

ADDENDUM TO GREENBRIAR DEVELOPMENT PROJECT ENVIRONMENTAL IMPACT REPORT
(SCH #2005062144)

On June 28, 2018, the Greenbriar Development Project applicant submitted an application for Greenbriar Phase 2 entitlements (P18-050). Tier 1 entitlements (e.g., General Plan amendment) for the Greenbriar Development Project were approved by the City on January 29, 2008 (P05-069), along with certification of the Greenbriar Development Project Final Environmental Impact Report (EIR) (SCH # 2005062144). Subsequent Tier 2 entitlements, including a Tentative Subdivision Map, were approved on May 30, 2017 (P11-093), concurrently with an Addendum to the Greenbriar Development Project Final EIR (2017 Addendum). The City approved a Minor Tentative Map Amendment (Z18-059) on June 28, 2018, concurrently with a second Addendum to the Final EIR (2018 Addendum). This third Addendum to the 2008 Final EIR evaluates the Phase 2 entitlements the applicant currently seeks.

The City of Sacramento, Community Development Department, has reviewed the proposed Phase 2 entitlement application and, on the basis of the whole record before it including a February 26, 2019 supplemental air quality analysis prepared by Ascent Environmental (Ascent Analysis) (Attachment A) and a January 31, 2019 supplemental noise analysis prepared by Bollard Acoustical Consultants (BAC Analysis) (Attachment B), has determined that there is no substantial evidence that the Phase 2 entitlement application would have a significant effect on the environment beyond that which was evaluated in the Greenbriar EIR. The Phase 2 map application requires only minor technical changes that do not warrant preparation of a subsequent EIR.

This Addendum to the certified EIR has been prepared pursuant to Title 14, Section 15164 of the California Code of Regulations; and the Sacramento Local Environmental Regulations (Resolution 91-892) adopted by the City of Sacramento. A copy of this document, the certified EIR and all supporting documentation may be reviewed on the Community Development Department environmental document website at www.cityofsacramento.org/Community-Development/Planning/Environmental/Impact-Reports

and at the City of Sacramento, Community Development Department, Planning Division, 300 Richards Boulevard, Sacramento, California 95811.

Date: April 15, 2019

By: _____


Tom Buford, Manager
Environmental Planning Services

Project Location: The portion of the Greenbriar project to be developed encompasses approximately 577 acres located northwest of the intersection of Interstate 5 (I-5) and State Route 70/99 (SR 70/99) in the North Natomas area of the City of Sacramento. The project site is bordered by agricultural and rural residential land uses to the west and north, I-5 and agricultural lands to the south, and SR 70/99 and a new residential community currently under development within North Natomas to the east and south. Regional access to the project site is provided from SR 70/99 and I-5. Local access to the project site is provided by Elkhorn Boulevard.

Existing Plan Designation and Zoning: The 2035 General Plan designations for the Project site are Suburban Neighborhood Low Density (SNLD), Suburban Neighborhood Medium Density (SNMD), Suburban Neighborhood High Density (SNHD), Urban Neighborhood Low Density (UNLD), Parks and Recreation (PR), Waterways (W), Suburban Center (SC), and Regional Commercial Center (RCC). The zoning designations for the site are Single-Unit Dwelling (R-1-PUD), Single-Unit or Duplex Dwelling (R-1A-PUD), Multi-Unit Dwelling (R-2B-PUD), Multi-Unit Dwelling (R-3-PUD), Multi-Unit Dwelling (R-3A-PUD), Shopping Center (SC-PUD), Limited Commercial (C-1-PUD), and Agricultural-Open Space (A-OS-PUD).

Project Background: The Greenbriar Development Project was approved by the City Council in January 2008. In May 2017, the City approved modifications to the previously approved project, along with next stage entitlements, including a Development Agreement, Tentative Master Parcel Map, Tentative Subdivision Map for Phase 1 (north of the future location of Meister Way), Tentative Map Design Deviations, and Site Plan and Design Review with deviations for the proposed tentative maps.

The Project as modified includes mixed-use residential and commercial development centered on a common lake/detention basin, as well as a conservation strategy for preservation of habitat and benefits to special-status wildlife in the Natomas Basin. In addition to the project's conservation goals, the purpose of the project is to create a mixed-use neighborhood through the development of retail and commercial uses, multifamily attached homes, and high-density single-family detached homes. The project promotes the use of public transportation by incorporating a light rail station at the core of development along the planned Downtown-Natomas-Airport line, which would bisect the project site from east to west along the planned extension of Meister Way. In June, 2018, the City approved a minor modification to the approved Phase 1 Tentative Map to remove the alley-loaded villages on the north side of Meister Way and re-align various lot lines to ensure the same housing product type will face both sides of most streets in Phase 1.

Project Subject to Addendum: The application currently before the City is for a General Plan Amendment, Rezone, PUD Schematic Plan Amendment, Tentative Master Parcel Map, and Tentative Subdivision Map for Greenbriar Phase 2. While the land use plan for Phase 2 is similar to the previously approved PUD, three small-lot residential sizes (50'x80', 50'x85' and 55'x85') have been introduced replacing alley-loaded villages and townhomes. The elementary

school site has been enlarged with a corresponding decrease in the adjacent neighborhood park site. All collector roads and traffic signals remain in the same locations as previously approved and the project continues to satisfy its Quimby (park) obligations thru a combination of direct parkland dedication and an anticipated future request for partial parkland dedication credits.

The ZA-approved Phase 1 unit count is 1,138 single-family and 225 multi-family, for a total of 1,363 Phase 1 dwelling units. The Phase 2 unit count proposed with the pending entitlement application is 1,038 single-dwelling units and 352 multi-dwelling units, for a Phase 2 total of 1,390 dwelling units. In a letter dated February 7, 2019, the Sacramento Housing and Redevelopment Agency concluded that these changes to the development plan did not require any changes to the Mixed Income Housing Strategy adopted on May 30, 2017.

A General Plan Amendment and Rezone are required to increase the density on Lot A, which was originally allocated 162 dwelling units, at 30 dwelling units per acre (DU/AC) on the approved PUD. With the current application, the Lot A density is increased to 40 DU/AC (208 DU on 5.2 net acres). Requests for a General Plan Amendment from UNLD (13-36/FAR: 0.5 - 1.5) to UNMD (33-100/FAR: 1.5 - 4.0) and a Rezone from R-3 to R-4A are included with the current application. A PUD Schematic Amendment is also included to revise the PUD Schematic Diagram, consistent with the Phase 1 and 2 revisions described above. The PUD Design Guidelines document would be updated to include the 3 additional lot sizes proposed in Phase 2.

SMUD Distribution Substation

This Addendum includes an analysis of the Sacramento Municipal Utilities District (SMUD) distribution substation that is proposed on the parcel designated as Lot I SMUD Substation on the approved Phase 1 Minor Tentative Map Amendment in the area of the project site north of the proposed Meister Way and west of Highway 99. The distribution substation would provide a reliable source of electricity to meet the electrical demand of residential and commercial development within the Greenbriar project.

At the time the 2008 EIR was prepared, the applicant was working with SMUD to identify feasible alternative locations both on-site and adjacent to the project site for a new substation. The 2008 EIR assumed that the substation would be located on-site, but provided that additional environmental review would be conducted once a final location was selected. (2008 EIR, p. 6.4-4.) The final location has now been selected (Lot I) and it is in substantially the same location considered in the 2008 EIR, north of the proposed Meister Way and west of Highway 99. This Addendum provides additional discussion of impacts specific to construction and operation of the substation, which are substantially the same as those impacts considered in the 2008 EIR as part of the overall project impacts with location of a substation on site.

The substation footprint will be approximately one acre in size and will be energized by connecting to 69,000 volts (69 kV) subtransmission lines that are supplied by existing SMUD bulk substations. Construction and installation of a subtransmission line would entail constructing a single circuit 69 kV line. Two spans of overhead 69 kV would be extended from the proposed overhead 69 kV east of the project area. The 69 kV will connect to the substation from the overhead lines. Approximately 10 steel poles that are approximately 75 feet tall would be installed in the ground in holes that are about 11 feet deep. The 69 kV line would energize the new distribution substation that would distribute voltage to surrounding 12 kV lines. Construction of the distribution substation would occur over a 1-year period.

The distribution substation would also house capacitor banks, station battery banks, metal-clad switchgears, underground grounding grids, and switch poles. Two associated transformers would contain approximately 7,000 gallons each of insulating oil, and a secondary containment system would be constructed around each transformer to collect and hold any oil leaks. The proposed preliminary site plan for the distribution substation is shown in Attachment C.

The distribution substation control system would have a battery backup. The sealed battery units would contain diluted sulfuric acid. The distribution substation site would have a gravel surface and electrical equipment would be installed on concrete foundations. The distribution substation equipment would be either a dull green, white, or light gray finish. Transformer equipment would extend to approximately 16 feet above finished grade and would have a minimum internal setback of approximately 50 feet from the substation property line.

Outside lighting would not be installed at the proposed distribution substation. The distribution substation would be enclosed by a perimeter concrete masonry block wall with a 10-foot minimum height above exterior grade per SMUD's substation security standards. The masonry block wall type will be compatible with the nearby residential soundwall. Access to the distribution substation would be provided by a 25-foot-wide driveway off Street 45, located north of the substation. Access from the driveway to the distribution substation would be through a 20-30-foot-wide chain link entry gate on the east side of the proposed site. Signage (e.g., "No Trespassing") would be placed along the perimeter wall or fence.

DISCUSSION

Pursuant to CEQA Guidelines section 15164, subdivision (a), a lead agency shall prepare an addendum to a previously certified EIR if some changes or additions are necessary, but none of the conditions identified in CEQA Guidelines Section 15162 calling for preparation of a subsequent EIR has occurred. An addendum need not be circulated for public review. (CEQA Guidelines, section 15164, subd. (c).) The following reviews the standards set forth in CEQA Guidelines section 15162 as they relate to the project:

1. **No substantial changes are proposed in the project which would require major revisions of the EIR due to the involvement of new significant environmental effects or a substantial increase in the severity of previously identified significant effects.**
2. **No substantial changes have occurred with respect to circumstances under which the project was undertaken that would require major revisions of the EIR due to the involvement of new significant environmental effects or a substantial increase in the severity of previously identified significant effects.**
3. **No new information of substantial importance, which was not known and could not have been known with the exercise of reasonable diligence at the time the EIR was certified as complete, shows any of the following:**
 - a. **The project will have one or more significant effects not discussed in the EIR.**
 - b. **Significant effects previously examined will be substantially more severe than shown in the EIR.**
 - c. **Mitigation measures or alternatives previously found not to be feasible would in fact be feasible and would substantially reduce one or more significant effects of the project, but the project proponents decline to adopt the mitigation measure or alternative.**
 - d. **Mitigation measures or alternatives which are considerably different from those analyzed in the EIR would substantially reduce one or more significant effects on the environment, but the project proponents decline to adopt the mitigation measures or alternative.**

Section 15162 provides that the lead agency's role in the project approval is completed upon certification of the EIR and approval of the project, unless further discretionary action is required.

ANALYSIS:

Aesthetics

Aesthetics is addressed in Section 6.7 of the Draft EIR. No substantial changes to the existing setting have occurred since certification of the EIR. The project site remains undeveloped. Adjacent areas east of State Route 70/99 and south of Interstate 5 have continued to develop with residential uses since 2008, while adjacent areas to the north and west of the site remain undeveloped.

The analysis in the Draft EIR under Impact 6.7-3 notes that the visual character of the Natomas Basin has been gradually changing from agricultural to suburban development, and because the project would convert a large area of land from visual open space to suburban development, the project would result in a significant impact to the visual character of the area. The Draft EIR concludes that, due to the scale and nature of the project, there is no feasible mitigation available to avoid conversion of the local viewshed from agricultural to suburban development, and therefore the impact is considered significant and unavoidable. The conclusions of the 2008 EIR regarding impacts of the proposed project due to degradation of the existing visual character or quality of the site and its surroundings remain valid and are unchanged, and there are no new circumstances that would result in substantially more severe impacts or new information that would require additional analysis with respect to degradation of visual character of the site and its surroundings.

The analysis in the Draft EIR also notes that lighting and reflective surfaces associated with the project could inadvertently cause light and glare for motorists on I-5 and SR 70/99 under day and nighttime conditions, and that the degree of nighttime darkness in the City of Sacramento would diminish, resulting in a significant impact. However, with implementation of Mitigation Measure 6.7-4, the impact would be reduced to less than significant. Mitigation Measure 6.7-4 would continue to remain applicable if the proposed Phase 2 entitlements are approved. The conclusions of the 2008 EIR regarding impacts of the proposed project due to light and glare remain valid and are unchanged, and there are no new circumstances that would result in substantially more severe impacts or new information that would require additional analysis with respect to degradation of visual character of the site and its surroundings.

SMUD Substation

The site plan analyzed in the 2008 Draft EIR included development of the SMUD substation in the same general area as currently proposed, and thus the aesthetic impacts associated with its development were considered as part of the overall project analyzed in the 2008 EIR. Substation construction would temporarily disrupt the existing visual environment as materials would be staged and workers would be present on-site during the construction phase which would be approximately one year. However, these changes in the existing visual environment would be temporary, and consistent with the overall change to existing visual context in the urbanizing area. The substation would not include any exterior lighting, and thus no impacts related to nighttime lighting would occur. No change to the conclusions of the 2008 EIR regarding aesthetic impacts is required, and there are no new circumstances that would result in substantially more severe impacts or new information that would require additional analysis with respect to aesthetic impacts as a result of development of the SMUD substation.

Conclusion

No new circumstances have occurred nor has any substantially important new information been found with respect to aesthetics and visual resources requiring new analysis or verification. Therefore, the conclusions of the 2008 EIR remain valid and approval of the

proposed project would not result in new or substantially more severe significant impacts related to aesthetics or visual resources.

Agriculture

Agriculture is addressed in Section 6.11 of the Draft EIR. No substantial changes to the existing setting have occurred since certification of the EIR. The project site remains undeveloped and is in a fallow agricultural condition. Adjacent areas east of SR 70/99 and south of I-5 have continued to develop with residential uses, while adjacent areas to the north of the site remain undeveloped and are consistent with agricultural properties in the Natomas Basin that may be left fallowed, used for grazing activities, or cultivated with crops.

As described in the Draft EIR on p. 6.11-7, the project would result in the conversion of approximately 518 acres of Important Farmland to non-agricultural uses. The Draft EIR concludes that this impact would remain significant and unavoidable even after implementation of Mitigation Measure 6.11-1 and 6.6-2. Mitigation Measure 6.11-1 refers to implementation of Mitigation Measure 6.6-2, which calls for the project applicant to “coordinate with the City to identify appropriate lands to be set aside in permanent conservation easement at a ratio of one open space acre converted to urban land uses to one-half open space acre preserved and at a ratio of one habitat acre converted to urban land uses to one-half habitat acre preserved” in a manner consistent with the principles of the City/County Natomas Joint Vision Plan.

Mitigation Measure 6.6-2 was revised in 2017 as part of Phase 1 entitlements to reflect the fact that the County rescinded the 2008 Open Space Agreement/Memorandum of Understanding to allow Greenbriar to conserve open space and habitat land outside of Sacramento County. (Resolution No. 2015-0784.) The 2017 Addendum concluded that the North Nestor Reserve, located near the Sacramento County line in Sutter County, along with the other off-site reserves within Sacramento County, provide equivalent benefits associated with preservation of agricultural land in the Natomas Basin, as contemplated in the 2008 EIR, because all reserve lands would still be located within the Natomas Basin. There are no new circumstances resulting in new impacts or new information requiring additional analysis related to important farmlands. The conclusions regarding impacts to important farmland contained in the 2008 EIR and 2017 Addendum remain valid and no additional analysis is required.

The Draft EIR analysis on page 6.11-8 identifies potential conflicts with adjacent agricultural operations north of the project site as a significant impact. Mitigation Measure 6.11-3 requires the project applicant to notify all prospective residents and tenants within 500 feet of existing agricultural uses north of Elkhorn Boulevard with respect to the agricultural operations and potential conflicts that could occur. The DEIR concludes that even with implementation of this mitigation measure, the impact would remain significant and unavoidable. There are no changed circumstances resulting in new or substantially more severe impacts or new information requiring additional analysis related to agricultural buffers. The conclusions

regarding impacts to agricultural preserves contained in the 2008 EIR remain valid and no further analysis is required.

