

MITIGATION MONITORING CHECKLIST--STANFORD IN REDWOOD CITY PRECISE PLAN

The environmental mitigation measures listed in column two below have been incorporated into the conditions of approval for the Stanford in Redwood City Precise Plan in order to mitigate identified environmental impacts. A completed and signed chart will indicate that each mitigation requirement has been complied with, and that City and state monitoring requirements have been fulfilled with respect to Public Resources Code section 21081.6.

IDENTIFIED IMPACT	RELATED MITIGATION MEASURE (Performance Criteria)	MONITORING			VERIFICATION	
		Implementation Entity	Monitoring and Verification Entity	Timing Requirements	Signature	Date
<i>TRANSPORTATION, CIRCULATION, AND PARKING</i>						
<p>Impact 7-1: Existing Plus Project Impact on Woodside Road/Broadway Intersection. Under Existing Plus Project conditions during the PM peak hour, project traffic would cause the intersection to degrade from LOS E (59.3 seconds delay) to LOS F (128.8 seconds delay). According to City guidelines, this change would constitute a significant project impact.</p>	<p>Mitigation 7-1. To mitigate the project's impact (i.e., the project applicant would be responsible for fully funding/completing the mitigation) at the intersection of Woodside Road and Broadway, the westbound approach on Broadway would need to be <i>restriped</i> to include a total of one left-turn lane, one through lane, one shared through/right-turn lane, and one right-turn lane. Signage would also need to be provided indicating that the "right-most" right-turn lane is to southbound US 101 only. In addition, the eastbound travel lanes would need to be <i>restriped</i> to include a total of two left-turn lanes and one shared through/right-turn lane. The eastbound and westbound signal phasing would need to be modified from split phasing to protected phasing. Because this intersection is subject to Caltrans jurisdiction, any changes to the operation of the signal or physical improvements to the intersection would require Caltrans approval. Pursuant to Caltrans Deputy Directives 64 and 64-R1, requiring facilitation of multimodal travel, it is possible that the above improvements to the intersection of Woodside Road and Broadway would also be required to include such features as pedestrian count-down signals, an emergency vehicle pre-emption system, reconstruction of corner radii to reduce pedestrian crossing distances, pedestrian median refuges, bike lanes, and bike detectors.</p> <p>With the improvements described above, the level of service (LOS) at this intersection would be restored to E or better. Therefore, with this mitigation, the</p>	<p>Applicant to fully fund. Applicant or City to construct.</p>	<p>City to monitor in consultation with C/CAG & Caltrans</p>	<p>Prior to building permit issuance that would result in 608,999 total square feet in Precise Plan Blocks A-E. Refer to Stanford Precise Plan, Chapter IV, Intersection Improvements Table.</p>		

IDENTIFIED IMPACT	RELATED MITIGATION MEASURE (Performance Criteria)	MONITORING			VERIFICATION	
		Implementation Entity	Monitoring and Verification Entity	Timing Requirements	Signature	Date
	project impact would be considered <i>less-than-significant</i> . However, because this improvement would require Caltrans approval, the City cannot ensure the construction of this improvement. Without implementation of the proposed mitigation, the impact would be significant and unavoidable .					
Impact 7-2: Existing Plus Project Impact on Woodside Road/Bay Road Intersection. Under Existing Plus Project conditions during the PM peak hour, project traffic would cause the intersection to degrade from LOS D (35.5 seconds delay) to LOS F (81.7 seconds delay). According to City guidelines, this change would constitute a significant project impact .	<p>Mitigation 7-2. To mitigate the project's impact (i.e., the project applicant would be responsible for fully funding/completing the mitigation) at the intersection of Woodside Road and Bay Road, the westbound approach on Bay Road would need to be <i>restriped</i> to include a total of two left-turn lanes and one shared through/right-turn lane. (Woodside Road is considered north-south and Bay Road is considered east-west.) The eastbound approach would need to be <i>restriped</i> to include a total of one left-turn lane, one through lane, and one shared through/right-turn lane. In addition, the signal phasing on the eastbound and westbound approaches would need to be modified from permitted phasing to protected phasing. Because this intersection is subject to Caltrans jurisdiction, any changes to the operation of the signal would require Caltrans approval. Pursuant to Caltrans Deputy Directives 64 and 64-R1, requiring facilitation of multimodal travel, it is possible that the above intersection improvements would also be required to include such features as new crosswalk and pedestrian signals across Bay Road on the west side of Woodside Road, restriping of two crosswalks on Woodside Road to provide straight and shorter walking distances, pedestrian median refuges on Woodside Road, curb ramps, pedestrian count-down signals, an emergency vehicle pre-emption system, reconstruction of corner radii to reduce pedestrian crossing distances, bike lanes, and bike detectors.</p> <p>With the improvements described above, the level of service (LOS) at this</p>	Applicant to fully fund. Applicant or City to construct.	City to monitor in consultation with C/CAG & Caltrans	Prior to building permit issuance that would result in 849,155 total square feet in Precise Plan Blocks A-E. Refer to Stanford Precise Plan, Chapter IV, Intersection Improvements Table.		

IDENTIFIED IMPACT	RELATED MITIGATION MEASURE (Performance Criteria)	MONITORING			VERIFICATION	
		Implementation Entity	Monitoring and Verification Entity	Timing Requirements	Signature	Date
	intersection would improve to an acceptable LOS D in the PM peak hour, resulting in a <i>less-than-significant impact</i> . However, because this improvement would require Caltrans approval, the City cannot ensure the construction of this improvement. Without implementation of the proposed mitigation, the impact would be <i>significant and unavoidable</i> .					
Impact 7-3: Existing Plus Project Impact on Charter Street/Broadway Intersection. Under Existing Plus Project conditions during the AM peak hour, project traffic would cause the intersection to degrade from LOS B (14.1 seconds delay) to LOS F (117.1 seconds delay). In the PM peak hour, project traffic would cause the intersection to degrade from LOS C (17.9 seconds delay) to LOS F (122.5 seconds delay). In addition, this intersection would have peak hour volumes large enough under both peak hours to satisfy the peak hour signal warrant. According to City guidelines, these changes would constitute a <i>significant project impact</i> .	Mitigation 7-3. To mitigate the project's impact (i.e., the project applicant would be responsible for fully funding/completing the mitigation) at the intersection of Charter Street and Broadway, the intersection would need to be signalized with protected phasing on all approaches. The northbound and southbound approaches on Charter Street would need to be <i>restriped</i> to include a total of one left-turn lane and one shared through/right-turn lane. The eastbound and westbound approaches on Broadway would need to be restriped to include a total of one left-turn, one through lane, and one shared through/right-turn lane. Parking (50 spaces) would need to be removed from all intersection legs to accommodate travel lanes. With these improvements, the level of service (LOS) at this intersection would improve to an acceptable LOS B in the AM peak hour and an acceptable LOS C in the PM peak hour, and the impact would be <i>less-than-significant</i> .	Applicant to fully fund. Applicant or City to construct.	City	Prior to building permit issuance that would result in 576,808 total square feet in Precise Plan Blocks A-E. Refer to Stanford Precise Plan, Chapter IV, Intersection Improvements Table.		
Impact 7-4: Existing Plus Project Impact on Douglas Avenue/Broadway Intersection. Under Existing Plus Project conditions during the AM peak hour, project traffic would cause the intersection to degrade from LOS B (10.4 seconds delay) to LOS F (167.6 seconds). During the PM peak hour, project traffic would cause the intersection to degrade from LOS B (11.1 seconds) to LOS F (180.0 seconds). In addition, this intersection would have peak hour volumes large enough under both peak hours to satisfy the peak hour signal warrant. According to City guidelines, these changes	Mitigation 7-4. To mitigate the project's impact (i.e., the project applicant would be responsible for fully funding/completing the mitigation) at the intersection of Douglas Avenue and Broadway, the intersection would need to be signalized with protected phasing on all approaches. (Douglas Avenue is considered north-south and Broadway is considered east-west.) In addition to signalization, parking (15 spaces) would need to be removed from the north and south legs to accommodate additional travel lanes. The southbound approach would need to be <i>restriped</i> to	Applicant to fully fund. Applicant or City to construct.	City	Prior to building permit issuance that would result in 560,712 total square feet in Precise Plan Blocks A-E. Refer to Stanford Precise Plan, Chapter IV, Intersection Improvements Table.		

IDENTIFIED IMPACT	RELATED MITIGATION MEASURE (Performance Criteria)	MONITORING			VERIFICATION	
		Implementation Entity	Monitoring and Verification Entity	Timing Requirements	Signature	Date
would constitute a significant project impact .	include a total of one left-turn lane, one through lane, and one right-turn lane. The northbound approach would need to be <i>restriped</i> to include a total of two northbound left-turn lanes and one shared through/right-turn lane. The eastbound and westbound approaches would need to be <i>restriped</i> to include a total of one left-turn lane and one shared through/right-turn lane. With these improvements, the level of service (LOS) at this intersection would improve to an acceptable LOS C during both peak hours, and the impact would be less-than-significant .					
Impact 7-5: Near Term Plus Project Impact on Woodside Road/Broadway Intersection. Under Near Term Plus Project conditions during the PM peak hour, this intersection would continue to operate at LOS F, and project traffic would cause the critical delay to increase by 69.5 seconds. According to City of Redwood City guidelines, this change would constitute a significant project impact .	Mitigation 7-5. Implement Mitigation 7-1 (the project applicant would be responsible for fully funding/completing the mitigation). With these improvements, the level of service (LOS) at this intersection would remain at LOS F. Although the LOS F condition would exceed the City LOS standard, the LOS under Near Term Plus Project condition with this mitigation would be better than that under the Near Term Without Project condition. These improvements would enhance the overall performance of the intersection. Therefore, with this mitigation, this project impact would be considered <i>less-than-significant</i> . However, because implementation of this mitigation would require Caltrans approval, the City cannot ensure its construction. Without implementation of the proposed mitigation, the impact would be significant and unavoidable .	Applicant to fully fund. Applicant or City to construct.	City	Prior to building permit issuance that would result in 608,999 total square feet in Precise Plan Blocks A-E. Refer to Stanford Precise Plan, Chapter IV, Intersection Improvements Table.		
Impact 7-6: Near Term Plus Project Impact on Woodside Road/Bay Road Intersection. Under Near Term Plus Project conditions during the PM peak hour, project traffic would cause this intersection to degrade from LOS D (44.9 seconds delay) to LOS F (91.1 seconds delay). According to City guidelines, this change would constitute a significant project impact .	Mitigation 7-6. Implement Mitigation 7-2 (the project applicant would be responsible for fully funding/completing the mitigation). With these improvements, the level of service (LOS) at this intersection would improve to an acceptable LOS D in the PM peak hour, resulting in a <i>less-than-significant impact</i> . However, because implementation of this mitigation would require Caltrans approval, the City cannot ensure its construction. Without implementation of the proposed mitigation,	Applicant to fully fund. Applicant or City to construct.	City	Prior to building permit issuance that would result in 849,155 total square feet in Precise Plan Blocks A-E. Refer to Stanford Precise Plan, Chapter IV, Intersection Improvements Table.		

