

Chapter 4

Mitigation

This chapter describes mitigation measures that, if imposed by the Board, would avoid, minimize, or compensate for environmental impacts of the Proposed Acquisition. The regulations implementing NEPA require that agencies consider mitigation that could reduce the environmental impacts of their actions, but NEPA does not mandate the form or adoption of any mitigation (40 C.F.R. § 1508.1(s)). In this case, the Applicants have voluntarily asked the Board to impose a number of mitigation measures, and OEA is ~~preliminarily~~ recommending additional mitigation measures based on the results of OEA's environmental analysis and public and agency consultation. If the Board decides to grant the Applicants' request for authority for CP to acquire KCS, the mitigation measures set out in this chapter could become conditions of the Board's decision.

4.1 Conditioning Power of the Board

The Board has the authority to impose conditions to mitigate environmental impacts, but that authority is not limitless. Any mitigation measure the Board imposes must relate directly to the transaction before the Board, must be reasonable, and must be supported by the record before the Board. OEA's consistent practice has been to recommend mitigation only for those impacts that would result directly from a proposed transaction. The Board does not require mitigation for pre-existing environmental conditions, such as the effects of existing rail operations. Other agencies are mentioned in OEA's ~~preliminary~~ final recommended mitigation because certain mitigation measures would require the Applicants to consult, apply for a permit from, or obtain approval from these agencies.

4.2 Voluntary Mitigation and Negotiated Agreements

OEA encourages applicants seeking Board authority to propose voluntary mitigation to address the potential environmental impacts of their proposals. In some situations, voluntary mitigation could replace, supplement, or extend further than mitigation measures the Board might otherwise impose. Applicants often have knowledge about issues associated with a proposed acquisition because of project planning and consultation with regulatory agencies during the planning process. As a result, applicants can volunteer mitigation that often is above and beyond or in addition to regulatory requirements. The Board's practice is to require compliance with any voluntary mitigation agreed to by applicants in any final decision authorizing the proposed transaction.

OEA also encourages applicants to negotiate mutually acceptable agreements with affected communities and other government entities. Negotiated agreements could be with neighborhoods, communities, counties, cities, regional coalitions, states, and other entities. ~~In this case, if the Applicants inform the Board that any such negotiated agreements have~~

~~been reached, the Board will require compliance with the terms of the agreements as environmental conditions in any final decision authorizing the Proposed Acquisition.~~

In this case, the Applicants have informed OEA that, to date, they have entered into agreements with the following communities:

- City of Davenport, Iowa
- City of Bettendorf, Iowa
- City of Muscatine, Iowa
- City of LeClaire, Iowa
- City of Clinton, Iowa
- City of Washington, Iowa
- City of Fruitland, Iowa
- Village of Hampshire, Illinois
- Village of Pingree Grove, Illinois
- City of Liberty, Missouri

OEA recommends that the Board impose a condition requiring the Applicants to comply with the terms of these agreements as environmental mitigation in any final decision authorizing the Proposed Acquisition. The Applicants also have submitted extensive voluntary mitigation. For example, voluntary mitigation measures submitted by the Applicants include commitments to install and fund ITS Interconnect for Advanced Warning Signs at strategic locations, Positive Train Control wireless technology tie-ins at crossings adjacent to Metra platforms and a predictive mobility system, interconnected with existing railroad crossing signals, that will deliver advanced notice of blocked crossings to citizens, police, fire, and rescue operations, and others for Chicago-area communities (VM--Community-03). The Applicants submitted these voluntary mitigation measures in a letter to OEA on November 8, 2022, and clarified the extent of their commitments in a subsequent letter dated January 12, 2023. OEA recommends that the Board impose conditions requiring compliance with both voluntary mitigation and the agreements negotiated with communities in any final decision authorizing the Proposed Acquisition.

4.3 ~~Preliminary Nature of~~ The Mitigation Process

OEA's ~~preliminary~~ final recommended mitigation measures are based on information available to date, consultation with appropriate agencies, and the environmental analysis presented in ~~this the~~ Draft Environmental Impact Statement (EIS). The Board could impose these ~~preliminary~~ final recommended mitigation measures in addition to the Applicants' voluntary mitigation measures. ~~OEA emphasizes that the identified mitigation measures are preliminary and invites public and agency comments on these proposed mitigation measures. For OEA to assess the comments effectively, it is critical that the public be specific regarding any desired mitigation and the reasons why the suggested mitigation would be appropriate.~~

OEA has made its final recommendations on mitigation to the Board in this Final EIS after having considered all agency and public comments on the Draft EIS. OEA has included all voluntary mitigation measures submitted by the Applicants during the EIS process in its recommendations to the Board. After the conclusion of the EIS process, the Board will make its final decision regarding the Proposed Acquisition and any conditions it might impose. In making its decision, the Board will consider ~~the~~ ~~this~~ Draft EIS, the Final EIS, all public and agency comments received, and OEA's final recommended mitigation.