Mitigation Measures 6.11-1 (as amended in the 2017 Addendum) and 6.11-3 would continue to remain applicable if the proposed project were adopted.

Conclusion

No new circumstances have occurred nor has any substantially important new information been found with respect to agriculture and forestry resources requiring new analysis or verification. Therefore, the conclusions of the 2008 EIR and 2017 Addendum remain valid and approval of the proposed project would not result in new or substantially more severe significant impacts to agriculture and forestry resources.

Air Quality

The 2006 Recirculated Draft EIR (RDEIR) analyzed air quality impacts of construction and operation of the proposed project. Changes in the regulatory setting since the prior environmental review was conducted would not result in new or increased severity of impacts, because the project site and proposed land uses would be essentially the same as those which were previously analyzed. The 2006 RDEIR provided air quality monitoring data from 2003-2005 for multiple monitoring locations near the plan area. The 2017 Addendum concluded that then-current air quality conditions in the plan area were similar to those at the time of the 2006 RDEIR, but provided updated monitoring and attainment designations (2017 Addendum, Table AQ-1, Table AQ-2.)

The proposed project would result in emissions of criteria air pollutants and precursors during construction and operation. Short-term construction emissions are evaluated in the RDEIR under Impact 6.2-1. Construction-generated emissions of NO_x and PM₁₀ and ozone would result in significant impacts. Mitigation Measure 6.2-1 identifies several requirements that would result in a 20 percent reduction in NO_x and a 45 percent reduction in visible emissions from heavy duty diesel equipment, and reduction of fugitive dust emissions by up to 75 percent. However, daily construction emissions would still exceed the SMAQMD's significance criteria, even after application of all feasible measures, and the impact is considered significant and unavoidable.

Long-term operational emissions of ROG, NO_x, and PM₁₀ are evaluated under Impact 6.2-2 in the RDEIR. Operational emissions would exceed SMAQMD's significant threshold of 65 lb/day. Operations of the project would also result in an increase in vehicle miles traveled (VMT) and associated mobile-source emissions that may conflict with SMAQMD's air quality planning efforts, and therefore result in a significant adverse incremental effect on the region's ability to attain and/or maintain the CAAQS. The impact is identified as significant. Mitigation Measure 6.2-2 requires the implementation of an Air Quality Mitigation Plan (AQMP) to reduce

operational emissions by a minimum of 15 percent. The impact would remain significant and unavoidable, even with application of a 15 percent reduction.

As part of the 2018 approval of modifications to the Phase 1 Tentative Master Parcel Map and Tentative Subdivision Map, the original 2008 AQMP was updated to reflect changes in the project site plan. As a result of the revised density and other minor reorientation of some of the lots, some AQMP measures no longer applied to the project. To compensate for the loss of mitigation credits that would occur with removal of these measures, the AQMP analysis was updated to include an additional measure (Measure 28) that would require the applicant to implement onsite solar systems to provide 12.5 percent of the project's total electricity needs.

Impact 6.2-3 in the RDEIR addresses potential effects from carbon monoxide (CO) emissions. Based on modeling conducted, per SMAQMD's screening procedures, the predicted local mobile-source CO concentrations would not exceed the 1-hour or 8-hour CAAQS, and the impact is therefore considered less than significant. The 2018 Addendum concluded that, with this revision to the AQMP, the project as revised would achieve a 16.27% reduction in operational air quality emissions, exceeding the required 15% reduction. (See Attachment B, February 2019 Ascent Memo.) The 2018 Addendum further found that the changes to mitigation measure 6.2-2 to reflect the updated AQMP would not result in new significant environmental effects or a substantial increase in the severity of previously identified significant effects.

Ascent Environmental considered the proposed Phase 2 entitlements and concluded that the air quality analysis conducted for the 2018 AQMP applied to the entire project, not just Phase 1, and that analysis is still applicable to the current proposal, with minor updates to reflect the proposed changes to unit counts. (See Attachment B, February 2019 Ascent Memo.) With the changes, Phase 2 would continue to provide 12.5 percent of project electricity demand with onsite solar. Therefore, the proposed Phase 2 changes would not result in new significant environmental effects or a substantial increase in the severity of previously identified significant effects.

The proposed project would consist of similar land uses and intensity levels compared to the previously-approved project. Due to declining emissions factors in the statewide vehicle fleet mix however, emissions of criteria pollutants and CO estimated for the proposed project would likely be less than the previously-estimated emissions and would not result in new or substantially more severe impacts. In addition, air quality significance criteria in the latest guidance from SMAQMD have not changed substantially since the EIR was certified. Therefore, the conclusions in the RDEIR remain valid and no further analysis is required.

Exposure of sensitive receptors to toxic air contaminant (TAC) emissions is addressed in the RDEIR under Impact 6.2-4. A health risk assessment of exposure to TACs for future residents along the margins of the project closest to freeways shows that the project would not result in a substantially increased health risk, and the operational exposure is considered less than

significant. The RDEIR concludes, however, that given that proposed on-site commercial land uses were not yet identified, and given the potential proximity of nearby sensitive receptors, exposure of nearby on-site receptors to mobile-source TACs associated with commercial and other activities on the site would be considered potentially significant. Mitigation Measure 6.2-4 would require the implementation of a site-specific plan to reduce TAC emissions from diesel equipment and heavy trucks. The impact was determined to be significant and unavoidable, based on the uncertainty associated with on-site commercial land use activities and proximity of sensitive receptors to such uses.

The proposed project would consist of nearly identical (but slightly less intense) land uses compared to the previously-approved project. Due to declining emissions factors in the statewide vehicle fleet mix, however, emissions of TACs would likely be reduced, and therefore estimated incremental exposure levels would likely be equal to or less than what was previously analyzed. In addition, air quality significance criteria in the latest guidance from SMAQMD have not changed substantially since the EIR was certified. No new or substantially more severe impacts are expected. Therefore, the conclusions in the RDEIR remain valid and no further analysis is required.

Exposure to odor emissions is addressed under Impact 6.2-5 in the RDEIR. The RDEIR finds that certain aspects of project operations could result in the frequent exposure of on-site receptors to substantial objectionable odor emissions from on-site land uses. Implementation of Mitigation Measure 6.2-5, which calls for specific site design and review procedures during the permitting stages of the project to be implemented by the City would be reduced to a less-than-significant level. No new information or changes are known that would affect this conclusion. Therefore, the conclusions in the RDEIR remain valid and no further analysis is required.

Mitigation Measures 6.2-1, 6.2-2 (as revised in the 2018 Addendum), 6.2-4, and 6.2-5 were referenced in the RDEIR and 2018 Addendum and would continue to remain applicable if the proposed project were adopted.

SMUD Substation

The site plan analyzed in the 2008 Draft EIR included development of the SMUD substation in the approximate location as currently proposed, and thus the air quality impacts associated with its development were considered as part of the overall project analyzed in the 2008 EIR. Substation construction would involve the use of off-road heavy-duty construction equipment. Construction of the substation would be typical of construction activity for the project type and size. Use of this equipment during various construction phases would result in emissions of fugitive dust, diesel particulate matter, and other criteria air pollutants. It is anticipated that certain phases in the construction of the substation may result in fugitive dust emissions and criteria air pollutants which exceed applicable standards set by the Sacramento Metropolitan Air Quality Management District (SMAQMD). As a result, construction activity associated with substation construction could result in significant air quality impacts.

Construction of the substation would be subject to Mitigation Measures 6.2-1 in the Draft EIR. With implementation of mitigation, impacts associated with the substation would be reduced to a less-than-significant level. Operation of the substation would result in emissions associated with routine maintenance tasks including worker commute trips and the use of maintenance equipment, as needed. Emissions during operations would be limited over the lifetime of the substation and no permanent staff would be expected to be stationed at the facility. Therefore, no significant operational impacts would be expected. No change to the conclusions of the 2008 EIR regarding air quality impacts is required, and there are no new circumstances that would result in substantially more severe impacts or new information that would require additional analysis with respect to air quality impacts as a result of development of the SMUD substation.

Conclusion

No new circumstances have occurred nor has any substantially important new information been found with respect to air quality requiring new analysis or verification. Therefore, the conclusions of the 2008 EIR remain valid and approval of the proposed project would not result in new or substantially more severe significant impacts to air quality.

Biological Resources

Biological Resources are addressed in Section 6.12 of the Draft EIR, and in the 2017 Addendum. Following coordination with the City and resource agencies, including the US Fish and Wildlife Service, (USFWS), California Department of Fish and Wildlife (CDFW), and the US Army Corps of Engineers (USACE), the City approved the Greenbriar Conservation Strategy (HELIX 2017) in 2018, as identified in the certified 2008 FEIR. The project applicant also prepared a Biological Resources Evaluation in June 2013 (HELIX 2013a), an updated Analysis of the Effects of the Greenbriar Development Project on the Natomas Basin Habitat Conservation Plan (HELIX 2016). Through that process, the project applicant refined the project's multi-species conservation strategy, as identified in the 2017 Addendum.

The analysis contained in the Draft EIR under Impact 6.12-1, 6.12-2, 6.12-4, 6.12-5, 6.12-6, and 6.12-8 found that impacts to giant garter snake (GGS), Swainson's hawk, special-status plants, burrowing owl habitat, northwestern pond turtle, and loggerhead shrike nests were potentially significant. Potential impacts remain as described in the Draft EIR because no substantial changes in the site conditions have occurred since the Final EIR was prepared. The project would not result in any new significant impacts or in a substantial increase in the severity of impacts due to new information or changes in the project or in the circumstances in which the project would be implemented. Therefore, the conclusions in the DEIR remain valid and no further analysis is required.

While most of the conclusions of the 2008 FEIR remain valid, updated surveys and habitat evaluation since certification of the EIR revealed potential impacts to valley elderberry longhorn beetle, general nesting raptors, Aleutian Canada Goose, and tricolored blackbird, and the 2014 verified delineation revealed a slightly greater amount of jurisdictional waters of the U.S. in the development area. These were addressed in the 2017 Addendum, which concluded that, with the revised and enhanced Conservation Strategy and additional mitigation measures included in the 2017 Addendum that were equally as effective or more effective, any impacts of the project would be reduced to a less-than-significant level.

Mitigation Measures 6.12-1, 6.12-2, 6.12-3, 6.12-5, 6.12-5, 6.12-6, and 6.12-8 referenced in the DEIR and as revised in the 2017 Addendum, as well as Mitigation Measures 6.12-10, 6.12-11, 6.12-12, and 6.12-13 added in the 2017 Addendum would continue to remain applicable if the proposed project were adopted.. These measures are also integrated into the Greenbriar Conservation Strategy, and thus fully enforceable both as project components and mitigation measures.

SMUD Substation

The site plan analyzed in the 2008 Draft EIR included development of the SMUD substation in the approximate location as currently proposed, and thus the biological resource impacts associated with its development were considered as part of the overall project analyzed in the 2008 EIR. Disturbance of special-status plant species and wildlife as well as their habitats could occur because of construction activities for the development of the substation. This disturbance was considered and mitigated in the 2008 EIR and 2017 Conservation Strategy. Construction of the substation would be subject to the requirements for construction activities in Mitigation Measures 6.12-1j, 6.12-2, 6.12-3, 6.12-4, 6.12-5, 6.12-6, 6.12-8, 6.12-11, 6.12-12, and 6.12-13 in the 2008 EIR. No change to the conclusions of the 2008 EIR regarding biological resource impacts is required, and there are no new circumstances that would result in substantially more severe impacts or new information that would require additional analysis with respect to biological resource impacts as a result of development of the SMUD substation.

Conclusion

The project would not result in any new significant impacts such that additional CEQA analysis would be required. While additional information regarding the conservation measures for giant garter snake, burrowing owl, Swainson's Hawk, special-status plants, and western pond turtle, and habitat mitigation has been developed and incorporated into the Project description since certification of the 2008 EIR as part of the 2017 approvals, the 2017 Addendum concluded that the revised conservation measures would not result in new significant impacts or in a substantial increase in the severity of the previously identified impacts. No new circumstances have occurred nor has any substantially important new information been found with respect to biological resources requiring new analysis or verification. Therefore, the conclusions of the 2008 EIR and 2017 Addendum remain valid, and approval of the proposed project would not result in new or substantially more severe significant impacts to biological resources.

Cultural Resources

The Draft EIR addresses Cultural Resources in Section 6.13. Regional and local conditions remain the same as stated in the existing setting discussion of the 2008 Draft EIR.

The Draft EIR analysis addresses damage or destruction of significant documented cultural resources (Impact 6.13-1), as well as potential impacts to undocumented cultural resources (Impact 6.13-2). The Draft EIR concludes that no impacts would occur with respect to documented cultural resources. Potentially significant impacts to undocumented cultural resources that could be discovered during project construction are mitigated to a less-than-significant level by the implementation of Mitigation Measure 6.13-2. The Draft EIR addresses discovery of human remains in Impact 6.13-3. Implementation of Mitigation Measure 6.13-3 would reduce this impact to a less-than-significant level. There are no new circumstances resulting in new impacts or new information requiring new analysis related to the disturbance of cultural resources or human remains. The conclusions regarding impacts to cultural resources contained in the 2008 EIR remain valid and no additional analysis is required.

Mitigation Measures 6.13-2 and 6.13-3 referenced in the Draft EIR would continue to remain applicable if the proposed project were adopted.

SMUD Substation

The site plan analyzed in the 2008 Draft EIR included development of the SMUD substation in the approximate location as currently proposed, and thus the cultural resource impacts associated with its development were considered as part of the overall project analyzed in the 2008 EIR. Construction activities for the development of the substation would involve ground disturbance, grading, and trenching activities that could result in the uncovering of previously undiscovered cultural resources on the site. Mitigation Measures 6.13-2 and 6.13-3 from the Draft EIR would minimize the potential for the project to result in potential impacts on cultural resources. With mitigation, the impacts would be less than significant. No change to the conclusions of the 2008 EIR regarding cultural resource impacts is required, and there are no new circumstances that would result in substantially more severe impacts or new information that would require additional analysis with respect to cultural resource impacts as a result of development of the SMUD substation.

Conclusion

No new circumstances have occurred nor has any substantially important new information been found requiring new analysis or verification with respect to cultural resources. Therefore, the conclusions of the 2008 EIR remain valid and implementation of the proposed project would not result in any new significant impacts to cultural resources.

Geology and Soils

Geology and soils are addressed in Section 6.9 of the Draft EIR. Regional and local conditions remain the same as stated in the existing setting discussion in the Draft EIR.

The Draft EIR addresses the potential for ground shaking and liquefaction to occur, which could damage structures during strong earthquakes generated along faults in the region (Impact 6.9-1). The impact is considered potentially significant due to the project site's location in an area with moderate ground-shaking potential and alluvial soil types. Mitigation Measure 6.9-1 would reduce the impact to a less-than-significant level. There are no new circumstances resulting in new impacts or new information requiring additional analyses related to seismic hazards. The conclusions regarding impacts due to exposure to seismic hazards contained in the 2008 EIR remain valid and no further analysis is required.

The Draft EIR analysis also addresses the potential for construction activities such as excavation, grading, and dewatering to result in localized erosion (Impact 6.9-2). The impact was found to be potentially significant during wind and rain events. Implementation of Mitigation Measure 6.9-2 would reduce this impact to a level that is less than significant. The conclusions of the Draft EIR remain valid because the same types, quantities, and durations of construction activities would occur as previously evaluated. Therefore, no further analysis is required.

The Draft EIR analysis addresses the potential for unstable soil conditions that could lead to subsidence or compression, due to project construction on soils with low strength, high shrink-swell potential (Impact 6.9-3). This impact is considered potentially significant, due primarily to the presence of alluvial soils and high groundwater levels in the area, and potential dewatering activities that could occur during construction on the Greenbriar Project Site. These conditions have not changed. Implementation of Mitigation Measure 6.9-3 (referencing Mitigation Measure 6.9-1) would reduce these impacts to a level that is less than significant. There are no new circumstances resulting in new impacts or new information requiring additional analyses related to unstable soil conditions or subsidence. The conclusions regarding this impact contained in the 2008 EIR remain valid and no further analysis is required.

The Draft EIR analysis addresses the potential for damage associated with expansive soils (Impact 6.9-4). The impact is considered potentially significant due to soil types found on the project site. These conditions have not changed. Implementation of Mitigation Measure 6.9-4 (referencing Mitigation Measure 6.9-1) would reduce this impact to less than significant. There are no new circumstances resulting in new impacts or new information requiring new analyses related to expansive soils. The conclusions regarding this impact contained in the 2008 EIR remain valid and no further analysis is required.

