Phase II Existing Facilities rule. These methods have also been used in the determination of significance of cooling water withdrawals on fish populations in other states. The results of the analysis performed in the GEIS support the conclusion that use of the CWIS would not result in significant adverse impacts at flows projected for 2009 or 2015.

LMDC recognizes, nonetheless, that NYSDEC has taken the position that any mortality of fish from the operation of the cooling water intakes is an adverse environmental impact, and that significant adverse impacts are likely to result from the project's first phase, as well as final build-out in 2015. An evaluation of the effectiveness of possible mitigation measures for reducing impingement mortality and entrainment will therefore be conducted at a later date during the SPDES renewal permitting process. The effectiveness of possible mitigation measures for potential losses of aquatic organisms requires completion of detailed designs of the elements that would be included as part of the WTC Memorial and Redevelopment Plan. Cooling water needs for the Proposed Action have been projected to be no greater than pre-September 11 under full build-out in 2015, based on the similarity of the areas to be cooled. However, implementation of the *Sustainable Development Guidelines* that have been established for the Proposed Action or use of alternative building designs, may result in cooling water needs that would be considerably lower than pre-September 11. Therefore, the evaluation of the effectiveness of possible mitigation measures for the withdrawal of river water would be

conducted when the cooling water needs, associated losses of fish, and the potential range of feasible mitigation options are more clearly defined.

The court decision cited by the Commenter discusses adverse environmental impacts associated with cooling water intakes for new power generation facilities, but does not directly comment on the standards for determining the significance of adverse impacts. Since the WTC intake is neither new, nor associated with a new steam electric generating facility, the decision is not directly applicable to the Proposed Action. EPA has yet to issue a rule (Phase III) for intake withdrawals at existing non-electric generating facilities, and it is still unclear whether the WTC intake would be included as one of the industrial categories covered by the rule.

Comment 501: Even if the CWIS intakes are operated at pre-September 11 levels, there will be significant losses to more than twenty different fish species, including the entrainment of millions of individual fish at early life stages. These losses are significant. (Riverkeeper)

Response: The analysis calculated potential losses of these fish species and evaluated them within the context of the extremely high natural mortality they exhibit during early life stages, to determine the significance of these losses. The analysis of projected fish losses and withdrawal levels in 2015, are not expected to be greater than pre-September 11 levels that had been authorized under the WTC's SPDES permit. While the projected number of individuals of early lifestages is large, the analysis demonstrates that the projected number of early life-stage individuals would equate to a much smaller number of older fish that would not be available to the population, or a small number of pounds that would be lost to a particular fishery because of the extremely high natural mortality of these lifestages.

In addition, the scientific community and government agencies tasked with regulating fisheries have long recognized the operation of compensatory mechanisms in fish populations. These mechanisms serve to stabilize overall population size despite losses that may occur from natural or other sources of mortality, particularly at early life stages. Withdrawal volumes in 2015 are anticipated to range between 22 and 63 mgd, which represent between 12 to 35 percent of the 179 mgd design flow of the intake system. Withdrawal levels for 2009 are anticipated to range between 11 and 32 mgd, which represent between 6 and 18 percent of the design flow of the intake system. The DGEIS concluded that losses at these projected flows would not result in significant adverse impacts to aquatic resources. See also response to previous comment.

Comment 502: The DGEIS should elaborate on the regulatory mandates stated in section 316(b) of the Clean Water Act and Part 704.5 of the New York Code of Rules and Regulations. (NYSDEC)

Response: The text has been revised to include a discussion of the process through which EPA is establishing nationwide standards for cooling water intakes under Section 316(b) of the Clean Water Act, and the types of facilities for which these standards have been set. To date, standards have only been set for certain steam electric generating facilities. Section 18.2.2, "New York," references Part 704.5, the language of which is virtually identical to the federal Clean Water Act 316 (b) language, and has been revised to describe the general criteria that apply to all waters receiving thermal effluent. The specific thermal discharge criteria that would apply to the Proposed Action are presented in section 18.4.3, "Probable Impacts of the Proposed Action 2009—Current Conditions Scenario."

Comment 503: The DGEIS should include a discussion of alternatives to the CWIS, including the best technology available (BTA) for avoiding or minimizing adverse impacts from the CWIS. (NYSDEC, Riverkeeper, DOI)

Response: The GEIS has been revised to include a discussion of the types of technologies that generally are considered for reducing impingement and entrainment. Because future building design elements are not yet known, detailed evaluations of the effectiveness, feasibility and costs of candidate technologies will be evaluated as part of the SPDES permitting process when the cooling water needs, associated losses of fish, and potential suite of feasible mitigation options are more clearly defined.

Comment 504: The GEIS should include the information contained in the state's habitat documentation for the Lower Hudson Reach Significant Coastal Fish and Wildlife Habitat designation. That information should be used to assess the effects of water withdrawals from or discharges to the Hudson River, and

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to assess the effects of the Project activities on Policy 7 of the state's Coastal Management Plan. (DOS, NYCDEP)

Response: The GEIS has been revised to contain a discussion of the designation of the Lower Hudson Reach as a Significant Coastal Fish and Wildlife Habitat, the reason for the designation, and the natural resources within this area under the two baseline conditions. Potential impacts to the Lower Hudson Reach Significant Coast Fish and Wildlife Habitat are assessed for the Proposed Action in 2009 and 2015.

Comment 505: The DGEIS overemphasizes the average pre-September 11 discharge flow at the CWIS as a basis for comparing potential aquatic impacts associated with the Proposed Action. The analysis should be rewritten without comparisons among past, proposed, or maximum design usage volumes. Rather, the environmental analysis of the cooling water system should provide separate assessments based on (a) the projected intake volumes of the project; and (b) the system's maximum potential (i.e., design flow) intake volumes. The DGEIS should consistently use current conditions as its baseline. (NYSDEC, Riverkeeper)

Response: An EIS analyzes the effects of the Proposed Action as measured from a defined baseline. The DGEIS evaluated impacts that considered both pre- and post September 11, 2001 time periods as baselines. The impact analysis presented in the DGEIS uses loss estimates for 2015 that assume project intake volumes ranging between 22 and 63 mgd. This represents between 12 to 35 percent of the 179 mgd design flow of the intake system. Entrainment and impingement losses under projected flows for 2015 would be no greater than those experienced prior to September 11, 2001, and would be expected to be 12 to 35 percent of the losses that could be expected under the design flow. The GEIS assesses the potential effects from the losses projected in 2015, assuming flow volumes would be no greater than pre-September 11, and the potential effects should flow volumes approach the much higher design flow. Withdrawal levels for 2009 are anticipated to range between 11 and 32 mgd, which would represent between 6 and 18 percent of the design flow of the intake system. Entrainment and impingement losses under projected flows for 2009 are also expected to be approximately 50 percent of those projected for 2015, and are projected to be 6 to 18 percent of the losses that could be expected under the design flow.

Section 125.94 of EPA's recent Phase II rule sets performance standards for reducing entrainment and impingement at existing steam electric generating stations. The Rule indicates that in estuarine environments, facilities that reduced impingement mortality by 80 to 95 percent and entrainment by 60-90 percent from the calculated baseline met the standards for minimizing adverse environmental impacts from the operation of their intake structures. Under the Proposed Action, total entrainment and impingement losses would be expected to be reduced by 82 to 94 percent from the baseline in 2009, and by 65 to 88 percent from the baseline in 2015. While the Phase II rule regulates only large existing steam electric generating facilities that withdraw 50 mgd or more from surface waters for cooling purposes, and the performance standards would not apply to the Proposed Action, it appears that the level of reductions in impingement and entrainment from the design flow contemplated by the Proposed Action would be in the range of meeting EPA's Phase II performance standards for minimizing adverse impacts to aquatic resources at intakes.

Comment 506: The DGEIS inaccurately characterizes the pre-September 11 scenario cooling water system as a closed-loop system. It is more accurately described as a once-through cooling system. The DGEIS should give serious consideration to the feasibility of using a closed-cycle cooling system as part of the redevelopment. (NYSDEC)

Response: The text in section 12.4.1 has been modified to refer to the system as a once-through, non-contact, cooling water system. Chapter 12, "Infrastructure," and Chapter 23, "Alternatives," include a discussion of closed-cycle cooling.

Comment 507: The DGEIS should address recent changes to the cooling system's outfall. (NYSDEC)

Response: There have been no recent changes to the cooling water system's outfall since the issuance of the 1999 SPDES permit that would affect its function or capacity.

- Comment 508:** The DGEIS contains the unsupported statement that “Other cooling alternatives would also significantly increase the consumption of potable water...” (NYSDEC)
- Response:** Chapter 12, “Infrastructure,” of the GEIS has been revised to include a discussion of the potential increased demand for potable water that would result from using cooling towers as an alternative cooling method to the river water system. As presented in Chapter 12, the use of cooling towers at the top of each building proposed as elements of the Proposed Action (including the Permanent WTC Path Terminal) would result in a projected increase in potable water supply use of 110 million gallons per year (mgy) in 2009 and 290 mgy in 2015. This would equate to about 9 percent and 25 percent of the daily New York City potable water usage (based upon an average water consumption of New York City of 1,135,000,000 gallons per day in 2002) in 2009 and 2015, respectively.
- Comment 509:** The DGEIS incorrectly assumes that if the CWIS is operated at somewhat lower withdrawal volumes (compared to pre-September 11 volumes) impacts will not be significant. Prior to September 11, 2001, the WTC CWIS operated at between 65 and 82 percent of capacity, which translates to a withdrawal volume of approximately 130 MGD. (Riverkeeper)
- Response:** The Commenter incorrectly assumed that the CWIS would be operating at between 65 and 82 percent of capacity in 2015, when the DGEIS referred to the CWIS operating at a 65 to 82 percent reduction of capacity. The projected withdrawal volume for 2015 would therefore be considerably lower than the 130 mgd cited by the Commenter. The DGEIS has been revised to more clearly demonstrate that water withdrawal is projected to be greatly reduced from the design flow of 179 mgd. The projected average water withdrawal in 2015 for the Proposed Action would range from 22 to 63 mgd, and would be expected to range from 11 to 31.5 mgd for 2009.
- Comment 510:** With respect to CWIS impacts, the DGEIS fails to include any analysis of the effectiveness of possible mitigation measures, deferring such analysis to the NYSDEC SPDES permitting process. (Riverkeeper) Marine life exclusion systems and dry-cool technologies can reduce impingement/entrainment. Because the existing cooling water intake/discharge structures are not currently being used, LMDC has an opportunity to implement these measures without impacting operations at the proposed facilities. (DOI)
- Response:** Detailed designs of the WTC Memorial and Redevelopment Plan elements are not yet available to permit such a detailed analysis of potential mitigation measures. Cooling water needs for the Proposed Action have been projected to be no greater than pre-September 11 under full build-out in 2015, based on the similarity of the areas to be cooled. Implementation of the Sustainable Development Guidelines that have been established for the Proposed Action or use of alternative building designs, may result in cooling water needs that would be considerably lower than pre-September 11. The evaluation of effectiveness of possible mitigation measures for the withdrawal of river water would be conducted at a later date during the SPDES renewal permitting process when the cooling water needs, associated losses of fish, and potential suite of feasible mitigation options are more clearly defined.
- Comment 511:** No other commercial building in New York uses cooling water drawn from navigable waters for its climate control system. Thus, the LMDC should consider using a standard air conditioning system at the WTC. (Riverkeeper)
- Response:** Examples of commercial buildings that use river water for cooling purposes include: United Nations, 1 and 2 New York Plaza, and World Financial Center.
- Comment 512:** The DGEIS fails to compare various options for cooling the WTC with regard to feasibility, cost and impacts on energy supply and other resources. (Riverkeeper)
- Response:** Chapter 12, “Infrastructure,” and Chapter 23, “Alternatives,” have been revised to include a discussion of alternatives to the proposed reuse of the WTC river water cooling system for cooling the Proposed Action. Chapter 23 has also been revised to include a discussion of alternative cooling methods with respect to feasibility, cost, and potential effects to energy resources, potable water supply, natural resources, air quality, noise, shadows and urban design.
- Comment 513:** The DGEIS fails to quantify the volume and flow rate of stormwater that will run off the 16-acre Project Site into the city’s combined sewage system if the Project is built (a) as proposed, (b)

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according to either of the baseline scenarios, or (c) according to any of the project alternatives. (Riverkeeper)

Response: Chapter 12, “Infrastructure,” of the GEIS has been revised to provide additional detail on the stormwater management measures that would be implemented as part of the Proposed Action, and the positive effect these measures would have on the City’s combined sewer system. Chapter 18, “Natural Resources,” of the GEIS has been similarly revised to discuss in greater detail the effects that the Proposed Action would have on the City’s combined sewer system and subsequently to water quality and aquatic resources.

Prior to September 11, 2001, there was no storm water collection, detention, or reuse within the WTC complex. Using the average rainfall of 44.6 inches per year for New York City, the WTC complex was contributing approximately 20,000,000 gallons of water per year to the combined sewer system. Additionally, because the toilets, faucets and other fixtures were not low flow fixtures, the WTC complex is estimated to have used approximately 200 mg of potable water and contributed a similar volume of sewage to the City’s combined sewer system.

The Proposed Action would substantially decrease the volume of stormwater and sewage that would be discharged to the City’s combined sewer system when compared to the pre-September 11 baseline. This will be achieved in two ways. First, in accordance with the *Sustainable Design Guidelines*, the Proposed Action would typically collect and reuse on site approximately 85 percent of the annual rainfall or 16.8 mg. This would reduce the amount of stormwater that would typically be discharged to the City’s combined sewer system from the Project Site when compared to the pre-September 11 and Current Conditions baseline. Therefore, only about 15 percent of the stormwater generated on the Project Site would be discharged to the City’s combined sewer system.