4.4 Mitigation Measures

The following sections provide the Applicants' voluntary measures (VM) and OEA's [final](#) recommended ~~preliminary~~ mitigation measures (MM) for each affected resource. OEA has not edited the VMs to match the style of the ~~Draft~~ EIS with the exception of the numbering convention. Where mitigation measures from one resource area apply to another resource, the mitigation number is referenced but the text of the measure is not repeated.

The mitigation measures in the [Final](#) ~~Draft~~ EIS address all environmental issue areas analyzed except energy. OEA has concluded that the Proposed Acquisition would not have adverse impacts on energy and, therefore, does not recommend any ~~preliminary~~ mitigation measures for this resource area. OEA also does not address the No-Action Alternative in this chapter because the Board would not be taking an action and this alternative would result in no change in impacts from those already occurring in the existing environment.

4.5 General Mitigation Measures

4.5.1 Applicants' Voluntary Mitigation Measures

The Applicants voluntarily propose the following general mitigation measures. As used in the Applicants' voluntary mitigation measures, the term "potentially affected communities" means those jurisdictions through which the Applicants' right-of-way (ROW) passes and in which traffic increases resulting from the Proposed Acquisition would exceed the Board's environmental review thresholds. As used in the Applicants' voluntary mitigation measures, the term "capital improvements" refers to the 25 planned Capital Improvement Projects identified in the Applicants' application and discussed throughout this ~~Draft~~ EIS.

VM-General-01. The Applicants will continue to engage in good faith with potentially affected communities along the combined network, listen to their input related to the proposed merger and strive to reach negotiated agreements to address merger-related impacts.

VM-General-02. The Applicants will follow all applicable Federal Railroad Administration (FRA) and Occupational Safety and Health Administration construction and operational safety regulations to minimize the potential for incidents during construction of the Capital Improvement Projects and operation of the combined network.

4.5.2 OEA's ~~Final Preliminary~~ Recommended Mitigation

OEA ~~preliminarily~~ recommends the following additional general mitigation measures:

MM-General-01. If there is a material change in the facts or circumstances upon which the Board relied in imposing specific environmental mitigation conditions, and upon petition by any party who demonstrates such material change, the Board shall consider revising its final mitigation, if warranted and appropriate.

MM-General-02. The Applicants shall submit quarterly reports to OEA on the progress of, implementation of, and compliance with all Board-imposed environmental mitigation measures. The reporting period for these quarterly reports shall begin on the date of the Board's final decision authorizing the acquisition and continue for five years, or one year after the Applicants have completed capital improvements related to the acquisition, whichever is longer. The Applicants shall submit copies of the quarterly reports within 30 days following the end of each quarterly reporting period and distribute the reports to appropriate federal and state agencies, as specified by OEA.

MM-General-03. To minimize the potential for impacts on biological resources, water resources, hazardous materials release sites, and cultural resources, the Applicants shall, to the greatest extent possible, confine construction activities related to the planned capital improvements to the area within the existing ROW.

4.6 Freight and Passenger Rail Safety

4.6.1 Applicants' Voluntary Mitigation Measures

The Applicants voluntarily propose the following measures to mitigate impacts to rail operations safety:

VM-Rail-01. The Applicants will comply with FRA and Pipeline and Hazardous Materials Safety Administration regulations applicable to the safe and secure transportation of hazardous materials.

VM-Rail-02. The Applicants will comply with the Safety Integration Plan (SIP), prepared pursuant to 49 C.F.R. Part 1106, which may be modified and/or updated as necessary to respond to evolving conditions and/or new information. In the event of a reportable hazardous materials release, the Applicants will notify appropriate federal, state, and local agencies, as required under applicable law.

VM-Rail-03. The Applicants will conduct Transportation Community Awareness and Emergency Response Program (TRANSCAER) workshops (training for communities through which dangerous goods are transported) in potentially affected communities that request this training. The Applicants will conduct the workshops in English and, upon request, Spanish. Training will include support for appropriate access to the AskRail app and its use to facilitate rapid, real-time access for qualified responders to information about hazardous materials in rail transportation.

VM-Rail-04. The Applicants will offer to fund the participation in railroad focused emergency response training at the Association of American Railroads' Security and Emergency Response Training Center in Pueblo, Colorado, of two qualified firefighters providing service within each of the potentially affected communities.

VM-Rail-05. The Applicants will leverage CP's extensive emergency response equipment assets by reviewing coverage of those assets across CPKC. The Applicants will either redistribute existing assets or add new equipment assets to improve emergency response capabilities relating to the potentially affected communities on CPKC.

VM-Rail-06. The Applicants will abide by their commitments to Amtrak in their agreement dated December 17, 2021. In general, the Applicants will support the efforts of Amtrak and the Southern Rail Commission to establish Amtrak service between New Orleans and Baton Rouge, and study the potential for Amtrak service between Meridian, Mississippi and Dallas, Texas. Additionally, Applicants will work with Amtrak to increase the frequency on the Hiawatha service between Chicago and Milwaukee; extend Hiawatha service from Milwaukee to Saint Paul and create a second round-trip on the Twin Cities-Milwaukee-Chicago corridor; and establish passenger service through the Detroit River Tunnel, connecting Detroit to Windsor, Ontario in order to facilitate passage service between Detroit and Windsor connecting to VIA Rail.

