5 CUMULATIVE IMPACTS

5.1 INTRODUCTION

This section of the Draft Environmental Impact Report (DEIR) provides an analysis of cumulative impacts of the proposed project, in association with other past, present, and reasonably foreseeable future projects producing related impacts, as required by Section 15130 of the State CEQA Guidelines. The goal of this analysis is twofold: first, to determine whether the overall long-term impacts of all such projects would be cumulatively significant; and second, to determine whether the proposed project itself would cause a "cumulatively considerable" (and thus significant) incremental contribution to any such cumulatively significant impacts (see State CEQA Guidelines Sections 15130[a]-[b], 15355[b], 15064[h], and 15065[c]). In other words, this required cumulative analysis intends to first create a broad context in which to assess the project's incremental contribution to anticipated cumulative impacts, viewed on a geographic scale beyond the project site itself, and then to determine whether the project's incremental contribution to any significant cumulative impacts from all projects is itself significant (i.e., "cumulatively considerable" in CEQA terms).

Cumulative impacts are defined in the State CEQA Guidelines Section 15355 as "two or more individual effects which, when considered together, are considerable or which compound or increase other environmental impacts." A cumulative impact occurs from "the change in the environment which results from the incremental impact of the project when added to other closely related past, present, and/or reasonably foreseeable probable future projects. Cumulative impacts can result from individually minor, but collectively significant, projects taking place over a period of time" (State CEQA Guidelines Section 15355[b]). Both spatial (geographic) and temporal (timeframe) parameters are considered when analyzing cumulative impacts, each of which may be specific to individual resource areas addressed in the EIR.

Consistent with State CEQA Guidelines Section 15130(a), the discussion of cumulative impacts in this Draft EIR focuses on significant cumulative impacts. State CEQA Guidelines Section 15130(b), in part, provides the following guidance:

> The discussion of cumulative impacts shall reflect the severity of the impacts and their likelihood of occurrence, but the discussion need not provide as great detail as is provided for the effects attributable to the project alone. The discussion should be guided by the standards of practicality and reasonableness and should focus on the cumulative impact to which the identified other projects contribute, rather than the attributes of other projects which do not contribute to the cumulative impact.

The State CEQA Guidelines identify two basic methods for establishing the cumulative environment in which the project is to be considered in the cumulative impacts analysis. The State CEQA Guidelines allow for the use of a list of past, present, and probable future projects, or the use of adopted projections from a general plan, other regional planning document, or a certified EIR for such a planning document. A list approach is used to define the local project environment and may include projects identified by the county or the city, or both, as appropriate. The plan approach allows for a more regional discussion of conditions that may contribute to the cumulative environment.

For the cumulative impact analysis included in this DEIR (Section 5.3 below), both the list and plan approach were utilized to generate the most comprehensive and realistic projection possible. Projects and plans included in this analysis are listed and described below.

5.2 PROJECTS CONTRIBUTING TO POTENTIAL CUMULATIVE IMPACTS

5.2.1 LIST OF RELATED PROJECTS

The list of past, present, and reasonably foreseeable future projects used for this cumulative analysis includes those projects that have occurred, or are planned to occur, within the City, adjoining portions of Placer County (County), or in other Cities or planning areas that may contribute to cumulative impacts within the scope of this analysis. For the purpose of this discussion, the projects that may have a cumulative effect on the resources in the project area are also referred to as "related projects."

CITY OF ROSEVILLE PROJECTS

Related projects and Specific Plan areas within the incorporated boundaries of the City of Roseville are identified in Table 5.2-1.

1. **Antelope Glen project** proposes to construct a 356-unit condominium complex.

2. **Creekview Specific Plan** (3000 Blue Oaks Boulevard) proposes development of approximately 731.6 acres with a mix of residential, commercial, parks, open spaces, and public land uses. A total of 2,499 residential units and 697,829 square feet (sf) of commercial/retail/office space would be developed under this project.

3. **Siino Parcel Map project** (1021 Cirby Way) proposes to subdivide a 1.4-acre parcel for development of 2 residential units.

4. **Conference Center project** (290 Conference Center Drive) proposes development of a 36,967 sf conference center, 10-story 281-room hotel, 219-room multi-story hotel, two 10,000 sf restaurant pads, and a multi-story parking structure.

5. **Sunrise Senior Living project** (3801 Country Club Drive) proposes to construct a 24,506 sf 80-unit senior living facility.

6. **Crocker Ranch project** (10090 Crocker Ranch Road) proposes construction of 198 single-family medium density units.

7. **NRSP permit modification project** (10000 Diamond Creek Boulevard) proposes construction of a podium center consisting of 352 dwelling units and 75,000 sf of retail uses.

8. **Mammoth Equities project** (1521 Eureka Road) proposes to construct a 100,000 sf 4-story office building.

9. **Roseville Sports Bar project** (9501 Fairway Drive) proposes to construct a 17,550 sf sports bar.

10. **Placer Ranch Specific Plan** (4151 Fiddyment Road) proposes to construct a 297-acre California State University campus with 1,740 student and faculty units associated with the university; 5,000 residential units; the Placer Parkway; 9,000,000 sf of commercial, office, and light industrial land uses; two elementary schools and one middle school; and parks and open spaces.

11. **Sierra Vista Specific Plan** (6810 Fiddyment Road) proposes to develop approximately 2,160 acres with a mix of residential, commercial, office, mixed-use, parks and opens spaces, and public land uses. The plan includes 9,995 residential units and 2,419,113 sf of commercial/office/retail space.

12. **University Park project** (8501 Foothills Boulevard) proposes to construct a 36.7 acre light industrial property with six 2-story office buildings totaling 507,400 sf and a 7,500 sf retail building.

Table 5.2-1
Related Projects in the City of Roseville

Project Proposals			
Project No.	Project Name	Residential Units	Commercial / Retail / Office
1	Antelope Glen	356	–
2	Creekview Specific Plan	2,499	697,829 sf[1]
3	Siino Parcel Map	2	–
4	Conference Center	–	36,967 sf for conference center, 281 room hotel, 219 room multi-story hotel, and 20,000 sf for restaurants
5	Sunrise Senior Living	80	–
6	Crocker Ranch	198	–
7	NRSP permit modification	352	75,000 sf
8	Mammoth Equities	–	100,000 sf
9	Roseville Sports Bar	–	17,550 sf
10	Placer Ranch Specific Plan	6,740	9,000,000 sf
11	Sierra Vista Specific Plan	9,995	2,419,113 sf
12	University Park	–	514,900 sf
13	Maranatha Volunteers International	–	30,242 sf
14	Diamond Plaza Offices	–	46,000 sf
15	Blue Oaks Commerce Center	–	539,706 sf
16	Lincoln Street Lofts	Unknown	7,027 sf (mixed use)
17	Westpark Village	72	–
18	SRSP map extension of time	330	–
19	Hidden Creek	18	–
20	Secret Ravine Skilled Nursing Facility	86 (assisted living units) and 120 (beds)	-
21	Stoneridge Village 10	95	-
22	Marriott Club Sport	–	174 room hotel, 40,000 sf pool area, 3,200 sf restaurant, 65,000 sf fitness club
23	Corporate Center		1,250,000 sf
24	Fiddyment Ranch Village	810	–
SUBTOTAL		**21,633 units***	**14,862,534 sf****

Note: Some projects listed are located within a Specific Plan area. Some Specific Plan areas have begun development and are at or near buildout. Some projects may have been calculated as part of the Capital Improvements Program (CIP) and have been previously calculated in utilities.

sf = square feet

1 Assumes a 0.25 floor are ratio (FAR) for community commercial land uses and 0.4 FAR for mixed land uses

* Excludes the 120 beds associated with the Secret Ravine Skilled Nursing Facility.

** Excludes square-footage required for hotel rooms.

Source: http://www.roseville.ca.us/planning/default.asp, *Current Applications List*, March 24, 2008.

13. **Maranatha Volunteers International project** (10051 Foothills Boulevard) proposes to construct a 30,242 sf building.

14. **Diamond Plaza Offices project** (7001 Galilee Road) proposes to construct 10 office buildings totaling 46,000 sf.

15. **Blue Oaks Commerce Center project** (8950 Industrial Avenue) proposes to develop approximately 539,706 sf of mixed-use, light industrial flex space, multi-story office buildings, and neighborhood commercial uses.

16. **Lincoln Street Lofts project** (331 Lincoln Street) proposes to construct a new 7,027 sf retail/commercial/residential building.

17. **Westpark Village project** (3151 Market Street) proposes to create 72 residential lots for attached town homes and 5 common areas.

