Chapter 7
Short-Term Use versus Long-Term Productivity of the Environment

This chapter compares the potential adverse short-term environmental impacts associated with the Proposed Action and Alternatives, including the No-Action Alternative, to the potential long-term productivity of the environment in the vicinity of the CN/EJ&E Study Area that could result.

SEA has concluded that short-term construction disturbance could have some impacts on resources such as groundwater, wetlands, floodplains, surface water, plant communities, fish and wildlife, protected species, air quality, undeveloped land, and recreational land. With a few exceptions, which are discussed below, however, these impacts would be eliminated or would rapidly diminish upon completion of construction activities and would not result in any long-term impacts to productivity.

In Chapter 6, SEA has identified mitigation that it believes would reduce or eliminate certain impacts. In addition, the Applicants have submitted voluntary mitigation that could also reduce impacts. SEA has included the Applicants voluntary mitigation in Chapter 6.

7.1 Construction Activities

If the Proposed Action is approved, connections would be built in areas adjacent to existing track. Land would be disturbed in corridors up to 50 feet wide. Double track would be constructed parallel to and 14 to 15 feet away from existing track. Much of this track would be constructed on areas that already had been constructed for two tracks or that had track in the past, and most of the connections and double track would be constructed in areas of existing right-of-way. However, some construction would occur on or near undeveloped land and near recreational land.

Proper elevations and drainage would be established through earthwork and grading. Initial stages of grading would include grubbing of vegetation where necessary. These areas would be regraded to establish proper width of road bed. Sub-ballast material (crushed aggregate) would be placed over the ground and sloped to establish drainage away from the tracks. Ballast material (crushed aggregate) would be placed on top of the sub-ballast. Track—consisting of treated wood ties, steel tie plates, and steel rails—would be constructed on top of the ballast. Embankments and built-up areas would need to be constructed in some areas where the existing roadbed is not adequate. Fill would be imported into the area as needed. Some culverts and drainage ditches would need to be realigned. About 5 miles of new connections and 19 miles of new double track would be constructed over two years.

Construction of connections and double track would affect existing road crossings in Hawthorn Woods, Aurora, Plainfield, Joliet, New Lenox, Frankfort, Matteson, and Griffith, as discussed in Chapter 4, Section 4.3. Crossing gates and signals, as well as safety markings on roads, would need to be adjusted in these areas. Some signals and switches would need to be relocated, but no new signals would be added, unless ordered by the Illinois Commerce Commission or Indiana Department of Transportation. Detours for road closures or restrictions would be established as necessary. Some areas of construction, including the relocation of signals, could require temporary access roads.

Utilities would be relocated in some areas. Active warning devices would be relocated as needed and quiet zone devices would be installed as required or appropriate. Turnouts and signal apparatus would be installed, tying the new track into the existing control system.

7.2 Potential Hazardous Material Release

The Proposed Action presents potential short-term use of groundwater, surface water, wetlands, plant communities, and fish and wildlife resources in the unlikely event of a hazardous waste release, which might occur along with an increased number of trains using the EJ&E rail line. Construction of the six connections and double track on the EJ&E rail line also would result in potential short-term use of groundwater, surface water, wetlands, plant communities, and fish and wildlife resources in the unlikely event of a hazardous waste release during construction activities. Beyond short-term adverse impacts that could result from a release of hazardous waste, there could be some long-term adverse impacts to productivity of the environment. If a spill occurred, however, emergency responders would implement cleanup and remediation measures as necessary to limit the impact. Moreover, hazardous materials or hazardous waste releases are not likely to occur, and short-term use or long-term impacts on productivity of the resources would be negligible (see Chapter 4, Section 4.3, Hazardous Materials Transportation Safety).

At the same time, the risk of a hazardous material or waste release along CN's lines in Chicago would diminish with approval of the Proposed Action and the potential for short-term use and long-term productivity impacts to the resources would be reduced because train traffic on those lines would decrease.

The No-Action Alternative would keep CN trains on existing routes. Without approval of the Proposed Action, no new connections or double-track construction would occur that could affect hazardous materials or the potential for new hazardous materials releases. But the risk of a hazardous material or waste release along CN's line in Chicago would not decrease because there would be no rerouting of CN's trains.