4.6.2 OEA's ~~Preliminary~~ Final Recommended Mitigation

~~As discussed in Section 3.1, Freight and Passenger Rail Safety, OEA did not identify any adverse effects related to freight and passenger rail safety that would warrant mitigation. Therefore, OEA does not recommend additional mitigation at this time, beyond what is currently proposed by the Applicants.~~

OEA recommends the following additional mitigation measure to address freight and passenger rail safety impacts:

MM-Rail-01. The Applicants shall comply with the SIP prepared under 49 C.F.R. Part 1106 and 49 C.F.R. § 244.9, which may be updated as necessary, and shall continue to coordinate with FRA in implementing the SIP during the operations integration period. The ongoing safety integration process shall continue until FRA has informed the Board that the integration of Applicants' operations has been safely completed.

4.7 Grade Crossing Safety and Delay

4.7.1 Applicants' Voluntary Mitigation Measures

The Applicants voluntarily propose the following measures to mitigate impacts on safety and delay at roadway/rail at-grade crossings (grade crossings):

VM-Grade Crossing-01. Although the Applicants have not identified any grade crossings that would require mitigation based on precedent established in other approved mergers, the

Applicants will, upon request, work with potentially affected communities in support of securing funding, in conjunction with appropriate state agencies, for crossing mitigation projects where they may be appropriate under criteria established by relevant state transportation departments to increase the safety of existing at-grade crossings.

VM-Grade Crossing-02. ~~The Applicants will operate under U.S. Operating Rule No. 526 (Public Crossings), which provided that public crossings must not be blocked longer than 10 minutes unless it cannot be avoided and that, if possible, rail cars, engines, and rail equipment may not stand closer than 200 feet from a roadway/rail at grade crossing when there is an adjacent track.~~ The Applicants will operate under the General Code of Operating Rules rule numbers 6.32.6 (Blocked Public Crossings) and 6.32.4 (Clear of Crossings and Signal Circuits), which provide that, when practical, a standing train or switching movement must avoid blocking a public crossing longer than 10 minutes and, when practical, cars, engines and other equipment should not be left standing closer than 250 feet from a road crossing when there is an adjacent track.

VM-Grade Crossing-03. The Applicants will consult with potentially affected communities to improve visibility at roadway/rail at-grade crossing by clearing vegetation where practicable.

VM-Grade Crossing-04. Where practicable, the Applicants will investigate the potential to create alternative access for properties whose sole access will be blocked more than once per week by a train stationary longer than 10 minutes at a single location.

VM-Grade Crossing-05. For the construction of additional track through road crossings within the limits of the Capital Improvement Projects, where practicable, the Applicants will consult with local transportation officials regarding detours and associated signs, as appropriate, or attempt to maintain at least one open lane of traffic, as practicable, to allow the quick passage of emergency and other vehicles.

VM-Grade Crossing-06. The Applicants will notify Emergency Services Dispatching Centers for potentially affected communities of all crossings blocked by trains that are stopped and may be unable to move for a significant period of time.

4.7.2 OEA's **Preliminary Final** Recommended Mitigation

~~As discussed in Section 3.2, Grade Crossing Safety and Section 3.3, Grade Crossing Delay, OEA did not identify any substantial adverse effects related to grade crossing safety and delay. Therefore, OEA does not recommend additional mitigation at this time, beyond what is currently proposed by the Applicants.~~

OEA recommends the following additional mitigation measure to address impacts related to grade crossing safety and delay:

MM-Grade Crossing-01. The Applicants shall consult with appropriate state Departments of Transportation and other appropriate agencies, including the Illinois Commerce Commission for grade crossings in Illinois, prior to constructing, relocating, upgrading, or modifying grade crossings as part of the acquisition, including grade crossing warning

[devices, and shall abide by those agencies' reasonable requirements for the design of grade crossings and associated warning devices.](#)

4.8 Noise and Vibration

4.8.1 Applicants' Voluntary Mitigation Measures

The Applicants voluntarily propose the following measures to mitigate noise and vibration impacts:

VM-Noise-01. The Applicants will fund the improvements necessary to allow any potentially affected community with an existing Quiet Zone to maintain that designation should the increase in merger related train traffic cause that community to fall out of compliance with FRA regulations.

VM-Noise-02. While building the Capital Improvement Projects, the Applicants will work with their construction contractors to minimize, where practicable, construction-related noise disturbances between the hours of 2100 and 0700 local time.

VM-Noise-03. In the construction of the Capital Improvement Projects, the Applicants will, where practicable and consistent with safe and efficient operating practices, use continuously welded rail in order to reduce wheel/rail wayside noise.

4.8.2 OEA's ~~Preliminary~~ Final Recommended Mitigation

OEA recommends the following additional mitigation measures to reduce noise and vibration impacts:

MM-Noise-01. To minimize noise and vibration, the Applicants shall maintain rail and rail beds according to American Railway Engineering and Maintenance-of-Way Association standards.