Mitigation measures 6.9-1, 6.9-2, 6.9-3, and 6.9-4 referenced in the Draft EIR would continue to remain applicable.

SMUD Substation

The site plan analyzed in the 2008 Draft EIR included development of the SMUD substation in the approximate location as currently proposed, and thus the geology and soils impacts associated with its development were considered as part of the overall project analyzed in the 2008 EIR. Construction activities for the development of the substation would involve ground disturbance, grading, and trenching activities that could result in activities which expose soils and result in accelerated erosion. Construction activity could result in the movement of soils to other locations on the project site to assist in the leveling the site. Mitigation Measures 6.9-2 from the Draft EIR would reduce this impact to a level that is less than significant. As such, the project would not result in substantial soil erosion or the loss of topsoil. No change to the conclusions of the 2008 EIR regarding geology and soils impacts is required, and there are no new circumstances that would result in substantially more severe impacts or new information that would require additional analysis with respect to geology and soils impacts as a result of development of the SMUD substation.

Conclusion

No new circumstances have occurred nor has any substantially important new information been found with respect to geology and soils requiring new analysis or verification. Therefore, the conclusions of the 2008 EIR remain valid and implementation of the proposed project would not result in any new significant impacts associated with geology or soils.

Greenhouse Gas

The regulatory setting has changed considerably since 2008 with respect to how climate change and GHG emissions are addressed in CEQA. The CEQA Guidelines were amended in 2010 to incorporate revisions to Appendix G and related text amendments to integrate analysis and mitigation of GHG emissions and climate change into the CEQA review process. In addition, the City of Sacramento adopted the 2035 General Plan and certified the General Plan Master EIR in 2015, which addressed GHG emissions that would result from build-out of the General Plan. The General Plan included several policies and programs to address climate change and reduce GHG emissions, which were consistent with the City's adopted Climate Action Plan (CAP). The City adopted the CAP in 2012, which sets a communitywide GHG reduction target for the year 2020, and establishes GHG emission reduction measures that are applicable to both existing development and new development projects. The CEQA Guidelines Amendments published in 2010 include provisions for tiering and streamlining the analysis of GHG emissions for projects that are determined to be consistent with a "plan for the reduction of GHG emissions" (CEQA Guidelines 15183.5). The City's CAP meets the criteria for such a plan as specified in 15183.5(b) and, accordingly, City staff has issued a guidance checklist on determining project consistency with the City's CAP.

Therefore, the 2017 Addendum included an evaluation of the project's GHG emissions during construction and operation. The 2017 Addendum concluded that the project would be

consistent with the City's CAP Checklist, with incorporation of Mitigation Measure GHG-1. GHG emissions from the proposed project would not be considered cumulatively considerable, and any potential impacts related to global climate change would be less than significant. There are no new circumstances resulting in new impacts or new information requiring new analyses related to greenhouse gas emissions. The conclusions regarding this impact contained in the 2017 Addendum remain valid and no further analysis is required.

Mitigation Measure GHG-1 referenced in the 2017 Addendum would continue to remain applicable.

SMUD Substation

The site plan analyzed in the 2008 Draft EIR and 2017 Addendum included development of the SMUD substation in the approximate location as currently proposed, and thus the greenhouse gas impacts associated with its development were considered as part of the overall project analyzed in the 2008 EIR and 2017 Addendum. Operation of the substation would result in GHG emissions associated with routine maintenance tasks including worker commute trips and the use of maintenance equipment, as needed. GHG emissions during operations would be limited over the lifetime of the project and no permanent staff would be expected to be stationed at the facility. Operational impacts would thus be less than significant. Construction of the project and related infrastructure components would involve the use of off-road heavy-duty construction equipment resulting in GHG emissions and vehicle miles associated with construction worker commute trips. The full design and construction details for the distribution substation are not known at this time. However, the analysis for the Folsom Sphere of Influence Substation, which is similar in size to the Greenbriar substation, concluded that substation construction would result in 61 MTCO_{2e} during the year of anticipated construction activities. Based on similar size of the Folsom Sphere of Influence Substation, GHG emissions during the initial year of construction for the Greenbriar substation are anticipated to be approximately 61 MTCO_{2e}. In addition, air quality Mitigation Measure 6.2-1 focuses on reducing construction-generated emissions of criteria air pollutants and precursors, and would also result in reductions in construction-generated GHGs. No change to the conclusions of the 2008 EIR regarding GHG impacts is required, and there are no new circumstances that would result in substantially more severe impacts or new information that would require additional analysis with respect to GHG impacts as a result of development of the SMUD substation.

Conclusion

No new circumstances have occurred nor has any substantially important new information been found with respect to greenhouse gas emission requiring new analysis or verification. Therefore, the conclusions of the 2017 Addendum remain valid and implementation of the proposed project would not result in any new significant impacts associated with greenhouse gas emissions.

Hazards and Hazardous Materials

Hazards and hazardous materials impacts are addressed in Section 6.8 of the Draft EIR. The description of the environmental setting has not changed substantially since the 2008 EIR was prepared.

The Draft EIR addresses the potential for health hazards caused by contaminated soil (Impact 6.8-1), as well as from soils contaminated by previously unknown underground storage tanks (USTs) or by other sources at the former Two Jakes Park Site (Impact 6.8-2). Impact 6.8-1 was found to be less than significant. Impact 6.8-2 was determined to be potentially significant; however, Mitigation Measure 6.8-2 would reduce the impact to less than significant. Site conditions have not changed since preparation of the 2008 EIR. There are no new circumstances resulting in new impacts or new information requiring additional analyses related to hazardous materials. The conclusions regarding these impacts contained in the 2008 EIR remain valid and no further analysis is required.

The Draft EIR addressed potential safety hazards from proximity of Sacramento International Airport to the proposed project's land uses in Impact 6.8-3, which found that the project's residential land uses would be compatible with safety standards outlined in the 1994 Sacramento International Airport Comprehensive Land Use Plan (CLUP). However, the Draft EIR concluded that the proposed parks and light rail station located within the overflight zone (a safety zone of the Sacramento International Airport) could result in densities that exceed 50 persons per acre at any one time, which would exceed density standards allowed by the CLUP and result in a significant impact absent mitigation. Implementation of Mitigation Measure 6.8-3 calls for the City to request a consistency determination from the Sacramento County ALUC (SACOG) and to provide notice to override the CLUP prior to approving any CLUP override. The DEIR determined that this measure would not fully reduce this impact, and the impact would, therefore, remain significant and unavoidable. In 2008, the City certified the EIR and adopted Resolution 2008-600, which approved a CLUP override for the Greenbriar project, in compliance with Mitigation Measure 6.8-3 (City of Sacramento, 2008).

The 2017 Addendum considered the update to the CLUP; the December 2013 Airport Land Use Compatibility Plan (ALUCP) (the new term for what was previously referred to as a CLUP). The ALUCP contains similar overflight, safety and noise policies as the prior CLUP, and therefore the 2017 Addendum found that the conclusions of the DEIR are largely unchanged with respect to the provisions of the ALUCP if it were applicable to the proposed project site. Similarly, off-site mitigation activities would not result in a significant change in use from existing and historical agricultural uses, and therefore, would not be subject to ALUC review. Therefore, the 2017 Addendum finds that the conclusions regarding this impact contained in the 2008 EIR remain valid and no further analysis is required.

In addition, the DEIR also addresses the potential for airspace safety hazards associated with the project's water feature in Impact 6.8-4, which finds that the project's water feature, a 39-

acre lake/detention basin, could attract large numbers of birds, thereby potentially creating a flyway between the site and the Sacramento River and interfering with existing aircraft flight routes, which would be a significant impact. Mitigation Measure 6.8-4, which calls for development of a specific management plan for the 39-acre lake/detention basin in consultation with the Sacramento County Airport System and SACOG, would reduce the impact to a less-than-significant level. As of the date of this Addendum, a Wildlife Hazards Mitigation Plan has been prepared in consultation with the airport. The City has accepted the plan and it is awaiting final approval from the airport.

Mitigation Measures 6.8-2, 6.8-3, 6.8-4, and 6.8-6 were referenced in the Draft EIR, and would remain applicable if the proposed project were adopted.

SMUD Substation

The site plan analyzed in the 2008 Draft EIR included development of the SMUD substation in the approximate location as currently proposed, and thus the hazards and hazardous materials impacts associated with its development were considered as part of the overall project analyzed in the 2008 EIR. Construction of substation and related infrastructure would involve the transport and use of hazardous materials. These include mineral oil used to insulate transformers which would be in sealed transformer equipment, substation battery backup systems, containing liquid sulfuric acid, which would be in sealed cases, and petroleum products for use in construction equipment. As part of the SWPPP required under Mitigation Measure 6.10-1, a Spill Prevention and Response Plan (SPRP) would be implemented and would include action measures to minimize the potential release of hazardous materials into the environment. Mitigation Measure 6.10-1 will ensure impacts of a potential release of hazardous materials into the environment are reduced to the largest degree possible. Mitigation Measure 6.10-1 requires environmental training on BMPs that would be employed for phases of construction in which hazardous materials are encountered.

In addition to the measures included in the 2008 EIR, the substation would be required to comply with state and federal requirements, including 29 CFR 1910.38 for preparation of a Hazardous Substance Control and Emergency Response Plan. The plan would include BMPs for avoiding hazardous materials spills and specific measures to implement if a hazardous materials spill does occur. Operation of the substation would require the storage and use of mineral oil onsite for the purpose of insulating the substation transformers. Under 40 CFR 112, SMUD would be required to prepare a Spill Prevention, Control and Countermeasures Plan (SPCC) Plan to identify storage devices and containment measures for spill events. For operation of the project, 19 CCR sections 2650, et seq. also requires the preparation of a Hazardous Materials Business Plan (HMBP), which would include an operation specific emergency response plan for the specific type of hazardous materials used on site. Although hazardous material would be used on site, with the implementation of Mitigation Measure 6.10-1 and compliance with existing state and federal regulations, the risks for the accidental release of hazardous materials into the environment would be reduced and impacts would be less than significant. No change to the conclusions of the 2008 EIR regarding hazards and hazardous materials impacts is

required, and there are no new circumstances that would result in substantially more severe impacts or new information that would require additional analysis with respect to hazards and hazardous materials impacts as a result of development of the SMUD substation.

Conclusion

No new circumstances since certification of the 2008 EIR and 2017 Addendum involving new significant impacts have occurred. Therefore, the conclusions of the 2008 EIR and 2017 Addendum remain valid and approval of the proposed project would not result in any new significant impacts related to hazards and hazardous materials.

Hydrology and Water Quality

Hydrology and Water Quality are addressed in Section 6.10 of the Revised Draft EIR. The environmental setting remains generally the same as stated in the Draft EIR. Specific updates to the setting with respect to flooding were provided in the 2017 Addendum, as discussed below. No additional updates have occurred since 2017.

The Revised Draft EIR addresses water quality and erosion impacts related construction and operation of the proposed project under Impact 6.10-1, and concludes that operation of the project would not result in any water quality or erosion impacts, whereas construction activities could result in sediment, erosion, and other nonpoint source pollutants in on-site stormwater, which would result a potentially significant impact. Implementation of Mitigation Measure 6.10-1 would reduce impacts to less-than-significant levels. There are no new circumstances resulting in new impacts or new information requiring additional analyses related to water quality. The conclusions regarding these impacts contained in the 2008 EIR remain valid and no further analysis is required.

Potential exceedance of the drainage system capacity is analyzed under Impact 6.10-2 in the RDEIR. The RDEIR analysis finds that the inclusion of a lake/detention basin component that is sized to meet the stormwater drainage needs of the project, along with improvements to Reclamation District 1000's pumping capacity as required under Mitigation Measure 6.5-5 (Public Services), would ensure this impact is less than significant. There are no new circumstances resulting in new impacts or new information requiring additional analyses related to drainage system capacity. The conclusions contained in the 2008 EIR remain valid and no further analysis is required.

Potential impacts due to on-site flooding hazards are addressed under Impact 6.10-4 in the RDEIR. The stormwater runoff collection system design as part of the proposed project would be adequate to protect the project site during major storms and flood events. Stormwater flows from off-site could cause localized flooding on-site, but the RDEIR explained that implementation of Mitigation Measure 6.10-4 would reduce this potential effect to less than

significant. There are no new circumstances resulting in new impacts or new information requiring additional analyses related to on-site flooding. The conclusions contained in the 2008 EIR remain valid and no further analysis is required.

The RDEIR addresses on-site flooding risk from potential levee and dam failure under Impact 6.10-3. The analysis contained in the RDEIR finds that a short-term, significant unavoidable impact could occur due to the fact the U.S. Army Corps of Engineers (Corps) could no longer support its certification that the Natomas Basin levee system met criteria for 100-year flood protection. Mitigation Measure 6.10-3 requires compliance with applicable Federal Emergency Management Agency (FEMA) and City building, design, and flood insurance regulations, as well as participation in a funding mechanism established by the Sacramento Area Flood Control Authority (SAFCA) or the City for the purpose of implementing levee improvements to provide 100-year flood protection or greater for the project site.

In December 2008, the Flood Insurance Rate Maps (FIRMs) for the Natomas Basin were remapped by FEMA. The area, which was previously understood to offer between 100-year and 500-year protection (Shaded X Zone) was reclassified as within the 100-year floodplain (AE Zone) after the Corps decertified the levee system protecting the Basin. This reclassification resulted in a de facto building moratorium in the Natomas Basin.

As discussed in the 2017 Addendum, the City passed an ordinance amending Chapter 15.104 of the Sacramento City Code relating to floodplain management regulations in 2015. The ordinance limits residential growth by calendar year. Rollover unit counts from unused allowance in a calendar year may be added to the allowed number for the following calendar year. In addition, projects that meet certain findings may exceed the cap established by the ordinance subject to City Council approval. The ordinance became effective in June 2015, after FEMA redesignated the Natomas Basin to A99.

The proposed project would be subject to the building permit limitations set forth by Chapter 15.104 of the Sacramento City Code. Moreover, Mitigation Measure 6.10-3 would still be applicable as the project area has been remapped to the A99 Zone. Participation in a funding mechanism established by SAFCA would still be feasible under the A99 Zone. SAFCA's Capital Consolidated Assessment District, established in April 2007, is expected to fund the local share of the NLIP project costs that are not funded by State or Federal funds. The conclusions contained in the 2008 EIR, therefore, remain valid, and no further analysis is required.

Mitigation Measures 6.10-1, 6.10-3, and 6.10-4 were referenced in the Draft EIR analysis of the proposed project and would remain valid if the project were adopted.

SMUD Substation

The site plan analyzed in the 2008 Draft EIR included development of the SMUD substation in the approximate location as currently proposed, and thus the hydrology and water quality impacts associated with its development were considered as part of the overall project

analyzed in the 2008 EIR. Construction of the substation would result in increased sediment erosion because of ground disturbance associated with activities such as grading, trenching, foundation installation, fence construction, and road improvements. Increased erosion could affect water quality in on-site and offsite water bodies. Substation construction could also result in the degradation of water quality from runoff of petroleum-based products associated with the use of construction equipment. Construction would also be required to comply with the State's General Stormwater Permit for Construction Activities, which is issued by the State Water Resources Control Board and enforced by the Regional Board. This permit would require the preparation and implementation of a site-specific Stormwater Pollution Prevention Plan (SWPPP). Based on the results of this permitting process, if deemed applicable, standard erosion control measures would be implemented to protect water quality consistent with Regional Water Quality Control Board (RWQCB) requirements. The use of standard control measures through the permitting process, would ensure that substation construction activity would not violate any water quality standards or waste discharge requirements. Implementation of standard construction-related hydrology and water quality measures Mitigation Measure 6.10-1 would feasibly reduce this impact. Further, the facility would be designed to meet current stormwater and water quality standards for the operation of the facility such that no significant operational hydrology and water quality impacts would occur. Therefore, impacts would be less than significant. No change to the conclusions of the 2008 EIR regarding hydrology and water quality impacts is required, and there are no new circumstances that would result in substantially more severe impacts or new information that would require additional analysis with respect to hydrology and water quality impacts as a result of development of the SMUD substation.

Conclusion

No new circumstances involving new significant impacts have occurred. While there is new information available with respect to flood control, no new analysis or verification is required with respect to any associated impacts or mitigation measures. Therefore, the conclusions of the 2008 EIR remain valid and approval of the proposed project would not result in any new significant impacts related to hydrology or water quality.