7.3 Wetland and Surface Water

If the Proposed Action is approved, the proposed new construction would disturb—affect by short-term use—16 acres of wetlands. The proposed new construction could result in short-term use of the wetland habitat including plant communities, wildlife, fish, and protected species. Long-term wetland productivity could be affected through permanent losses and adverse impacts to wetland function. Chapter 4, Section 4.10 provides details about impacts to water resources.

7.3.1 Wetlands

Wetlands and wetland functions would be protected by Best Management Practices (BMPs), and any short-term use would be mitigated in accordance with applicable environmental protection regulations. Long-term productivity would not be affected because the wetlands and wetland functions would be restored or replaced over time through mitigation. Chapter 6 includes SEA's recommended mitigation that would compensate for wetland impacts.

The No-Action Alternative would keep CN trains on existing routes. Without approval of the Proposed Action, no new connections or double-track construction would occur that could affect wetlands.

7.3.2 Surface water and drainage

To allow for construction and operation of the proposed double track sections, culverts and other drainage structures would be lengthened or reconstructed and enlarged to prevent water detention and bank erosion. Potential short-term use of surface water could include water retention or diversion during construction. After construction, drainage channels, stream banks, and similar surface waters would be restored or repaired and long-term productivity—as habitat or drainage channel—would not

be affected. SEA is proposing mitigation in Chapter 6 that would reduce or eliminate impacts to surface waters.

The No-Action Alternative would keep CN trains on existing routes. Without approval of the Proposed Action, no new connections or double-track construction would occur that could affect surface waters or drainage structures.

7.4 Biological Resources

If the Proposed Action is approved, the construction of the proposed connections and double track could result in short-term use of the habitat of plant communities, wildlife, fish, and protected species. Long-term productivity could be affected through permanent losses, fragmentation, and unmitigated adverse impacts to habitat. Chapter 4, Section 4.11 provides details about impacts to biological resources. In Chapter 6, SEA proposes mitigation to reduce or eliminate impacts on biological resources.

7.4.1 Plant Communities and Wildlife

Construction of the proposed connections and double track would, in some areas, take place on or near undeveloped land and recreational land, and short-term use of this land could temporarily adversely affect plant communities, wildlife, protected species, and wildlife habitat. The impacts associated with short-term use would be mitigated through best management practices. Potential long-term impacts to habitat productivity should be avoided through mitigation SEA is recommending in Chapter 6.

The No-Action Alternative keeps CN trains on existing routes. Without approval of the Proposed Action, no new connections or double-track construction would occur that could affect plant communities.

7.4.2 Fish and Fish Habitat

Construction of the proposed connections and double track would, in some areas, take place on or near surface water and fish habitat, and short-term use of habitat could occur. As described above, connections would be built in areas adjacent to existing track, but in some cases would require construction of a new bridge or drainage structure or extension of an existing bridge or drainage structure. Some construction could occur on or near undeveloped land and near recreational land where fish habitat exists.

To allow for construction and operation of double track sections, culverts and other drainage structures would be lengthened or reconstructed and enlarged to prevent water detention and stream bank erosion. Potential short-term use of surface water may include water retention or diversion during construction. After construction, stream banks, and similar surface water structures would be restored or repaired as required by appropriate agencies and long-term productivity of these areas—as fish habitat—would be avoided. Chapter 6 contains SEA's recommended mitigation to reduce temporary construction impacts.

The No-Action Alternative keeps CN trains on existing routes. Without approval of the Proposed Action, no new connections or double-track construction would occur that could affect fish or fish habitat.

7.5 Air Quality

If the Proposed Action is approved, impacts to long-term productivity in relation to air quality would be based on traffic delays at at-grade highway/railroad crossings, which would increase under the

Proposed Action. Re-routing of longer CN trains to the longer EJ&E route, which has more public highway/rail at-grade intersections than the current CN lines, would increase air pollutants from trains. In addition, traffic delays at roadways in communities along the EJ&E rail line would increase. Air pollutant emissions for 2015 would increase with the Proposed Action due to the increase in traffic delays. Chapter 6 contains SEA's recommended mitigation for air quality.

If the Proposed Action is approved, construction activities for connections and double tracks would generate air pollutants, such as fugitive dust (particulate matter), resulting in short-term impacts to air quality. Detours for road closures or restrictions would be established as necessary, but traffic delays at construction sites and at-grade highway/rail crossings could occur and cause increased pollution from idling cars. Short-term impacts, however, would terminate or rapidly diminish upon completion of construction. See Chapter 4, Section 4.9 for more details about air quality impacts.