MM-Noise-02. The Applicants shall comply with FRA regulations establishing decibel limits for train operations.

MM-Noise-03. The Applicants shall consider lubricating curves where doing so would both be consistent with safe and efficient operating practices and significantly reduce noise for residential or other noise sensitive receptors.

MM-Noise-04. The Applicants shall employ safe and efficient operating procedures that, in lieu of, or as complement to, other noise mitigation measures can have the collateral benefit of effectively reducing noise from train operations. Such procedures may include:

- Inspecting rail car wheels to maintain wheels in good working order and minimize the development of wheel flats;
- Inspecting new and existing rail for rough surfaces and, where appropriate, grinding these surfaces to provide a smooth rail surface during operations;
- Regularly maintaining locomotives and keeping mufflers in good working order; and

- Removing or consolidating switches that the Applicants determine are no longer needed.

MM-Noise-05. The Applicants shall promptly respond to community inquiries concerning the establishment of Quiet Zones and assist communities in identifying supplemental or alternative safety measures, practical operational methods, or technologies that may enable the community to establish Quiet Zones in accordance with FRA’s final rule on the “Use of Locomotive Horns at Highway-Rail Grade Crossings.”

4.9 Air Quality and Climate Change

4.9.1 Applicants’ Voluntary Mitigation Measures

The Applicants voluntarily propose the following measures to mitigate air quality and climate change impacts:

VM-Air-01. The Applicants commit to developing Green House Gas (GHG) reduction targets for the combined network and request verification as appropriate from the Science Based Targets initiative (SBTi). As reference, CP’s current SBTi approved target is a 38.3 percent reduction in well-to-wheels GHG emissions (on an intensity basis) from locomotive operations by 2030 compared to a 2019 base year. CP has also committed to committed to 27.5 percent GHG reduction (on an absolute basis) by 2030 compared to a 2019 base year for non-locomotive Scope 1 and Scope 2 emissions. KCS has a SBTi target to reduce Scope 1 and 2 GHG emissions by 42 percent by 2034.

VM-Air-02. The Applicants commit to undertaking a combined network in-depth climate scenario analysis aligned to Task Force on Climate-related Financial Disclosures (TCFD) recommendations to understand how a changing climate may impact CPKC. The Applicants further commit to improving the resiliency of the combined network to the physical risks of climate change through its capital program.

VM-Air-03. As part of the ongoing reconfiguration of Bensenville Yard (a non-merger related project being undertaken as part of the development of the Illinois Tollway’s Elgin O’Hare Western Access Project), the Applicants commit to undertake studies to identify ways to reduce the GHG emissions (and by extension, also reduce other air emissions) at Bensenville Yard.

VM-Air-04. The Applicants will comply with U.S. Environmental Protection Agency (EPA) emissions standards for diesel-electric railroad locomotives when purchasing and rebuilding locomotives.

VM-Air-05. The Applicants will develop an anti-idling policy for use in potentially affected communities on the combined network. The policy will capture both idling of construction equipment used on the Capital Improvement Projects as well as ongoing operations.

VM-Air-06. To minimize fugitive dust emissions created during the construction of the Capital Improvement Projects, the Applicants will implement appropriate fugitive dust suppression controls, such as spraying water or other approved measures.

VM-Air-07. The Applicants will work with the contractors selected to construct the Capital Improvement Projects to make sure that construction equipment is properly maintained and that mufflers and other required pollution-control devices are in working condition in order to limit construction-related air emissions.

VM-Air-08. Where vegetation clearing has taken place during the construction of the Capital Improvement Projects, the Applicants will begin revegetation as soon as practicable to minimize impacts of wind erosion and fugitive dust. Where immediate revegetation is not practicable, the Applicants will implement alternative stabilization measures such as matting, mulching, or hydroseeding.

4.9.2 OEA's ~~Preliminary~~ Final Recommended Mitigation

As discussed in *Section 3.7, Air Quality and Climate Change*, OEA did not identify any substantial adverse effects related to air quality and climate change that could be addressed by mitigation measures within the Board's authority to impose. Therefore, OEA does not recommend additional mitigation beyond what is currently proposed by the Applicants in their voluntary mitigation.

4.10 Cultural Resources

4.10.1 Applicants' Voluntary Mitigation Measures

The Section 106 process of the National Historic Preservation Act is complete. Therefore, voluntary mitigation measure VM-Cultural-01 previously proposed by the Applicants is unnecessary and OEA is not recommending that the Board impose the condition (see Section 3.9, Cultural Resources).