18. **SRSP map extension of time** (3850 Miners Ravine Drive) requests an extension of time to subdivide 74.6 acres into 330 residential lots.

19. **Hidden Creek Condominium project** (1995 Rocky Ridge Drive) proposes to construct an 18-unit condominium complex.

20. **Secret Ravine Skilled Nursing Facility project** (1101 Secret Ravine Parkway) proposes to construct a 3-story, 86-unit assisted living facility and a 2-story, 120-bed skilled nursing facility.

21. **Stoneridge Village project** (7200 Sierra College Boulevard) proposes a tentative subdivision map for 95 residential lots.

22. **Marriott Club Sport project** (1460 Stone Point Drive) proposes to construct a 6-story, 174-room hotel with 40,000 sf pool area and 3,200 sf restaurant and a 2-story, 65,000 sf fitness club.

23. **Corporation Center project** (9000 Washington Boulevard) proposes to construct 1,250,000 sf of gross building area for office and retail uses.

24. **Fiddyment Ranch Village** (2000 Hayden Parkway) proposes a new land use plan to increase the number of dwelling units by 810 units, modify land use boundaries, modify zoning map, and adjust boundaries of large lot map.

The 24 projects described above either have recently resulted in or are proposed to result in development of nearly 15,000,000 sf of commercial/retail/office land uses and almost 22,000 new residential units in the City. The majority of known new development is associated with the Placer Ranch and Sierra Vista Specific Plans.

PLACER COUNTY PROJECTS

Related projects and Specific Plan areas within the unincorporated areas of Placer County are identified in Table 5.2-2.

1. **American Vineyard Village** (south side of Vineyard Road, approximately 1.5 miles west of downtown Roseville and 700 feet west of Foothills Boulevard) proposes construction of 150 parcels containing detached single family homes.

Table 5.2-2
Related Projects in Placer County

Project Proposals			
Project No.	Project Name	Residential Units	Commercial / Retail / Office
1	American Vineyard Village	150	-
2	Placer Vineyards Specific Plan	14,132	274 acres
3	Regional University Specific Plan	4,387	22.2 acres
4	Riolo Vineyard Specific Plan	597	7.5 acres
5	Silver Creek	79	-
6	Curry Creek Community Plan	15,000[1]	-

[1] Final boundaries and number of residential units undetermined.

Source: City of Roseville, Summary of Regional Projects, http://www.roseville.ca.us/civica/filebank/blobdload.asp?BlobID=2665, accessed July 21, 2008; http://www.placer.ca.gov/Departments/CommunityDevelopment/Planning/Projects.aspx, accessed March 31, 2008.

2. **Placer Vineyards Specific Plan** (Southwest corner of Placer County bounded to north by Baseline Road) proposes a mixed-use master planned community with residential, employment, commercial, open space, recreational and public/quasi-public land uses. The Specific Plan will provide for 14,132 homes and is projected to develop over a 20- to 30-year time frame. Placer Vineyards will have a population of approximately 33,000 people, 274 acres of commercial uses, 641 acres of quasi-public (e.g., public facilities/services, religious facilities, schools, major roadways) land uses, and 919 acres of park and open space land.

3. **Regional University Specific Plan** (west of a future Watt Avenue extension, the western boundary of the project site is defined by Brewer Road) proposes to develop 1,155 residences for students and faculty at the University and 3,232 residences at an adjoining Community along with 22.2 acres of service and employment land uses.

4. **Riolo Vineyards** (North of PFE Road, bounded by Walerga Road and Watt Avenue) proposes to construct 597 residential units at a range of densities, along with neighborhood parks, public facilities, open space, and agricultural land uses and 7.5 acres for commercial uses.

5. **Silver Creek** (north of and adjacent to PFE Road, immediately east of and adjacent to Walerga Road) proposes to develop a 79-lot single-family residential subdivision on 28.6+ acres.

6. **Curry Creek Community Plan** (adjacent to Placer Vineyards and De La Salle University and Community) is an area with no defined project or application. However, the Placer County Board of Supervisors directed staff to consider the possibility of planning this area because of development proposals adjacent to this area (i.e., De La Salle University and Community, Placer Vineyards).

The three projects and three Specific Plans described above either have recently resulted in or are proposed to result in development of 19,345 new residential uses (does not include approximation of residential units in Curry Creek Community Plan) plus additional commercial, retail, and office uses. The majority of new development is associated with the proposed Placer Vineyards and proposed Regional University Specific Plans in Placer County.

REGIONAL AREA PROJECTS

Cumulative impacts often extend beyond jurisdictional boundaries; therefore the cumulative impact analysis may consider growth assumptions for other areas in the region. Table 5.2-3 lists projects in the Roseville regional area planned for development through 2020, which is the horizon year for the City's traffic model. As this table

indicates, several projects are proposed in the region that collectively would result in the development of approximately 69,500 new housing units and approximately 32,500,000 sf of commercial, office, and industrial land uses.

Table 5.2-3
Projects in the Roseville Regional Area (2020 Horizon Year)

Region	Single Family Residential Units	Multi-Family Residential Units	Age Restricted Residential Units	Total Residential Units	Commercial Square Footage	Office Square Footage	Industrial Square Footage
Rocklin	15,872	5,742	1,178	22,786	4,810,000	2,792,000	3,323,000
Lincoln	11,225	3,073	6,919	21,217	2,262,000	1,539,000	7,163,000
Placer Vineyards	7,006	651	0	7,657	920,000	288,000	0
Sunset Industrial	187	80	0	267	498,000	823,000	5,046,000
Granite Bay	8,974	888	0	9,862	1,043,000	253,000	103,000
Lincoln/Sunset	436	56	0	492	1,000	94,000	335,000
Remainder Area	5,916	1,487	0	7,203	589,000	647,000	0
Total:	**49,616**	**11,977**	**8,097**	**69,487**	**10,123,000**	**6,436,000**	**15,970,000**

Source: Final Environmental Impact Report for the West Roseville Specific Plan and Sphere of Influence Amendment, January 9, 2004.

5.3 CUMULATIVE IMPACT ANALYSIS

The following sections contain a discussion of the cumulative effects anticipated from implementation of the proposed project, together with the related projects and regional development, for each of the 12 environmental issue areas evaluated in this DEIR (See Section 1.4, "Scope of this DEIR," and Chapter 4). The analysis conforms with Section 15130(b) of the State CEQA Guidelines, which specifies that the "discussion of cumulative impacts shall reflect the severity of the impacts and their likelihood of occurrence, but the discussion need not provide as great a detail as is provided for the effects attributable to the project alone."

5.3.1 LAND USE AND PLANNING

Several development projects are proposed in the region and locally that would have an impact on land use. These proposed projects include, but are not limited to, the projects listed in Tables 5.2-1 though 5.2-3. As described in Section 4.1 of this DEIR, implementing the proposed project would not result in significant land use planning impacts, and the project's ultimate consistency with local land use plans, policies, and zoning is ensured through entitlements to revise the City of Roseville General Plan 2020.

The Plan area is currently designated in the City of Roseville General Plan 2020 for low-density residential, medium-density residential, central business district, public/quasi-public, and parks and recreation/floodplain uses. The proposed density increase of land uses in the Plan area would vary from the existing development standards identified ion the City's General Plan; therefore, the adoption of new zoning districts and a General Plan amendment would be required along with adoption of the Downtown Roseville Specific Plan. However, no land-use impacts would occur on a project-specific basis, therefore the project would not result in cumulatively considerable, incremental contributions to significant cumulative environmental effects associated with land-use changes required to serve the project and cumulative development.

5.3.2 PUBLIC UTILITIES

This cumulative analysis considers the potential impacts on water, wastewater, stormwater conveyance, solid waste disposal, electricity, and natural gas from demands created by the project along with the related and regional projects listed in the previous sections.

WATER

Only related projects in the City (Table 5.2-1) need to be considered within this cumulative analysis for water because all related projects in Placer County (Table 5.2-2) will be serviced by other water utility providers and water supply assessments for these projects would be prepared separately, as necessary. Additionally, although Placer Ranch is show in Table 5.2-1, it is not considered in this cumulative water analysis as supply for this project is planned to come from the Placer County Water Agency (PCWA).

WATER SUPPLY

As described in Section 4.2, analysis for water supply must be evaluated for both wet year and dry year scenarios. The City's existing wet year surface water supply contracts total 66,000 acre-fee per year (AFY). However, the City is limited to diversions from the American River to no more then 58,900 AFY per the Water Forum Agreement. Water demands at build-out of the City are estimated at 56,465 AFY. Water demands are projected to increase by 706 AFY with this project and by an additional 10,274 AFY for future projects for a total water supply need of 67,445 AFY. As indicated in Section 4.2, "Public Utilities," of this EIR, the City of Roseville has adequate existing water supplies to serve this project.