Noise

Noise impacts were analyzed in Section 6.3 of the DEIR and cumulative noise impacts are addressed in the SRDEIR, Section 7.2.3. The analyses include noise impacts from project-generated construction, traffic-source noise from area roadways, and airport activities. Environmental conditions in the project area have not changed appreciably since the DEIR analysis was completed.

Short-term construction noise was evaluated in Impact 6.3-1. The discussion noted that short-term construction-generated noise levels could exceed City of Sacramento Noise Code standards or result in a noticeable increase in ambient noise levels at existing nearby off-site

sensitive land uses as well as on-site residences that are constructed and inhabited before other portions of the project are complete. This impact was considered potentially significant. Mitigation Measure 6.3-1 requires that construction operations be limited to the hours between 7 a.m. to 6 p.m. Monday through Saturday, and 9 a.m. to 6 p.m. on Sunday. With the implementation of this measure potential impacts would be a less than significant. The project as revised would remain substantially the same in terms of the land use types, street pattern, and on-site infrastructure requirements, and therefore impacts associated with short-term construction noise would be similar to those described in the DEIR.

Impact 6.3-2 describes how sensitive receptors located in unincorporated Sacramento County would experience traffic generated noise levels in excess of the County's 60 dBA Ldn/CNEL standard along three of the five road segments and five of the receptors would experience an increase in traffic noise levels that is greater than 4 dBA. For these reasons, exterior noise levels produced by project-generated traffic noise would result in a significant impact at five existing residences in unincorporated Sacramento County. Implementation of mitigation measure 6.3-2 would reduce these noise levels, but a substantial increase could still result along Elkhorn Boulevard, where project implementation would result in an approximate 13.5 dB increase. As a result, the DEIR concludes that this impact would remain significant and unavoidable. The project as revised would remain substantially the same in terms of the land use types and patterns, street pattern, and on-site infrastructure requirements. Therefore, it is anticipated that impacts related to noise would be similar to those described in the DEIR and SRDEIR.

Long-term stationary and area-source noise levels were evaluated in Impact 6.3-3. The proposed project would introduce new noise sources (public parks, retail, office, and commercial land uses) to the site that would alter noise levels on the site and surrounding area. The EIR concluded that impacts of these new noise sources on nearby receptors would be less than significant, given their distance and buffering from the project site. The project as revised would remain substantially the same in terms of the land use types and patterns, street pattern, and on-site infrastructure requirements, although with a reduction in the number of units. Therefore, it is anticipated that impacts related to area-source noise would be similar to those described in the DEIR and SRDEIR.

Impact 6.3-4 addresses the compatibility of proposed residential and school uses with future on-site daily and hourly average noise levels. The DEIR concludes that with implementation of the proposed project, residential land uses (sensitive receptors) proposed on the project site would be exposed to future noise levels generated by area automobile traffic, and light rail trains and crossing signals that exceed applicable local exterior noise standards. Also, the interiors of residential land uses located along transportation routes would be exposed to interior noise levels that exceed applicable maximum interior noise level standards established by the City of Sacramento General Plan. Therefore, exposure of proposed residential land uses to noise generated by traffic would be a significant impact. The DEIR found that implementation of Mitigation Measure 6.3-4, which requires installation of noise barriers, would reduce interior and exterior noise to a less than significant level. The project as revised

would remain substantially the same in terms of the land use types and patterns, street pattern, and on-site infrastructure requirements. The conclusions of the DEIR remain valid and no further analysis is required.

Mitigation Measure 6.3-4 was revised in the 2018 Addendum to address changes to the site plan resulting from the Minor Tentative Map Revision to include a solid noise barrier of 8 feet in height to shield the area north of Meister Way (Mitigation Measure 6.3-4j). Following approval of the 2018 Addendum, Bollard Acoustical Consultants (BAC) re-evaluated all of the proposed barrier heights for the project to determine whether additional changes to Mitigation Measure 6.3-4 were required to account for changes in predicted future traffic volumes and revisions to the project site and grading plans. (See BAC Analysis, Attachment C).

According to the BAC analysis, Mitigation Measure 6.3-4c requires revision to shield the backyard areas of six lots located adjacent to State Route 99 to reduce impacts at those residences to a less than significant level. The measure has been revised to require that side yard privacy fences at end lots be replaced with solid noise barriers (e.g., earth, concrete, masonry, wood, and other materials) of 8 feet in height to adequately shield backyard spaces. Mitigation Measure 6.3-4e would also be revised to account for changes in the design of residences in Area E, which reorient the lots so that no backyard areas would face Highway 99. With this change, the 10-foot tall barrier identified in the 2008 EIR would no longer be required; however, side yard barriers of 8 feet would be added to achieve interior noise standards. Mitigation Measure 6.3-4g is revised to reduce barrier heights from 12 feet to 10 feet. BAC recommends this change based on a more detailed analysis of site and grading plans, which were not available at the time of the original noise study. Finally, Mitigation Measure 6.3-4h would be revised to remove the requirement for a 6-foot barrier for residences along Lone Tree Road. This change is due to a 200+ foot greenbelt (natural vegetation) buffer proposed to be located between the residences and Lone Tree Road. BAC conservatively estimates this buffer will provide at least 3dB of traffic noise attenuation that was not accounted for in the original EIR. Based on the BAC analysis, Mitigation Measure 6.3-4 is revised as follows:

Mitigation Measure 6.3-4:

The project shall implement the following measures before the occupancy of any proposed uses in the related impact areas, to reduce the exposure of sensitive receptors to significant noise associated with surface transportation (Bollard Acoustical Consultants, Inc. 2006, 2018 Review, 2019 Review):

- a. For noise impact/mitigation area A (see Exhibit 6.3-6), a solid (e.g., earth, concrete, masonry, wood, and other materials) noise barrier shall be constructed of 10 feet in height relative to backyard elevation at the residences located nearest to the southern boundary, stepping down linearly to 6 feet at its northwestern terminus. The wrapped portion of the barrier along the southeast corner shall also step down to 6 feet in height at its terminus.

b. For noise impact/mitigation area B (see Exhibit 6.3-6), the drainage opening shall be shifted to the north by two lots to close the acoustic opening.

c. For noise impact/mitigation area C (see Exhibit 6.3-6), the spaces between the residences shall be bridged with solid noise barriers (e.g., earth, concrete, masonry, wood, and other materials) of 6 feet in height, rather than conventional wood privacy fences. Gates constructed for access into the rear yard spaces shall be constructed so as not to create appreciable acoustic leaks (e.g., constructed of solid wood, sealed to prevent sound and be continuous in length and height with minimal gap at the ground). Furthermore, the side yard privacy fences at end lots shall be replaced with solid noise barriers (e.g., earth, concrete, masonry, wood, and other materials) 8 feet in height to adequately shield backyard spaces, as shown on Attachment B to the 2019 Review.

d. For noise impact/mitigation area D (see Exhibit 6.3-6), all identified side-on residences shall be reoriented so that they face the roadways and the backyard spaces would be shielded by the residences. Following the reorienting of the side-on residences, the side space adjacent to the residences shall be bridged in same manner as specified above under c. Furthermore, the side yard privacy fences at end lots shall be replaced with solid noise barriers (e.g., earth, concrete, masonry, wood, and other materials) 7 feet in height to adequately shield backyard spaces.

e. For noise impact/mitigation area E (see Exhibit 6.3-6), the spaces between the residences shall be bridged in the same manner as specified under c. No other sound barrier is required. ~~it would not be feasible to utilize the types of noise mitigation described above (e.g., walls between individual units), to achieve satisfaction with City noise standards due to the orientation and shape of the residences. As a result, a solid barrier (e.g., earth, concrete, masonry, wood, and other materials) consisting of a berm, a wall, or combination thereof, shall be constructed at the approximate location shown in Exhibit 6.3-6. The barrier shall be 10 feet in height relative to pad elevations of the residences behind the barrier.~~

f. For noise impact/mitigation area F (see Exhibit 6.3-6), a solid noise barrier of 8 feet in height shall be constructed to adequately shield Meister Way traffic noise. In addition, because no discrete outdoor activity areas are identified with the higher density residential developments on the north and south sides of Meister Way near the eastern portion of the site, a solid barrier shall be constructed along both sides of Meister Way at these locations (see exhibit 6.3-6). Where Meister Way becomes elevated at the portion heading east over

Highway 99, the barrier shall extend along the top of the cut (at the roadway elevation), to provide efficient shielding to the residences below.

g. For noise impact/mitigation area H (see Exhibit 6.3-6), a solid noise barrier or berm/wall combination of ~~12~~ 10 feet in height shall be constructed along Elkhorn Boulevard to adequately shield residences which back up to this roadway. In addition, because no discrete outdoor activity areas are identified with the higher density residential developments on the south side of Elkhorn at the northeast corner of the project site, a solid noise barrier or berm/wall combination of ~~12~~ 10 feet in height shall be constructed along Elkhorn Boulevard at these locations (see Exhibit 6.3-6). The barriers shall be extended inward along the project site access roads and stepped down to 6 feet, as shown on Attachment B to the 2008 Review.

h. For noise impact/mitigation area I (see Exhibit 6.3-6), ~~a solid noise barrier of 6 feet in height shall be constructed~~ a sound barrier is not required along Lone Tree Road because the Lone Tree Canal Reserve will provide at least 3dB of traffic noise attenuation to adequately shield residences which back up to the canal east of and adjacent to this roadway.

i. Prior to issuance of any building permits, site-specific acoustical analyses shall be conducted once construction plans are available for residential developments located within the 60 dBA Ldn contours (see Exhibit 6.3-5) to ensure satisfaction with the City of Sacramento interior noise level standards. The acoustical analyses shall evaluate exposure of proposed noise-sensitive receptors to noise generated by surface transportation sources, in accordance with adopted City of Sacramento interior noise standards (Table 6.3-8). These site specific acoustical analyses shall also include site-specific design requirements to reduce noise exposure of proposed on-site receptors and all feasible design requirements shall be implemented into the final site design. Noise reduction measures and design features may include, but are not limited to the use of increased noise-attenuation measures in building construction (e.g., dual-pane, sound-rated windows; mechanical air systems; and exterior wall insulation). Given the predicted future traffic noise environment at the exterior facades of the residences nearest to Highway 99 and Interstate 5, upgrades to windows will likely be required at many residences, as well as the use of stucco siding or the acoustic equivalent. Implementation of these design measures would ensure interior noise levels meet the City's noise standards.

j. For the noise impact/mitigation area north of Meister Way (see Exhibit A to June 4, 2018 Bollard Sound Wall Review), a solid noise barrier of 8 feet in height shall be constructed to adequately shield Meister Way traffic noise.

The BAC supplemental noise analysis also concludes that interior noise levels are not expected to exceed the City's 45 dB Ldn interior noise level standard with implementation of Mitigation Measure 6.3-4 as revised. The BAC supplemental noise analysis concludes that the revised noise barrier heights would adequately ensure that exterior and interior noise impacts remain less than significant, and the revised barrier heights would not result in new significant environmental effects or a substantial increase in the severity of previously identified significant effects, and no major revision to the EIR is required.

Impact 6.3-5 evaluates exposure of residential areas and schools to aircraft noise generated by aircraft overflights of the project site. The DEIR analysis concludes that sleep disruption would be infrequent, and an overflight easement disclosing that the project would be subject to sleep and speech disruption from aircraft overflights would be provided for residential areas within the overflight zone. The DEIR concluded that this is a less-than-significant impact. However, students at the elementary school could be exposed to noise generated by aircraft overflights that would result in speech and classroom disruption; this would be a significant impact. Following application of DEIR Mitigation Measure 6.3-5, however, the impact would be less than significant. The project as revised would remain substantially the same in terms of land use patterns, and therefore impacts associated with noise generated by aircraft overflight would be similar to those described in the DEIR.

Exposure of sensitive receptors or generation of excessive vibration levels is addressed in DEIR Impact 6.3-6. The DEIR concludes that short-term construction-generated vibration levels would exceed Caltrans recommended standard with respect to the prevention of structural damage for normal buildings and could exceed the federal transit administration's (FTA) maximum acceptable vibration standard with respect to human response for residential uses (i.e., annoyance) at on-site residential dwellings that are developed and inhabited before nearby construction is completed. This would be a potentially significant impact. Application of Mitigation Measure 6.3-6, however, would reduce the impact to a less than significant level. The project as revised would remain substantially the same in terms of types of construction equipment and construction activities, and therefore impacts associated with construction-generated vibration levels would be similar to those described in the DEIR.

Mitigation Measure 6.3-1, 6.3-2, 6.3-4 (as revised herein) and 6.3-5 were referenced in the DEIR analysis of the proposed project and would remain valid if the project were adopted.

SMUD Substation

The site plan analyzed in the 2008 Draft EIR included development of the SMUD substation in the approximate location as currently proposed, and thus the noise impacts associated with its development were considered as part of the overall project analyzed in the 2008 EIR. Construction activities for the development of the substation and related infrastructure would involve the use of off-road heavy-duty construction equipment resulting in noise and vibration levels that could result in impacts on nearby sensitive receptors (e.g., residential land uses). Construction activities would be intermittent and temporary in nature. Construction activities

occurring during the quieter nighttime hours are of particular concern. If construction activities were to occur during the nighttime hours this could result in increased levels of annoyance and potential for sleep disruption to occupants of nearby dwellings. However, Mitigation Measure 6.3-1 would apply to substation construction to limit the hours when construction operations may occur and the 2008 EIR concluded that implementation of this measure would reduce impacts to a less than significant level. Long-term stationary and area-source noise levels were evaluated in Impact 6.3-3, which concluded that impacts of these new noise sources on nearby receptors would be less than significant. No change to the conclusions of the 2008 EIR regarding noise impacts is required, and there are no new circumstances that would result in substantially more severe impacts or new information that would require additional analysis with respect to noise impacts as a result of development of the SMUD substation.

Conclusion

No new circumstances involving new significant impacts have occurred. While there are modifications to the sound barrier heights required under Mitigation Measure 6.3-4, the conclusions contained in the DEIR would be unaffected by these changes, as confirmed by the analysis prepared by BAC (Attachment C). No new analyses or verifications are required with respect to any associated impacts or mitigation measures. Therefore, the conclusions contained in the noise analysis in the DEIR and cumulative noise analysis in the SRDEIR remain valid and no further analysis is required.

Public Services

Prior to annexation into the City, the project site was located within the North Natomas Fire Protection District. However, the project site is currently served by the City of Sacramento Fire Department (SFD). Since the approval of the project, Station 43 has been put into service south of the project site at 4201 El Centro Road. Station 43 is approximately two miles south of the project site and the closest station to the project site. The next nearest fire station to the project site is Fire Station 30, located at the northeast corner of Regency Park Circle and Club Center Drive approximately 3 miles east of the project site and Fire Station 3, located at 7208 West Elkhorn Boulevard is approximately four miles west of the project site, on the opposite side of Sacramento International Airport from the project site.

The DEIR addresses impacts associated with fire and emergency services in Impact 6.5-1. The DEIR analysis of the project notes that, at the time of the DEIR preparation (2006), the City was planning to construct a new fire station to serve the project site and surrounding area, but the timing of construction and exact location of the fire station were unknown. Previously the response time to the site from the nearest fire station was estimated to be seven minutes, which was in excess of the optimal response time of 4.5 minutes noted in the DEIR. Because it was unknown whether adequate fire protection facilities would be in place at the time the first occupancy permit would be issued, the project could have resulted in residents living in an area where inadequate fire and emergency response services are provided. The DEIR determined

that this would be a potentially significant impact. The DEIR included mitigation measures that would provide for financing and construction of a fire station to serve the project site. However, because of the uncertainties about location and timing of the opening of the fire station, the impact was considered to be significant and unavoidable.

As noted above, Station 43 has been constructed and placed in service since the approval of the original project. According to the Sacramento Metropolitan Fire Department, Station 43 would be the most likely station to respond to the project site because of its easy access to the site from I-5. The 2017 Addendum concluded that the response time from Station 43 would not be at the optimal time (five minutes or less), but would be within an acceptable range according to fire personnel (Lee, pers. comm. 2013). However, as reflected in the Findings of Fact approved with the Phase 1 entitlements, following publication of the Addendum, the Fire Department recalculated its response times and determined that an additional fire station was no longer needed on the project site because fire unit travel times from Stations 30 and 43 via Meister Way would be well within the 5:50 minute standard at 3:54 and 4:26 respectively. Therefore, the construction of a new fire station at 50% buildout is no longer a condition of approval and a funding mechanism is not included in the updated Greenbriar Financing Plan. Because the response times are even faster than the optimal response time of 5:50 minutes (and below the 4.5 minutes assumed in the prior EIR), the impact to fire services remains less than significant. No further analysis is required because the level of significance of impacts associated with fire and emergency services described in the DEIR would be reduced to a less-than-significant level. Overall, impacts would be less than that described in the DEIR.