IDENTIFIED IMPACT	RELATED MITIGATION MEASURE (Performance Criteria)	MONITORING			VERIFICATION	
		Implementation Entity	Monitoring and Verification Entity	Timing Requirements	Signature	Date
	the impact would be <i>significant and unavoidable</i> .					
<p>Impact 7-7: Near Term Plus Project Impact on Charter Street/Broadway Intersection. Under Near Term Plus Project conditions during the AM peak hour, project traffic would cause this intersection to degrade from LOS C (24.7 seconds delay) to LOS F (127.7 seconds delay). In the PM peak hour, the intersection would continue to operate at LOS F, and project traffic would cause the critical delay at the intersection to increase by 104.6 seconds. In addition, the increase in peak hour volumes at this intersection would be large enough under both peak hours to satisfy the peak hour signal warrant. According to City guidelines, these changes would constitute a <i>significant project impact</i>.</p>	<p>Mitigation 7-7. Implement Mitigation 7-3 (the project applicant would be responsible for fully funding/completing the mitigation). With these improvements, the level of service (LOS) at this intersection would improve to an acceptable LOS B in the AM peak hour and an acceptable LOS C in the PM peak hour, and the impact would be <i>less-than-significant</i>.</p>	Applicant to fully fund. Applicant or City to construct.	City	Prior to building permit issuance that would result in 576,808 total square feet in Precise Plan Blocks A-E. Refer to Stanford Precise Plan, Chapter IV, Intersection Improvements Table.		
<p>Impact 7-8: Near Term Plus Project Impact on Charter Street/Bay Road Intersection. Under Near Term Plus Project conditions during the PM peak hour, project traffic would cause the intersection to degrade from LOS D (27.7 seconds delay) to LOS E (37.7 seconds delay). In addition, this intersection would have peak hour volume increases large enough under both peak hours to satisfy the peak hour signal warrant. According to City guidelines, these changes would constitute a <i>significant project impact</i>.</p>	<p>Mitigation 7-8(a). To mitigate the project's impact at the intersection of Charter Street and Bay Road, the intersection would need to be signalized with protected phasing on the eastbound and westbound approaches on Bay Road, and permitted phasing on the northbound and southbound approaches on Charter Street. In addition to signalization, the eastbound and westbound approaches would need to be <i>restriped</i> to include a total of one left-turn lane and one shared through/right-turn lane. With these improvements, the level of service (LOS) at this intersection would improve to an acceptable LOS C in the AM peak hour and LOS D in the PM peak hour. Traffic from the proposed project would add 10.0 seconds to the PM peak hour delay at this intersection over Near Term No Project conditions (see EIR Table 7.11); other Near Term growth would add 14.5 seconds to the delay over Existing conditions.</p> <p>Therefore, it is assumed that the proposed project would contribute approximately 41 percent toward this impact. The proposed project would mitigate its contribution to this impact by contributing its fair share to a</p>	Applicant fair share or payment of Traffic Impact Fee	City	<p>Prior to building permit issuance that would result in 1,370,785 total square feet in Precise Plan Blocks A-E. Refer to Stanford Precise Plan, Chapter IV, Intersection Improvements Table.</p> <p>If, at the time this improvement is required, the improvement has not yet been constructed and the City determines that other development has not yet significantly contributed to the need for the improvement, then the applicant shall fully fund or construct the improvement, subject to potential</p>		

IDENTIFIED IMPACT	RELATED MITIGATION MEASURE (Performance Criteria)	MONITORING			VERIFICATION	
		Implementation Entity	Monitoring and Verification Entity	Timing Requirements	Signature	Date
	<p>mitigation fund established to pay for the cost of this improvement (estimated, based on this EIR, to be 41 percent) at the time of issuance of a building permit or, if the City adds the improvement to its Traffic Impact Fee Program (TIF) project list, the proposed project would mitigate its contribution to this impact by paying its Traffic Impact Fee in effect at time of payment and issuance of a building permit. Applicant's full funding or construction of the improvement, subject to potential reimbursement as provided in the Precise Plan, would also mitigate the project's contribution to this impact.</p> <p style="text-align: center;">or</p>			reimbursement for improvement costs that exceed the applicant's fair share. Refer to Precise Plan, Chapter III, Capital Improvements.		
	<p>Mitigation 7-8(b). Mitigation of the project's impact at the intersection of Charter Street and Bay Road would require the conversion of the all-way stop controlled unsignalized intersection to a single-lane roundabout. Standard roundabouts are at least 110 feet in diameter. Smaller roundabouts may operate efficiently down to 80 feet in diameter. The existing intersection at Charter Street and Bay Road would allow up to an 80-foot-diameter roundabout. If the design work shows that the 80-foot-diameter roundabout would not require the acquisition of additional right-of-way and would not create additional safety hazards for motorists, pedestrians, or bicyclists compared to Mitigation 7-8(a), and if substantial evidence at the time the roundabout is proposed shows that the roundabout would not divert traffic to other intersections, the roundabout shall be considered feasible and may be substituted for Mitigation 7-8(a). With this improvement, the level of service (LOS) at this intersection would improve to an acceptable LOS B during the AM peak hour and LOS C during the PM peak hour.</p>	Applicant fair share or payment of Traffic Impact Fee	City	<p>Prior to building permit issuance that would result in 1,370,785 total square feet in Precise Plan Blocks A-E. Refer to Stanford Precise Plan, Chapter IV, Intersection Improvements Table.</p> <p>If, at the time this improvement is required, the improvement has not yet been constructed and the City determines that other development has not yet significantly contributed to the need for the improvement, then the applicant shall fully fund or construct the improvement, subject to potential</p>		

IDENTIFIED IMPACT	RELATED MITIGATION MEASURE (Performance Criteria)	MONITORING			VERIFICATION	
		Implementation Entity	Monitoring and Verification Entity	Timing Requirements	Signature	Date
	<p>Traffic from the proposed project would add 10.0 seconds to the PM peak hour delay at this intersection over Near Term No Project conditions (see EIR Table 7.11); other Near Term growth would add 14.5 seconds to the delay over Existing conditions. Therefore, it is assumed that the proposed project would contribute approximately 41 percent toward this impact. The proposed project would mitigate its contribution to this impact by contributing its fair share to a mitigation fund established to pay for the cost of this improvement (estimated, based on this EIR, to be 41 percent) at the time of issuance of a building permit or, if the City adds the roundabout to its Traffic Impact Fee Program (TIF) project list, the proposed project would mitigate its contribution to this impact by paying its Traffic Impact Fee in effect at time of payment and issuance of a building permit. Applicant's full funding or construction of the improvement, subject to potential reimbursement as provided in the Precise Plan, would also mitigate the project's contribution to this impact.</p> <p>Implementation of any one of these two mitigation options would reduce this project impact to a less-than-significant level.</p>			reimbursement for improvement costs that exceed the applicant's fair share. Refer to Precise Plan, Chapter III, Capital Improvements.		
<p>Impact 7-9: Near Term Plus Project Impact on Douglas Avenue/Broadway Intersection. Under Near Term Plus Project conditions during the AM peak hour, project traffic would cause the intersection to degrade from LOS C (21.9 seconds) to LOS F (179.1 seconds). During the PM peak hour, the intersection would continue to operate at LOS F, but project traffic would cause the critical delay at the intersection to increase from 54.5 seconds to 223.4 seconds (i.e., by 168.9 seconds). In addition, this intersection would have peak hour volume increases large enough under both peak hours to satisfy the peak hour signal warrant. According to City guidelines, these changes constitute a significant project impact.</p>	<p>Mitigation 7-9. Implement Mitigation 7-4 (the project applicant would be responsible for fully funding/completing the mitigation). With these improvements, the level of service (LOS) at this intersection would improve to an acceptable LOS C during both peak hours, and the impact would be less-than-significant.</p>	Applicant to fully fund. Applicant or City to construct.	City	Prior to building permit issuance that would result in 560,712 total square feet in Precise Plan Blocks A-E. Refer to Stanford Precise Plan, Chapter IV, Intersection Improvements Table.		

IDENTIFIED IMPACT	RELATED MITIGATION MEASURE (Performance Criteria)	MONITORING			VERIFICATION	
		Implementation Entity	Monitoring and Verification Entity	Timing Requirements	Signature	Date
<p>Impact 7-10: Near Term Plus Project Impact on 5th Avenue/Bay Road Intersection. Under Near Term Plus Project conditions during the PM peak hour, project traffic would cause the intersection to degrade from LOS C (21.8 seconds delay) to LOS E (38.4 seconds delay). In addition, this intersection would have peak hour volume increases large enough under both peak hours to satisfy the peak hour signal warrant. According to City guidelines, these changes would constitute a <i>significant project impact</i>.</p>	<p>Mitigation 7-10(a). The signalization of the 5th Avenue/Bay Road intersection is a transportation project included in the City's 2000 Traffic Impact Fee Program (TIF). Payment by the project applicant of its City Traffic Impact Fee in effect at time of payment and issuance of a building permit (or alternatively applicant's full funding or construction of the improvement subject to potential reimbursement as provided in the Precise Plan) would mitigate this impact. To mitigate the project's impact at the intersection of 5th Avenue and Bay Road, the intersection would need to be signalized. (5th Avenue is considered north-south and Bay Road is considered east-west.) No further improvements would be required. With this improvement, the level of service (LOS) at this intersection would improve to an acceptable LOS B during both peak hours.</p> <p style="text-align: center;">or</p>	Applicant fair share or payment of Traffic Impact Fee	City	<p>Prior to building permit issuance that would result in 1,370,785 total square feet in Precise Plan Blocks A-E. Refer to Stanford Precise Plan, Chapter IV, Intersection Improvements Table.</p> <p>If, at the time this improvement is required, the improvement has not yet been constructed and the City determines that other development has not yet significantly contributed to the need for the improvement, then the applicant shall fully fund or construct the improvement, subject to potential reimbursement for improvement costs that exceed the applicant's fair share. Refer to Precise Plan, Chapter III, Capital Improvements.</p>		
	<p>Mitigation 7-10(b). Mitigation of the project's impact at the intersection of 5th Avenue and Bay Road would require the conversion of the all-way stop controlled intersection to a single lane roundabout. The existing road widths at 5th Avenue and Bay Road would allow up to an 85-foot-diameter roundabout. If the design work shows that the 85-foot-diameter roundabout would not require the acquisition of additional right-of-way and</p>	Applicant fair share or payment of Traffic Impact Fee	City	<p>Prior to building permit issuance that would result in 1,370,785 total square feet in Precise Plan Blocks A-E. Refer to Stanford Precise Plan, Chapter IV, Intersection Improvements Table.</p>		