For information purposes, this cumulative analysis discusses water supply issues for other potential cumulative projects. The City is currently evaluating three options for increasing its water supply for projects outside its current city limits proposed in new growth areas. These options include: 1) the construction of a new diversion and water treatment facility on the Sacramento River in cooperation with other local water agencies; 2) a water supply agreement with San Juan Water District for an additional 4,000 AFY of surface water; and 3) purchasing up to 4,000 AFY of wholesale water supply from PCWA.

Wet Years

Water demands under cumulative conditions are expected to total 67,445 AFY. According to the South Placer Regional Wastewater and Recycled Water Systems Evaluation (Systems Evaluation, June 2007, TM 5A), recycled water use will increase to nearly 5,881 AFY; offsetting total water supply needs. Water demands during wet years would be met through the use of 58,900 AFY surface water supplies from the American River, 5,881 AFY recycled water supplies and a to be determined additional surface water supply of at least 2,664 AFY totaling the needed 67,445 AFY of water supply. As described above this additional supply could potentially be provided from one of three options. Because the City has not finalized agreements to secure additional surface water supplies there is a water supply shortfall under cumulative conditions for the new growth areas.

As defined in Section 15355 of CEQA, a cumulative impact consists of an impact which is created as a result of the combination of the project evaluated in the EIR, together with other projects causing related impacts. Since the project is inside the City's service area and adequate existing supplies are available to serve the project, the project would not result in an incremental impact to water supply to the new growth areas. Therefore, the Project's contribution to the cumulative impact is not cumulatively considerable and a less-than-significant impact would result.

Dry Years

During dry years, and in accordance with the City's Water Forum Agreement, the City's American River water supply contract can be reduced. Per the Water Forum Agreement, City supply during dry years from the American River can range from full entitlement to no less then 39,800 AFY during critically dry years. During dry years, the City relies on a water supply portfolio that includes surface water, recycled water and groundwater. As described in Section 4.2, "Public Utilities," the City assumes a minimum 10% reduction in potable water supply needs as a result of conservation efforts during years when supplies are cut back. This would result in water supply needs during dry years of 60,701 AFY (67,445 AFY less 6,744 AFY resulting from mandatory conservation) with the Project. When surface water supplies are cut back to the maximum level per the Water Forum Agreement water demands would be met through the use of 39,800 AFY surface water supplies from the American River, 5,881 AFY recycled water supplies and 15,020 AFY groundwater supplies. The City's current groundwater supply facilities can produce approximately 10,200 AFY of supply; therefore an additional 4,820 AFY of groundwater supply facilities are required to meet dry year water supply needs. The City has previously reserved groundwater well sites within the West Roseville Specific Plan Area to increase the City's production capabilities. Therefore sufficient dry year water supplies can be made available resulting in water supply impacts that are less then significant.

WATER TREATMENT

At buildout of the City and the Plan under cumulative conditions, the wet year and maximum potable water demand would by 61,564 AFY (67,445 AFY demand – 5,881 AFY RW supply) or 110 mgd max day demand). The Barton Road WTP, which provides water treatment for the City, has an existing capacity of 100 mgd (City of Roseville 2006); therefore, additional water treatment capacity is required under cumulative conditions. As described under the Water Supply section above, the City is evaluating three options for increasing its water supply. With each of these options, water treatment may be included. For instance, the City's portion of a future new water treatment facility on the Sacramento River is 10 mgd for a total water treatment capacity of 110 mgd. Under the wholesale option with PCWA, treated water supply would be provided and additional water treatment capacity would not be required. Because an agreement for future water supply or treated water supply has not been finalized, the cumulative impact associated with water treatment is also considered significant and unavoidable.

However, because the Plan does not rely upon water from the Sacramento River project and the City's existing treatment plant has sufficient capacity designed to accommodate flows generated by the City for both current General Plan and build-out of the Project, the Project's contribution to the cumulative impact is not cumulatively considerable and a less-than-significant impact would result.

WASTEWATER

All projects in the City (Table 5.2-1) and related projects in Placer County (Table 5.2-2) should be considered in the cumulative analysis as wastewater flows from all projects would be serviced at either the Dry Creek or Pleasant Grove Creek Wastewater Treatment Plants (WWTP). However, because the Project flows to the Dry Creek WWTP only those projects that flow to this same regional facility are considered in this analysis.

Wastewater Treatment

All flow from the Plan area will be treated at the Dry Creek Wastewater Treatment Plant (DCWWTP), a regional wastewater treatment facility. The Systems Evaluation Report (June 2007) established estimated flows to the DCWWTP under several scenarios including build-out of the 2005 Boundary and build-out of a future service area boundary including several new Urban Grown Areas (UGAs). These estimated flows are documented in several technical memoranda (TMs) which are appendices to the Systems Evaluation document. The Systems

Evaluation is currently being updated. As a part of the update, several TMs have also been updated and the most recent information available is reflected in this analysis.

According to the Systems Evaluation Report , average dry weather wastewater flows (ADWF) to the DCWWTP under cumulative conditions (e.g., including future UGAs, rezones and intensifications) are expected to reach 19.99 million gallons per day (mgd) (See RMC TM-2b updated January 24, 2008). As documented in Section 4.2, only 0.71 mgd or 3.6% of this total is from build-out of the Plan. The DCWWTP is currently permitted for 18 mgd ADWF. The DCWWTP will need to be expanded to accommodate wastewater flows generated under build-out conditions including the Plan Area. Plans to expand DCWWTP have been addressed in the Systems Evaluation Report and the expansion can be accommodated on the current DCWWTP site. Further, the Regional Wastewater Treatment Service Area Master Plan (Master Plan) EIR (WWMP EIR) analyzed expansion of the DCWWTP to as much as 54 mgd ADWF. However, constructing any expansion to treat wastewater flows beyond 18 mgd ADWF will require the City to obtain approval from the Regional Water Quality Control Board through the issuance of a new National Pollutant Discharge Elimination System (NPDES) Permit. Because the conditions that could be placed upon the City with a new NPDES permit are unknown at this time, the impacts associated with treating additional wastewater flows under cumulative conditions is considered a potentially significant and unavoidable impact.

Because the Plan does not require the DCWWTP be expanded to accommodate wastewater flows generated by the Plan at build-out of the current 2005 Service Area Boundary and because the DCWWTP would require expansion even without the Project, the Project's contribution is not cumulatively considerable, and a less-than-significant impact would result.

Wastewater System

As documented within the Systems Evaluation Report and the project analysis provided within the Section 4.2, there are no regional or local sewer lines downstream of the project area that require upsizing or changes to accommodate flow from the Project area. As such cumulative impacts associated with wastewater collection are considered less-than-significant.

Stormwater Conveyance

The City is responsible for ensuring that stormwater drainage facilities are provided so that development within the City can be adequately served. The City's General Plan identifies goals and policies related to providing stormwater conveyance related to new development. The Plan would provide for all needed infrastructure improvements to ensure adequate stormwater conveyance facilities are available to serve future development projects in the Plan area. Cumulative development occurring outside the Plan area would be responsible for providing stormwater conveyance facilities to serve these individual projects. However, infrastructure improvements occurring in the Plan area would assist in ensuring adequate stormwater conveyance capabilities are available in the surrounding community. Through the implementation of infrastructure improvements to stormwater conveyance facilities, implementation of the Plan would improve the existing conveyance capabilities in the Plan area and sufficient conveyance capabilities would be available to serve cumulative development. With these considerations, the proposed project would not result in cumulatively considerable impacts to stormwater conveyance.

Solid Waste

Several development projects are proposed in Placer County that would increase the amount of solid waste generated and disposed at regional solid waste facilities. Proposed projects in the Plan area that would potentially impact solid waste facilities primarily include new development occurring in specific plans (e.g., Placer Ranch, Sierra Vista, and Placer Vineyards) located in the western portion or edge of the City. New development that would occur as part of the Downtown Roseville Specific Plan would increase the generation of solid wastes, but

as stated in Section 4.2, "Public Utilities," of this EIR, the increased solid waste generated from implementation of the Plan accounts for a relatively small portion of the total throughput of the Western Regional Sanitary Landfill (2%) and would not lead to an exceedance of the capacity of this facility. For these reasons, the proposed project would not contribute considerably to a cumulative impact and this would be a less-than-significant cumulative impact.