The DEIR addresses impacts associated with demand for police services in Impact 6.5-2. The DEIR notes that because the City would add personnel to the police department on an as-needed basis to meet service goals, the project would not result in the need to construct any new police facilities to serve the project (the construction of which could result in significant physical environmental impacts). The applicant's finance plan would ensure adequate funding is paid into a fee program that would ensure basic police services as development occurs; the project would not result in any substantial adverse impacts to police facilities and services. Therefore, the DEIR concluded that this impact would be considered less than significant. The proposed amendment to the project would result in slightly fewer residents on the site than the approved project would have allowed. Therefore, demand for law enforcement services would not be substantially different than the approved project. The conclusions in DEIR remain valid and no further analysis is required.

The DEIR addresses Impact 6.5-4 associated with schools on pages 6.5-8 to 6.5-9. The DEIR notes that school facilities currently serving the Natomas area, including the proposed elementary school site at the project site, would provide adequate school services to the project site. No additional facilities would be required. In addition, the project applicant would be required to pay development impact fees to the Twin Rivers Union School District. Payment of the development impact fees would provide the legally maximum required level of funding under State law, and would fully mitigate project-related school impacts. The DEIR analysis

concludes that the project would result in less-than-significant impacts to school services. The amended project would construct fewer housing units than the approved project. As a consequence, fewer students would be generated by the amended project than were anticipated in the DEIR analysis. The conclusions in DEIR remain valid and no further analysis is required.

Conclusion

No new circumstances have occurred nor has any substantially important new information been found with respect to public services requiring new analysis or verification. Therefore, the conclusions of the 2008 EIR remain valid and implementation of the proposed project would not result in any new significant impacts associated with public services.

Recreation

The DEIR addresses impacts associated with parks and recreation in Impact 6.6-1. The DEIR concludes that residential development under the project would require 48.2 net acres of parks under the City's Quimby Act standards. As approved in 2008, the project would provide approximately 48.4 net acres of neighborhood and community parks. Therefore, the DEIR concludes that the project would provide sufficient parkland to meet the City's standards for parkland dedication, and thus would provide sufficient park facilities to meet demand. This impact was considered to be less than significant.

The amended project would have fewer housing units and a different mix of densities than the approved project. Using the standards contained in Chapter 16.64 of the City Code to calculate the required parkland dedication, the amended project would require 24.94 acres of neighborhood and community parkland. The parkland acreage dedicated under the amended project would total approximately 25.79 acres (including 5 percent acreage credit per recreational amenity in Phase 1). The impact conclusion contained in the DEIR would remain valid, because the Project is satisfying its dedication requirements under the City's Quimby Act ordinance. The project relies on a combination of direct parkland dedication and an anticipated future request for partial parkland dedication credit. The approved Development Agreement grants Quimby credit for amenities planned within the Phase 1 Community Center pursuant to city code. (City Code Title 16, Chapter 16.64). Therefore, the impact would remain less than significant.

The DEIR also notes in Impact 6.6-2 that the project site is within a portion of the county that historically has been devoted to agriculture, but rapid urban development is replacing much of this open space. The proposed project would result in the conversion of approximately 577 acres of agricultural land to nonagricultural use in an area that already is experiencing substantial development and loss of open space. While the project would retain some areas of open space as habitat corridors, lake/detention basins, the conversion of agricultural land to urban development would result in the permanent loss of open space resources. The DEIR

determined that this impact would be significant. Mitigation measure 6.6-2 would require the project applicant to identify appropriate lands for set aside as permanent conservation easements at a 0.5:1 acre ratio for open space and habitat. However, the DEIR determined that the partial offset of the open space conversion would not fully mitigate the impact, and the impact would remain significant and unavoidable. The Sacramento County Board of Supervisors voted on October 6, 2015, to rescind the 2008 Open Space Agreement/Memorandum of Understanding, to allow Greenbriar to conserve open space and habitat land outside of Sacramento County. (Resolution No. 2015-0784.) Mitigation Measure 6.6-2 has been revised accordingly, as described in the 2017 Addendum. The North Nestor Reserve, located near the Sacramento County line in Sutter County, along with the other off-site reserves within Sacramento County, provide equivalent benefits associated with preservation of agricultural land in the Natomas Basin as contemplated in the 2008 EIR because all reserve lands would still be located within the Natomas Basin. The project as revised would remain substantially the same in terms of land use patterns, and therefore impacts associated with conversion of open space would be the same as described in the DEIR. Therefore, the conclusions regarding loss of open space contained in the DEIR remain valid and no further analysis is required.

Mitigation Measures 6.5-1 and 6.6-2 (as revised in the 2017 Addendum) were referenced in the DEIR analysis of the proposed project and would remain valid if the project were adopted.

Conclusion

No changes in circumstances would result in new or substantially more severe impacts on recreation and open space. The conclusions of the 2008 EIR remain valid and no further analysis is required for these topics. While the project as revised would remain substantially the same in terms of land use patterns and types, and would generate slightly less population than would the approved project, the project meets the parkland dedication requirements of the City under Chapter 16.64 of the City Code.

Transportation and Circulation

The SRDEIR addresses impacts related to transportation and circulation and revisions were made to portions of this analysis in the FEIR. The SRDEIR concludes that the project would result in significant impacts to study area intersections and roadway segments, (Impacts 6.1-1 and 6.1-2). Mitigation measures described in the SRDEIR and revised in the FEIR would reduce the identified impacts to less-than-significant levels. The SRDEIR also identifies significant impacts to freeway ramps (Impact 6.1-3) and freeway mainline segments (Impact 6.1-4). Mitigation measures provided in the SRDEIR and as revised in the FEIR would reduce these impacts, but are beyond the control of the City to implement or are infeasible, and therefore impacts would remain significant and unavoidable.

Cumulative impacts to study area intersections and roadway segments (Impact 6.1-5 and Impact 6.1-6), as well as cumulative impacts to study area freeway ramps and freeway mainline

segments (Impact 6.1-7 and Impact 6.1-8) are considered significant. Mitigation measures provided in the SRDEIR and as revised in the FEIR would reduce these impacts but are beyond the control of the City to implement, and therefore impacts would remain significant and unavoidable.

The SRDEIR concludes that impacts to pedestrian and bicycle circulation would be potentially significant (Impact 6.1-9). Implementation of mitigation measures, including the revisions noted in the 2017 Addendum, would reduce these impacts to less-than-significant levels. Impacts to demand for public transportation are considered significant (Impact 6.1-10). Implementation of mitigation measures would reduce these impacts to less-than-significant levels.

The SRDEIR concludes that construction-related transportation and circulation impacts would be potentially significant (Impact 6.1-11). Implementation of a construction traffic management plan would reduce these impacts to a less-than-significant level. Mitigation Measure 6.1-11 requires that the required traffic management plan be subject to review and approval by the Department of Transportation, Caltrans, Sacramento County, and local emergency service providers, including the City of Sacramento fire and police departments. Because the City of Sacramento has ultimate authority to impose this mitigation measure, and to clarify the role of other agencies in implementation of the construction traffic management plan, the applicant is requesting that Mitigation Measure 6.1-11 be revised to require review by Caltrans, Sacramento County, and local emergency services providers, with ultimate approval authority resting with the City of Sacramento Department of Public Works. The requested revision does not change the effectiveness of the mitigation measure, and as revised, the measure is equivalent to or better than the measure as approved in the 2008 EIR. The revised text of Mitigation Measure 6.1-11 states:

6.1-11: Construction Traffic Management Plan

- a. Prior to issuance of grading permits for the project site, the project applicant shall prepare a detailed Traffic Management Plan that will be subject to review and approval by the City Department of Transportation, and review by Caltrans, Sacramento County, and local emergency services providers including the City of Sacramento fire and police departments. The plan shall ensure that acceptable operating conditions on local roadways and freeway facilities are maintained. At a minimum, the plan shall include:
 - the number of truck trips, time and day of street closures,
 - time of day of arrival and departure of trucks,
 - limitations on the size and type of trucks, provision of a truck staging area with a limitation on the number of trucks that can be waiting,
 - provision of a truck circulation pattern,
 - provision of driveway access plan along Elkhorn Boulevard so that safe vehicular, pedestrian, and bicycle movements are maintained (e.g., steel plates, minimum distances of open trenches, and private vehicle pick up and drop off areas),
 - maintain safe and efficient access routes for emergency vehicles,

- manual traffic control when necessary,
 - proper advance warning and posted signage concerning street closures, and
 - provisions for pedestrian safety.
- b. A copy of the construction traffic management plan shall be submitted to local emergency response agencies and these agencies shall be notified at least 14 days before the commencement of construction that would partially or fully obstruct local roadways.

With this revision, construction-related transportation and circulation impacts would be reduced these impacts to a less-than-significant level.

The SRDEIR concludes that impacts associated with conformity with city parking requirements would be potentially significant (Impact 6.1-12). Implementation of a measure requiring a detailed parking plan would reduce these impacts to a less-than-significant level.

The SRDEIR concludes that impacts associated the project site access would be potentially significant (Impact 6.1-13). Implementation of a measure requiring improved access along Meister Way would reduce these impacts to a less-than-significant level.

The SRDEIR concludes that safety impacts associated the internal circulation would be potentially significant (Impact 6.1-14). Implementation of a mitigation measure requiring traffic calming measures would reduce these impacts to a less-than-significant level.

The SRDEIR concludes that impacts to emergency vehicle access could occur during construction and would be potentially significant (Impact 6.1-15). Implementation of a measure requiring coordination with City Development Services Department and emergency services departments would reduce these impacts to a less-than-significant level.

The project as revised would remain substantially the same as the approved project in terms of land use patterns, However, overall, trip generation would be reduced from that of the project as evaluated in the SRDEIR and FEIR because the revised project would have fewer housing units and less commercial area than the project examined in the SRDEIR and FEIR. According to the Greenbriar Traffic Operations Memorandum prepared by Fehr & Peers, January 31, 2013, circulation impacts are anticipated to be similar to those described in the traffic and circulation analyses prepared for the SRDEIR and FEIR. Some traffic operations would improve due to the reduced number of housing units, and reduced amount of commercial square feet (from the SRDEIR analysis), but overall conclusions regarding impact level would remain the same. Therefore the conclusions contained in the DEIR remain valid and no further analysis is required.

Mitigation Measures 6.1-1a- 6.1-1i, 6.1-2a-6.1-2c, 6.1-3a-6.1-3c, 6.1-4a – 6.1-4e, 6.1-5a–6.1-5j, 6.1-6a – 6.1-6b, 6.1-7a – 6.1-7c, 6.1-8a – 6.1-8c, 6.1-9a-b, d-f, 6.1-10, 6.1-11 (as revised herein),

6.1-12, 6.1-13, 6.1-14, 6.1-15, and 6.1-9c (as revised in the 2017 Addendum) were referenced in the Draft EIR analysis of the proposed project and would remain valid if the project were adopted.

SMUD Substation

The site plan analyzed in the 2008 Draft EIR included development of the SMUD substation in the approximate location as currently proposed, and thus the transportation and circulation impacts associated with its development were considered as part of the overall project analyzed in the 2008 EIR. Construction activities for the development of the substation would result in construction-related commute and haul trips that could temporarily increase traffic volumes on local roadways. Construction of the facility would take place over approximately one year and would be temporary. Construction of the substation would be subject to Mitigation Measure 6.1-11 (as revised herein), which would reduce the impacts to less than significant. The facility would not require any permanent staff and would only require periodic maintenance. Therefore, this facility would not result in the substantial generation of operational traffic such that significant traffic impacts to local roadways and intersections would occur. No change to the conclusions of the 2008 EIR regarding transportation and circulation impacts is required, and there are no new circumstances that would result in substantially more severe impacts or new information that would require additional analysis with respect to transportation and circulation impacts as a result of development of the SMUD substation.

Conclusion

No new circumstances have occurred nor has any substantially important new information been found requiring additional analysis or verification. The project as revised would remain substantially the same in terms of land use patterns and traffic generation. Therefore circulation impacts are anticipated to be similar to those described in the analyses provided in the SRDEIR and FEIR. Therefore, the conclusions of the FEIR remain valid and approval of the amendment to the approved project would not result in any new significant impacts associated with transportation and circulation.

Utilities

The DEIR addresses impacts related to wastewater conveyance infrastructure and treatment capacity in Impacts 6.4-3, which addresses increased demand for wastewater collection and conveyance, and Impact 6.4-4, which addresses SRWTP expansion. With approval of the project in 2008, the project site was annexed to the City, and SOI's for SRCSD and CSD-1 were amended to include the project site. Wastewater collection services would be provided by CSD-1 and the SRCSD. The DEIR concludes that because sufficient capacity within the CSD-1's and SRCSD's conveyance facilities would be available to serve the project, the project would result in less-than-significant impacts to wastewater collection services. The revised project would remain substantially the same in terms of land use patterns, and wastewater flows are expected to be

similar to those described in the DEIR. Therefore, the conclusions regarding wastewater conveyance and treatment capacity remain valid and no further analysis is required.

The 2008 EIR did, however, identify significant and unavoidable impacts related to the need for construction of expanded SRWTP facilities. Permitted treatment capacity at the SRWTP remains unchanged since the project was approved. As described in the 2017 Addendum, however, wastewater flows are slightly reduced from 2008 and SRCSD is no longer pursuing the expansion of the SRWTP based on revised population and influent projections. Therefore, impacts associated with expansion of the SRWTP and the project's contribution to these impacts would not occur and this significant and unavoidable impact would be eliminated. Because the project as revised would remain substantially the same in terms of land use patterns, wastewater generation would be similar to that described in the DEIR. Therefore, the conclusions regarding wastewater treatment capacity remain valid and no further analysis is required.

The DEIR addresses stormwater drainage in Impact 6.4-5. The DEIR notes that the project would increase the volume of stormwater generated at the project site that would result in a significant impact related to storm drainage capacity. Mitigation Measure 6.4-5 would require the project proponents to fully fund and install a new pump that would increase pumping capacity to reduce the impact to a less-than-significant level. The project as revised would remain substantially the same in terms of land use patterns, and therefore impacts associated with stormwater drainage would be expected to be the same as identified in the DEIR. Therefore, the conclusions contained in the DEIR remain valid and no further analysis is required.

The DEIR addresses water demand and delivery infrastructure in Impacts 6.4-1 and 6.4-2. The DEIR notes that the City has sufficient water supplies to meet their existing and projected future demands in addition to the proposed project through 2030 under all water year types (e.g., normal, single-dry, and multiple-dry years). Further, other than construction of the necessary infrastructure to connect the project site to the City's existing water system, no additional water supply facilities would be needed to serve the project. Therefore, this would be a less-than-significant impact related to water supply. The project as revised would remain substantially the same in terms of land use patterns, and therefore impacts associated with water supply would be expected to be the same as identified in the DEIR. Therefore, the conclusions contained in the DEIR remain valid and no further analysis is required.

The DEIR addresses demand for solid waste disposal services and capacity in Impact 6.5-3. The DEIR concludes that because existing solid waste facilities would have adequate capacity to serve the project into the foreseeable future, additional solid waste facilities would not be required. Therefore, the project would have a less-than-significant impact on solid waste services. The project as revised would remain substantially the same in terms of land use types, however the revised project would have fewer low density residential units, more high density units, and fewer residential units overall than would the approved project. The acreage of

commercial land uses would be similar to the approved project. Therefore, solid waste generation would be expected to be similar or slightly less than with the approved project. Therefore, the conclusions contained in the DEIR remain valid and no further analysis is required.

The DEIR addresses demand for electricity and natural gas services in Impact 6.4-6. The DEIR concludes that the provision of energy services to the project site would result in less-than-significant impacts. The project as revised would remain substantially the same in terms of land use types and land use patterns, however the revised project would have fewer residential units overall than would the approved project. The acreage of commercial land uses would be similar to the approved project. Therefore, energy demand would be expected to be similar or slightly less than with the approved project. Therefore, the conclusions contained in the DEIR remain valid and no further analysis is required.