The No-Action Alternative keeps CN trains on a shorter route that has fewer intersections than the EJ&E route, thus the potential for increased releases of air pollutants would not occur.

7.6 Noise

If the Proposed Action is approved, connections and areas of double track would be constructed and a wide range of equipment and activities would be needed. The noise impacts associated with short-term use would be from construction activities. Construction equipment has a wide range of noise levels. It is unlikely that each piece of construction equipment would be used throughout the entire duration of a construction project. Rather, each phase of a construction project may require use of certain pieces of equipment, and some equipment may be unique to that phase. Therefore, each phase of the construction project could have unique noise characteristics. Construction noise effects would be temporary and localized around the connections and double track. SEA has included in Chapter 6 its recommended mitigation to offset construction-related noise. Best management practices, such as requiring original equipment manufacturer (OEM) or higher-performing mufflers on equipment, and limiting the hours of construction activities to typical weekday business hours could minimize the influence of noise from construction activities.

Long-term productivity in regard to noise would involve the operation of the CN and EJ&E rail lines under the Proposed Action. The Proposed Action would result in an increase of 2,996 noise-sensitive receptors experiencing noise levels of greater than 65 dBA Ldn along the EJ&E rail line segments due to train traffic and horns, and would result in a decrease of 2,738 noise-sensitive receptors along the CN rail segments. See Chapter 4, Section 4.10 for details about noise impacts. SEA has proposed mitigation, described in Chapter 6, to reduce noise. In addition, the Applicants' have proposed voluntary mitigation to minimize noise, also described in Chapter 6.

The No-Action Alternative keeps CN trains on existing routes. Without approval of the Proposed Action, no new connections or double-track construction would occur that would produce additional short-term or long-term noise along the EJ&E rail line.

7.7 Emergency services

If the Proposed Action is approved, impacts to long-term productivity in relation to emergency services would be based on re-routing of longer CN trains to the longer EJ&E route. The EJ&E rail line has more public highway/rail at-grade intersections than the current CN lines, and increased train volume would potentially increase traffic delays and emergency response times.

If the Proposed Action is approved, construction activities for connections and double tracks would result in short-term impacts to mobility. In the short-term, construction of connections and double track would affect existing road crossings in Hawthorn Woods, Aurora, Plainfield, Joliet, New Lenox, Frankfort, Matteson, and Griffith, as discussed in Chapter 4. Detours for road closures or other

mobility restrictions would be established as necessary, but traffic delays at construction sites and crossing could occur and cause increased delays for emergency vehicles. Short-term "use," however, would terminate or rapidly diminish upon completion of construction. See Chapter 4, Section 4.2 for more details about rail safety. In Chapter 6, SEA has identified a range of mitigation options to address potential delays to emergency vehicles.

The No-Action Alternative keeps CN trains on a shorter route that has fewer highway/rail at-grade crossings than the EJ&E route. Without approval of the Proposed Action, no construction would occur.

7.8 Energy

Fuel efficiency of trains would increase substantially, as measured in gross ton-miles per gallon, but the trains would travel longer distances, and increase their gross ton-miles even more substantially, thus increasing net fuel use.

In the short-term, construction of connections and double track would affect existing road crossings in Hawthorn Woods, Aurora, Plainfield, Joliet, New Lenox, Frankfort, Matteson, and Griffith, as discussed in Chapter 4, Section 4.8. In the long-term, the proposed changes in freight train activity would cause vehicle delays at highway/rail at-grade crossings on segments where the Applicants project increased train traffic would occur (primarily along the EJ&E main line track). Traffic delays would decrease at highway/rail at-grade crossings on segments where the Applicants project decreased train traffic would occur (on CN tracks inside of the EJ&E arc), overall net energy use, however, would increase in the range of 10 percent over the No-Action Alternative. See Section 4.8 for details on gross energy use and net changes from the No-Action Alternative. In Chapter 6, SEA has proposed a range of mitigation options to address highway/rail at-grade crossing delays.

7.9 Cultural Resources

No cultural resources are expected to be affected by short-term use and no long-term productivity would be lost. See Chapter 4, Section 4.13 for more details.

7.10 Land Use

Most of the proposed construction would occur within existing right-of-way. Constructing the proposed connections would use up to 26 acres of land outside of the existing right-of-way. Most of this land is currently vacant or located within transportation or utility corridors. Long-term impacts to existing land use patterns would be minimal. See Chapter 4, Section 4.5 for more details.

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