Second, in accordance with the *Sustainable Design Guidelines*, the Proposed Action would use low flow fixtures for toilets, urinals and sink fixtures. This would result in a projected sewage discharge of 72 mg, which represents a 64 percent reduction of the volume of sewage discharged to the City’s combined sewer system pre-September 11. Only about 36 percent of the estimated volume of wastewater discharged pre-September 11 would be discharged to the City’s combined sewer system under the Proposed Action. This substantial reduction in stormwater and wastewater discharged to the City’s combined sewer system would minimize adverse impacts to this system and reduce the potential for the Proposed Action to result in discharge from combined sewer overflows (CSOs) to the Hudson or East Rivers. Therefore, stormwater and wastewater discharges generated by the Proposed Action would not be expected to result in significant adverse impacts to the City combined sewer system, water quality of the Hudson River, East River or Newtown Creek, or to aquatic resources.

Comment 514: The DGEIS provides no information on the constraints of the combined sewer system infrastructure in the immediate vicinity of the Project Site or anywhere else in the Project’s Newtown Creek drainage basin. (Riverkeeper)

Response: As discussed in the response to the previous comment, stormwater management measures would be implemented by the Proposed Action with respect to capture, detention, and reuse of stormwater. These measures, along with the reduction in potable water use when compared to pre-September 11 conditions, would minimize potential adverse impacts to the City’s combined sewer system and the Newtown Creek Water Pollution Control Plant (WPCP). Therefore, no significant adverse impacts are anticipated.

Comment 515: Any addition to CSO overflows must be considered significant because CSOs are the single largest contributor of pollutants and pathogens to local waters. (Riverkeeper)

Response: As discussed in the previous two responses to comments, the stormwater management measures and use of low flow toilets and fixtures that would be implemented as part of the Proposed Action, in accordance with the *Sustainable Design Guidelines*, would substantially reduce discharges to the City combined sewer system from the pre-September 11 baseline, minimizing the potential for additional CSO discharges.

Comment 516: The DGEIS is insufficient because it provides a cumulative impacts analysis for the construction period, and not for the operation of the WTC project. (Riverkeeper)

Response: As discussed in the previous three responses to comments, the Proposed Action would not result in significant adverse impacts to the City's combined sewer system, water quality, or aquatic resources from the discharge of stormwater and wastewater during the operational phase. In fact, the Proposed Action is expected to cause net benefits relative to such discharges during the operational phase. Therefore, in accordance with NEPA and SEQRA, because there would be no significant impacts caused by the Proposed Action, there are no impacts to add to or cause a cumulative impact analysis with respect to these discharges. Similarly, because significant adverse impacts to aquatic resources would not be projected to be caused by the withdrawal of cooling water by the Proposed Action in 2009 or in 2015 under the projected withdrawal volumes, the GEIS does not address cumulative impacts to aquatic resources from the operation of the WTC cooling water intake. Measures to reduce losses of fish from entrainment and impingement will, nevertheless, be considered during the permit renewal process.

Comment 517: The DGEIS should have quantified any reductions in stormwater runoff which might counteract the effect of increased sanitary sewage generation. (Riverkeeper)

Response: As discussed in several of the previous responses, the Proposed Action would result in a net reduction in the volume of stormwater and wastewater discharged to the City's combined sewer system compared to pre-September 11 conditions, and a net reduction in stormwater discharged to the City's combined sewer system when compared to current conditions.

Comment 518: The LMDC should adopt a "no net CSO increase" standard in the final *Sustainable Design Guidelines* and for the Project and should endeavor to eliminate Hudson River CSO events in the wastewater service area of the Project Site, significantly reduce CSOs to the Hudson triggered by stormwater flows from neighboring properties and reduce system-wide CSO events in the East River and Newtown Creek triggered by downstream bottlenecks. (Riverkeeper)

Response: As discussed in several of the previous responses, the substantial reductions in stormwater and wastewater discharges to the City's combined sewer system that would be achieved in accordance with the *Sustainable Design Guidelines*, would minimize the potential for discharges from the Proposed Action to contribute to CSO discharges and would be expected to result in a reduction in CSO discharges when compared to pre-September 11 conditions.

Comment 519: The draft *Sustainable Design Guidelines* are unclear as to the method, timing and enforceability of their implementation and they fail to embrace and provide for a framework or strategy to accomplish a project design that addresses CSO impacts. (Riverkeeper)

Response: As discussed in several of the previous responses, the reduction in stormwater and wastewater discharges that would result from the implementation of the *Sustainable Design Guidelines* developed for the Proposed Action, would minimize potential impacts to the City's combined sewer system and would not be expected to contribute to discharges from CSOs.

Comment 520: A decentralized wastewater system, such as a membrane bioreactor (MBR) should be considered to treat stormwater and or sewage from the project area. (Riverkeeper)

Response: A greywater system will be used to collect and treat stormwater on the Project Site. This system, as part of the *Sustainable Design Guidelines* (SEQ-2 Storm Water Use), would also treat and recirculate other sources of non-potable water usage such as toilet flushing, vehicle maintenance, and irrigation needs. This will reduce the amount of stormwater discharged into the City's sewer system. Because of the reduction in the volume of sewage and stormwater, significant adverse impacts to water quality or aquatic organisms from the City's combined sewer overflows would not be expected to occur. This combined with sufficient capacity of the Newtown Creek Water Pollution Control Plant would make consideration of a decentralized membrane bioreactor system unnecessary.

Measures for reducing the amount of potable water needed to convey sewage would be incorporated into the building designs, consistent with the *Sustainable Design Guidelines* (WEQ-2 Water Use Efficiency).

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Comment 521: The GEIS estimates that 1.2 million cubic yards of waste material would be removed from the site during construction. How would this large amount of waste be removed? If waste removal would be conducted by barge on the Hudson River, a discussion of potential significant adverse impacts to the existing coastal fish and wildlife habitat should be included. Furthermore, any dredging activities that would be required to accommodate the barges must also be disclosed/analyzed. (NYCDEP)

Response: The Proposed Action does not anticipate removing waste material by locating barges on the Hudson River. As such, adverse impacts to this coastal fish and wildlife habitat would not occur.

Comment 522: The federal and state listed endangered shortnose sturgeon is found in the Hudson River and coastal areas near the Project Site. LMDC should contact the James J. Howard Marine Sciences Laboratory for additional information on Sturgeon and Essential Fish Habitat (EFH). LMDC should also contact NYSDEC's Endangered Species Unit, and Hudson River Fisheries Unit. (DOI)

Response: As presented in Chapter 18, "Natural Resources," shortnose sturgeon prefer deepwater habitat and are not likely to be found near the shoreline at the location of the water intake and outfall structures. Information on shortnose sturgeon, as well as other marine species and EFH under the responsibility of the National Marine Fisheries Service (NMFS) was requested from Mr. Stanley Gorski of the NMFS as part of the GEIS process. Sections 18.1.2, "Conclusions," and 18.4.1, "Baseline Conditions," of the GEIS summarize the written response received from Ms. Diane Rusanowsky of NMFS, as well as additional clarification solicited on behalf of the Proposed Action with respect to potential impacts to shortnose sturgeon. As presented in Chapter 18, "Natural Resources," correspondence from NMFS suggest that shortnose sturgeon would not be a concern unless modifications to the existing intake structure, increases in volume of water withdrawn, or the flow velocity at the intake from the conditions issued in the 1999 SPDES permit, are proposed.

Comment 523: NYSDEC requests that LMDC be advised that the peregrine falcon, listed as endangered by the State of New York, is known to occur in the vicinity of the Project Site. The Proposed Action should, therefore, be coordinated with NYSDEC. The NYSDEC contact for the peregrine falcon is Mr. Peter Nye. (DOI)

Response: As presented in Chapter 18, "Natural Resources," the NYSDEC, Natural Heritage Program, and US Fish and Wildlife Service (USFWS) was contacted for information on rare, threatened or endangered species, or other species of special concern, during preparation of the DGEIS. As presented in section 18.4.1, "Baseline Conditions," of Chapter 18, "Natural Resources," correspondence from NYSDEC and USFWS indicate the occurrence of peregrine falcon within the vicinity of the Project Site. Chapter 18, "Natural Resources," includes an assessment of potential impacts to peregrine falcon from the construction and operation of the Proposed Action. Peregrine falcon are accustomed to the intensely developed habitats of New York City and are not expected to experience an adverse environmental impact due to the operation of the Proposed Action. NYSDEC and NYCDEP (agency responsible for peregrine falcon within New York City) will be contacted, and measures would be developed (as necessary) in consultation with NYSDEC and NYCDEP to minimize potential impacts to peregrine falcon during construction activities.

27.3.28 RADIOFREQUENCY ELECTROMAGNETIC FIELDS

Comment 524: The LMDC and the Port Authority indicate that any Radio Frequency Electromagnetic Fields (RFEMF) will be within or below all guidelines and standards for RFEMF radiation. LMDC must make this a mandatory requirement and incorporate inspection and enforcement procedures. (CB1)

Response: As stated in the GEIS, LMDC and the Port Authority would require that all rooftop telecommunications and broadcast services facilities be designed so that RFEMF levels would be below those specified in applicable guidelines and standards, including FCC limits. Appropriate monitoring, inspection, and enforcement procedures will be provided.

Comment 525: LMDC and the Port Authority must require that only fully tested, state-of-the-art antennas or transmission devices be used on the Freedom Tower and other tall buildings at the site in order to benefit from any improvements over the antenna originally installed on the North Tower of the WTC. (CB1)

Response: See response to the preceding comment.

Comment 526: Since the Freedom Tower will have both the observation deck and the broadcast antenna, proper shielding must be in place to protect visitors and workers. LMDC must develop a monitoring program to track RFEMF and post monitoring data on the LMDC's website. (CB1)

Response: See response to preceding comments. The design of all rooftop telecommunications and broadcast service facilities would protect visitors and workers at the observation deck of the Freedom Tower, and would protect them from any adverse RFEMF levels. Additionally, all FCC codes, rules, regulations, notifications, signage, security, access control, and required periodic monitoring would be complied with.

27.3.29 ENVIRONMENTAL JUSTICE

Comment 527: Construction of the Proposed Action will be a large boost to minority and women owned businesses. (Building Trades Employers' Assn.)

Response: Comment noted. LMDC maintains an active outreach program to ensure that opportunities to compete for construction and related services will be available to all members of the business community. Interested workers and business owners may visit LMDC's website (www.renew.nyc) for up-to-date information and events.

Comment 528: A community benefit agreement should be reached so that there are jobs created at a living wage for low income community members. (GOLES, LKAN)

Response: Initiatives to promote the involvement of minority-owned, women-owned, and disadvantaged business enterprises (MBE/WBE/DBE); low income residents; and other members of diverse communities are an aspect in the development of the Project Site. MBE/WBE/DBE requirements for involvement of such firms will apply to contracts administered by the Port Authority and LMDC. In addition, Section 3 of the Housing and Urban Development (HUD) Act of 1968 will also apply to activities funded through HUD. Section 3 specifies that employment and economic opportunities generated by federal housing assistance must be allocated to the "greatest extent feasible," toward low and very low-income persons in the area served by the project receiving assistance.

As part of its mission to rebuild and revitalize Lower Manhattan, LMDC is administering several grant programs that will benefit low income and minority residents throughout the construction period. These activities are funded through a \$2 billion Community Development Block Grant (CDBG) from the United States Department of Housing and Urban Development (HUD), and are designed explicitly to ensure that all areas and communities of Lower Manhattan share in the revitalization and recovery process. The grant programs that benefit communities of concern, while not associated with the Proposed Action, do provide a cumulative beneficial effect on economic conditions.

Programs of particular relevance to low income and minority communities include: *Employment Training Assistance Program*—Job training and workforce development programs for current and prospective employees of businesses south of 14th Street; *Small Firm Attraction and Retention Grant Program*—Grants to firms employing less than 200 employees in a location south of Canal Street. The rest of the grant programs are listed in Chapter 20, "Environmental Justice."

Comment 529: The impact of trucking debris and construction materials from the Project Site on communities in Lower Manhattan must be analyzed. (GOLES)

Response: Trucks would only utilize designated truck routes as a through route to and from the Project Site and would remain on designated truck routes unless traffic or road conditions require use of alternate routes. All transport of materials to and from the Project Site would comply with applicable laws and regulations and the Environmental Performance Commitments, discussed in Chapter 21, "Construction," which address, among other things, access and circulation, air quality and noise and vibration. Mitigation measures identified in Chapter 22, "Mitigation," would also assist in avoiding and mitigating potential impacts. For example, wheel washing or watering of the construction site would minimize potential for suspension of dust or other debris leaving the Project Site.

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Comment 530: The truck routes of the Manhattan and the Williamsburg Bridges are cropped out of Figures 20-2 and 20-3, but such bridges are identified in Figure 9-4 “Manhattan Office Submarkets.” Why were the bridges eliminated from the truck routes study in Chapter 20? (Dreyfus)

Response: Figures 20-1 through 20-3 have been revised to show the full extent of all truck routes, including the Manhattan Bridge, that are expected to be utilized by construction vehicles. The figures will also show all census blocks that are included within the 500' buffer of the truck routes.

Comment 531: The DGEIS does not pay enough attention to special class of vulnerable populations such as children and pregnant women who may be more sensitive to certain environmental hazards. (NYELJP)

Response: Chapter 20, “Environmental Justice,” considers the potential for impacts to low-income and minority communities of concern as defined by Executive Order 12898. The chapter evaluates the potential for environmental effects identified in other chapters of the DGEIS (e.g., Chapter 8, “Community Facilities,” Chapter 9, “Socioeconomic Conditions,” Chapter 10, “Neighborhood Character,” Chapter 12, “Infrastructure,” and Chapter 21 “Construction Impacts”) to have disproportionately high or adverse impacts on these communities of concern. Impacts and segments of the population that may be particularly vulnerable to those impacts are discussed individually by impact category in other chapters of the DGEIS.