Mitigation Measures 6.4-4 and 6.4-5 (as amended in the 2017 Addendum) were referenced in the Draft EIR analysis of the proposed project and would remain valid if the project were adopted.

Conclusion

No changes in circumstances would result in new or substantially more severe significant environmental impacts related to water supply, or wastewater collection, conveyance or treatment services, compared to the analysis presented in the DEIR. No new significant impacts would occur related to solid waste disposal or storm drainage. Therefore, the conclusions of the DEIR remain valid and approval of the revised project would not result in any new significant impacts related to impacts to utilities and service systems.

ANALYSIS CONCLUSION

As established in the discussions above regarding the potential effects of the proposed project, substantial changes are not proposed to the project, nor have any substantial changes occurred that would require major revisions to the 2008 EIR. Substantial evidence supports use of the EIR and the subsequent review provisions of CEQA Guidelines section 15162.

Overall, the proposed modifications to the project would not result in any new information of substantial importance that would have new, more severe impacts, new mitigation measures, or new or revised alternatives from what was identified for the original project in the 2008 EIR. Therefore, the Community Development Department concludes that the analyses conducted, and the conclusions reached in the EIR certified in 2008 remain relevant and valid and this Addendum was properly prepared. The proposed project would not result in any conditions identified in CEQA Guidelines section 15162, and neither a subsequent nor supplemental EIR is required for the proposed project modifications. The proposed project would remain subject to all applicable previously identified mitigation measures from the 2008 EIR.

Based on the above analysis, this Addendum to the EIR has been prepared and adopted by the City of Sacramento.

Attachments:

- A) February 26, 2019 supplemental air quality analysis prepared by Ascent Environmental
- B) January 31, 2019 supplemental noise analysis prepared by Bollard Acoustical Consultants
- C) Proposed SMUD Distribution Substation Preliminary Site Plan

Attachment A

Greenbriar Development

EIR Addendum

Project No. P18-050

Memo



455 Capitol Mall, Suite 300
Sacramento, CA 95814
916.444.7301

Date: February 26, 2019

To: Amy Higuera, Thomas Law Group

From: Amanda Olekszulyn and Dimitri Antoniou, Ascent Environmental, Inc.

Subject: Greenbriar Phase 2 Entitlement Application Air Quality Analysis Update

PURPOSE

The purpose of this memorandum is to explain the analysis that was previously conducted during the Phase 1 entitlement application process in June 2018, summarize the current proposed project description changes for Phase 2, and provide an updated air quality analysis to supplement the analysis conducted during the June 2018 entitlement application process.

PROJECT HISTORY

On May 30, 2017 the Tentative Master Parcel Map and Tentative Subdivision Map for the project was approved by the City of Sacramento. On April 5, 2018, the applicant submitted a Minor Tentative Map Amendment to Phase 1 of the project (development north of Meister Way). This amendment removed the alley-loaded villages and re-aligned various lot lines to ensure that lots front-on to the neighborhood park and a similar product faces both sides of most streets in the plan. With these proposed changes, the total Phase 1 unit count would be 1,138 single-family and 225 multi-family units, for a total of 1,363 (as compared to 1,267 single-family [reduced by 129 units] and 222 multi-family units [increased by 3 units] under the previously approved map). All collector roads and traffic signals would remain in the same locations as previously approved.

As part of the April 2018 proposed changes to Phase 1 Tentative Master Parcel Map and Tentative Subdivision Map, the original 2008 AQMP analysis was updated (2018 AQMP) to reflect the proposed changes. As a result of the revised density and other minor reorientation of some of the lots, some Air Quality Mitigation Plan (AQMP) mitigation measures no longer applied to the project. To compensate for the loss in mitigation credits that would occur with removal of these measures, the 2018 AQMP analysis was updated to include an additional measure (Measure 28) that would require the applicant to implement onsite solar systems to provide 12.5 percent of the project's total electricity needs. The amendment to the Small Lot Tentative Subdivision Map for Phase 1 of the project was approved by the Zoning Administrator on June 28, 2018.

PHASE 2 ENTITLEMENT APPLICATION AIR QUALITY ANALYSIS

Currently, the applicant is seeking a revision to the Tentative Subdivision Map for Phase 2 of the project resulting in 1,033 single-family homes (decrease of 128 units) and 356 multi-family homes (increase of 50 units) from that previously approved in May 2017.

The air quality analysis conducted in the 2018 AQMP applied to the entire project, not just Phase 1, and is therefore still applicable to the current proposed amendments for Phase 2. However, the analysis needs to be updated to reflect the proposed dwelling unit changes. The 2018 AQMP included Measure 28 Onsite Renewable Energy and quantified the anticipated building-related electricity demand for the entire project (i.e., Phase 1 and Phase 2) as well as the anticipated annual solar electricity production needed to meet the 12.5 percent requirement of Measure 28.

In the 2018 AQMP, building energy demand was estimated based on anticipated land use development for the entire project, considering the 2018 proposed amendments to Phase 1 and the approved land uses/dwelling unit counts for Phase 2 of the 2017 approved project. To estimate electricity demand, the California Emissions Estimator Model (CalEEMod) was used. See Appendix A for inputs and assumptions. For reference, land use and electricity demand details from the 2018 AQMP are provided below in Table 1.

Table 1 Project Annual Energy Demand (2018 Air Quality Mitigation Plan Analysis)

Land Use	Unit/Size	MWH/Year
Single-Family Homes	2,299 dwelling units ¹	19,404
Medium- and High-Density Homes	531 dwelling units ²	2,386
Educational	10 acres	459
Parks/Buffers/Paseos/Landscaping	65 acres	978
Shopping Center	354,143 square feet	4,097
Community Commercial	13,068 square feet	151
Grocery/Retail	67,000 square feet	2,707
Community Center Building	2,000 square feet	29
TOTAL		30,213

Source: City of Sacramento 2018.

1. Single family dwelling units are the sum of the 2018 approved Phase 1 Tentative Map (1,138) and the 2017 approved project for Phase 2 (1,161)

2. Multi-family dwelling units are the sum of the 2018 approved Phase 1 Tentative Map (225) and the 2017 approved project for Phase 2 (306)

Considering the currently proposed changes to Phase 2, the project would result in a total dwelling unit count of 2,171 single-family homes (a decrease of 128 units from the 2018 AQMP analysis) and 581 multi-family homes (an increase of 50 units from the 2018 AQMP analysis) and a net decrease of 78 units onsite.

The 2018 AQMP analysis included a performance standard that required the onsite solar systems to generate a minimum of 3,777 megawatt-hours per year (MWh/year) of electricity or an amount equivalent to 12.5 percent of the total project's electricity demand (including all buildings). It should be noted that the actual energy demand and associated solar requirements may be recalculated using more specific project information (if available), prior to issuance of building permits. Nonetheless, the energy demand calculations conducted in the 2018 AQMP were updated to reflect the proposed changes to Phase 2 using conservative estimates in CalEEMod. Because the proposed changes would reduce the number of dwelling units, the energy calculations

were updated for the residential component of the project only. Updated energy demand estimates for the project are summarized below in Table 2.

Table 2 2019 Phase 2 Amendment Energy-Demand Update

Land Use	2018 AQMP Analysis (MWh/year)	2019 Phase 2 Analysis (MWh/year)
Single-Family Homes	19,404	18,331
Multi-Family Homes	2,386	2,611
Residential Total	21,790	20,943
All other land uses	8,421	8,421
Project Total	30,213	29,364
Mitigation Requirement (12.5% project electricity demand)	3,777	3,671

Source: City of Sacramento 2018.

1. Single-family dwelling units are the sum of the 2018 approved Phase 1 Tentative Map (1,138) and the 2017 approved project for Phase 2 (1,161)
2. Multi-family dwelling units are the sum of the 2018 approved Phase 1 Tentative Map (225) and the 2017 approved project for Phase 2 (306)

As shown above in Table 2, combining the energy demand estimates for both single-family homes and multi-family homes as estimated in the 2018 AQMP resulted in a total annual electricity demand of 21,790 MWh/year. CalEEMod was re-run with the new unit counts (i.e., 2,171 single-family homes and 581 multi-family homes), resulting in a combined residential annual electricity demand of 20,943 MWh/year, a decrease of 847 MWh/year from the 2018 AQMP analysis. When combining residential energy demand with all other land uses, the mitigation requirement of 12.5 percent of project energy generated from solar would be 3,671 MWh/year. This revised mitigation requirement supersedes the value reported in the 2018 AQMP of 3,777 MWh/year.

Relying on the analysis conducted in the 2018 AQMP for Measure 28, the revisions to Phase 2 would continue to provide adequate number of dwellings units such that the performance standard of providing 12.5 percent of project electricity demand with onsite solar could be achieved. If, more detailed energy demand estimates are available during final project design, the above mitigation requirement may be adjusted, so long as substantial evidence is provided to the City for approval.

REFERENCES

City of Sacramento. 2018 (June). Greenbriar Development Project Operational Air Quality Mitigation Plan. Prepared for: City of Sacramento Environmental Planning Services and Sacramento Local Agency Formation Commission. Prepared by: Ascent Environmental, Inc. June, 2018. Sacramento, CA.

Appendix A

Residential Energy Demand Estimates

GB_Phase 2 Amendment - Sacramento County, Annual

**GB_Phase 2 Amendment
Sacramento County, Annual**

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
General Office Building	2.00	1000sqft	1.90	2,000.00	0
Elementary School	750.00	Student	10.00	62,702.53	0
City Park	65.10	Acre	65.10	2,835,756.00	0
Apartments Low Rise	581.00	Dwelling Unit	17.30	581,000.00	1551
Single Family Housing	2,171.00	Dwelling Unit	362.00	3,907,800.00	5797
Regional Shopping Center	354.14	1000sqft	27.10	354,143.00	0
Strip Mall	13.07	1000sqft	1.50	13,068.00	0
Supermarket	67.00	1000sqft	6.40	67,000.00	0

1.2 Other Project Characteristics

Urbanization	Urban	Wind Speed (m/s)	3.5	Precipitation Freq (Days)	58
Climate Zone	6			Operational Year	2020
Utility Company	Sacramento Municipal Utility District				
CO2 Intensity (lb/MW hr)	590.31	CH4 Intensity (lb/MW hr)	0.029	N2O Intensity (lb/MW hr)	0.006

1.3 User Entered Comments & Non-Default Data

GB_Phase 2 Amendment - Sacramento County, Annual

Project Characteristics -

Land Use - Office used to represent community center. All land uses provided by wood rogers 2018. See AQMP Appendix for details/sources.

Construction Phase - run used for electricity demand only

Off-road Equipment - run used for electricity demand only

Trips and VMT - run used for electricity demand only.

On-road Fugitive Dust - run used for electricity demand only.

Grading - run used for electricity demand only

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Table Name	Column Name	Default Value	New Value
tblConstDustMitigation	WaterUnpavedRoadMoistureContent	0	0.5
tblConstDustMitigation	WaterUnpavedRoadVehicleSpeed	0	40
tblConstructionPhase	NumDays	620.00	1.00
tblLandUse	LandUseSquareFeet	354,140.00	354,143.00
tblLandUse	LandUseSquareFeet	13,070.00	13,068.00
tblLandUse	LotAcreage	0.05	1.90
tblLandUse	LotAcreage	1.44	10.00
tblLandUse	LotAcreage	36.31	17.30
tblLandUse	LotAcreage	704.87	362.00
tblLandUse	LotAcreage	8.13	27.10
tblLandUse	LotAcreage	0.30	1.50
tblLandUse	LotAcreage	1.54	6.40
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	0.00
tblOnRoadDust	HaulingPercentPave	100.00	0.00
tblOnRoadDust	RoadSiltLoading	0.10	0.00
tblOnRoadDust	VendorPercentPave	100.00	0.00
tblOnRoadDust	WorkerPercentPave	100.00	0.00
tblTripsAndVMT	HaulingTripLength	20.00	0.00
tblTripsAndVMT	VendorTripLength	6.50	0.00
tblTripsAndVMT	WorkerTripLength	10.00	0.00

2.0 Emissions Summary

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Quarter	Start Date	End Date	Maximum Unmitigated ROG + NOX (tons/quarter)	Maximum Mitigated ROG + NOX (tons/quarter)
		Highest		

2.2 Overall Operational

Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	23.5265	0.3295	28.4909	1.5000e-003		0.1566	0.1566		0.1566	0.1566	0.0000	46.3900	46.3900	0.0453	0.0000	47.5222
Energy	0.3655	3.1375	1.4301	0.0199		0.2526	0.2526		0.2526	0.2526	0.0000	11,218.4070	11,218.4070	0.4427	0.1436	11,272.2619
Mobile	15.2352	60.9584	160.5933	0.4312	34.6642	0.4754	35.1396	9.2973	0.4468	9.7441	0.0000	39,600.4401	39,600.4401	2.1404	0.0000	39,653.9497
Waste						0.0000	0.0000		0.0000	0.0000	682.2547	0.0000	682.2547	40.3201	0.0000	1,690.2570
Water						0.0000	0.0000		0.0000	0.0000	78.5275	498.1573	576.6848	0.2948	0.1758	636.4526
Total	39.1273	64.4253	190.5143	0.4527	34.6642	0.8846	35.5488	9.2973	0.8560	10.1533	760.7822	51,363.3944	52,124.1765	43.2433	0.3194	53,300.4434

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2.2 Overall Operational

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	23.5265	0.3295	28.4909	1.5000e-003		0.1566	0.1566		0.1566	0.1566	0.0000	46.3900	46.3900	0.0453	0.0000	47.5222
Energy	0.3655	3.1375	1.4301	0.0199		0.2526	0.2526		0.2526	0.2526	0.0000	11,218.4070	11,218.4070	0.4427	0.1436	11,272.2619
Mobile	15.2352	60.9584	160.5933	0.4312	34.6642	0.4754	35.1396	9.2973	0.4468	9.7441	0.0000	39,600.4401	39,600.4401	2.1404	0.0000	39,653.9497
Waste						0.0000	0.0000		0.0000	0.0000	682.2547	0.0000	682.2547	40.3201	0.0000	1,690.2570
Water						0.0000	0.0000		0.0000	0.0000	78.5275	498.1573	576.6848	0.2948	0.1758	636.4526
Total	39.1273	64.4253	190.5143	0.4527	34.6642	0.8846	35.5488	9.2973	0.8560	10.1533	760.7822	51,363.3944	52,124.1765	43.2433	0.3194	53,300.4434

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Percent Reduction	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Grading	Grading	11/12/2020	11/12/2020	5	1	

Acres of Grading (Site Preparation Phase): 0

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Acres of Grading (Grading Phase): 0

Acres of Paving: 0

Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 0; Non-Residential Outdoor: 0; Striped Parking Area: 0 (Architectural Coating – sqft)

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Grading	Excavators	0	8.00	158	0.38
Grading	Graders	0	8.00	187	0.41
Grading	Rubber Tired Dozers	0	8.00	247	0.40
Grading	Scrapers	0	8.00	367	0.48
Grading	Tractors/Loaders/Backhoes	0	8.00	97	0.37

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Grading	0	0.00	0.00	0.00	0.00	0.00	0.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

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3.2 Grading - 2020

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

4.0 Operational Detail - Mobile

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4.1 Mitigation Measures Mobile

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	15.2352	60.9584	160.5933	0.4312	34.6642	0.4754	35.1396	9.2973	0.4468	9.7441	0.0000	39,600.4401	39,600.4401	2.1404	0.0000	39,653.9497
Unmitigated	15.2352	60.9584	160.5933	0.4312	34.6642	0.4754	35.1396	9.2973	0.4468	9.7441	0.0000	39,600.4401	39,600.4401	2.1404	0.0000	39,653.9497

4.2 Trip Summary Information

Land Use	Average Daily Trip Rate			Unmitigated	Mitigated
	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Apartments Low Rise	3,828.79	4,159.96	3526.67	9,835,742	9,835,742
City Park	123.04	1,481.03	1089.77	839,715	839,715
Elementary School	967.50	0.00	0.00	1,453,220	1,453,220
General Office Building	22.06	4.92	2.10	34,611	34,611
Regional Shopping Center	15,121.78	17,696.38	8938.49	20,409,388	20,409,388
Single Family Housing	20,667.92	21,514.61	18714.02	52,630,247	52,630,247
Strip Mall	579.26	549.46	267.02	652,223	652,223
Supermarket	6,850.08	11,898.53	11151.48	7,044,272	7,044,272
Total	48,160.43	57,304.88	43,689.56	92,899,418	92,899,418