~~The Applicants voluntarily propose the following measures to mitigate impacts to cultural resources:~~

~~**VM-Cultural-01.** The Applicants will abide by the terms of any agreement negotiated pursuant to Section 106 of the National Historic Preservation Act and its implementing regulations that addresses the potential impact(s) of the Capital Improvement Projects on cultural resources.~~

4.10.2 OEA's ~~Preliminary~~ Final Recommended Mitigation

As discussed in *Section 3.9, Cultural Resources*, OEA concludes that the Proposed Acquisition would not adversely affect any historic properties listed in or eligible for listing in the National Register of Historic Places (National Register). OEA recommends the following additional mitigation measures to minimize impacts on cultural resources:

MM-Cultural-01. Prior to beginning any construction activities related to the 25 planned capital improvements, the Applicants shall prepare a construction monitoring plan that addresses the following:

- Training procedures to familiarize construction personnel with the identification and appropriate treatment of historic properties;
- Monitoring of construction activities by a qualified professional archaeologist;
- Provisions for monitoring and coordination for work within tribal reservation boundaries;
- Provisions for the unanticipated discovery of archaeological sites or associated artifacts during construction activities, including procedures for notifying OEA and the appropriate State Historic Preservation Officer (SHPO) or Tribal Historic Preservation Officer (THPO), pursuant to 36 C.F.R. § 800.13(b) in the event of an unanticipated discovery; and
- Provisions for complying with the Native American Graves Protection and Repatriation Act (25 U.S.C. § 3001-3013) and other applicable federal, state, and local laws and regulations in the event of [inadvertent discoveries of](#) an unanticipated discovery of unmarked human remains during construction activities.

The Applicants shall provide the construction monitoring plan to OEA [and appropriate THPOs](#) for review no later than 30 days prior to the start of any construction activities related to the 25 planned capital improvements and shall abide by the provisions of the plan, including any revisions by OEA [and appropriate THPOs](#), during construction activities.

[MM-Cultural-02. The Applicants shall abide by their commitments to design and engineer the 25 planned capital improvements to remain within existing rail ROW, to maintain the existing rail footprint in locations immediately adjacent to archaeological sites that OEA has identified as eligible for listing on the National Register, and to not perform any construction activities related to the 25 planned capital improvements within the boundaries of National Register-eligible archeological sites identified by OEA.](#)

4.11 Hazardous Material Release Sites

4.11.1 Applicants' Voluntary Mitigation Measures

The Applicants voluntarily propose the following measures to mitigate hazardous material release site impacts:

VM-Haz. Material Sites-01. The Applicants will require its construction contractor(s) to implement measures to protect workers' health and safety and the environment in the event that undocumented hazardous material are encountered during construction of the Capital Improvement Projects. The Applicants will document all activities associated with the previously undocumented contamination and will notify the appropriate state agencies according to applicable regulations. The Applicants will use disposal methods which comply with applicable solid and hazardous waste regulations.

VM-Haz. Material Sites-02. Prior to the start of construction for each Capital Improvement Project, the Applicants will develop a site-specific spill prevention, control and response plan. This plan will specify measures to prevent the release of petroleum

products or other hazardous materials during construction activities and contain such discharges if they occur.

VM-Haz. Material Sites-03. In the event of a spill over the applicable reportable quantity during the construction of a Capital Improvement Project, the Applicants will comply with its site-specific spill prevention, control and response plan and applicable federal and state regulations pertaining to spill containment, appropriate clean-up, and notifications.

VM-Haz. Material Sites-04. During the construction of the Capital Improvement Projects, the Applicants will ensure that gasoline, diesel fuel, oil, lubricants, and other petroleum products are handled and stored to reduce the risk of spills contaminating soils or surface waters. If a petroleum spill occurs as a result of construction, and exceeds specific quantities or enters a waterbody, the Applicants (or its agents) will be responsible for promptly cleaning up the spill and notifying responsible agencies in accordance with federal and state regulations.

VM-Haz. Material Sites-05. The Applicants will require contractors to dispose of waste generated on the Capital Improvement Projects in accordance with all applicable federal, state, and local regulations.

4.11.2 OEA's ~~Preliminary~~ Final Recommended Mitigation

OEA recommends the following additional mitigation measures to mitigate hazardous material release site impacts:

MM-Haz Material Sites-01. The Applicants shall notify EPA prior to undertaking any capital improvements related to the acquisition within the EPA Orongo-Duenweg Mining Belt Superfund site.

MM-Haz Material Sites-02. The Applicants shall notify the Iowa Department of Natural Resources prior to undertaking any capital improvements related to the acquisition that could affect the Archer Daniels Midland Corn Processing Facility Industrial Waste Landfill near the Camanche, Iowa site.

MM-Haz Material Sites-04. The Applicants shall use established standards for recycling or reuse of construction materials, such as ballast and rail ties, during the construction of capital improvements related to the acquisition. When recycling construction materials is not a viable operation, the Applicants shall use disposal methods that comply with applicable solid and hazardous waste regulations.

MM-Haz Material Sites-05. For capital improvements related to the acquisition, the Applicants shall follow American Society of Testing and Materials E1527-05, Standard Practice for Environmental Site Assessments: Phase 1 Environmental Site Assessment Process in areas where potential contamination could be encountered. If the Applicants encounter contamination (or signs of potential contamination) during these activities, Applicants shall perform a Phase 2 environmental investigation. Should findings of a Phase 2 environmental investigation identify contamination in soil and/or groundwater, the Applicants shall coordinate with relevant state agencies on regulatory obligations and

comply with those agencies' reasonable requirements for avoiding impacts related to soil and/or groundwater contamination.