IDENTIFIED IMPACT	RELATED MITIGATION MEASURE (Performance Criteria)	MONITORING			VERIFICATION	
		Implementation Entity	Monitoring and Verification Entity	Timing Requirements	Signature	Date
	<p>would not create additional safety hazards for motorists, pedestrians, or bicyclists compared to Mitigation 7-10(a), and if substantial evidence at the time the roundabout is proposed shows that the roundabout would not divert traffic to other intersections, the roundabout shall be considered feasible and may be substituted for Mitigation 7-10(a). With this improvement, the level of service (LOS) at this intersection would improve to an acceptable LOS A during both peak hours.</p> <p>Implementation of either one of these two mitigation options would reduce this project impact to a less-than-significant level.</p>			<p>If, at the time this improvement is required, the improvement has not yet been constructed and the City determines that other development has not yet significantly contributed to the need for the improvement, then the applicant shall fully fund or construct the improvement, subject to potential reimbursement for improvement costs that exceed the applicant's fair share. Refer to Precise Plan, Chapter III, Capital Improvements.</p>		
<p>Impact 7-12: Cumulative With Project Impact on Veterans Boulevard/ Woodside Road Intersection. Under Cumulative With Project conditions during the PM peak hour, the intersection would remain at LOS F and the proposed project could contribute up to 22.8 seconds of critical delay to the intersection. According to City of Redwood City guidelines, this constitutes a cumulatively considerable contribution to a significant cumulative impact.</p>	<p>Mitigation 7-12. To mitigate the project's contribution to the cumulative impact at the intersection of Veterans Boulevard and Woodside Road, an <i>additional eastbound through lane</i> would need to be added. (Woodside Road is considered north-south and Veterans Boulevard is considered east-west.) With these improvements, the level of service (LOS) at this intersection would improve to LOS E during the PM peak hour. Although LOS E still exceeds the City of Redwood City LOS standard, the LOS under Cumulative With Project conditions would be better than that under Cumulative No Project conditions. Therefore, with this mitigation, the project's contribution to this cumulative impact would be considered <i>less-than-significant</i>. Widening of Veterans Boulevard between Chestnut and Woodside Road is included in the City's Traffic Impact Fee Program (TIF) project list. Accordingly, the applicant's payment of its Traffic Impact Fee in effect at time of payment and</p>	<p>Applicant fair share or payment of Traffic Impact Fee</p>	<p>City to monitor in consultation with C/CAG & Caltrans</p>	<p>Prior to building permit issuance that would result in 715,189 total square feet in Precise Plan Blocks A-E. Refer to Stanford Precise Plan, Chapter IV, Intersection Improvements Table.</p>		

IDENTIFIED IMPACT	RELATED MITIGATION MEASURE (Performance Criteria)	MONITORING			VERIFICATION	
		Implementation Entity	Monitoring and Verification Entity	Timing Requirements	Signature	Date
	issuance of a building permit would mitigate the proposed project's contribution to the significant cumulative impact. However, because this improvement would require Caltrans approval, the City of Redwood City cannot ensure the construction of this improvement. Without implementation of the proposed mitigation, the impact would be significant and unavoidable .					
Impact 7-13: Cumulative With Project Impact on Woodside Road/Bay Road Intersection. Under Cumulative With Project conditions during the PM peak hour, the intersection would degrade from LOS D to LOS F, and the proposed project could contribute up to 46.2 seconds of critical delay to the intersection. According to the City of Redwood City guidelines, this constitutes a cumulatively considerable contribution to a significant cumulative impact .	<p>Mitigation 7-13. To mitigate the project's contribution to the cumulative impact at the intersection of Woodside Road and Bay Road, an <i>additional westbound through lane</i> would need to be added and the shared through/right-turn lane converted to a right-turn lane. (Woodside Road is considered north-south and Bay Road is considered east-west.) Traffic from the proposed project could add up to 46.2 seconds to the PM peak hour delay at this intersection over Cumulative No Project conditions (see EIR Table 7.16); other Cumulative growth could add up to 3.4 seconds to the delay over Near Term No Project conditions. The proposed project would contribute its fair share to a mitigation fund established to pay for the cost of this improvement (estimated, based on this EIR, to be 93 percent) at the time of issuance of a building permit or, if the City adds the improvement to its Traffic Impact Fee Program (TIF) project list, the proposed project would pay its Traffic Impact Fee in effect at time of payment and issuance of a building permit.</p> <p>The above improvements would be added to mitigation measures identified under Existing Plus Project conditions for the intersection of Woodside Road and Bay Road (Mitigation 7-2). The proposed project's payment of its fair share towards these improvements, and the City's implementation of the improvements, would mitigate the impact to a <i>less-than-significant level</i>. However, because these improvements would require Caltrans</p>	Applicant fair share or payment of Traffic Impact Fee	City to monitor in consultation with C/CAG & Caltrans	Prior to building permit issuance that would result in 849,155 total square feet in Precise Plan Blocks A-E. Refer to Stanford Precise Plan, Chapter IV, Intersection Improvements Table.		

IDENTIFIED IMPACT	RELATED MITIGATION MEASURE (Performance Criteria)	MONITORING			VERIFICATION	
		Implementation Entity	Monitoring and Verification Entity	Timing Requirements	Signature	Date
	approval, the City of Redwood City cannot ensure the construction of these improvements. Also, the additional westbound through lane would require additional right-of-way. Without implementation of the proposed improvements, the impact would be significant and unavoidable .					
Impact 7-14: Cumulative With Project Impact on Woodside Road/Middlefield Road Intersection. Under Cumulative With Project conditions during the PM peak hour, the intersection would remain at LOS F, and the proposed project could contribute up to 29.2 seconds of critical delay to the intersection. According to City of Redwood City guidelines, this constitutes a cumulatively considerable contribution to a significant cumulative impact .	<p>Mitigation 7-14. This mitigation is in addition to the Caltrans intersection improvement that will be implemented in 2013; a description of the 2013 improvement is included on page 7-21 of the Final EIR.</p> <p>To mitigate the significant cumulative impact at the intersection of Woodside Road and Middlefield Road, an <i>additional southbound through lane</i> would need to be added to Woodside Road. (Woodside Road is considered north-south and Middlefield Road is considered east-west.) Because this intersection is subject to Caltrans jurisdiction, this roadway widening and any changes to the operation of the signal would require Caltrans approval. With these improvements, the level of service (LOS) at this intersection would remain at LOS F. Although LOS F still exceeds the City of Redwood City LOS standard, conditions with this mitigation would be better than under Cumulative No Project conditions.</p> <p>The widening of Woodside Road, inclusive of this intersection, is included in the City's Traffic Impact Fee Program (TIF) project list. However, there is no current design option that is acceptable to both Caltrans and the City of Redwood City; therefore, this improvement may be infeasible. If a design for widening Woodside Road can be developed which is acceptable to both Caltrans and the City of Redwood City, payment of the Traffic Impact Fee by the applicant would mitigate the proposed project's contribution to the significant cumulative impact to a <i>less-than-significant</i></p>	Applicant fair share or payment of Traffic Impact Fee	City to monitor in consultation with C/CAG & Caltrans	Prior to building permit issuance that would result in 715,189 total square feet in Precise Plan Blocks A-E. Refer to Stanford Precise Plan, Chapter IV, Intersection Improvements Table.		

IDENTIFIED IMPACT	RELATED MITIGATION MEASURE (Performance Criteria)	MONITORING			VERIFICATION	
		Implementation Entity	Monitoring and Verification Entity	Timing Requirements	Signature	Date
	<p><i>level.</i> If it is determined that the Woodside Road improvements remain infeasible because the improvements are not consistent with the New Redwood City General Plan and/or Caltrans policy, the cumulative impact would remain significant and unavoidable, as would the proposed project's contribution to that cumulative impact.</p>					
<p>Impact 7-15: Cumulative With Project Impact on Douglas Avenue/Bay Road Intersection. Under Cumulative With Project conditions during the PM peak hour, the intersection would degrade from LOS C to LOS F, and the proposed project could contribute up to 78.2 seconds of critical delay to the intersection. According to City of Redwood City guidelines, this constitutes a cumulatively considerable contribution to a significant cumulative impact.</p>	<p>Mitigation 7-15. To mitigate the significant cumulative impact at the intersection of Douglas Avenue and Bay Road, the intersection would need to be <i>signalized</i> with protected phasing on the eastbound and westbound approaches on Bay Road. In addition to signalization, both the eastbound and westbound approaches would need to be <i>restriped</i> to include a total of one left-turn lane and one shared through/right-turn lane on both the eastbound and westbound approaches. With these improvements the level of service (LOS) at this intersection would improve to an acceptable LOS C during the PM peak hour.</p> <p>Traffic from the proposed project could add up to 78.2 seconds to the PM peak hour delay at this intersection over Cumulative No Project conditions (see EIR Table 7.16); other Cumulative growth could add up to 11.9 seconds to the delay over Near Term No Project conditions. The proposed project would contribute its fair share to a mitigation fund established to pay for the cost of this improvement (estimated, based on this EIR, to be 87 percent) at the time of issuance of a building permit or, if the City adds the improvement to its Traffic Impact Fee Program (TIF) project list, the proposed project would pay its Traffic Impact Fee in effect at time of payment and issuance of a building permit.</p> <p>The proposed project's payment of its fair share toward these improvements would mitigate the project's contribution to the</p>	<p>Applicant fair share or payment of Traffic Impact Fee</p>	<p>City</p>	<p>Prior to building permit issuance that would result in 759,845 total square feet in Precise Plan Blocks A-E. Refer to Stanford Precise Plan, Chapter IV, Intersection Improvements Table.</p>		