5.3.3 PUBLIC SERVICES

Several development projects are proposed in Placer County that would increase the demand for public services (e.g., schools, police, fire protection). Proposed projects in the Plan area that would potentially impact public services primarily include new development occurring in specific plans (e.g., Placer Ranch, Sierra Vista, Placer Vineyards) located in the western portion or edge of the City. New development that would occur as part of the Downtown Roseville Specific Plan would generate an increase in demand for public services and facilities, but state-mandated mitigation fees for schools and project-specific development impact fees would be paid to ensure adequate funding for new public facilities that would be needed.

Similar impacts to public services would occur as a result of other proposed projects in the City or Placer County, and as such, would be required to pay their fair-share of development impact fees. Therefore, the proposed project would have a less-than-significant cumulative impact on public services because implementation of the Plan would not result in cumulatively considerable, incremental contributions to significant cumulative effects associated with the development of new public service facilities required to serve the Plan area and other, cumulative development.

5.3.5 AESTHETICS

Implementation of the Plan would not substantially alter the visual character of the Downtown Roseville area because of the existing developed, urban character exhibited in the Plan area. Related cumulative projects would likely result in the transformation of the visual environment in areas outside the downtown area from open spaces and vacant lands to urban development (e.g., Placer Vineyards specific Plan, Placer Ranch Specific Plan). While these projects are anticipated to comply with adopted community design and aesthetic standards, it is likely that these projects would continue to result in significant and unavoidable aesthetic impacts because of the magnitude of the development proposed. The Plan's contribution to cumulative visual impacts within the Plan area would not be considerable because of its location within an already developed portion of Roseville.

5.3.6 TRANSPORTATION AND TRAFFIC

Section 4.6, "Transportation and Circulation," provides an analysis of two separate cumulative scenarios including the Cumulative (2020) No Project scenario, which reflects the result of build-out of the developments assumed in the City of Roseville General Plan 2020, and the Cumulative (2020) Plus Project scenario, which reflects such build-out plus traffic as a result of the proposed project.

As indicated in Section 4.6, under Cumulative (2020) Plus Project conditions, a significant impact on the levels of service (LOS) at four intersections would result under these conditions: Yosemite Street/Atlantic Street, Orlando Avenue/Marlin Drive/Cirby Way, Harding Drive/Estates Drive, and Sunrise Avenue/Eureka Road. The LOS for all of the City's signalized intersections under Cumulative (2020) Plus Project conditions are summarized in Table 4.6-9 and compared to the Cumulative (2020) No Project Conditions. As Table 5.3-1 shows below, under Cumulative (2020) conditions, the total number of signalized intersections operating at LOS C or better is above the City's threshold of 70% in both the No Project and Plus Project scenarios.

Section 4.6 discusses in detail all impacts due to the proposed project under the various scenarios analyzed and concludes that implementation of the Plan would not have, or contribute considerably to, a significant cumulative effect related to the transportation network in Roseville.

Table 5.3-1
Cumulative (2020) Plus Project – Signalized PM Citywide Intersection Levels of Service

Level of Service	Quantity	%
LOS A–C	**135**	**75%**
LOS D–F	**44**	**25%**
LOS D	24	13%
LOS E	10	6%
LOS F	10	6%

Source: Fehr & Peers and DKS Associates, 2007

5.3.7 CULTURAL RESOURCES

Cultural resources in the Roseville region generally consist of early Native American sites and buildings and structures associated with 20th century residential, commercial, and industrial activities. From the latter half of the 20th century to the present, prehistoric resources and historical buildings have been disturbed and destroyed by more recent developments both in the Plan area and regionally. During this period, the creation and enforcement of various regulations protecting cultural resources have substantially reduced the rate and intensity of these impacts; however, even with these regulations in place, cultural resources will continue to be degraded or even destroyed as cumulative development in the region proceeds.

Research conducted for the proposed project indicates that the project site contains a number of buildings and structures that could potentially be considered historical resources as defined by CEQA or could be by the time project build-out over a 20-year period is completed. Undiscovered, buried archaeological resources might also be present in the Plan area. Mitigation measures 4.7-2 and 4.7-3 would reduce impacts to subsurface cultural deposits and undiscovered / unrecorded human remains to less-than-significant levels. Implementing these mitigation measures would also ensure that project-related activities do not incrementally contribute to significant cumulative impacts on important cultural resources in the Plan area. These measures ensure compliance with State CEQA Guidelines Section 15064.5 and related provisions of the Public Resources Code. However, the proposed project could potentially result in the loss of a historically significant resource. Implementation of mitigation measure 4.7-1 would lessen project impacts although demolition of a historical resource would be considered a significant adverse change. Development of related projects could also result in the loss historical resources. Implementation of the Specific Plan along with related projects could result in the cumulative loss of historical resources in the Roseville area. Consequently, it is considered that the proposed project could incrementally contribute to a significant cumulative effect on cultural resources.

5.3.8 HAZARDS AND HAZARDOUS MATERIALS

Cumulative development projects listed in Section 5.2 would have an impact related to hazardous materials because there would be a net increase in usage of hazardous materials and an increase in the number of small quantity generators of hazardous waste. Some of these proposed projects may include gas stations and/or other facilities utilizing hazardous materials. Other proposed projects that include various commercial uses also have the potential to result in impacts related to public health depending on the nature of the land use.

The Plan seeks to revitalize the Downtown Roseville area by encouraging an increase of retail, commercial, and residential land uses, which would result in a net increase in usage of hazardous materials and an increase in the number of small quantity generators of hazardous waste in the Plan area. Specifically, it is likely that some facilities (e.g., dry cleaners, gas stations) could use hazardous materials during operation of facilities in the Plan area. However, use of hazardous materials at a specific site would be required to comply with all federal, state, and local regulations. Therefore, the Plan would not result in a cumulatively considerable incremental contribution to a significant cumulative environmental effect related to use of hazardous materials during operations of specific facilities in the Plan area.

Ground disturbance or excavation during construction and implementation of new development projects envisioned in the Plan could pose a risk to human health for construction personnel. There is also a possibility that several structures could include building materials containing asbestos and/or lead which could become friable or mobile during construction (i.e., demolition or renovation) and come into contact with construction workers. Measures would be implemented to reduce this impact to a less-than-significant level. Furthermore, this impact would be site-specific and, therefore, would not serve to compound the impacts of other development projects in the Plan area or region. For these reasons, the Plan would not result in cumulatively considerable effects associated with construction-related hazardous materials.

5.3.9 BIOLOGICAL RESOURCES

Implementation of the Plan would not result in the loss of any existing biological resources because of the existing urban nature of the Plan area. In addition, the Plan includes actions aimed at improving aquatic and riparian habitats in Dry Creek. However, cumulative development projects in the Roseville area would typically occur in "greenfields" which are defined as undeveloped, undisturbed lands. The cumulative development projects in these "greenfield" lands would result to the incremental decline in the number and diversity of plant and animal species, including special-status species. The Plan would not contribute considerably to a cumulative decline of biological resources in the Roseville because development envisioned in the Plan would occur in existing urban area and would improve existing biological conditions in Dry Creek.

5.3.10 AIR QUALITY

The Plan would result in significant and unavoidable temporary construction-related air quality impacts, even with implementation of mitigation measures identified in this DEIR (see Section 4.10, "Air Quality"). Assuming all related projects also implement available feasible construction emission control measures consistent with Placer County Air Pollution Control District (PCAPCD) guidelines, construction emissions on a project-by-project basis would be less than significant. However, the large scale and number of related projects, taken in total and combined with the nonattainment status of the western Placer County portion of the Sacramento Valley Air Basin (SVAB) for ozone and PM_{10}, would result in a significant and unavoidable cumulative construction-related air quality impact. The Downtown Roseville Specific Plan would contribute to this impact.

The Plan would result in significant and unavoidable long-term (operational-related) regional air quality impacts. Project-generated operation-related emissions of reactive organic gases (ROG) and oxides of nitrogen (NO_X) would also exceed PCAPCD's recommended cumulative threshold of 10 pounds per day (lb/day) (applicable during summer months only). Emissions attributable to the Plan area, along with emissions from other reasonably foreseeable future projects in the SVAB as a whole, would continue to contribute to long-term increases in emissions that would exacerbate existing and projected nonattainment conditions. Thus, the Plan would contribute to a significant and unavoidable cumulative air quality impact.