4.12 Biological Resources

4.12.1 Applicants' Voluntary Mitigation Measures

The Applicants voluntarily propose the following measures to mitigate impacts to biological resources:

VM-Biological-01. In alignment with CP's Environmental Policy, the Applicants commit to implementing methods to promote No Net Loss of sensitive habitats (e.g., aquatic areas, wetlands, riparian areas, native prairie, old growth forest) when constructing the Capital Improvement Projects.

VM-Biological-02. Where practicable, the Applicants will clear vegetation in preparation for the Capital Improvement Projects before or after the breeding bird nesting season, specific to each project location, to avoid inadvertent removal of active nests (nesting adults, young, or eggs) and to ensure compliance with the Migratory Bird Treaty Act. If clearing is required during a respective location's nesting season, the Applicants will consult with OEA and the local office of the U.S. Fish and Wildlife Service (USFWS) on appropriate nest survey methods for that area.

VM-Biological-03. The Applicants will not conduct construction related tree removal for the Capital Improvement Projects during the active season for the Indiana bat and the northern long-eared bat (April 1 to October 31).

VM-Biological-04. During the construction of the Capital Improvement Projects, the Applicants will take steps to reduce the unnecessary removal of bat habitat outside of active bat season by limiting tree removal to only the areas necessary to safely construct and operate the new siding or second track, marking the limits of tree clearing through the use of flagging or fencing, and ensuring that construction contractors understand clearing limits and how they are marked in the field.

VM-Biological-05. If construction of the Capital Improvement Projects would require removal or alteration of bridges, culverts, or other structures that provide suitable habitat for the northern long-eared bat or the Indiana bat during the active season for those species (April 1 to October 31), the Applicants will first conduct an inspection for the presence of, or evidence of use by, bats. The inspection will be completed by a qualified biologist. If the inspection finds bats or evidence of bats, then the Applicants will not commence work on the structure until coordinating with OEA and USFWS to determine appropriate follow-up or mitigative actions. The inspection must be completed during the same year that the work takes place.

VM-Biological-06. Where practicable, the Applicants will conduct any culvert or bridge removal as part of the Capital Improvement Projects outside of the roosting period of bat species, specific to each project location. Where practicable, if bridge or culvert removal is required during the bat roosting period where the individual Capital Improvement Project is

located, the Applicants will consult with OEA and the local USFWS office on appropriate methods to determine if bats are using the bridge or culvert as a roost.

VM-Biological-07. During construction of the Capital Improvement Projects, the Applicants will direct any temporary lighting away from suitable habitat for the northern long-eared bat or the Indiana bat during the active season for those species (April 1 to October 31). The Applicants will use downward-facing, full cut-off lens lights for any temporary lighting used during the construction of the Capital Improvement Projects.

VM-Biological-08. If the Capital Improvement Projects would involve installing any new, or replacing any existing, permanent lights, the Applicants will use downward-facing, full cut-off lens lights (with the same intensity of less for replacement lighting).

VM-Biological-09. During construction of the Capital Improvement Projects, temporary barricades, fencing, and/or flagging will be used in sensitive habitats to contain construction related impacts to the area within the construction ROW. To the extent possible, staging areas will be located in previously disturbed sites and not in sensitive habitat areas.

VM-Biological-10. The Applicants will limit ground disturbance to only the areas necessary for the construction of the Capital Improvement Projects.

VM-Biological-11. The Applicants will use construction methods and seed mixes that minimize introduction and spread of noxious weeds on the Capital Improvement Projects. Noxious weed control will include combinations of mechanical and herbicide spray methods.

VM-Biological-12. The Applicants will ensure that any herbicides used in ROW maintenance to control vegetation are approved by EPA and are applied by licensed individuals who will limit application to the extent necessary for safe rail operations. Herbicides will be applied so as to prevent or minimize drift off of the ROW onto adjacent areas.

VM-Biological-13. As applicable to each of the individual Capital Improvement Projects, the Applicants will protect bald and golden eagles by adhering to the Bald and Golden Eagle Protection Act. In addition, the Applicants will follow the USFWS National Bald Eagle Management Guidelines, as applicable.

4.12.2 OEA's ~~Preliminary~~ Final Recommended Mitigation

OEA recommends the following additional mitigation measures to mitigate impacts to biological resources:

MM-Biological-01. For capital improvements related to the acquisition, the Applicants shall not knowingly include any federally- or state-listed invasive weed species in seed mixes for revegetating disturbed areas within the rail ROW.

MM-Biological-02. During final design and engineering of capital improvement projects related to the acquisition, the Applicants shall reexamine the USFWS list of threatened or endangered species. If the list has changed to include newly listed species or newly designated critical habitat, or if new information reveals that listed species or critical habitat

could be affected by the capital improvements, the Applicants shall consult with OEA and USFWS regarding avoidance, minimization, and mitigation measures and shall implement the measures developed in consultation with OEA and USFWS.