IDENTIFIED IMPACT	RELATED MITIGATION MEASURE (Performance Criteria)	MONITORING			VERIFICATION	
		Implementation Entity	Monitoring and Verification Entity	Timing Requirements	Signature	Date
	cumulative impact to a <i>less-than-significant level</i> .					
<p>Impact 7-16: Cumulative With Project Impact on Douglas Avenue/Middlefield Road Intersection. Under Cumulative With Project conditions during the AM peak hour, the intersection would degrade from LOS D to LOS E, and the proposed project could contribute up to 10.6 seconds of critical delay to the intersection. According to City of Redwood City guidelines, this constitutes a <i>cumulatively considerable contribution to a significant cumulative impact</i>.</p>	<p>Mitigation 7-16. To mitigate the cumulative impact at the intersection of Douglas Avenue and Middlefield Road, the eastbound and westbound approaches would need to be modified from permitted phasing to protected phasing. (Douglas Avenue is considered north-south and Middlefield Road is considered east-west.) With these improvements, the level of service (LOS) at this intersection would improve to acceptable LOS D during the AM peak hour.</p> <p>Traffic from the proposed project could add up to 10.6 seconds to the AM peak hour delay at this intersection over Cumulative No Project conditions (see EIR Table 7.16); other Cumulative growth could add up to 35.8 seconds to the delay over Near Term No Project conditions. The proposed project would contribute its fair share to a mitigation fund established to pay for the cost of this improvement (estimated, based on this EIR, to be 23 percent) at the time of issuance of a building permit or, if the City adds the improvement to its Traffic Impact Fee Program (TIF) project list, the proposed project would pay its Traffic Impact Fee in effect at time of payment and issuance of a building permit. The proposed project's payment of its fair share toward these improvements would mitigate the project's contribution to the cumulative impact to a <i>less-than-significant level</i>.</p>	Applicant fair share or payment of Traffic Impact Fee	City	Prior to building permit issuance that would result in 1,478,743 total square feet in Precise Plan Blocks A-E. Refer to Stanford Precise Plan, Chapter IV, Intersection Improvements Table.		
<p>Impact 7-17: Cumulative With Project Impact on 2nd Avenue/Broadway Intersection. Under Cumulative With Project conditions during the AM peak hour, the intersection would remain at LOS F, and the proposed project could contribute up to 6.7 seconds of critical delay to the intersection. According to City of Redwood City guidelines, this constitutes a <i>cumulatively considerable</i></p>	<p>Mitigation 7-17. To mitigate the significant cumulative impact at the intersection of 2nd Avenue and Broadway, the intersection would need to be <i>signalized</i>. With this improvement, the level of service (LOS) at this intersection would improve to an acceptable LOS C during the AM peak hour.</p>	Applicant fair share or payment of Traffic Impact Fee	City	Prior to building permit issuance that would result in 1,419,857 total square feet in Precise Plan Blocks A-E. Refer to Stanford Precise Plan, Chapter IV,		

IDENTIFIED IMPACT	RELATED MITIGATION MEASURE (Performance Criteria)	MONITORING			VERIFICATION	
		Implementation Entity	Monitoring and Verification Entity	Timing Requirements	Signature	Date
<i>contribution to a significant cumulative impact.</i>	<p>Traffic from the proposed project could add up to 6.7 seconds to the AM peak hour delay at this intersection over Cumulative No Project conditions (see EIR Table 7.16); other Cumulative growth could add up to 89.8 seconds to the delay over Near Term No Project conditions. The proposed project would contribute its fair share to a mitigation fund established to pay for the cost of this improvement (estimated, based on this EIR, to be 7 percent) at the time of issuance of a building permit or, if the City adds the improvement to its Traffic Impact Fee Program (TIF) project list, the proposed project would pay its Traffic Impact Fee in effect at time of payment and issuance of a building permit.</p> <p>The proposed project's payment of its fair share toward these improvements would mitigate the project's contribution to the cumulative impact to a <i>less-than-significant level.</i></p>			Intersection Improvements Table.		
<p>Impact 7-18: Cumulative With Project Impact on Marsh Road/Scott Drive Intersection. Under Cumulative With Project conditions during the PM peak hour, the intersection, would remain at LOS F and the proposed project could contribute up to 14.4 seconds of delay. The intersection of Marsh Road/Scott Drive is located in the City of Menlo Park. According to City of Menlo Park guidelines, this constitutes a <i>cumulatively considerable contribution to a significant cumulative impact.</i></p>	<p>Mitigation 7-18. To mitigate the cumulative impact at the intersection of Marsh Road and Scott Drive, the eastbound approach of Scott Drive would need to be <i>restriped</i> to include a total of one shared through/left-turn lane and one right-turn lane. (Marsh Road is considered north-south and Scott Drive is considered east-west.) With these improvements, the level of service (LOS) at this intersection would remain an unacceptable LOS F during the PM peak hour. Although the LOS F still exceeds the City of Menlo Park LOS standard, the LOS under Cumulative With Project conditions would be better than that under Cumulative No Project conditions.</p> <p>Traffic from the proposed project could contribute up to 14.4 seconds to the PM delay at this intersection over Cumulative No Project conditions (see EIR Table 7.16); other Cumulative growth could add up to 74.4 seconds to the delay over Near Term No Project conditions. The proposed</p>	Applicant fair share or payment of Traffic Impact Fee	City; Menlo Park	Prior to building permit issuance that would result in 893,810 total square feet in Precise Plan Blocks A-E. Refer to Stanford Precise Plan, Chapter IV, Intersection Improvements Table.		

IDENTIFIED IMPACT	RELATED MITIGATION MEASURE (Performance Criteria)	MONITORING			VERIFICATION	
		Implementation Entity	Monitoring and Verification Entity	Timing Requirements	Signature	Date
	<p>project would contribute its fair share to a mitigation fund established to pay for the cost of this improvement (estimated, based on this EIR, to be 16 percent) at the time of issuance of a building permit or, if the City adds the improvements to its Traffic Impact Fee Program (TIF) project list, the proposed project would pay its Traffic Impact Fee in effect at time of payment and issuance of a building permit.</p> <p>With this mitigation, the project's contribution to this cumulative impact would be considered <i>less-than-significant</i>. However, because this improvement would require City of Menlo Park approval, the City of Redwood City cannot ensure the construction of this improvement. Without implementation of the proposed mitigation, the impact would be significant and unavoidable.</p>					
Impact 7-20: Existing Plus Project Impact on Pedestrian Facilities (Hurlingame/Bay and Barron/Bay). Currently, two mid-block crosswalks along Broadway and one crosswalk at Bay Road provide pedestrian access in the Precise Plan area. Due to the limited existing pedestrian facilities on Bay Road along the project frontage, the existing pedestrian facilities could encourage pedestrians to cross roads in undesignated areas. The addition of project-related pedestrian trips is therefore considered a potentially significant impact .	Mitigation 7-20. To mitigate this impact (i.e., the project applicant would be responsible for fully funding/completing the mitigation), additional high visibility crosswalks shall be created along Bay Road that are aligned with the intersecting streets. These crosswalks could include bulbouts, high visibility paint, paving textures/treatments, or pedestrian flashing warning light systems. These crosswalks would be installed at Hurlingame Avenue/Bay Road and Barron Avenue/Bay Road. These improvements would reduce this impact to a less-than-significant level .	Applicant to fully fund. Applicant to construct.	City	Prior to building permit issuance for development on adjacent parcels. Refer to Stanford Precise Plan, Chapter III, Phasing/ Implementation Summary Table-- item 7--for pedestrian improvements timing and implementation.		
<i>AIR QUALITY</i>						
Impact 8-1: Construction-Related Air Quality Impacts. Project-related demolition and construction activities would generate exhaust emissions and fugitive dust. These emissions would not subject sensitive receptors to substantial pollutant concentrations, but emissions of ROG and NOx could exceed BAAQMD daily significance thresholds. This would represent a potentially significant impact .	Mitigation 8-1. For all project-related grading, demolition, or construction activity, construction contractors shall implement the following mitigation measures, where applicable: <u>(a) BAAQMD-Recommended Measures for All General Construction Activities:</u> 1. All exposed surfaces (e.g., parking areas, staging areas, soil piles, graded	Applicant	City	Prior to grading permit issuance; prior to building permit issuance; field verify implementation during grading and construction		

IDENTIFIED IMPACT	RELATED MITIGATION MEASURE (Performance Criteria)	MONITORING			VERIFICATION	
		Implementation Entity	Monitoring and Verification Entity	Timing Requirements	Signature	Date
	<p>areas, and unpaved access roads) shall be watered two times per day.</p> <p>2. All haul trucks transporting soil, sand, or other loose material off-site shall be covered.</p> <p>3. All visible mud or dirt track-out onto adjacent public roads shall be removed using wet power vacuum street sweepers at least once per day. The use of dry power sweeping is prohibited.</p> <p>4. All vehicle speeds on unpaved roads shall be limited to 15 mph.</p> <p>5. All roadways, driveways, and sidewalks to be paved shall be completed as soon as possible. Building pads shall be laid as soon as possible after grading unless seeding or soil binders are used.</p> <p>6. Idling times shall be minimized either by shutting equipment off when not in use or reducing the maximum idling time to 5 minutes (as required by the California airborne toxics control measure Title 13, Section 2485 of California Code of Regulations [CCR]). Clear signage shall be provided for construction workers at all access points.</p> <p>7. All construction equipment shall be maintained and properly tuned in accordance with manufacturer's specifications. All equipment shall be checked by a certified visible emissions evaluator.</p> <p>8. A publicly visible sign shall be posted with the telephone number and person to contact at the lead agency regarding dust complaints. This person shall respond and take corrective action within 48 hours. The Air District's</p>					

IDENTIFIED IMPACT	RELATED MITIGATION MEASURE (Performance Criteria)	MONITORING			VERIFICATION	
		Implementation Entity	Monitoring and Verification Entity	Timing Requirements	Signature	Date
	<p>phone number shall also be visible to help ensure compliance with applicable regulations.</p> <p><u>(b) Additional Construction Measures for Construction Activities With Emissions Above BAAQMD Thresholds:</u></p> <p>9. All exposed surfaces shall be watered at a frequency adequate to maintain minimum soil moisture of 12 percent. Moisture content can be verified by lab samples or moisture probe.</p> <p>10. All excavation, grading, and/or demolition activities shall be suspended when average wind speeds exceed 20 mph.</p> <p>11. Wind breaks (e.g., trees, fences) shall be installed on the windward side(s) of actively disturbed areas of construction. Wind breaks should have at maximum 50 percent air porosity.</p> <p>12. Vegetative ground cover (e.g., fast-germinating native grass seed) shall be planted in disturbed areas as soon as possible and watered appropriately until vegetation is established.</p> <p>13. The simultaneous occurrence of excavation, grading, and ground-disturbing construction activities on the same area at any one time shall be limited. Activities shall be phased to reduce the amount of disturbed surfaces at any one time.</p> <p>14. All trucks and equipment, including their tires, shall be washed off prior to leaving the site.</p> <p>15. Site accesses to a distance of 100 feet from the paved road shall be treated with a 6- to 12-inch compacted layer of wood chips, mulch, or gravel.</p>					