4.3 Trip Type Information

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Land Use	Miles			Trip %			Trip Purpose %		
	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
Apartments Low Rise	10.00	5.00	6.50	46.50	12.50	41.00	86	11	3
City Park	10.00	5.00	6.50	33.00	48.00	19.00	66	28	6
Elementary School	10.00	5.00	6.50	65.00	30.00	5.00	63	25	12
General Office Building	10.00	5.00	6.50	33.00	48.00	19.00	77	19	4
Regional Shopping Center	10.00	5.00	6.50	16.30	64.70	19.00	54	35	11
Single Family Housing	10.00	5.00	6.50	46.50	12.50	41.00	86	11	3
Strip Mall	10.00	5.00	6.50	16.60	64.40	19.00	45	40	15
Supermarket	10.00	5.00	6.50	6.50	74.50	19.00	34	30	36

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
Apartments Low Rise	0.551662	0.040953	0.203778	0.123762	0.021802	0.005583	0.018466	0.022043	0.002076	0.002280	0.006004	0.000618	0.000971
City Park	0.551662	0.040953	0.203778	0.123762	0.021802	0.005583	0.018466	0.022043	0.002076	0.002280	0.006004	0.000618	0.000971
Elementary School	0.551662	0.040953	0.203778	0.123762	0.021802	0.005583	0.018466	0.022043	0.002076	0.002280	0.006004	0.000618	0.000971
General Office Building	0.551662	0.040953	0.203778	0.123762	0.021802	0.005583	0.018466	0.022043	0.002076	0.002280	0.006004	0.000618	0.000971
Regional Shopping Center	0.551662	0.040953	0.203778	0.123762	0.021802	0.005583	0.018466	0.022043	0.002076	0.002280	0.006004	0.000618	0.000971
Single Family Housing	0.551662	0.040953	0.203778	0.123762	0.021802	0.005583	0.018466	0.022043	0.002076	0.002280	0.006004	0.000618	0.000971
Strip Mall	0.551662	0.040953	0.203778	0.123762	0.021802	0.005583	0.018466	0.022043	0.002076	0.002280	0.006004	0.000618	0.000971
Supermarket	0.551662	0.040953	0.203778	0.123762	0.021802	0.005583	0.018466	0.022043	0.002076	0.002280	0.006004	0.000618	0.000971

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

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	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Electricity Mitigated							0.0000	0.0000		0.0000	0.0000	7,600.7895	7,600.7895	0.3734	0.0773	7,633.1467
Electricity Unmitigated							0.0000	0.0000		0.0000	0.0000	7,600.7895	7,600.7895	0.3734	0.0773	7,633.1467
NaturalGas Mitigated	0.3655	3.1375	1.4301	0.0199		0.2526	0.2526		0.2526	0.2526	0.0000	3,617.6175	3,617.6175	0.0693	0.0663	3,639.1152
NaturalGas Unmitigated	0.3655	3.1375	1.4301	0.0199		0.2526	0.2526		0.2526	0.2526	0.0000	3,617.6175	3,617.6175	0.0693	0.0663	3,639.1152

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5.2 Energy by Land Use - NaturalGas

Unmitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
Apartments Low Rise	7.02936e+006	0.0379	0.3239	0.1378	2.0700e-003		0.0262	0.0262		0.0262	0.0262	0.0000	375.1132	375.1132	7.1900e-003	6.8800e-003	377.3423
City Park	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Elementary School	956841	5.1600e-003	0.0469	0.0394	2.8000e-004		3.5600e-003	3.5600e-003		3.5600e-003	3.5600e-003	0.0000	51.0607	51.0607	9.8000e-004	9.4000e-004	51.3641
General Office Building	26200	1.4000e-004	1.2800e-003	1.0800e-003	1.0000e-005		1.0000e-004	1.0000e-004		1.0000e-004	1.0000e-004	0.0000	1.3981	1.3981	3.0000e-005	3.0000e-005	1.4064
Regional Shopping Center	1.91946e+006	0.0104	0.0941	0.0790	5.6000e-004		7.1500e-003	7.1500e-003		7.1500e-003	7.1500e-003	0.0000	102.4294	102.4294	1.9600e-003	1.8800e-003	103.0381
Single Family Housing	5.60871e+007	0.3024	2.5844	1.0998	0.0165		0.2090	0.2090		0.2090	0.2090	0.0000	2,993.0219	2,993.0219	0.0574	0.0549	3,010.8079
Strip Mall	70828.6	3.8000e-004	3.4700e-003	2.9200e-003	2.0000e-005		2.6000e-004	2.6000e-004		2.6000e-004	2.6000e-004	0.0000	3.7797	3.7797	7.0000e-005	7.0000e-005	3.8021
Supermarket	1.7018e+006	9.1800e-003	0.0834	0.0701	5.0000e-004		6.3400e-003	6.3400e-003		6.3400e-003	6.3400e-003	0.0000	90.8145	90.8145	1.7400e-003	1.6600e-003	91.3542
Total		0.3655	3.1375	1.4301	0.0199		0.2526	0.2526		0.2526	0.2526	0.0000	3,617.6175	3,617.6175	0.0693	0.0663	3,639.1152

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5.2 Energy by Land Use - NaturalGas

Mitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
Apartments Low Rise	7.02936e+006	0.0379	0.3239	0.1378	2.0700e-003		0.0262	0.0262		0.0262	0.0262	0.0000	375.1132	375.1132	7.1900e-003	6.8800e-003	377.3423
City Park	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Elementary School	956841	5.1600e-003	0.0469	0.0394	2.8000e-004		3.5600e-003	3.5600e-003		3.5600e-003	3.5600e-003	0.0000	51.0607	51.0607	9.8000e-004	9.4000e-004	51.3641
General Office Building	26200	1.4000e-004	1.2800e-003	1.0800e-003	1.0000e-005		1.0000e-004	1.0000e-004		1.0000e-004	1.0000e-004	0.0000	1.3981	1.3981	3.0000e-005	3.0000e-005	1.4064
Regional Shopping Center	1.91946e+006	0.0104	0.0941	0.0790	5.6000e-004		7.1500e-003	7.1500e-003		7.1500e-003	7.1500e-003	0.0000	102.4294	102.4294	1.9600e-003	1.8800e-003	103.0381
Single Family Housing	5.60871e+007	0.3024	2.5844	1.0998	0.0165		0.2090	0.2090		0.2090	0.2090	0.0000	2,993.0219	2,993.0219	0.0574	0.0549	3,010.8079
Strip Mall	70828.6	3.8000e-004	3.4700e-003	2.9200e-003	2.0000e-005		2.6000e-004	2.6000e-004		2.6000e-004	2.6000e-004	0.0000	3.7797	3.7797	7.0000e-005	7.0000e-005	3.8021
Supermarket	1.7018e+006	9.1800e-003	0.0834	0.0701	5.0000e-004		6.3400e-003	6.3400e-003		6.3400e-003	6.3400e-003	0.0000	90.8145	90.8145	1.7400e-003	1.6600e-003	91.3542
Total		0.3655	3.1375	1.4301	0.0199		0.2526	0.2526		0.2526	0.2526	0.0000	3,617.6175	3,617.6175	0.0693	0.0663	3,639.1152

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5.3 Energy by Land Use - Electricity

Unmitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Apartments Low Rise	2.61115e+006	699.1627	0.0344	7.1100e-003	702.1391
City Park	0	0.0000	0.0000	0.0000	0.0000
Elementary School	458983	122.8972	6.0400e-003	1.2500e-003	123.4204
General Office Building	28880	7.7329	3.8000e-004	8.0000e-005	7.7658
Regional Shopping Center	4.09743e+006	1,097.1295	0.0539	0.0112	1,101.8001
Single Family Housing	1.83314e+007	4,908.4301	0.2411	0.0499	4,929.3257
Strip Mall	151197	40.4845	1.9900e-003	4.1000e-004	40.6568
Supermarket	2.70747e+006	724.9525	0.0356	7.3700e-003	728.0387
Total		7,600.7894	0.3734	0.0773	7,633.1467

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5.3 Energy by Land Use - Electricity

Mitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Apartments Low Rise	2.61115e+006	699.1627	0.0344	7.1100e-003	702.1391
City Park	0	0.0000	0.0000	0.0000	0.0000
Elementary School	458983	122.8972	6.0400e-003	1.2500e-003	123.4204
General Office Building	28880	7.7329	3.8000e-004	8.0000e-005	7.7658
Regional Shopping Center	4.09743e+006	1,097.1295	0.0539	0.0112	1,101.8001
Single Family Housing	1.83314e+007	4,908.4301	0.2411	0.0499	4,929.3257
Strip Mall	151197	40.4845	1.9900e-003	4.1000e-004	40.6568
Supermarket	2.70747e+006	724.9525	0.0356	7.3700e-003	728.0387
Total		7,600.7894	0.3734	0.0773	7,633.1467

6.0 Area Detail

6.1 Mitigation Measures Area

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	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	23.5265	0.3295	28.4909	1.5000e-003		0.1566	0.1566		0.1566	0.1566	0.0000	46.3900	46.3900	0.0453	0.0000	47.5222
Unmitigated	23.5265	0.3295	28.4909	1.5000e-003		0.1566	0.1566		0.1566	0.1566	0.0000	46.3900	46.3900	0.0453	0.0000	47.5222

6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	3.1518					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	19.5062					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Hearth	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	0.8686	0.3295	28.4909	1.5000e-003		0.1566	0.1566		0.1566	0.1566	0.0000	46.3900	46.3900	0.0453	0.0000	47.5222
Total	23.5265	0.3295	28.4909	1.5000e-003		0.1566	0.1566		0.1566	0.1566	0.0000	46.3900	46.3900	0.0453	0.0000	47.5222

GB_Phase 2 Amendment - Sacramento County, Annual

6.2 Area by SubCategory

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	3.1518					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	19.5062					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Hearth	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	0.8686	0.3295	28.4909	1.5000e-003		0.1566	0.1566		0.1566	0.1566	0.0000	46.3900	46.3900	0.0453	0.0000	47.5222
Total	23.5265	0.3295	28.4909	1.5000e-003		0.1566	0.1566		0.1566	0.1566	0.0000	46.3900	46.3900	0.0453	0.0000	47.5222

7.0 Water Detail

7.1 Mitigation Measures Water

GB_Phase 2 Amendment - Sacramento County, Annual

	Total CO2	CH4	N2O	CO2e
Category	MT/yr			
Mitigated	576.6848	0.2948	0.1758	636.4526
Unmitigated	576.6848	0.2948	0.1758	636.4526

GB_Phase 2 Amendment - Sacramento County, Annual

7.2 Water by Land Use

Unmitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Apartments Low Rise	34.5968 / 21.811	78.8378	0.0454	0.0273	88.1070
City Park	0 / 77.5654	72.6913	3.5700e-003	7.4000e-004	73.0007
Elementary School	1.81818 / 4.67532	7.4505	2.5500e-003	1.4700e-003	7.9517
General Office Building	0.355467 / 0.217867	0.8042	4.7000e-004	2.8000e-004	0.8994
Regional Shopping Center	26.232 / 16.0777	59.3456	0.0344	0.0207	66.3719
Single Family Housing	149.724 / 94.3912	341.1852	0.1965	0.1181	381.2993
Strip Mall	0.968128 / 0.593369	2.1902	1.2700e-003	7.6000e-004	2.4495
Supermarket	8.25897 / 0.255432	14.1801	0.0106	6.4700e-003	16.3731
Total		576.6848	0.2948	0.1758	636.4526

GB_Phase 2 Amendment - Sacramento County, Annual

7.2 Water by Land Use

Mitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Apartments Low Rise	34.5968 / 21.811	78.8378	0.0454	0.0273	88.1070
City Park	0 / 77.5654	72.6913	3.5700e-003	7.4000e-004	73.0007
Elementary School	1.81818 / 4.67532	7.4505	2.5500e-003	1.4700e-003	7.9517
General Office Building	0.355467 / 0.217867	0.8042	4.7000e-004	2.8000e-004	0.8994
Regional Shopping Center	26.232 / 16.0777	59.3456	0.0344	0.0207	66.3719
Single Family Housing	149.724 / 94.3912	341.1852	0.1965	0.1181	381.2993
Strip Mall	0.968128 / 0.593369	2.1902	1.2700e-003	7.6000e-004	2.4495
Supermarket	8.25897 / 0.255432	14.1801	0.0106	6.4700e-003	16.3731
Total		576.6848	0.2948	0.1758	636.4526

8.0 Waste Detail

8.1 Mitigation Measures Waste

GB_Phase 2 Amendment - Sacramento County, Annual

Category/Year

	Total CO2	CH4	N2O	CO2e
	MT/yr			
Mitigated	682.2547	40.3201	0.0000	1,690,257 0
Unmitigated	682.2547	40.3201	0.0000	1,690,257 0

GB_Phase 2 Amendment - Sacramento County, Annual

8.2 Waste by Land Use**Unmitigated**

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Apartments Low Rise	244.26	49.5826	2.9303	0.0000	122.8387
City Park	5.6	1.1368	0.0672	0.0000	2.8163
Elementary School	136.88	27.7854	1.6421	0.0000	68.8372
General Office Building	1.86	0.3776	0.0223	0.0000	0.9354
Regional Shopping Center	371.85	75.4822	4.4609	0.0000	187.0039
Single Family Housing	2208.96	448.3989	26.4996	0.0000	1,110.8893
Strip Mall	13.72	2.7850	0.1646	0.0000	6.8998
Supermarket	377.88	76.7062	4.5332	0.0000	190.0364
Total		682.2547	40.3201	0.0000	1,690.2570

GB_Phase 2 Amendment - Sacramento County, Annual

8.2 Waste by Land Use

Mitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Apartments Low Rise	244.26	49.5826	2.9303	0.0000	122.8387
City Park	5.6	1.1368	0.0672	0.0000	2.8163
Elementary School	136.88	27.7854	1.6421	0.0000	68.8372
General Office Building	1.86	0.3776	0.0223	0.0000	0.9354
Regional Shopping Center	371.85	75.4822	4.4609	0.0000	187.0039
Single Family Housing	2208.96	448.3989	26.4996	0.0000	1,110.8893
Strip Mall	13.72	2.7850	0.1646	0.0000	6.8998
Supermarket	377.88	76.7062	4.5332	0.0000	190.0364
Total		682.2547	40.3201	0.0000	1,690.2570

9.0 Operational Offroad

Equipment Type	Number	Hours/Day	Days/Year	Horse Power	Load Factor	Fuel Type
----------------	--------	-----------	-----------	-------------	-------------	-----------

10.0 Stationary Equipment

Fire Pumps and Emergency Generators

GB_Phase 2 Amendment - Sacramento County, Annual

Equipment Type	Number	Hours/Day	Hours/Year	Horse Power	Load Factor	Fuel Type
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Boilers

Equipment Type	Number	Heat Input/Day	Heat Input/Year	Boiler Rating	Fuel Type
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User Defined Equipment

Equipment Type	Number
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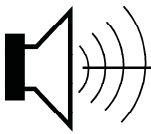
11.0 Vegetation

Attachment B

Greenbriar Development

EIR Addendum

Project No. P18-050



January 31, 2019

Mr. John Stanek and Caren Read, Esq.
The Greenbriar Project Owner, LP
C/O Mr. Mike Carson
888 San Clemente, Suite 100
Newport Beach, CA 92660

Subject: Greenbriar Development Sound Wall Review

Dear Messrs. Stanek and Read,

Pursuant to your request, Bollard Acoustical Consultants, Inc. (BAC) has re-evaluated the proposed noise barrier heights for the Greenbriar Development in Sacramento, California. This evaluation was requested due to changes in project site plans, predicted future traffic volumes, and grading plans which have occurred since the noise barrier heights were evaluated in the 2006 EIR prepared for the project. The results of the original EIR and the procedures and results of this updated noise barrier analysis are presented in the following sections.

Criteria for Acceptable Noise Exposure

The City of Sacramento General Plan requires that exterior traffic and railroad noise environments at new residential uses be at or below 60 dB Ldn at primary outdoor activity areas.

Predicted Traffic Noise Levels – 2006 EIR

The 2006 EIR for this project utilized the FHWA Model to predict traffic noise levels along roadway segments affecting the project site, including Interstate 5, State Route 99, Elkhorn Boulevard, Lone Tree Road, and Meister Way. The traffic noise contours predicted in the EIR are shown below.