Comment 532: The DGEIS environmental justice study areas are too narrowly drawn, especially in comparison to the secondary study area in the socioeconomic chapter which includes all of Manhattan when examining hotels and tourism. (LCAN)

Response: The study area boundaries for evaluation of environmental justice reflect the limits of potential direct, indirect, and cumulative environmental impacts on communities of concern identified in other chapters of the DGEIS as resulting from the construction and operation of the Proposed Action. Direct construction impacts include potential noise and air impacts, and temporary community disruption. A supplemental study area for the evaluation of disproportionate environmental impacts related to truck traffic was also established. Cumulative impacts and indirect project effects including business and residential displacement and secondary development are evaluated for a secondary study area comprising Lower Manhattan below Canal Street and Pike Street. No impacts with the potential to have disproportionately high or adverse effects on communities of concern beyond Lower Manhattan were identified in Chapter 9, “Socioeconomics,” or other chapters in the GEIS.

Comment 533: It is unlikely that no adverse impact would exist from delivery of construction materials to the WTC Site, as the DGEIS claims. Environmental justice communities in northern Manhattan will be adversely affected if trucks continue to be banned from nearby tunnels and have to reach Manhattan over the George Washington Bridge. (LCAN)

Response: All truck traffic would remain on designated truck routes unless traffic or road conditions require use of alternate routes. Trucks would only utilize designated truck routes as a through route to and from the Project Site. All transport or materials to and from the Project Site would comply with applicable laws and regulations and the Environmental Performance Commitments, discussed in Chapter 21, “Construction,” which address, among other things, access and circulation, air quality, and noise and vibration.

Routes designated for truck traffic by the NYCDOT allow for Hudson and East River crossings for all classes of commercial vehicles. The Holland Tunnel is open westbound and eastbound to trucks of up to three axles. The Brooklyn-Battery Tunnel, Lincoln Tunnel Queens-Midtown Tunnel, Manhattan Bridge, and Williamsburg Bridge are open to all truck traffic and are designated as through and local routes for truck traffic by NYCDOT.

27.3.30 CONSTRUCTION

Comment 534: The construction unions will ensure that construction of the project is safe and environmentally healthy for the local residents, school children and workers. World Trade Center 7 is a model of an aggressive program of using cleaner fuels, retrofitting construction equipment, and other environmental innovations. (Llanos)

Response: Comment noted.

- Comment 535:** The DGEIS says that “Initial construction activities commence in early 2004.” Have these activities already begun (p. 21-33). If so, the FGEIS should note that they began before NEPA and NHPA Section 106 processes were completed. (Coalition)
- Response:** Comment noted. Section 21.4 has been revised to reflect updated construction schedules obtained from project sponsors including Route 9A Reconstruction which is scheduled to begin in the third quarter of 2004 after the completion of all required statutory reviews, including NHPA Section 106.
- Comment 536:** The complex problems of infrastructure installation and relocation should be considered as part of the rebuilding process in Lower Manhattan. Proper coordination and planning will avoid repetition of infrastructure-related work and will minimize the effect of such work on vehicular and pedestrian traffic. (Verizon)
- Response:** Comment noted. See response to Comment 360.
- Comment 537:** Battery Park City currently is fighting a significant rat problem that developed after the fall of the towers and during the resulting excavation and reconstruction, and the DGEIS makes no mention of what will be done to alleviate this problem. The city has failed miserably to control the increasing rat population, and digging up West Street is going to add more rats to our neighborhood than anyone can ever imagine. (Chernow)
- Response:** Appropriate vector control measures would be taken immediately prior to and during the construction period.
- Comment 538:** New York City’s recent law, A-191, requires city construction contracts to use ultra low sulfur diesel and best available pollution control technology on heavy diesel construction machinery above 50 horsepower. This standard should apply to the Proposed Action and be enforced. (Hughes, Connor, Independence Plaza Assn., Environmental Defense, Civic Alliance, CB1, Nadler, Environmental Defense, LCAN)
- Response:** Appendix A has been modified. See response to Comment 83.
- Comment 539:** The provisions under City Law A-191 should be extended to contracts with MTA, the Port Authority, NYSDOT and utility companies such as Verizon and Con Edison. (Hughes, Independence Plaza Assn., CB1, Gerson, LCAN, Wall Street Rising)
- Response:** While considerable coordination will continue with other entities regarding EPCs, it is noted that other agencies operate independently of LMDC. The MTA, Port Authority, and NYSDOT have all committed to the EPCs along with LMDC. The EPCs are similar to City Law A-191. Utilities companies, such as Verizon and Con Edison, operate independently of LMDC; however, all agencies will continue to consult on issues facing the reconstruction effort.
- Comment 540:** The Proposed Action should consider testing other technologies on diesel engines such as selective catalytic reduction and exhaust gas recirculation. Emulsified fuel also provides opportunity for emissions reductions. (Environmental Defense, Civic Alliance)
- Response:** LMDC and the Port Authority are considering these technologies.
- Comment 541:** All diesel equipment should have regular, periodic inspections, including smoke testing. (Environmental Defense, Civic Alliance)
- Response:** All such equipment will be subject to appropriate periodic inspection. LMDC and Port Authority are consulting with Silverstein Properties to determine the nature and frequency of equipment testing.
- Comment 542:** The finding that construction of the Proposed Action will not cause adverse impacts to air quality is suspect, especially considering the increase in traffic resulting from the Proposed Action anticipated in the DGEIS. (Civic Alliance, Silver)
- Response:** A full analysis of air quality impacts is included in Chapter 21, “Construction,” and Chapter 22, “Mitigation,” of the GEIS.
- Comment 543:** Consideration should be given to limiting or changing the hours of construction on weekends and in the evenings as well as providing for “flex” hours and consulting with Community Board No.1 to coordinate hours of operation in response to the needs of the community, recognizing however the importance of achieving an appropriate balance between the legitimate concerns of the community and the need to expeditiously complete construction, to coordinate overall scheduling requirements, and to properly address noise, air quality and other environmental concerns and other issues.

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Construction on Saturday is not acceptable. The DGEIS offers no alternatives to Saturday construction (i.e., quiet activities). LMDC must enforce the hours of construction to between 7 AM and 6 PM, Monday through Saturday, barring emergencies, rather than only “as practicable” as stated in the DGEIS. (Silver, Gerson, CBI, Nadler, Palumbo, Andersen, Abramson)

Response: The construction schedules have not been finalized and discussion with the community would continue so as to minimize disturbance during any evening and weekend construction while still keeping the overall construction period as short as possible.

Comment 544: LMDC and the construction companies should utilize ambient-noise-level “Smart Alarm” back-up alarms as a cost effective way to significantly reduce noise levels within one-half mile away of the WTC construction site. These alarms have been used with success on City of Seattle garbage trucks and in other municipalities. (League for the Hard of Hearing)

Response: LMDC is exploring this option as a potential noise mitigation measure.

Comment 545: The FGEIS should embody a strong commitment that LMDC and the Port Authority will work closely with the New York City Department of Transportation on its Street Management Study and its implementation plan, and draw from this study to explore methods of reducing traffic, including the establishment a hierarchy of streets for vehicle movement, goods movement and pedestrian movement. LMDC should fully fund the program and set aside \$50 million for its implementation. (Fields, Civic Alliance, NYCDOT)

Response: The LMDC is committed to working closely with all agencies, including NYCDOT, in the redevelopment of Lower Manhattan. LMDC will continue to coordinate with NYCDOT’s Street Management Study and its implementation plan study. Chapter 21, “Construction,” includes a description of the coordinated construction with the Port Authority and NYCDOT and the construction management plan for traffic and pedestrians. As discussed in section 21.6.1, “Construction—Vehicular and Pedestrian Traffic,” LMDC and other Lower Manhattan Recovery project sponsors have agreed to an EPC requiring “maintaining regular communication with NYCDOT and participation in its construction coordination efforts.”

Comment 546: The impact of road reconstruction throughout Lower Manhattan should be factored into any traffic planning. (Gerson)

Response: Ongoing road construction has been taken into consideration in the cumulative effects analysis in Chapter 21, “Construction.” LMDC will continue to coordinate with NYCDOT and other agencies throughout the planning process and construction period.

Comment 547: The Proposed Action should use best practice methods for construction methodologies and techniques. The federal Occupational Safety & Health Administration (OSHA) can enter into extended, voluntary, cooperative relationships with employers and employee representatives to identify common goals to eliminate serious hazards and achieve a high level of worker safety and health. (NYELJP)

Response: Comment noted. It is expected that LMDC and Silverstein Properties would work with OSHA throughout the construction period.

Comment 548: Advance notice of construction activities should be provided to the public. In addition, any changes in the construction schedule must be made publicly available to community members. The phone number of appropriate contact persons at LMDC should be readily available to all community members. (Glick, Gershon, Residents of 125 Cedar Street)

Response: The Lower Manhattan Construction Coordination group has committed to promoting public awareness both prior to the commencement of construction and throughout the construction period through mechanisms such as: signage; telephone hotline; and website updates.

Comment 549: LMDC and the Port Authority should implement clear signage to instruct customers that businesses are open and accessible during the construction period. (Wall Street Rising)

Response: Maintaining access to local businesses and points of interest such as the WTC Site itself for all pedestrians, including residents, tourists, and other visitors to the greatest extent practicable is recognized as an essential element of the construction plan and is a key element of the EPCs. To achieve this, pedestrian flow along Vesey and Liberty Streets will be maintained throughout the

duration of construction except during limited periods of construction that will require temporary closures. All such temporary closures will be kept to a minimum.

Comment 550: Who will enforce compliance with the *Sustainable Design Guidelines* during construction? (9/11 Env. Action, Hughes, Glick, Wall Street Rising, Abramson)

Response: Lower Manhattan Construction Coordination group is currently exploring a number of mechanisms to ensure enforcement of design guidelines including: maintaining oversight of construction activities and inclusion of provisions in construction contract documents. The LMDC and Silverstein Properties would work in conjunction with other agencies to create a Lower Manhattan Construction Command Center that would enforce compliance.

Comment 551: The Lower Manhattan Construction Command Center should produce a weekly traffic and construction map, reflecting all significant construction projects (including residential conversions and interior commercial office space rebuilds) south of Canal Street in order to enable efficient mitigation of the effects of such projects. (CB1, Gerson)

Response: Comment noted.

Comment 552: The DGEIS does not appear to appropriately address the day-to-day issues that will inevitably arise during the construction process; to mitigate this problem, we suggest that an appropriate grievance and response mechanism be established to promptly and thoroughly address all issues as they arise. (CB1, Abramson, Anderson, Arabachian, Aron, Badami-Moskowitz, Becker, Bendo, Berkower, Berner, Blech, Block, Blum, Bond, Brady, Brass, Brown, Bruzza, Burstein, Campbell, Carter, Casmai, Chait, Chernow, Chester, Cohan, Cohen-Wolf, Cole, Coleman, Coleman, Family, Comisky, Cordiviano, Cossman, Crupnin, Demirjian, Dennis, DiIono, DiMichele, Divnet, Doberman, Douglas, Eida, Eida, Endo, Falcone, Feinson, Fernandez-Serrano, Forbes, Frederick, Freyberg, Gerson, Gibney, Goodman, Gottlieb, Grooms, Grossman, Gruber, Guinee, Gutierrez, Harkins, Harvey, Hoang, Holley, Hummler, Jarecki, Jhaveri, Jely, Kavelman, Kawai, Keil, Kelly, Kornblau, Kornblau, Krevey, Krevey, Kriksciun, Kruse, Kuehndorf, Lalor, Lamsey, Land, Larsen, Lebensohn, Lemiecz, Lipton, Luper, Marcus, Masaryk, Mazer, McCall, McGarry, Mercado, Miller, Milling, Mooney, Morey, Moskowitz, Muehlbach, Nesbitt, Nichifor, Olivo, Paryente, Phelps, Picciadi, Pierre Pierre, Pleats, Rader, Ramos, Schneider, Schreiber, Schuchman, Schuemacher, Sellers, Shapiro, Silberman, Sparks, Spielman, Starr, Sturm, Sultzer, Suzuki, Szczepanski, Tashman, Terracina, Topol, Torella, Unidentified, Unidentified, Goethem and Joseph, Wada, Wallach, Weisblatt, White, Wickiser, Wiese, William Meyers, Wilpan, Wilson, Wisner, Wolf, Wolf, Zamparelli)

Response: These issues will be addressed by the Lower Manhattan Construction Coordination group.

Comment 553: The discussion of the baseline conditions indicates that stormwater was collected in basins and was discharged either to the city sewers or flowed directly into storm sewers and into the Hudson River. Though the document did not address this, it is assumed that overflow runoff from the combined sewers would continue to be discharged to the Hudson River. There is the potential for impacts to surface waters from the pollutants found in storm water runoff from the construction site that would be discharged through the combined sewer outfall, which the DGEIS did not address. The FGEIS will need to consider the pollutants and the impact from the discharge of construction runoff into storm sewers when discussing the management of storm water. The FGEIS should propose measures to minimize the impacts from discharge of storm water during the construction of the Proposed Action (i.e., holding basins could be used so that the water collected can be discharged to the sewer system after the rain event). (EPA)

Response: During construction, runoff from the site would enter combined sewer catch basins located in the streets bounding the site. (There is no separate storm sewer system in Manhattan.) To prevent sediment, including sediments containing hazardous materials (e.g., PAHs and metals), from entering the sewer system, control measures (consistent with the guidance provided in "Guidelines for Urban Erosion & Sediment Control" distributed by the Empire State Chapter of the Soil and Water Conservation Society,) would be implemented during construction. Examples of control measures include the construction of swales, directed runoff, and catch basin protection. The types of hazardous materials found at the site are amenable to these control measures. Implementation of these measures would prevent sediment and hazardous materials from entering the system thus limiting the potential

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for discharges to CSOs during severe precipitation events. Water that collects on the construction site would be discharged to the sewers in accordance with NYCDEP permits.