IDENTIFIED IMPACT	RELATED MITIGATION MEASURE (Performance Criteria)	MONITORING			VERIFICATION	
		Implementation Entity	Monitoring and Verification Entity	Timing Requirements	Signature	Date
	<p>16. Sandbags or other erosion control measures shall be installed to prevent silt runoff to public roadways from sites with a slope greater than one percent.</p> <p>17. The idling time of diesel-powered construction equipment shall be limited to two minutes.</p> <p>18. The project shall develop a plan demonstrating that the off-road equipment (more than 50 horsepower) to be used in the construction project (i.e., owned, leased, and subcontractor vehicles) would achieve a project-wide fleet-average 20 percent Nox reduction and 45 percent PM reduction compared to the most recent ARB fleet average. Acceptable options for reducing emissions include the use of late-model engines, low-emission diesel products, alternative fuels, engine retrofit technology, after-treatment products, add-on devices such as particulate filters, and/or other options as they become available.</p> <p>19. Use low-VOC (i.e., ROG) coatings beyond the local requirements (i.e., Regulation 8, Rule 3: Architectural Coatings).</p> <p>20. All construction equipment, diesel trucks, and generators shall be equipped with Best Available Control Technology for emission reductions of NOx and PM.</p> <p>21. All contractors shall use equipment that meets ARB's most recent certification standard for off-road heavy-duty diesel engines.</p> <p><u>(c) Project-Specific Measures:</u></p> <p>22. For construction, off-road equipment shall be Tier 4 or shall achieve Tier 4 particulate matter emission levels</p>					

IDENTIFIED IMPACT	RELATED MITIGATION MEASURE (Performance Criteria)	MONITORING			VERIFICATION	
		Implementation Entity	Monitoring and Verification Entity	Timing Requirements	Signature	Date
	<p>through use of one or more of the following: Tier 2/Tier 3 equipment with diesel particulate filters; alternative fuels (e.g. biodiesel or liquefied natural gas); and/or electrification.</p> <p>23. For each phase of project construction, the applicant shall maintain ROG emission below 54 pounds per day. The applicant may demonstrate compliance with this limit through one or more of the following: strategic project phasing, use of pre-coated building materials, and/or use of low-VOC coatings beyond the requirements of BAAQMD Regulation 8, Rule 3.</p> <p>Implementation of these measures would reduce project construction-related air quality impacts. The measures to reduce localized PM₁₀ impacts due to fugitive dust would be consistent with BAAQMD CEQA Guidelines recommendations and would reduce PM₁₀ emissions to a less-than-significant level. Because the ROG performance standard would maintain ROG emissions below 54 pounds per day, this impact would be <i>less-than-significant</i>. The NOx emissions from construction of the project would be reduced by up to 20 percent; however, there is a potential that construction period NOx emissions could still exceed the BAAQMD threshold even with the mitigation measure. As a result, the potential impact from NOx is considered significant and unavoidable.</p>					
<p>Impact 8-2: Operational Emissions Increases. Project development would generate stationary, area, and traffic air pollutant emissions increases. These emissions would not subject sensitive receptors to substantial pollutant concentrations, but emissions of ROG and PM₁₀ would exceed BAAQMD significance thresholds. This project-related effect is considered a significant project and cumulative impact.</p>	<p>Mitigation 8-2. In addition to the project-proposed sustainability measures described in chapter 3 (Project Description) of this EIR, which include a Transportation Demand Management (TDM) program, implement the following measure:</p> <p>Minimize testing of the new generators to reduce ROG emissions. New generator emissions, as computed on an annual basis, shall be reduced by 30 percent or</p>	Applicant	City	Prior to building permit issuance; prior to occupancy permit issuance		

IDENTIFIED IMPACT	RELATED MITIGATION MEASURE (Performance Criteria)	MONITORING			VERIFICATION	
		Implementation Entity	Monitoring and Verification Entity	Timing Requirements	Signature	Date
	<p>greater. This could be achieved in a number of ways:</p> <ol style="list-style-type: none"> 1. Install fewer than the assumed 13 new generators; 2. Install generators with lower emissions (in this case, smaller generators); 3. Test new generators at lower running loads (the analysis assumed 100-percent load, so 50-percent load would reduce emissions); and/or 4. Reduce the number of annual testing hours. <p>The applicant shall submit an analysis of the new generator emissions prior to installing more than five new generators at the project development site.</p> <p>Implementation of this measure to reduce generator emissions would reduce ROG emissions by 2.7 pounds per day, which would result in total ROG emissions of 53.1 pounds per day, which is below the BAAQMD significance threshold of 54 pounds per day. However, this mitigation measure would reduce PM₁₀ emissions by a minimal amount, leaving PM₁₀ emissions above the BAAQMD significance threshold. Therefore, as currently proposed, the project would result in a significant unavoidable project and cumulative operational air quality impact.</p>					
<p>Impact 8-3: Community Risk and Hazard Impacts. Project development could expose attendees of the on-site child care center to significant levels of PM_{2.5}. Significant impacts from the Tyco Thermal Controls Facility to attendees of the proposed child care facility are anticipated to be significant regardless of where the child care facility is located within the Precise Plan area. This project-related effect is considered to represent a significant project and cumulative impact.</p>	<p>Mitigation 8-3. Buffer the child care center from existing and planned emission sources, and include project features to reduce TAC and PM_{2.5} exposure from air pollutant sources--which include US 101 traffic, the Tyco Thermal Controls facility, and existing and proposed generators--through the following measures:</p> <ol style="list-style-type: none"> 1. When construction of a child care center is proposed, conduct site-specific detailed analysis to determine 	Applicant	City	Prior to PC permit issuance; prior to building permit issuance; prior to occupancy permit issuance		

IDENTIFIED IMPACT	RELATED MITIGATION MEASURE (Performance Criteria)	MONITORING			VERIFICATION	
		Implementation Entity	Monitoring and Verification Entity	Timing Requirements	Signature	Date
	<p>the child care center's TAC and PM_{2.5} exposures. The analysis should be utilized to guide final design and siting of the child care facility and determine the level of ventilation/ filtration necessary to ensure that indoor concentrations will be less-than-significant.</p> <p>2. Evaluate and appropriately buffer the child care center from existing diesel generators at the Stanford Medicine Outpatient Center and 550 Broadway, and any other sources near the Precise Plan area identified by BAAQMD at the time such analysis is undertaken.</p> <p>3. Ensure that the ventilation/filtration systems in the child care center result in an indoor cancer risk of less than 10 in one million and annual PM_{2.5} concentrations of less than 0.3 µg/m³ from any single source or less than 100 in one million cancer risk and annual PM_{2.5} concentrations of less than 0.8 µg/m³ from cumulative resources.</p> <p>4. Consider tiered plantings of trees between the child care center and air pollutant sources such as the freeway, existing and planned generators, and the Tyco Thermal Controls facility.</p> <p>5. Avoid location of any truck loading zones near the child care facility.</p> <p>6. With respect to outdoor use areas for the child care center, impacts from US 101 shall be mitigated by placing the child care center more than 700 feet from the freeway. Based on currently available information, the impact from Tyco Thermal Controls cannot be mitigated to a less-than-significant level because the elevated PM_{2.5} levels from the facility extend across the entire project development site. If the Tyco Thermal Controls facility remains in</p>					

IDENTIFIED IMPACT	RELATED MITIGATION MEASURE (Performance Criteria)	MONITORING			VERIFICATION	
		Implementation Entity	Monitoring and Verification Entity	Timing Requirements	Signature	Date
	<p>operation at the time of construction of the child care center, and if the detailed analysis described above shows PM_{2.5} levels exceeding the 0.3 µg/m³ standard throughout the development site, construction and operation of a child care center on the development site shall be prohibited. If the detailed analysis shows that some or all of the development site would be exposed to PM_{2.5} levels lower than 0.3 µg/m³, the outdoor use area for the child care center shall be sited in one of those locations.</p> <p>Implementation of these measures would reduce this impact to a less-than-significant level.</p>					
<i>CLIMATE CHANGE</i>						
<p>Impact 9-1: Sea Level Rise Impacts on Project Development. Based on the BCDC sea level rise maps, the project may be affected by anticipated sea level rise and associated changes in broader flood plain boundaries. Potential impacts associated with future development that may be subject to sea level rise include risk to public safety and property damage, representing a potentially significant impact.</p>	<p>Mitigation 9-1. For all new development on the project development site, the City shall ensure that the development complies with the most current Redwood City General Plan and Redwood City Municipal Code requirements for protection from flood hazards, consistent with <i>Mitigation 10-3</i> in chapter 10 (Utilities), of this EIR. These provisions would require compliance with associated storm drainage storage, building elevation, and flood-proofing requirements. Implementation of these measures would be expected to reduce this impact to a less-than-significant level.</p>	Applicant	City	Prior to grading permit issuance; prior to building permit issuance; field verify implementation during grading and construction		
<i>UTILITIES</i>						
<p>Impact 10-1: Need for Emergency Potable Water Storage. Project development would require emergency potable water storage per City requirements. Because the infrastructure (e.g., water tank and distribution system) necessary to meet this requirement has not been incorporated as a component of the proposed project, the need for emergency potable water storage represents a potentially significant project impact.</p>	<p>Mitigation 10-1. Based on the projected emergency potable water storage requirement for the proposed project, the project applicant shall contribute the funds equivalent to the cost of providing 490 equivalent dwelling units (EDU) (\$1.5 million in 2011 dollars) of emergency potable water storage towards the design and construction of the planned off-site areawide storage facility. Implementation of this measure would reduce the identified</p>	Applicant fair share	City	Prior to building permit issuance for net new development, to be implemented proportionately as net new development occurs. Refer to Stanford Precise Plan, Chapter III, Phasing/		