Because compliance with applicable rules and regulations would be required for the control of stationary source toxic air contaminant (TAC) emissions, both on-site and off-site, the project's contribution to long-term cumulative increases in stationary source TAC concentrations would be considered minor. Nevertheless, exposure to TACs from mobile sources, specifically diesel exhaust particulate matter (PM), is of growing concern within

the SVAB. Major transportation corridors, including highway and rail traffic, involving the operation of diesel-fueled vehicles are present in the Plan area (e.g., Interstate 80, Roseville Rail Yard). Implementation of the Plan would result in significant and unavoidable toxic-related air quality impacts. Sensitive receptors, such as residential dwelling units envisioned to be constructed in Downtown Roseville as part of the Plan would likely be exposed to substantial diesel PM emissions because of the site's proximity to the Rail Yard. In addition, development of land uses that involve extensive use of diesel-powered equipment or vehicles could contribute to an exceedance of the PCAPCD thresholds at nearby sensitive receptors. Therefore, when taken together with emissions from other past, present, and future projects near the Plan area, emissions from all mobile and area sources could result in higher concentrations of diesel PM at existing and proposed sensitive receptors. Consequently, this cumulative impact is considered significant, and the Plan would contribute to this impact.

5.3.11 NOISE

Construction activities occurring during the daytime hours are exempt from the provisions of the City's Noise Ordinance provided that all construction equipment shall be fitted with factory-installed muffling devices and maintained in good working order. As related to the Specific Plan, it was determined that adherence to these noise regulations would not be sufficient to avoid significant short-term construction noise impacts. While the construction noise sources associated with related projects in the Plan area could be considered exempt if limited to the daytime, there is no guarantee that all the development projects could avoid significant noise impacts at all nearby noise-sensitive receptors because of on site configuration, topography, distance to sensitive receptors, and atmospheric propagation. However, because the proposed project would not result in significant construction noise impacts after mitigation, it would not contribute to such significant cumulative noise impacts.

Stationary noise associated with proposed land uses in the Plan area and related, cumulative projects could potentially result in exceedence of the City's noise regulations at sensitive receptors. While the noise from any stationary noise sources associated with development projects in the Plan area could be controlled at the source, there is no guarantee that all related, cumulative projects would include such noise controls as part of development. Therefore, significant cumulative noise impacts associated with stationary noise sources could occur. However, the proposed project would not contribute to any such significant cumulative noise impacts because it would not result in significant stationary noise impacts after mitigation.

Although construction and stationary source noise can be controlled on-site at the point of origin, transportation source noise may extend beyond a project site along existing and proposed off-site roads and railways, and thus result in significant noise impacts to sensitive uses along these corridors. As described in Section 4.11, "Noise," implementation of the proposed project would result in significant and unavoidable long-term traffic-generated noise impacts under existing plus project and cumulative plus project conditions. Buildout of the Plan area would result in a perceptible increase in traffic noise on major roadways and implementation of the proposed project would contribute to a cumulative impact. Furthermore, the combined cumulative increase in traffic anticipated for 20-year buildout timeframe of planned growth extends the 60 dBA noise contour distances for these roadway segments resulting in a substantial number of additional existing and proposed sensitive receptors falling within this contour. This is considered a significant cumulative traffic noise impact. Construction of sound walls and other noise-attenuating features (e.g., berms, dual-pane windows) throughout the region would require a regional program and may not be feasible to implement. Because project mitigation requires proposed fixed noise sources adjacent to noise-sensitive receptors to be mitigated so as not to exceed the City's noise level performance standards and it is considered infeasible to sufficiently reduce noise at every existing and proposed sensitive receptor that would potentially be affected, this cumulative traffic noise impact is considered less than significant.

5.3.12 HYDROLOGY AND WATER QUALITY

HYDROLOGY AND WATER RESOURCES

The proposed project would not result in significant impacts related to hydrology, drainage, and water quality with implementation of recommended mitigation. However, cumulative impacts of the project and related projects in the Roseville area could degrade water quality of natural and man-made waterways. Degradation of water quality could result from increased sedimentation from erosion and runoff during construction activities and increased pollutants from stormwater runoff during operation of new development projects. Prior to approval of individual development projects in the Plan area, the City would require each applicant to prepare and implement a SWPPP as part of the NPDES permit program. Each SWPPP would be required to include a description of BMPs for individual development projects to implement for controlling erosion, discharges of sediment, and discharges of other pollutant sources during construction. Similarly, development of cumulative projects would be expected to meet the same requirements of the proposed project through preparation and implementation of a NPDES permitting requirements and project-specific SWPPPs. Thus, implementation of the Plan would not considerably contribute to a cumulative hydrology and water resources impact.

Regarding stormwater runoff, new development envisioned in the Plan area would not increase the amount of impervious surfaces because urban development currently exists in the Plan area. Consequently, the proposed project would not lead to an increase in stormwater runoff as compared to existing conditions and would not result in a greater potential for off-site and on-site flooding. Development of cumulative projects in the Roseville area would result in an increased amount of impervious surfaces and increased stormwater runoff and each individual project would be required to implement design features and measures to prevent flooding and provide facilities with sufficient capacity to accommodate stormwater flows. Therefore, implementation of the Plan would not considerably contribute to a cumulative stormwater runoff impact.

5.4 GLOBAL CLIMATE CHANGE

Please refer to Section 4.10, "Air Quality," of this DEIR, where the existing environmental setting and regulatory framework with respect to global climate change are described in detail. Implementation of the Plan would result in increased generation of greenhouse gases (GHGs) which can contribute to global climate change. This analysis is provided in response to recent heightened interest in the subject of global climate change, and specifically, the State legislature's passage and the Governor's signing of Assembly Bill (AB) 32, which is intended to control and reduce the emission of global warming gases in California; and Senate Bill (SB) 97, which directs the Office of Planning and Research and the Resources Agency to develop CEQA Guidelines on how local agencies should analyze and, if necessary, mitigate for greenhouse gas emissions. Although no regulations or guidelines are yet available, the State of California views global climate change as a serious environmental threat in California, which warrants its inclusion in this DEIR.

The Plan incorporates guidelines, strategies, and mitigation measures that minimize the human and spatial environmental footprint with respect to transportation fuels consumption and electricity production. Implementation of these strategies and measures would help reduce potential GHG emissions resulting from the development in the Plan area. As indicated, the transportation sector is the state's largest fossil energy consumer (CEC 2006). The purpose of the Plan by its very nature (e.g., promotion of the use of alternative modes of transportation and overall design that creates a compact development pattern that encourages walking, biking, and public transit use, which in turn reduce vehicle trip number and length) would reduce potential consumption of fossil fuel energy, and thereby reduce potential GHG emissions. For example, the Specific Plan policies and implementation measures include the following elements that would reduce GHG emissions from an unmitigated baseline:

- Construct physical improvements that better facilitate pedestrian and bicycle connectivity between Old Town area, Vernon Street area, and Royer/Saugstad Parks (Policy 5.3)
- Ensure that streets in Downtown are designed to provide a balance between the needs of pedestrians and traffic flow (Policy 5.4.1)
- Encourage a pedestrian orientation within the circulation system (Policy 6.2.1)
- Designate the Downtown Plan area as a pedestrian district per the City's General Plan (Policy 6.2.2)
- Implement bicycle facilities consistent with the City's Bicycle Master Plan (Policy 6.3)
- Promote the use of transit in new developments by requiring the installation of transit facilities where appropriate along transit routes (Policy 6.4.2)
- Provide sufficient infrastructure to promote existing and future transit use within Downtown (Policy 6.4.3)

In addition, the *City of Roseville General Plan 2020* includes the following policies that address global climate change either through greenhouse gas emissions reduction, energy and resource conservation, or address the potential impact of climate change (e.g., the flood protection policies):

Community Form Policy 5: Promote land use patterns that result in the efficient use of urban lands and preservation of open space as specified in the Open Space and Conservation Element.

Community Form – Relationship to Transit, Pedestrian, and Air Quality - Policy 1: Promote land use patterns that support a variety of transportation modes and accommodate pedestrian mobility.

Community Form – Relationship to Transit, Pedestrian, and Air Quality - Policy 2: Allow for land use patterns and mixed use development that integrate residential and non-residential land uses, such that residents may easily walk or bike to shopping, services, employment and leisure activities.

Community Form – Relationship to Transit, Pedestrian, and Air Quality - Policy 3: Concentrate higher intensity uses and appropriate support uses within close proximity of transit and bikeway corridors as identified in the Bicycle Master Plan. In addition, some component of public use such as parks, plazas, public buildings, community centers and/or libraries should be located within the corridors.

Community Form – Relationship to Transit, Pedestrian, and Air Quality - Policy 4: Promote and encourage the location of employee services such as childcare, restaurants, banking facilities, convenience markets, etc., within major employment centers for the purpose of reducing midday service-related vehicle trips.