Comment 554: The DGEIS does not discuss the ground water captured by the sump pumps. These flows from the sump pumps should be included in this discussion and the FGEIS should describe how the water from the pumps will be beneficially reused. (EPA)

Response: During construction, groundwater collected from existing sump pumps on the WTC Site would continue to be treated and disposed of in the same manner as currently conducted by the Port Authority and would be regulated by a NYCDEP permit, including filters as necessary. During the operational phase of the Proposed Action, water generated by the sump pumps at the H&M Coffey Dam would be used to augment the “greywater” system that would be present at the site.

Comment 555: Immediate steps to minimize the impact of deconstruction of Deutsche Bank on the community should be taken including: installing sound proof windows, providing assurances that buildings as large as Deutsche Bank have been successfully and safely deconstructed while residents, workers and businesses have remained in place; monitoring air and dust for environmental hazards; and informing the public what threshold levels are safe and what contingency plans are in place if those levels are exceeded. (Residents of 125 Cedar St.)

Response: The cleaning and deconstruction of 130 Liberty Street (Deutsche Bank) would be subject to all applicable laws and regulations and to the same EPCs agreed to by all Lower Manhattan Recovery projects. In addition a new section has been added to Chapter 11, “Hazardous Materials” that addresses the deconstruction of this building. LMDC will keep the community, including area residents and businesses, informed throughout the clean-up and deconstruction process.

Comment 556: The DGEIS notes that “Construction of the Proposed Action has the potential to cause damage to [historic] buildings from ground-borne vibrations and dewatering.” (p. 5-42) Yet LMDC has issued a proposed determination of no adverse effect in regard to these structures. This is also acknowledged in Chapter 21 (p. 21-78). (Coalition)

Response: In general major construction can damage nearby historic structures by ground-borne vibration. For the Proposed Action, damage would be avoided by a Construction Protection Plan which would limit and monitor vibration levels to ensure they are met.

Comment 557: Reference is made to “Construction Protection Plans” that “would be developed” to avoid potential construction period damage, and that implementation of these plans would “avoid or minimize” the potential for adverse effects (pp 5-43, 5-45). If there is a possibility that adverse effects might only be minimized, how does LMDC justify its no adverse effect determination for the Proposed Action? (Coalition)

Response: The Construction Protection Plan would provide for stop work orders should vibration limits be exceeded. Nevertheless, should any damage occur the work that caused damage would be altered to reduce vibration to acceptable levels. The resumption of work, if damage occurred, must be authorized by SHPO.

Comment 558: LMDC indicates that the Construction Protection Plans would be based on NYC Department of Buildings Technical PPN #10/88 (p. 543). However, PPN #10/88 is a mitigation procedure specifically designed to reduce—but not eliminate—the likelihood of construction damage. It is 18 years old and is partially based on engineering standards almost 40 years old. These standards may no longer represent a state-of-the-art approach. Site-specific Construction Protection Plans must be developed before any final decision concerning the Proposed Action is finalized. Alternatively, a process for developing these plans could be incorporated into a Programmatic Agreement or Memorandum of Agreement prepared as part of the on-going Section 106 process. (Coalition)

Response: Additional text has been added to Chapter 21, “Construction” to further explain the Construction Protection Plan. NYCDOB Technical PPN #10/88 is what is currently required in New York City.

Comment 559: “Construction Protection Plans” are required to avoid potential construction period damage, but the content of these plans is not described; the reader is referred to Chapter 21. However, page 21-7 states that construction protection plans will be developed and provides no information as to their content.

- There is no way to evaluate the ability of these plans to result in the “avoidance” of adverse effects. (Coalition)
- Response:** Specific recommendations for Construction Protection Plans have been added to Chapter 21.
- Comment 560:** The DGEIS incorrectly states that archeological testing and monitoring of archeologically sensitive areas on the WTC Site would result in the avoidance of any potential impacts (p. 21-6). (Coalition)
- Response:** Construction monitoring is covered in the Programmatic Agreement. It will be conducted by a professional archaeologist with the ability to stop work and perform data recovery as necessary. Potential impacts to historic resources are thus avoided.
- Comment 561:** The DGEIS clearly states that the possible bus tunnel to Site 26 and the pedestrian connection to the World Financial Center “would be constructed through the Hudson River Bulkhead.” (p. 21-6) This would be an adverse effect, but is not identified as such by LMDC. (Coalition)
- Response:** Site 26 is no longer included in the Proposed Action. The pedestrian connection is part of the PATH project, and determination of effects will be made by the Port Authority and the Federal Transit Administration.
- Comment 562:** It is unclear how “analysis” during the environmental review for the permanent WTC PATH Terminal would “avoid adverse impacts to archeological resources.” (p. 21-6) (Coalition)
- Response:** The text of the FGEIS has been changed to reflect this comment.
- Comment 563:** The statement that “no significant adverse impacts to archeological resources would be anticipated from the Proposed Action and the other major construction projects” is not supported by data about these projects, and known and potential archeological resources on the WTC Site (p. 21-7). LMDC has inappropriately mixed the term “significant” as used in NEPA analyses with “adverse effect” as defined in the NHPA Section 106 regulations. All adverse effects to historic resources must be considered significant. (Coalition)
- Response:** The text of the FGEIS has been clarified. The Proposed Action is not expected to have significant adverse impacts on historic resources on the Project Site – namely the WTC site itself – or elsewhere in the APE under either analysis scenario. The Proposed Action would, however, have the potential to adversely affect some of the remaining remnants at the WTC Site. In addition, LMDC is considering a Programmatic Agreement that would include specific commitments and address any potential adverse effects on historic resources.
- Comment 564:** The DGEIS acknowledges that the Proposed Action may cause damage to historic structures from ground-borne vibrations and dewatering activities (p.21-7). The DGEIS relies on as yet non-existent construction protection plans as a basis for stating “there would not be any adverse impacts to historic resources adjacent to the Project Site. Without a legally binding commitment from LMDC to prepare such plans, a specified procedure for developing the details of those plans, and provision for public comment on those plans, LMDC’s conclusion cannot be justified. (Coalition)
- Response:** Specific recommendations for Construction Protection Plans have been added to Chapter 21.
- Comment 565:** There should be specific standards on how to limit and monitor vibrations from construction, as well as explicit language on how historic buildings will be protected during all phases of construction. All landmark buildings should have vibration monitors installed on their basements and readings should be done regularly during construction. (LMEPF, Gerson, MAS, FATE)
- Response:** The DGEIS stated on page 543 that the historic resources surrounding the Project Site will be protected according to Construction Protection Plans that would be based on the requirements laid out in the “New York City Department of Buildings (NYCDOB) Technical Policy and Procedure Notice (PPN) 10/88.” PPN 10/88 was specifically developed by NYCDOB and the NYCLPC for the protection of historic structures within 90 feet of a construction site. Nonetheless, in response to this comment, the text in the FGEIS in Chapters 5, “Historic Resources,” and 21, “Construction,” has been modified to provide more detail about the measures that would be taken to protect historic resources surrounding the Project Site.
- Comment 566:** The DGEIS states that “adherence to Construction Protection Plans would be required to avoid potential construction period damage to architectural resources” (p. 5-6). No additional information about these documents is provided. There is no discussion of what they would include or what

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principles they will be based on. In the absence of at least a draft version of these plans, it is impossible to determine whether or not they will work to avoid damage to historic structures in the vicinity of the World Trade Center. (Coalition)

Response: See response to preceding Comment.

Comment 567: A single entity should be charged with monitoring impacts on historic properties during all stages of construction activity over the 11-year construction period. A civic advisory group on historic preservation should be created to assist this entity as well as the various agencies involved with the Proposed Action. (LMEPF, MAS)

Response: As described in Chapter 21, "Construction," the Lower Manhattan Construction Coordination Group would meet with interested agencies, residents, businesses workers, and visitors. LMDC has also created a Memorial Center Advisory Committee, which will have an opportunity to comment on construction plans for historic properties.

Comment 568: LMDC's Environmental Performance Commitments (p. 21-8) do not provide for any protection of any archeological resources or any historic resources on the WTC Site; only "culturally significant sites" are referenced. (Coalition)

Response: Although EPCs do not relate specifically to potential archaeological resources on-site, construction monitoring by a professional archaeologist is planned to avoid, minimize, or mitigate any potential adverse impacts. The proposed Programmatic Agreement would also provide for protection of historic and archeological resources on the WTC Site.

Comment 569: The DGEIS states that "There are remaining structures from the former WTC complex . . . that must be demolished . . ." (p. 21-5) There is no discussion of the fact that many of these structures may be historic resources. "Demolition" is definitely an adverse effect. (Coalition)

Response: LMDC has proposed to enter into a Programmatic Agreement that would minimize or mitigate any potential adverse effects.

Comment 570: The DGEIS states that "an attempt will be made to incorporate remaining structures into new building programs." (p. 21-15) It is unclear whether this is meant to include structures on the WTC Site that may have historic significance. (Coalition)

Response: See response to preceding comment. As site and building design continues, consideration will be given to using existing structures if feasible.

Comment 571: The existence of remains of the original H&M Terminal below street level is acknowledged (pp. 21-16). According to the section of the DGEIS, these remains "would be demolished and removed from the site." The remains of the H&M Terminal may be eligible for the National Register. Demolition would be an adverse effect, yet this is the only section of the DGEIS to note that they will be demolished. (Coalition)

Response: SHPO determined the remains of the H&M Terminal ineligible for listing in the National Register.

Comment 572: Sub-grade construction is described in only very generic terms (p. 21-20). There is no discussion of the possible need to avoid historic remains of the original WTC, notably the remnants of the exterior support box-beam columns that delineate the footprints of the Twin Towers. There is no discussion of how or where the "large pieces of site infrastructure" would be installed. This makes it impossible to determine if and how the footprints will be affected. There is no mention of the need to carry out sub-grade construction in a manner that will insure full access to the footprints. (Coalition)

Response: LMDC has proposed to enter into a Programmatic Agreement to address positive commitments relating to the footprints, and potential and unanticipated effects on existing remnants on the WTC Site.

Comment 573: The DGEIS notes that St. Peter's Church will be affected by construction noise (Table 21-13). This was also noted in several tables in Chapter 15, "Noise." However, there is no discussion of the fact that St. Peter's is a historic property. (Coalition)

Response: St. Peter's Church is identified as a historic resource in Chapter 5.

Comment 574: Table 21-16 indicates that by 2006 the Proposed Action will increase noise levels at St. Peter's Church by 39.2 percent above current levels. This is an adverse effect to an historic property and should be addressed in detail in Chapter 5. (Coalition)

- Response:** Increased noise levels resulting from construction would be a temporary and short-term impact. The increased noise levels referenced in the comment above apply to exterior noise levels, not interior.
- Comment 575:** The DGEIS notes, “historic buildings, particularly those consisting of plaster, are potentially sensitive to damage from frequent vibration levels higher than 65Vdb.”(p. 21-69) However, it is unclear whether historic buildings are included in Category 1. They are not mentioned in Table 21-24. This should be clarified. (Coalition)
- Response:** The text has been revised to clarify that historic buildings are included in Category 1.
- Comment 576:** The entire Cultural Resources section on pages 21-77 to 21-79 is inaccurate. It claims to consider “the full range of impacts to archeological and historic resources.” As all the historic resources within the Proposed Action’s Area of Potential Effect have not yet been identified, this statement is clearly incorrect. (Coalition)
- Response:** The FGEIS has been modified to reference the updated Section 106 process. The Coordinated DOE has been revised to address the elements of the WTC Site that contribute to its significance. The FGEIS has been updated to reflect this.
- Comment 577:** The statement made in section 21.6, that “Potential issues, analytical methods to address the issues, and data to support the analysis were discussed throughout the initial planning stages of the Proposed Action.” It is unclear who was discussing these matters. They were not being discussed with the NHPA Section 106 Consulting Parties, as Consulting Parties were not identified until January 2004. Freedom of Information Law requests to both LMDC and the State Historic Preservation Officer have yielded virtually no records of such discussions. (Coalition)
- Response:** The chapter text has been revised.
- Comment 578:** In section 21.6, the DGEIS incorrectly states that the APE for the Route 9A Reconstruction has not been defined. (Coalition)
- Response:** At the time the DGEIS was published, the APE for the Route 9A Project had not been defined. This text has been deleted from the FGEIS.
- Comment 579:** In section 21.6, the APE for the Fulton Street Transit Center (FSTC) Project is mentioned, but not described. This makes it impossible to verify the statements about historic resources that are in both the FSTC and Proposed Action APEs. (Coalition)
- Response:** Although the APE for the FSTC was not disclosed in the DGEIS, LMDC has been coordinating with the MTA to address potential cumulative construction impacts, as committed to in the EPCs. The Proposed Action would not have any adverse effects on any historic resource located on Fulton Street, east of Nassau Street because these resources are located too far away from the Project Site. Any historic resource located within both the FSTC’s and the Proposed Action’s APEs are fully addressed in the GEIS and are covered in the EPCs.
- Comment 580:** The DGEIS states in section 21.6, that Phase IB archeological investigations on the WTC Site will be conducted prior to construction. The unsupported assumption is made that “mitigation and retrieval activities could be accomplished before or during excavation for construction.” There is no way of knowing in advance if this is either feasible or appropriate. Data recovery (“retrieval”) may not be appropriate for certain types of historic resources. Data recovery does not eliminate adverse effects. Likewise, as already noted, archeological monitoring does not eliminate adverse effects. (Coalition)
- Response:** Retrieval of potential resources is an appropriate way to recover artifacts on the site which might not otherwise be observed or studied.
- Comment 581:** The statement, repeated several times in section 21.6, that “taken cumulatively, it is not expected that there would be a significant adverse effect on historic resources . . .” is not supported by the data in the DGEIS. There is no explanation of what constitutes a “significant” adverse effect. Are there “non-significant” adverse effects? As noted in a prior comment, LMDC has inappropriately mixed the term “significant” as used in NEPA analyses with “adverse effect” as defined in the NHPA Section 106 regulations. All adverse effects to historic resources must be considered significant. (Coalition)
- Response:** The text of the FGEIS has been clarified. The Proposed Action is not expected to have significant adverse impacts on historic resources on the Project Site – namely the WTC site itself – or elsewhere in the APE under either analysis scenario. The Proposed Action would, however, have the potential to

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adversely affect some of the remaining remnants at the WTC Site. In addition, LMDC is considering a Programmatic Agreement that would include specific commitments and address any potential adverse effects on historic resources.