IDENTIFIED IMPACT	RELATED MITIGATION MEASURE (Performance Criteria)	MONITORING			VERIFICATION	
		Implementation Entity	Monitoring and Verification Entity	Timing Requirements	Signature	Date
	project impact to a <i>less-than-significant level</i> .			Implementation Summary Table-- item 17--for emergency fire/water storage timing and implementation.		
Impact 10-2: Increased Peak Wastewater Flows in the Local FOSMD Collection System. It is estimated that the proposed project development site's peak wastewater flows to the FOSMD sewer system would be approximately 4.5 times the flow under existing (full occupancy) conditions, from 112 gallons per minute (gpm) to 627 gpm. Based on information provided by the County Department of Public Works, it has not yet been confirmed whether the two existing sewer lines that would carry this increased wastewater flow across the freeway have sufficient capacity to accommodate such an increase. It has therefore been conservatively determined for this EIR that additional project-related flows could represent a <i>potentially significant project wastewater collection system capacity impact</i> .	Mitigation 10-2. At the time that construction of net new square footage on the project development site is proposed, the applicant's engineer shall work with FOSMD and the San Mateo County Engineering Department to verify that the local FOSMD sewer network, particularly lines 100 and 200, has adequate capacity for the proposed increment of development's peak wastewater flow rate. If an inadequacy is found and the proposed increment of development represents the entire cause of the capacity shortfall, the applicant shall bear full responsibility for funding the required improvements to FOSMD's system; if the proposed increment of development does not represent the entire cause of such an incapacity, the applicant shall pay its fair share of the cost of such improvements. Implementation of this measure in accordance with the policies and standards of the FOSMD Master Plan would reduce the identified wastewater collection system capacity impact to a <i>less-than-significant level</i> .	Applicant fully fund or fair share	City; FOSMD; County Engineering Department	Prior to building permit issuance for new square footage beyond the existing 537,000 square feet, evaluate whether need for upgrade exists and if so, calculate applicant's funding responsibility. Refer to Stanford Precise Plan, Chapter III, Phasing/ Implementation Summary Table-- item 18--for sewage transmission and collection upgrade timing and implementation.		
Impact 10-3: Increased Risk of Flooding Resulting from Loss of Existing Detention Storage. The project development site would be substantially reconfigured, with replacement of all existing buildings and elimination of a large part of the existing at-grade parking. If the associated regrading and construction of new buildings reduces the existing volume of on-site detention storage, flood levels on the project development site and elsewhere within the basin could rise compared to current conditions. This possible project-related worsening of existing flooding conditions represents a <i>potentially significant impact</i> .	Mitigation 10-3. The project shall not increase off-site flooding compared to existing conditions. Finished grades within the portions of the project development site located outside the proposed building envelopes shall be set at an average elevation that maintains, at a minimum, the existing volume of on-site stormwater detention storage, until such time as the City's downstream discharge constraints (e.g., Bayfront Canal) are resolved and the storage is no longer needed to protect the project improvements and improved properties in the adjoining neighborhoods.	Applicant	City	Prior to grading permit issuance; prior to building permit issuance; field verify implementation during grading and construction		

IDENTIFIED IMPACT	RELATED MITIGATION MEASURE (Performance Criteria)	MONITORING			VERIFICATION	
		Implementation Entity	Monitoring and Verification Entity	Timing Requirements	Signature	Date
	<p>Project grading requirements would be based on a detailed, design-level study prepared by the project engineer and approved by the City Building, Infrastructure, and Transportation Department. The study would document the volume of storage currently available on the project development site and establish proposed grades to replicate this existing storage condition following construction of the proposed new buildings. The stormwater detention potential of the project-proposed approximately 2.4-acre publicly accessible open space and of the project-proposed greenway shall be incorporated into the design-level study. In addition, all proposed improvements that are not elevated above the 100-year flood elevation would have to be flood-proofed or otherwise protected from the effects of high water. The applicant shall develop a program by which future building tenants can be notified that vehicles parked within potential flood areas should be moved if it is determined that flooding conditions are imminent.</p> <p>Implementation of this measure would reduce the identified flooding impact to a <i>less-than-significant level</i>.</p>					
<i>HAZARDS AND HAZARDOUS MATERIALS</i>						
<p>Impact 12-1: Potential Project-Related Exposure to Existing Soil or Groundwater Contamination. Project-related excavation and construction activities, as well as project operations, could expose on-site construction and maintenance personnel and members of the public to existing soil and groundwater contamination. Recommendations included in the August 2008 draft Site Management Plan (SMP) commissioned by Stanford University for the Stanford development portion of the Precise Plan area identify the environmental issues associated with project development site construction activities (e.g.,</p>	<p>Mitigation 12-1. The applicant shall implement the Site Management Plan (SMP) attached as an appendix to the EIR. At such times as the exact locations and details of sensitive uses such as child care, medical clinics, and publicly accessible open space are identified, the applicant shall supplement the SMP to assess any risks to those uses from existing hazardous materials on the development site and shall identify any treatment measures required to ensure that risks to users remain below regulatory limits.</p>	Applicant	City	Prior to grading permit issuance; prior to building permit issuance; field verify implementation during grading and construction		

IDENTIFIED IMPACT	RELATED MITIGATION MEASURE (Performance Criteria)	MONITORING			VERIFICATION	
		Implementation Entity	Monitoring and Verification Entity	Timing Requirements	Signature	Date
<p>excavation, dewatering, etc.) and specify the contents of the site-specific, construction period Health and Safety Plan (HASP) that the construction contractor must prepare (a standard CalOSHA requirement for work at hazardous waste sites). With implementation of the SMP and HASP, the proposed project's construction impacts to construction workers and the public would be less-than-significant.</p> <p>The SMP also explains that site conditions do not preclude any of the uses proposed, but that further risk assessment is required when the precise on-site locations and details of sensitive uses such as child care, medical clinics, and recreation areas are identified, so that any mitigation measures specific to the operations of such uses will be identified and implemented. Pending completion of the required supplemental risk assessments and identification of measures to ensure compliance with residential-level ESLs for these sensitive uses, the proposed project's impacts during operations from potential exposure to existing groundwater and soil vapor contamination are assumed to represent a potentially significant impact.</p>	<p>Implementation of these mitigations would reduce this impact to a less-than-significant level.</p>					
NOISE						
<p>Impact 13-1: Potential Exposure of Proposed Child Care Facility to Noise Levels Exceeding Standards. The Precise Plan includes a provision for a proposed child care center. The center's children, employees, and visitors could be exposed to various existing and projected noise sources, including U.S. 101 traffic. The compatibility of the child care land use with the existing and projected noise environment has been evaluated based on the Redwood City Noise Guidelines for Land Use Planning (see EIR Table 13.4). New educational (e.g., child care) development is considered "satisfactory" in noise environments of less than 55 dBA CNEL.</p>	<p>Mitigation 13-1. Location-specific noise studies consistent with the requirements of the State Building Code (SBC) shall be conducted for the proposed child care use to identify appropriate noise reduction measures to be included in project final design. The noise study must be submitted to and approved by the Redwood City Community Development Department prior to City issuance of the child care center building permit. Identified noise insulation measures may include:</p> <ul style="list-style-type: none"> ▪ Site planning to minimize noise by locating the child care center away from U.S. 101, with buffering from roadway noise provided by other project buildings; 	Applicant	City	Site planning measures prior to PC permit issuance; remaining measures prior to building permit issuance and prior to occupancy permit issuance		

IDENTIFIED IMPACT	RELATED MITIGATION MEASURE (Performance Criteria)	MONITORING			VERIFICATION	
		Implementation Entity	Monitoring and Verification Entity	Timing Requirements	Signature	Date
Both existing and projected noise levels throughout much of the Precise Plan area, especially in the vicinity of U.S. 101, exceed 55 dBA CNEL, thereby potentially exposing the proposed child care center to noise levels exceeding the "normally acceptable" threshold. This possible adverse noise effect would represent a potentially significant impact .	<ul style="list-style-type: none"> ▪ Air conditioning throughout the child care center so that windows can remain closed to maintain interior noise levels below 45 dBA CNEL; and ▪ Sound-rated windows and construction methods if necessary to maintain interior noise levels below 45 dBA CNEL. <p>For child care center outdoor use areas, noise levels at the property line should be maintained at a CNEL not in excess of 55 dBA during operating hours. Although existing and future noise levels measured along roadways in the project vicinity exceed 55 dBA CNEL, noise levels in outdoor activity areas could be reduced from roadside levels by at least 20 dBA through site selection and site design, including buffer areas, siting the building as an effective noise barrier for adjacent traffic noise sources, and, or in combination with, other noise barriers. The approval of future commercial uses near the child care center may, at City discretion, require a noise study demonstrating how the proposed new commercial uses--including associated loading docks, refuse areas, ventilation systems, and emergency generators--would meet these standards.</p> <p>Implementation of these measures would reduce the potential impact on the proposed child care use to a less-than-significant level.</p>					
Impact 13-2: Project-Facilitated Construction Noise. Construction activities facilitated by the project would include building demolition, site grading and preparation, construction of new buildings, and installation of utilities. Noise levels at 50 feet from the demolition or construction equipment source could reach approximately 105 dBA, resulting in intermittent interference with typical existing residential and business activities, as well as any on-site sensitive	Mitigation 13-2. Reduce project demolition- and construction-period noise impacts on nearby residences (including the Broadway Towers apartments and the mobile home park near the proposed recycled water pipeline route) and sensitive uses developed on the development site during earlier phases (e.g., child care center) by incorporating conditions in project demolition and construction contract agreements that stipulate the following	Applicant	City	Prior to grading permit issuance; prior to building permit issuance; field verify implementation during grading and construction		

IDENTIFIED IMPACT	RELATED MITIGATION MEASURE (Performance Criteria)	MONITORING			VERIFICATION	
		Implementation Entity	Monitoring and Verification Entity	Timing Requirements	Signature	Date
uses developed during earlier phases of Precise Plan buildout. Because construction noise could elevate noise levels at the nearest residences by more than 5 dBA, at some locations the proposed project could cause a potentially significant intermittent and short-term impact .	<p>conventional construction-period noise abatement measures:</p> <ul style="list-style-type: none"> ▪ <i>Construction Plan.</i> Prepare a detailed construction plan identifying the schedule for major noise-generating construction activities. The construction plan shall identify a procedure for coordination with nearby existing and on-site newly constructed noise-sensitive facilities so that construction activities can be scheduled to minimize noise disturbance. ▪ <i>Construction Scheduling.</i> Ensure that noise-generating construction activity is limited to between the hours of 7:00 AM to 8:00 PM, Monday through Friday, and prohibit any construction during other hours which would cause any increase in ambient noise levels within a residential district. (<i>Redwood City Municipal Code Section 24.32</i>) ▪ <i>Construction Equipment Mufflers and Maintenance.</i> Equip all internal combustion engine-driven equipment with intake and exhaust mufflers that are in good condition and appropriate for the equipment. ▪ <i>Equipment Locations.</i> Locate stationary noise-generating equipment as far as possible from sensitive receptors when sensitive receptors adjoin or are near the construction site. ▪ <i>Construction Traffic.</i> Route all construction traffic to and from the construction sites via designated truck routes where possible. Prohibit construction-related heavy truck traffic in residential areas where feasible. ▪ <i>Quiet Equipment Selection.</i> Use quiet construction equipment, particularly air compressors, wherever possible. 					