Community Form – Relationship to Transit, Pedestrian, and Air Quality - Policy 5: Where feasible, improve existing development areas to create better pedestrian and transit accessibility.

Community Form – Relationship to Transit, Pedestrian, and Air Quality - Policy 6: Through City land use planning and development approvals, require that neighborhood serving uses (e.g., neighborhood commercial uses, day care, parks, schools, and other community facilities) be physically linked with adjacent residential neighborhoods.

Community Form – Downtown Neighborhoods - Policy 5: Encourage infill development and rehabilitation that:

- upgrades the quality and enhances the character of existing areas;
- enhances public transit use and pedestrian access;
- efficiently utilizes and does not overburden existing services and infrastructure; and
- results in land use patterns and densities that provide the opportunity for the construction of household types affordable to all income groups.

Community Form – Relationship of New Development - Policy 1: Require that new development areas and associated community-wide facilities (open space resources, parks, libraries, etc.) Be linked and oriented to existing developed areas of the community through road networks, public transit systems, open space systems, bike way and pedestrian systems, and other physical connections.

Community Form – Jobs/Housing and Economic Development - Policy 1: Strive for a land use mix and pattern of development that provides linkages between jobs and employment uses, will provide a reasonable jobs/housing balance, and will maintain the fiscal viability of the City.

Community Form – Community Design - Policy 2: Continue to develop and apply design standards that result in efficient site and building designs, pedestrian friendly projects that stimulate the use of alternative modes of transportation, and the establishment of a functional relationship between adjacent developments.

Community Form – Community Design - Policy 3: Encourage project designs that place a high priority and value on open space, and the preservation, enhancement and incorporation of natural resources and other features including consideration of topography, vegetation, wetlands, and water courses.

Community Form – Community Design - Policy 9: The location and preservation of native oak trees and oak woodlands shall be a primary factor in determining site design, building location, grading, construction and landscaping, and in establishing the character of projects through their use as a unifying element in both new an existing development.

Growth Management Policy 8: Manage growth in such a way to ensure that significant open space areas will be preserved.

Circulation – Level of Service - Policy 2: Strive to meet the level of service standards through a balanced transportation system that reduces the auto emissions that contribute to climate change by providing alternatives to the automobile and avoiding excessive vehicle congestion through roadway improvements, Intelligent Transportation Systems, and transit improvements.

Circulation – Level of Service - Policy 5: Enable the City to designate a Pedestrian District over a geographic area for the purpose of implementing measures that promote pedestrian walkability and reduce total vehicle miles traveled and resultant air pollution emissions that contribute to climate change. In these districts, the City recognizes that pedestrian travel takes a higher priority than automobile travel, which could reduce the vehicular level of service.

Circulation – Transit - Policy 1: Pursue and support transit services within the community and region and pursue land use, design and other mechanisms that promote the use of such services.

Circulation – Transportation System Management - Policy 1: Continue to enforce the City's TSM ordinance and monitor its effectiveness.

Circulation – Transportation System Management - Policy 2: Work with appropriate agencies to develop measures to reduce vehicular travel demand and total vehicle miles traveled and meet air quality goals.

Circulation – Bikeway/Trails - Policy 1: Develop a comprehensive and safe system of recreational and commuter bicycle routes and trails that provides connections between the City's major employment and housing areas and between its existing and planned bikeways.

Circulation – Bikeway/Trails - Policy 2: Coordinate Roseville's bikeway and trail system with those of neighboring jurisdictions to provide both local and regional connections.

Air Quality and Climate Change Policy 1: Cooperate with other agencies to develop a consistent and effective approach to air pollution planning.

Air Quality and Climate Change Policy 4: As part of the development review process, develop mitigation measures to minimize stationary and area source emissions.

Air Quality and Climate Change – Transportation and Circulation - Policy 5: Develop transportation systems that minimize vehicle delay and air pollution.

Air Quality and Climate Change – Transportation and Circulation - Policy 6: Develop consistent and accurate procedures for mitigating transportation emissions from new and existing projects.

Air Quality and Climate Change – Transportation and Circulation - Policy 7: Encourage alternative modes of transportation including pedestrian, bicycle, and transit usage.

Air Quality and Climate Change – Land Use - Policy 9: Encourage land use policies that maintain and improve air quality.

Air Quality and Climate Change – Energy Conservation - Policy 10: Conserve energy and reduce air emissions by encouraging energy efficient building designs and transportation systems.

Open Space and Conservation – Open Space System - Policy 1: Provide an interconnecting system of open space corridors that, where feasible, incorporate bikeways and pedestrian paths.

Open Space and Conservation – Open Space System - Policy 2: Provide interconnected open space corridors between open space and habitat resources, recreation areas, schools, employment, commercial service and residential areas.

Open Space and Conservation – Open Space System - Policy 3: Work with adjacent jurisdictions to connect the City with regional open space and trail systems, providing a network of open space and habitat resources, pathways and, where reasonable, equestrian trails through the City to link nearby communities

Open Space and Conservation – Open Space System - Policy 4: Require all new development to provide linkages to existing and planned open space systems. Where such access cannot be provided through the creation of open space connections, identify alternative linkages.

Open Space and Conservation – Open Space System - Policy 6: Take into account consideration of natural habitat areas in developing linkages and in preserving open space areas. Identify alternate sites for linkages where sensitive habitat areas have the potential to be adversely impacted.

Open Space and Conservation – Open Space System - Policy 7: Maximize opportunities for preservation and maintenance of open space resources, including establishment of private open space areas. Consider coordination with non-profit organizations and investigate the potential for conservancy ownership and/or management of open space areas.

Open Space and Conservation – Vegetation and Wildlife - Policy 1: Incorporate existing trees into development projects, and where preservation is not feasible, continue to require mitigation for the loss of removed trees. Particular emphasis shall be placed on avoiding the removal of groupings or groves of trees.

Open Space and Conservation – Vegetation and Wildlife - Policy 2: Preserve and rehabilitate continuous riparian corridors and adjacent habitat along the City's creeks and waterways.

Open Space and Conservation – Vegetation and Wildlife - Policy 3: Require dedication of the 100-year flood plain or comparable mechanism to protect habitat and wildlife values in perpetuity.

Open Space and Conservation – Vegetation and Wildlife - Policy 4: Require preservation of contiguous areas in excess of the 100-year flood plain as merited by special resources or circumstances. Special circumstances may include, but are not limited to, sensitive wildlife or vegetation, wetland habitat, oak woodland areas, grassland connections in association with other habitat areas, slope or topographical considerations, recreation opportunities, and maintenance access requirements.

Open Space and Conservation – Groundwater Recharge and Water Quality - Policy 3: Ensure a buffer area between waterways and urban development to protect water quality and riparian areas.

Open Space and Conservation – Groundwater Recharge and Water Quality - Policy 4: Consider the use of City property for habitat preservation and mitigation requirements resulting from development proposals when such efforts do not conflict with existing resources, recreational opportunities, or other City goals, policies, or programs.

Open Space and Conservation – Groundwater Recharge and Water Quality - Policy 5: Continue to monitor groundwater resources and investigate strategies for enhanced sustainable use. Areas where recharge potential is determined to be high shall be considered for designation as open space.

Open Space and Conservation – Groundwater Recharge and Water Quality – Policy 6: Where feasible, locate storm water retention ponds in areas where subsoil is suitable for groundwater recharge.

Parks and Recreation Policy 1: The City shall ensure the provision of 9 acres of park land per 1,000 residents

Parks and Recreation Policy 6: Take into consideration energy efficiency and water conservation, including the use of treated wastewater, in park development, and design

Public Facilities – Electric Utilities - Policy 5: Explore the feasibility of the development of and participation in renewable energy resources.

Public Facilities – Electric Utilities - Policy 6: Adopt a load/resource management plan, incorporating energy efficiency, conservation, load management, and reliability strategies, identifying program objectives and implementation and monitoring mechanisms.

Public Facilities – Electric Utilities - Policy 8: Pursue reasonable and cost-effective energy efficiency, conservation, and load management programs pertinent to the electric utility system.

Public Facilities – Electric Utilities - Policy 10: Require new development to pay a fair share of the cost of new sub-transmission and distribution needed to serve the development and to dedicate sites and easements needed for substations, transmission, sub-transmission, and distribution.

Public Facilities – Water System - Policy 10: Develop and implement water conservation standards and measures as necessary elements of the water system.

Public Facilities – Water System - Policy 11: Develop and implement an aquifer storage and recovery program.