Comment 582: An analysis of possible light trespass during the construction period, as well as after project completion, should be conducted. Mitigation measures, such as focused lighting, should be considered. (Gerson)

Response: The Lower Manhattan Construction Coordination group will consider such measures.

Comment 583: The impact of the underground water table on the foundations of the proposed buildings, as well as the impact of the building foundations on the water table, should be discussed in the DGEIS. (Gerson)

Response: Similar to conditions prior to September 11, 2001, and those existing currently, the foundations of the proposed buildings would be constructed within the bathtub, on top of bedrock. The bathtub effectively isolates the Project Site from the water table and tidal influence. The foundations of the buildings would therefore not impact the water table.

CUMULATIVE CONSTRUCTION IMPACTS

Comment 584: The DGEIS does not include in the cumulative construction impacts analysis the Second Avenue Subway that is expected to commence in the near future. The Second Avenue Subway should be added to the cumulative impacts analysis in the FGEIS. The analysis of noise, traffic and air-quality should include the demolitions of Fiterman Hall and Deutsche Bank and work done on Houston and Chamber Streets. The FGEIS should include a cumulative impact analysis that incorporates the anticipated construction impacts (dust, exhaust, noise, traffic, etc.) for the numerous projects proposed for Lower Manhattan. Mechanisms for cooperative planning, coordination of mitigation to the construction impacts and enforcement should be spelled out. (Silver, FATE, Glick, Fields, CB1, NYNV, Gerson)

Response: The construction impact analysis analyzes peak construction impacts for all Lower Manhattan Recovery Projects combined. Based on current project schedules, 2006 was identified as the most intense combined construction period. Construction of the Second Avenue Subway project (SAS) in Lower Manhattan is not contemplated before or during 2006 and, in fact, is not anticipated to commence until well after the construction peak for the Proposed Action and the other Lower Manhattan Recovery Projects. Because the construction of the SAS would not affect the cumulative peak construction period, it was appropriately not included in the cumulative construction analysis. A separate environmental review has been ongoing for the SAS and construction impacts of the SAS are addressed as part of that process.

Based on available data regarding the demolition of Fiterman Hall, this activity is not expected to substantially coincide with the 2006 peak construction period and would not substantially contribute to noise, traffic or air quality impacts.

The cleaning and deconstruction of 130 Liberty Street as part of the Proposed Action is discussed and analyzed in Chapter 21, "Construction" and Chapter 11, "Hazardous Materials." As discussed in Chapter 1, "Project Description," LMDC is committed to continuing its efforts in working with other Lower Manhattan Recovery project sponsors to plan for and implement necessary monitoring and mitigation measures. The Environmental Performance Commitments (EPCs) discussed in Chapter 21 of this document present a set of commitments that agencies have already agreed upon in coordinating construction activities. The sponsors of Lower Manhattan Recovery Projects are continuing to coordinate the further refinement of the EPCs and implementation mechanisms for the EPCs, as more design information becomes available on the respective projects and each project proceeds through its environmental review.

Comment 585: The cumulative construction impacts should cover all of Lower Manhattan. (Nadler)

Response: The cumulative effects analysis provides a discussion of potential effects upon areas that are most likely to be affected by construction from the Lower Manhattan recovery projects.

Comment 586: A coordinating team to oversee construction of all of the projects in Lower Manhattan must be appointed and a construction command center must be established. Quarterly reports that address

noncompliance with construction mitigation measures (e.g., non-compliance with diesel emissions, failure to wetdown debris) must be posted on the LMDC website and sent to Community Board 1 and the City Council's Environmental Committee. (Glick, Independence Plaza Tenants Assn., Moore, Nadler, Silver)

Response: The Lower Manhattan Construction Coordination group (LMDC, the City of New York, sponsors of Lower Manhattan Recovery Projects and others) is actively coordinating the implementation of a management structure for implementation of construction oversight, including reporting, communication, and enforcement of environmental and quality of life conditions during construction.

Comment 587: The Lower Manhattan Construction Coordination group, as proposed in the DGEIS on page 22-21, should ensure to the extent possible that noisy work is done during daytime hours or on less sensitive days. A representative from the Command Center should be available on site and by telephone 24 hours a day. A coordinator should be appointed to oversee the work of the command center and to respond to public comments and questions regarding the project. The Command Center should have representation from local businesses and residents, Community Board 1, NYCDOT's Lower Manhattan Task Force and other community organizations. A funded community alert task force should be tasked with monitoring the progress and impacts. There should be an expeditious mechanism in place to address noise and construction complaints. (Wall Street Rising, CB1, Fields, Nadler, Residents of 125 Cedar St., BPC United, Gerson, Silver)

Response: Comment noted. It is anticipated that the Construction Environment Plan (CEP), an element of the *Sustainable Design Guidelines*, discussed in Chapter 21, "Construction," would be developed prior to any construction to coordinate schedules, prepare contingency plans, and identify alternative construction methods. The CEP would be developed and implemented throughout the construction period, and would be continuously updated with community input. The Lower Manhattan Construction Coordination group is working on methods to provide more technical or detailed information to the community to the greatest extent possible, including providing and accepting information on a 24-hour basis. Consideration will also be given to constructive roles for community organizations and individuals.

Comment 588: The FGEIS should incorporate the details of the Construction Coordination Program being developed in conjunction with NYSDOT. The Lower Manhattan Committee, convened by Borough Commissioner of Lower Manhattan Salkin has had notable success in managing the impacts of its street-reconstruction program and of communicating about and facilitating solutions to other issues affecting downtown. This model should be followed here. (Fields)

Response: Comment noted. LMDC and Silverstein Properties will work in conjunction with NYCDOT and NYSDOT throughout the construction period.

Comment 589: NYSDOT informed the public that the construction of the Route 9A bypass tunnel would take two and half years, but the DGEIS says it will take three and half years. (Love)

Response: Chapter 21, "Construction," has been updated to reflect the most current information available to LMDC regarding the Route 9A Project, which considers both upgrade and bypass options. The construction of the Route 9A Project is anticipated to commence in summer 2004, be open to traffic by the end of 2007, and be completed in spring 2008.

Comment 590: Traffic related to the demolitions and rebuilding of Fiterman Hall and Deutsche Bank should be included in any traffic analysis. (FATE)

Response: The FGEIS includes traffic related to the demolition of Fiterman Hall in the background traffic for the construction period analysis in 2006. The deconstruction of the Deutsche Bank building is expected to have been completed before that time. Construction of Tower 5 on the Deutsche Bank site would occur well after 2006.

CONSTRUCTDN AIR QUALITY

Comment 591: The cumulative construction analysis must include 130 Liberty Street (the Deutsche Bank deconstruction), 30 West Broadway (deconstruction of Fiterman Hall), South Street Ferry Station, 7 World Trade Center, 90 West Street renovation and conversion to residential building, and

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infrastructure repairs in the streets. All these additional projects combined with the other Lower Manhattan projects will have an enormous impact on air quality and will include traffic beyond the estimated 176,000 truckloads calculated from the various tables in Appendix J. (Hughes)

Response: All local construction that is expected to take place during the peak analysis year 2006 is accounted for in the on-site models. These projects would have the largest potential cumulative impact from on-street sources of air emissions combined with the emissions from other baseline and construction traffic. Major construction projects for which discrete estimates of on-street construction traffic were identified explicitly in the GEIS, and additional factors were applied to estimate the additional on-street traffic from other construction projects, such as those raised in the comment.

Comment 592: While the discussion of construction related cumulative air impacts appropriately focuses on particulate matter, a similar discussion of the cumulative impacts on NO_x and ozone is necessary. (EPA, NYSDEC)

Response: Additional discussion and analyses to address the potential Proposed Action and cumulative impacts from NO_x emissions during construction are included in the FGEIS. In addition, an assessment of maximum potential localized impacts from the Proposed Action and cumulative NO₂ emissions was added in the FGEIS.

Comment 593: The FGEIS should contain a definition of receptors for the particulate matter analysis and how those are chosen and evaluated. (EPA, NYSDEC)

Response: Additional details for the selection and delineation of air quality receptor sources has been included in the FGEIS.

Comment 594: Where possible, the FGEIS should evaluate how much the severity of impacts is minimized due to the implementation of the Environmental Performance Commitments. (EPA)

Response: Additional information on the benefits of the Environmental Performance Commitments is included in the FGEIS.

Comment 595: LMDC should propose a supplement to its DGEIS that includes an analysis of the consequences of reduced emissions from all stationary and mobile sources in a revised air quality assessment. Such assessment should include an estimate of additional costs of different kinds of trucks meeting the tighter standards and discuss who should bear these costs. (Environmental Defense)

Response: The analyses presented in the FGEIS reflect the range of potential emissions reductions that may result from the Environmental Performance Commitments. Trucks delivering materials to the site are beyond the control of the LMDC to regulate air emission standards.

Comment 596: The Proposed Action should require all construction vehicles at or leaving the site to use ultra low sulfur fuel. Contracts with construction companies must comply with state contract standards and City Law A-191 (the use of advanced diesel emissions control technology on construction equipment and ultra low sulfur diesel fuel). The WTC Site could serve as a pilot project for using particulate filters on construction vehicles. Every state agency or authority or private company with a role in the Proposed Action must commit to using ultra low sulfur fuel and particulate filters in all construction equipment. (Connor, Independence Plaza Assn., Environmental Defense, American Lung Association, Civic Alliance, Straphangers, Residents of 125 Cedar St., Abramson, Silver, LCA)

Response: Where technically feasible, diesel retrofit technology will be installed on non-road construction equipment 50 horsepower and greater. In addition the only fuel to be used at the Project Site will be ultra low sulfur diesel fuel. See response below regarding on-road construction vehicles.

Comment 597: City Law A-191 should be extended immediately to include moving vehicles such as demolition trucks (Fulton Street Transportation Station and Deutsche Bank) and concrete trucks (including WTC 7). If this cannot be implemented earlier, then a portable local exhaust ventilation system where a tail pipe is hooked up to a hose that captures the exhaust by filtering the vehicle emissions through a HEPA filter must be provided. (Hughes, Gerson)

Response: ULSD will become widely available and in common use for on-road applications beginning in 2006. Since trucks need to refuel along the way, ULSD cannot be applied on a project-specific basis to on-road construction vehicles. The Federal standards will be phased in beginning in 2007. However, the city administrative code regarding idling vehicles, as well as the Proposed Action's EPCs, do apply to

construction on-road vehicles. Such vehicles would only be idling when necessary for operations, such as keeping ready-mix concrete in motion while it is being unloaded. In addition, concrete mixer trucks serving the high rise super-structures will have an exhaust filtering station or other equivalent measure for minimizing exhaust emissions from ready-mix trucks.

Comment 598: The PM retrofit program must address beyond the WTC Site, including retrofits of engines used to build and repair underground infrastructure and projects at the Hudson River Park. (Environmental Defense, CB1)

Response: The EPCs agreed to by Lower Manhattan Recovery Projects would apply diesel retrofit technology to those specific projects.

Comment 599: The air quality at the site should be constantly monitored during construction. (Thurston, Connor, FATE, Wall Street Rising, Civic Alliance, Nadler, Residents of 125 Cedar St., BPC United)

Response: The Lower Manhattan Construction Coordination group is considering a variety of environmental management practices for Lower Manhattan.

Comment 600: The DGEIS must address the potentially adverse impacts on air quality from reconstruction efforts by requiring the use of clean construction practices, which according to a June 9, 2003 interim report by the Northeast States for Coordinated Air Use Management (NESCAUM), can achieve 30 to 80 percent reductions in fine particulate matter and 70 to 90 percent reductions in CO and hydrocarbons. The clean construction practices include the use of ultra low sulfur diesel fuel and the best retrofit technologies available, such as passive and active diesel particulate filters, high-performance diesel oxidation catalysts and other emerging technologies as called for under City Law A191. A “consortium for clean construction” must be formed to act as a clearinghouse for the facilitation of all reconstruction activities by LMDC and to ensure that best available retrofit technologies and other emerging technologies are used to mitigate diesel exhaust emissions. (NESCAUM, Wall Street Rising, Environmental Defense, BPC United, Gerson, Nadler)

Response: As stated in the EPCs and in the DGEIS, the measures already included in the plan substantially conform to those currently employed by NESCAUM.

Comment 601: Subsequent to providing the comment immediately above, NESCAUM has further examined Appendix A of the DGEIS and finds that LMDC's commitment to use 15 parts per million sulfur fuel and diesel retrofit technologies, if applied using Best Available Control Technologies, will adequately address diesel exhaust emission mitigation issues associated with off-road diesel construction equipment. (NESCAUM)

Response: Comment noted. LMDC appreciates the additional feedback from NESCAUM as LMDC is very committed to the development of *Sustainable Design Guidelines* that are at the forefront of innovative technology and can serve as a model for future development projects throughout New York and elsewhere.

Comment 602: LMDC must consistently monitor for hazardous air contaminants, take every reasonable precaution to limit this danger and provide the public with information about its findings. (Glick, Wall Street Rising)

Response: As noted above, the Lower Manhattan Construction Coordination group is considering a variety of environmental management practices for Lower Manhattan.

Comment 603: LMDC must seriously consider ways to reduce the adverse effect of construction on air quality, including having people at the construction site with specific responsibilities and authority to ensure that drivers abide by the three-minute idling law. Further, rules specific to the Proposed Action regarding engine idling, including engine idling of nonroad vehicles, should be devised. (9/11 Env. Action, Hughes, Glick, Wall Street Rising, American Lung Association, Civic Alliance, Residents of 125 Cedar St., Environmental Defense, Independence Plaza Tenant Association, CB1)

Response: See response to comment above.