IDENTIFIED IMPACT	RELATED MITIGATION MEASURE (Performance Criteria)	MONITORING			VERIFICATION	
		Implementation Entity	Monitoring and Verification Entity	Timing Requirements	Signature	Date
	<ul style="list-style-type: none"> ▪ <i>Temporary Barriers.</i> Construct solid plywood fences around construction areas to shield residences, operational businesses, or noise-sensitive land uses. ▪ <i>Temporary Noise Blankets.</i> Temporary noise control blanket barriers should be erected, if necessary, along building facades or around construction areas. This mitigation would only be necessary if conflicts occurred which were irresolvable by proper scheduling. (Noise control blanket barriers can be rented and quickly erected.) ▪ <i>Noise Disturbance Coordinator.</i> The City shall require project designation of a "Noise Disturbance Coordinator" who would be responsible for responding to any local complaints about construction noise. The Disturbance Coordinator would determine the cause of the noise complaint (e.g., starting too early, bad muffler, etc.) and institute reasonable measures to correct the problem. Conspicuously post a telephone number for the Disturbance Coordinator at the construction site and include it in the notice sent to neighbors regarding the construction schedule. (The project sponsor could be responsible for designating a Noise Disturbance Coordinator, posting the phone number, and providing construction schedule notices; the Noise Disturbance Coordinator would work directly with an assigned City staff member. Alternatively, the Noise Disturbance Coordinator could be employed by the City and funded by the applicant.) ▪ <i>Temporary Closure or Relocation of Child Care Center.</i> If the project construction sequencing results in major outdoor construction activities occurring adjacent to the child care center after it is in operation, then the 					

IDENTIFIED IMPACT	RELATED MITIGATION MEASURE (Performance Criteria)	MONITORING			VERIFICATION	
		Implementation Entity	Monitoring and Verification Entity	Timing Requirements	Signature	Date
	<p>project sponsor, at its option, shall either temporarily close or relocate the child care center.</p> <p>Although implementation of these measures would reduce construction noise impacts, it is likely that this large project would be constructed in phases over a long period of time, subjecting nearby sensitive receptors to repeated construction noise.</p> <p>Therefore, the construction noise impact of the proposed project is considered significant and unavoidable.</p>					
<p>Impact 13-3: Project-Facilitated Groundborne Vibration Levels. Project-facilitated demolition and construction activities could generate substantial vibration (e.g., from potential pile driving) in the project vicinity. These possible intermittent and short-term effects represent a potentially significant impact.</p>	<p>Mitigation 13-3. Reduce ground borne vibration levels during individual, location-specific future project demolition and construction periods by incorporating conditions in individual project demolition and construction contractor agreements that stipulate the following groundborne vibration abatement measures:</p> <ul style="list-style-type: none"> ▪ Restrict vibration-generating activity to between the hours of 7:00 AM and 7:00 PM, Monday through Friday. Prohibit such activity on weekends and holidays. ▪ If pile driving is proposed, prepare a vibration study. If the vibration study shows that pile driving, including mitigation such as pre-drilling of pile holes, would cause vibration exceeding 0.5 inches/sec ppv for structurally sound buildings designed to modern engineering standards or 0.2 inches/sec for structurally sound buildings for which structural damage is a major concern, then pile driving shall not be conducted. <p>Implementation of these measures would reduce this potential intermittent and short-term project vibration impact to a less-than-significant level.</p>	Applicant	City	Prior to grading permit issuance; prior to building permit issuance; field verify implementation during grading and construction		

IDENTIFIED IMPACT	RELATED MITIGATION MEASURE (Performance Criteria)	MONITORING			VERIFICATION	
		Implementation Entity	Monitoring and Verification Entity	Timing Requirements	Signature	Date
<p>Impact 13-4: Potential Noise from Parking Structure Ventilation System. Noise generated solely by the ventilation system and other mechanical equipment for the potential parking structure at the corner of Bay Road and Barron Avenue could substantially exceed existing ambient levels at residences in the area or the Redwood City Noise Guidelines for Land Use Planning (see Table 13.4) because the parking structure would be located proximate to residences on 2nd Avenue. This possibility represents a potentially significant impact.</p>	<p>Mitigation 13-4. During the project detailed design phase for the potential parking structure at the corner of Bay Road and Barron Avenue, the project applicant shall submit an acoustical study to demonstrate how the parking structure design would meet the following noise standards at the most affected receiver: 60 dBA CNEL and 60 dBA L_{eq-hr} daytime (7:00 AM to 7:00 PM), 55 dBA L_{eq-hr} evening (7:00 PM to 10:00 PM), and 50 dBA L_{eq-hr} nighttime (10:00 PM to 7:00 AM). The design measures may include, for example, the installation of silencers and baffles as necessary to reduce the noise level at the nearest residential property line to the existing ambient noise level. Implementation of this measure to the satisfaction of the Redwood City Community Development Department would reduce this impact to a less-than-significant level.</p>	Applicant	City	Prior to building permit issuance; prior to occupancy permit issuance		
<i>CULTURAL AND HISTORIC RESOURCES</i>						
<p>Impact 14-1: Project and Cumulative Impacts on Historic Resources. The proposed Precise Plan contains development standards that would allow for the demolition of all structures on the development site, and Stanford has indicated that its long-term plan is to demolish all of the existing structures on the development site and relocate the Ampex sign. Subsection 14.1.3 of this EIR identifies three potential historic resources on the development site--the 425 Broadway building, the plaza area with the Warnecke Fountains, and the Ampex sign. Although the historical resources survey report and 2009 Circa peer review do not find that any of these three structures are historic resources, the 2009 and 2011 Circa peer review reports do suggest special consideration be given to these structures in the planning process. Some members of the HRAC have indicated that they preliminarily disagree with the conclusions in the reports that these structures are not potential historic resources; however, the HRAC has yet to</p>	<p>Mitigation 14-1. The project shall incorporate design elements within the publicly accessible areas of the project that point to the various important periods of land use on the site (farming, flower fields, airfield, and center for technology innovation). The applicant has agreed to incorporate these elements regardless of whether the City ultimately determines that the proposed project would cause a significant impact on historic resources, and these elements are included in the <i>Stanford in Redwood City Precise Plan</i>.</p> <p>Any structure on the project development site that the City determines is a local historic resource shall be photographed and documented prior to demolition or removal. The documentation shall adhere to the Secretary of the Interior's Standards for Architectural and Engineering Documentation. The level of documentation shall be proportionate with the level of significance of the resource.</p>	Applicant	City	Installation in at least one publicly accessible location prior to Precise Plan buildout; verify implementation prior to occupancy permit issuance for selected location(s). Refer to Stanford Precise Plan, Chapter II, Development Standards.		

IDENTIFIED IMPACT	RELATED MITIGATION MEASURE (Performance Criteria)	MONITORING			VERIFICATION	
		Implementation Entity	Monitoring and Verification Entity	Timing Requirements	Signature	Date
<p>make a recommendation as to whether these structures should be included on the City's register of historical resources. CEQA Guidelines section 15064.5(a)(4) allows a lead agency to determine that a resource is a historic resource despite the fact that the resource is not listed in the California Register of Historical Resources, a local register of historical resources, or a historical resources survey. Due to the conflicting opinions on the historical significance of the three structures and the fact that the City has not made a final determination as to whether these structures should be included on its historical resources register, the City is treating the 425 Broadway building, the plaza area with the Warnecke Fountains, and the Ampex sign as potential historic resources for the purposes of this EIR pursuant to CEQA Guidelines section 15064.5(a)(4).</p> <p>The demolition of these structures would constitute a substantial adverse change in the significance of potential historic resources, and also contribute to cumulative impacts on historic resources, representing a potential significant project and cumulative impact.</p>	<p>The documentation shall be made available for inclusion in the Historic American Building Survey (HABS) or the Historic American Engineering Record (HAER) Collections in the Library of Congress, the California Historical Resources Information System and the Bancroft Library, as well as local libraries and historical societies, such as the Redwood City Public Library.</p> <p>Through careful methods of planned deconstruction to avoid damage and loss, identified historic character-defining features and materials shall be salvaged as feasible for educational and interpretive use on-site, or for reuse in new construction on the development site in a way that commemorates their original use and significance.</p> <p>Commemoration and documentation would reduce the impacts of demolishing 425 Broadway and the plaza area with the Warnecke fountains, and of relocating the Ampex sign, if they are determined to be historic resources. This mitigation would not be sufficient, however, to mitigate such an impact to a less-than-significant level, and the impact would be considered significant and unavoidable.</p>					
<p>Impact 14-2: Potential Disturbance of Archaeological or Paleontological Resources. Project construction (e.g., excavation for underground parking and utilities) could disturb existing unrecorded sensitive archaeological or paleontological resources at the development site. Although unlikely, this possibility represents a potentially significant impact.</p>	<p>Mitigation 14-2. The project applicant shall carry out the following measures, which shall be at least as protective as those listed in the City's Cultural Resources Management Plan:</p> <p>(1) <i>Construction Personnel Education Program.</i> The project applicant shall implement an education program, prepared by a qualified archaeologist and a qualified paleontologist, for construction personnel that includes the following elements:</p> <ul style="list-style-type: none"> ▪ Resource identification training procedures for construction personnel; 	Applicant	City	Prior to grading permit issuance; prior to building permit issuance; field verify implementation during grading and construction		

IDENTIFIED IMPACT	RELATED MITIGATION MEASURE (Performance Criteria)	MONITORING			VERIFICATION	
		Implementation Entity	Monitoring and Verification Entity	Timing Requirements	Signature	Date
	<ul style="list-style-type: none"> ▪ Procedures for coordinating work with the archaeological monitor (see below); and ▪ Procedures for reporting discoveries. <p>(2) <i>Procedures for Resources Encountered During Construction.</i> The project applicant shall provide an Archaeological Monitoring and Data Recovery Program (AMDRP) prepared by a qualified archaeologist and outlining procedures for resources encountered during construction. The AMDRP shall include specific measures to insure compliance with State Public Resources Code section 5097.98 and CEQA Guidelines section 15064.5(d) and (e) in the event that human remains are encountered.</p> <p>(3) A qualified archaeological monitor will visit the site for spot-checks during excavations exceeding five feet in depth below current grade.</p> <p>If subsurface archaeological resources are encountered, excavation shall halt in the vicinity of the resources, and the archaeological monitoring shall evaluate the resource and its stratigraphic context. The monitor shall be empowered to temporarily halt or redirect construction activities to ensure avoidance of adverse impacts to archaeological resources.</p> <p>If disturbance of an archaeological resource cannot be avoided, the mitigation program described in the AMDRP, including measures set forth in the City's CRMP and in compliance with sections 15064.5 and 15126.4 of the CEQA Guidelines, shall be implemented.</p> <p>If subsurface paleontological resources are encountered, excavation shall halt in the vicinity of the resources and the project paleontologist shall evaluate the resource and its stratigraphic context. The monitor</p>					