Table 6.3-13
Predicted Traffic Noise Contours under Future Plus Project Conditions
Table with 5 columns: Scenario/Roadway Segments, 70 Ldn/CNEL, 65 Ldn/CNEL, 60 Ldn/CNEL, 55 Ldn/CNEL. Rows include I-5 west of SR 70/99 Split, SR 70/99 between Elkhorn Boulevard and I-5 Split, Elkhorn Boulevard between Lone Tree Road and SR 70/99, Lone Tree Road south of Elkhorn Boulevard, and Meister Way (on the project site).

The barrier heights recommended in the original EIR and the barrier heights recommended in this updated analysis are compared in a subsequent section.

Predicted Traffic Noise Levels – Current/Updated Study

The FHWA Model was used with the latest traffic data to predict future traffic noise levels at the nearest noise-sensitive exterior areas of single-family detached residential uses proposed within the Greenbriar project site (backyards). Future Average Daily Traffic (ADT) volumes for Elkhorn Boulevard, Lone Tree Road, and Meister Way were obtained from the traffic study prepared in the Greenbriar 2nd RDEIR. More recent traffic volumes for State Route 99 and Interstate 5 were obtained from SACOG traffic forecasts.

The FHWA Model inputs and predicted future traffic noise levels at the project site are shown in Attachment A. Calibration offsets previously identified for I-5 and Highway 99 remained, and an additional offset of -3 dB was applied to future Lone Tree Road traffic noise levels to account for the excess ground attenuation which will result from the 200+ foot greenbelt located between that roadway and the nearest residences in the Greenbrier development.

In addition to predicting future traffic noise exposure at the nearest potentially affected residential backyards, BAC conducted an updated evaluation of the effectiveness of solid noise barriers in reducing those future traffic noise levels to a state of compliance with the City of Sacramento 60 dB L_{dn} exterior noise standard. The predicted future traffic noise levels and barrier heights required to achieve satisfaction with the City noise standard are summarized below in Table 1. Required noise barrier locations and barrier heights are shown in Attachment B.

Table 1 Predicted Future Traffic Noise Levels and Recommended Noise Barriers^a Greenbriar Sound Wall Review – Sacramento, CA					
Roadway	Segment Description	Distance to Nearest Backyard (feet)	Offset Applied^b (dB)	Noise Level at Nearest Backyards (dB L_{dn})	Wall Height Required (feet)^c
State Route 99	Elkhorn Blvd to I-5 Split	250	-5	68	8
Interstate 5	West of State Route 99	245	-3	70	10
Elkhorn Blvd	Lone Tree Rd to SR 99	135	0	70	10
Lone Tree Rd	South of Elkhorn Blvd	265	-3	59	--
Meister Way	Lone Tree Rd to SR-99	70	+3 ^d	68	8

Notes:
^a Detailed results provided in Attachment A.
^b Offset based on calibration results.
^c Minimum sound wall height required; see Attachment B for sound wall locations.
^d Offset applied due to light rail tracks adjacent to Meister Way.
 Source: Bollard Acoustical Consultants, Inc. (2016); SACOG (2011); Greenbriar 2nd RDEIR.

Table 1 shows that an offset of -5 dB was applied to State Route 99 traffic based on the calibration results. Similarly, an offset of -3 dB was applied to Interstate 5 traffic and Lone Tree Road due to the calibration results and ground attenuation. An offset of +3 dB was applied to Meister Way traffic to account for future light-rail noise associated with the new tracks which will parallel Meister Way to the south.

Comparison of Current Barrier Recommendations to Those Recommended in Original EIR

The Greenbriar Development Project DEIR Mitigation Measure 6.3-4 (a) – (i) provides specific requirements for noise barriers for located in various portions of the development. As noted previously, since the DEIR was prepared, the site plan has been revised. The plan revisions include reorienting many residential lots so that they face the major roadway noise sources, thereby shielding the more sensitive rear yard areas by the residences themselves. As a result of the site plan revisions, some of the recommendations included in MM 6.34 require updating to reflect the new orientation.

The DEIR Mitigation Measures 6.34 (a) – (i) are presented below, followed by a discussion of the changes in noise barrier requirements resulting from this updated analysis.

MM 6.3.4(a). *For noise impact/mitigation area A (see Exhibit 6.3-6), a solid (e.g., earth, concrete, masonry, wood, and other materials) noise barrier shall be constructed of 10 feet in height relative to backyard elevation at the residences located nearest to the southern boundary, stepping down linearly to 6 feet at its northwestern terminus. The wrapped portion of the barrier along the southeast corner shall also step down to 6 feet in height at its terminus.*

This updated study recommends a barrier height of 10 feet, stepping down to 6 feet at its northwestern terminus (see Attachment B). This change is due to a more recent I-5 traffic volume from the SACOG Metropolitan Transportation Plan, as well as updated truck percentages.

MM 6.3.4(b). *For noise impact/mitigation area B (see Exhibit 6.3-6), the drainage opening shall be shifted to the north by two lots to close the acoustic opening.*

This mitigation measure was incorporated into the current site plan. The drainage opening has been shifted as indicated on Attachment B.

MM 6.3.4(c). *For noise impact/mitigation area C (see Exhibit 6.3-6), the spaces between the residences shall be bridged with solid noise barriers (e.g., earth, concrete, masonry, wood, and other materials) of 6 feet in height, rather than conventional wood privacy fences. Gates constructed for access into the rear yard spaces shall be constructed so as not to create appreciable acoustic leaks (e.g., constructed of solid wood, sealed to prevent sound and be continuous in length and height with minimal gap at the ground).*

Residences in mitigation area C will still require the spaces between residences to be bridged with solid noise barriers. In addition, due to changes in the site plan, the six lots located adjacent to State Route 99 will be required to shield the backyard areas with a barrier of 8 feet relative to building pad elevation, as identified in green on Attachment B.

MM 6.3.4(d). *For noise impact/mitigation area D (see Exhibit 6.3-6), all identified side-on residences shall be reoriented so that they face the roadways and the backyard spaces would be shielded by the residences. Following the reorienting of the side-on residences, the side space adjacent to the residences shall be bridged in same manner as specified above under c. Furthermore, the side yard privacy fences at end lots shall be replaced with solid noise barriers (e.g., earth, concrete, masonry, wood, and other materials) 7 feet in height to adequately shield backyard spaces.*

This mitigation measure has been incorporated into the current site plan and the revisions have resulted in updated barrier locations as shown in Attachment B.

MM 6.3.4(e). For noise impact/mitigation area E (see Exhibit 6.3-6), it would not be feasible to utilize the types of noise mitigation described above (e.g., walls between individual units), to achieve satisfaction with City noise standards due to the orientation and shape of the residences. As a result, a solid barrier (e.g., earth, concrete, masonry, wood, and other materials) consisting of a berm, a wall, or combination thereof,

shall be constructed at the approximate location shown in Exhibit 6.3-6. The barrier shall be 10 feet in height relative to pad elevations of the residences behind the barrier.

The residences identified in DEIR Area E have been redesigned so that no backyard areas would face Highway 99. As a result, the 10-foot tall barrier identified in the DEIR would not be required. However, barriers spanning the gaps between residences in this area would be required, as well as side yard barriers as indicated in Attachment B.

MM 6.3.4(f). *For noise impact/mitigation area F (see Exhibit 6.3-6), a solid noise barrier of 8 feet in height shall be constructed to adequately shield Meister Way traffic noise. In addition, because no discrete outdoor activity areas are identified with the higher density residential developments on the north and south sides of Meister Way near the eastern portion of the site, a solid barrier shall be constructed along both sides of Meister Way at these locations (see exhibit 6.3-6). Where Meister Way becomes elevated at the portion heading east over Highway 99, the barrier shall extend along the top of the cut (at the roadway elevation), to provide efficient shielding to the residences below.*

This mitigation requirement has not changed.

MM 6.3.4(g). For noise impact/mitigation area H (see Exhibit 6.3-6), a solid noise barrier or berm/wall combination of 12 feet in height shall be constructed along Elkhorn Boulevard to adequately shield residences which back up to this roadway. In addition, because no discrete outdoor activity areas are identified with the higher density residential developments on the south side of Elkhorn at the northeast corner of the project site, a solid noise barrier or berm/wall combination of 12 feet in height shall be constructed along Elkhorn Boulevard at these locations (see Exhibit 6.3-6). The barriers shall be extended inward along the project site access roads.

This study recommends a barrier height of 10 feet. This change is due to a more detailed analysis of site and grading plans which were not available at the time of the original study. Attachment B shows the locations where barriers would be required along Elkhorn Boulevard and locations and heights of the barriers would wrap to the south.

MM 6.3.4(h). *For noise impact/mitigation area I (see Exhibit 6.3-6), a solid noise barrier of 6 feet in height shall be constructed along Lone Tree Road to adequately shield residences which back up to the canal east of and adjacent to this roadway.*

For residences located along Lone Tree Road, this study finds that the 6-foot tall barrier recommended in the DEIR would not be required. This change is due to a 200+ foot greenbelt (natural vegetation) buffer proposed to be located between the residences and Lone Tree Boulevard. This buffer is conservatively estimated to provide at least 3 dB of traffic noise attenuation. This attenuation was not accounted for in the original EIR.

MM 6.3.4(i). Prior to issuance of any building permits, site-specific acoustical analyses shall be conducted once construction plans are available for residential developments located within the 60 dBA Ldn contours (see Exhibit 6.3-5) to ensure satisfaction with the City of Sacramento interior noise level standards. The acoustical analyses shall evaluate exposure of proposed noise-sensitive receptors to noise generated by surface transportation sources, in accordance with adopted City of Sacramento interior noise standards (Table 6.3-8). These site-specific acoustical analyses shall also include site-specific design requirements to reduce noise exposure of proposed on-site receptors and all feasible design requirements shall be implemented into the final site design. Noise reduction measures and design features may include, but are not limited to the use of increased noise-attenuation measures in building construction (e.g., dual-pane, sound-rated windows; mechanical air systems; and exterior wall insulation). Given the predicted future traffic noise environment at the exterior facades of the residences nearest to Highway 99 and Interstate 5, upgrades to windows will likely be required at many residences, as well as the use of stucco siding or the acoustic equivalent. Implementation of these design measures would ensure interior noise levels meet the City's noise standards.

This mitigation requirement has not changed.

Conclusions

After construction of the noise barriers identified on Attachment B and in the mitigation requirements described above, future traffic and light-rail noise levels at the backyards of the proposed single family residential uses within the Greenbriar development are predicted to be satisfactory relative to City of Sacramento exterior noise standards.

This concludes BAC's evaluation of noise barriers for the Greenbriar Development. Please contact BAC at (916) 663-0500 or paulb@bacnoise.com with any questions or comments regarding this evaluation.

Sincerely,

Bollard Acoustical Consultants, Inc.



Paul Bollard
President

Attachments

Attachment A

Traffic Assumptions, Predicted Levels, and Recommended Sound Wall Heights

Project: 2015-257 Greenbriar Soundwall Review

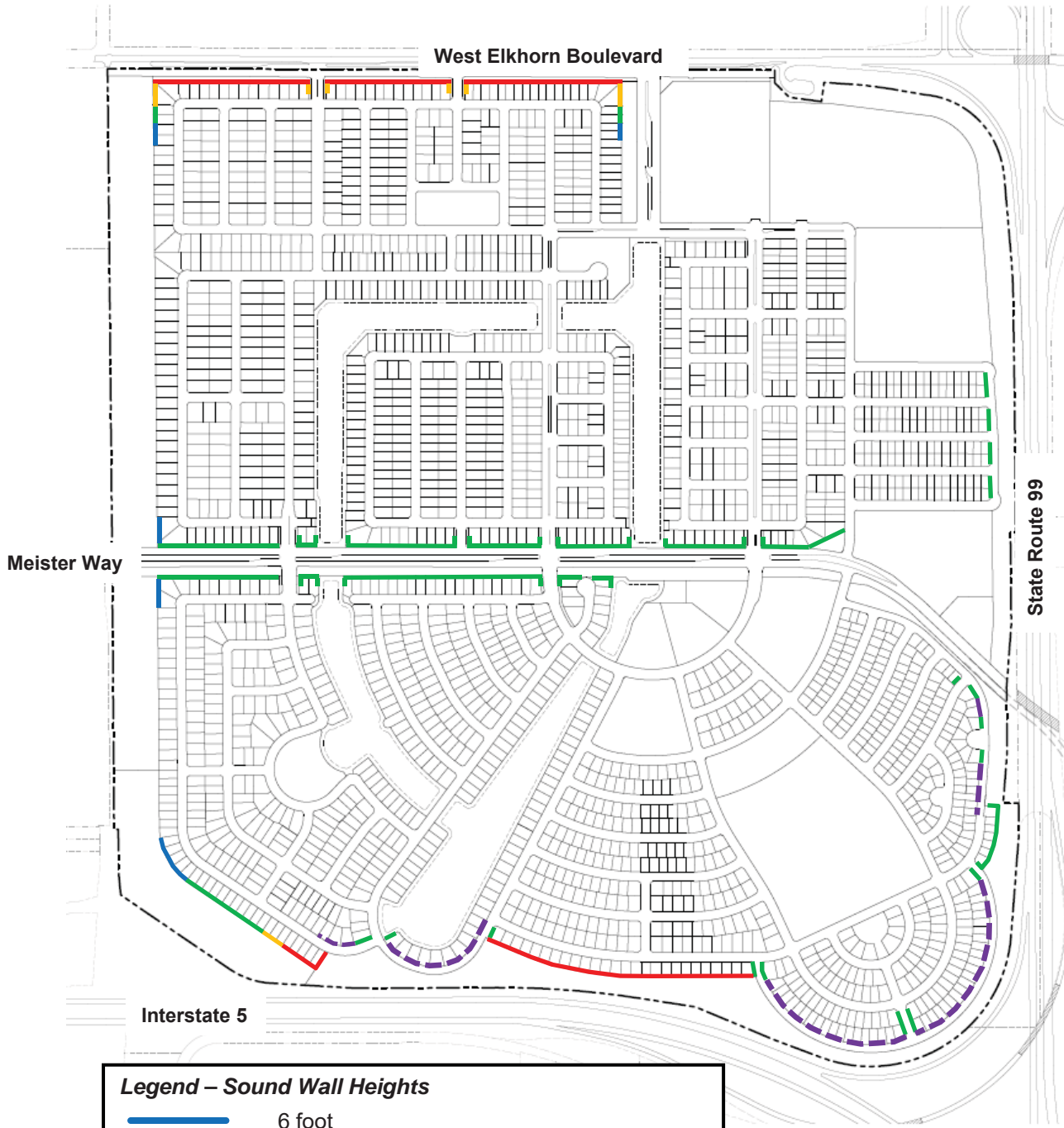
Sources: SACOG & Breenbriar DEIR Traffic Volumes, Caltrans Truck Surveys and BAC File Data

Ldn/CNEL: Ldn

Hard/Soft: Soft

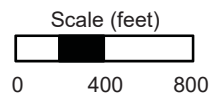
Segment	Roadway Name	Segment Description	ADT	Day %	Night %	% Med. Trucks	% Hvy. Trucks	Speed	Offset (dB)	Dist. to Nearest Resident Backyard (feet)	Ldn at Nearest Resident Backyard (dB)	Wall Height to reduce noise level to 60 dB (feet)
1	State Route 99	Elkhorn Blvd to I-5 Split	76,000	80	20	4	5	65	-5	250	68	8
2	Interstate 5	West of SR 99	90,600	80	20	3	8	65	-3	245	70	10
3	Elkhorn Blvd	Lone Tree Rd to SR 99	55,840	80	20	8	2	45	0	135	70	10
4	Lone Tree Road	South of Elkhorn Blvd	22,320	80	20	8	2	45	-3	265	59	--
5	Meister Way	Lone Tree Rd to SR 99	20,945	80	20	8	2	35	3	70	68	8

Attachment B
Noise Barrier Locations
Greenbriar Sound Wall Review – Sacramento, California



Legend – Sound Wall Heights

	6 foot
	8 foot
	9 foot
	10 foot
	8 foot - bridging gap between residences



Attachment C

Greenbriar Development

EIR Addendum

Project No. P18-050

29	5
30	4
31	3
32	2
33	1

LOT BR
LANDSCAPE LOT

30	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50	51
----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----

LOT A
MULTI-FAMILY RESIDENTIAL