CONSTRUCTION NOISE AND VIBRATION

Comment 604: The cumulative noise impacts of all of the construction projects on downtown residents must be addressed. (Connor)

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Response: The noise analysis conducted and discussed in Chapter 21, “Construction,” accounts for mobile and stationary sources anticipated from multiple projects during the peak construction period. The cumulative noise analysis discloses impacts to twenty-four sensitive receptor locations within and around the Project Site. The locations were chosen based on their proximity to the Proposed Action’s construction activities, proximity to other projects’ construction activities, and sensitivity of land uses in the area.

Comment 605: The FGEIS should include a detailed plan for sound monitoring around the periphery of the Project Site during construction, with hourly readings posted on the publicly accessible and publicly announced website. Sound receptor stations should be established throughout and near the site and regularly monitored to ensure that agencies and contractors adhere to sound level guidelines, including CEQR. (FATE, Wall Street Rising, CB1, Civic Alliance, Straphangers, 125 Cedar St., BPC United, Gerson)

Response: It is expected that the Lower Manhattan Construction Coordination Group would include a noise monitoring plan involving different receptor locations near the Project Site. LMDC and sponsors of other Lower Manhattan Recovery projects are coordinating regarding the logistical, technical and quality assurance aspects of a potential monitoring plan as well as how this information will be disseminated to the public.

Comment 606: Steps should be taken to muffle engine noise of vehicles and construction vehicles. (Residents of 125 Cedar St.)

Response: Methods to muffle engine noise and silence equipment will be explored and implemented to the greatest extent practicable. Chapter 22, “Mitigation,” provides a discussion of mitigation measures to minimize noise impacts.

Comment 607: LMDC must do everything in its power to identify new technology that minimizes noise impacts during construction. (Connor, Gerson)

Response: Chapter 22, “Mitigation,” provides a discussion of potential opportunities to mitigate noise impacts. The Construction Environment Plan would reflect the most recent design and construction plans and would be continuously updated as the project schedules and activities evolve during construction. The Construction Environment Plan would also provide more information on the following measures to minimize impacts: limiting noise emissions, conducting noise monitoring, revising design considerations and construction project layouts; employing alternative construction methods; and sequencing construction methods.

CONSTRUCTION TRAFFIC AND PARKING

Comment 608: The DGEIS predicts that most construction workers will use mass transit to the construction sites. If given permits or allowed to park, many construction workers will drive to the sites, cluttering Lower Manhattan’s narrow streets and sidewalks as well as areas reserved for staging with parked cars. There must be strict enforcement of parking rules at or near all sites, and LMDC and the other agencies must limit the number of vehicle permits distributed to contractors as well as the amount of official permit parking allowed downtown in order to keep streets, sidewalks and open spaces free of vehicular congestion and encourage the use of public transportation. Ferry or shuttle service and off-site parking should be made available. (Downtown Alliance, Fields, Gerson)

Response: It is anticipated that the majority of WTC construction workers would travel to the site using public transportation. Parking permits will not be given to WTC construction workers to park their personal vehicles within Lower Manhattan. Only sub-contractors with project-related vehicles would be permitted to access the Project Site. The other recovery projects are implementing similar restrictions for their construction workers.

Comment 609: Construction worker personal vehicle impact is understated and the effects of construction worker and other commuter vehicle traffic and parking requirements are not adequately addressed. Informal surveys of local construction projects show that construction worker personal vehicles tend to be larger truck vehicles. Consideration should be given to banning personal vehicles from the site as well as strategies for facilitating construction worker and other commuter access to the site, such as

establishing “Park and Ride” lots in areas outside of Lower Manhattan, shuttle bus services and incentives to use public transportation. (CB1, Gerson)

Response: See response to preceding comment.

Comment 610: The cumulative construction analysis does not address traffic, but instead just assumes traffic is so bad that there is not a significant adverse impact. There needs to be mitigation of construction related traffic. (Gateway Plaza Tenants Assn., CB1)

Response: The DGEIS compared the traffic analysis results for the 2006 No Action condition (all Lower Manhattan construction projects except the Proposed Action plus background growth) to the 2006 Build condition (all Lower Manhattan construction projects including the Proposed Action) for the AM, midday, and PM peak hours to determine the impact of the Proposed Action’s construction traffic on the study area. As a result of the analysis, several impacts were identified within the project study area during the AM, midday, and PM peak hours that would be attributable to the Proposed Action. In response, measures were recommended in the DGEIS (and are reaffirmed in the FGEIS) to mitigate the identified construction impacts. The NYCDOT is also studying the cumulative effects of Lower Manhattan construction in terms of lane/street closures and truck traffic. The NYCDOT will be monitoring traffic throughout the recovery process, coordinating the construction activities of each recovery project, and will take the necessary corrective actions to promote traffic flow in Lower Manhattan.

Comment 611: With all the construction projects, it is hard to believe that the amount of pedestrian and large construction vehicle traffic will not far exceed the estimates in the DGEIS. (Connor, Residents of Cedar St.)

Response: The generation of construction traffic for the Proposed Action, Permanent PATH Terminal, South Ferry Terminal, Route 9A Reconstruction, and Fulton Street Transit Center projects was developed based on construction information provided for each of these projects. The construction information was developed based on input from the sponsors of the Lower Manhattan Recovery Projects, including LMDC and the proposed developer of the Project Site, the Port Authority (permanent PATH Terminal), MTA/NYCT (South Ferry Terminal and Fulton Street Transit Center), and NYSDOT (Route 9A Reconstruction). A reasonable “peak day” for the purposes of equipment usage and trucks. This represents a combination of events that could be expected to occur regularly (once or twice over a two-week period). The peak day was calculated by combining concurrent sub-tasks. Individual daily equipment and truck totals are added to create peak totals. The construction activity will not generate an appreciable number of pedestrians. As discussed in the DGEIS and reaffirmed in the FGEIS, the following measures have been proposed to promote pedestrian access and mobility:

- Maintain access to local businesses and points of interest such as the WTC Site itself for all pedestrians, including residents, tourists, and other visitors to the greatest extent practicable;
- Maintain pedestrian flow along Vesey and Liberty Streets throughout the duration of construction except during limited periods of construction that will require temporary closures;
- Minimize closures and prepare contingency measures in the event established limits are exceeded;
- Develop and implement project-specific pedestrian and vehicular Maintenance and Protection plan;
- Promote public awareness through mechanisms such as signage, telephone hotline, and website updates;
- Ensure sufficient alternate street, building, and temporary and permanent WTC PATH Terminal and subway station access during the construction period; and
- Maintain regular communication with New York City Department of Transportation.

27.3.31 MITIGATION MEASURES

Comment 612: Carrying out Phase IB investigations is not mitigation, as implied on page 22-1. Phase IB investigations are, by definition, intended only to determine presence/absence of potentially significant historic resources. If the Phase IB investigations identified archeological remains, additional investigations, possibly culminating in archeological data recovery would be necessary. (Coalition)

Response: The text of the FGEIS has been changed to reflect this comment.

Comment 613: No details about the content of the Programmatic Agreement for the Hudson River Park and the proposed basis for mitigation are included in the Mitigation chapter or anywhere else in the DGEIS. (Coalition)

Response: The Proposed Action no longer contemplates use of Site 26. Therefore, the Proposed Action would not require alteration of the Hudson River Bulkhead and the Programmatic Agreement for the Hudson River Park is no longer relevant to the Proposed Action.

Comment 614: Although LMDC has issued a proposed finding of no adverse effect on historic properties, the statement is made that “special provisions” to deal with vibration impacts to historic structures are only “being considered.” (p. 22-19) LMDC needs to make a legally binding commitment in regard to this matter, preferably as part of a PA or MOA in the Section 106 process. (Coalition)

Response: LMDC includes such a commitment in the proposed Programmatic Agreement. Additional detail on the Construction Protection Plan is in Chapter 21, “Construction.”

CONSTRUCTION MITIGATION

Comment 615: Congestion pricing or a similar scheme that would charge cars to come into a designated Lower Manhattan vicinity should not be used as a mitigation technique for vehicular congestion that is expected to worsen when streets are closed and traffic rerouted due to construction activities if this measure were to only apply to Lower Manhattan. Such measure would have a significant adverse impact on all businesses located in Lower Manhattan. If congestion pricing is considered, it should be considered for the entire Manhattan Central Business District south of 60th Street to ensure that Lower Manhattan does not suffer a disadvantage. (Downtown Alliance)

Response: Congestion pricing around the WTC Site would not be a feasible or desirable measure unless it were a part of an overall congestion pricing scheme for Midtown and Lower Manhattan. Such a scheme is beyond the scope of the Proposed Action and LMDC’s authority.

Comment 616: The DGEIS should consider tax rebates and other financial incentives for small businesses and residents who are adversely affected by the construction phase of the Proposed Action. (CB1, Mariwolk, FATE)

Response: LMDC does not have taxing authority, but the Proposed Action itself is unlikely to directly restrict access, as most of the construction would be contained within the Project Site. Some access restrictions may occur on the streets surrounding the Project Site as a result of construction. Businesses would also likely benefit from the large number of construction workers brought to the area by the Proposed Action. Church Street would remain open throughout the construction period, although the western lane may be closed for much of the time as well as portions of Church Street between Vesey and Dey Streets. It is not expected that access to retail uses or other businesses on the east side of Church Street in this area would be restricted to a degree that would constitute an adverse impact.

LMDC and the Port Authority are working together to minimize disruptions to residents and businesses during construction of the Project Site. In conjunction with other Lower Manhattan project sponsors and private entities such as Silverstein Properties, LMDC has created and is participating in a Lower Manhattan Construction Coordination Group (LMCCG) to ensure that construction projects move forward expeditiously while minimizing the impact to residents, businesses, workers, commuters, pedestrians, and vehicles. The LMCCG could be expanded to represent a natural extension of LMDC’s environmental principles. These principles include

close coordination and communication with stakeholders in Lower Manhattan, including other agencies, residents, businesses and visitors .

Comment 617: Retailers are positioned to suffer some of the most significant adverse effects of this construction, and specific measures need to be taken to mitigate those impacts on retailers. The ongoing viability of existing retailers, as well as the ability to attract new ones to the area, during the construction period is essential to the continued stabilization of both businesses and residents. (Wall Street Rising)

Response: While many construction activities may be considered disruptive, it is expected that area residents and workers would continue to support those businesses, and construction would also bring workers who would purchase food and beverages in the small delicatessens near the site and patronize other retailers in the area.

Comment 618: Funding should be allocated to launch a targeted, comprehensive marketing campaign that could include branding, advertising, and public relations, all with the goal of driving shoppers and diners to Lower Manhattan, offsetting the decline in foot traffic that will almost certainly result from the anticipated construction impacts. It is also necessary to complete focused, intensive research on the Lower Manhattan retail market in order to more completely understand the needs of the retail users Downtown (residents, workers, and tourists). This two-pronged approach of partnering extensive research with tested marketing strategies would effectively increase patronage of Lower Manhattan shops and restaurants, helping them to remain open throughout the construction phase of the WTC site redevelopment. (Wall Street Rising, Gerson)

Response: Although one the purposes of the Proposed Action is revitalization, a marketing campaign would be outside its scope and would not be analyzed as part of an EIS.

Comment 619: A sales tax-free period should be established for Lower Manhattan retailers to mitigate the severe impact on them during the construction period. (Wall Street Rising)

Response: LMDC does not have the authority to designate such a period.

Comment 620: A full analysis of possible remediations at the apartment/unit level should be done. In addition to HEPA filters, soundproof windows, state-of-the-art air conditioners and temporary relocations should be considered. (Gerson)

Response: Prior to commencement of construction, LMDC will consider these among the measures that could be employed to mitigate any significant air and noise impacts.

Comment 621: The DGEIS should consider alternatives to trucking in construction materials, such as the use of barges, with mitigation measures being taken to minimize any disruption to local residential properties. A second alternative would be the use of rail for the delivery of construction materials. (LCAN)

Response: Alternatives to truck movement of construction materials is considered in Chapter 23, "Alternatives," sections 23.7.1 and 23.7.2.

AIR QUALITY MITIGATION

Comment 622: During construction, emissions will exceed the National Ambient Air Quality Standards. The DGEIS says that LMDC plans to mitigate, but there is no commitment in the document. The DGEIS just says ultra low sulfur diesel fuel and retrofitting of construction equipment will occur if practicable. While WTC 7 is expected to be using low sulfur diesel fuel and retrofit equipment, the reality is that only three out of seven pieces of large equipment were able to be retrofitted to reduce harmful emissions. (Independence Plaza Assn.)

Response: In the construction of 7 WTC, the following equipment was retrofitted with catalytic converters: one crawler crane for concrete contractor; two excavators for foundation contractor; one generator for foundation contractor. The following equipment is scheduled to be retrofitted with particulate filters: two tower cranes for steel contractor; one concrete pump for concrete contractor; one generator for steel contractor. The following equipment was not retrofitted, primarily because it was in use before the diesel emission reduction program was implemented: one crane for foundation contractor; two caisson drill machines for foundation contractor; one pile driving machine for foundation contractor;

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one concrete pump for foundation contractor; and all demolition equipment which predates the agreement with NESCAF. See also the response below.

Comment 623: With regard to air quality mitigation, words such as “practicable” and “commitment” to use ultra low sulfur and retrofit diesel equipment should be changed to “required.” (Hughes, Independence Plaza Assn.)

Response: The measures would be applied wherever they are technically feasible for on-site construction equipment. There are cases where for technical reasons, some measures do not function. ULSD will be used for all on-site diesel engines. Wherever possible, DPFs will be applied, where not, DOCs will be applied. The efforts at WTC 7 were part of a pilot test for such measures. The measures that LMDC and other sponsors are committed to are unprecedented in scope and will set the standard for construction equipment in the region for many years.