MM-Biological-03. The Applicants shall apply the mitigation measures identified in VM-Biological-03, VM-Biological-04, VM-Biological-05, VM-Biological-06 and VM-Biological-07 to any planned capital improvements potentially affecting the habitat of the Tricolored bat, which USFWS has proposed for listing as Endangered.

MM-Biological-04. The Applicants shall implement Special Protective Measures and karst Best Management Practices if the construction of the planned capital improvements occurs in areas with karst features in Benton County, Arkansas and McDonald County, Missouri, to avoid potentially affecting the endangered Benton County Cave Crayfish, Hell Creek Cave Crayfish, and Ozark Cavefish.

4.13 Water Resources

4.13.1 Applicants' Voluntary Mitigation Measures

The Applicants voluntarily propose the following measures to mitigate impacts to water resources:

VM-Water-01. The Applicants commit to remaining compliant with 33 C.F.R. Part 117 Drawbridge Operation Regulations.

VM-Water-02. As applicable for each of the Capital Improvement Projects, the Applicants will request Clean Water Act Water Quality Certification from the jurisdiction where the respective project is located.

VM-Water-03. As applicable for each of the individual Capital Improvement Projects, the Applicants will obtain an authorization from the U.S. Army Corps of Engineers (USACE) under Section 404 of the Clean Water Act before initiating project-related construction activities in jurisdictional waters of the U.S.

VM-Water-04. As applicable to each of the individual Capital Improvement Projects, the Applicants will require its construction contractor(s) to follow all water quality control conditions identified in all permits including the Water Quality Certification from the respective jurisdiction and Section 404 Permits issued by USACE.

VM-Water-05. Prior to initiating construction at a Capital Improvement Project location, the Applicants will develop a site-specific Stormwater Pollution Prevention Plan which will incorporate Best Management Practices as well as site specific measures to control erosion and reduce the amount of sediment and pollutants entering surface waters, ground waters, and waters of the U.S.

VM-Water-06. For Capital Improvement Project locations which will involve construction activities in proximity to surface water, prior to the start of construction the Applicants will develop a site-specific water quality monitoring plan and implement this monitoring plan throughout construction.

VM-Water-07. The Applicants will minimize impacts to wetlands where practicable in the final design of the individual Capital Improvement Projects. Applicants agree to compensate for the loss of any wetlands through any one, or a combination of: purchasing credits from an authorized wetland mitigation bank, restoring a previously existing wetland or other aquatic site, enhancing an existing aquatic site's function, preserving an existing aquatic site, and/or creating a new aquatic site.

VM-Water-08. The Applicants will design all Capital Improvement Project drainage crossing structures to pass a 100-year storm event.

VM-Water-09. The Applicants will consider the passage of aquatic organisms in the design of culverts and bridges required for the Capital Improvement Projects, where practicable.

VM-Water-10. As applicable to each of the individual Capital Improvement Projects, the Applicants will comply with applicable in-water work windows and timing restrictions for the protection of fish species.

VM-Water-11. During the construction of Capital Improvement Projects, the Applicants will require all contractors to conduct daily inspections of all equipment for any fuel, lube oil, hydraulic or antifreeze leaks. If leaks are found, the Applicants will require the contractor to immediately remove the equipment from service and repair or replace it.

VM-Water-12. During the construction of the Capital Improvement Projects, the Applicants will prohibit construction vehicles from driving in or crossing streams at other than established crossing points.

VM-Water-13. During the construction of the Capital Improvement Projects, the Applicants will take reasonable steps to ensure contractors use fill material appropriate for the project area.

4.13.2 OEA's ~~Preliminary~~ Final Recommended Mitigation

OEA recommends the following additional mitigation measures to mitigate impacts to water resources:

MM-Water-01. During the final engineering and design of the 25 capital improvements, the Applicants shall design culverts and bridges so as to maintain existing surface water drainage patterns to the extent practicable and not cause or exacerbate flooding.

MM-Water-02. The Applicants shall coordinate with the Federal Emergency Management Agency if construction of bridges, culverts, or embankments related to the 25 planned capital improvements would result in an unavoidable increase greater than 1 foot to the 100-year water surface elevations.

MM-Water-03. The Applicants shall obtain and comply with National Pollutant Discharge Elimination System (NPDES) permits for storm water discharges resulting from project-related construction activities at each of the capital improvements that meet the requirements for a NPDES.

4.14 Environmental Justice

4.14.1 Applicants' Voluntary Mitigation Measures

The Applicants voluntarily propose the following measures to mitigate impacts to Environmental Justice (EJ) communities:

VM-EJ-01. The Applicants will use CP's experience building relationships with First Nations in Canada to engage with federally recognized Indian tribes in the U.S.

VM-EJ-02. The Applicants will make Operation Lifesaver programs available to potentially affected communities, including schools and other organizations (Operation Lifesaver is a non-profit education and awareness program that helps increase the public's awareness of the dangers around rail lines).

VM-EJ-03. For the construction contracts for the Capital Improvement Projects, the Applicants commit to allocate a minimum of 15 percent of contractor bid evaluation weighting to the inclusion of minority and tribal owned businesses and employees on the proposed project team.