Public Facilities – Wastewater and Recycled Water System - Policy 5: Explore potential alternatives to treatment and discharge.

Public Facilities – Wastewater and Recycled Water System - Policy 6: Develop, plan, and provide incentives for use of recycled water by the public and private sectors.

Public Facilities – Solid Waste, Source Reduction and Recycling - Policy 1: Ensure existing and future recycling sites and operations remain viable through application of land use compatibility standards.

Public Facilities – Solid Waste, Source Reduction and Recycling - Policy 2: Comply with the source reduction and recycling standards mandated by the State by reducing the projected quantity of solid waste disposed at the regional landfill by 50%, as well as any mandated future reductions.

Public Facilities – Solid Waste, Source Reduction and Recycling - Policy 5: Develop public education and recycling programs

Public Facilities – Water and Energy Conservation - Policy 1: Develop and implement water conservation standards.

Public Facilities – Water and Energy Conservation - Policy 2: Implement various water conservation plans developed by the Environmental Utilities Department.

Public Facilities – Water and Energy Conservation - Policy 3: Explore potential uses of treated wastewater.

Public Facilities – Water and Energy Conservation - Policy 4: Protect the quality and quantity of the City's groundwater and consider designating areas as open space where recharge potential is high.

Public Facilities – Water and Energy Conservation - Policy 5: Develop and adopt a landscape ordinance that provides standards for the use of drought tolerant, xeriscape, and water-conserving landscape practices for both public and private projects.

Public Facilities – Water and Energy Conservation - Policy 6: Develop and implement public education programs designed to increase public participation in energy, water conservation and recycled water use.

Public Facilities – Water and Energy Conservation - Policy 7: Require large electricity users to submit a use and conservation plan concurrent with development review specifying measures to be taken to minimize demand.

Public Facilities – Water and Energy Conservation - Policy 8: Enforce energy requirements and encourage development and construction standards that promote energy efficiency and conservation.

Public Facilities – Water and Energy Conservation - Policy 9: Preserve scarce resources by undertaking major projects in energy conservation and load management, including increasing efficiency in the City's electrical system.

Public Facilities – Water and Energy Conservation - Policy 10: Continue and expand energy efficiency and conservation programs to serve all utility users.

Safety – Flood Protection - Policy 1: Continue to regulate, through land use, zoning, and other restrictions, all uses and development in areas subject to potential flooding.

Safety – Flood Protection - Policy 2: Monitor and regularly update City flood studies, modeling and associated land use, zoning, and other development regulations.

Safety – Flood Protection - Policy 3: Continue to pursue a regional approach to flood issues.

Safety – Flood Protection - Policy 4: Provide flood warning and forecasting information to community residents to reduce impacts to personal property.

Safety – Flood Protection - Policy 5: Minimize the potential for flood damage to public and emergency facilities, utilities, roadways, and other infrastructure.

Safety – Flood Protection - Policy 6: Require new developments to provide mitigation to insure that the cumulative rate of peak run-off is maintained at pre-development levels.

Safety – Flood Protection - Policy 8: Establish flood control assessment districts or consider other funding mechanisms to mitigate flooding impacts.

Safety – Flood Protection - Policy 9: Where feasible, maintain natural stream courses and adjacent habitat and combine flood control, recreation, water quality, and open space functions.

It can not be made certain how current City regulations specifically affect CO_2 emissions attributable to the Plan area and cumulative CO_2 emissions from other sources in the state. However, given that the Downtown Roseville Specific Plan envisions locating residences close to employment centers and promotes the use of alternative modes of transportation, it is the type of land use planning project that could assist in reducing regional emissions of GHG through increasing density of an urban center (i.e., downtown Roseville).

Although neither the ARB nor any air district in California, including the PCAPCD, has identified a significance threshold for analyzing GHG emissions generated by a proposed project or a methodology for analyzing air quality impacts related to global warming, California has identified goals to reduce GHG emissions to 1990 levels by the year 2020 with adoption of AB 32. To meet AB 32 goals, California would need to generate lower levels of GHG emissions than current levels, while accommodating 30 years of population and economic growth in the state. In addition, by adoption of SB 97 California has committed to developing and adopting CEQA Guidelines to assist local jurisdictions in their assessment. Because no standards have yet been adopted, it is recognized that for most projects there is no simple metric available to determine if a single project would substantially increase or decrease overall GHG emission levels (e.g., help or hinder meeting the AB 32 emission goals). In addition, at this time AB 32 only applies to stationary source emissions. For the purposes of this analysis and absent guidance from State and local agencies, the City has chosen the following approach to analyzing GHG emissions in the context of CEQA: 1) quantify the mass of GHG emissions associated with the proposed project using recommended and widely accepted calculation tools available at this time of writing, 2) if the project would result in a substantial increase in GHG emissions, then the impact would be considered significant, and 3) implement the best available, feasible mitigation measures known to reduce GHG emissions, although the efficacy of such measures are currently unknown.

IMPACT 5.4-1 **Increases in Greenhouse Gas Emissions.** *Emissions of GHGs during construction and operation of the proposed project would be substantial. Therefore, direct impacts of the proposed project from GHG emissions are considered significant.*

Short-term construction and long-term operation of the project would generate emissions of GHGs. Construction emissions would be associated with vehicle engine exhaust from construction equipment, vendor trips, and employee compute trips. Operational emissions would be associated with area, mobile, and stationary sources. Area-source emissions would be associated with activities such as natural gas use for space and water heating, maintenance of landscaping and grounds, waste disposal, and other sources. Mobile-source emissions of GHGs would include project-generated vehicle trips for residents and employees of, and visitors to the plan area. In addition, increases in stationary-source emissions could occur at off-site utility providers associated with electricity generation that would supply the proposed uses within the Plan area.

GHG emissions generated by the proposed project would predominantly be in the form of CO_2. In comparison to criteria air pollutants, such as ozone and PM_{10}, CO_2 emissions persist in the atmosphere for a much longer period of time. While emissions of other GHGs, such as methane (CH_4) and nitrous oxide (N_2O), are important with respect to global climate change, the emission levels of these other GHGs for the sources considered for this project are relatively small compared with CO_2 emissions.

The net increase in CO_2 emissions were calculated for the proposed project and were used as an indicator of total GHG emissions. Emission factors and calculation methods for GHG from development projects have not been formally adopted for use by the state or PCAPCD. The most recent URBEMIS model, URBEMIS2007, includes an output parameter for CO_2 emissions. The California Climate Action Registry (CCAR) *General Reporting Protocol* is the most comprehensive guidance, but the protocol is designed to be used by existing large entities and facilities where there are records of energy use, vehicle fleet activities, and manufacturing processes (CCAR 2007). Both construction and operational emissions were calculated with URBEMIS. Operational emissions from electric utilities were estimated using the CCAR Protocol. For area sources, URBEMIS calculates CO_2 from natural gas use. The CCAR Protocol has calculation methodology for electricity use. The emissions from electricity use may occur a long distance from the point of electrical use, but on a global scale, the location of emissions is of less importance. An additional feature of the CCAR method is that there are factors for calculating CH_4 and N_2O, which are weighted by global warming potential of the respective GHG and summed with CO_2 to yield CO_2e.

The results of the calculations are shown in Table 5.4-1.

As shown in Table 5.4-1, estimated GHG emissions from construction would be approximately 1,882 metric tons of CO_2. Note that construction emissions are reported as a finite quantity, since construction would occur over a finite period of time. Estimated GHG emissions associated with operation of the proposed project would be approximately 85,660 metric tons/year over the lifetime of the project. Thus, project operation would contribute to GHG emissions to a far greater extent than would project construction.