Comment 624: LMDC’s suggestion to install HEPA filters at fresh air inlets in hotels and office buildings and the purchase of air conditioning units with HEPA filters for residences with operable windows in the immediate vicinity of the Project Site should be funded and implemented. Filters should also be installed in schools. (Hughes, Wall Street Rising, Connor, BPC United, Gerson, CB1)

Response: LMDC has identified and committed to mitigation measures that are expected to avoid any exceedances of the short-term PM NAAQS during construction. Accordingly, it is not expected that it will be necessary to install such filters in neighboring residences, hotels or office buildings in order to avoid such exceedances.

Comment 625: LMDC should develop an air monitoring program along the perimeter of the entire Project Site to track the cumulative impact of the numerous construction projects on the adjacent residential and commercial areas. The air monitoring should include particulate matter, diesel particulates, asbestos, metals, mercury, quartz, organics, PCBs and dioxins. There should also be surface testing of surrounding communities to assess surface dust contamination as a result of redevelopment activities. This information should be available on-line and should include a 24-hour rapid response to limit potential exposures. LMDC should state who will be accountable for addressing impacts. (Hughes, Independence Plaza Assn., Moore, Civic Alliance, Straphangers, Connor, Gerson, CB1)

Response: The Lower Manhattan Construction Coordination Group is considering a variety of environmental management practices for Lower Manhattan.

Comment 626: The baseline for mitigation for air-quality should be set at a higher level than existed pre-September 11. (Fields)

Response: The Proposed Action does set a higher standard for air quality, aimed at reducing pollution as compared to the pre-September 11 condition: the temporary emissions from construction equipment would be minimized using the most advanced technologies available to date; this level and scope of emissions reductions is unprecedented.

As for operational years, on-site emissions would be limited to emergency and backup generators, which would use ULSD even though they would only operate in case of emergency or power outage; and ventilation from below grade vehicular facilities would be designed to keep concentrations at acceptable levels, and vents would be placed high above grade in order to increase dispersion.

NOISE AND VIBRATION MITIGATION

Comment 627: Mitigation measures should include installing, at no cost to residents, soundproof windows in residential units in close proximity to the Project Site. (Wall Street Rising, CB1, Residents of 125 Cedar St.)

Response: Soundproofing windows is a possible mitigation measure to reduce impacts at receptors and will be considered where applicable and practicable along with other mitigation measures discussed in the FGEIS.

Comment 628: The mitigation measures listed in the DGEIS at page 22-21 and SEQ-5 with respect to noise and vibration should be adopted, as should all other appropriate mitigation measures. These include but are not limited to the following: acoustic barriers and walled enclosures around certain construction

activities; placement of construction equipment in shielded locations; installation of silencers on jackhammers and other equipment; use of electrically operated rather than combustion equipment; use of soil beds, exterior rubber lining on truck body and other methods to reduce rock impact noise during loading and unloading; elimination of truck backup noise; placement of most loading/unloading inside the bathtub; secure placement of on-street metal plates; and limitation on the use of such metal plates. (Wall Street Rising, CB1, Abramson, Gerson)

Response: Comment noted.

Comment 629: The entire site, not just the Memorial, should use noise reduction features and technology to reduce exterior noise levels and not simply incorporate noise attenuation measures for interior spaces. (NOISE)

Response: Elements of the Project Site, such as the wind turbines on the Freedom Tower, will incorporate noise and vibration isolation systems that will reduce exterior noise levels.

In addition, mechanical equipment and systems for the elements of the Proposed Action would utilize noise reduction devices to comply with applicable noise regulations and standards.

During construction, all efforts will be made to limit the noise and vibration associated with the equipment needed to complete the Proposed Action. Construction noise reduction measures would be implemented through Environmental Performance Commitments (EPCs) and Best Management Practices. A range of mitigation measures that may be employed is included in Chapter 22, "Mitigation," and in Appendix J for specific noise-generating construction activities.

Comment 630: Every effort to reduce overall noise levels both during and post construction should be made because the Memorial should be as quiet as possible to facilitate contemplation and reflection, parks and open spaces will be more enjoyable in a quieter environment and there are several residences and schools nearby the Project Site. (NOISE)

Response: Comment noted.

TRAFFIC AND PARKING MITIGATION

Comment 631: This chapter warns us that NYSDOT's forthcoming environmental impact statement on the bypass tunnel option will paint a much happier picture of traffic congestion with a tunnel, but that is because the NYSDOT will be based on a different model, showing much less traffic in the area. (Pasaden)

Response: This DGEIS and the draft environmental impact statement being prepared by NYSDOT for at-grade and bypass tunnel alternatives for Route 9A near the WTC Site use different methodologies to develop projected future traffic volumes, as is described in the DGEIS. The Route 9A Project's traffic analyses are still underway and its conclusions will not be known with certainty until it is completed.

Comment 632: Mitigation measures must be employed to address the increase in traffic congestion that will result from the Proposed Action. Exceptional measures must be taken to mitigate effects on residents and businesses along the designated truck routes on both Liberty and Barclay Streets. (Wall Street Rising, Connor, Jones, CB1)

Response: The DGEIS identifies the types of traffic engineering improvements that would need to be implemented. It will be the responsibility of NYCDOT and, for Route 9A, both NYCDOT and NYSDOT, to implement these types of measures upon their review of the analysis projections and actual conditions as the redevelopment of the Project Site occurs.

Comment 633: LMDC should adopt "intelligent transportation systems," to promote public transit modes to divert would-be drivers out of their cars and into PATH, subways, buses and ferries and provide a one-stop ride to regional airports. (CB1, Gerson)

Response: LMDC supports policies and programs that promote mass transit usage, but such measures are within the purview of other agencies. It is also noted that, generally, intelligent transportation systems help to make the most efficient use of available roadway capacity rather than effect modal shift.

Comment 634: The DGEIS indicates that many intersections are likely to be at unacceptable levels of service even with "transportation systems management" mitigations. The effectiveness of these measures is suspect, in light of past efforts, particularly for those involving enforcement. Specific measures to

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reduce the volumes of vehicle traffic are needed and an action plan should be developed, including the restriction of parking expansion, the use of congestion pricing measures to reduce peak period use of motor vehicles, “staged” goods delivery and waste removal into and out of the WTC Site and Lower Manhattan as a whole, and street management plans that favor pedestrians with selective elimination or restriction of vehicle flow. (Civic Alliance, Straphangers, Environmental Defense, LCAN, Epstein)

Response: LMDC has been, and will continue to be, in regular communication with NYCDOT and the Port Authority about traffic management plans that can be implemented in addition to the types of transportation systems management (TSM) measures identified and evaluated in the DGEIS. Street direction changes and the conversion of two-way streets, such as Vesey Street, to one-way operation are being considered to improve the capacity of the street network to accommodate traffic activity. The need for traffic and parking enforcement strategies has also been communicated to NYCDOT. LMDC supports policies and programs that promote mass transit usage, but such measures are within the purview of other agencies.

Comment 635: It is unacceptable to suggest “the anticipated saturation of Route 9A with traffic destined to the Project Site and its immediate environs could be better distributed to other streets with available capacity” (p. 22-3). Route 9A was designed to mitigate overburdened city streets; redirecting traffic through residential neighborhoods is not a wise or viable alternative. (CB1)

Response: The DGEIS projected that Route 9A would be the primary access route to the Project Site. Any routing to other streets by signage would seek to avoid residential neighborhoods.

Comment 636: The FGEIS should consider congestion pricing measures to reduce peak period use of motor vehicles in order to reduce traffic in and around the World Trade Center Site. (Straphangers, LCAN, Environmental Defense)

Response: Congestion pricing around the WTC Site would not be a feasible or desirable measure unless it were a part of an overall congestion pricing scheme for Midtown and Lower Manhattan. Such a scheme is beyond the scope of the Proposed Action and LMDC’s authority.

Comment 637: The FGEIS should consider a prohibition on tourist buses within a prescribed area of Lower Manhattan in order to reduce traffic in and around the World Trade Center Site. (Straphangers)

Response: Current LMDC plans call for tourist buses to serve the Memorial, which would be expected to reduce auto traffic significantly. LMDC does not have the authority to prohibit tourist buses in Lower Manhattan.

Comment 638: The analysis of traffic mitigation measures should be expanded to include a larger number of traffic enforcement agents. (Gerson)

Response: The GEIS identifies traffic enforcement agents for mitigation only where necessary (i.e., where other measures such as signal phasing and timing changes, parking regulation modifications, and other readily-implementable measures would not be sufficient). Traffic enforcement agents are a costlier measure that NYCDOT typically does not consider unless other measures are not sufficient. The final number and location of traffic enforcement agents required will be determined by NYCDOT, as operational details of the project are more fully developed.

TRANSIT AND PEDESTRANS MITIGATION

Comment 639: The DGEIS indicates that there are many subway “elements” that will be at poor levels of service for pedestrians. However, no mention is made of how this will be mitigated in the mitigation chapter. While some of these elements may be addressed in the designs of the rebuilt PATH station complex and at the Fulton Transit Center, others will not be. (Civic Alliance, LCAN)

Response: The subway trips projected to be generated by the Proposed Action in 2009 and 2015 would increase the demand on the subway lines serving the WTC Site. Each subway element within these stations was evaluated to determine their projected level of service during the AM and PM peak periods. The criteria presented in the *CEQR Technical Manual* were used to determine significant transit impacts in the study area in 2009 and 2015. Based upon a comparison between the future with the Proposed Action in 2015 and the future without the Proposed Action in 2015 under the Pre-September 11

Scenario using the established CEQR thresholds, none of these elements would be impacted by the Proposed Action. Even though some of these elements are projected to operate at levels of service D, E, or F as a result of the Proposed Action, they will not be significantly worse than before September 11 occurred and are not required to be mitigated as defined under CEQR.

Comment 640: The DGEIS points out that there will be pedestrian level of service problems at crosswalks, but that sidewalk levels of service at mid-blocks will not be a problem. Past research suggests that mid-block sidewalk congestion will occur if crosswalk congestion is a problem. This suggests mitigation on sidewalks, including the requirement for wider sidewalks, minimization of obstructions and removal of subway stairways from the sidewalks, placing them inside building lines. (Civic Alliance)

Response: The results of the sidewalk analysis in the DGEIS demonstrated that the proposed sidewalks would operate at acceptable levels of service and there would be no sidewalk impacts in 2009 or 2015 as a result of the Proposed Action. The sidewalks proposed for the WTC Site were assumed to be 20 feet on the north-south streets and 15 feet on the east-west streets. Obstructions have been minimized as part of the proposed design, however, it was conservatively assumed that the effective widths of the proposed sidewalks would be narrowed due to obstructions. Since the DGEIS was issued, the widths of the sidewalks in the site plan have been widened by 5 feet to 25 feet on the north-south streets and 20 feet on the east-west streets. To remain conservative, the wider sidewalks were not used to analyze sidewalks as part of the FGEIS.

It is not appropriate to assume that the operating characteristics or the level of service results of a crosswalk and an adjacent mid-block sidewalk would be comparable (mid-block sidewalk congestion will occur if crosswalk congestion is a problem) because of the following:

1. The pedestrian volumes could vary considerably between a crosswalk and an adjacent sidewalk because of the direction a person may select to travel when they reach the opposite side of the street (they can travel straight, turn left, or turn right) or people can enter buildings or subway stations prior to reaching the mid-block location. Changes in pedestrian volumes have a great effect on level of service analysis at crosswalk and mid-block locations.
2. The capacity and pedestrian flow at a crosswalk is significantly lower than at a mid-block location for several reasons. Slower walking speeds are common in crosswalks due to platooning where people walk in groups after a signal change (each person can only walk as fast as the people in front of them). It is easier for faster walking people to pass slower walking people at mid-block locations because platoons are limited and gaps between pedestrians are greater. There is lost time due to pedestrians waiting for a green signal at a crosswalk. This translates into capacity reductions at crosswalks since there is no continuous flow of pedestrians passing through a crosswalk like at a mid-block location. There is also an initial start-time loss between when the signal turns green and when people begin to walk from the curb. This delay is exacerbated as the queue of people in the reservoir area adjacent to the crosswalk lengthens. There are also delays incurred in crosswalks by pedestrian conflicts with turning vehicles.

Most of the subway and PATH access is planned via stairs located within wide plaza areas, wide sidewalks (at least 25 feet wide), within the permanent PATH Terminal, and between the five office towers via the underground concourse.

Comment 641: The FGEIS should consider wider sidewalks and placing subway stairs inside in building lines in order to reduce traffic in and around the World Trade Center Site. (Straphangers)

Response: See response to preceding comment.

27.3.32 ALTERNATIVES

Comment 642: Other alternatives should be considered such as using HUD funds to support small businesses, providing screening and health care to residents, and creating more parks. (Tupper)

Response: LMDC is working on several other unrelated initiatives to provide HUD grant money to support various projects in Lower Manhattan. See section 1.8.1 of the FGEIS.

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Comment 643: Consideration should be given to off-site fulfillment of the lease conditions for office space. (Fields)
Response: LMDC explored this possibility, which resulted in the incorporation of the Southern Site into the Proposed Action.

Comment 644: A full analysis of all reasonable alternatives to the Proposed Action must be provided. The current failure to include a thorough analysis of reasonable alternatives violates both the spirit and letter of NEPA and SEQRA. (Civic Alliance, Straphangers, Spotlight on the Poor)

Response: As required by state and federal law, the GEIS presents a rigorous exploration and objective evaluation of all reasonable and feasible alternatives, including a no-action alternative, a Memorial-only alternative, a restoration alternative, rebuilding alternatives, a WTC-Site only alternative, a enhanced green construction alternative, and a reduced impact alternative. In addition, Chapter 1, "Project Description," includes a discussion of various early alternatives that were considered in the site planning process.