4.14.2 OEA's ~~Preliminary~~ Final Recommended Mitigation

OEA recommends the following additional mitigation measure to mitigate EJ impacts:

MM-EJ-01. The Applicants shall conduct proactive and targeted outreach to minority and low-income communities that would experience adverse noise impacts as a result of the acquisition to provide information about the process for establishing Quiet Zones. The Applicants shall assist interested communities in identifying supplemental or alternative safety measures, practical operational methods, or technologies that may enable the community to establish Quiet Zones in accordance with FRA's final rule on the "Use of Locomotive Horns at Highway-Rail Grade Crossings."

4.15 Community Agreements and Coordination

4.15.1 Applicants' Voluntary Mitigation Measures

VM-Community-01. The Applicants commit that the new CPKC will meet regularly with community representatives in the Houston area. If those communities experience merger-related impacts, CPKC will work with them on ways to address their concerns. CPKC will also participate alongside other railroads serving Houston—notwithstanding that it will own no track there—to work cooperatively with communities to address the impacts of rail operations in the region.

VM-Community-02. The Applicants will provide community leaders in Houston with ways to report issues. CP has a "Community Connect" webpage that provides contact information, answers frequently asked questions, and offers other resources that will remain active for the new CPKC system. CP also has a Public Safety Communication Centre that

operates 24 hours a day, 365 days a year with trained communication officers who can be reached toll-free at 1-800-716-9132. Calls into that Centre, which includes the Community Connect line and CP's emergency lines, are tracked using sophisticated Computer Aided Dispatch (CAD) software. The communication officers in this Centre are trained to handle a range of issues, from a blocked crossing to a trespasser, and they regularly coordinate the involvement of other railroads as required for any specific incident.

VM-Community-03. The Applicants will work with certain Chicago area communities with which they have not been able to reach agreements—DuPage County, the Village of Bartlett, the Village of Bensenville, the City of Elgin, the Village of Itasca, the Village of Hanover Park, the Village of Roselle, the City of Wood Dale, and the Village of Schaumburg—to mitigate potential acquisition-related environmental impacts. Specifically, they will work with them to accomplish:

- Subject to necessary FRA approvals and practicability, funding efforts towards the creation and implementation of quiet zones, including the costs of installation.
- Installing and funding a predictive mobility system, interconnected with existing railroad crossing signals, that will deliver advanced notice of blocked crossings to citizens, police, fire, and rescue operations, and others.
- Installing and funding ITS Interconnect for Advanced Warning Signs at strategic locations to give drivers information about occupied crossings, allowing them to make better on-the-spot decisions.
- Installing and funding Positive Train Control wireless technology tie-ins at crossings adjacent to Metra platforms, which will minimize the activation of crossing lights and gates.

With respect to the work described above, the Applicants anticipate that the Applicants or their subcontractors will perform the work. In the case of instances where work may be performed by others, the Applicants would reimburse reasonable and customary charges for such work. Because Metra owns the trackage that CP uses in these communities, Metra would have to approve the implementation of this mitigation measure. The Applicants would work with Metra, the communities, and any other relevant agencies to seek approval for this mitigation measure.

4.15.2 OEA's Final Recommended Mitigation

MM-Community-01. The Applicants shall comply with the terms of the agreements reached between the Applicants and the City of Davenport, Iowa; the City of Bettendorf, Iowa; the City of Muscatine, Iowa; the City of LeClaire, Iowa; the City of Clinton, Iowa; the City of Washington, Iowa; the City of Fruitland, Iowa; the Village of Hampshire, Illinois; the Village of Pingree Grove, Illinois; and the City of Liberty, Missouri.

MM-Community-02. If Applicants reach additional agreements with communities or other entities following publication of this Final EIS, the Applicants shall notify the Board, and the Board will impose a condition that requires the Applicants to comply with the terms of the agreement.

MM-Community-03. To facilitate compliance with VM-Community-01 and VM-Community-02, the Applicants shall establish a Community Liaison to consult with Houston area community leaders. The Community Liaison shall be available for public meetings and to conduct periodic outreach to mayors and appropriate local officials. The Applicants shall establish and staff the Community Liaison position for a period of five years following the Board’s final decision authorizing the acquisition. The Applicants shall provide the name, telephone number, and email address of the Community Liaison to the Houston mayor and Harris County officials.

MM-Community-04. To facilitate compliance with VM-Community-03, the Applicants shall establish a Community Liaison to consult with leaders of Chicago area communities referenced in that mitigation measure (the Village of Itasca, the Village of Bensenville, the City of Wood Dale, the Village of Roselle, the Village of Schaumburg, the Village of Hanover Park, the Village of Bartlett, the City of Elgin, and DuPage County). The Community Liaison shall be available for public meetings and to conduct periodic outreach to mayors and appropriate local officials. The Applicants shall establish and staff the Community Liaison position for a period of five years following the approval of the acquisition. The Applicants shall provide the name, telephone number, and email address of the Community Liaison to mayors and other appropriate local officials in each community listed above.