Although implementation of the proposed project would result in a net increase in emissions of CO_2, the City has determined that implementation of the Downtown Roseville Specific Plan would further the City's long-term goals of reducing GHG emissions that contribute to global climate change from development activities through promoting increased transit use, increased streetscape and landscaping (e.g., trees), and redevelopment (i.e., infill development) through implementation of the proposed policies of the Specific Plan and development in compliance with existing policies of the City's General Plan 2020. Because the nature of the project would result in urban infill and redevelopment of underutilized properties at a higher density in downtown Roseville, siting higher density development and increasing mixed land uses (i.e., diversity) in proximity to one another would reduce regional vehicle miles traveled (VMT). However, the extent to which regional VMT reductions would

Table 5.4-1
Summary of Modeled Construction and Operational Emissions of Greenhouse Gases (Carbon Dioxide)

Method/Source	Emissions
URBEMIS2007[1]	**Metric TPY CO_2**
Annual Construction-Generated Emissions[2]	188
	Metric Tons CO_2
Total Construction-Generated Emissions[2]	**1,882**
URBEMIS2007[1]	**Metric TPY CO_2**
Area-Source Emissions for 2009	4,920
Mobile-Source Emissions for 2009	70,486
Total Build Out Direct Operational Emissions Assuming 2009[3] Emission Rates	**75,405**
California Climate Action Registry[4]	**Metric TPY CO_2e**
Indirect Operational Emissions (Electricity Generation)	10,255
Total Build Out Operational Emissions (Direct and Indirect) Using 2009 Emission Rates	**85,660**

[1] Emissions modeled using the Urbemis2007 computer model. Model assumptions described in methodology sections and in Impacts 4.10-1 and 4.10-2.
[2] Construction emissions were modeled assuming that the entire specific plan would be built during 2008-2009. This was done because detailed construction phasing information was not available and this method presents the worst-case construction generated emissions scenario. A more realistic scenario would be less intense construction activity occurring incrementally over a period of 10 to 20 years.
[3] Net increase in operational emissions were modeled for the year 2009 because this was the most conservative year of possible project operation. The project would not reach full build out until several years in the future, when emission factors would be slightly lower due to more stringent emissions regulations and standards. The values reflected in Table 5.4-1 represent worst-case project-generated operational emissions.
[4] Emissions calculated using CCAR Protocol and assumptions described in preceding text.
Notes: The values presented in Table 5.4-1 do not include the full life-cycle of GHG emissions that may occur over the production/transport of materials used during construction of the project, solid waste or waste water disposal over the life of the project, end-of-life of the materials and processes that would contribute to GHG emissions that occur as an indirect result of the project, etc. Doing so would be speculative and would require analysis beyond the current state of the art in impact assessment, and would lead to a false and misleading level of precision in reporting of project-related GHG emissions. Further, indirect emissions associated with in-state energy production, solid waste disposal, and waste water treatment would be regulated under AB 32 at the source or facility that would handle these processes. The emissions associated with off-site facilities in California would be closely controlled, reported, capped and traded under AB 32 and ARB programs. Therefore, this category of emissions would be consistent with AB 32 requirements.
See Appendix H for detailed model output and assumptions.
Source: Data modeled by EDAW 2008.

occur as a result of the proposed project is not known at this time. In the case of the proposed project under traditional emissions calculation methodology, where new development is treated as new potential to emit, the proposed net change in land uses would result in a substantial increase in GHG emissions compared to existing conditions. This would result in a considerable contribution to the cumulative impact of global climate change and result in a significant impact.

To establish additional context in which to consider the order of magnitude of project-generated GHG emissions, it may be noted that facilities (i.e., stationary sources of GHG emissions) that generate greater than 25,000 metric tons CO_2/year are mandated to report GHG emissions to the ARB pursuant to AB 32. In this context, which is presented for informational purposes only, the project's annual operational emissions would appear substantial. However, these requirements apply to stationary combustion sources of GHG emissions and should not be treated as a numeric threshold applicable to development projects.

Mitigation Measure 5.4-1

Implementation of Air Quality Mitigation Measure 4.10-2, which would reduce operational emissions of criteria air pollutants and precursors, would also act to reduce GHG emissions associated with project operation.

Mitigation measure 4.10-2 is relevant to impact 5.4-1 because both criteria air pollutant and GHG emissions are frequently associated with combustion byproducts. In addition, the City shall implement the following measures to reduce direct and indirect GHG emissions associated with the proposed project. Certain measures would already be components of the project (i.e., Specific Plan policies, design guidelines and standards), and/or would be applied consistent with the City's General Plan Policies addressing GHG emissions and climate change, but are provided here for purposes of completeness.

A. Energy Efficiency

1. Design buildings to be energy efficient (e.g., exceed Title 24 requirements). Site buildings to take advantage of shade, prevailing winds, landscaping and sun screens to reduce energy use (1% emissions reduction).

2. Install efficient lighting and lighting control systems. Use daylight as an integral part of lighting systems in buildings (0.5% emissions reduction).

3. Install light colored "cool" roofs, cool pavements, and strategically placed shade trees (0.5% emissions reduction).

4. Install energy efficient heating and cooling systems, appliances and equipment, and control systems.

5. Install light emitting diodes (LEDs) for traffic, street and other outdoor lighting.

6. Use solar heating, automatic covers, and efficient pumps and motors for pools and spas.

B. Renewable Energy

1. Install solar and wind power systems, solar and tankless hot water heaters, and energy-efficient heating ventilation and air conditioning.

2. Improve the thermal integrity of buildings, and reduce the thermal load with automated time clocks or occupant sensors.

3. Where practical, install solar panels on carports and over parking areas.

C. Water Conservation and Efficiency

1. Create water-efficient landscapes with native, drought-resistant species.

2. Install water-efficient irrigation systems and devices, such as soil moisture-based irrigation controls.

3. Where feasible, use reclaimed water for landscape irrigation in new developments and on public property. Install the infrastructure to deliver and use reclaimed water.

4. Design buildings to be water-efficient. Install water-efficient fixtures and appliances.

5. Devise a comprehensive water conservation strategy appropriate for the project and location. The strategy may include many of the specific items listed above, plus other innovative measures that are appropriate to the specific project.

D. Solid Waste Measures

1. Reuse and recycle construction and demolition waste including, but not limited to, soil, vegetation, concrete, lumber, metal, and cardboard.

2. Provide interior and exterior storage areas for recyclables and green waste and adequate recycling containers located in public areas.

E. Land Use Measures

1. Incorporate public transit into project design (0.4–1% emissions reduction).

2. Preserve and create open space and parks. Preserve existing trees, and plant replacement trees at a set ratio.

3. Include pedestrian and bicycle-only streets and plazas within developments. Create travel routes that ensure that destinations may be reached conveniently by public transportation, bicycling or walking. Design roadway network to maximize pedestrian access to transit stops, including access from residential cul-de-sacs to collector and arterial streets (1% emissions reduction).

F. Transportation and Motor Vehicles

1. Limit idling time for commercial vehicles, including delivery and construction vehicles.

2. Provide the necessary facilities and infrastructure to encourage the use of low or zero-emission vehicles (e.g., electric vehicle charging facilities and conveniently located alternative fueling stations) (0.5-1.5% emissions reduction).

3. Provide park and ride lots.

4. Increase headways of current City bus service to downtown Sacramento.

5. Provide shuttle service to public transit.

6. Provide public transit incentives such as free or low-cost monthly transit passes (1-5% emissions reduction).

7. Incorporate bicycle lanes, routes, and intersection improvements into street systems within the Specific Plan (1% emissions reduction).

8. For commercial land uses, provide adequate bicycle parking near building entrances to promote cyclist safety, security, and convenience (1% emissions reduction).

9. Create Class II bicycle lanes and walking paths directed to the location of schools, parks and other destination points (1% emissions reduction).

10. Ensure that the public school district shall serve the project site with a student busing system, and/or enable students residing in the project to safely walk to or bicycle to school without encountering barriers such as large arterial roadways or sound walls.

11. Construction of transit facility/amenity (bus shelters, bicycle lockers/racks, etc.) for existing public and private transit (0.5% emissions reduction).

12. Provide secure bicycle storage at public parking facilities.

Mitigation Measure 5.4-1 would reduce operational and construction-generated GHG emissions. The City has determined that the proposed project would be consistent with the goals of AB 32 in that it is the type of project generally considered to be compatible with long-term GHG emission reduction efforts as it is a downtown revitalization project; and that it is reasonable to expect that the extensive vehicle trip reduction and energy conservation measures identified in Mitigation Measure 5.4-1 would be effective in substantially reducing GHG emissions compared with the unmitigated emissions calculations presented in Table 5.4-1. Conservative emissions reductions estimates were assigned to individual measures where documentation was available (California Air Pollution Control Officers Association 2008). The exact quantity of GHG emissions reduction associated with several measures identified in Mitigation Measure 5.4-1 cannot be calculated at this time. However, due to the current disparity between the volume of existing global GHG emissions and the goals of AB 32, even with mitigation measures incorporated, the proposed project would contribute a cumulatively considerable, incremental contribution to global GHG emissions and, therefore, would result in a significant and unavoidable cumulative impact.

Mitigation measures that were considered by the City but were determined to be infeasible include:

- Use of low or zero-emission vehicles, including construction vehicles is economically infeasible.
- Promote ride sharing programs by designating a certain percentage of parking spaces for ride sharing vehicles. The City already has a Transportation Systems Management (TSM) program.
- Create car sharing programs. This measure is not enforceable.