MEMORIAL ONLY ALTERNATIVE

Comment 645: The statement (p. 23-8) that "unlike the Proposed Action, the Memorial Only Alternative might be designed to avoid any disturbance of potential archeological resources on the WTC Site" would seem to be an acknowledgement that the Proposed Action cannot avoid disturbance of archeological resources. (Coalition)

Response: The presence of archaeological resources has not been confirmed. If it is confirmed in testing or monitoring, recovery and curation would follow, if necessary. Chapter 5, "Historic Resources," has been clarified on this point.

Comment 646: The statement (p. 23-8) that "This [the Memorial Only] alternative could potentially be designed to avoid alteration of the remaining below grade elements of the WTC Site" is both an acknowledgement that those below grade elements, which include the footprints, are historically significant, and the Proposed Action cannot avoid that disturbance of those features. Any such disturbance would constitute an adverse effect and contradicts LMDC's proposed determination of no adverse effect. (Coalition)

Response: The referenced sentence in the DGEIS goes on to say that the WTC Site "...is being considered for eligibility for listing on the National Register of Historic Places through a Section 106 Process." The inclusion of the WTC Site in this discussion was not an attempt to determine or acknowledge historic significance, but rather a recognition that the status of the site had not yet been officially evaluated. The Section 106 process is discussed in Chapter 5, "Historic Resources."

REDUCED IMPACT ALTERNATIVE

Comment 647: The Reduced Impact Alternative is not sufficiently evaluated. The option of a reduced office program is particularly reasonable, especially if Silverstein Properties does not receive the \$7 billion insurance payment, as it is unlikely that the second phase of office development could be financed by traditional methods and the socioeconomic section of the DGEIS confirms that the amount of commercial office space in the Proposed Action is likely to be more than the market can absorb. The FGEIS should include a thorough study of conditions without four additional office towers if the insurance payment is only \$3.55 million. (Civic Alliance, FATE, Straphangers, Silver)

Response: This would represent a continuation of the 2009 condition, and thus has been thoroughly studied.

Comment 648: The Reduced Impact Alternative should study the reduction of up to 50 percent of commercial office and retail space and include new uses in its program such as housing and civic and cultural space. The reduction in commercial space greatly expands the options for other uses that may do more to enhance Lower Manhattan's attractiveness for businesses, residents and visitors. (Civic Alliance, Straphangers, MAS, Spotlight on the Poor)

Response: As indicated in Section 23.9 of this FGEIS, the amount of commercial space on the Project Site has already been effectively reduced by approximately 15 percent through the Proposed Action. A further substantial reduction of the magnitude suggested in this comment would seriously affect the ability of the Proposed Action to support retail and cultural uses and to contribute to the revitalization of Lower

Manhattan. As a result, such a reduction would diminish rather than enhance the viability of other uses to enhance Lower Manhattan. See also the following Comment.

Comment 649: There are sound environmental reasons to rebuild a reasonably dense complex at the WTC as compared to an alternative of further dispersal of commercial, retail and cultural facilities in other parts of the metropolitan region. Alternative sites for comparable space elsewhere may not be anywhere as well served by public transportation resulting in increased vehicle miles traveled in the region. Outside of the central business districts in the city, buildings in other locations in the metropolitan region would not be as energy efficient. (Environmental Defense)

Response: Comment noted.

Comment 650: There is no objective analysis of a true reduction in office density. (NYNV)

Response: See responses to preceding comments.

Comment 651: The assertion that, because commercial office space within the Project Site has been reduced 15 percent by the inclusion of the Southern Site, the only option for reducing density is the reduction of Memorial space, cultural programming retail or hotel is incorrect. The 15 percent Project Site reduction, while desirable from an urban design standpoint, does not represent a reduction in the overall program for commercial office space to be built in the WTC area, thus having no difference in environmental, construction or economic impacts to the primary or secondary areas of impact. (Civic Alliance)

Response: Fifteen percent reduction of office space on the Project Site is a significant reduction in the area and has made possible the creation of a Memorial and new open space, benefiting residents and the environment. Development of office space elsewhere in the “WTC area” is beyond the scope of the Proposed Action. LMDC and the Port Authority have reduced office density on their Project Site.

RESTORATION ALTERNATIVE

Comment 652: The Restoration Alternative should be used instead of the Proposed Action. The WTC Site should be rebuilt with two new towers at least as tall as the Twin Towers utilizing updated technology. The SDL master plan should not be used. (Oloff, Hough, Epstein, Team Twin Towers, Goetz, Snyder, Cuvin, Goldberg, Barzilai, Fernandez, WTC Restoration Movement, Makras, Butziger, Ramos, Brady, Dostie, Vish, Kupferberg, Young)

Response: This alternative was fully analyzed in Chapter 23 of the DGEIS but was found to not have the same level of benefits as the Proposed Action. In particular, this alternative would concentrate retail below-grade such that the streetscape would not become enlivened and active, and this alternative would not permit the extension of the street grid that is part of the Proposed Action. This alternative would also not provide the same amount or quality of open space as afforded by the Proposed Action.

Comment 653: The Restoration Alternative would not have any worse environmental impacts than the Proposed Action. In fact, open space would increase under this alternative. (Epstein, Oloff)

Response: The Restoration Alternative would have effects similar to those of the Proposed Action. However, many of the benefits associated with the Proposed Action would not occur under this alternative, including extending Fulton and Greenwich Streets and thereby helping to reestablish the street grid and reconnect the neighborhoods surrounding the Project Site, and creating open spaces that are easier to access and use, among others. Liberty Park, a major open space proposed for the area south of Liberty Street, would also not be created under this alternative. In addition, the structures under this alternative would be bulkier and taller than those with the Proposed Action. For these and other reasons described in section 23.4 of the FGEIS, the Proposed Action is preferred over the Restoration Alternative.

Comment 654: The Restoration Alternative should allow for rebuilding the Twin Towers closer to Church Street, leaving the footprints of the former towers vacant for a Memorial. (Hough)

Response: The Restoration Alternative analyzes a pair of reconstructed towers shifted to the north and east in order to avoid the footprints of the former Twin Towers.

Comment 655: The Restoration Alternative should include rebuilding the Twin Towers on their old footprints. (Butziger)

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Response: As stated in the DGEIS, given the public's expressed desire for meaningful recognition of the footprints of the Twin Towers, this option was not considered desirable and was eliminated from further consideration.

Comment 656: The Restoration Alternative does not preclude reopening Greenwich and Fulton Streets, as stated in section 23.4.11 of the DGEIS. If the Towers are moved to the east, the streets can be reopened. (Butziger, Ramos)

Response: There are any number of variations on a "restoration" plan for the WTC Site, one or more of which could, in theory, extend part or all of Greenwich and Fulton Streets through the site. The Restoration Alternative analyzed in the GEIS is intended to closely approximate within reason the program and configuration of the WTC Site prior to September 11, which includes a superblock configuration. The traffic portion of the analysis has been amended to reflect the fact that there would be no extension of Greenwich or Fulton Streets through the site under this alternative.

ENHANCED GREEN ALTERNATIVE

Comment 657: The Enhanced Green Alternative should provide for solid waste reduction through the use of an on-site centralized sorting facility for outgoing waste in order to increase efficiency and reduce vehicle trips. (Civic Alliance)

Response: LMDC and the Port Authority would explore the feasibility of alternative waste management as the planning for the site infrastructure continues.

Comment 658: The Enhanced Green Alternative should provide for goods delivery. LMDC and the Port Authority should revisit an off-site consolidation operation to reduce truck and delivery traffic to and from the WTC Site. The GEIS should also explore electronic docking or bay stations for delivery trucks, in order to reduce air pollution during vehicle staging. (Civic Alliance)

Response: LMDC and the Port Authority would explore the feasibility of alternative goods delivery as the planning for the site infrastructure continues.

Comment 659: The Enhanced Green Alternative should provide for a centralized on-site sorting and collection facility, with an automated delivery system to the buildings. This option would allow for a coordinated goods delivery system and increased efficiency. (Civic Alliance)

Response: LMDC and the Port Authority would explore the feasibility of alternative goods delivery and movement as the planning for the site infrastructure continues.

Comment 660: The Enhanced Green Alternative should provide for the possibility of on-site cogeneration. Such cogeneration does not need to be located in an area that would be disruptive to community open space, such as under Liberty Park. In the case that market conditions dictate a reduction in the office space program, cogeneration facilities could be located on-site. (Civic Alliance)

Response: Chapter 23, "Alternatives," discussed cogeneration alternatives in section 23.8 (Cogeneration Alternative) and a new enhanced cogeneration option has been added to the Enhanced Green Alternatives.

27.3.33 UNAVOIDABLE SIGNIFICANT ADVERSE IMPACTS

Comment 661: The conclusion that the Proposed Action must result in unavoidable adverse impacts is incorrect; increased traffic is avoidable especially given the significant public investment in mass transit in Lower Manhattan. (Civic Alliance, CB1)

Response: The traffic analyses do include a comprehensive investigation of traffic engineering measures that could be implemented to mitigate traffic impacts, but at several locations such standard traffic engineering would not be sufficient and additional, more areawide strategies could be implemented, as discussed in the DGEIS. The traffic analyses conducted for the DGEIS may also be conservative in their conclusions regarding unavoidable adverse impacts since, as the Comment points out, past and anticipated public investment in mass transit services in Lower Manhattan are significant. Lower Manhattan has one of the densest concentrations of subway lines, PATH, bus, and ferry services in the Region, so auto use may be less than what is projected in the FGEIS.

27.3.34 GROWTH-INDUCING ASPECTS OF THE PROPOSED ACTION

No comments were received on this chapter of the DGEIS.

27.3.35 IRREVERSIBLE AND IRRETRIEVABLE COMMITMENT OF RESOURCES

Comment 662: The chapter on Irreversible and Irretrievable Commitment of Resources should discuss archeological resources that will be or may be destroyed by the Proposed Action, including the *in situ* remains of the original World Trade Center. (Coalition)

Response: Significant remnants of the WTC that are still on the WTC Site would be covered in a Programmatic Agreement among LMDC, SHPO, and ACHP. That agreement provides for minimization or mitigation of any adverse effects to such remnants.

27.3.36 MISCELLANEOUS

Comment 663: Regarding the document's format, we recommend that the FGEIS not have a separate mitigation chapter, but rather discuss the mitigation for the significant impacts in the chapter where those impacts are identified. It would be beneficial for the reader to present the information as follows: identify the impacts, propose the mitigation, evaluate the effectiveness of the mitigation in the same terms as they were presented in the impacts discussion and refer back to the identified impacts. (EPA)

Response: The mitigation chapter brings together in one location all of the mitigation measures for the Proposed Action. In either location mitigation measures are available for public review.

Comment 664: The FGEIS should include consideration of a connection of PATH to the Lexington Avenue number six local line. (IRUM, Regional Rail Working Group, Calisi, Gordon)

Response: Connection of PATH to the Lexington Avenue No. 6 local subway line is not part of the Proposed Action. It would have to be considered as part of an independent project if proposed by the transportation agencies which operate those lines—the Port Authority and MTA-NYCT, respectively.

Comment 665: The FGEIS should incorporate planning for high-speed regional rail links from the outer parts of New York City, the airports, and from Long Island, New Jersey and Westchester/Connecticut suburbs. (IRUM, Hughes, Jones)

Response: High speed regional rail links are not part of the Proposed Action, and are not within the purview of LMDC. They may be independently studied by transportation agencies with jurisdiction over regional rail service.

Comment 666: There should be a one seat rail link into Lower Manhattan for commuter and JFK Airport users. This link could utilize the High Line to access the Financial District. (Calisi)

Response: One-seat rail service into Lower Manhattan is not part of the Proposed Action. However, such service for JFK Airport users is being studied by the MTA, the Port Authority, and LMDC independently from the Proposed Action.

Comment 667: A light rail loop, which could pass through on a pedestrianized Fulton Street, should also be considered. (IRUM, Regional Rail Working Group, Gordon)

Response: Traffic and pedestrian circulation would not be improved by construction of a light rail loop on Fulton Street within the Project Site. Any consideration of such a proposal for the portion of Fulton Street east of the Project Site is beyond the scope of the Proposed Action.

Comment 668: The real question for impact purposes is how to create a sustainable community, one which is healthy and livable for the people who occupy it. (Edelstein, Gerson)

Response: Many environmental management practices, construction practices, and design measures have been incorporated into the Proposed Action to create a more sustainable and environmentally sensitive development. LMDC and the Port Authority have sought to advance sustainable environmental excellence in design, construction and function of buildings and related infrastructure at the Project Site. LMDC established a working "green group" dedicated to identifying and establishing potential measures of sustainability that could be incorporated into the redevelopment of the Project Site, which resulted in creation of the *Sustainable Design Guidelines* that are attached to the FGEIS in

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Appendix A. These design guidelines establish a blueprint for sustainable measures to be incorporated into the future structures and practices on the Project Site, and address in a comprehensive way the overall objectives for potential sustainable measures on the Project Site. These include, among others, air quality, energy conservation, water quality and conservation, material conservation, solar resource management, and construction practices. Sustainable measures are also discussed in Chapter 1, "Project Description," and Chapter 12, "Infrastructure." The quality of the open space and the cultural amenities of the plan also add to the quality of life of residents in Lower Manhattan.

Comment 669: The plan is not so set that minor changes cannot be made to it over time. Thus the project must move forward. (Lazar)

Response: Comment noted.

Comment 670: New York City must be a model of progress. Improvements to infrastructure are important to our city. Skyscrapers and subways make New York City what it is. (Flynn)

Response: Comment noted.

Comment 671: The FGEIS should consider increased and more attractive subway and bus service to and from Lower Manhattan in order to reduce traffic in and around the World Trade Center site. (Straphangers)

Response: MTA and FTA are undertaking improvements to two Lower Manhattan subway stations. Further, MTA, the Port Authority, and LMDC are studying rail access from Lower Manhattan to JFK airport.

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