IDENTIFIED IMPACT	RELATED MITIGATION MEASURE (Performance Criteria)	MONITORING			VERIFICATION	
		Implementation Entity	Monitoring and Verification Entity	Timing Requirements	Signature	Date
	<p>shall be empowered to temporarily halt or redirect construction activities to ensure avoidance of adverse impacts to paleontological resources. During monitoring, if potentially significant paleontological resources are found, "standard" samples shall be collected and processed by a qualified paleontologist to recover micro vertebrate fossils. If significant fossils are found and collected, they shall be prepared to a reasonable point of identification. Excess sediment or matrix shall be removed from the specimens to reduce the bulk and cost of storage. Itemized catalogs of material collected and identified shall be provided to a museum repository with the specimens. Significant fossils collected during this work, along with the itemized inventory of these specimens, shall be deposited in a museum repository for permanent curation and storage. A report documenting the results of the monitoring and salvage activities, and the significance of the fossils, if any, shall be prepared. The report and inventory, when submitted to the lead agency, shall signify the completion of the program to mitigate impacts on paleontological resources.</p> <p>Implementation of these measures would reduce this impact to a less-than-significant level.</p>					
<i>GEOLOGY AND SOILS</i>						
<p>Impact 15-1: Geotechnical Hazards Associated with Project Excavation and Grading. The project's proposed excavation and grading activities have the potential to destabilize existing buried utilities and building foundations, or to create conditions that would potentially compromise the safety or stability of proposed project improvements. The project applicant's preliminary geotechnical investigations (Lowney Reports I and II; and Cornerstone Earth Group, March 2008) made initial assessments of these conditions, but a design-level geotechnical</p>	<p>Mitigation 15-1. As recommended by the project's preliminary geotechnical investigations, prior to City issuance of grading permits for individual project construction phases, the applicant shall be required to retain a registered engineering geologist or geotechnical engineer to prepare detailed, design-level geotechnical investigations to guide the design of all project grading and excavation activities. The detailed, design-level geotechnical investigations shall be performed for each of the structures proposed for the</p>	Applicant	City	Prior to grading permit issuance; prior to building permit issuance; field verify implementation during grading and construction		

IDENTIFIED IMPACT	RELATED MITIGATION MEASURE (Performance Criteria)	MONITORING			VERIFICATION	
		Implementation Entity	Monitoring and Verification Entity	Timing Requirements	Signature	Date
<p>investigation will be needed to adequately address all grading and excavation activities on the development site. Without such a study--and without the associated supervision of an engineering geologist or geotechnical engineer during project grading and construction--the safety and long-term stability of existing and proposed project improvements cannot be assured. These possible excavation and grading hazards represent a potentially significant impact</p>	<p>development site. Subsurface conditions shall be explored and laboratory tests conducted on selected soil samples to establish strength parameters for the design of excavations, retained slopes and fill placement, and to determine the corrosive potential of both Bay mud and imported fill on foundation elements and buried utilities. Recommendations from the investigations shall be incorporated into all plans for project grading, excavation, soil support (both temporary and long-term) and utility construction, to the satisfaction of the City Engineer.</p> <p>The detailed, design-level investigations, relevant recommendations, and all associated project grading, excavation and foundation plans, shall be subject to review and approval by an independent engineering geologist or geotechnical engineer retained by the City Engineer at applicant expense. In addition, the project civil engineer shall certify to the City Engineer (e.g., through plan submittal for City review) that all relevant provisions of the investigations have been incorporated into the grading, excavation and construction plans, and all earthwork and site preparation shall be performed under the direct supervision of a registered engineering geologist or geotechnical engineer. Implementation of these measures would reduce the potential excavation and grading impacts to a less-than-significant level.</p>					
<p>Impact 15-2: Excavation Instabilities Caused by High Groundwater. Groundwater encountered during construction of the proposed project's below-grade installations could destabilize excavation walls, reduce the bearing capacity of in-place soils that might otherwise be suitable for foundation support, and exert additional stresses on basement walls and floor slabs. These possible groundwater-</p>	<p>Mitigation 15-2. The detailed, design-level geotechnical investigations recommended under <i>Mitigation 15-1</i> for each project construction phase shall fully characterize groundwater conditions on the development site and make appropriate recommendations regarding dewatering techniques, slope and shoring requirements for excavations, stabilization or replacement of saturated foundation</p>	Applicant	City	Prior to grading permit issuance; prior to building permit issuance; field verify implementation during grading and construction		

IDENTIFIED IMPACT	RELATED MITIGATION MEASURE (Performance Criteria)	MONITORING			VERIFICATION	
		Implementation Entity	Monitoring and Verification Entity	Timing Requirements	Signature	Date
related construction problems represent a potentially significant impact .	materials, and hydrostatic pressure implications for the design of below-grade structures. Implementation of these measures would reduce these potential groundwater impacts to a less-than-significant level .					
Impact 15-3: Soil Erosion. Project development would disturb the site's existing cover of buildings, pavements and landscaping, potentially leaving soils exposed to wind and water erosion during the construction period. Eroded soils would be washed into on-site drainage facilities that discharge to the Bayfront Canal and San Francisco Bay. Deposition of these soils through natural sedimentation could adversely affect the carrying capacity of drain lines, pumping equipment and open channels, increasing flooding potential and maintenance requirements. In addition, suspended sediment would degrade water quality in the canal and in the bay by increasing turbidity levels. These possible effects of project-related soil erosion represent a potentially significant impact .	Mitigation 15-3. The applicant shall develop an erosion control plan in accordance with the provisions of the project's City-approved Stormwater Pollution Prevention Plan (SWPPP). The erosion control plan would be implemented throughout project construction, and would include measures for the post-construction stabilization of all disturbed ground. Implementation of this measure would reduce these potential soil erosion impacts to a less-than-significant level .	Applicant	City	Prior to grading permit issuance; prior to building permit issuance; field verify implementation during grading and construction		
Impact 15-4: Settlement and Foundation Movement. The project's preliminary geotechnical studies determined that structural loads imposed by buildings more than approximately three stories in height would likely exceed the bearing capacity of either fill or weakly consolidated Bay mud underlying conventional shallow foundations. Such buildings would potentially experience gradual but excessive long-term total and differential settlements. These possible settlement effects represent a potentially significant impact .	Mitigation 15-4. The detailed, design-level geotechnical investigations required under <i>Mitigation 15-1</i> for each project construction phase shall include a thickness and consolidation analysis of all clay soils underlying proposed building locations. This analysis shall be sufficient to accurately estimate the rate and total amount of consolidation expected to occur in response to building construction, as well as the likely magnitude of differential settlement. Building foundations, surface improvements, and utility connections shall be designed to structurally withstand the associated movement, without disrupting either pedestrian or vehicular connections to the building. Implementation of these measures would reduce the potential compressible soil and settlement impacts to a less-than-significant level .	Applicant	City	Prior to grading permit issuance; prior to building permit issuance; field verify implementation during grading and construction		

IDENTIFIED IMPACT	RELATED MITIGATION MEASURE (Performance Criteria)	MONITORING			VERIFICATION	
		Implementation Entity	Monitoring and Verification Entity	Timing Requirements	Signature	Date
	<p>The requirement described in <i>Mitigation 15-1</i> for peer review of the recommended design-level geotechnical investigations, as well as for certification by the project civil engineer that all provisions of the investigation have been incorporated into the project's design and construction, would also apply to this mitigation and to all subsequent geotechnical and soils mitigation measures set forth in this EIR chapter.</p> <p>The requirement described in <i>Mitigation 15-1</i> for peer review of the recommended design-level geotechnical investigations, as well as for certification by the project civil engineer that all provisions of the investigation have been incorporated into the project's design and construction, would also apply to this mitigation and to all subsequent geotechnical and soils mitigation measures set forth in this EIR chapter.</p>					
<p>Impact 15-5: Expansive Soils. Near-surface clay soils subjected to seasonal cycles of wetting and drying can undergo significant volume changes, expanding when wet and shrinking when dry. Structures based in these materials would be subjected to significant stresses that could destabilize foundations and cause cracking or heaving of floor slabs and exterior pavements. These possible expansive soil effects represent a potentially significant impact.</p>	<p>Mitigation 15-5. The detailed, design-level geotechnical investigations required for each project construction phase under <i>Mitigation 15-1</i> shall include an evaluation of the likely effects of building on expansive soils and shall recommend specific measures designed to minimize soil movement and/or counter its potentially destructive effects. Implementation of these measures would reduce the potential expansive soil impacts to a less-than-significant level.</p>	Applicant	City	Prior to grading permit issuance; prior to building permit issuance; field verify implementation during grading and construction		
<p>Impact 15-6: Seismically Induced Settlement. Development of the proposed project would place new commercial buildings in an area that could experience rapid, excessive settlement in response to earthquake-induced ground shaking during the useful life of the project improvements. These possible responses to anticipated seismic activity represent a potentially significant impact.</p>	<p>Mitigation 15-6. The detailed, design-level geotechnical investigations required under <i>Mitigation 15-1</i> for each project construction phase shall include a site-specific evaluation of the liquefaction and settlement potential at each proposed building location. The investigations shall also propose measures as needed to offset the effects of liquefaction-induced settlement, either through stabilization of the most vulnerable sand layers or through utilization of building foundation, utility</p>	Applicant	City	Prior to grading permit issuance; prior to building permit issuance; field verify implementation during grading and construction		

		MONITORING			VERIFICATION	
IDENTIFIED IMPACT	RELATED MITIGATION MEASURE (Performance Criteria)	Implementation Entity	Monitoring and Verification Entity	Timing Requirements	Signature	Date
	connection, and pavement designs that can withstand the anticipated degree of total and differential settlement. Implementation of these measures would reduce these potential seismically induced settlement impacts to a <i>less-than-significant level</i> .					